Biota Environmental Sciences

Anketell Road Upgrade (Leath Road to Kwinana Freeway) Consolidated Biological Report

Prepared for Main Roads Western Australia

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Biota Environmental Sciences

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Anketell Road Upgrade Consolidated Biological Report

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1.0 Summary

1.1 Overview of the Project

Main Roads commissioned Biota to consolidate biological surveys conducted prior to and during 2023-2024, for the proposed Anketell Road Freight Corridor, to produce a single report and associated spatial information for the Anketell Road Upgrade referral boundary. This consolidated report and associated spatial information will support the EPA's assessment of the Anketell Road Upgrade proposal.

This report consolidates survey results from the following studies to provide a comprehensive biological survey report for the Anketell Road Upgrade referral boundary, hereafter referred to as the survey area:

- Anketell Road Planning Study Biological Survey (Biota 2022);
- Westport Freight Road Additional Biological Survey (Biota 2023a);
- Westport Last Mile Area Biological Survey – WSP Commissioned (Biota 2024a);
- Anketell Road Additional *Caladenia huegelii* Targeted Survey (Biota 2024b);
- Rockingham Road Biological Survey (Biota 2024c);
- Anketell Road SRE Invertebrate Survey (Biota 2024e); and
- Priority Flora Species Contextual/Additional Searches (Biota 2024d).

1.2 Vegetation and Flora

A detailed vegetation survey was completed previously for both the Anketell Road Planning Study Biological Survey in 2020-2021 and Westport Freight Road Additional Biological Survey in 2022, with additional single-phase detailed surveys completed in July to November 2023: Rockingham Road Biological Survey, commissioned by Main Roads, and the Westport Last Mile Area Biological Survey (commissioned by WSP for delivery to the Westport Office). These surveys included quadrat and relevé sampling, and mapping of vegetation types and vegetation condition (based on sampling within the survey area, and extrapolation out to a 500 m buffer contextual area). Vegetation types considered to be representative of Threatened Ecological Communities (TECs) or Priority Ecological Communities (PECs) were assessed against relevant Commonwealth and State guidance. Targeted searches for significant flora were completed in areas of suitable habitat in spring and winter months, during which significant weeds (declared pests and Weeds of National Significance) were also recorded.

Twenty-five intact vegetation units were identified within the survey area and inferred within the contextual area (of which twenty units occurred within the survey area), with nine additional categories (seven within the survey area) of land deemed to be cleared and devoid of native vegetation or modified and/or disturbed to some extent.

A total of nine patches of the Commonwealth-listed 'Banksia Woodlands of the Swan Coastal Plain ecological community' TEC occurred either wholly or partially within the survey area. The extent of this TEC within the current survey area comprised 14.56 ha, with a further 134.04 ha located within the contextual area, and a further 176.22 ha of the combined patch area occurring outside of the contextual area, meaning that 9.80% of the 'local' extent occurs within the survey area.

A total of eight patches of the Commonwealth-listed 'Tuart (*Eucalyptus gomphocephala*) woodlands and forests of the Swan Coastal Plain' TEC occurred either wholly or partially within the survey area, whilst another nineteen patches that were assessed did not meet the diagnostic criteria in order to be recognised as the TEC. The extent of this TEC within the survey area

comprised 40.99 ha, or 40.76% of the total extent that was mapped within the combined survey area and contextual area.

Two areas of the State and Commonwealth-listed Critically Endangered '*Honeymyrtle shrubland on limestone ridges of the Swan Coastal Plain Bioregion'* TEC (relating to Floristics Community Type 26a) occurred within the survey area. The TEC occurred within the survey area north and south of Anketell Rd and comprised a total of 1.96 ha in a degraded condition.

Three State-level PECs were identified within the survey area:

- Priority 3 'Banksia woodlands of the Swan Coastal Plain' – 14.65 ha;
- Priority 3 'Northern Spearwood shrublands and woodlands (FCT 24)' – 57.12 ha; and
- Priority 3 'Tuart (*Eucalyptus gomphocephala*) woodlands and forests of the Swan Coastal Plain' (FCT 30b) – 40.99 ha.

A total of 243 native vascular flora taxa from 130 genera and 53 families were recorded from the survey area.

No Threatened flora species were recorded within the survey area; however, three State-listed Priority species were recorded:

- *Poranthera moorokatta* (Priority 2): a single individual was recorded within a single quadrat in the EB1 vegetation unit;
- *Hibbertia leptotheca* (Priority 3): 59 individuals recorded from 17 opportunistic records within the survey area; percentage cover recorded at three quadrats within either the M2 or M4 vegetation units; and
- *Eucalyptus foecunda* subsp. *foecunda* (Priority 4): was a dominant component of the overstorey stratum for vegetation unit E7. It was recorded from 10 opportunistic records, comprising a total of 40 individuals.

A total of 95 introduced species were recorded from within the survey area. Five of the species recorded within the survey area are listed as declared pests under the *Biosecurity and Agriculture Management Act 2007* (**Asparagus asparagoides*, **Echium plantagineum*, **Gomphocarpus fruticosus, *Moraea flaccida* and **Zantedeschia aethiopica*), with **Asparagus asparagoides* also listed as a Weed of National Significance.

1.3 Geomorphic Wetlands

Ten geomorphic wetlands intersected the survey area and contextual area: four 'Conservation' category, two 'Resource Enhancement' category, and four 'Multiple Use' category. All ten wetlands were either dampland or sumpland and varied in their ecological function, vegetation values, and overall condition and disturbance levels.

The 'Resource Enhancement' management category was most common within the survey area but least common in the contextual area, whilst 'Multiple Use' wetlands were the most common within the contextual area.

1.4 Vertebrate Fauna

The basic and targeted fauna surveys were conducted across four months over a series of years: September 2020, October 2020, September 2022, and September 2023. The field surveys comprised habitat description, black cockatoo habitat assessment and targeted sampling via foot traverses, together with active searching for individuals and/or their secondary evidence. Motion-sensitive cameras were deployed within favourable habitat types for Quenda, Western Brush Wallaby and Chuditch (127 camera-nights in total).

Within the 224.83 ha survey area, 90.48 ha (40.25%) was mapped as Cleared/degraded and an additional 35.79 ha (15.92%) was mapped as Modified Areas (which were largely cleared but included small areas of vegetation). Across the remaining 92.22 ha native vegetation, seven fauna habitats were identified within the survey area as listed below from most common to least:

- Eucalypt woodland/forest (33.09 ha, 14.72%);
- *Acacia* shrubland (28.11 ha, 12.50%);
- *Banksia* woodland (16.74 ha, 7.45%);
- Jarrah/*Banksia* woodland (7.58 ha, 3.37%);
- *Melaleuca* shrubland (4.64 ha, 2.07%);
- Emergent Flooded Gum and Marri (5.66 ha, 2.52%); and
- Damplands (2.74 ha, 1.22%).

A further three fauna habitats were identified and occur in the contextual area only:

- Beach/Ocean (14.69 ha);
- Dune (1.86 ha); and
- Coastal Moort woodland (0.64 ha).

Two fauna species of significance were recorded within the survey area:

- Quenda, *Isoodon fusciventer* (Priority 4 listing by the Department of Biodiversity Conservation and Attractions (DBCA)); and
- Forest Red-tailed Black Cockatoo, *Calyptorhynchus banksii naso* (Vulnerable under the WA *Biodiversity Conservation Act 2016* (BC Act) and Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act)).

Two vertebrate fauna species of significance have previously been recorded within the survey area, and while not recorded during the current survey, remain likely to occur:

- *Lerista lineata*, Perth Lined Slider (Priority 3 DBCA listing); and
- Carnaby's Black Cockatoo*, Zanda latirostris* (Endangered under the BC Act and EPBC Act).

The following species were not recorded, however, were considered likely to occur, or may occur in the survey area based on availability of suitable habitat and previous records from the locality:

- Western Brush Wallaby, *Notamacropus irma* (Priority 4 DBCA listing);
- Chuditch, *Dasyurus geoffroii* (Vulnerable under BC Act and EPBC Act);
- Peregrine Falcon, *Falco peregrinus* (Specially Protected under BC Act);
- Black-striped Snake, *Neelaps calonotus* (Priority 3 DBCA listing); and
- Glossy Ibis*, Plegadis falcinellus* (Migratory under BC act and EPBC Act).

Excepting the Black-striped Snake, which would be resident if present, all the above species would occur in the survey area as foraging visitors only if present.

1.5 Invertebrate Fauna

Two invertebrate fauna species of significance have previously been recorded within the study area and have potential to occur within the survey area:

- *Synemon gratiosa,* Graceful Sunmoth (Priority 4 DBCA listing); and
- *Idiosoma sigillatum,* Swan Coastal Plain Shield-backed Trapdoor Spider (Priority 3 DBCA listing).

Targeted searches for short-range endemic (SRE) invertebrate fauna were undertaken within the survey area across four surveys from 2022 - 2024. Searches were conducted within the most prospective microhabitats across the range of habitats within the survey area, targeting key invertebrate groups known to contain SRE species, particularly land snails, mygalomorph spiders, isopods, scorpions and millipedes. No known or potential SRE fauna species were recorded.

2.0 Introduction

2.1 Project Background

Main Roads Western Australia (Main Roads) Metropolitan Region is undertaking a road planning project for the outer harbour transport corridor (Anketell Road Upgrade between Leith Road and Kwinana Freeway including sections of Rockingham Road). The planning stage of the project will identify the ultimate layout of the Anketell Road Upgrade, including preliminary design concepts, and the necessary land requirements for inclusion in the Metropolitan Region Scheme (MRS). Main Roads has developed a referral boundary, used to assess environmental impacts of the Anketell Road Upgrade project.

The purpose of this report was to consolidate the results of previous (related) biological surveys that have occurred within or overlapped the Anketell Road Upgrade referral boundary (the survey area). This will enable the findings of recent and previous biological assessments to be placed into more appropriate context to support the forthcoming environmental assessments.

2.2 Scope and Objectives of the Study

Main Roads commissioned Biota to consolidate biological surveys conducted prior to and during 2024, for the proposed Anketell Road Freight Corridor. The broad objective was to produce a single report and associated spatial information for the Anketell Road Upgrade referral boundary (the survey area) and 500 m contextual area as identified in Figure 2.1 and described in Table 2.1.

The consolidated report (the study) and associated spatial information will be used to inform the subsequent environmental impact assessment and relevant approvals for the Anketell Road Upgrade proposal.

Table 2.1: Spatial scale and objectives of the consolidated study.

Report Terminology	Definition	Size (ha)	Flora Survey	Fauna Survey
Survey area	The area physically surveyed.	224.83	• Detailed flora and vegetation survey. • Targeted significant flora searches. • Threatened Ecological Community (TEC) assessment and TEC/Priority Ecological Community (PEC) mapping. • Geomorphic Wetland Assessment	• Targeted black cockatoo survey. • Low intensity sampling for significant fauna. • Targeted SRE survey.
Contextual area	500 m buffer around the 'survey area'.	1,335.84	• Extrapolated vegetation and vegetation condition mapping. • Extrapolated TEC/PEC mapping.	• Extrapolated fauna habitat mapping.
Study area	5 km buffer around the 'survey area'.	17,917.56	• Desktop study to review information gathered from database searches and literature sources.	

The results presented in this study drew on relevant previous desktop and field survey results spanning 2020 to 2024 (Table 2.2). Four of these reports are stand-alone previous reports issued to Main Roads and/or the Westport Office, the results of two surveys (Rockingham Road Biological Survey and Anketell Road SRE survey), and one report (Anketell Road Additional *Caladenia huegelii* Targeted Survey) are presented in this report only. These biological reports, their scopes, and status are outlined in Table 2.2 (below), with survey areas shown in Figure 2.1. Details of survey effort and timing are provided in Section 3.3.

Table 2.2: Surveys included in the consolidated report.

Survey/Study	Survey area size (ha)	Scope	Survey Timing	Reference	Status
Anketell Road Planning Study Biological Survey	399.3	• Detailed flora and vegetation survey. • Targeted significant flora searches. • Threatened Ecological Community (TEC) assessment and TEC/Priority Ecological Community (PEC) mapping. • Geomorphic Wetland Assessment • Targeted Black Cockatoo survey. • Low intensity sampling for significant fauna. • SRE invertebrate sampling.	2020 (September, October, November) 2021 (June, July)	Biota (2022)	Unpublished report.
Rockingham Road Biological Survey	51.3		2023 (July, September, October, November)	Biota (2024c)	Unpublished data.
Westport Freight Road Additional Biological Survey	561.5		2022 (August, September, October)	Biota (2023a)	Unpublished report.
Westport Last Mile Area Biological Survey	184.7	• Detailed flora and vegetation survey. • Targeted significant flora searches. • Threatened Ecological Community (TEC) assessment and TEC/Priority Ecological Community (PEC) mapping. • Geomorphic Wetland Assessment • Targeted Black Cockatoo survey. • Low intensity sampling for significant fauna. • SRE invertebrate sampling.	2023 (July, September, October, November)	Biota (2024a)	Unpublished report prepared for WSP.
Westport Last Mile Area Desktop Study	12,640 (study area)	• Desktop study.	2023 (June)		Unpublished report prepared for WSP.
Anketell Road Additional *Caladenia huegelii* Targeted Survey	126.58	• Targeted significant flora searches.	2022 (September)	Biota (2024b)	Unpublished draft report.
Priority Flora Species Contextual/ Additional Searches	1,227.00	• Targeted significant flora searches.	2024 (September)	Biota (2024d)	Unpublished report.
Anketell Road SRE Invertebrate Survey	-	• Targeted SRE searches following desktop study.	2024 (October)	Biota (2024e).	Unpublished data.

The specific objectives of this study were as follows:

1. Integration of biological assessments within/overlapping the survey area – including:
    - Identification of all surveys completed by Biota within the scope of the integration;
    - Integration, mapping unit rationalisation and spatial joining of vegetation mapping
    - (including all vegetation related spatial datasets) of collective Biota survey mapping;
    - Extrapolated mapping across the new integration contextual area extent, where previous extrapolated mapping does not exist;
    - Re-analysis of all flora quadrat with the additional data from both 'Rockingham Road Biological Survey' and 'Westport Last Mile Area Biological Survey' in order to place these better into context as floristic groups;
    - Updated combined accounts and mapping of all threatened flora and weed populations from the survey area;
    - Integration and mapping of fauna landscape habitat units across the extent of the survey area and contextual area;
    - Integration of short-range endemic (SRE) invertebrate fauna data from all past studies and mapping of the distribution of all taxa recorded, their current SRE status, any relationships with land systems and fauna landscapes and their wider status (where known); and
    - Updated and combined accounts and mapping of all MNES, Schedule and Priority fauna from the integration study area.

2. Supply all relevant data to Main Roads in current data standards, submit flora specimens as required to the WA Herbarium, and submit report forms for all Threatened and Priority flora (Appendix 1) and any TECs or PECs to the DBCA (see Appendix 2).
3. Preparation of a consolidated report as an output of the integration of biological data. This will:
    - collate and summarise the methodology and sampling effort employed for all field surveys and specimen identifications;
    - consolidate and jointly analyse data from the already completed surveys on all flora and vegetation, vertebrate and SRE invertebrate fauna and habitats of the study area;
    - assess local and regional significance of species and communities within the survey area in the context of the wider data set, and highlight any species or features of particular conservation significance that may represent development constraints.

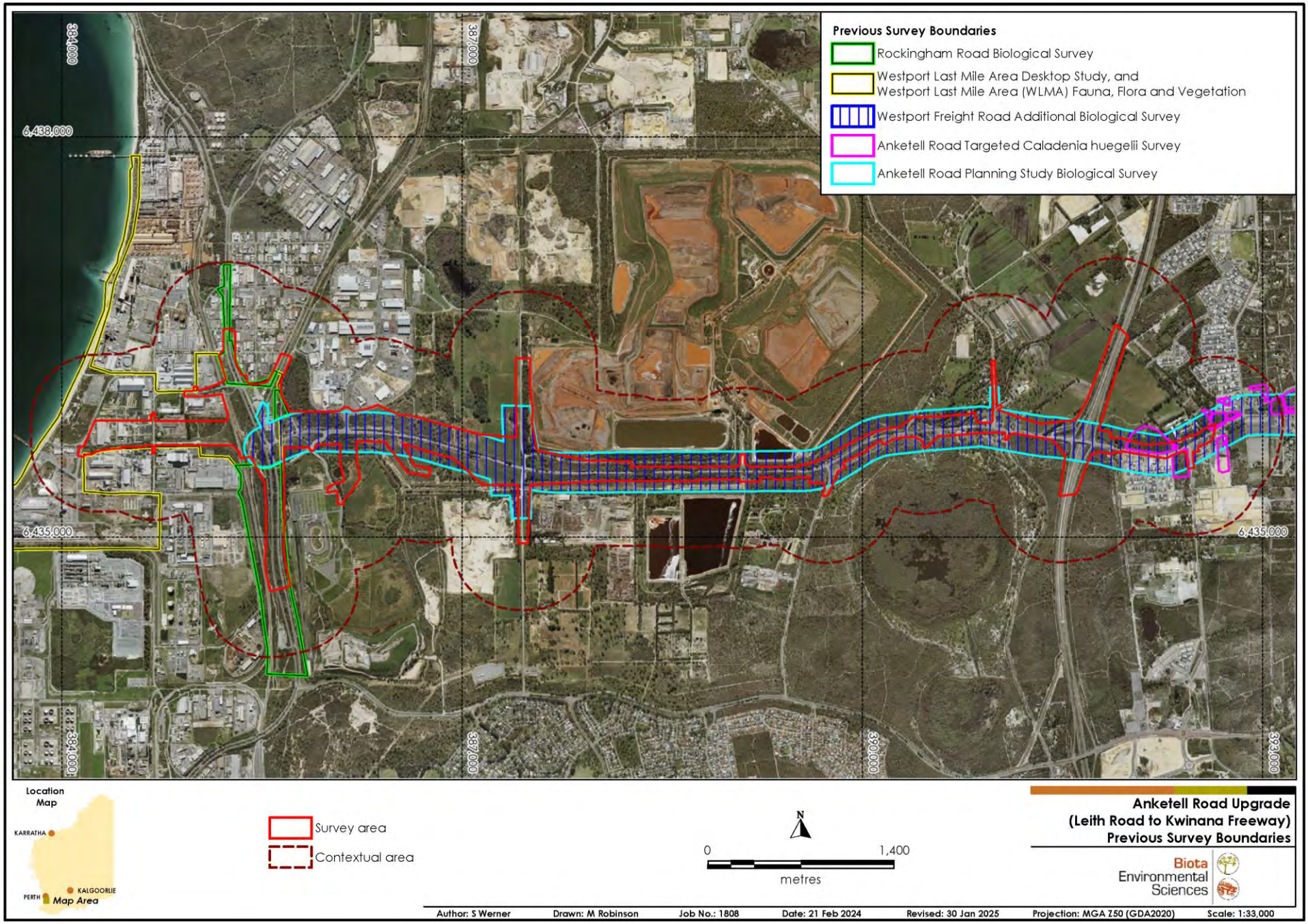

Figure 2.1: Survey boundaries relating to the Anketell Road Upgrade project.

3.0 Methodology

3.1 Definitions of Significant Communities and Species

3.1.1 Communities

In Western Australia, an ecological community that is presumed to be totally destroyed or at risk of becoming totally destroyed may be listed as a TEC by the Minister for the Environment under the *Biodiversity Conservation Act 2016* (the BC Act). Communities may also be listed as TECs at the Commonwealth level under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

Communities with insufficient information available to be considered a TEC, or which are rare but not currently threatened, are placed on the State Priority list, and referred to as PECs. Further information regarding the framework for significance ranking of communities in WA is presented in Appendix 2.

3.1.2 Species

Native flora and fauna species that are rare, threatened with extinction, or have high conservation value, are specially protected by law under either or both the WA BC Act and the Commonwealth EPBC Act. The WA DBCA also maintains a list of Priority species that are of conservation significance, but which have not been assigned statutory protection under the BC Act. For the purposes of this report, the term 'significant' has been applied to species, communities and habitats that have been formally assigned a conservation ranking under the BC Act, EPBC Act or the DBCA lists of Priority species.

Appendix 2 details the categories of significance recognised under the above frameworks and Table 3.1 outlines the codes used throughout this report for each category.

3.1.3 Environmentally Sensitive Areas

Environmentally sensitive areas (ESAs) are declared by the WA Minister for the Environment under section 51B of the *Environmental Protection Act 1986* (EP Act). ESAs that could potentially be of relevance to the current study would comprise:

- a Bush Forever site;
- a defined 'Conservation Category' wetland and the area within 50 metres of the wetland;
- the area covered by vegetation within 50 metres of Threatened flora; or
- the area covered by a TEC.

Table 3.1: Explanation of conservation categories and codes used to identify categories of conservation significance for species.

Category	Summarised Description[1]	Code		
		EPBC Act	BC Act	DBCA
Critically Endangered	Facing an extremely high risk of extinction in the wild in the immediate future.	CR	CR	–
Endangered	Facing a very high risk of extinction in the wild in the near future.	EN	EN	–
Vulnerable	Facing a high risk of extinction in the wild in the medium-term future.	VU	VU	–
Extinct	There is no reasonable doubt that the last member of the species has died.	–	EX	–
Extinct in the Wild	Species that "is known only to survive in cultivation, in captivity or as a naturalised population well outside its past range; and it has not been recorded in its known habitat or expected habitat, at appropriate seasons, anywhere in its past range, despite surveys over a time frame appropriate to its life cycle and form".	–	EW	–
Conservation Dependent	Taxa which are the focus of a continuing taxon-specific or habitat-specific conservation program targeted towards the taxon in question, the cessation of which would result in the taxon qualifying for one of the threatened categories above within a period of five years.	-	CD	–
Near Threatened	Taxa which do not qualify for Conservation Dependent, but which are close to qualifying for Vulnerable.	NT	–	–
Migratory Species	Those animals that migrate to Australia and its external territories, or pass through or over Australian waters during their annual migrations. The list of migratory species consists of those species listed under the following international conventions: Bonn Convention, CAMBA, JAMBA, and ROKAMBA.	MI	MI	–
Marine Species	Marine species include all Australian sea snakes, seals, crocodiles, dugongs, marine turtles, seahorses and seabirds that naturally occur in the Commonwealth marine area.	MA	–	–
Other Specially Protected Fauna	Fauna otherwise in need of special protection to ensure their conservation.	–	OS	–
Priority 1	Known from one or a few locations (generally five or less) which are potentially at risk. All occurrences are either very small or on lands not managed for conservation.	–	–	P1
Priority 2	Known from one or a few locations (generally five or less), some of which are on lands managed primarily for nature conservation, e.g., national parks, conservation parks, nature reserves and other lands with secure tenure being managed for conservation.	–	–	P2
Priority 3	Known from several locations, and the species does not appear to be under imminent threat, or from few but widespread locations with either large population size or significant remaining areas of apparently suitable habitat, much of it not under imminent threat.	–	–	P3
Priority 4	Rare, near threatened and other species in need of monitoring.	–	–	P4

[1] Full definitions given in Appendix 2.

3.2 Desktop Study

Prior to the 2023 Westport Last Mile Area Biological Survey and Rockingham Road Biological Survey, a preliminary set of significant flora and vertebrate fauna species were selected as the focus for the additional targeted work based on the results of the desktop studies reported in the Anketell Road Planning Study Biological Survey (Biota 2022), and the Westport Last Mile Area Desktop Study (Biota 2023b).

The aim of the initial desktop studies was to compile and review information relevant to the survey and contextual area, specifically to identify known features of significance (see Appendix 3), and as a preliminary assessment of potential key issues relating to the vegetation present, significant flora and fauna and black cockatoo habitat. This assessment considered regional information and previous biological surveys completed in the locality (Section 3.2.1), as well as the results of database searches (Section 3.2.3).

3.2.1 Literature Review

Published and unpublished reports relevant to the survey area were reviewed in the previous studies consolidated here: the Anketell Road Planning Study Biological Survey (Biota 2022), Westport Freight Road Additional Biological Survey (Biota 2023a), and the Westport Last Mile Area Desktop Study (Biota 2023b).

3.2.2 Spatial Data Review

Several regional-scale spatial data sets and accompanying reports were examined, including bioregional data (Mitchell et al. 2003), soils and geology (Northcote et al. 1960, WA Planning Commission 2000), vegetation complex mapping (Heddle et al. 1980, Beard 1981, Mattiske and Havel 1998, Webb et al. 2016), the Geomorphic Wetland data set (DBCA 2018), and Bush Forever (WA Planning Commission 2000).

3.2.3 Database Searches

The following databases were searched in previous studies to assist in the determination of flora, fauna and vegetation of significance, including black cockatoo records occurring in the survey area:

1. NatureMap (https://naturemap.dpaw.wa.gov.au) is a joint project of the DBCA and the WA Museum (WAM). This database represents the most comprehensive source of information on the distribution of Western Australia's flora and fauna, comprising records from the WA Threatened and Priority Flora and Fauna Databases, the WA Herbarium Specimen Database and the Fauna Survey Returns Database (all managed by the DBCA), the WAM Specimen Database, and the BirdLife Australia Atlas of Australian Birds.
2. Specific searches of the DBCA Threatened and Priority Flora and Fauna Databases were commissioned to confirm the Threatened and Priority species known from the locality. These searches were conducted using a buffer of 10 km around the survey area and were supplied by Main Roads.
3. The DBCA's database of TECs, PECs and ESAs was also searched to identify significant communities known to occur in the survey area.
4. The EPBC Act Protected Matters Search Tool was used to identify significant communities and species listed under the EPBC Act that may occur in the locality. The EPBC Act Protected Matters database search used a 5 km buffer around a set of five coordinates spanning the length of the survey area.
5. Black cockatoo data were obtained from BirdLife Australia, including location, species and number of birds recorded at confirmed roosts and nesting locations within a 12 km radius of the survey area.

6. Main Roads and Biota's internal databases of significant species from previous studies in proximity to the survey area (within 5 km) were also searched.
7. SRE data were obtained primarily through the WAM invertebrate databases, using a 100 km^2 buffer of the survey area. Supplementary data were also sourced from Atlas of Living Australia (ALA). It should be noted that although most of the invertebrate data was provided by the WAM, at the time of the database requests a filter to identify SRE taxa was not possible. Therefore, in addition to undertaking database searches, a suite of reference materials was also used to assist in determining SRE status, including taxonomic publications, and public reports.

3.2.4 Assessment of Species Likelihood of Occurrence

For each significant flora and fauna species, defined rankings and criteria were applied as per Table 3.2 to provide a consistent framework of assessment of likelihood that these species would occur in the survey area. Throughout the remainder of this report, the term 'in proximity' has been defined as being within 5 km of the survey area.

Two rankings were completed:

- an initial assessment was made during the desktop study; and
- the assessment was revised based on the findings of the field surveys.

Table 3.2: Criteria used to assign the likelihood of occurrence of flora and fauna of significance.

Likelihood	Criteria
Recorded	1. The species was recorded in this survey or has been previously recorded in the survey area.
Likely to occur	1. There are existing records of the species from the locality; and • the species is strongly linked to a specific habitat, which is present in the survey area; or • the species has more general habitat preferences, and suitable habitat is present.
May occur	1. There are existing records of the species from the locality, however • the species is strongly linked to a specific habitat, of which only a small amount is present in the survey area; or • the species has more general habitat preferences, but only some suitable habitat is present in the survey area. 2. There is suitable habitat in the survey area, but the species is recorded infrequently in the locality.
Unlikely to occur	1. The species is linked to a specific habitat, which is absent in the survey area; or 2. Suitable habitat is present, however there are no existing records of the species from the locality despite reasonable previous search effort in suitable habitat; or 3. There is some suitable habitat in the survey area, however the species is very infrequently recorded in the locality, or the only records are historical (>40 years ago).
Would not occur	1. The species is strongly linked to a specific habitat, which is absent from the survey area; and/or 2. The species' range is very restricted and does not include the survey area.

3.2.5 Criteria to Determine Invertebrate SRE Status

SRE invertebrate fauna are invertebrates that exhibit naturally small distributions (less than 10,000 km^2, per Harvey 2002). Certain taxonomic groups are pre-disposed to short-range endemism as a result of poor dispersal capabilities, confinement to disjunct habitats, slow reproduction and low fecundity (Harvey 2002, Ponder and Colgan 2002). These life-history strategies render these groups vulnerable to localised extinction by relatively small-scale developments, such as mining and construction. Taxonomic groups that show high levels of short-range endemism include mygalomorph spiders, millipedes, pseudoscorpions, and both freshwater and terrestrial molluscs (EPA 2016a). Given the importance of short-range endemism to the conservation of biodiversity (EPA 2016a), the assessment of such invertebrate taxa is an important component of impact assessment.

The ability to assess impacts on SRE fauna is limited by knowledge of their biology, distribution and phylogeography, which are in many cases poorly understood. The taxonomy of SRE invertebrate is patchy and incomplete, which makes determining the conservation significance of potential SRE taxa difficult. Table 3.3 details the criteria used to determine the SRE status of putative species recorded from the desktop study.

Table 3.3: Categories of SRE status and defining criteria.

SRE Status	Defining Criteria
Known SRE	• Species, morphotype or genetic type has a documented range of <10,000km^2. • Species, morphotype or genetic type is well collected, with numerous specimens typed and habitat preferences understood.
Potential SRE	• Species, morphotype or genetic type has a documented range of <10,000km^2 but is poorly sampled. • Specimen may not be formally described or assigned to a morphotype / genetic type. • Short-range endemism may be common in genus or family. • May have been collected from restricted, refugial or isolated habitats.
Unlikely to be an SRE	• Species, morphotype or genetic type has a documented range of <10,000km^2 but is poorly sampled. • Specimen may not be formally described or assigned to a morphotype / genetic type. • Short-range endemism is not common in the genus or family. • Specimen was not collected from restricted, refugial or isolated habitats. • Few other individuals of the taxon collected, but records separated by long distances (>100 km).
Not an SRE	• Specimen formally described or assigned to a morphotype / genetic type. • Species, morphotype or genetic type has a documented range of >10,000 km^2.
Undetermined	• Taxa where there is insufficient taxonomic framework available to provide any informed comment on the species-level distribution of the fauna or, therefore, the risk of small-scale spatial restrictions.

3.2.6 Criteria to Determine the Presence of the Commonwealth Banksia Woodlands TEC

The Commonwealth '*Banksia* Woodlands of the Swan Coastal Plain ecological community' TEC (hereafter referred to as the Commonwealth Banksia Woodlands TEC) was listed in September 2016 for the Swan Coastal Plain (SCP) under the EPBC Act and is currently listed as Endangered. The likely presence of *Banksia* woodland protected under the EPBC Act (Threatened Species Scientific Committee 2016) required specific survey attention.

Areas of mapped vegetation within the survey area that were considered to potentially align with the Commonwealth Banksia Woodlands TEC were assessed in the field against the key diagnostic characteristics and condition thresholds, as per the approved conservation advice (Threatened Species Scientific Committee 2016) and the Main Roads Technical Guidance Factsheet for this TEC (Main Roads 2020a). Diagnostic criteria for this TEC are summarised in Table 3.4.

This assessment was only applied to patches occurring within the survey area; patches situated solely within the contextual area were not assessed using the key diagnostic characteristics and condition thresholds from the approved conservation advice.

Table 3.4: Diagnostic characteristics and condition thresholds to determine the Commonwealth Banksia Woodlands of the Swan Coastal Plain TEC (Threatened Species Scientific Committee 2016).

Diagnostic Characteristics / Condition Thresholds	Criteria

Determination of Ecological Community:	Location and physical environment:
	• Primarily occurs in the Swan Coastal Plain IBRA bioregion.
	Soil and landform:
	• Typically occurs on well-drained, low-nutrient soils on sandplain landforms, particularly deep Bassendean and Spearwood sands and occasionally on Quindalup sands.
	Structure:
	• is a low woodland to forest with distinctive upper layer of low trees typically dominated or co-dominated by one or more of the *Banksia* species below;
	• emergent trees (>10m) of *Eucalyptus* and/or *Allocasuarina* may be present;
	• an often highly species-rich understorey.
	Composition:
	• canopy is commonly dominated or co-dominated by *Banksia attenuata* and/or *B. menziesii*; AND
	• the patch must include one of the following diagnostic species:
	  • *Banksia attenuata, B. menziesii, B. prionotes, B. ilicifolia.*
	• Other tall emergent/medium height trees often include, or may be present:
	  • *Corymbia calophylla, E. marginata, E. gomphocephala, E. todtiana, Nuytsia floribunda, Allocasuarina fraseriana, Callitris arenaria, C. pyramidalis, Xylomelum occidentale.*
	  • The understorey typically contains high to very high diversity of shrub and herb species
	Contra-indicators:
	• patches clearly dominated by *Banksia littoralis* or *B. burdettii;*
	• FCT20c – Eastern shrublands and woodlands (corresponds with separate EPBC ecological community listing).

Vegetation condition and minimum patch size threshold:	• 'Pristine' – no minimum • 'Excellent' – 0.5 ha or 5,000 m^2 • 'Very Good' – 1 ha or 10,000 m^2 • 'Good' – 2 ha or 20,000 m^2
Surrounding context:	• "A patch is a discrete and mostly continuous area of the ecological community. A patch may include small-scale (<30 m) variations, gaps, and disturbances, such as tracks, that do not significantly alter the overall functionality of the ecological community. Such breaks are generally included in patch size calculation. The landscape position of the patch, including its position relative to surrounding vegetation also influences how important it is in the broader landscape."

3.2.7 Criteria to Determine the Presence of the Commonwealth Tuart TEC

The Commonwealth 'Tuart (*Eucalyptus gomphocephala*) woodlands and forests of the Swan Coastal Plain ecological community' TEC (hereafter referred to as the Commonwealth Tuart TEC) was listed in July 2019 as a TEC for the SCP under the EPBC Act and is currently listed as Critically Endangered. The likely presence of Tuart woodland or forest under the EPBC Act (Threatened Species Scientific Committee 2019) also required specific survey attention.

Areas of mapped vegetation within the survey area that were considered to potentially align with the Commonwealth Tuart TEC were assessed in the field against the key diagnostic characteristics and condition thresholds, as per the approved conservation advice (Threatened Species Scientific Committee 2019) and the Main Roads Technical Guidance Factsheet for this TEC (Main Roads 2019). Key diagnostic criteria for this TEC are summarised in Table 3.5.

This assessment was only applied to patches occurring within the survey area; patches situated solely within the contextual area were not assessed using the key diagnostic characteristics and condition thresholds from the approved conservation advice.

Table 3.5: Diagnostic characteristics and condition thresholds to determine the Commonwealth Tuart TEC (Threatened Species Scientific Committee 2019).

Diagnostic Characteristics / Condition Thresholds	Criteria
Determination of Ecological Community:	Location and physical environment: • Occurs in the Swan Coastal Plain IBRA bioregion. Soil and landform: • Primarily occurs on the Spearwood and Quindalup dune systems but can also occur on the Bassendean dunes and Pinjarra Plain. It can occur on the banks of rivers and wetlands. Structure and composition: • The primary defining feature is the presence of at least two living established *Eucalyptus gomphocephala* (Tuart) trees in the uppermost canopy layer, although they may co-occur with trees of other species. There is a gap of no more than 60 m between the outer edges of the canopies of adjacent Tuart trees. These trees may occur either as single stemmed trees or as a mallee growth form. • Most often occurs as a woodland but can occur in other structural forms. For example, forest, open forest, woodland, open woodland, and various mallee forms. • Other tree species may be present in the canopy or sub-canopy. They commonly include: *Agonis flexuosa* (Peppermint) and *Banksia grandis* (Bull Banksia) (both in the southern part of the range), *Banksia attenuata* (Candlestick Banksia), *Eucalyptus marginata* (Jarrah); and less commonly, *Corymbia calophylla* (Marri), *Banksia menziesii* (Firewood Banksia) and *Banksia prionotes* (Acorn Banksia). • An understorey of native plants is typically present, which may include grasses, herbs and shrubs, although this is often modified by disturbance. • The TEC encompasses two recognised sub-communities (FCTs). FCT25 (Southern *Eucalyptus gomphocephala – Agonis flexuosa* woodlands) and FCT30b (Quindalup *Eucalyptus gomphocephala* and/or *Agonis flexuosa* woodlands) are representative of the community in question.

Diagnostic Characteristics / Condition Thresholds	Criteria
Vegetation condition and minimum patch size thresholds:	Minimum patch size of 0.5 ha: patches <0.5 ha are not part of the nationally protected ecological community. • 'Very high condition' – 0.5 < 5.0 ha • 'High condition' – 0.5 < 2.0 ha + AND* (or) >2.0 ha <5 ha • 'Moderate condition' – >2.0 ha <5 ha + AND* (but not) 0.5 < 2.0 ha • 'Poor condition' – not part of the nationally protected ecological community. *That either: 1. have an important landscape role (≤100 m to native vegetation). 2. OR have a habitat role (≥2 very large trees per 0.5 ha). 3. OR show regeneration (≥15 seedlings and/or saplings per 0.5 ha). All patches of 5 ha or greater that meet the key diagnostic characteristics are part of the nationally protected ecological community.
Surrounding context:	Relevant criteria to consider: • A patch is a discrete and mostly continuous area of vegetation that meets the above key diagnostic characteristics. • The boundary for a patch can extend beyond a site or property boundary. • The patch boundary is 30 m beyond the outer canopy of the established Tuart trees (more than or equal to 15 cm diameter at breast height), including dead Tuart trees (stags). • Where a stag is being included in a patch, the extent of its outermost branches is used to define the edge of the canopy.
Surrounding context	• Patches of Tuart woodlands and forests may contain areas that vary in structural or biological complexity. One part of a patch may have a larger number of mature trees and more ecological diversity, whereas another part of the same patch may demonstrate fewer mature trees and less groundcover. Areas with soil exposed and/or plant litter can also be expected within this ecological community. Variation in quality or condition of vegetation across a patch should not necessarily be considered to be evidence of multiple patches. Patches of the ecological community can be spatially variable and are often characterised by one or more areas within a patch that meet higher condition thresholds amongst areas of lower condition. If an area meets the key diagnostic characteristics but the average condition across that area falls below the minimum condition thresholds, the largest area or areas of at least 0.5 ha that meet minimum condition thresholds on average, should be specified as the patch or patches of the nationally listed ecological community. This may result in multiple patches of the ecological community being identified within the overall area first identified as meeting the key diagnostics. A patch may include small areas without understorey vegetation, such as bare ground, waterbodies and/or hardscape (e.g., roads, paths, car parks and buildings) as long as they do not significantly alter the overall function of the ecological community. These areas without understorey do not break up the patch as long as there is canopy within 60 m.

3.3 Survey Team, Timing and Weather

3.3.1 Survey Team

The fauna survey component of this assessment was undertaken across five surveys (Table 3.6). Biota personnel involved in the study, their roles, qualifications and applicable DBCA Regulation 27 permits are detailed in Table 3.7.

Table 3.6: Timing of the fauna surveys.

Study/Survey Type	Start Date	Finish Date	Total Person Days
Anketell Road SRE Survey (Biota 2024e).			
Targeted SRE survey	24 Oct 2024	24 Oct 2024	2
Rockingham Road Biological Survey (Biota 2024c)			
Low intensity sampling vertebrate survey, targeted black cockatoo assessment and targeted SRE survey	18 Sept 2023	18 Sept 2023	4
	21 Sept 2023	21 Sept 2023	
Westport Last Mile Area Biological Survey – WSP Commissioned (Biota 2024a)			
Low intensity sampling vertebrate survey, targeted black cockatoo assessment and targeted SRE survey	4 Sept 2023	7 Sept 2023	12
	13 Sept 2023	14 Sept 2023	
Westport Freight Road Additional Biological Survey (Biota 2023a)			
Low intensity sampling vertebrate survey, targeted black cockatoo assessment and targeted SRE survey	5 Sept 2022	8 Sept 2022	11
	27 Sept 2022	29 Sept 2022	
Anketell Road Planning Study Biological Survey (Biota 2022)			
Targeted vertebrate survey, targeted black cockatoo assessment and targeted SRE survey	24 Sept 2020	25 Sept 2020	25
	6 Oct 2020	14 Oct 2020	
	11 Nov 2020	13 Nov 2020	

Table 3.7: Summary of personnel involved in the fauna and SRE surveys.

Name	Position	Years of Experience	Survey Role	DBCA Regulation 27 Permit
Anketell Road SRE Survey (Biota 2024e).				
Michael Greenham	Senior Biologist	24	Targeted SRE survey	BA27000976-c
Sylvie Schmidt	Principal Biologist	13		
Westport Last Mile Area Biological Survey (Biota 2024a) and Rockingham Road Biological Survey (Biota 2024c)				
Michael Greenham	Senior Biologist	24	Low intensity sampling, targeted black cockatoo and targeted SRE survey	BA27000913
Hayley Newton	Early Career Zoologist	1		
Westport Freight Road Additional Biological Survey (Biota 2023a)				
Dan Kamien	Principal Zoologist	20	Targeted black cockatoo and low intensity sampling	BA27000312
Michael Greenham	Senior Biologist	23	Low intensity sampling, targeted black cockatoo habitat assessments and SRE survey	BA27000312, BA27000689-2,
Roxanne de Vos	Biologist	3	Targeted survey; black cockatoo habitat assessments and SRE survey	BA27000689-2
Rob Hooper	Biologist	2		
Joshua Keen	Senior Zoologist	6		BA27000333
Anketell Road Planning Study Biological Survey (Biota 2022)				
Jacinta King	Senior Zoologist	9	Targeted fauna and SRE survey	BA27000333
Penny Brooshooft	Senior Zoologist	11		
Nicola Watson	Principal Zoologist	12		
Joshua Keen	Senior Zoologist	5	Targeted survey; black cockatoo habitat assessments	

Survey timing and combined field effort of each of the six flora and vegetation surveys relevant to this study are outlined in Table 3.8, presented on Figure 3.1 to Figure 3.5, and separated by survey in Appendix 5, with personnel for each of the surveys listed in Table 3.9.

Table 3.8: Timing of the flora and vegetation surveys.

Study/Survey Type	Start Date	Finish Date	Total Person Days
Priority Flora Contextual/Additional Searches (Biota 2024d)			
Spring Flora Targeted Searches	19 Sept 2024	20 Sept 2024	2
Rockingham Road Biological Survey (Biota 2024c)			
First Phase Quadrat Sampling	12 Sept 2023	15 Sept 2023	30
	16 Oct 2023	17 Oct 2023	
Second Phase Quadrat Sampling	7 Nov 2023	9 Nov 2023	
Spring Flora Targeted Searches	12 Sept 2023	15 Sept 2023	
	16 Oct 2023	17 Oct 2023	
Winter Orchid Targeted Searches	26 Jul 2023	28 Jul 2023	
Westport Last Mile Area Biological Survey – WSP Commissioned (Biota 2024a)			
First Phase Quadrat Sampling	4 Sept 2023	7 Sept 2023	33
	16 Oct 2023	17 Oct 2023	
Second Phase Quadrat Sampling	15 Nov 2023	16 Nov 2023	
Spring Flora Targeted Searches	4 Sept 2023	7 Sept 2023	
	16 Oct 2023	17 Oct 2023	
Winter Orchid Targeted Searches	26 Jul 2023	28 Jul 2023	
Anketell Road Additional *Caladenia huegelii* Targeted Survey (Biota 2024b)			
Spring Flora Targeted Searches	18 Sept 2022	22 Sept 2022	5
Westport Freight Road Additional Biological Survey (Biota 2023a)			
First Phase Westport Quadrat Sampling and Resampling of Anketell Quadrats	20 Sept 2022	22 Sept 2022	62
	12 Sept 2022	16 Sept 2022	
	5 Sept 2022	9 Sept 2022	
Spring Flora Targeted Searches	12 Sept 2022	15 Sept 2022	
	5 Sept 2022	9 Sept 2022	
Winter Orchid Targeted Searches	10 Aug 2022	11 Aug 2022	
	25 Aug 2022	25 Aug 2022	
Anketell Road Planning Study Biological Survey (Biota 2022)			
First Phase Quadrat Sampling	6 Oct 2020	16 Oct 2020	92
	23 Oct 2020	26 Oct 2020	
Second Phase Quadrat Resampling	16 Nov 2020	20 Nov 2020	
	6 Oct 2020	9 Oct 2020	
Spring Flora Targeted Searches	22 Sept 2020	25 Sept 2020	
	6 Oct 2020	9 Oct 2020	
Winter Orchid Targeted Searches	23 Jun 2021	25 June 2021	
	22 Jul 2021	23 Jul 2021	
	27 Jul 2021	28 Jul 2021	

Table 3.9: Summary of personnel involved in the flora and vegetation surveys.

Name	Position	Qualification	Years of Experience	Survey Role	DBCA Flora Licence
Rockingham Road Biological Survey (Biota 2024c)					
Scott Werner	Principal Biologist	BSc. Hons	13	Project manager, flora quadrat sampling, vegetation mapping, targeted flora searches and TEC assessments	FB62000038-2
Chloe Flaherty	Principal Botanist	BSc. Hons	13	Flora quadrat sampling, vegetation mapping, and TEC assessments	FB62000167-2

Name	Position	Qualification	Years of Experience	Survey Role	DBCA Flora Licence
Aster Braxton-Smith	Senior Botanist	BSc.	5	Flora quadrat sampling, targeted flora searches and TEC assessments	FB62000269-2
Pierre Louis de Kock	Specialist Taxonomist	BSc.	17	Flora quadrat sampling and TEC assessments	FB62000034-2
Ayesha Lapinski	Botanist	Grad. Dip. Sc.	6		FB62000106-2
Tom Hounsham	Botanist	BSc.	2	Flora quadrat sampling	FB62000390
Rob Hooper	Biologist	BSc.	2		FB62000401
Westport Last Mile Area Biological Survey – WSP Commissioned (Biota 2024a)					
Scott Werner	Principal Biologist	BSc. Hons	13	Project manager, flora quadrat sampling, vegetation mapping, targeted flora searches and TEC assessments	FB62000038-2
Chloe Flaherty	Principal Botanist	BSc. Hons	13	Flora quadrat sampling, vegetation mapping, and TEC assessments.	FB62000167-2
Aster Braxton-Smith	Senior Botanist	BSc.	5	Flora quadrat sampling, targeted flora searches and TEC assessments	FB62000269-2
Jason Teuber	Botanist	BSc.	3	Flora quadrat sampling	FB62000286-2
Tom Hounsham	Botanist	BSc.	2		FB62000390
Rob Hooper	Biologist	BSc.	2		FB62000401
Michael Greenham	Senior Biologist	BSc. Hons	23		FB62000545
Anketell Road Additional *Caladenia huegelii* Targeted Survey (Biota 2024b)					
Scott Werner	Principal Biologist	BSc. Hons	13	Targeted flora searches	FB62000038-2
Priority Flora Species Contextual/Additional Searches (Biota 2024d)					
Scott Werner	Principal Biologist	BSc. Hons	13	Targeted flora searches	FB62000038-2
Westport Freight Road Additional Biological Survey (Biota 2023a)					
Scott Werner	Principal Biologist	BSc. Hons	12	Project manager, flora quadrat sampling, vegetation mapping, targeted flora searches and TEC assessments	CE006217 (Reg 4) FB62000038-2
Pierre Louis de Kock	Specialist Taxonomist	BSc.	16	Flora quadrat sampling, targeted flora searches and TEC assessments	FB62000034-2
Ayesha Lapinski	Botanist	Grad. Dip. Sc.	4		FB62000106-2
Aster Braxton-Smith	Senior Botanist	BSc.	3		FB62000269
Rob Hooper	Graduate Biologist	BSc.	1	Flora quadrat sampling	FB62000401
Tom Hounsham	Botanist	BSc.	1		FB62000390
Jason Teuber	Botanist	BSc.	2	Flora quadrat sampling, targeted flora searches	FB62000286
Anketell Road Planning Study Biological Survey (Biota 2022)					
Scott Werner	Senior Biologist	BSc. Hons	12	Project manager, lora quadrat sampling, vegetation mapping, targeted flora searches and TEC assessments	CE006217 (Reg 4) FB62000038
Chloe Flaherty	Senior Botanist	BSc. Hons	12	Flora quadrat sampling, vegetation mapping, and targeted flora searches	FB62000167
Rebecca Mason	Senior Botanist	BSc.	9		FB62000035
Ayesha Lapinski	Botanist	Grad. Dip. Sc.	3	Flora quadrat sampling and targeted flora searches	FB62000106

Name	Position	Qualification	Years of Experience	Survey Role	DBCA Flora Licence
Aster Braxton-Smith	Botanist	BSc.	2		FB62000269
Melissa Karlinski	Botanist	BSc.; MSc	2		FB62000285
Jason Teuber	Botanist	BSc.	<1		FB62000286
Michael Greenham	Senior Biologist	BSc.	22		N/A – no collections.

3.3.2 Weather and Climate

The weather leading up to biological surveys is an important factor influencing both the number and type of species recorded from an area, particularly for flora. One of the more notable effects is the increased presence of annual flora species following high rainfall, in addition to a higher likelihood of plants bearing reproductive material (flowers and/or fruit). This typically results in a more complete list of species from the area, along with greater confidence in identifications.

All flora and vegetation surveys were undertaken in spring, which is within the recommended season for botanical surveys in the SCP bioregion (EPA 2016b). In addition, targeted searches for Threatened orchids were undertaken in September 2023, as per the *'Survey Guidelines for Australia's Threatened Orchids'* (Department of the Environment 2013a). Multiple targeted surveys for the winter-emerging orchids were undertaken in the winter months.

3.4 Detailed and Targeted Flora and Vegetation Survey

3.4.1 Relevant Technical Guidance

The detailed and targeted flora and vegetation methodology was developed with reference to the following documents:

- *Technical Guidance – Flora and Vegetation Surveys for Environmental Impact Assessment* (EPA 2016b);
- *Survey Guidelines for Australia's Threatened Orchids* (Department of the Environment 2013a);
- *Approved Conservation Advice for the Banksia Woodlands of the Swan Coastal Plain ecological community* (Threatened Species Scientific Committee 2016);
- *Approved Conservation Advice for the Tuart (Eucalyptus gomphocephala) woodlands and forests of the Swan Coastal Plain ecological community* (Threatened Species Scientific Committee 2019);
- *Approved Conservation Advice for Honeymyrtle shrubland on limestone ridges of the Swan Coastal Plain Bioregion* (DCCEEW 2023);
- *Factsheet: Threatened Ecological Community Banksia Woodlands of the Swan Coastal Plain Ecological Community* (Main Roads 2021a);
- *Technical Guidance Factsheet: Threatened Ecological Community Tuart* (*Eucalyptus gomphocephala*) *Woodlands and Forests of the Swan Coastal Plain* (Main Roads 2020b); and
- *Matters of National Environmental Significance – Significant Impact Guidelines 1.1* (Department of the Environment 2013b).

3.4.2 Threatened Species Targeted Survey

Preliminary desktop reviews identified a subset of significant flora from the locality that had either been previously recorded from the survey area or were considered to have some potential to

occur. Targeted systematic searches for these species were then conducted on foot throughout the entire survey area (see Figure 3.5 and Appedix 5).

Four Threatened orchid species were identified as potentially occurring in the survey area: *Caladenia huegelii*, *Diuris micrantha*, *Diuris purdiei* and *Drakaea elastica.*

Targeted surveys for *Caladenia huegelii, Diuris micrantha* and *Diuris purdiei* was undertaken in prospective *Banksia* woodland vegetation units within the survey area (see Figure 3.5, Appendix 5). Within this habitat, the targeted surveys were undertaken by all of the flora survey personnel (Table 3.8). Suitable habitat pertaining to the species was searched utilising transects spaced at approximately 5 to10 m. Any *Caladenia* specimens similar in appearance to *Caladenia huegelii* were recorded and photographed for later identification.

Orchid identification texts (Hopper and Brown 2007, Threatened Species Scientific Committee 2008a, 2008b, DEC 2009a, 2009b, Brundrett 2014, Brown and Brockman 2015) and reference images were used to determine any potential orchid species of significance, with assistance also sought from orchid taxonomy experts/specialists Andrew Brown (ex-DBCA) and Mark Brundrett (University of WA) for identification of images.

Locations of any orchid species of significance or unknown taxa were recorded using a Unistrong tablet with a GPS accuracy of +/- 1.5 m. The number of individuals and extent of the population were also recorded. Multiple photographs of each individual within the populations were taken. DBCA Threatened and Priority Flora Report Forms were completed for all new populations of significant species recorded from the survey area and supplied to Main Roads separate to this report.

Multiple targeted surveys for the winter-emerging orchids *Drakaea elastica* and *D. micrantha* were undertaken in the winter months of 2020, 2021, 2022, and 2023.

3.4.3 Floristic Data Collection: Assessment of Quadrats and Relevés

Indicative sampling locations were selected prior to the field surveys. Once in the field, the actual locations of the sampling sites were adjusted as necessary (e.g., to be placed in the best representative area of the broader vegetation unit).

The standard sampling site for the SCP bioregion comprises a 10 m x 10 m quadrat. Sampling sites were established mainly as quadrats, with relevés established to sample narrow roadside areas, where necessary. Quadrats were measured using optical squares and measuring tapes, and permanently marked (where allowed) using steel fence droppers at each corner.

The following parameters were recorded for all sampling sites:

1. Digital location using MGA coordinates (GDA94, zone 50K) recorded with a handheld Unistrong tablet with accuracy <1.5 m; coordinates were recorded for all four corners of each quadrat;
2. Habitat: A description of the landform and habitat;
3. Soil: A broad description of the soil and any stony surface mantle or rocky outcropping;
4. Fire History: An estimate of time since last fire;
5. Disturbance Details: Vegetation condition was ranked according to the scale from EPA (2016b), which was based on that developed by Keighery (1994); this considered evidence of grazing, physical disturbance, weed invasion etc. (see Appendix 6);
6. Vegetation Description: a broad description based on the height and estimated percent foliar cover of dominant species using the vegetation structural scheme adapted from Muir (1977), and Aplin's (1979) modification of the vegetation classification system of Specht (1970) (see Appendix 6);

7. Flora Species: The estimated percentage foliar cover of each flora species presents within the sampling site; and
8. Photographs: representative digital photographs of the vegetation were taken from all four corners of both understorey and overstorey.

Newly established sampling sites for the Rockingham Road Biological Survey (Biota 2024c) were assigned the prefix 'ROC', followed by a unique number for the current survey, with those sites sampled from the Westport Last Mile Area Biological Survey (Biota 2024a). having the prefix 'WLM', those from the Westport Freight Road Additional Biological Survey (Biota 2023a) having the prefix 'WTP', and those from the Anketell Road Planning Study Biological Survey (Biota 2022) having the prefix 'ANK'.

A combined total of 146 quadrats and three relevés were assessed within the survey area for the consolidated biological report. Locations of sampling sites are shown on Figure 3.1 to Figure 3.4, with sampling site coordinates provided in Appendix 7 and raw sampling site data and photographs in Appendix 8.

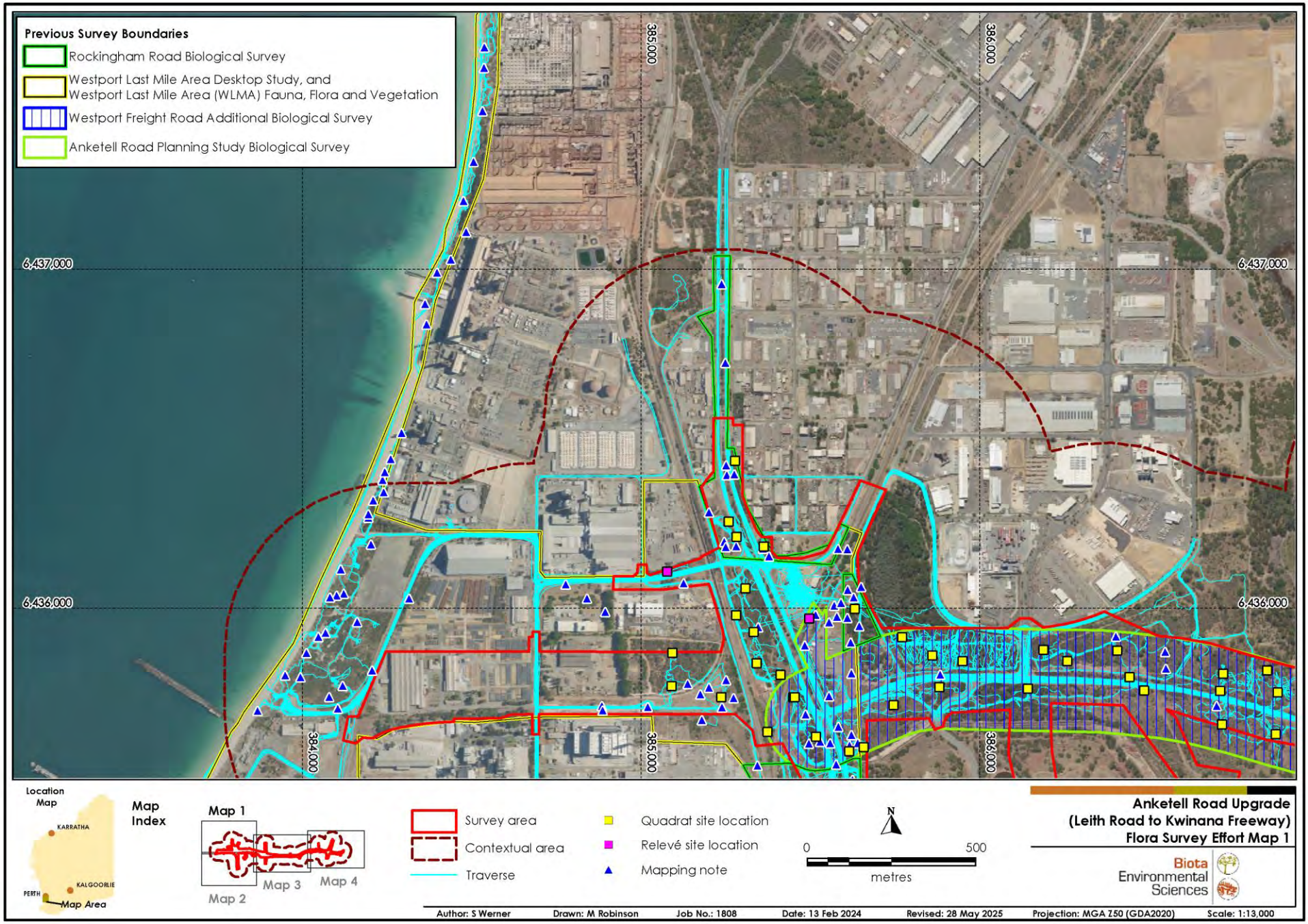

Figure 3.1: Flora and vegetation survey effort from multiple surveys relating to the Anketell Road Upgrade (Map 1 of 4).

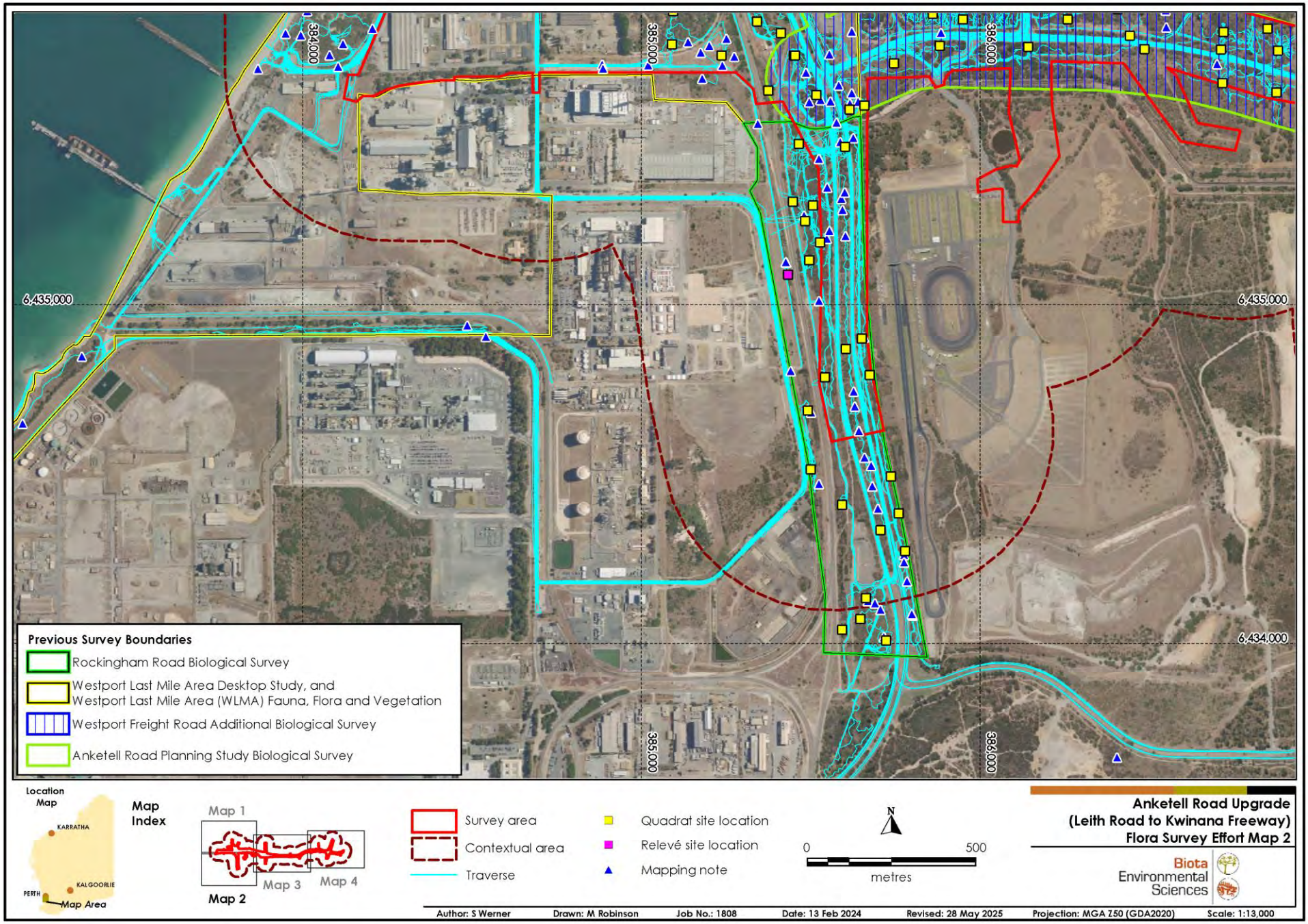

Figure 3.2: Flora and vegetation survey effort from multiple surveys relating to the Anketell Road Upgrade (Map 2 of 4).

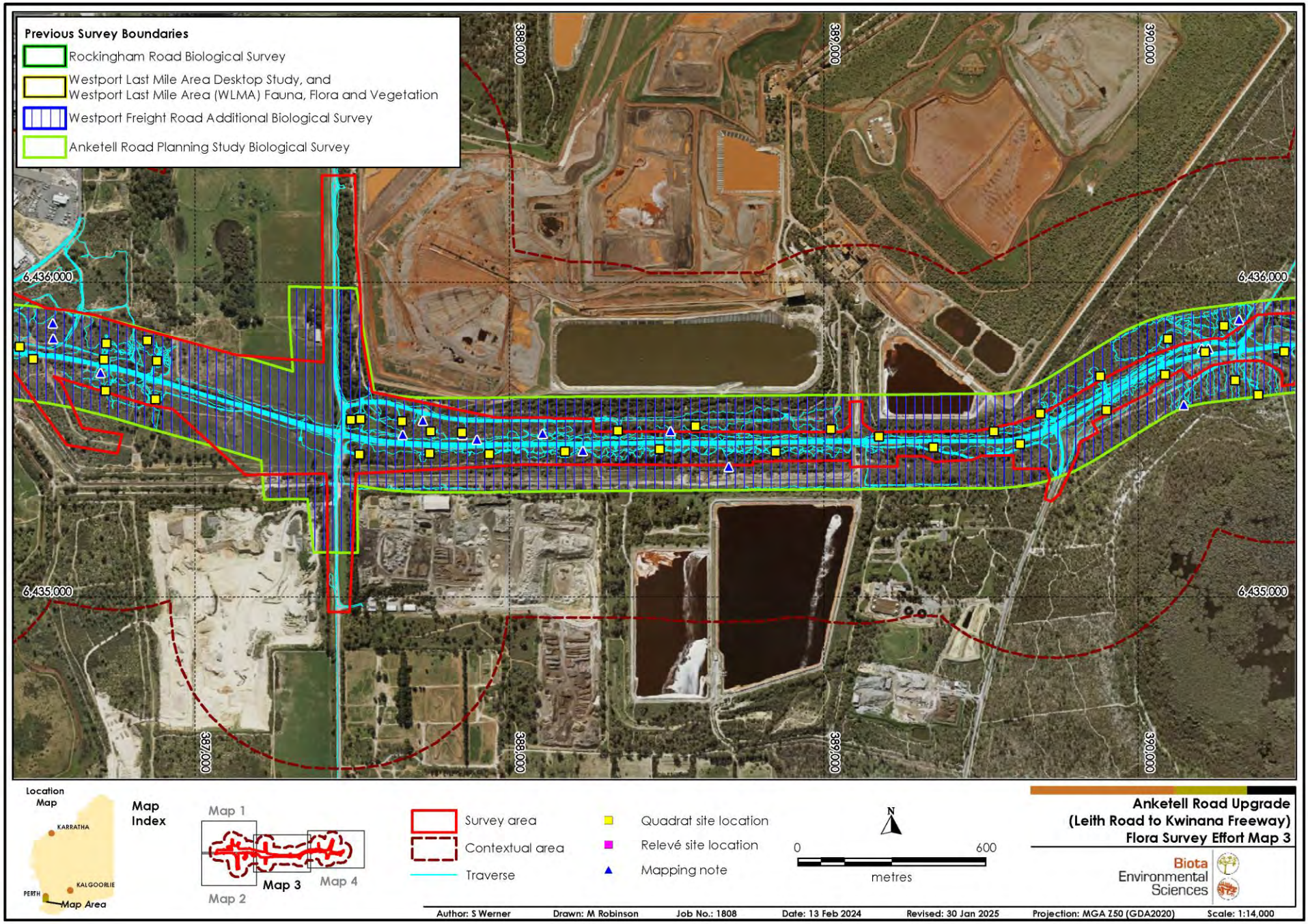

Figure 3.3: Flora and vegetation survey effort from multiple surveys relating to the Anketell Road Upgrade (Map 3 of 4).

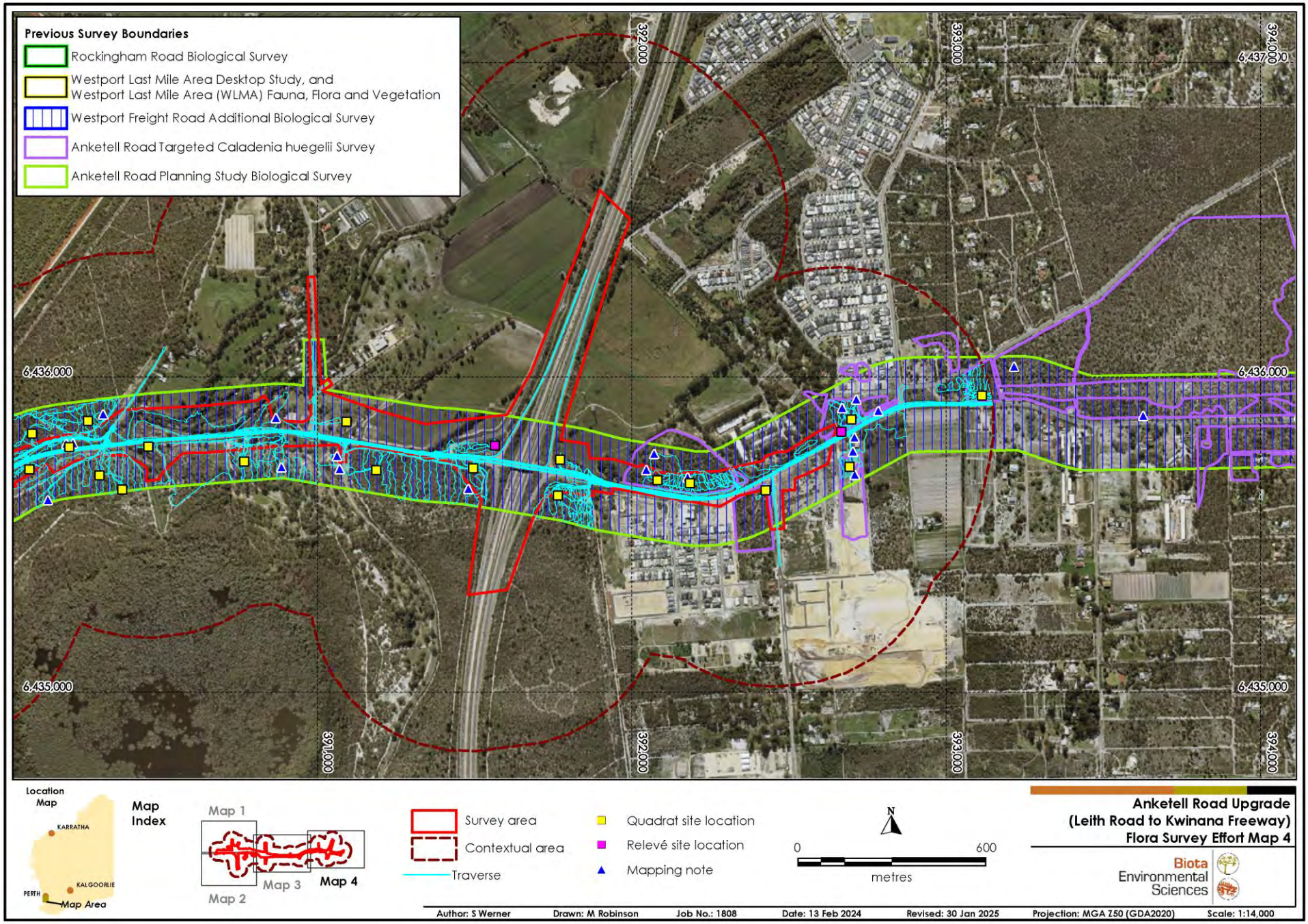

Figure 3.4: Flora and vegetation survey effort from multiple surveys relating to the Anketell Road Upgrade (Map 4 of 4).

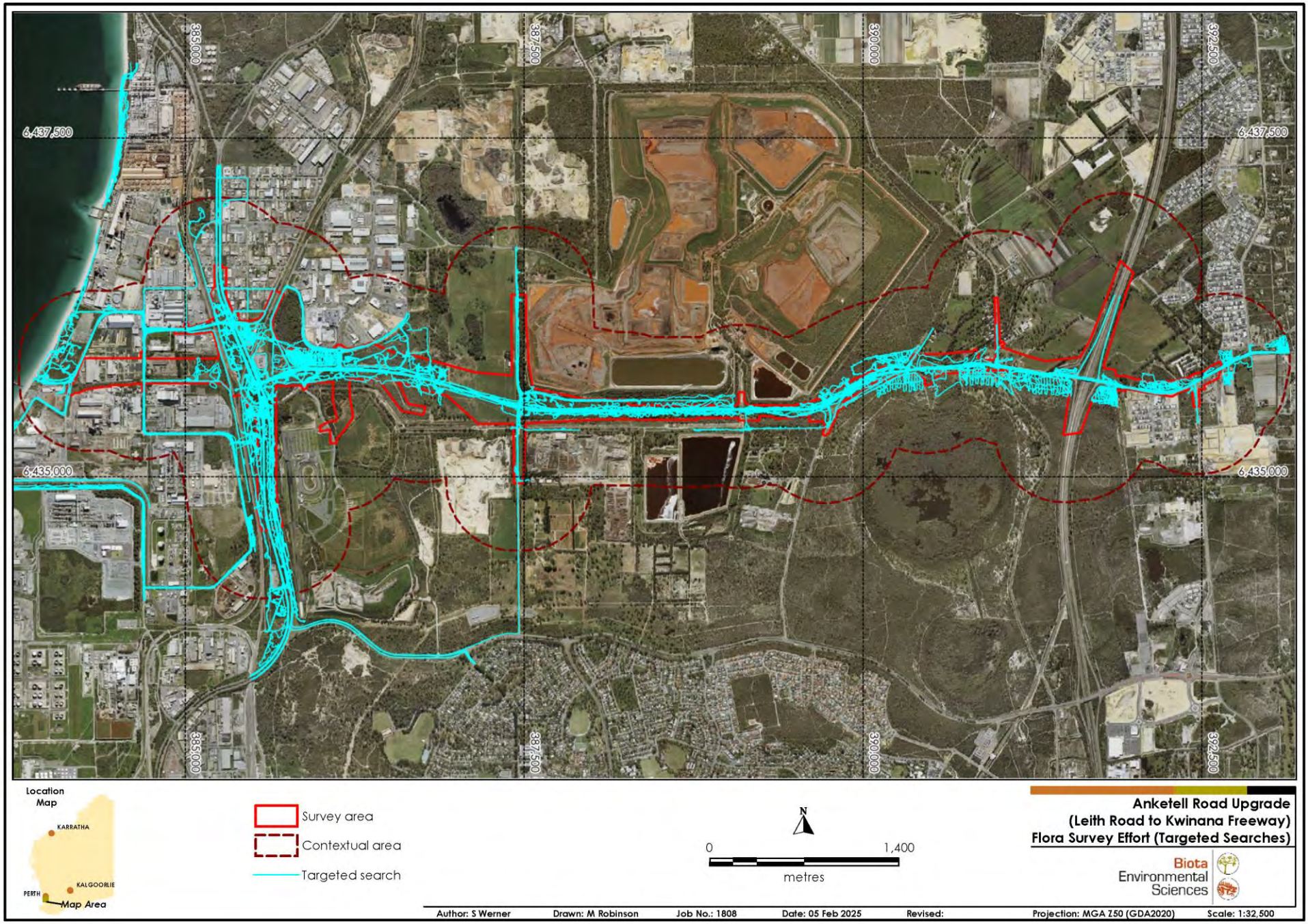

Figure 3.5: Targeted significant flora (Priority and Threatened) search effort from multiple surveys relating to the Anketell Road Upgrade.

3.4.4 Vegetation Description and Mapping

Vegetation units in the survey area were described at the sub-association level (Level VI as per the National Vegetation Information System[1]). The sub-association level includes information about the dominant growth form, height and cover for up to five species in all layers/sub-strata observed.

Field data and aerial imagery were reviewed to determine boundaries of vegetation units, which were then mapped to an appropriate scale (generally 1:10,000; with finer-scale mapping at 1:5,000 for TECs/PECs). The occurrence of the vegetation units was extrapolated outside the survey area to provide indicative vegetation mapping over the contextual area.

Vegetation units and vegetation condition mapping were mapped by Principal Biologist Scott Werner using Geographical Information System (GIS) software (QGIS v3.10). All figures presented, together with the supply of spatial data, were produced by Melissa Robinson (Principal GIS Cartographer) of Biota, using MapInfo Professional GIS v12.

Once the vegetation units were described, they were compared against the published descriptions of TECs and PECs to determine whether any of the vegetation in the survey area potentially corresponded to listed community types (see Section 4.6).

3.4.5 Vegetation Condition Mapping

In addition to spatially mapping the extent of vegetation through the survey area and contextual area, an assessment of the condition of the vegetation was also carried out (see Section 4.4). Vegetation condition is determined in relation to the (perceived) ability of the vegetation to maintain itself (Keighery 1994). This is commonly interpreted from the visible amount of introduced species compared to native species. However, numerous other factors are also considered in the assessment of condition, including disturbance (e.g., grazing, erosion), degree of alteration to community and habitat structure, and overall site ecology.

Locations of any declared pests (weeds listed under the BAM Act) or Weeds of National Significance (WoNS) were also recorded during the foot traverses, along with an estimate of their population size. Opportunistic records were also made of other introduced flora species; however no attempt was made to document all such species through the entire survey area.

The categories of vegetation condition used were consistent with the descriptive and qualitative method developed by Keighery (1994) (see Appendix 6).

3.4.6 Flora Specimen Identification, Nomenclature and Data Management

Flora species were identified either in the field, or in the office following the field surveys. If a species was common and well known to the survey botanists, the identification was confirmed and noted in the field. If the species was difficult to determine without microscopic examination, belonged to a recognised species complex, or was poorly collected or otherwise unusual, a voucher specimen was collected. Specimens were pressed in the field, and then dried for further study and confirmation.

Voucher specimens were identified using flora keys, reference to appropriate publications, use of voucher reference collections and comparisons to the collections held at the WA Herbarium. Biota botanists Ayesha Lapinski, Alastair MacGillivray, Jason Teuber, Tom Hounsham, and Scott Werner identified the majority of specimens, which were then confirmed by consultant taxonomist Pierre-Louis de Kock (dK Botanical) and Biota's Principal Botanist Michi Maier.

1 See the NVIS Information Hierarchy: https://www.dcceew.gov.au/environment/land/native-vegetation/national-vegetation-information-system

Assistance was also sought from WA Herbarium taxonomist Mike Hislop, who was consulted to resolve a range of more complex plant identifications during the surveys.

All data were entered into a Microsoft Access Vegetation Database structure held internally at Biota. The database structure employed by Biota was developed by Ted Griffin (private consultant) at the request of Malcolm Trudgen (M.E. Trudgen and Associates). Nomenclature and significance rankings used in this report are in accordance with the current listing of WA flora recognised by the WA Herbarium, as listed on FloraBase[2] at the time of reporting.

3.4.7 Analysis of Sampling Adequacy

Plots of species accumulation curves can be used to help assess sampling adequacy. When a survey has sampled an adequate proportion of the floristic assemblage, the curve should plateau and approach asymptote. PRIMER v6 (Clarke and Gorley 2006) was used to calculate smoothed species accumulation curves based on 999 random permutations of the sampling data. To avoid bias and chance effects, only quadrat data were used, and opportunistic records were excluded.

Species accumulation curves alone cannot be reliably used to extrapolate predicted total species richness for a given area. In order to estimate predicted total richness for the survey area, the Chao 2 Mean and ICE Mean estimators were calculated using EstimateS (Colwell 2013).

3.4.8 Floristic Analysis to Further Validate Vegetation Units

Two hierarchical clustering analyses of percent cover data were conducted using PRIMER v6 (Clarke and Gorley 2006), in order to validate vegetation unit classification and mapping specifically from the 2023 Westport Last Mile Area Biological Survey (Biota 2024a), Rockingham Road Biological Survey, the Westport Freight Road Additional Biological Survey (Biota 2023a) and from the Anketell Road Planning Study Biological Survey (Biota 2022).

The analysis (hereafter referred to as 'the current analysis') included the combined 104 sites sampled in the current surveys (Rockingham Road Biological Survey and Westport Last Mile Area Biological Survey) comprising 29 'ROC' sites and 12 'WLM' sites, together with previous data from 63 sites located within the survey area that were established during the Westport Freight Road Additional Biological Survey (Biota 2023a) and the Anketell Road Planning Study Biological Survey (Biota 2022). For these data sets:

- taxa that were only identified to genus level were excluded, as these could refer to multiple taxa;
- taxa were referred to a single entity, where considered appropriate (e.g., *Adenanthos cygnorum* with no subspecies determined was merged with *Adenanthos cygnorum* subsp. *cygnorum*);
- all singleton taxa (those occurring in only one site) were excluded, to reduce 'noise' in the data set; and
- all weed species were removed.

For each data set, the Bray-Curtis measure of similarity was used to produce a similarity matrix. From each similarity matrix, a dendrogram was generated using the group average method cluster analysis, as well as a Non-metric Multi-Dimensional Scaling (nMDS) plot. The results of the current analysis were used to inform vegetation mapping in newly surveyed areas (i.e., areas of the Rockingham Road and Westport Last Mile Area Biological surveys not overlapping the Westport Freight Road and Anketell Road survey areas). The similarity percentage test (SIMPER) was used to determine which species contributed most to the similarities between groups.

2 http://florabase.dpaw.wa.gov.au

3.4.9 Floristic Analysis to Identify TECs/PECs

Floristic analyses were conducted using PATN v4 (Belbin 2020) to compare the sites from the survey area to the same SCP vegetation data set using the same analysis software utilised by Gibson et al. (1994). The analyses were used to assign sites in the survey area, and thus distinct areas of vegetation units, to the equivalent FCT as defined by Gibson et al. (1994), and to assist with determining the presence of significant vegetation, including TECs and PECs.

In keeping with the original floristic analysis completed by Gibson et al. (1994), the following protocols were used for the analysis and applied to the quadrat data set for the current analysis :

- Presence/absence data were used.
- All weeds were included.
- Some taxa were combined for the analysis. These were typically those that were considered difficult to accurately differentiate without sufficient flowering material (e.g. the taxa listed in Appendix 3 of Gibson et al. 1994), or those that were represented by at species level rather than sub-species level.
- Singleton taxa (those representing a single record during the survey) were excluded.
- Records of taxa that were only identified to genus level (e.g., *Caladenia* sp.) were also excluded, as these could refer to multiple taxa.

A test analysis was run using the Gibson data set, with the clustering analysis technique kept consistent with that used by Gibson et al. (1994):

- Sites were classified into 30 groups using the Bray Curtis (Czekanowski) association measure, followed by an agglomerative hierarchical fusion classification using "flexible unweighted pair-group mean average" (flexible UPGMA). The beta value was set at -0.1.

Once the basic technique had been validated, the data from the sampling sites (quadrats and relevés) were combined with the Gibson et al. (1994) data set. It is widely recognised that adding multiple new samples (sites) to a data set can result in considerable reassignment of samples to different groups than those produced through the original hierarchical clustering process. To minimise disruption to the existing floristic groups identified by Gibson et al. (1994), each site was added individually to the data set, and clustering was checked against the original. This process was referred to as Single Site Insertion by Trudgen and Trudgen (2010); we have modified this to Single Sample Insertion (SSI), due to the use of the "single-site insertion" term in the genetics field.

A further analysis, Nearest Neighbour Border (NNB), was completed in PATN to determine the 20 original Gibson et al. (1994) sites that were most similar to the new sites. The NNB analysis determines the most similar sites on the basis of species composition, and forms linkages without imposing clustering. This technique often reveals relationships that may be lost when a clustering technique is used.

3.5 Wetland Mapping and Category Assessment

The *Geomorphic Wetlands of the Swan Coastal Plain* ('GWSCP') dataset was used to identify wetlands that intersected either the survey area or contextual area, with these assessed against the preliminary and secondary wetland evaluations outlined by DBCA (2017). This framework provides a single, consistent method on how to evaluate wetlands across the SCP. The outcome of the evaluation process for each wetland is the identification of a 'wetland management category'.

The main objectives of the wetland assessment conducted during the Westport Freight Road Additional Biological Survey (Biota 2023a) were to:

- evaluate the wetlands on the SCP relevant to the survey area to either confirm, or suggest an update to, the management category already assigned to each wetland, as a basis for guiding the level of wetland management and protection; and
- to provide additional guidance about the evaluation of the wetlands in complex situations such as connected wetland systems.

The results of the preliminary and secondary evaluation along with the information obtained in the wetland evaluation desktop and site assessment will be presented in this report and submitted to the Wetlands Section of DBCA.

If the results of the preliminary or secondary evaluation indicate that the wetland's mapped management category is considered to be incorrect then a request to modify the GWSCP dataset (including 'Wetland evaluation desktop and site assessment form' and the evaluation criteria) will be submitted to the DBCA and the Department of Water and Environmental Regulation (DWER). The evaluation of relevant wetlands in the survey area is a scientific assessment of wetland values and does not consider the potential implications of the evaluation on current or future land uses. The process of evaluation is independent of decisions about protection and management, which are the responsibility of land managers and regulators, but does provide a description of values upon which subsequent decisions on protection and management can be based.

3.6 Basic Fauna Surveys

3.6.1 Relevant Technical Guidance

The basic and targeted sampling methodology was developed with reference to the following documents:

- *Technical Guidance – Terrestrial Vertebrate Fauna Surveys for Environmental Impact Assessment* (EPA 2020);
- *Technical Guidance – Sampling of Short-range Endemic Invertebrate Fauna (EPA 2016a);*
- *Referral guideline for three WA threatened black cockatoo species: Carnaby's Cockatoo Baudin's Cockatoo and the Forest Red-tailed Black Cockatoo* (DAWE 2022);
- *EPBC Act referral guidelines for three threatened black cockatoo species: Carnaby's cockatoo (endangered),* Calyptorhynchus latirostris*; Baudin's cockatoo (vulnerable),* Calyptorhynchus baudinii*; Forest red-tailed black cockatoo (vulnerable),* Calyptorhynchus banksii naso (DSEWPaC 2012);
- *Protecting Black Cockatoos - Baudin's Cockatoo, Carnaby's Cockatoo and Forest Red-tailed Black Cockatoo* (Main Roads 2021b);
- *EPA Technical Report: Carnaby's Cockatoo in Environmental Impact Assessment in the Perth and Peel Region* (EPA 2019);
- *Survey Guidelines for Australia's Threatened Birds* (DEWHA 2010);
- *Survey Guidelines for Australia's Threatened Mammals* (DSEWPaC 2011); and
- *Matters of National Environmental Significance – Significant Impact Guidelines 1.1* (Department of the Environment 2013b).

3.6.2 Fauna Habitat Assessment

A preliminary review of the likely fauna habitats of the survey area was conducted by examination of aerial photography in combination with broad mapping of geology, and Heddle (1980) vegetation mapping. Ground-truthing of fauna habitats was then conducted by traversing the survey area on foot and by vehicle, with detailed fauna habitat descriptions recorded wherever distinct junctions in habitat types were evident.

Habitat elements recorded included soil type, landform, any notable microhabitats present, any disturbance (e.g., fire, weeds, grazing, evidence of introduced fauna), broad vegetation characteristics and representative photographs. Habitat descriptions and detailed vegetation mapping (Section 4.1) were then used to define and map fauna habitats.

3.7 Targeted Fauna Surveys

Prior to the field surveys, a preliminary set of significant vertebrate and invertebrate species were selected as the focus for targeted sampling. These were based on the results of the desktop studies reported in the Anketell Road Planning Study Biological Survey (Biota 2022), the Westport Last Mile Area Desktop Study (Biota 2023b), and/or the likely presence of suitable habitat as assessed from thematic biogeography and aerial imagery. Targeted methodology and site selection was then revised based on the ground-truthing of habitats in the field where required. The species targeted are summarised in Table 3.10.

A targeted field survey was then conducted for those significant species considered to have some likelihood of occurrence. Survey methods included active searches for individuals and secondary evidence, deployment of motion cameras, recording of opportunistic observations, and black cockatoo habitat assessment (see Table 3.10). All species encountered opportunistically during the targeted surveys were also recorded, and habitat assessments were carried out for other significant fauna species that were identified as potentially occurring during the desktop study even where not specifically targeted.

Locations of targeted field effort including foot traverses for black cockatoo habitat assessment, searches for significant fauna and location of motion-sensitive cameras are illustrated in Figure 3.6.

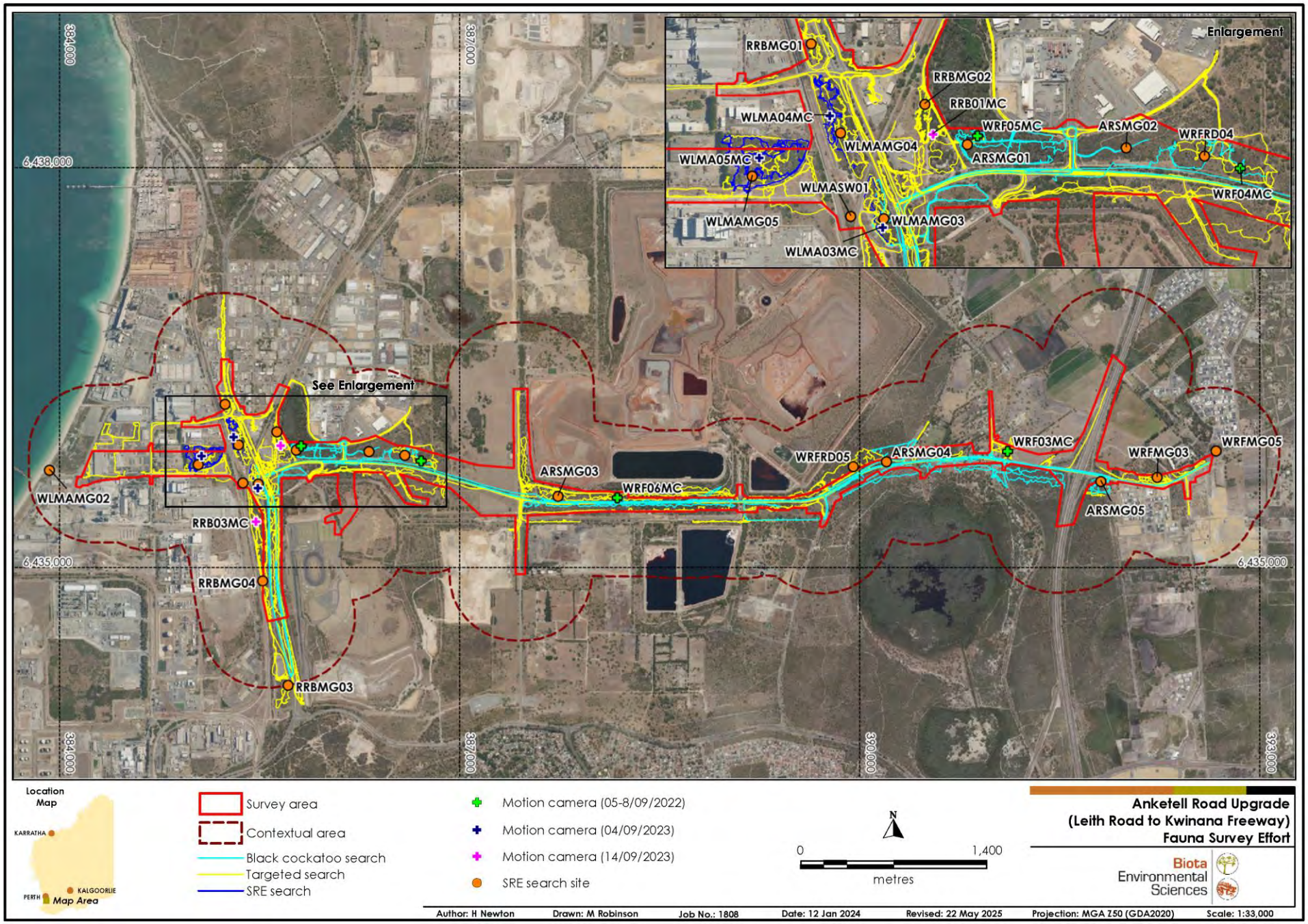

Figure 3.6: Fauna survey sites and search extents within the survey area.

Table 3.10: Targeted significant fauna and related survey methodologies used.

Species	Conservation Status		Survey Method
	State	Commonwealth	
Black Cockatoos			
Baudin's Black Cockatoo *Zanda baudinii*	EN	EN	Targeted survey: recording of habitat trees, including assessment of nesting hollows; assessment of foraging habitat value; recording of opportunistic sightings of individuals or other signs (e.g., feathers, chewed fruits).
Carnaby's Black Cockatoo *Zanda latirostris*	EN	EN	
Forest Red-tailed Black Cockatoo *Calyptorhynchus banksii naso*	VU	VU	
Other Vertebrates			
Chuditch *Dasyurus geoffroii*	VU	VU	Recording of any opportunistic sightings and secondary evidence (scats); motion cameras.
Peregrine Falcon *Falco peregrinus*	OS	-	Recording of any opportunistic sightings.
Quenda *Isoodon fusciventer*	P4	-	Recording of any opportunistic sightings and secondary evidence (scats and diggings); motion cameras.
Western Brush Wallaby *Notamacropus irma*	P4	-	Recording of any opportunistic sightings and secondary evidence (scats); motion cameras.
Perth Lined Slider *Lerista lineata*	P3	-	Active searches for individuals; recording of any opportunistic sightings.
Black-striped Snake *Neelaps calonotos*	P3	-	Active searches for individuals; recording of any opportunistic sightings.
Invertebrates			
Swan Coastal Plain Shield-backed Trapdoor Spider *Idiosoma sigillatum*	P3	-	Active searches for burrows and individuals.
Graceful Sunmoth *Synemon gratiosa*	P4	-	Active searches for individuals and known larval host plant species.

3.7.1.1 Motion Cameras

A motion camera was deployed at each of nine locations within the survey area for a total of 127 camera trap-nights (Table 3.11, Plate 3.1 to Plate 3.9). Cameras were baited with consumable universal bait (peanut butter and oats), and a cat food or raw chicken or truffle oil scent lure when targeting Chuditch.

Table 3.11: Motion camera locations.

Site Name	Latitude	Longitude	Fauna Habitat	Date Deployed	Effort (nights)
WRF03MC	-32.20838817	115.8446177	Damplands	6/9/2022	23
WRF04MC	-32.20861231	115.7979269	*Acacia* Shrubland	6/9/2022	21
WRF05MC	-32.20751355	115.7883994	Jarrah/*Banksia* Woodland	6/9/2022	21
WRF06MC	-32.21124556	115.8135227	Damplands	7/9/2022	21
WLMA03MC	-32.21033613	115.7848998	*Banksia* Woodland	4/9/2023	9
WLMA04MC	-32.20685741	115.7830315	*Melaleuca* Shrubland	4/9/2023	9
WLMA05MC	-32.20813586	115.7804551	*Acacia* Shrubland	4/9/2023	9
RRB01MC	-32.22409888	115.7865518	*Acacia* Shrubland	14/9/2023	7
RRB03MC	-32.21259161	115.7847262	*Melaleuca* Shrubland	14/9/2023	7

Plate 3.1: Camera site WRF03MC.

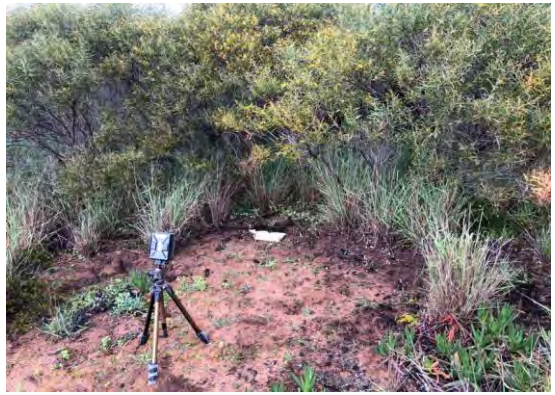

Plate 3.2: Camera site WRF04MC.

Plate 3.3: Camera site WRF05MC.

Plate 3.4: Camera site WRF06MC.

Plate 3.5: Camera site WLMA03MC.

Plate 3.6: Camera site WLMA04MC.

Plate 3.7: Camera site WLMA05MC.

Plate 3.8: Camera site RRB01MC.

Plate 3.9: Camera site RRB03MC.

3.7.2 Black Cockatoos

3.7.2.1 Survey Timing

The two threatened black cockatoo species primarily targeted in this survey were Forest Red-tailed Black Cockatoo (*Calyptorhynchus banksii naso*) and Carnaby's Black Cockatoo (*Zanda latirostris*). Baudin's Black Cockatoo is unlikely to occur within the survey area with its coastal distribution generally not extending further north than Rockingham (DAWE 2022).

The timing of the surveys in September and October was within the broad breeding timing for the target black cockatoo species and so would have afforded opportunity to detect breeding if it were occurring. However, previously completed desktop studies indicated that the habitat within the survey area is more likely to be used for foraging by black cockatoos and foraging individuals are less likely to be present in September and October. Nonetheless, foraging can be detected from secondary evidence, particularly Marri fruit, from which the foraging species can be identified by the distinctive chew marks left by each of the three black cockatoo species and such evidence can persist for many months and in some cases years.

3.7.2.2 Breeding Habitat

Breeding habitat is defined as habitat that contains known, suitable or potential nesting trees and is within the breeding range of the species (DAWE 2022). Breeding habitat trees have been assessed according to the definitions in the Environmental Factsheet for Black Cockatoo Impact Assessment (Main Roads 2021b), detailed in Table 3.12.

Table 3.12: A summary of the suitable diameter at breast height (DBH) tree categories for black cockatoos (Main Roads 2023).

Category Number	Tree Category	Description
1	Suitable DBH Tree with Known Nesting Hollows.	Hollow where breeding has been recorded, or there is evidence of previous use.
2	Suitable DBH Tree with a potentially suitable hollow with signs of use (not confirmed).	Hollows that appear to have a suitably sized entry and display signs of use, however internal dimensions have not been assessed.
3	Suitable DBH Tree with a suitable hollow with no signs of use (confirmed).	Hollows that appear to have a suitably sized entry, with internal dimensions assessed.
4	Suitable DBH Tree with a marginally unsuitable hollow with no signs of use (confirmed).	Hollows that are not currently suitable but have the potential to become suitable within five years.
5	Suitable DBH Tree with a potential suitable hollow with no signs of use (not confirmed).	Hollows that appear to have a suitably sized entry, however internal dimensions have not been assessed.
6	Suitable DBH Tree with unsuitable hollows (confirmed).	Hollows that have a hollow entry greater than 50mm that is not suitable due to the size of its entry, internal dimensions, angle and/or height off the ground.
7	Suitable DBH Tree without hollows.	Trees with a 500mm DBH (or 300mm for Wandoo or Salmon Gum) that do not have visible hollows.

The field assessment aimed to determine whether black cockatoo breeding habitat was present within the survey area and as far as practicable, comprehensively determine the number of suitable DBH trees of each category (Table 3.12. All individual trees of species with the potential to form hollows (within the survey area, primarily Jarrah, Tuart and Flooded Gum) and with sufficient diameter to be considered breeding habitat trees (>500 mm), were recorded using a high-accuracy GPS enabled tablet with global navigation satellite system capability (Unistrong UT10). Hollows were initially assessed from ground level using binoculars and any hollows that looked potentially suitable were further investigated using a pole-mounted camera.

The following parameters were recorded for breeding habitat trees:

- DBH (at approximately 1.3 m above the ground);
- estimated tree height;

- tree species (where identifiable);
- the number of observed hollows and height above the ground for each;
- an assessment of suitability of each hollow, and subsequent assessment with pole-mounted camera if required; and
- signs of cockatoo use (including wear around hollows, nut chews, scarring, scratch marks on trunks and branches, secondary evidence of feeding sites and moulted feathers).

3.7.2.3 Foraging Habitat

Foraging habitat is defined as areas which include plants of species known to support foraging within the range of each cockatoo species (DAWE 2022). To quantify the quality of black cockatoo foraging habitat within the survey area, the draft Habitat Quality Scoring (HQS) system for WA black cockatoo foraging habitat was provided to Main Roads WA by DCCEEW. The system draws on the definitions of habitat quality in the offsetting guidelines of DSEWPaC (2013) and uses a score out of seven for site condition and a score out of three for site context to obtain an overall score out of 10. In this system, site condition is considered the key factor in determining the quality of habitat for these black cockatoo species. Species stocking rate is considered only in terms of presence or absence of the species and does not contribute to the score.

The criteria and full detail of the scoring sheet is provided in Table 3.13 and Table 3.14 but may be summarised as:

- Site condition: a score out of seven for the vegetation composition, condition and structure; plus,
- Site context: a score out of three for the context of the site, which considers the proximity to known breeding sites or quality foraging habitat.

For the site condition criteria, the foraging habitat quality is rated according to the presence of preferred foraging plants and their cover, together with a percent of tree deaths as an indicator of the robustness of the habitat. Criteria are detailed in Table 3.13.

An assessment of foraging habitat availability and quality was made both while foot traversing the survey area but also with reference to flora and vegetation descriptions and condition mapping (Section 4.0). Any observations of individuals foraging, or secondary evidence via foraging debris, was recorded. Available data on local black cockatoo roosts was also used to assess the likelihood of use of foraging habitat by black cockatoo species.

Table 3.13: Site Condition Criteria of the DCCEEW Habitat Quality Scoring sheet.

		Description		
Score	Foraging value	**Carnaby's Black Cockatoo**	**Baudin's Black Cockatoo**	Forest Red-tailed Black Cockatoo
7	Very High	Native kwongan heath and shrubland (>30% projected foliage cover), banksia and eucalypt woodlands with >50% projected foliage cover. Low percentage (< 5%) of tree deaths.	Marri-Jarrah Forest and woodlands with >50% projected foliage cover. Low percentage (< 5%) of tree deaths.	Marri-Jarrah-Karri Forest, other eucalypt woodlands, or allocasuarina woodlands, with >50% projected foliage cover. Low percentage (< 5%) of tree deaths.
6	High	Native kwongan heath and shrubland (>25% projected foliage cover), banksia and eucalypt woodlands with >40% projected foliage cover. Low percentage (< 10%) of tree deaths.	Marri-Jarrah Forest and woodlands with >40% projected foliage cover. Low percentage (< 10%) of tree deaths.	Marri-Jarrah-Karri Forest, other eucalypt woodlands, or allocasuarina woodlands, with >40% projected foliage cover. Low percentage (< 10%) of tree deaths.
5	Moderate to High	Native kwongan heath and shrubland (>20% projected foliage cover), banksia and eucalypt woodlands with 30-40% projected foliage cover; OR > 60% projected foliage cover but veg. condition reduced due to tree deaths (up to 20%).	Marri-Jarrah Forest or woodlands with 30-40% projected foliage cover; OR > 60% projected foliage cover but veg. condition reduced due to tree deaths (up to 20%).	Marri-Jarrah-Karri Forest, other eucalypt woodlands, or allocasuarina woodlands, with 30-40% projected foliage cover; OR > 60% projected foliage cover but veg. condition reduced due to tree deaths (up to 20%).
4	Moderate	Native kwongan heath and shrubland, banksia or eucalypt woodlands with 20-30% projected foliage cover. Moderate percentage of tree deaths (30-40%).	Marri-Jarrah Forest or woodlands with 20-30% projected foliage cover; OR Marri-Jarrah Forest with 40-60% projected foliage cover but vegetation condition reduced due to tree deaths (up to 30-40%).	Marri-Jarrah-Karri Forest, other eucalypt woodlands, or allocasuarina woodlands with 20-30% projected foliage cover; OR 40-60% projected foliage cover but veg. condition reduced due to tree deaths, up to 30-40%).
3	Low to Moderate	Native kwongan heath and shrubland, banksia or eucalypt woodlands with 10-20% projected foliage cover.	Marri-Jarrah Forest or woodlands with 5-20% projected foliage cover.	Marri-Jarrah-Karri Forest, other eucalypt woodlands, or allocasuarina woodlands with 5-20% projected foliage cover.
2	Low	Native kwongan heath and shrubland, banksia and eucalypt woodlands with <10% projected foliage cover; OR Paddocks and/or urban areas with scattered foraging trees such as banksias, marri.	Marri-Jarrah Forest or woodlands with 1-5% projected foliage cover; OR Paddocks and/or urban areas with scattered foraging trees such as banksia, hakea, dryandra.	Marri-Jarrah-Karri Forest, other eucalypt woodlands, or allocasuarina woodlands with 1-5% projected foliage cover; OR Paddocks and/or urban areas with scattered food plants such as Cape Lilac, *Eucalyptus caesia* and *E. erythrocorys*.
1	Negligible to low	Scattered specimens of known food plants but projected foliage cover of these is <2%. May include: paddocks or urban areas with scattered foraging trees.		
0	None	No Proteaceae, eucalypts or other potential sources of food. May include bare ground or developed sites devoid of vegetation (e.g., infrastructure, roads, gravel pits).		

Table 3.14: Site Context Criteria of the DCCEEW Habitat Quality Scoring sheet.

Score	Description		
3	Site is within 6 km of known breeding site.	or	Site is within 12 km of other foraging resources with site condition of at least 3.
2	Site is within 12 km of known breeding site.	or	Site is within 15 km of other foraging resources with site condition of at least 4.
1	Site is within 15km of known breeding site.	or	Site is between 15 km and 20 km of other foraging resources with site condition of at least 5.
0	Site is further than 15 km from known breeding site.	or	Site is further than 20 km from other foraging resources.

3.7.2.4 Roosting Habitat

Roosting habitat refers to habitat which contains known roosting, or potential roosting trees (DAWE 2022). A known roosting tree is known to be used for night roosting or which demonstrate evidence of roosting (DAWE 2022). Known roosting locations in the locality were obtained via a search of BirdLife Australia's database. Potential roosting habitat is generally a tall tree or group of trees (typically the tallest), usually close to an important water source (generally within 2 km), and within an area of quality foraging habitat. During the field survey, searches were conducted for evidence of roosting (e.g., significant scat piles or of feeding debris) in areas of potentially suitable roosting habitat.

3.7.3 SRE Invertebrate Fauna

Targeted searches for potential SRE invertebrates were conducted within the most prospective microhabitats across the range of habitats present within the survey area. Effort at these sites targeted key invertebrate groups known to contain SRE species on the Swan Coastal Plain, particularly land snails, mygalomorph spiders, millipedes and isopods. This included digging soil amongst exposed roots in sheltered locations, turning rocks, logs and bark and hand raking and sieving accumulated leaf litter. On some occasions (e.g. September 2022, September 2023) rain fell during the survey and snails and millipedes were found active while in other phases (e.g. September 2020, October 2024) rain fell in the days preceding the survey, such that moist conditions could be found in some microhabitats. Searching for the burrows of mygalomorph spiders has proven the most effective technique for this group, when conducted by zoologists familiar with a range of burrow types. On all phases of SRE survey, at least one team member had three or more years experience in mygalomorph and SRE survey and on some phases a cumulative total experience of more than 25 years.

A total of 14 SRE sites were surveyed within the survey area, amounting to just over 29 person hours of search effort (Table 3.15; Figure 3.7). Site photos are presented in Plate 3.10 - Plate 3.23. This total comprises a combined survey effort undertaken across four surveys at sites located within the survey area (Table 3.15; Figure 3.7). A further four SRE sites were surveyed within the contextual area, as part of the surveys detailed in Table 3.6. The location of sites within the contextual area are presented in Figure 3.7 to show the level of contextual effort expended in relation to the survey area but these contextual sites are not discussed further.

Table 3.15: SRE site locations and search effort.

Site Name	Latitude	Longitude	Fauna Habitat	Methods	Personnel	Survey Effort (minutes x personnel)
RRB01SRE	-32.20463251	115.7823797	*Melaleuca* Shrubland	Burrow search, snail search	2	40
RRB02SRE	-32.20653167	115.7864872	*Acacia* Shrubland	Burrow search, snail search	2	98
RRB04SRE	-32.21661954	115.7852232	*Banksia* Woodland	Burrow search, leaf litter raking, rock turning, snail search	1	104

Site Name	Latitude	Longitude	Fauna Habitat	Methods	Personnel	Survey Effort (minutes x personnel)
WLMA01SRE	-32.2099692	115.7837386	*Melaleuca* Shrubland	Burrow search, leaf litter raking, rock turning, snail search	1	15
WLMA03SRE	-32.21005414	115.7849522	Eucalypt Woodland/ Forest	Leaf litter raking, rock turning, under sheet tin	2	152
WLMA04SRE	-32.20739022	115.7834161	*Melaleuca* Shrubland	Burrow search, leaf litter raking, snail search	2	230
WLMA05SRE	-32.20869629	115.7801914	*Acacia* Shrubland	Burrow search, leaf litter raking, rock turning, snail search	2	226
WRF03SRE	-32.21026943	115.8564592	Eucalypt Woodland/ Forest	Burrow search	2	104
WRF04SRE	-32.20822795	115.7966198	*Melaleuca* Shrubland	Burrow search	2	72
ARS01	-32.20779376	115.7880146	*Eucalyptus* and *Banksia* woodland	Burrow search, snail search	2	184
ARS02	-32.20794652	115.79378998	*Eucalyptus* and *Banksia* woodland	Burrow search, leaf litter raking, snail search	2	176
ARS03	-32.21111358	115.80878121	*Eucalyptus* and *Banksia* woodland	Burrow search, leaf litter raking, snail search	2	138
ARS04	-32.20902880	115.83495811	*Eucalyptus* and *Banksia* woodland	Burrow search, leaf litter raking, snail search	2	129
ARS05	-32.21052142	115.85199766	*Eucalyptus* and *Banksia* woodland	Burrow search, leaf litter raking, rock turning, snail search	2	94
					Total	1,762

Plate 3.10: SRE site RRB01SRE.

Plate 3.11: SRE site RRB02SRE.

Plate 3.12: SRE site RRB04SRE.

Plate 3.13: SRE site WLMA01SRE.

Plate 3.14: SRE site WLMA03SRE.

Plate 3.15: SRE site WLMA04SRE.

Plate 3.16: SRE site WLMA05SRE.

Plate 3.17: SRE site WRF03SRE

Plate 3.18: SRE site WRF04SRE

Plate 3.19: SRE site ARS01.

Plate 3.20: SRE site ARS02.

Plate 3.21: SRE site ARS03.

Plate 3.22: SRE site ARS04.

Plate 3.23: SRE site ARS04.

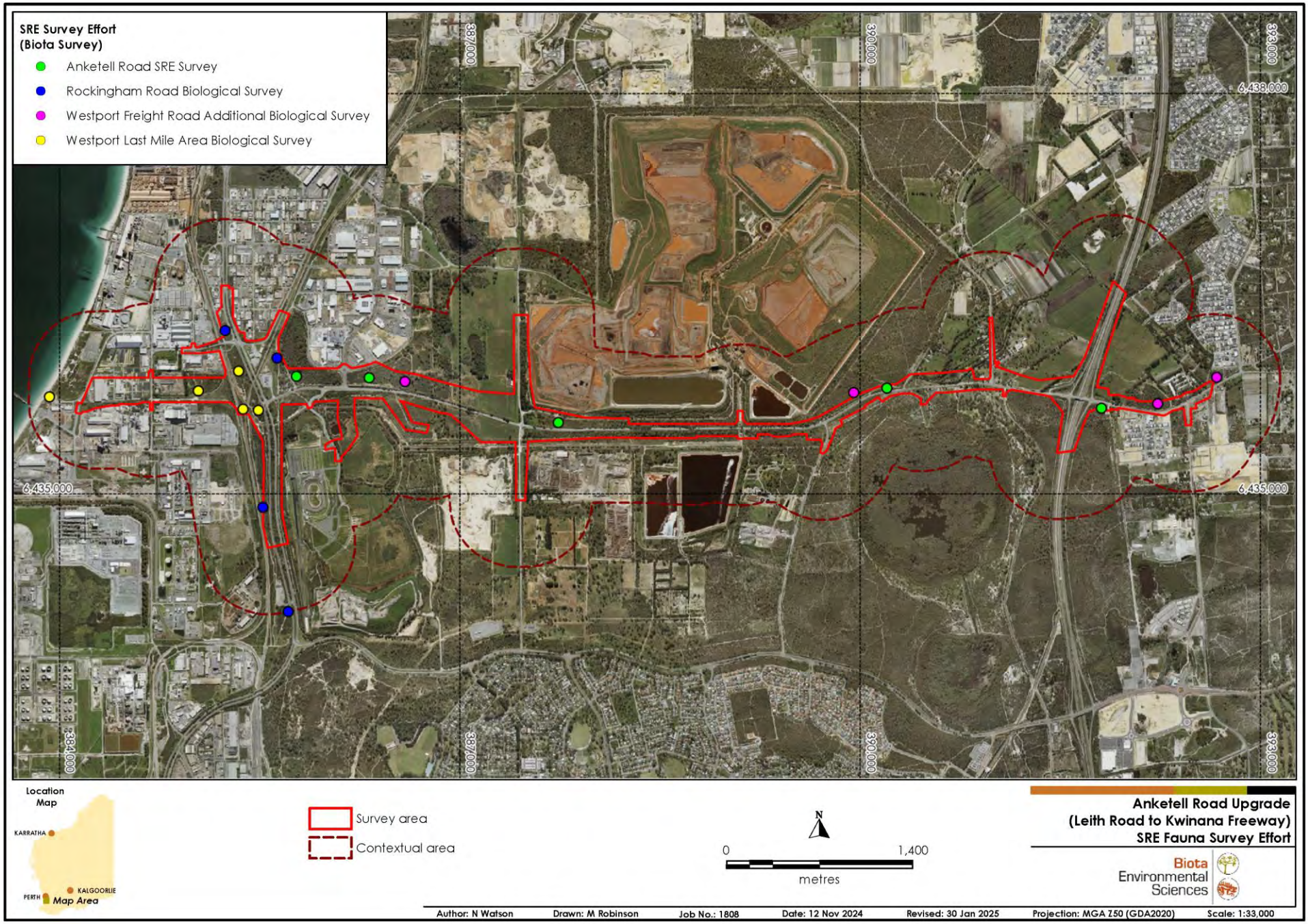

Figure 3.7: SRE survey sites within the survey area and contextual area.

3.8 Nomenclature

Consistent with the EPA Technical Guidance (EPA 2020), species nomenclature for herpetofauna and mammals follows the standards of the WA Museum fauna taxonomic checklist, which is revised and released every six months or as necessary. EPA (2020) suggests using avifauna nomenclature in accordance with Australian Biological Resources Study Federal Australian Faunal Directory (DoEE 2021). This avifauna nomenclature also follows International Ornithological Congress (IOC) Bird List version 10.2 (Gill et al. 2021).

3.9 Study Limitations

The results of the field surveys provide an adequate representation of the flora, vegetation and fauna values of the survey area. However, there are limitations to each individual survey consolidated here, and thence this study overall, that must be considered when reviewing and applying the results detailed in this report. As per the EPA's Technical Guidance for flora and fauna surveys for EIA (EPA 2016b, 2020), potential constraints and consequent limitations of this study are summarised in Table 3.16.

Table 3.16: Potential constraints and limitations of the current study.

Potential Constraint	Statement of Limitations
1. Availability of contextual information at a regional and local scale	The survey area has been subject to specific surveys targeting significant flora and fauna, as well as PECs and TECs. Previous biological surveys have been completed within the survey area and the locality. Contextual information is not considered to be a limiting factor for this study.
2. Competency/ experience of the team carrying out the survey, including experience in the bioregion surveyed	The field personnel were suitably qualified to identify flora and fauna, and most team members have at least three years of experience in conducting biological surveys. Additionally, each field team included team leaders or senior members with a minimum of 10 years of experience in conducting biological surveys in the bioregion. There were therefore no limitations due to experience of personnel.
3. Proportion of flora recorded and/or collected, any identification issues	All vascular flora encountered in the survey area were recorded, and the majority (approximately 90%) of the flora specimens collected were of sufficient quality to be fully determined to the lowest relevant taxonomic level. Overall, 99% of specimens were able to be identified to genus level. Fungi and non-vascular flora (algae, mosses and liverworts) were not systematically surveyed, which is consistent with the accepted level of effort for a survey of this type and scale. The proportion of flora recorded was not considered to be a limitation.
4. Appropriate area fully surveyed (effort and extent)	Vegetation mapping was prepared for the survey area and extrapolated into the contextual area. A combined total of 146 quadrats and three relevés were assessed in the survey area. A minimum of three replicate sites were sampled in 18 of the 20 intact vegetation types identified; newly identified vegetation units from the current surveys units A4 and B6 only contained two sites due to the relatively small size and location of the vegetation units, whereas units B1, B3, DU2, K1, and M1 all contained two sites due to the truncated survey area requested by Main Roads WA after these units had been sampled with the appropriate number of sites in previous surveys Targeted flora and winter orchid searches were conducted over multiple phases throughout all prospective vegetation within the survey area. Main Roads specified a basic and targeted fauna survey (EPA 2020). Fauna habitats were described and mapped, and searches were conducted for significant species at selected locations. Motion cameras were established to target the Chuditch, Quenda and other significant mammals. Additionally, the survey area was assessed for habitat trees suitable for black cockatoo species. There were therefore no limitations due to survey effort and extent.
5. Access restrictions within the survey area	Much of the survey area consisted of private freehold land. In most cases permission to access privately-owned areas was granted to Main Roads for the current survey. Access restriction was not considered a limitation.

Potential Constraint	Statement of Limitations
6. Survey timing, rainfall, season of survey	The flora and vegetation surveys were completed within the spring months of 2020, 2021, 2022, and 2023, and were considered adequate to optimal for the recording of annual and cryptic perennial species. Winter targeted orchid searches were undertaken withing the latter months of winter (July and August) when leaves of the targeted orchid taxa were known to be present in local populations. Timing of the flora and vegetation survey was predominantly in spring and was not considered a limitation for the assessment of the survey area values. The fauna survey timing was within the breeding window for Carnaby's Cockatoo. Although it was just prior to the breeding period for Baudin's Cockatoo and the Forest Red-tailed Black Cockatoo, assessment of breeding and foraging habitat can be conducted independently of breeding season. The survey timing for ground-dwelling vertebrate fauna was optimal, being in spring (EPA 2020). Timing of the fauna survey was not considered a limitation.
7. Disturbance that may have affected the results of survey such as fire, flood or clearing	Large areas of land clearing and disturbance were present throughout the survey area, which influenced the presence of introduced flora in the area. However, these areas were not unexpected and introduced flora are common within remnant vegetation on the Swan Coastal Plain and regional data sets (e.g., Gibson et al. 1994) account for this. Disturbance is not considered to be a significant limitation to the study.

4.0 Vegetation Results

Twenty intact native vegetation units were identified and described at the sub-association level (NVIS level VI) within the survey area, with an additional five units mapped within the contextual area, as discussed in Sections 4.1.1 to 4.1.25. These units comprised 41% of the survey area and 28% of the contextual area, with the remainder of the areas representing modified or cleared areas (Table 4.1).

The most widespread intact vegetation unit in the survey area was E1 (*Eucalyptus gomphocephala* with occasional *E. marginata, Banksia* spp. over *Acacia rostellifera over Xanthorrhoea*) which comprised 13.86% of the survey area. In the contextual area, B2 (*Banksia menziesii* (*B. attenuata*) over *Xanthorrhoea* spp. with *Hibbertia* and *Conostylis*) and E1 were the most widespread extrapolated vegetation units (Table 4.1, Appendix 9).

Nine units (seven within the survey area) not assessed as intact vegetation associations were also identified and mapped in the field: these comprised three units representing Modified/Revegetated/Planted areas of vegetation; Highly modified/degraded; Commercial/Residential Mixed Land Use; Isolated Trees over Previously Cleared or Pasture; Open Water (Ocean), Beach, Cleared; and Roads and Rail Infrastructure (see Table 4.1 and Sections 4.2 to 4.3.1).

The distributions of the 25 vegetation units and nine other mapping units in the survey area and contextual area are presented in Appendix 9.

Table 4.1: Extent of the mapping units within the survey area, and contextual area.

Mapping Unit Code: Short Description	Survey Area ha (%)	Contextual Area ha (%)
Intact Vegetation Units		
A1: *Acacia rostellifera* over *Xanthorrhoea* and *Hibbertia* on limestone	9.06 (4.03)	20.77 (1.56)
A2: *Acacia rostellifera* with isolated *Banksia* and *Eucalyptus marginata* over *Xanthorrhoea* with *Hibbertia* on limestone	5.39 (2.40)	1.59 (0.12)
A3: *Acacia rostellifera* shrublands on shallow pale sands	2.40 (1.07)	13.01 (0.97)
A4: *Acacia saligna* tall shrubland	6.28 (2.79)	4.58 (0.34)
A5: *Acacia rostellifera* and *Alyxia buxifolia* over *Acanthocarpus preissii*	-	7.76 (0.58)
B1: *Banksia attenuata* (*B. menziesii*) over *Adenanthos, Jacksonia, Kunzea* with mixed low shrubland over mixed perennial herbland	-	2.54 (0.19)
B2: *Banksia menziesii* (*B. attenuata*) over *Xanthorrhoea* spp. with *Hibbertia* and *Conostylis*	6.83 (3.04)	102.10 (7.64)
B3: *Banksia menziesii, B. ilicifolia* (*B. attenuata)* over *Kunzea* with occasional *Xanthorrhoea* spp. and *Scholtzia*	0.53 (0.23)	6.91 (0.52)
B4: *Banksia attenuata* over *Hibbertia* and *Allocasuarina humilis* on limestone	4.22 (1.88)	1.88 (0.14)
B5: *Banksia sessilis* over *Melaleuca huegelii - M. systena* shrubland on limestone	3.93 (1.75)	-
B6: *Banksia sessilis* with mixed *Acacia*	1.23 (0.55)	1.64 (0.12)
DU1: *Spinifex and *Ammophila* with occasional *Scaevola* and *Olearia*	-	1.86 (0.14)
DU2: *Eucalyptus utilis* and *Callitris preissii* over *Melaleuca lanceolata* with *Rhagodia, Olearia, Scaevola* over *Spinifex*	-	0.64 (0.05)
E1: *Eucalyptus gomphocephala* with occasional *E. marginata, Banksia* spp. over *Acacia rostellifera over Xanthorrhoea*	31.17 (13.86)	95.37 (7.14)
E5: *Eucalyptus decipiens* over *Banksia sessilis* with *Melaleuca systena* and mixed *Acacia* spp. over *Hardenbergia comptoniana*	0.39 (0.17)	3.20 (0.24)
E6: *Eucalyptus gomphocephala* over *Acacia rostellifera* over occasional *Xanthorrhoea*	1.30 (0.58)	2.16 (0.16)
E7: *Eucalyptus foecunda* over *Spyridium globulosum* and *Acacia rostellifera* with *Hibbertia*	0.24 (0.11)	4.02 (0.30)
EB1: *Eucalyptus marginata* (*Banksia* spp.) over *Kunzea* and *Acacia* with *Xanthorrhoea* spp. over *Hibbertia*	7.58 (3.37)	29.54 (2.21)
K1: *Kunzea* tall shrubland to tall open scrub	0.92 (0.41)	17.91 (1.34)
M1: *Melaleuca preissiana* low woodland over *Astartea*	-	33.09 (2.48)
M2: *Melaleuca lanceolata* low woodland	1.81 (0.81)	-

Mapping Unit Code: Short Description	Survey Area ha (%)	Contextual Area ha (%)
M4: *Mixed Melaleuca (Melaleuca systena)* over *Xanthorrhoea* with mixed *Fabaceae/Proteaceae/Rhamnaceae* and *Hibbertia*	2.50 (1.11)	3.51 (0.26)
M5: *Melaleuca huegelii* over *Spyridium globulosum* and *Acacia rostellifera* on limestone	0.54 (0.24)	6.57 (0.49)
M6: *Melaleuca systena* and *Acacia saligna* over *Templetonia retusa, Spyridium globulosum* and *Acacia lasiocarpa*	1.61 (0.71)	1.65 (0.12)
T1: *Gaudium* over mixed *Acacia* open shrubland	4.98 (2.21)	6.45 (0.48)
Previously Modified Vegetated Areas		
R2: Modified/planted *Callistemon* and *Calothamnus* on roadsides	5.66 (2.52)	3.16 (0.24)
R3: Modified/revegetated/planted mosaic of B1 and B2 vegetation	1.65 (0.73)	27.69 (2.07)
Other Modified Areas		
ML: Commercial/Residential mixed land use	27.23 (12.11)	572.68 (42.87)
D: Mosaic of highly modified degraded areas	8.90 (3.96)	15.17 (1.14)
IP: Isolated trees over previously cleared areas or pasture	6.92 (3.08)	63.62 (4.76)
Cleared Areas		
CL: Cleared	45.34 (20.17)	226.64 (16.97)
RR: Roads and rail infrastructure	36.24 (16.12)	43.44 (3.25)
B: Beach	-	2.48 (0.19)
O: Open Water (Ocean)	-	12.21 (0.91)

4.1 Vegetation Units of the Survey Area and Contextual Area

4.1.1 A1: *Acacia rostellifera* over *Xanthorrhoea* and *Hibbertia* on limestone

Vegetation Code	A1
Vegetation Unit Description	*Acacia rostellifera,* (*A. saligna*) tall shrubland to tall open scrubland over *Xanthorrhoea preissii* very open grass trees over *Hibbertia hypericoides* subsp. *hypericoides, Grevillea vestita* subsp. *vestita* low open shrubland over *Clematis linearifolia, *Asparagus asparagoides* scattered climbing herbs over **Ehrharta calycina* open grassland over **Euphorbia* spp., **Lysimachia arvensis* open herbland.
Vegetation Sub-Association (NVIS Level VI)	M1+ ^Acacia rostellifera,Acacia saligna\Acacia\^shrub\4\i; M2 ^Xanthorrhoea preissii\Xanthorrhoea\^grass tree\3\bc; M3 ^Hibbertia hypericoides subsp. hypericoides,Grevillea vestita subsp. vestita\Hibbertia\^shrub\2\r; G1 ^Clematis linearifolia,*Asparagus asparagoides\Clematis\^vine\2\bc; G2 ^*Ehrharta calycina*Ehrharta\^tussock grass\2\i; G3 ^*Euphorbia terracina,*Euphorbia peplus,*Lysimachia arvensis*Euphorbia\^forb\2\bc
Distribution	This vegetation unit (Plate 4.1) occurred as multiple patches throughout both the survey area (9.06 ha) and contextual area (20.77 ha), with the majority situated west of the Abercrombie Road – Anketell Road intersection. This unit, dominated by *Acacia rostellifera,* was found to be strongly associated with areas exhibiting a substrate of limestone outcropping through gently undulating low hills (Appendix 9).
Sites	Rockingham Road Biological Survey (Biota 2024c): Nil. Westport Last Mile Area Biological Survey (Biota 2024a): Nil. Westport Freight Road Additional Biological Survey (Biota 2023a): Nil. Anketell Road Planning Study Biological Survey (Biota 2022): ANK06, ANK10, ANK11, ANK15, ANK75a, ANK75b
Vegetation Condition	Survey Area: Very Good to Degraded, with most patches considered to be in Good to Very Good condition. Contextual Area: inferred as being in Good to Degraded condition based on each patch's location, adjacent vegetation and land use, and its relation to sampled patches that continued from the survey area.

Plate 4.1: Representative photographs of the A1 vegetation unit.

4.1.2 A2: *Acacia rostellifera* with isolated *Banksia* and *Eucalyptus marginata* over *Xanthorrhoea* with *Hibbertia* on limestone

Vegetation Code	A2
Vegetation Unit Description	*Banksia attenuata*, *B. menziesii, Eucalyptus marginata* subsp. *marginata* isolated low trees over *Acacia rostellifera,* (*A. pulchella*) tall open scrub over *Xanthorrhoea preissii, Macrozamia riedlei* scattered grass trees and cycads over *Hibbertia hypericoides* subsp. *hypericoides* low open shrubland over scattered *Conostylis aculeata* subsp. *preissii* herbs over **Ehrharta calycina, *Briza maxima, *Bromus diandrus* open grassland.
Vegetation Sub-Association (NVIS Level VI)	U1 ^Banksia attenuata,Banksia meziesii,Eucalyptus marginata subsp. marginata\Banksia\^tree\6\i; M1+ ^Acacia rostellifera,Acacia pulchella\Acacia\^shrub\4\c; M2 ^Xanthorrhoea preissii,Macrozamia riedlei\Xanthorrhoea\^grass tree\4\bc; M3 ^Hibbertia hypericoides subsp. hypericoides\Hibbertia\^shrub\2\r; G1 ^Conostylis aculeata subsp. aculeata\Conostylis\^forb\1\bc; G2 ^*Ehrharta calycina,*Briza maxima,*Bromus diandrus*Ehrharta\^tussock grass\2\i
Distribution	This vegetation unit (Plate 4.2) occurred as multiple patches throughout both the survey area (5.39 ha) and contextual area (1.59 ha), with the majority associated with gently sloping limestone outcropping substrate. The unit occurred at the westernmost end of the survey area and contextual area, with the largest patch within the survey area occurring south of Anketell Road, containing quadrats ANK05, ANK07 and ANK08 (Appendix 9).
Sites	Rockingham Road Biological Survey (Biota 2024c): Nil. Westport Last Mile Area Biological Survey (Biota 2024a): Nil. Westport Freight Road Additional Biological Survey (Biota 2023a): Nil. Anketell Road Planning Study Biological Survey (Biota 2022): ANK05, ANK07, ANK08
Vegetation Condition	Survey Area: Good to Very Good, with one roadside patch east of the Armstrong Road intersection considered to be on the margin of Degraded/Good. Contextual Area: inferred as being in a Good to Degraded condition.

Plate 4.2: Representative photographs of the A2 vegetation unit.

4.1.3 A3: *Acacia rostellifera* shrublands on shallow pale sands

Vegetation Code	A3
Vegetation Unit Description	*Acacia rostellifera* tall shrubland to tall open scrub over *Xanthorrhoea preissii* scattered grass trees over *Austrostipa* spp. scattered tussock grasses over **Ehrharta longiflora*, **Bromus diandrus* (**Cenchrus setaceus*) open bunch grassland over *Acanthocarpus preissii*, **Euphorbia terracina*, **Sonchus oleraceus* open herbland.
Vegetation Sub-Association (NVIS Level VI)	M1+ ^Acacia rostellifera\Acacia\^shrub\4\c; M2 ^Xanthorrhoea preissii\Xanthorrhoea\^grass tree\4\bc; G1 ^Austrostipa elegantissima, Austrostipa flavescens\Austrostipa\^tussock grass\1\bc; G2 ^*Ehrharta longiflora,*Bromus diandrus,*Cenchrus setaceus*Ehrharta\^tussock grass\2\i; G3 ^Acanthocarpus preissii,*Euphorbia terracina,*Sonchus oleraceus\Acanthocarpus\forb\2\bc
Distribution	This vegetation unit (Plate 4.3) occurred as multiple patches at the western end of the survey area, mainly within proximity to Rockingham Road, throughout both the survey area (2.40 ha) and inferred within the contextual area (13.01 ha). The largest patch within the survey area occurred south of the Anketell Road-Rockingham Road intersection containing quadrats ROC24 and ROC33. Larger inferred patches of this unit were mapped within the contextual area (Appendix 9).
Sites	Rockingham Road Biological Survey (Biota 2024c): ROC03, ROC04, ROC11, ROC24, ROC30, ROC31, ROC33 Westport Last Mile Area Biological Survey (Biota 2024a): WLMR43 Westport Freight Road Additional Biological Survey (Biota 2023a): Nil. Anketell Road Planning Study Biological Survey (Biota 2022): Nil.
Vegetation Condition	Survey Area: Degraded to Good. Contextual Area: inferred as being in a Degraded condition.

Plate 4.3: Representative photographs of the A3 vegetation unit.

4.1.4 A4: *Acacia saligna* tall shrubland

Vegetation Code	A4
Vegetation Unit Description	*Acacia saligna* tall shrubland over *Xanthorrhoea preissii* tall grass trees over **Hyparrhenia hirta* open tussock grassland over **Eragrostis curvula, *Lagurus ovatus* open bunch grassland over **Oxalis pes-caprae, *Sixalix atropurpurea* open herbland.
Distribution	This vegetation unit (Plate 4.4) occurred as two large, dissected patches, one at the southern end of Rockingham Road within the survey area, and another west of the Rockingham Road-Anketell Road intersection. A total of 6.28 ha occurred within the survey area with a further 4.58 ha located within the contextual area (Appendix 9). Due to the vegetation units' overall size, and spatial representation within the survey area, only two sites were established.
Sites	Rockingham Road Biological Survey (Biota 2024c): ROC27 Westport Last Mile Area Biological Survey (Biota 2024a): WLM30 Westport Freight Road Additional Biological Survey (Biota 2023a): Nil. Anketell Road Planning Study Biological Survey (Biota 2022): Nil.
Vegetation Condition	Survey Area: Good to Degraded, with one patch west of the Rockingham Road-Anketell Road intersection having been cleared between sampling events. Contextual Area: inferred as being in a Good to Degraded condition.

Plate 4.4: Representative photographs of the A4 vegetation unit.

4.1.5 A5: *Acacia rostellifera* and *Alyxia buxifolia* over *Acanthocarpus preissii*

Vegetation Code	A5
Vegetation Unit Description	*Acacia rostellifera* tall open scrub over *Alyxia buxifolia, *Rhamnus alaternus* (*Melaleuca systena*) shrubland over **Ehrharta longiflora, *Bromus diandrus* (**Cenchrus setaceus*) open bunch grassland over *Acanthocarpus preissii, *Oxalis pes-caprae, *Euphorbia peplus, *Fumaria capreolata, *Asparagus asparagoides* open herbland.
Distribution	This vegetation unit (Plate 4.5) occurred wholly in the contextual area (7.76 ha), sampled by quadrats established during the Westport Last Mile Area Biological Survey (Biota 2024a)(Appendix 9).
Sites	Rockingham Road Biological Survey (Biota 2024c): Nil. Westport Last Mile Area Biological Survey (Biota 2024a): WLM06, WLM08, WLM10, WLM15. Westport Freight Road Additional Biological Survey (Biota 2023a): Nil. Anketell Road Planning Study Biological Survey (Biota 2022): Nil.

Vegetation Condition	Survey Area: Nil. Contextual Area: Degraded to Good.

Plate 4.5: Representative photograph of the A5 vegetation unit.

4.1.6 B1: *Banksia attenuata (B. menziesii)* over *Adenanthos, Jacksonia, Kunzea* with mixed low shrubland over mixed perennial herbland

Vegetation Code	B1
Vegetation Unit Description	*Banksia attenuata, B. menziesii* low to low open woodland with occasional *Allocasuarina fraseriana* over *Kunzea glabrescens*, *Adenanthos cygnorum* subsp. *cygnorum,* (*Jacksonia* spp.) tall open shrubland over *Hibbertia hypericoides* subsp. *hypericoides, Calytrix* spp., *Scholtzia involucrata,* (*Styphelia conostephioides, Stirlingia latifolia*) low to low open shrubland over *Desmocladus flexuosus, Dasypogon bromeliifolius, Lyginia barbata, Phlebocarya ciliata* scattered to very open herbland over **Briza maxima, *Ursinia anthemoides* subsp. *anthemoides* scattered grasses/herbs.
Vegetation Sub-Association (NVIS Level VI)	U1+ ^Banksia attenuata,Banksia menziesii,Allocasuarina fraseriana\Banksia\^tree\6\i; M1 ^Kunzea glabrescens,Adenanthos cygnorum subsp. cygnorum\Kunzea\^shrub\4\r; M2 ^Hibbertia hypericoides subsp. hypericoides,Calytrix angulata,Calytrix flavescens,Scholtzia involucrata,Styphelia conostephioides\Hibbertia\^shrub\2\r; G1 ^Desmocladus flexuosus,Dasypogon bromeliifolius,Lyginia barbata,Phlebocarya ciliata,*Ursinia anthemoides subsp. anthemoides\Desmocladus\^forb\2\bc; G2 ^*Briza maxima*Briza\^other grass\1\bc
Distribution	All patches of this vegetation unit (Plate 4.6) occurred east of the Kwinana Freeway in the contextual area (2.54 ha) on gently sloping sandplains within the Bassendean soil landscape system (Appendix 9). Patches of this *Banksia*-dominated unit are considered representative of both State-listed PECs and the Commonwealth Banksia Woodlands TEC. Due to the vegetation units' overall size, and spatial representation within the survey area, only two sites were established.
Sites	Rockingham Road Biological Survey (Biota 2024c): Nil. Westport Last Mile Area Biological Survey (Biota 2024a): Nil. Westport Freight Road Additional Biological Survey (Biota 2023a): Nil. Anketell Road Planning Study Biological Survey (Biota 2022): ANK39, ANK93.
Vegetation Condition	Survey Area: Nil. Contextual Area: patches inferred to range from Excellent to Very Good.

Plate 4.6: Representative photographs of the B1 vegetation unit.

4.1.7 B2: *Banksia menziesii (B. attenuata)* over *Xanthorrhoea* spp. with *Hibbertia* and *Conostylis*

Vegetation Code	B2
Vegetation Unit Description	*Banksia menziesii,* (*B. attenuata*) low woodland over *Kunzea glabrescens* scattered to tall open shrubland over *Xanthorrhoea preissii,* (*X. brunonis*) open grass trees over *Macrozamia riedlei* scattered cycads over *Hibbertia hypericoides* subsp. *hypericoides, Acacia pulchella* var. *pulchella* low to low open shrubland over *Conostylis aculeata* subsp. *aculeata* scattered to very open herbland over **Ehrharta calycina* very open grassland.
Vegetation Sub-Association (NVIS Level VI)	U1+ ^Banksia menziesii,Banksia attenuata\Banksia\^tree\6\i; M1 ^Kunzea glabrescens\Kunzea\^shrub\4\bc; M2 ^Xanthorrhoea preissii,Xanthorrhoea brunonis\Xanthorrhoea\^grass tree\3\bc; M3 ^Hibbertia hypericoides subsp. hypericoides,Acacia pulchella\Hibbertia\^shrub\3\r; G1 ^Conostylis aculeata subsp. aculeata\Conostylis\^forb\1\bc; G2 ^*Ehrharta calycina*Ehrharta\^tussock grass\2\bc
Distribution	This vegetation unit (Plate 4.7) was the most common *Banksia*-dominated unit through the survey area (6.83 ha), occurring most typically on low-lying undulating sandplains, except for one raised area at the western end of Anketell Road. The majority of this unit was situated to the immediate east of Kwinana Freeway and in areas surrounding the Spectacles to the west of Kwinana Freeway, both north and south of Anketell Road (Appendix 9).
Sites	Rockingham Road Biological Survey (Biota 2024c): Nil. Westport Last Mile Area Biological Survey (Biota 2024a): WLM42. Westport Freight Road Additional Biological Survey (Biota 2023a): WTP13, WTP17, WTP18, WTP19, WTP20, WTP21. Anketell Road Planning Study Biological Survey (Biota 2022): ANK26, ANK27, ANK33, ANK36, ANK38, ANK76.
Vegetation Condition	Survey Area: mainly considered to be in Good to Excellent condition, except for two patches in proximity to the Spectacles which were in a Degraded to Good condition. Contextual Area: inferred to range from Degraded through to Excellent depending on location of the patch within the contextual area and its relation to sampled patches that continued from the survey area.

Plate 4.7: Representative photographs of the B2 vegetation unit.

4.1.8 B3: *Banksia menziesii, B. ilicifolia (B. attenuata)* over *Kunzea* with occasional *Xanthorrhoea* spp. and *Scholtzia*

Vegetation Code	B3
Vegetation Unit Description	*Banksia menziesii, B. ilicifolia,* (*B. attenuata*) low to low open woodland over *Kunzea glabrescens* tall shrubland over occasional *Xanthorrhoea* spp. scattered grass trees over *Scholtzia involucrata* scattered low shrubs over *Dasypogon bromeliifolius, Phlebocarya ciliata* scattered herbland over **Briza maxima, *Ehrharta calycina, *E. longiflora* very open grassland.
Vegetation Sub-Association (NVIS Level VI)	U1+ ^Banksia menziesii,Banksia ilicifolia,Banksia attenuata\Banksia\^tree\6\i; M1 ^Kunzea glabrescens\Kunzea\^shrub\4\i; M2 ^Xanthorrhoea brunonis subsp. brunonis,Xanthorrhoea preissii\Xanthorrhoea\^grass tree\3\r; G1 ^Dasypogon bromeliifolius,Phlebocarya ciliata\Dasypogon\^forb\1\r; G2 ^*Briza maxima,*Ehrharta calycina,*Ehrharta longiflora*Briza\^other grass\1\bc
Distribution	This *Banksia*-dominated vegetation unit (Plate 4.8) was identified due to the presence of *Banksia ilicifolia* and a dominant shrub, *Kunzea glabrescens,* being unique key species in the vegetation strata. Patches of this unit occurred to the west of the Spectacles (mainly inferred within the contextual area; Appendix 9). Due to the vegetation units' overall size, and spatial representation within the survey area, only two sites were established.
Sites	Rockingham Road Biological Survey (Biota 2024c): Nil. Westport Last Mile Area Biological Survey (Biota 2024a): Nil. Westport Freight Road Additional Biological Survey (Biota 2023a): WTP15. Anketell Road Planning Study Biological Survey (Biota 2022): ANK28.
Vegetation Condition	Survey Area: Good to Very Good in patches west of the Spectacles. Contextual Area: inferred as Good to Very Good in patches west of the Spectacles.

Plate 4.8: Representative photographs of the B3 vegetation unit.

4.1.9 B4: *Banksia attenuata* over *Allocasuarina humilis* and *Hibbertia* on limestone

Vegetation Code	B4
Vegetation Unit Description	*Banksia attenuata* low woodland over *Allocasuarina humilis* scattered shrubs with *Xanthorrhoea preissii (Macrozamia riedlei)* open grass trees and cycads over *Hibbertia hypericoides* subsp. *hypericoides* low open shrubland over *Mesomelaena pseudostygia* scattered sedges over mixed scattered herbs and **Ehrharta calycina, *Bromus diandrus* very open introduced grassland.
Vegetation Sub-Association (NVIS Level VI)	U1+ ^Banksia attenuata\Banksia\^tree\6\i; M1 ^Allocasuarina humilis\Allocasuarina\^shrub\4\i; M2 ^Xanthorrhoea preissii\Xanthorrhoea\^grass tree\3\r; M3 ^Hibbertia hypericoides\Hibbertia\^shrub\3\r; G1 ^Mesomelaena pseudostygia\Mesomelaena\^sedge\1\r; G2 ^*Ehrharta calycina,*Bromus diandrus*Ehrharta\^other grass\1\bc
Distribution	This vegetation unit (Plate 4.8) was characterised by the presence of *Allocasuarina humilis* and *Macrozamia riedlei,* being unique identifying features in the vegetation strata for this unit. Patches of this unit occurred at the western end of the survey area (4.22 ha) and contextual area (1.88 ha), with the largest patch within the survey area occurring north of Anketell Road, east of the Armstrong Road intersection (Appendix 9).
Sites	Rockingham Road Biological Survey (Biota 2024c): Nil. Westport Last Mile Area Biological Survey (Biota 2024a): Nil. Westport Freight Road Additional Biological Survey (Biota 2023a): WTP02, WTP43. Anketell Road Planning Study Biological Survey (Biota 2022): ANK02.
Vegetation Condition	Survey Area: Good to Excellent condition in the western patches (ANK02, ANK76) and Very Good on the elevated sites on limestone substrate (WTP02, WTP43). Contextual Area: inferred as Good to Degraded in patches northeast of the Armstrong Road-Anketell Road intersection.

Plate 4.9: Representative photographs of the B4 vegetation unit.

4.1.10 B5: *Banksia sessilis* over *Melaleuca huegelii – M. systena* shrubland on limestone

Vegetation Code	B5
Vegetation Unit Description	*Banksia sessilis* var. *cygnorum (Melaleuca huegelii* subsp. *huegelii)* tall open shrubland over *Melaleuca systena* scattered shrubs over **Ehrharta longiflora, *E. calycina, *Bromus diandrus, *Avena barbata* bunched grassland over **Trifolium campestre* var. *campestre, *Euphorbia terracina, *E. peplus, *Sonchus oleraceus* open herbland.
Vegetation Sub-Association (NVIS Level VI)	M1+ ^Banksia sessilis cygnorum,Melaleuca huegelii huegelii\Banksia\^shrub\5\i; M2 ^Melaleuca systena\Melaleuca\^shrub\3\r; G1 ^*Ehrharta calycina,*Bromus diandrus,*Avena barbata*Ehrharta\^other grass\1\bc; G2 ^*Trifolium campestre campestre,*Euphorbia terracina,*Euphorbia peplus,*Sonchus oleraceus*Trifolium\^forb\1\r
Distribution	This vegetation unit (Plate 4.8) was the least common of the *Banksia*-dominated units, with the presence of *Banksia sessilis* var. *cygnorum* and multiple dominating *Melaleuca* species being unique identifying features in the vegetation strata. It occurred on areas of elevated limestone outcropping. Part of this unit also corresponds to, and is also previously known to be, the State-listed TEC '*Melaleuca huegelii – Melaleuca systena* shrublands on limestone ridges (Gibson et. al. 1994 type 26a)' (see Section 4.6.2.1); however, the northern patch is in a degraded/historically rehabilitated condition. This unit also corresponds to the Federal listed TEC '*Honeymyrtle shrubland on limestone ridges of the Swan Coastal Plain Bioregion'* (see Section 4.6.1.3). Patches of this unit occurred to the north and south of Anketell Road, east of the Abercrombie Road intersection, within Alcoa land tenure (Appendix 9)
Sites	Rockingham Road Biological Survey (Biota 2024c): Nil. Westport Last Mile Area Biological Survey (Biota 2024a): Nil. Westport Freight Road Additional Biological Survey (Biota 2023a): WTP05, WTP41. Anketell Road Planning Study Biological Survey (Biota 2022): Nil.
Vegetation Condition	Survey Area: Degraded on the north side of Anketell Road and Good condition on the south side of Anketell Road. Contextual Area: Nil.

Plate 4.10: Representative photographs of the B5 vegetation unit.

4.1.11 B6: *Banksia sessilis* with mixed *Acacia*

Vegetation Code	B6
Vegetation Unit Description	*Banksia sessilis* var. *sessilis*, *Acacia saligna, Acacia cyclops* shrubland to tall open shrubland over Acacia truncata scattered low shrubs over **Cenchrus setaceus, Austrostipa flavescens* very open tussock grassland over **Bromus diandrus* very open bunch grassland over **Euphorbia terracina, *Pelargonium capitatum, *Asparagus asparagoides, *Asphodelus fistulosus* very open herbland.
Distribution	This vegetation unit (Plate 4.11) was newly identified in this study's PRIMER analysis (see Section 4.5) and is in part due to the sampling of new quadrats within this previously unrecognised unit. It was the least common of the *Banksia*-dominated units, with the presence of *Banksia sessilis* var. *sessilis* and multiple dominating *Acacia* species being unique identifying features in the vegetation strata. It occurred on areas of limestone outcropping, similar to that of unit B5. Patches of this unit occurred to the southern end of Rockingham Road within both the survey area (1.23 ha) and contextual area (1.64 ha)(Appendix 9) Due to the vegetation units' overall size only two sites were established.
Sites	Rockingham Road Biological Survey (Biota 2024c): ROC23, ROC32. Westport Last Mile Area Biological Survey (Biota 2024a): Nil. Westport Freight Road Additional Biological Survey (Biota 2023a): Nil. Anketell Road Planning Study Biological Survey (Biota 2022): Nil.
Vegetation Condition	Survey Area and Contextual Area: Degraded on the west side of Rockingham Rd, and Good to Degraded on the eastern side.

Plate 4.11: Representative photograph of the B6 vegetation unit.

4.1.12 DU1: *Spinifex* and **Ammophila* with occasional *Scaevola* and *Olearia*

Vegetation Code	DU1
Vegetation Unit Description	*Spinifex longifolius, *Ammophila arenaria* subsp. *arenaria* very open tussock grassland over *Olearia axillaris, Scaevola crassifolia* low open shrubland over **Bromus diandrus* open bunch grassland over **Pelargonium capitatum, *Trachyandra divaricata*, **Medicago polymorpha, *Senecio condylus* open herbland.
Distribution	This vegetation unit (Plate 4.12) situated on primary sand dunes occurred wholly in the contextual area (1.86 ha), sampled by quadrats established during the Westport Last Mile Area Biological Survey (Biota 2024a)(Appendix 9).
Sites	Rockingham Road Biological Survey (Biota 2024c): Nil. Westport Last Mile Area Biological Survey (Biota 2024a): WLM11, WLM17, WLM19. Westport Freight Road Additional Biological Survey (Biota 2023a): Nil. Anketell Road Planning Study Biological Survey (Biota 2022): Nil.
Vegetation Condition	Survey Area: Nil. Contextual Area: Good to Degraded.

Plate 4.12: Representative photographs of the DU1 vegetation unit.

4.1.13 DU2: **Eucalyptus utilis* and *Callitris preissii* over *Melaleuca lanceolata* with *Rhagodia, Olearia, Scaevola* over *Spinifex*

Vegetation Code	DU2
Vegetation Unit Description	**Eucalyptus utilis, Callitris preissii* low open woodland over *Melaleuca lanceolata* tall open shrubland over **Tetragonia decumbens, Olearia axillaris* open shrubland over *Scaevola crassifolia, Rhagodia baccata* subsp. *baccata* low shrubland over *Spinifex longifolius* scattered tussock grasses over **Senecio condylus* scattered herbs.
Distribution	This vegetation unit (Plate 4.13) also situated on primary sand dunes occurred wholly in the contextual area (0.64 ha), sampled by a single quadrat established during the Westport Last Mile Area Biological Survey (Biota 2024a)(Appendix 9). Due to the vegetation units' overall size, and spatial representation within the survey area, only one site was established.
Sites	Rockingham Road Biological Survey (Biota 2024c): Nil. Westport Last Mile Area Biological Survey (Biota 2024a): WLM05. Westport Freight Road Additional Biological Survey (Biota 2023a): Nil. Anketell Road Planning Study Biological Survey (Biota 2022): Nil.

Vegetation Condition	Survey Area: Nil. Contextual Area: Considered to be in a Good condition, with sections of open sand actively being replanted with native species to stabilise any potential erosion.

Plate 4.13: Representative photographs of the DU2 vegetation unit.

4.1.14 E1: *Eucalyptus gomphocephala* with occasional *E. marginata, Banksia* spp. over *Acacia rostellifera* over *Xanthorrhoea*

Vegetation Code	E1
Vegetation Unit Description	*Eucalyptus gomphocephala* woodland to open forest with occasional emergent *Eucalyptus marginata* subsp. *marginata* over *Banksia attenuata, B. menziesii* low open woodland over *Acacia rostellifera, (Allocasuarina fraseriana, Kunzea glabrescens)* tall open shrubland over *Xanthorrhoea preissii* very open grass trees over **Ehrharta longiflora, *E. calycina, *Bromus diandrus, *Avena barbata* grassland to closed grassland.
Vegetation Sub-Association (NVIS Level VI)	U1+ ^Eucalyptus gomphocephala,Eucalyptus marginata subsp. marginata\Eucalyptus\^tree\7\c; U2 ^Banksia attenuata,Banksia menziesii\Banksia\^tree\6\r; M1 ^Acacia rostellifera,Allocasuarina fraseriana,Kunzea glabrescens\Acacia\^shrub\4\i; M2 ^Xanthorrhoea preissii\Xanthorrhoea\^grass tree\3\r; G1 ^*Ehrharta longiflora,*Ehrharta calycina,*Bromus diandrus,*Avena barbata*Ehrharta\^tussock grass\3\c
Distribution	This vegetation unit (Plate 4.14) occurred throughout both the survey and contextual area, from the Spectacles through to the most western end of the survey area (Appendix 9), on the Spearwood soil landscape unit. This vegetation unit, which was dominated by Tuart with occasional emergent Jarrah, was the most widespread intact unit within the survey area (31.17 ha). Whilst scattered patches occurred at the very western end of the survey area, the largest contiguous patches occurred both north and south of Anketell Road between the Abercrombie Road and McLaughlan Road intersections (Appendix 9). This unit was largely representative of the Commonwealth Tuart TEC and was sampled extensively with a total of ten quadrats in the previous Anketell Road Planning Study Biological Survey (Biota 2022) and further confirmed and validated with nine quadrats from the Westport Freight Road Biological Survey (Biota 2023b).
Sites	Rockingham Road Biological Survey (Biota 2024c): Nil. Westport Last Mile Area Biological Survey (Biota 2024a): Nil. Westport Freight Road Additional Biological Survey (Biota 2023a): WTP01, WTP06, WTP08, WTP09, WTP10, WTP16, WTP38, WTP40. Anketell Road Planning Study Biological Survey (Biota 2022): ANK01, ANK12, ANK14, ANK16, ANK17, ANK18, ANK19, ANK20, ANK21, ANK25, ANK99.

Vegetation Condition	Survey Area and Contextual Area: ranging from Very Good to Degraded dependent on location of mapped unit; much of this mapped vegetation unit was in Good condition overall in both the sampled survey area and inferred contextual area.

Plate 4.14: Representative photographs of the E1 vegetation unit.

4.1.15 E5: *Eucalyptus decipiens* over *Banksia sessilis* with *Melaleuca systena* and mixed *Acacia* spp. over *Hardenbergia comptoniana*

Vegetation Code	E5
Vegetation Unit Description	*Eucalyptus decipiens* low open woodland over *Banksia sessilis* var. *sessilis* tall open shrubland *Acacia pulchella* var. *glaberrima, Hardenbergia comptoniana* shrubland over **Ehrharta calycina, *Ehrharta longiflora, *Bromus diandrus, *Lagurus ovatus, *Lolium perenne* x *rigidum* very open bunch grassland over **Euphorbia terracina, *E. peplus* very open herbland.
Distribution	This vegetation unit (Plate 4.15) dominated by the characteristic *Eucalyptus decipiens* occurred as a single patch within the survey area (0.39 ha) at the very southern end of Rockingham Road, with several other patches occurring within the contextual area (3.20 ha) further south (Appendix 9).
Sites	Rockingham Road Biological Survey (Biota 2024c): ROC10, ROC20, ROC21. Westport Last Mile Area Biological Survey (Biota 2024a): Nil. Westport Freight Road Additional Biological Survey (Biota 2023a): Nil. Anketell Road Planning Study Biological Survey (Biota 2022): Nil.
Vegetation Condition	Survey Area: Good. Contextual Area: Good to Degraded.

Plate 4.15: Representative photographs of the E5 vegetation unit.

4.1.16 E6: *Eucalyptus gomphocephala* over *Acacia rostellifera* over occasional *Xanthorrhoea*

Vegetation Code	E6
Vegetation Unit Description	*Eucalyptus gomphocephala* open forest over *Acacia rostellifera* tall open shrubland over *Xanthorrhoea preissii* scattered grass trees over **Ehrharta calycina, *E. longiflora, *Bromus diandrus, *Avena barbata* open bunch grassland over **Euphorbia terracina, *E. peplus, *Oxalis pes-caprae* open herbland.
Distribution	This vegetation unit (Plate 4.16) occurred as a single patch located within the median strip south of the Rockingham Road – Anketell Road intersection (1.30 ha), with multiple patches occurring within the contextual area (2.16 ha) south of the survey area covering Rockingham Road (Appendix 9). This unit was largely representative of the Commonwealth Tuart TEC and was sampled with three quadrats from the current survey.
Sites	Rockingham Road Biological Survey (Biota 2024c): ROC06, ROC13, ROC16. Westport Last Mile Area Biological Survey (Biota 2024a): Nil. Westport Freight Road Additional Biological Survey (Biota 2023a): Nil. Anketell Road Planning Study Biological Survey (Biota 2022): Nil.
Vegetation Condition	Survey Area: Degraded. Contextual Area: Good to Degraded.

Plate 4.16: Representative photographs of the E6 vegetation unit.

4.1.17 E7: *Eucalyptus foecunda* over *Spyridium globulosum* and *Acacia rostellifera* with *Hibbertia*

Vegetation Code	E7
Vegetation Unit Description	*Eucalyptus foecunda* subsp. *foecunda* low woodland over *Spyridium globulosum, Acacia rostellifera* tall shrubland over *Banksia sessilis* var. *sessilis* scattered shrubs over *Hibbertia hypericoides* subsp. *hypericoides* scattered low shrubs over **Ehrharta longiflora, *Briza maxima* very open bunch grassland over **Euphorbia peplus, *Asparagus asparagoides* very open herbland.
Distribution	This vegetation unit (Plate 4.17) occurred as a single distinct patch within the survey area (0.24 ha) west of Rockingham Road and was sampled by three quadrats during the current survey. A further (4.02 ha) was inferred to occur within the contextual area south of the survey area along Rockingham Road (Appendix 9). Individuals and populations of the Priority 3 *Eucalyptus foecunda* subsp. *foecunda* were restricted to this vegetation unit (see Figure 5.2).
Sites	Rockingham Road Biological Survey (Biota 2024c): ROC07, ROC08, ROC22.

	Westport Last Mile Area Biological Survey (Biota 2024a): Nil. Westport Freight Road Additional Biological Survey (Biota 2023a): Nil. Anketell Road Planning Study Biological Survey (Biota 2022): Nil.
Vegetation Condition	Survey Area: Very Good where surrounded by other buffering vegetation, and Good where in proximity to rail line and Rockingham Rd. Contextual Area: Good to Degraded.

Plate 4.17: Representative photographs of the E7 vegetation unit.

4.1.18 EB1: *Eucalyptus marginata (Banksia* spp.) over *Kunzea* and *Acacia* with *Xanthorrhoea* spp. over *Hibbertia*

Vegetation Code	EB1
Vegetation Unit Description	*Eucalyptus marginata* subsp. *marginata, Banksia menziesii, B. attenuata* low open forest to open forest over *Kunzea glabrescens, Acacia cyclops* tall open shrubland over *Xanthorrhoea preissii, X. brunonis* subsp. *brunonis* open grass trees over *Hibbertia hypericoides* subsp. *hypericoides, Acacia pulchella* low open shrubland over **Ehrharta calycina* open grassland.
Vegetation Sub-Association (NVIS Level VI)	U1+ ^Eucalyptus marginata subsp. marginata,Banksia attenuata,Banksia menziesii\Eucalyptus\^tree\6\c; M1 ^Kunzea glabrescens,Acacia cyclops\Kunzea\^shrub\4\r; M2 ^Xanthorrhoea preissii,Xanthorrhoea brunonis subsp. brunonis\Xanthorrhoea\^grass tree\3\i; M3 ^Hibbertia hypericoides subsp. hypericoides,Acacia pulchella\Hibbertia\^shrub\2\r; G1 ^*Ehrharta calycina*Ehrharta\^tussock grass\3\i
Distribution	This vegetation unit (Plate 4.18), which was dominated by Jarrah over *Banksia,* occurred as dissected patches situated north and south of Anketell Road in both the survey area (7.58 ha) and inferred within the contextual area (29.54 ha). Three distinct intact patches were sampled with quadrats; one at the very western end of Anketell Road, and several surrounding the Spectacles and north of McLaughlan Road intersection (Appendix 9).
Sites	Rockingham Road Biological Survey (Biota 2024c): Nil. Westport Last Mile Area Biological Survey (Biota 2024a): Nil. Westport Freight Road Additional Biological Survey (Biota 2023a): WTP11, WTP12, WTP14, WTP39. Anketell Road Planning Study Biological Survey (Biota 2022): ANK22, ANK23, ANK34, ANK74, ANK93, ANK100
Vegetation Condition	Survey Area: Very Good to Excellent west of Armstrong Road intersection; ranging from Degraded to Very Good depending on patch location in the area surrounding the Spectacles.

	Contextual Area: inferred as ranging from Degraded to Very Good surrounding the Spectacles.

Plate 4.18: Representative photographs of the EB1 vegetation unit.

4.1.19 K1: *Kunzea* tall shrubland to tall open scrub

Vegetation Code	K1
Vegetation Unit Description	*Kunzea glabrescens* tall shrubland to tall open scrub over very scattered *Xanthorrhoea preissii, (X. brunonis)* grass trees over *Melaleuca teretifolia*, *Astartea scoparia*, *Scholtzia involucrata* scattered open shrubland over occasional *Dasypogon bromeliifolius, Phlebocarya ciliata* scattered herbs over **Ehrharta longiflora, *Vulpia myuros, *Bromus diandrus, *Avena barbata* scattered grasses.
Vegetation Sub-Association (NVIS Level VI)	M1+ ^Kunzea glabrescens\Kunzea\^shrub\4\c; M2 ^Xanthorrhoea preissii,Xanthorrhoea brunonis subsp. brunonis\Xanthorrhoea\^grass tree\3\bc; M3 ^Melaleuca teretifolia,Astartea scoparia,Scholtzia involucrata\Melaleuca\^shrub\3\r; G1 ^Dasypogon bromeliifolius,Plebocarya ciliata\Dasypogon\^forb\1\bc; G2 ^*Ehrharta longifolia,*Vulpia myuros,*Bromus diandrus,*Avena barbata*Ehrharta\^tussock grass\1\bc
Distribution	This vegetation unit (Plate 4.19) occurred in the survey area (0.92 ha) but was more predominantly inferred within the contextual area (17.91 ha). Within the survey area, small patches were scattered in areas adjacent to *Melaleuca*-dominated vegetation on seasonally inundated soils surrounding the Spectacles, east of Lyon Road on the north side of Anketell Road and inferred contextually at the western end of the survey area (Appendix 9). Due to the vegetation units' overall size, and spatial representation within the survey area, only one site was established.
Sites	Rockingham Road Biological Survey (Biota 2024c): Nil. Westport Last Mile Area Biological Survey (Biota 2024a): Nil. Westport Freight Road Additional Biological Survey (Biota 2023a): Nil. Anketell Road Planning Study Biological Survey (Biota 2022): ANK32.
Vegetation Condition	Survey Area: Degraded to Completely Degraded at the intersection of Mandogalup Road. High abundance of weeds throughout. Contextual Area: inferred as being in Good to Very Good condition, particularly at the eastern side of the Spectacles.

Plate 4.19: Representative photographs of the K1 vegetation unit.

4.1.20 M1: *Melaleuca preissiana* low woodland over *Astartea*

Vegetation Code	M1
Vegetation Unit Description	*Melaleuca preissiana* low woodland to closed forest over *Astartea scoparia* tall open shrubland to tall open scrub over **Ehrharta longiflora* open grassland.
Vegetation Sub-Association (NVIS Level VI)	U1+ ^Melaleuca preissiana\Melaleuca\^tree\6\i; M1 ^Astartea scoparia\Astartea\^shrub\4\i; G1 ^*Ehrharta longiflora*Ehrharta\^tussock grass\1\i
Distribution	This vegetation unit (Plate 4.20) occurred only in the inferred contextual area (33.09 ha; 2.48%) northeast of the Rockingham Road-Anketell Road intersection, and within the Spectacles (Appendix 9). Patches of this unit were mapped within previous survey areas and sampled adequately in order to infer its presence within the contextual area.
Sites	Rockingham Road Biological Survey (Biota 2024c): Nil. Westport Last Mile Area Biological Survey (Biota 2024a): Nil. Westport Freight Road Additional Biological Survey (Biota 2023a): Nil. Anketell Road Planning Study Biological Survey (Biota 2022): Nil.
Vegetation Condition	Survey Area: Nil. Contextual Area: inferred as being in Excellent to Degraded condition, depending on the patch location.

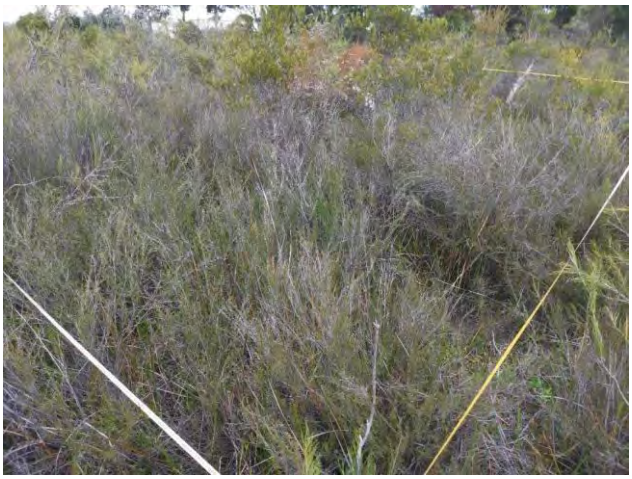

Plate 4.20: Representative photographs of the M1 vegetation unit.

4.1.21 M2: *Melaleuca lanceolata* low woodland

Vegetation Code	M2
Vegetation Unit Description	*Melaleuca lanceolata* low woodland to low open forest over **Ehrharta calycina, *E. longiflora* open grassland over **Asparagus asparagoides* scattered herbs.
Vegetation Sub-Association (NVIS Level VI)	U1+ ^Melaleuca lanceolata\Melaleuca\^tree\6\i; G1 ^*Ehrharta calycina,*Ehrharta longiflora*Ehrharta\^tussock grass\2\i; G2 ^*Asparagus asparagoides*Asparagus\^forb\2\bc
Distribution	This vegetation unit (Plate 4.21) occurred as two strips of roadside vegetation (1.81 ha; 0.81%) in the survey area, north of Anketell Road between the Abercrombie Road and Armstrong Road intersections, and again to the south of the Rockingham Road-Beard Street intersection (Appendix 9).
Sites	Rockingham Road Biological Survey (Biota 2024c): Nil. Westport Last Mile Area Biological Survey (Biota 2024a): WLM38. Westport Freight Road Additional Biological Survey (Biota 2023a): Nil. Anketell Road Planning Study Biological Survey (Biota 2022): ANK09, ANK94.
Vegetation Condition	Survey Area: Degraded to Good east of the Armstrong Road intersection; Good south of the Rockingham Road-Beard Street intersection. Contextual Area: Nil.

Plate 4.21: Representative photographs of the M2 vegetation unit.

4.1.22 M4: Mixed Melaleuca *(Melaleuca systena)* over *Xanthorrhoea* with mixed Fabaceae/Proteaceae/Rhamnaceae and *Hibbertia*

Vegetation Code	M4
Vegetation Unit Description	*Melaleuca systena, Melaleuca huegelii* subsp. *huegelii* shrubland over *Xanthorrhoea preissii* scattered grass trees and *Spyridium globulosum, Templetonia retusa, Trymalium ledifolium* var. ledifolium, *Hardenbergia comptoniana, Acacia lasiocarpa* var. lasiocarpa, A. rostellifera*, A. truncata, Grevillea preissii*, *Hibbertia hypericoides* subsp. *hypericoides, H. aurea* low open shrubland over *Lepidosperma calcicola* scattered sedges over **Lolium perenne, *Avena barbata, *Bromus diandrus, *Lagurus ovatus, *Ehrharta longiflora* bunch grassland over *Opercularia vaginata, Lomandra maritima, Phyllanthus calycinus, *Asparagus asparagoides, *Trifolium campestre* var. *campestre* very open herbland.
Distribution	This vegetation unit (Plate 4.22) was described during the current survey due to newly established quadrats and validation of vegetation unit differences arising from the current PRIMER analysis. This unit occurred throughout both the survey area (2.50 ha) and contextual area (3.51 ha) (Appendix 9).

Sites	Rockingham Road Biological Survey (Biota 2024c): ROC01, ROC12, ROC18, ROC19. Westport Last Mile Area Biological Survey (Biota 2024a): WLM07, WLM09, WLM14. Westport Freight Road Additional Biological Survey (Biota 2023a): Nil. Anketell Road Planning Study Biological Survey (Biota 2022): Nil.
Vegetation Condition	Survey Area: Very Good to Good. Contextual Area: Degraded to Good.

Plate 4.22: Representative photographs of the M4 vegetation unit.

4.1.23 M5: *Melaleuca huegelii* over *Spyridium globulosum* and *Acacia rostellifera* on limestone

Vegetation Code	M5
Vegetation Unit Description	*Melaleuca huegelii* subsp. *huegelii* tall open scrub over *Acacia rostellifera, Spyridium globulosum* shrubland over *Austrostipa elegantissima, A. flavescens* scattered bunch grasses over **Avena barbata, *Bromus diandrus, *Ehrharta longiflora* open bunch grassland over **Asparagus asparagoides, *Euphorbia terracina, *Fumaria capreolata, *Sonchus oleraceus* open herbland.
Distribution	This vegetation unit (Plate 4.23) was described during the current survey due to newly established quadrats and validation of vegetation unit differences arising from the current PRIMER analysis. This unit occurred throughout both the survey area (0.54 ha) and contextual area (6.57 ha) from the Rockingham Road-Anketell Road intersection south to Thomas Road, both on the eastern side of Rockingham Road and to the west of the freight rail line (Appendix 9).
Sites	Rockingham Road Biological Survey (Biota 2024c): ROC15, ROCR34. Westport Last Mile Area Biological Survey (Biota 2024a): WLM40, WLM41. Westport Freight Road Additional Biological Survey (Biota 2023a): Nil. Anketell Road Planning Study Biological Survey (Biota 2022): Nil.
Vegetation Condition	Survey Area: Good to Degraded. Contextual Area: Good to Degraded.

Plate 4.23: Representative photographs of the M5 vegetation unit.

4.1.24 M6: *Melaleuca systena* and *Acacia saligna* over *Templetonia retusa, Spyridium globulosum* and *Acacia lasiocarpa*

Vegetation Code	M6
Vegetation Unit Description	*Melaleuca systena, Acacia saligna* tall shrubland over *Spyridium globulosum, Templetonia retusa* open shrubland over *Acacia lasiocarpa* var. *lasiocarpa* low open shrubland over **Cenchrus setaceus* very open tussock grassland over *Lepidosperma calcicola* scattered sedges over **Avena barbata, *Lagurus ovatus* very open bunch grassland over **Romulea rosea* var. *australis* very open herbland.
Distribution	This vegetation unit (Plate 4.24) occurred as two patches within the survey area (1.61 ha), both southwest and northwest of the Rockingham Road-Anketell Road intersection, on skeletal sands over limestone substrate (Appendix 9).
Sites	Rockingham Road Biological Survey (Biota 2024c): ROC02, ROC05, ROC25. Westport Last Mile Area Biological Survey (Biota 2024a): Nil. Westport Freight Road Additional Biological Survey (Biota 2023a): Nil. Anketell Road Planning Study Biological Survey (Biota 2022): Nil.
Vegetation Condition	Survey Area: Very Good to Good. Contextual Area: N/A

Plate 4.24: Representative photographs of the M6 vegetation unit.

4.1.25 T1: *Gaudium* over mixed *Acacia* open shrubland

Vegetation Code	T1
Vegetation Unit Description	**Gaudium laevigatum* tall open shrubland over *Acacia saligna, Acacia cyclops, Alyxia buxifolia, Spyridium globulosum* open shrubland over **Cenchrus setaceus* scattered tussock grasses.
Distribution	This vegetation unit (Plate 4.25) occurred as a single large patch within the western end of the survey area (4.98 ha), and then as multiple patches throughout the contextual area towards the coast, and also inferred elsewhere within the contextual area, totalling 6.45 ha (Appendix 9).
Sites	Rockingham Road Biological Survey (Biota 2024c): ROCR38. Westport Last Mile Area Biological Survey (Biota 2024a): WLM12, WLM13, WLM16. Westport Freight Road Additional Biological Survey (Biota 2023a): Nil. Anketell Road Planning Study Biological Survey (Biota 2022): Nil.
Vegetation Condition	Survey Area: Degraded. Contextual Area: Inferred as being in a Completely Degraded to Degraded condition.

Plate 4.25: Representative photographs of the T1 vegetation unit.

4.2 Previously Modified Vegetated Areas

Two previously modified vegetation units within both the survey area and contextual area (Appendix 9) were assessed as being planted vegetation and/or revegetated and being previously highly modified (Table 4.1).

4.2.1 R2: Modified/Planted *Callistemon* and *Calothamnus* on roadsides

Vegetation Code	R2
Vegetation Unit Description	Occasional *Eucalyptus rudis* subsp. *rudis, Corymbia calophylla* open woodland over **Callistemon citrinus* tall to tall open shrubland over *Calothamnus quadrifidus* subsp. *teretifolius, C. rupestris* shrubland to closed heath over **Ehrharta longiflora* very open grassland over **Euphorbia peplus, *Lotus subbiflorus, *Trifolium campestre* var. *campestre* very open herbland.
Vegetation Sub-Association (NVIS Level VI)	U1 ^Eucalyptus rudis subsp. rudis,Corymbia calophylla\Eucalyptus\^tree\7\r; M1 ^*Callistemon citrinus*Callistemon\^shrub\4\r; M2+ ^Calothamnus quadrifidus subsp. teretifolius,Calothamnus rupestris\Calothamnus\^shrub\c; G1 ^*Ehrharta longiflora*Ehrharta\^tussock grass\1\bc; G2 ^*Euphorbia peplus,*Lotus subbiflorus,*Trifolium campestre var. campestre*Euphorbia\^forb\1\bc

Distribution	This revegetation unit (Plate 4.26) occurred in several dissected patches surrounding the intersection of Anketell Road and Kwinana Freeway including on-ramps and off-ramps (Appendix 9). This unit has been heavily modified since construction of the Kwinana Freeway and is still considered to be planted/modified non-native vegetation (as it consisted of a mix of native species that would not occur naturally together).
Sites	Rockingham Road Biological Survey (Biota 2024c): Nil. Westport Last Mile Area Biological Survey (Biota 2024a): Nil. Westport Freight Road Additional Biological Survey (Biota 2023a): Nil. Anketell Road Planning Study Biological Survey (Biota 2022): ANK35, ANK98.
Vegetation Condition	Survey Area: Degraded condition. Contextual Area: Inferred as Degraded condition.

Plate 4.26: Representative photographs of the R2 vegetation unit.

4.2.2 R3: Modified/Revegetated/Planted Mosaic of B1 and B2 vegetation

Vegetation Code	R3
Vegetation Unit Description	*Banksia menziesii* scattered low trees over *Jacksonia sternbergiana, Kunzea glabrescens* tall open shrubland over *Adenanthos cygnorum* subsp. *cygnorum* scattered shrubs over *Hibbertia hypericoides* subsp. *hypericoides, Styphelia conostephioides, Scholtzia involucrata* low open shrubland over *Dasypogon bromeliifolius, Phlebocarya ciliata, Lyginia imberbis* scattered perennial herbs with **Ursinia anthemoides* subsp. *anthemoides*, **Carpobrotus edulis* very open introduced herbland.
Vegetation Sub-Association (NVIS Level VI)	U1 ^Banksia menziesii\Banksia\^tree\6\bi; M1+ ^Jacksonia sternbergiana,Kunzea glabrescens\Jacksonia\^shrub\5\r; M2 ^Adenanthos cygnorum subsp. cygnorum\Adenanthos\^shrub\4\bc; M3 ^Hibbertia hypericoides subsp. hypericoides,Styphelia conostephioides,Scholtzia involucrata\^shrub\3\r; G2 ^Dasypogon bromeliifolius,Phlebocarya ciliata,Lyginia imberbis\^rush,forb\2\r; G1 ^*Ursinia anthemoides subsp. anthemoides,*Carpobrotus edulis\^forb\1\bc
Distribution	This revegetation unit (Plate 4.27) occurred in two distinct patches that dissected surrounding *Banksia*-dominated units (Appendix 9). The eastern most occurrence (mainly situated within the contextual area) is a revegetated powerline infrastructure corridor but vegetation has regenerated to a point where the lower shrub and groundcover strata and species richness has almost progressed to pre-cleared levels. The western occurrence surrounds the Alcoa tailing ponds to the north of Anketell Road. The absence of mature *Banksia* spp. and *Eucalyptus marginata* indicate that this revegetation unit may take several decades to show congruence with the surrounding intact vegetation units.

Sites	Rockingham Road Biological Survey (Biota 2024c): Nil. Westport Last Mile Area Biological Survey (Biota 2024a): Nil. Westport Freight Road Additional Biological Survey (Biota 2023a): Nil. Anketell Road Planning Study Biological Survey (Biota 2022): ANK41, ANK90, ANK91.
Vegetation Condition	Survey Area: This unit was in Good condition with areas of Very Good condition where revegetation had progressed well. Contextual Area: Inferred as Very Good to Good.

Plate 4.27: Representative photographs of the R3 vegetation unit.

4.3 Other Modified Areas

Three additional distinct categories of land within both the survey area and contextual area (see Appendices 8 and 9) were assessed as being highly modified and disturbed to some extent, being:

- D: Mosaic of Highly Modified and Degraded Areas

  These areas consisted of land that has either been modified to such an extent (but not entirely previously 'cleared') that it is considered degraded and only consists of a high proportion of introduced species, particularly grasses (Plate 4.28). Common species encountered in these areas were tussock grasslands of **Ehrharta calycina*, **Bromus diandrus*, **Lolium rigidum*, **Cenchrus setaceus* and **Avena barbata*, and introduced herblands of typically **Euphorbia terracina*, **Lupinus cosentinii* and **Foeniculum vulgare.*

  This modified unit totalled 8.90 ha (3.96%) of the survey area and extended into the contextual area (15.17 ha, 1.14%).

Plate 4.28: **Representative photographs of the modified areas unit 'D'.**

- ML: Commercial/Residential Mixed Land Use

  These areas consisted of land utilised for commercial and/or residential use, totalling 27.23 ha (12.11%) of the survey area, and extended into the contextual area (572.68 ha, 42.87%). Areas within both the survey area contextual area categorised as 'ML' may contain isolated/scattered native trees and shrubs.

- IP: Isolated Trees over Previously Cleared Areas or Pasture

  Parts of the survey area and contextual area that were assigned the 'IP' category typically consisted of acreage, exposed sands, previously cleared areas, and pasture with isolated remnant trees (either introduced, naturalised, or native), not forming a coherent vegetation type. This mapping unit totalled 6.92 ha (3.08%) of the survey area and extended into the contextual area (63.62 ha, 4.76%).

4.3.1 Cleared Areas

These areas, which were devoid of native vegetation (see Appendices 8 and 9), had been cleared for roads, road shoulders, rail and rail infrastructure, sand tracks, or firebreaks. While they were mapped as two distinct categories (CL and RR), these areas should be considered collectively as areas devoid of native vegetation and accounted for 81.59 ha (36.29%) of the survey area and 270.08 ha (20.22%) of the contextual area (see Table 4.1, Appendix 9).

Also included within this category of areas devoid of vegetation, but not having been cleared, are the areas mapped as Open Water (O) and Beach (B). These two additional units totalled 14.69 ha (1.10%) of the contextual area (see Table 4.1, Appendix 9).

4.4 Condition of the Vegetation Units

Condition of the vegetation within the survey area ranged from Excellent to Completely Degraded (Table 4.2, Appendix 10). No patches of vegetation within the survey area were considered to have a Pristine condition ranking. Instances of the mapping units 'RR' and 'ML' were not assessed for vegetation condition, and were assigned the ranking of 'N/A'. Areas of highly modified vegetation that would require intensive management to return the vegetation to a suitable condition, or areas that were heavily affected by weed presence and/or edge effects, were assigned a condition ranking of Degraded.

Within the contextual area, vegetation condition also ranged from Excellent to Completely Degraded (extrapolated and inferred), with land clearing and effects from surrounding Mixed Land Use being the dominant factor (Table 4.2, Appendix 10).

Numerous weed species were encountered across the survey area (see Section 5.5), and the locations recorded represent an underestimate of their extent. Dense patches of herbaceous weed species occurred through the entirety of the survey area along roadsides and cleared areas.

Table 4.2: Extent of vegetation condition categories within the survey and contextual area.

Condition Ranking	Survey Area - ha (%)	Contextual Area - ha (%)
Pristine	0 (0)	0 (0)
Excellent	0 (0)	43.38 (3.25)
Very Good to Excellent	1.12 (0.50)	64.83 (4.85)
Very Good	10.77 (4.79)	31.68 (2.37)
Good to Very Good	9.77 (4.35)	37.03 (2.77)
Good	36.99 (16.45)	86.65 (6.49)

Condition Ranking	Survey Area - ha (%)	Contextual Area - ha (%)
Degraded to Good	3.37 (1.50)	38.86 (2.91)
Degraded	36.48 (16.23)	122.03 (9.14)
Completely Degraded	7.31 (3.25)	10.15 (0.76)
N/A[3]	119.02 (52.94)	901.22 (67.46)
Total	224.83 (100)	1335.84 (100)

Areas of vegetation that were in Degraded and Completely Degraded condition typically showed signs of increased levels of disturbance and higher abundances of introduced flora species. Signs of disturbance from macropods and rabbits (droppings and warrens) were recorded throughout certain parts of the survey area.

A significant number of populations and large individual numbers of the Declared Pests **Zantedeschia aethiopica* (Arum Lily), *Gomphocarpus fruticosus (Narrow-leaved Cotton Bush), and **Morea flaccida* (One-leaf Cape Tulip), and the Declared Pest and WoNS **Asparagus asparagoides* (Bridal Creeper), were recorded throughout the survey area. Approximately 41 individuals (from 13 locations) of Arum Lily were recorded, 690 individuals of Bridal Creeper recorded, and 126 individuals of One-leaf Cape Tulip were recorded both opportunistically and within quadrats. Areas of vegetation that contained aggressive weeds were occasionally impacted by their presence. As a result, the vegetation condition generally ranged from Excellent through to Completely Degraded depending on the overall impact upon each area of intact vegetation.

4.5 Results of the Floristic Analysis

4.5.1 Validation of Vegetation Types (Current Survey)

A floristic analysis was completed using PRIMER v6 to validate the newly sampled vegetation types determined during mapping of the current surveys. This analysis used those sites from the Rockingham Road Biological Survey (Biota 2024c) and the Westport Last Mile Area Biological Survey (Biota 2024a) together with the collective sites sampled from the Westport Freight Road Additional Biological Survey (Biota 2023a) (site data are presented in Appendix 7). The dendrogram and NMDS plots from each of the floristic analyses are provided below (see Figure 4.1 to Figure 4.3). Table 1 in Appendix 11 lists taxa that were omitted or treated as other taxa for the purposes of the floristic analysis.

There was a high level of congruence between the new vegetation types identified based on structure and dominant species, and the floristic groups identified through the PRIMER analysis based on the cover data analysis of sites from the current survey:

- No new sites in the current analysis were identified as belonging to either of the *Acacia* units (A1 and A2). The analysis from the current surveys found that unit A3 was separated from A1 and A2 due to absence of *Banksia attenuata*, *B. sessilis*, and *Hibbertia hypericoides*.
- Newly identified groups A3 and A4 were on average 94.7% dissimilar:
    - Grouping A3 was distinctly separated from A4 due to dominant Acacias; *Acacia saligna* contributing 100% of the similarity seen in A3 sites, whereas *Acacia rostellifera* contributed 93.4% of the similarity seen in A4 sites.
- A new distinct *Banksia*-dominant vegetation unit was identified in the current study: B6.

[3] Equivalent of 'Cleared' vegetation condition category.

  - The dominance of *Banksia sessilis* var. *sessilis* (at 25.66% contribution) in unit B6, with the addition of *Acacia cyclops* (25.66%), drove the separation of this unit from other *Banksia* units, with a cumulative similarity of 51.32%.

- The following *Eucalyptus* dominated vegetation types were grouped distinctly due to the following species presence:
  - E5; largely due to the dominance *Eucalyptus decipiens* (at 32.88% contribution), as well as *Hardenbergia comptoniana* (17.15%), *Banksia sessilis* var. *sessilis* (17.05%), and *Acacia pulchella* (13.53%), together cumulatively accounting for 80.61% similarity seen in E5 sites.
  - E6; due to the presence of *Eucalyptus gomphocephala* (80.75% contribution to similarity observed across this groups sites).
  - E7; due to the presence of *Eucalyptus foecunda* subsp. *foecunda* (occurring exclusively in this unit and driving separation from all other Eucalyptus units) *and Spyridium globulosum,* collectively contributing 70.31% of the similarity seen in E7 sites.
- *Eucalyptus gomphocephala* dominated units E1 and E6 were separated based on the presence of *Callitris preissii* in E6 contributing 8.47% to the dissimilarity between the units, and the absence of *Eucalyptus marginata, Macrozamia riedlei, Allocasuarina fraseriana, Banksia attenuata* and *Banksia grandis*, cumulatively contributing to 20.63% of the dissimilarity between the two units.
- Vegetation unit M5 was characterised by dominance of *Melaleuca huegelii* subsp. *huegelii* for a contribution of 78.74% of the similarity seen amongst M5 sites.
- Sites assigned to unit M6 were separated from M5, and also grouped together at a cumulative similarity of 82.77%, due to the presence of *Melaleuca systena* (32.44% contribution), *Templetonia retusa* (31.91%) and *Acacia lasiocarpa* var. *lasiocarpa* (18.42%).
- Vegetation unit T1 was characterised by the presence of **Gaudium laevigatum (Coastal Tea Tree)* and the presence of multiple Acacia species at a low percentage presence, with no single Acacia species clearly dominating in any strata.

4.5.2 Validation of Vegetation Types (Westport Freight Road Additional Biological Survey)

With regards to the previous analysis utilising 'WTP' (Biota 2023a) and 'ANK' sites (Biota 2022) the following results are still wholly applicable to the current consolidated data:

- Five distinct *Banksia*-dominant vegetation units were identified in the current study. Three of these were detailed in the Anketell Road Planning Study Biological Survey, B1, B2 and B3 (Biota 2022) and an additional two *Banksia*-dominated vegetation units, B4 and B5, were identified in the current study.
  - The dominance of *Banksia attenuata* (at 19.2% contribution) in unit B1, with the addition of *Adenanthos cygnorum* subsp. *cygnorum* (8.8%) and *Banksia menziesii* (8.8%), drove the separation of this unit from other *Banksia* units, with a cumulative similarity of 36.88%.
  - The dominance of *Banksia menziesii* (at 40.9% contribution) and *Hibbertia hypericoides* subsp. *hypericoides* (13.8%) in unit B2 and *Banksia attenuata* (12.05%) were the key factors driving this unit's separation from other *Banksia* units, accounting for 66.09% cumulative similarity.
  - No new sites were identified in the current analysis as belonging to vegetation unit B3. However, the analysis in the Anketell Road survey found that this unit was separated from other *Banksia* units due to *Kunzea glabrescens* and *Banksia ilicifolia* driving the grouping of associated sites, with a combined 57.8% of overall similarity (Biota 2022).
  - The dominance of *Banksia attenuata* (at 28.2% contribution) in unit B4, as well as *Hibbertia hypericoides* subsp. *hypericoides* (25.0%) and *Allocasuarina humilis* (12.7%) drove the separation of this unit from other Banksia units, with a cumulative similarity of 65.9%.

  - In vegetation unit B5, *Banksia sessilis* var. *cygnorum* was the main driver of the separation from other Banksia groups (95.4% contribution). This unit was very dissimilar to other *Banksia* units (average similarity of 3.2%), due to the presence of *Banksia sessilis* var. *cygnorum* and *Melaleuca huegelii* subsp. *huegelii* in B5 sites. One of the sites in this unit did not group well with the rest (see Figure 4.1, Figure 4.2) due to its ecotonal location.

- As expected, unit EB1 showed a notable similarity to some other *Banksia* units, in particular B1 (25.2%) and B2 (27.5%). Some EB1 sites also grouped together with sites in the *Banksia* unit B2, typically those in ecotonal areas between the two units (see Figure 4.1, Figure 4.2).
- Unit B4 was separated from the other *Banksia* units, and instead grouped more closely with *Acacia* units A1 and A2, with a similarity of approximately 25% (see Figure 4.1, Figure 4.2). Sites associated with these three units shared a limestone substrate and typically a high cover of *Xanthorrhoea preissii* and *Hibbertia hypericoides* subsp. *hypericoides.*
- No new sites in the current analysis were identified as belonging to either of the *Acacia* units (A1 and A2). However the analysis from the Anketell Road Planning Study Biological Survey (Biota 2022) found that these units were separated from others due to the dominance of *Acacia rostellifera*.
  - *Acacia rostellifera*, *Hibbertia hypericoides* subsp. *hypericoides* and *Xanthorrhoea preissii* made up a cumulative contribution of 86.3% to overall similarity of sites within A1 (Biota 2022).
  - Grouping A2 was distinctly separated from A1 due to the presence of emergent and/or scattered *Eucalyptus marginata* subsp. *marginata, Banksia menziesii*, and *Banksia attenuata* in the upper stratum (Biota 2022).
- Vegetation unit K1 was characterised by dominance of *Kunzea glabrescens* (89.4% contribution) and *Crassula colorata* (4.7%), for a cumulative contribution of 94.1%.
  - Sites in K1 showed a high similarity with those in M3 (53.5%), due to a high average cover of *Kunzea glabrescens* in these two groups (51.3% and 50.0% respectively). *Melaleuca rhaphiophylla* was the main species separating M3 from K1, contributing 12.7% to the dissimilarity between the two units.
- The following vegetation types were grouped distinctly from other sites:
  - E1; largely due to the dominance *Eucalyptus gomphocephala* (at 72.9% contribution), as well as *Xanthorrhoea preissii* (6.4%) and *Hardenbergia comptoniana* (4.15%).
  - E3; due to the presence of *Eucalyptus camaldulensis,* which occurred exclusively in this unit and contributed 100% to the separation from other units.
  - M2; due to the presence of *Melaleuca lanceolata*, which accounted for 100% of the separation from other units.
- Vegetation units E1, M1, X1 consisted of only one site. They all showed less than 30% similarity to any other site.

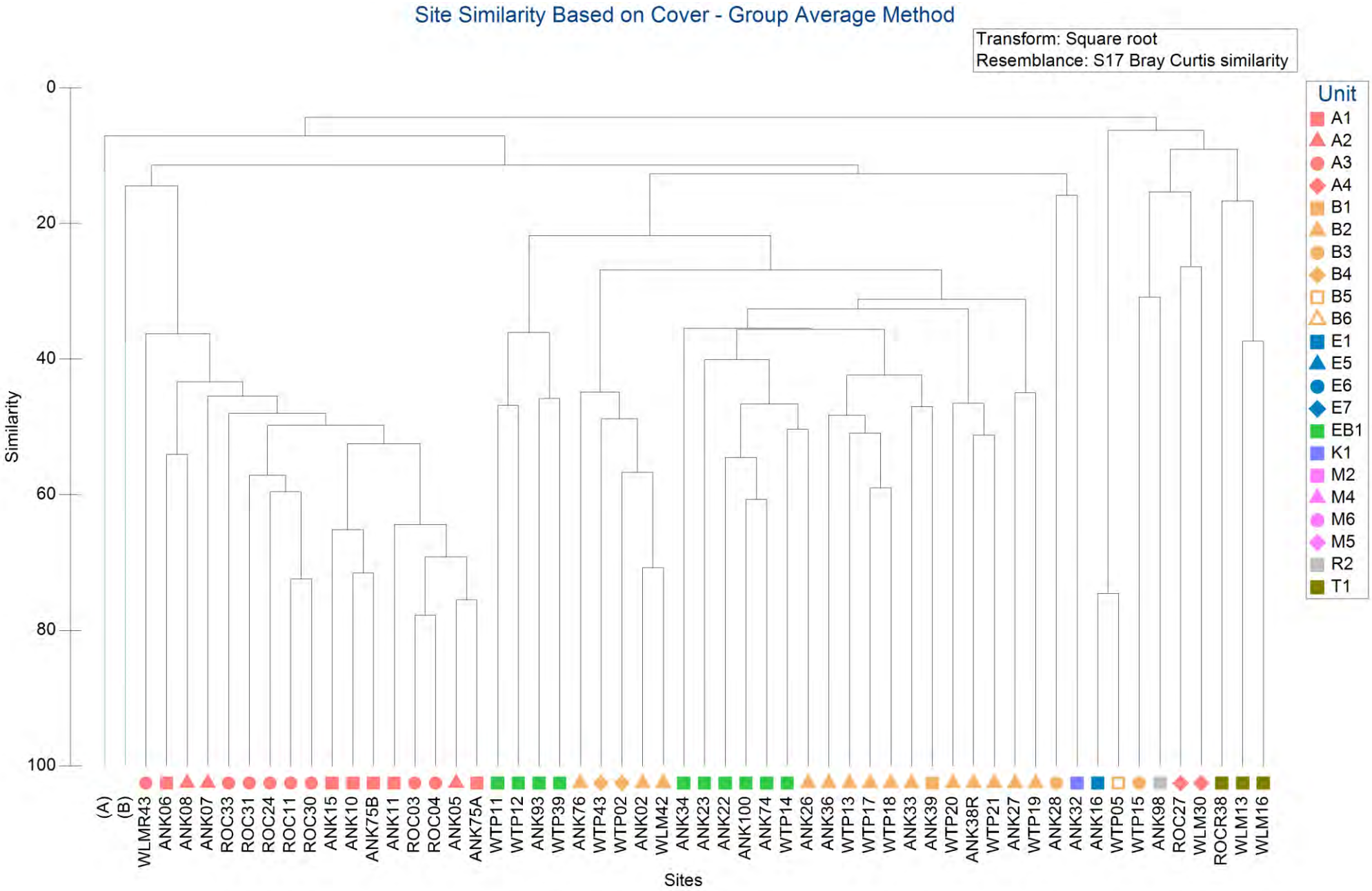

Figure 4.1: Dendrogram from floristic clustering analysis of sites from the current survey (clustering summary 1 of 2).

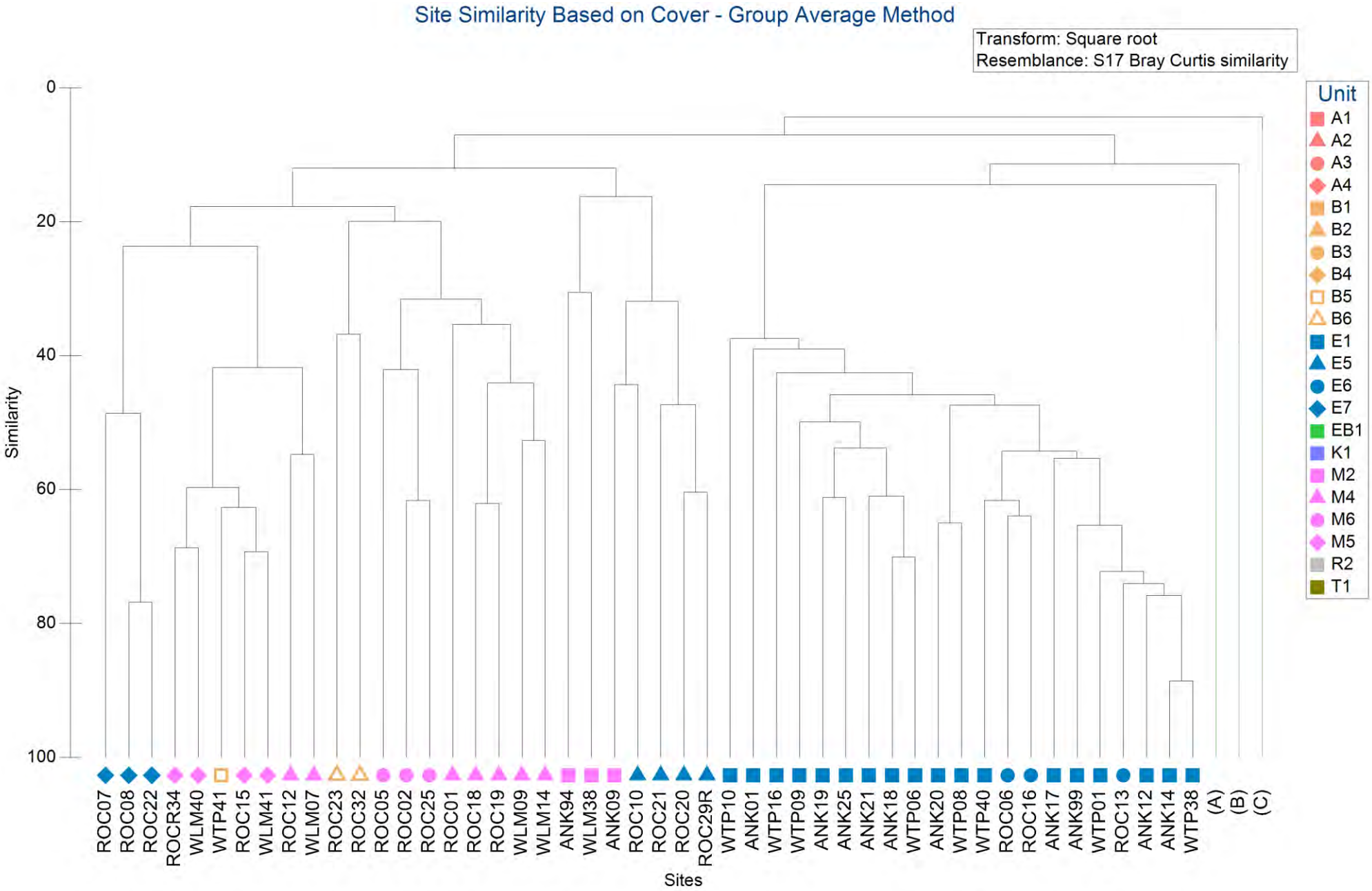

Figure 4.2: Dendrogram from floristic clustering analysis of sites from the current survey (clustering summary 2 of 2).

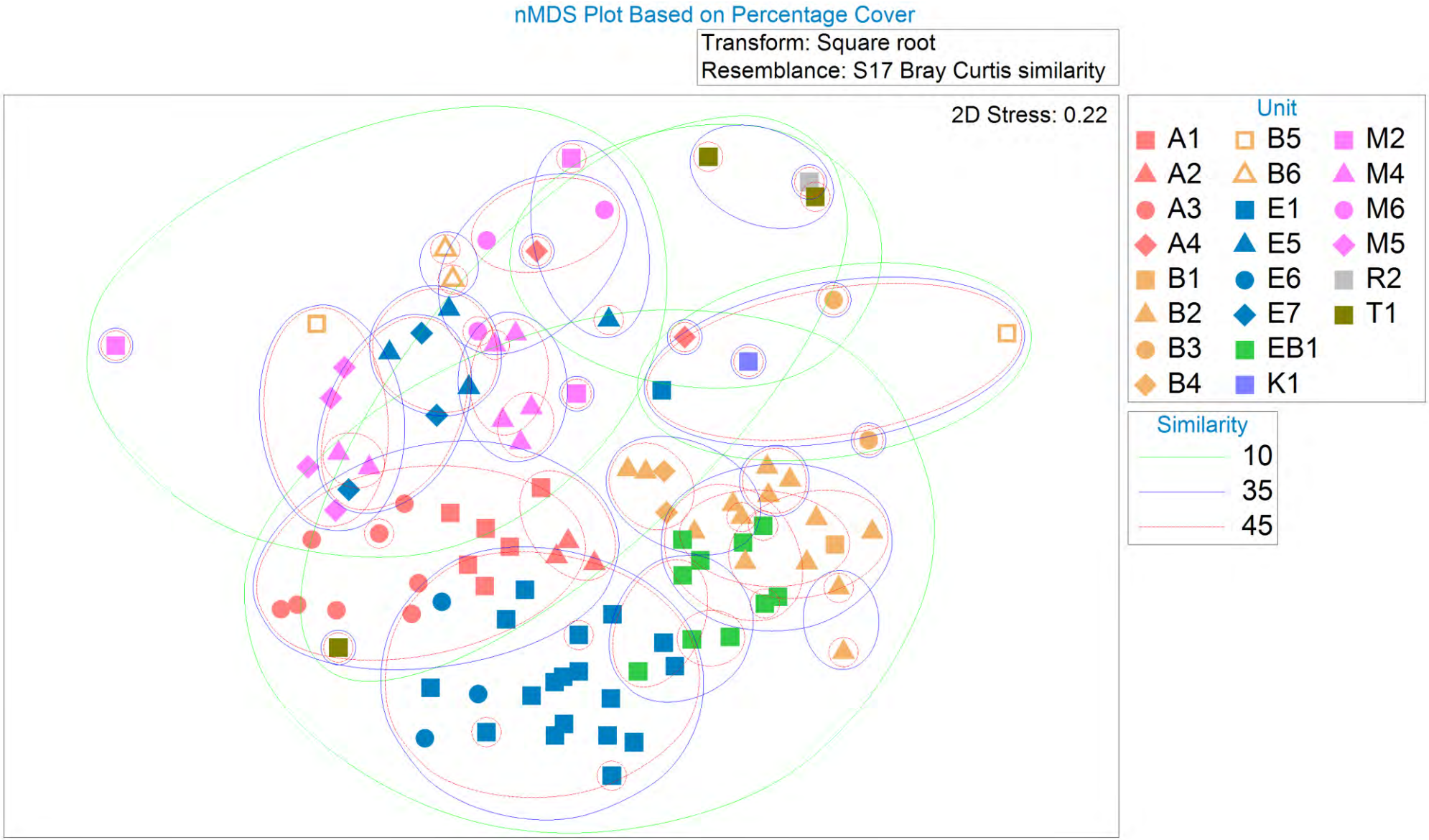

Figure 4.3: NMDS plot based on floristic groups (vegetation units) of sites established across multiple surveys.

4.5.3 Identification of Floristic Community Types

Both hierarchical clustering and nearest neighbour border analyses were conducted using PATN v4 (Belbin 2020), to assist with determining which sites in the survey area, and thus distinct areas of vegetation units, were equivalent to FCTs described by Gibson et al. (1994). FCTs that occur on the SCP and have relationships to the Commonwealth Banksia Woodlands TEC and State-listed PEC are listed in Table 4.3 below, with those FCTs that have relationships to the Commonwealth Tuart TEC are listed in Table 4.4.

Table 4.3: **FCTs that occur on the SCP and have relationships to the 'Banksia Woodlands of the Swan Coastal Plain ecological community' Commonwealth TEC and/or State**-listed PEC.

Floristic Community Type Name	FCT (Gibson et al. 1994)	State Listing
Banksia attenuata woodlands over species rich dense shrublands	FCT 20a	Threatened (Endangered)
Eastern *Banksia attenuata* and/or *Eucalyptus marginata* woodlands	FCT 20b	Threatened (Endangered)
Eastern shrublands and woodlands	FCT 20c	Threatened (Critically Endangered)
Central *Banksia attenuata - Eucalyptus marginata* woodlands	FCT 21a	-
Southern *Banksia attenuata* woodlands	FCT 21b	Priority 3
Low lying *Banksia attenuata* woodlands or shrublands	FCT 21c	Priority 3
Banksia ilicifolia woodlands	FCT 22	Priority 3
Central *Banksia attenuata - Banksia menziesii* woodlands	FCT 23a	-
Northern *Banksia attenuata - Banksia menziesii* woodlands	FCT 23b	Priority 3
North-eastern *Banksia attenuata - Banksia menziesii* woodlands	FCT 23c	-
Northern Spearwood shrublands and woodlands	FCT 24	Priority 3
Southern *Eucalyptus gomphocephala – Agonis flexuosa* woodlands	FCT 25	Priority 3
Spearwood *B. attenuata* or *B. attenuata* - Eucalyptus woodlands	FCT 28	-
Banksia attenuata woodlands over dense low shrublands	FCT S9	-

Table 4.4: FCTs that occur on the SCP, in which Tuarts are a defining species, that represent the Commonwealth Tuart TEC and/or State-listed PEC.

Floristic Community Type Name	FCT (Gibson et al. 1994)	State Listing
Southern *Eucalyptus gomphocephala – Agonis flexuosa* woodlands	FCT 25	Priority 3
Quindalup *E. gomphocephala* and/or *A. flexuosa* woodlands	FCT 30b	Priority 3

Analyses utilised the SCP survey dataset by Gibson et al. (1994) together with the presence/absence data from those sites sampled during the Rockingham Road Biological Survey (Biota 2024c) and Westport Last Mile Area Biological Survey (Biota 2024a) and those resampled from the previous Westport Freight Road Additional Biological Survey (Biota 2023a) and Anketell Road Planning Study Biological Survey (Biota 2022). The floristic analysis and classification (see Table 4.5 and Table 4.6 for a summary of Appendix 12) placed the following sampling sites within the following FCTs:

- FCT 6 (Weed dominated wetlands on heavy soils): ANK28, ANK34
- FCT 21a (Central *Banksia attenuata – Eucalyptus marginata* woodlands): WTP13, WTP17, WTP18, WTP21
- FCT 21c (Low lying *Banksia attenuata* woodlands or shrublands): WTP19
- FCT 23a (Central *Banksia attenuata – Banksia menziesii* woodlands): WTP20, ANK38
- FCT 24 (Northern Spearwood shrublands and woodlands): WTP01, WTP02, WTP05, WTP06, WTP09, WTP10, WTP15, WTP16, WTP39, WTP41, WTP43, ANK02, ANK05, ANK06, ANK07, ANK10,

ANK11, ANK12, ANK14, ANK16, ANK17, ANK18, ANK19, ANK20, ANK21, ANK74, ANK75a, ANK75b, ANK93 and ANK100, plus all surveyed ROC and WLM sites.

- FCT 25 (Southern *Eucalyptus gomphocephala – Agonis flexuosa* woodlands): WTP08, WTP12.
- FCT 28 (Spearwood *B. attenuata* or *B attenuata-Eucalyptus* woodlands): WTP11, WTP14, ANK08, ANK22, ANK23, ANK25, ANK26, ANK27, ANK32, ANK33, ANK35, ANK36, ANK39
- FCT 30a/30b/29 split: ANK01, ANK09, and ANK94.
- FCT 30b (Quindalup *E. gomphocephala* and/or *A. flexuosa* woodlands): WTP38, WTP40, ANK15, ANK99.

A summary of the determinations resulting from the hierarchical clustering and NNB analysis for those sites sampled during the Anketell Road Planning Study Biological Survey (Biota 2022) and Westport Freight Road Additional Biological surveys (Biota 2023a) is provided in Table 4.5, with those sites sampled during the Westport Last Mile Area Biological Survey (Biota 2024a) and Rockingham Road Biological Survey (Biota 2024c) provided in Table 4.6. Extracts of the dendrograms of the SSI process are provided in Appendix 12. A table of the NNB analysis results showing the 20 most similar sites is provided in Table 2 of Appendix 12, with a rationalised species list used for the analyses presented in Table 1 of Appendix 12.

The level of confidence in assigning FCTs to the sites sampled in the current surveys (ROC and WLM) is not as high (nor expected to be) as that seen in previous FCT analyses in both the Westport Freight Road Additional Biological Survey (WTP; (Biota 2023a)) and Anketell Road Planning Study Biological Survey (ANK; Biota 2022), as the Westport Last Mile Area Biological Survey (Biota 2024a) and Rockingham Road Biological Survey (Biota 2024c) were single-phase with sites sampled twice within the single spring season.

Table 4.5: Confirmation of Gibson et al. (1994) FCTs identified in the Anketell Road Planning Study Biological Survey (2022; ANK) and Westport Freight Road Additional Biological Survey (Biota 2023; WTP).

Site	FCT Result	
	(Biota 2023a)	Current Survey
ANK01	FCT 30a/30b	FCT 30a/30b
ANK02	FCT 24	FCT 24
ANK05	FCT 24	FCT 24
ANK06	FCT 24	FCT 24
ANK07	FCT 24	FCT 24
ANK08	FCT 28	FCT 28
ANK09	FCT 30a/30c/29	FCT 30a/30c/29
ANK10	FCT 24	FCT 24
ANK11	FCT 24 (aff. 25)	FCT 24 (aff. 25)
ANK12	FCT 24 (aff. 25)	FCT 24 (aff. 25)
ANK14	FCT 24	FCT 24
ANK15	FCT 30b/29a	FCT 30b/29a
ANK16	FCT 24 (aff. 25)	FCT 24 (aff. 25)
ANK17	FCT 24 (aff. 25)	FCT 24 (aff. 25)
ANK18	FCT 24 (aff. 25)	FCT 24 (aff. 25)
ANK19	FCT 24 (aff.28/25)	FCT 24 (aff.28/25)
ANK20	FCT 24	FCT 24
ANK21	FCT 24	FCT 24
ANK22	FCT 28	FCT 28

Site	FCT Result	
	(Biota 2023a)	Current Survey
ANK74	FCT 24 (aff. 25)	FCT 24 (aff. 25)
ANK75a	FCT 24 (aff. 26b)	FCT 24 (aff. 26b)
ANK75b	FCT 24 (aff. 26b)	FCT 24 (aff. 26b)
ANK93	FCT 24 (aff 25)	FCT 23a (aff. 21c)
ANK94	FCT 30a/30b/29a	FCT 24 (aff 25)
ANK98	Inconclusive	Inconclusive
ANK99	FCT 30b (aff. 24)	FCT 30b (aff. 24)
ANK100	FCT 24	FCT 24
WTP01	FCT 24	FCT 24
WTP02	FCT 24	FCT 24
WTP05	FCT 30a/30c	FCT 24
WTP06	Inconclusive	FCT 24
WTP08	Inconclusive	FCT 25
WTP09	FCT 24	FCT 24
WTP10	FCT 24	FCT 24
WTP11	FCT 28	FCT 28
WTP12	FCT 25	FCT 25
WTP13	FCT 21a / 28	FCT 21a
WTP14	FCT 28	FCT 28

Site	FCT Result	
	(Biota 2023a)	Current Survey
ANK23	FCT 28	FCT 28
ANK25	FCT 28	FCT 28
ANK26	FCT 28 (aff. 24)	FCT 28 (aff. 24)
ANK27	FCT 28 (aff. 21a/21c)	FCT 28 (aff. 21a/21c)
ANK28	FCT 6	FCT 6
ANK32	FCT 28	FCT 28
ANK33	FCT 24 (aff. 28)	FCT 28
ANK34	FCT 6 (Revegetation)	FCT 24 (aff. 28)
ANK35	FCT 28 (aff. 21a)	FCT 6 (Revegetation)
ANK36	FCT 28 (aff. 21a)	FCT 28 (aff. 21a)
ANK38	FCT 23a	FCT 28 (aff. 21a)
ANK39	FCT 28	FCT 23a

Site	FCT Result	
	(Biota 2023a)	Current Survey
WTP15	Inconclusive	FCT 24
WTP16	FCT 24 / 25 / 26b / 28	FCT 24
WTP17	FCT 6 / 3	FCT 21a
WTP18	FCT 21c / 21a	FCT 21a
WTP19	FCT 21c / 24	FCT 21c
WTP20	FCT 21c / 23a	FCT 23a
WTP21	FCT 21c / 21a	FCT 21a
WTP38	Inconclusive	FCT 30b
WTP39	Inconclusive	FCT 24
WTP40	Inconclusive	FCT 30b
WTP41	Inconclusive	FCT 24
WTP43	Inconclusive	FCT 24

Table 4.6: Summary of Gibson et al. (1994) FCTs determined from the analysis of newly established sites (prefix ROC and WLM) sampled during the current surveys.

Site	FCT(s) from Flexible UPGMA	Summarised Comments on the UPGMA Classification[4]	NNB - FCT(s) of 20 Most Similar Sites (no. of sites) [Single sites not listed]	Summarised Comments on the NNB Analysis	FCT Result	Notes on FCT Assignment
Rockingham Road Biological Survey (Biota 2024c)						
ROC01	FCT 24	UPGMA supports NNB.	FCT 24 (13 sites)	NNB confirms UPGMA.	FCT 24	-
ROC02	FCT 19	Grouped with three FCT 19 sites, seven FCT 17 sites, and two FCT 18 sites.	FCT 24 (13 sites)	NNB strongly suggests FCT 24.	FCT 24	aff. FCT 19
ROC03	FCT 19		FCT 24 (9 sites); FCT 29b (3 sites); FCT30a (2 sites)	NNB suggests FCT 24.	FCT 24	aff. FCT 19
ROC04	FCT 30a/30b/29a	Grouped with amalgamated collection of FCT 29a/30a/30b sites.	FCT 24 (10 sites); FCT30a (4 sites)	NNB strongly suggests FCT 24.	FCT 24	aff. FCT 30a
ROC05	FCT 24/29a	UPGMA supports NNB.	FCT 24 (12 sites); FCT 26a (4 sites); FCT 29a (2 sites)	NNB confirms UPGMA.	FCT 24	aff. FCT 29a
ROC06	FCT 30a/30b/29a	Grouped with amalgamated collection of FCT 29a/30a/30b sites.	FCT 24 (9 sites); FCT30a (5 sites); FCT 29a (2 sites)	NNB suggests FCT 24.	FCT 24	aff. FCT 30a
ROC07	FCT 30a		FCT 24 (8 sites); FCT 20a (3 sites); FCT 30a (3 sites); FCT 28 (2 sites)		FCT 24	-
ROC08	FCT 24	UPGMA supports NNB.	FCT 24 (12 sites); FCT 26a (2 sites); FCT 29a (2 sites); FCT 30c (2 sites)	NNB confirms UPGMA.	FCT 24	-
ROC10	FCT 30a/30b/29a	Grouped with three FCT 30a sites, then further with combination of FCT 29a/30a/30b sites.	FCT 24 (10 sites); FCT 29a (3 sites); FCT 30a (3 sites); FCT 30b (2 sites)	NNB suggests FCT 24.	FCT 24	-
ROC11	FCT 30a/30b/29a		FCT 24 (7 sites); FCT 30a (4 sites)		FCT 24	aff. FCT 30a
ROC12	FCT 30a/30b/29a		FCT 24 (8 sites); FCT 30a (4 sites): FCT 30b (3 sites)		FCT 24	aff. FCT 30a
ROC13	FCT 30a/29	Grouped with three FCT 30a sites, and seven FCT 29a sites	FCT 24 (9 sites); FCT 29a (4 sites); FCT 30a (2 sites)	NNB suggests FCT 24 and support UPGMA of FCT 29a	FCT 24	aff. FCT 29a
ROC15	FCT 30a/29	Grouped with five FCT 30a sites, and seven FCT 29a sites	FCT 24 (11 sites); FCT 30a (6 sites); FCT 29a (4 sites); FCT 6/25/26a/30c (2 sites each)		FCT 24	-
ROC16	FCT 30a/30b/29a	Grouped with three FCT 30a sites, then further with combination of FCT 29a/30a/30b sites.	FCT 24 (13 sites); FCT 30a (3 sites); FCT 29a (2 sites)		FCT 24	-
ROC18	FCT 24	UPGMA supports NNB.	FCT 24 (14 sites); FCT 26a (2 sites)	NNB confirms UPGMA.	FCT 24	-
ROC19	FCT 24		FCT 24 (14 sites); FCT 26a (2 sites)		FCT 24	-
ROC20	FCT 24		FCT 24 (8 sites); FCT 30a (4 sites); FCT 29a (3 sites)		FCT 24	aff. FCT 29a
ROC21	FCT 24/29a		FCT 24 (11 sites); FCT 29a (4 sites), FCT 30a (2 sites)		FCT 24	aff. FCT 29a
ROC22	FCT 24		FCT 24 (13 sites); FCT 29a (2 sites)		FCT 24	-
ROC23	FCT 24/29a		FCT 24 (8 sites); FCT 30a (4 sites); FCT 26a (3 sites); FCT 29a (3 sites)		FCT 24	aff. FCT 29a
ROC24	FCT 30a/30b/29a	Grouped with three FCT 30a sites, then further with combination of FCT 29a/30a/30b sites.	FCT 24 (7 sites); FCT 29a (4 sites); FCT 30a (4 sites)	NNB suggests FCT 24.	FCT 24	-
ROC25	FCT 30a/30b/29a		FCT 24 (9 sites); FCT 30a (5 sites); FCT 29a (2 sites)		FCT 24	-
ROC27	FCT 30a	Grouped with seven FCT 30a sites, then further with combination of FCT 29a/30b sites.	FCT 24 (9 sites); FCT 30a (6 sites); FCT 29a (2 sites)	NNB suggests FCT 24; supports FCT 30a	FCT 24	aff. FCT 30a-
ROC30	FCT 30a/30b/29a	Grouped with three FCT 30a sites, then further with combination of FCT 29a/30a/30b sites.	FCT 24 (8 sites); FCT 30a (3 sites); FCT 29b (2 sites)	NNB suggests FCT 24.	FCT 24	-
ROC31	FCT 30a/29	Grouped with five FCT 30a sites, then further with seven FCT 29a sites	FCT 24 (9 sites); FCT 30a (4 sites), FCT29a/b (4 sites); FCT 30b (2 sites)	NNB suggests FCT 24; supports UPGMA of FCT 29a	FCT 24	aff. FCT 29a

4 Complete UPGMA classification results (dendrograms) and complete NNB results are presented in Appendix 11.

Site	FCT(s) from Flexible UPGMA	Summarised Comments on the UPGMA Classification[4]	NNB - FCT(s) of 20 Most Similar Sites (no. of sites) [Single sites not listed]	Summarised Comments on the NNB Analysis	FCT Result	Notes on FCT Assignment
ROC32	FCT 24/29a	UPGMA supports NNB.	FCT 24 (13 sites); FCT 29a (4 sites)	NNB confirms UPGMA.	FCT 24	aff. FCT 29a
ROC33	FCT 24/29a	Amalgamated with two sites from each of FCT 24 and FCT 30a, then with seven FCT 29a sites.	FCT 30a (5 sites); FCT 24 (4 sites); FCT 29a (4 sites); FCT 30b (4 sites);		FCT 24/29a split	-
ROCR34	FCT 30a/30b/29a	Grouped with three FCT30a sites, then further at low similarity with combination of FCT29a/b/30a/30b sites.	FCT 24 (5 sites); FCT 30a (5 sites); FCT 29a (3 sites); FCT 30b (3 sites)	NNB suggests FCT 24/FCT 30a	FCT 24	aff. FCT 30a
ROCR38	FCT 30a/30b/29a		FCT 24 (6 sites); FCT 29a (3 sites); FCT 30a (3 sites)	NNB suggests FCT 24/FCT 29a	FCT 24	aff. FCT 29a
Westport Last Mile Area Biological Survey (Biota 2024b)						
WLM07	FCT 30a/29	Grouped with three FCT 30a sites, then seven FCT 29b sites	FCT 24 (9 sites); FCT 29b (4 sites); FCT 30a (4 sites)	NNB suggests FCT24 with affinity to FCT30a and FCT29b	FCT 24	aff. FCT 29b
WLM09	FCT 24	UPGMA supports NNB.	FCT 24 (11 sites); FCT 26a (3 sites); FCT 29a (3 sites)	NNB confirms UPGMA.	FCT 24	-
WLM13	FCT 24		FCT 24 (11 sites); FCT 29a (3 sites); FCT 30a (2 sites)		FCT 24	aff. FCT 29a
WLM14	FCT 24		FCT 24 (11 sites); FCT 26a (3 sites); FCT 29a (3 sites)		FCT 24	aff. FCT 29a
WLM16	Inconclusive	Paired with multiple sites from multiple FCTS (13,16,17,18,19)	FCT 24 (12 sites); FCT 30a (3 sites); FCT 17 (2 sites)	NNB suggests FCT 24 with affinity to FCT 17	FCT 24	aff. FCT 17
WLM30	FCT 11	Grouped with eight FCT 11 sites and single FCT25 and FCT 14 sites	FCT 24 (11 sites); FCT 28 (2 sites); FCT 30a (2 sites)	NNB suggests FCT 24.	FCT 24	aff. FCT 11
WLM38	FCT 24/25	UPGMA supports NNB.	FCT 24 (15 sites); FCT 25 (2 sites)	NNB confirms UPGMA.	FCT 24	aff. FCT 25
WLM40	FCT 30a/29	Grouped with seven FCT 29a sites, and amalgamated with FCT30a/b sites	FCT 24 (12 sites); FCT 30a (3 sites); FCT 25 (2 sites)	NNB suggests FCT 24.	FCT 24	Very strong aff. FCT 29a
WLM41	FCT 30a/29		FCT 24 (10 sites); FCT 30a (4 sites); FCT 29a (2 sites)	NNB suggests FCT 24 and affinity to FCT 29a	FCT 24	
WLM42	FCT 24	UPGMA supports NNB.	FCT 24 (12 sites); FCT 28 (5 sites); FCT 30a (2 sites)	NNB confirms UPGMA.	FCT 24	aff. FCT 28
WLMR43	FCT 11/6	Grouped with eight FCT 11 sites and nine FCT 6 sites, suggesting strong influence of weeds species presence.	FCT 24 (13 sites); FCT 29b (3 sites); FCT 30a (2 sites)	NNB suggests FCT 24.	FCT 24	aff. FCT 11/6

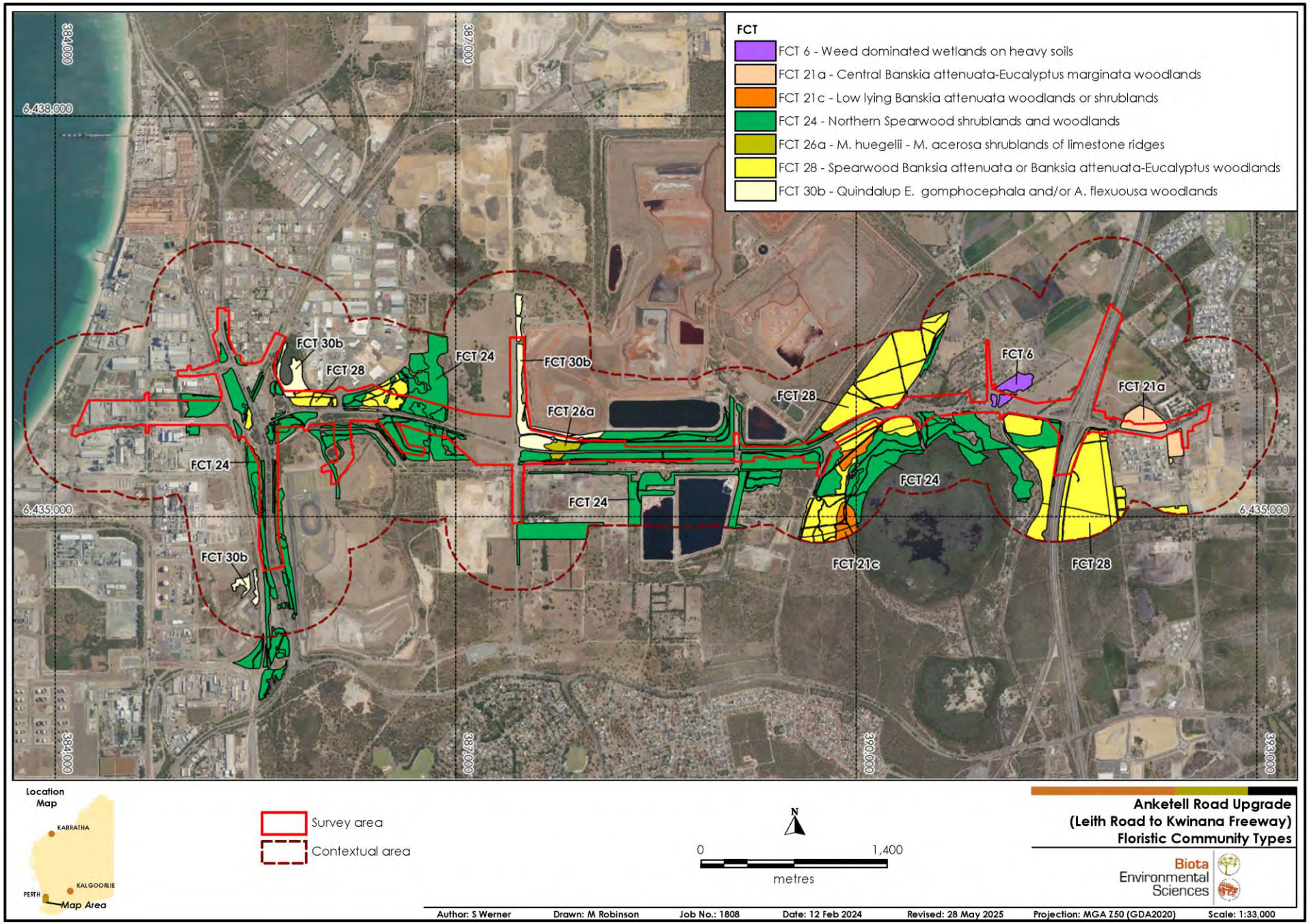

Figure 4.4: FCTs of Gibson et al. (1994) mapped for the survey area and contextual area.

4.6 Vegetation of Significance

TECs and corresponding PECs were identified within the survey area and contextual area based on the vegetation types described (Section 4.1), the quadrat data (Appendix 8), TEC patch assessments (Appendices 12 and 13), and the floristic analysis using PATN (Section 4.5.3). Assessments of areas considered to be either a TEC or PEC within the survey area (Figure 4.7, Figure 4.10, Figure 4.11) were based on quantitative data, whilst those areas mapped within the contextual area were inferred and solely based on extrapolation of vegetation mapping and data collected from the survey area.

4.6.1 Commonwealth Threatened Ecological Communities

Prior to the field survey, three Commonwealth-listed TECs were expected to occur within the study area, all of which were known occurrences mapped by DBCA. Three Commonwealth-listed TECs were subsequently confirmed to occur within the survey area.

4.6.1.1 'Tuart (*Eucalyptus gomphocephala*) woodlands and forests of the Swan Coastal Plain ecological community' TEC

The Commonwealth Tuart TEC was confirmed to occur within the survey area. This was based on 84 field patch assessments from the current surveys (see Figure 4.5) and subsequent consideration of the combined assessments within each defined patch as to whether it met the criteria for recognition as this TEC (see Section 3.2.6 for criteria excerpt, Figure 4.5 for patch assessment locations, for a summary of patch assessment results, and Appendix 13 for full assessment results). Within the survey area and contextual area combined, eleven remnant vegetation patches of varying size (assigned 'TT01' to 'TT11') were representative of the TEC, whilst another nineteen patches that were assessed did not meet the diagnostic criteria (assigned 'DNQ(1)' to 'DNQ(19)') in order to be recognised as the TEC (see Figure 4.6 for patch mapping and Plate 4.29 to Plate 4.32 for representative photos).

Eight of the eleven remnant patches of the TEC occurred either wholly or partially within the survey area (see Figure 4.6). The extent of this TEC within the survey area comprised 40.99 ha, with 59.58 ha located within the broader contextual area, and a further 13.19 ha occurring outside of the contextual area (within the study area), meaning that 40.76% of the 'local' occurrences mapped (those which intersect the survey and contextual area) occurs within the survey area (Table 4.7).

Table 4.7: Extent of the Commonwealth Tuart TEC within the survey area and contextual area.

EPBC TEC	Status	Survey Area ha (%)	Contextual Area ha (%)
Tuart (*Eucalyptus gomphocephala*) woodlands and forests of the Swan Coastal Plain ecological community	Critically Endangered	40.99 (18.23%)	59.58 (4.46%)

Together with the Commonwealth Tuart TEC patch occurrences within the survey area and inferred patch occurrences in the contextual area/study area, Figure 4.6 also displays the individually recorded tree locations (within the accessible survey area land tenure), the mapped tree canopy, and further 30 m buffer, that all comprise the combined TEC 'patch'.

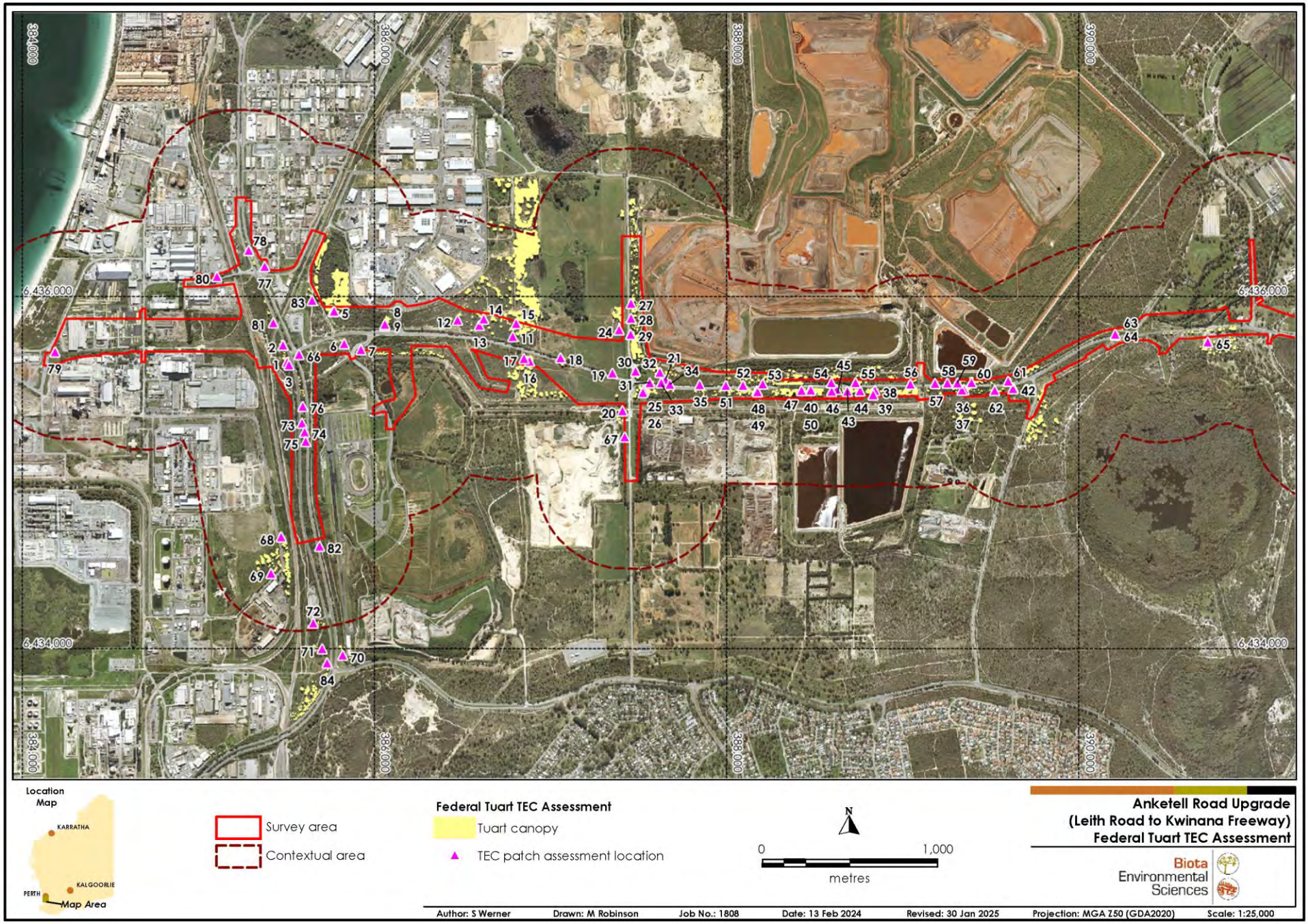

Figure 4.5: Commonwealth Tuart TEC patch assessment points conducted within the survey area and contextual area.

Table 4.8: Summary of Commonwealth Tuart TEC patch assessments.

Patch # /Identifier	Patch Assessment(s)	Key Diagnostic Criteria (Threatened Species Scientific Committee 2019)																(7) Conservation Value	Result
		(1) Location/ Environment	(2) Soils and Landform	(3) Structure		(4) Composition			(4) FCT	(5) Patch Size				(6) Veg. Cond.; Min Size					Meets TEC Criteria
				3a	3b	4c	4d	4e		5	5a	5b	5c	6	6a	6b	6c		
DNQ (1)	1-3	Swan Coastal Plain IBRA region	Spearwood	Y	Y	Y	Y	N	-	N	N	1.87	N	P	Y	Y	N	Med-Low	No
TT01	4,5,83			Y	Y	N	Y	Y	FCT30b	Y	N	-	8.42	M	Y	Y	N	High	Yes
DNQ (2)	6			Y	N	NA	Y	N	-	Y	N	0.82	N	P	Y	Y	N	Low	No
DNQ (3)	7			Y	Y	NA	Y	N	-	Y	N	4.18	N	P	Y	Y	N	Med-Low	No
TT02	8, 9			Y	Y	N	Y	Y	-	Y	N	1.03	N	VH	Y	Y	N	High-Med	Yes
TT03	10-15			Y	Y	Y	Y	Y	aff. FCT25	Y	N	-	29.4	M	Y	Y	N	High-Med	Yes
TT04	16, 17			Y	Y	N	Y	Y	aff. FCT25	Y	N	-	6.34	M	Y	Y	Y	High-Med	Yes
DNQ (4)	18			Y	Y	NA	N	N	-	N	N	0.84	N	P	Y	Y	N	Low	No
DNQ (5)	19			Y	Y	NA	Y	N	-	N	N	0.59	N	P	Y	Y	N	Med-Low	No
DNQ (6)	20			Y	Y	N	Y	N	-	N	N	2.20	N	P	Y	Y	N	Med-Low	No
TT05	21-34			Y	Y	N	Y	N	FCT30B &aff. FCT25	Y	N	-	18.7	M	Y	Y	Y	High-Med	Yes
TT06	35-62			Y	Y	Y	Y	Y	aff. FCT25	Y	N	-	35.7	M	Y	Y	Y	High-Med	Yes
DNQ (7)	63,64			Y	Y	N	N	Y	-	N	N	0.62	N	P	Y	N	N	High-Med	No
TT07	65			Y	Y	Y	Y	N	aff. FCT25	Y	N	-	5.74	M	Y	Y	N	Med-Low	Yes
DNQ (8)	66			N	N	Y	Y	N	-	N	Y	-	N	P	Y	N	N	Low	No
DNQ (9)	67			Y	N	Y	N	N	-	N	N	-	N	NA	Y	Y	N	Low	No
TT08	68		Quindalup	Y	Y	N	Y	Y	-	Y	N	0.45	N	M	Y	Y	N	High-Med	Yes
TT09	69			Y	Y	N	Y	Y	-	Y	N	4.73	N	H	Y	Y	N	High-Med	Yes
DNQ (10)	70		Spearwood	N	N	NA	Y	Y	-	Y	N	1.24	N	M	Y	Y	N	Med	No
DNQ (11)	71			Y	N	NA	Y	Y	-	Y	N	1.17	N	M	Y	Y	N	Med	No
TT10	72			Y	Y	Y	Y	Y	-	Y	N	0.74	N	H	Y	Y	N	Med-Low	Yes
DNQ (12)	73-75			Y	Y	N	Y	N	-	N	N	0.75	N	P	Y	Y	N	Low	No
DNQ (13)	76			Y	Y	N	N	N	-	N	N	0.52	N	P	Y	Y	N	Med-Low	No
DNQ (14)	77		Quindalup	N	Y	N	N	N	-	Y	Y	-	N	NA	Y	Y	N	Low	No
DNQ (15)	78		Spearwood	Y	Y	N	Y	N	-	Y	Y	-	N	NA	Y	Y	N	Med-Low	No
DNQ (16)	79		Quindalup	Y	Y	N	N	Y	-	Y	N	0.53	N	P	Y	Y	N	Low	No
DNQ (17)	80			Y	Y	N	N	N	-	Y	Y	-	N	NA	Y	Y	N	Low	No
DNQ (18)	81		Spearwood	Y	Y	N	N	N	-	Y	N	0.86	N	M	Y	Y	N	Med-Low	No
DNQ (19)	82			N	Y	N	N	N	-	Y	N	0.31	N	M	Y	N	N	Low	No
TT11	84			Y	Y	Y	Y	Y	-	Y	N	3.03	N	H	Y	Y	N	High-Med	Yes

Y – Yes; N – No; NA – Not Applicable; P – Poor; M – Moderate; H – High; VH – Very High.

Plate 4.29: Commonwealth Tuart TEC.

Plate 4.30: Commonwealth Tuart TEC.

Plate 4.31: Commonwealth Tuart TEC.

Plate 4.32: Commonwealth Tuart TEC.

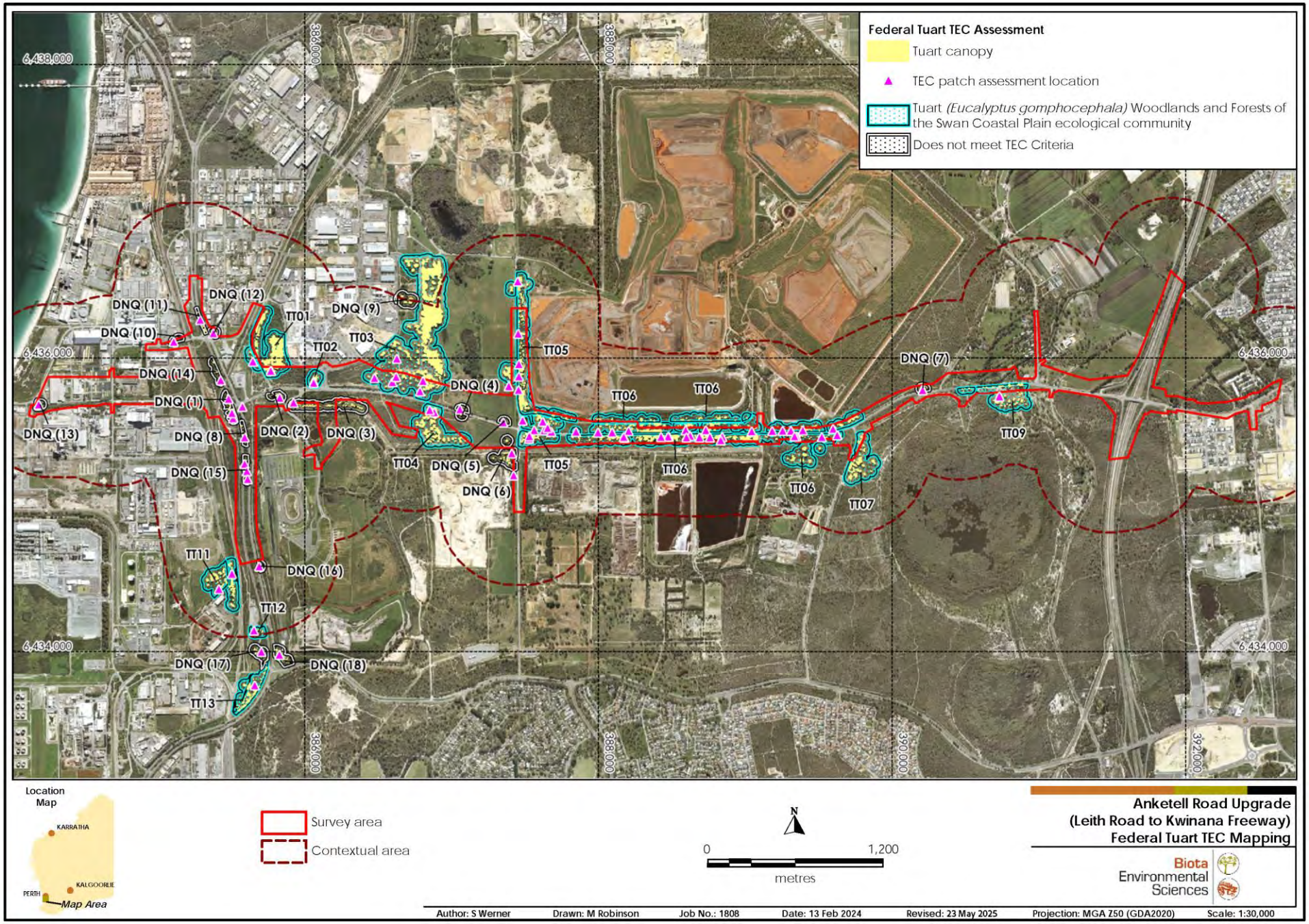

Figure 4.6: Commonwealth Tuart TEC occurrences within the survey area and inferred occurrences in the contextual area.

4.6.1.2 'Banksia woodlands of the Swan Coastal Plain ecological community' TEC

The Commonwealth Banksia Woodlands TEC was confirmed to occur within the survey area as a result of 67 field patch assessments (see Table 4.10 for patch assessment summary; Appendix 14 for full results) and subsequent consideration of whether each patch met the criteria for recognition as this TEC. Nine remnant vegetation patches of varying size (assigned 'BT01' to 'BT09') were representative of the TEC (see Figure 4.7 for patch mapping and Plate 4.33 to Plate 4.36 for representative photos).

Vegetation communities that were representative of the TEC include:

- B2 - *Banksia menziesii* (*B. attenuata*) over *Xanthorrhoea* spp. with *Hibbertia* and *Conostylis*;
- B3 - *Banksia menziesii, B. illicifolia* (*B. attenuata*) over *Kunzea* with occasional *Xanthorrhoea* spp. and *Scholtzia*;
- B4 - *Banksia attenuata* over *Allocasuarina humilis* and *Hibbertia* on limestone; and
- EB1 - *Eucalyptus marginata* (*Banksia* spp.) over *Kunzea* and *Acacia* with *Xanthorrhoea* spp. over *Hibbertia.*

All nine identified patches occurred either wholly or partially within the survey area (see Figure 4.7). The extent of this TEC within the current survey area comprised 14.56 ha, with a further 134.04 ha located within the contextual area, and a further 176.22 ha of the combined patch area occurring outside of the contextual area, meaning that 9.80% of the 'local' extent occurs within the survey area (see Table 4.9).

Table 4.9: Extent of the Commonwealth Banksia Woodlands TEC within the survey area and contextual area and study area.

EPBC TEC	Status	Survey Area (ha)	Contextual Area (ha)
Banksia woodlands of the Swan Coastal Plain ecological community	Endangered	14.56 (6.48%)	134.04 (10.11%)

Table 4.10: Summary of Commonwealth Banksia TEC patch assessments.

Patch # /Identifier	Patch Assessment #s	Key Diagnostic Criteria (Threatened Species Scientific Committee 2016)												Result
		(1) Location and Physical Environment	(2) Soils and Landform	(3) Structure			(4) Composition				(5) Condition Threshold	Overall Patch Size	Amount within Survey Area (ha)	Vegetation Condition	(6) Veg. Cond.; Min Size	Meets TEC Criteria
				3a	3b	3c	4a	4b	4c	4d						
BT01	67	Swan Coastal Plain IBRA region	Spearwood Sands	Y	Y	Y	Y	Y	VG	Y	Y	2.2	0.19	VG	Y	Yes
BT02	65,66			Y	Y	Y	Y	Y	VG	Y	Y	4.9	2.06	VG	Y	Yes
BT03	4,5		Bassendean Sands and Spearwood Sands	Y	Y	Y	Y	Y	E-VG	Y	Y	76.1	1.20	E-VG	Y	Yes
BT04	6,7,8		Spearwood Sands	Y	Y	Y	Y	Y	VG	Y	Y	32.7	0.87	VG	Y	Yes
BT05	9,10,11,12,13		Bassendean Sands and Spearwood Sands	Y	Y	Y	Y	Y	VG-G	Y	Y	159.6	2.17	VG-G	Y	Yes
BT06	14,15		Spearwood Sands and Quindalup Sands	Y	Y	Y	Y	N	VG	Y	Y	45.4	0.69	VG	Y	Yes
BT07	39			Y	N	Y	Y	N	E-VG	Y	Y	5.6	3.45	E-VG	Y	Yes
BT08	41,42,43,44			Y	Y	Y	Y	Y	E-VG	Y	Y	3.1	3.02	E-VG	Y	Yes
BT09	47,48,49			Y	N	Y	Y	N	G	Y	Y	3.9	0.61	G	Y	Yes

Y – Yes; N – No; G – Good; VG – Very Good; E – Excellent.

Plate 4.33: Commonwealth Banksia Woodlands TEC.

Plate 4.34: Commonwealth Banksia Woodlands TEC.

Plate 4.35: Commonwealth Banksia Woodlands TEC.

Plate 4.36: Commonwealth Banksia Woodlands TEC.

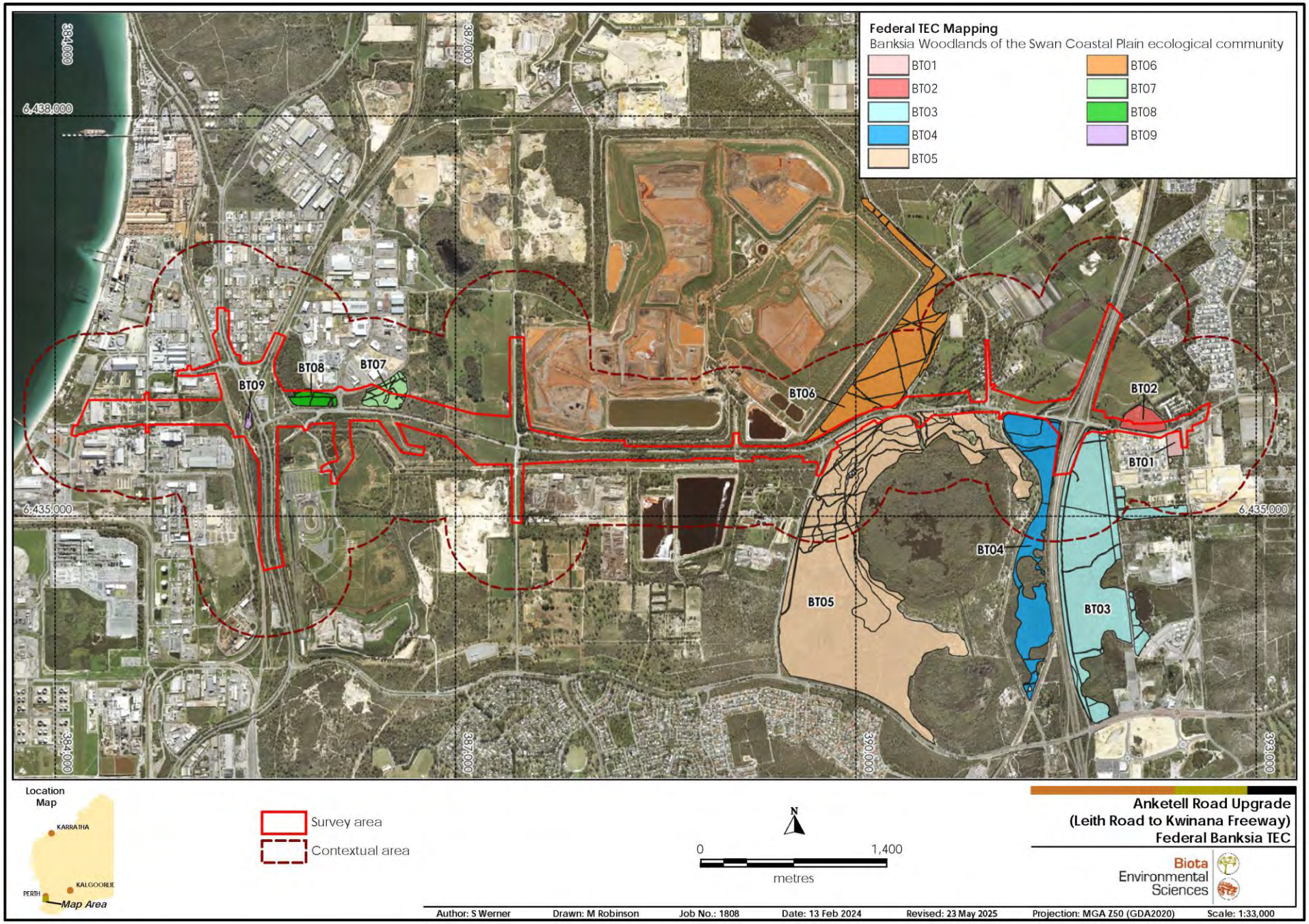

Figure 4.7: Commonwealth Banksia Woodlands TEC occurrences within the survey area and inferred occurrences in the contextual area.

4.6.1.3 'Honeymyrtle shrubland on limestone ridges of the Swan Coastal Plain Bioregion' TEC

Effective from 15 November 2023 the State-listed TEC '*Melaleuca huegelii – Melaleuca systena* shrublands on limestone ridges' was approved and listed as a Critically Endangered Commonwealth TEC under the *Environment Protection and Biodiversity Conservation Act 1999* (DCCEEW 2023). At the time of the approved conservation advice listing , this ecological community is synonymous with, and corresponds to, the Critically Endangered WA Threatened Ecological Community '*Melaleuca huegelii – M. systena* shrublands of limestone ridges (floristic community type 26a as originally described in Gibson et al. 1994)' that is on the list of Threatened Ecological Communities, under the WA *Biodiversity Conservation Act 2016*.

The Commonwealth 'Honeymyrtle shrubland' TEC was confirmed to occur within the survey area as a result of the assessment of three sampling sites (quadrats) with the FCT26a vegetation unit (Figure 4.8), and subsequent consideration of whether the patches met the criteria for recognition as this TEC, according to the approved conservation advice.

The two patches met the following key diagnostic characteristics, and are therefore representative of the TEC (see Figure 4.8 for patch mapping and Plate 4.37 for representative photo). Both patches occurred within the survey area north and south of Anketell Rd and comprised a total of 1.96 ha. and thus, are considered the Commonwealth 'Honeymyrtle shrubland' TEC:

- It occurs in the Perth subregion of the Swan Coastal Plain IBRA9 Bioregion in WA.
- It occurs on shallow to skeletal soils, on the ridge slopes and tops of limestone ridges and outcrops associated with Tamala Limestone
- It occurs as shrubland, heath, or thickets; and it has less than 10% canopy cover of Eucalyptus species or other tall trees.
- The shrub layer is dominated by Melaleuca huegelii (chenille honeymyrtle), and/or M. systena (coastal honeymyrtle), and/or Banksia sessilis (parrot bush) — commonly over Acacia lasiocarpa (pajang), Grevillea preissii (spider net grevillea) and Spyridium globulosum (basket bush).
- The ground layer is typically rich with numerous herbs (including grasses) and smaller shrubs and may develop a mossy ground cover.
- The structure and diversity of Honeymyrtle shrubland may be altered by recent disturbances (e.g., fire may damage or remove above-ground cover and stems) and cause a shift to a regenerative state. Under these circumstances the loss is likely to be a temporary phenomenon if natural regeneration is not disrupted. Recovering/ regenerating areas are still included in the nationally protected ecological community
- "*…less than 200 ha of Honeymyrtle shrubland remains, all areas of this ecological community are critical to its survival, regardless of their condition. Because of this, minimum condition thresholds are not proposed as a cut-off for protection of Honeymyrtle shrubland under national environment law….*"
- The minimum patch size is 0.01 ha (100 m2).

Plate 4.37: *Melaleuca huegelii* **– *Melaleuca systena* shrublands on limestone ridges' State TEC.**

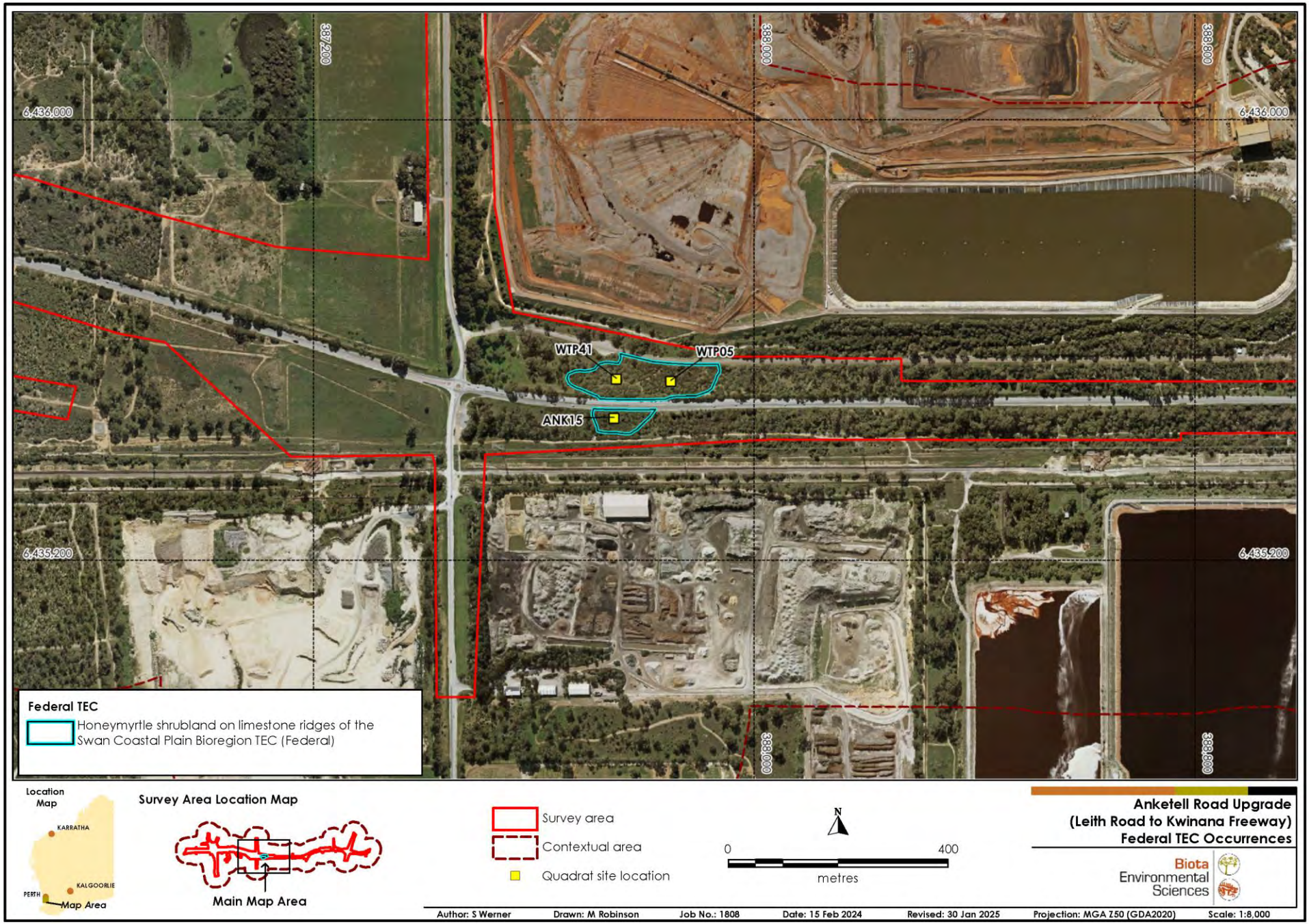

Figure 4.8: Commonwealth TEC **– 'Honeymyrtle shrubland on limestone ridges of the Swan Coastal Plain Bioregion' occurrence within the survey area.**

4.6.2 State-Listed Threatened Ecological Communities

The single FCT identified within the survey area which has a relationship to a State-listed TEC is provided in Table 4.11. This State-listed TEC is also synonymous with the now listed Federal TEC 'Honeymyrtle shrubland on limestone ridges of the Swan Coastal Plain Bioregion' (see Section 4.6.1.3).

Table 4.11: FCTs that occur in the survey area and have relationships to State-listed TECs.

TEC Community Identifier	Community Name	FCT	State Listing	Survey Area (ha)	Contextual Area (ha)
Limestone ridges (SCP 26a)	*Melaleuca huegelii – Melaleuca systena* shrublands on limestone ridges (Gibson et. al. 1994 type 26a)	FCT 26a	Endangered	1.96	-

4.6.2.1 *Melaleuca huegelii – Melaleuca systena* shrublands on limestone ridges (Gibson et al. 1994 type 26a)

This Endangered TEC is largely restricted to limestone ridges within Yanchep and Neerabup National Parks. The community typically occurs on skeletal soil on ridge slopes and tops of ridges, and is dominated by *Melaleuca huegelii*, *M. systena* and *M.* aff. *systena* often over scattered limestone heath species such as *Banksia sessilis* and *Grevillea preissii* (Keighery et al. 2003).

Approximately 199 ha of this TEC is identified in the DBCA TEC/PEC dataset at a regional scale, with the occurrence within the survey area previously identified in both the TEC/PEC dataset and in the Interim Recovery Plan (English and Luu 2005). The occurrence situated within the survey area is identified as 'ANKETELL01' in a degraded condition (English and Luu 2005). According to the *DBCA 2004-2009 Interim Recovery Plan No. 193* (English and Luu 2005), occurrence 'ANKETELL01' (75):

> "*occurs on land under the care, control and management of Alcoa World Alumina Australia. The area appears to have been heavily grazed historically and the land managers intend to rehabilitate the area by using methods that include replanting and weed control…*"

The survey area supports a single occurrence of this Endangered TEC (Figure 4.10) situated both north and south of Anketell Road, east of the Abercrombie Road intersection (existing within the mapped vegetation unit B5). The two small areas were identified to occur during Anketell Road Planning Study Biological Survey (Biota 2022) and were specifically targeted with additional quadrats WTP05, WTP41, that built on the sampling information from the previous survey (quadrat ANK15).

The total identified area is small (1.96 ha within the survey area), isolated, and is currently in a relatively Degraded condition and depauperate in understory species (see Plate 4.38 to Plate 4.41). Of the combined species recorded from the three sites, 33 were introduced with only 13 native taxa recorded. The species from the three quadrats sampled within the TEC occurrence are presented in Table 4.12, highlighting those species that are typical of the Gibson et al (1994) community type 26a.

Table 4.12: Species that typically occur in the community, and common taxa found in FCT 26a plots for the three sites sampled; highlighted green (Gibson et al. (1994), (English and Luu 2005)).

NAME	ANK15	WTP05	WTP41
Acacia rostellifera	X		
**Arctotheca calendula*	X	X	
**Asparagus asparagoides*	X	X	
Asteraceae sp.	X		
**Avena barbata*	X		
Banksia sessilis	X	X	X
**Brassica tournefortii*	X		
**Bromus diandrus*	X		X
Caladenia latifolia		X	
Caladenia reptans subsp. *reptans*		X	
**Cenchrus setaceus*	X		
**Cerastium glomeratum*	X	X	

NAME	ANK15	WTP05	WTP41
Clematis linearifolia	X		
**Crassula glomerata*	X	X	X
Dianella revoluta var. *revoluta*	X		X
**Ehrharta calycina/longiflora*	X	X	X
**Erodium botrys*			X
**Euphorbia peplus/terracina*	X	X	X
**Fumaria capreolata*	X	X	X
**Galium murale*	X	X	X
**Geranium molle*	X		
**Gomphocarpus fruticosus*	X		X
Grevillea vestita subsp. *vestita*	X		
Hardenbergia comptoniana	X		
Hibbertia hypericoides subsp. *hypericoides*	X		
**Hypochaeris glabra*	X	X	X
**Lagurus ovatus*	X		
Lepidosperma calcicola	X		
**Lolium perenne/rigidum*	X		X
**Lysimachia arvensis*	X	X	X
Melaleuca huegelii subsp. *huegelii*	X		X
Melaleuca systena			X
**Orobanche minor*	X		
**Oxalis corniculata*	X	X	X
**Oxalis pes-caprae*	X		
**Petrorhagia dubia*	X	X	X
**Sagina apetala*	X		
**Sonchus hydrophilus/oleraceus*	X	X	X
**Stellaria pallida*		X	
Thysanotus manglesianus	X		
**Trifolium campestre* var. *campestre*	X	X	X
**Urospermum picroides*	X	X	X
**Zantedeschia aethiopica*	X		

While key *Melaleuca* and *Banksia* species are present in the current surveys' sites, the current PATN analysis of the site data against the 11 sites known to represent this TEC sampled on the SCP by Gibson et al (1994) shows very little similarity in terms of vegetation composition (see Figure 4.9). From the floristic analyses ANK15 was assigned to FCT24 (aff. 29a/30b), and both WTP05 and WTP41 were assigned to FCT24 (aff. 29a) (see Table 4.6), reflecting the FCTs that were mapped for the surrounding vegetation.

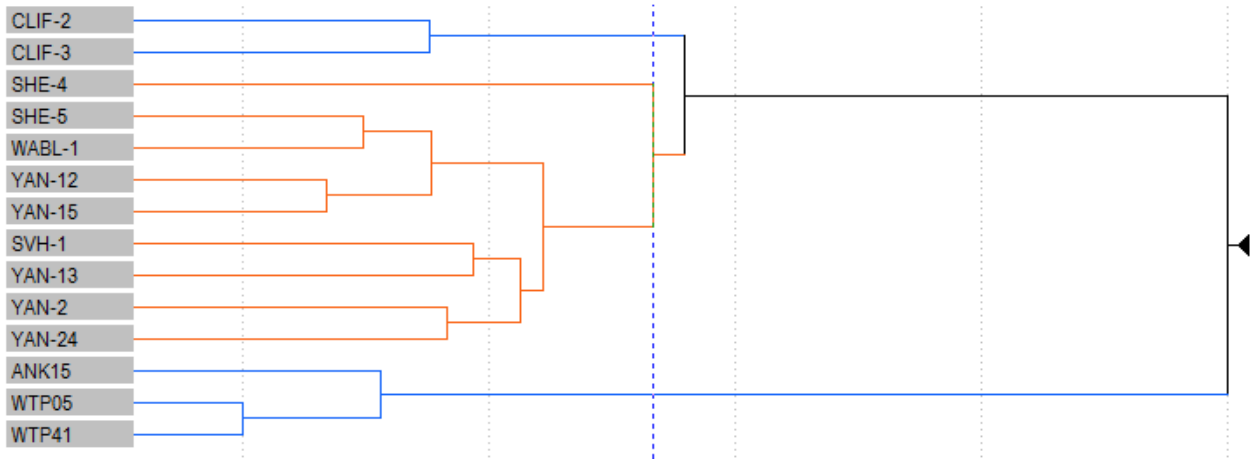

Figure 4.9: Dendrogram from floristic clustering analysis of sites from the current survey against those sampled by Gibson et al 1994 that represent the State TEC.

The reasons for these patches to be considered representative of the State TEC (irrespective of the limited FCT analysis) are outlined below (Table 4.13) and are taken from both the *DBCA 2004-2009 Interim Recovery Plan No. 193* (English and Luu 2005) and the *Approved Conservation Advice for Honeymyrtle shrubland on limestone ridges of the Swan Coastal Plain Bioregion* (DCCEEW 2023).

Table 4.13: Justification for recognition of the State-**listed TEC '*Melaleuca huegelii* – *Melaleuca systena* shrublands on limestone ridges (Gibson et al. 1994 type 26a)'.**

Extracts from (English and Luu 2005) and (DCCEEW 2023)	Justification (points outlined below considered collectively rather than individually)
It has been noted that Community type 24 would grade into community 26a/b where the heath element is richer (N. Gibson; personal communication).	The patch within the current study is surrounded by definitive patches of vegetation aligned with FCT 24 (see Figure 4.4)
Recovering/ regenerating areas are still included in the nationally protected ecological community. Under these circumstances the loss is likely to be a temporary phenomenon if natural regeneration is not disrupted	The patch both south and north of Anketell Rd has undergone active rehabilitation over several years by landowners to various degrees of success.
Variation within a Patch (section 2.2.1.2) Patches of Honeymyrtle shrubland may contain areas that vary in structural or biological characteristics. For example, one part of a patch may have been more recently burnt and therefore be at a different stage of regeneration. Variation, in cover, condition or composition of vegetation across a patch is not evidence of multiple patches, as long as the patch as a whole meets the Key diagnostic characteristics using appropriate survey methodology	The patch as a whole (which has been observed to be under various stages of regeneration) meets the key diagnostic criteria (DCCEEW 2023)
Buffer Zone (Section 2.2.1.3) The edges of a patch are considered particularly susceptible to disturbance and the presence of a buffer zone acts as a barrier to direct disturbance. Native vegetation that surrounds or adjoins a patch of this ecological community is an ideal buffer — such as Floristic Community Type (FCT) 26b 'Woodlands and mallees on limestone' and FCT 24 'Northern Spearwood shrublands and woodlands' — both of which may co-occur with, intergrade with, or occur near to Honeymyrtle shrubland	The edges of the patch have been clearly susceptible to disturbance, particularly the incursion of both annual and perennial weeds that have clearly outcompeted the typically observed 'herb rich ground cover'. Currently areas surrounding the patch consists of FCT 24, and presents as an intergrade with the edges of the mapped patch.
Revegetation and Regrowth (Section 2.2.1.4) Restored (including reconstructed) areas and regrowth, are part of this nationally defined ecological community, as long as they meet the Key diagnostic characteristics.	The patch is known to be actively restored, and as such, is considered part of the nationally defined ecological community.
Mapping and Vegetation classifications (Section 2.2.3) Mapping units should be considered indicative of, rather than definitive as to, whether the nationally listed ecological community is or is not present in an area. There may be areas (within the geographic distribution of Honeymyrtle shrubland) that whilst identified as a different mapping or vegetation unit, meet the Key diagnostic characteristics of Honeymyrtle shrubland. This includes intergrading areas. Mapped units can be inaccurate or ambiguous — and their definition can change over time. For these reasons, thorough and appropriate on-ground surveys (considering all relevant parts of this Approved Conservation Advice) are the way to determine whether this nationally defined ecological community is present at a particular site	Areas of the mapped patch are integrated to a certain level with the surrounding identified FCT 24 vegetation. Thorough and appropriate on-ground surveys were undertaken in order to determine that the nationally defined ecological community was present at the site.

Extracts from (English and Luu 2005) and (DCCEEW 2023)	Justification (points outlined below considered collectively rather than individually)
2.3 Condition and minimum patch size Land use and disturbance history will influence the 'state' in which a patch of Honeymyrtle shrubland is expressed, as well as its condition. Because less than 200 ha of Honeymyrtle shrubland remains, all areas of this ecological community are critical to its survival, regardless of their condition. Because of this, minimum condition thresholds are not proposed as a cut-off for protection of Honeymyrtle shrubland under national environment law (the EPBC Act, at time of this advice). All patches of Honeymyrtle shrubland are protected as a Matter of National Environmental Significance (MNES) under national environment law, regardless of their condition, as long as they: • _meet the Key diagnostic characteristics AND • _are at least 0.01 ha in size (100 m2 e.g., 10 x 10 m). Recent disturbance by fire is likely to result in a patch of Honeymyrtle shrubland being in a temporary regenerative state. This may include severely reduced vegetation cover, simplified vegetation structure, varying abundance of seedlings, and/or resprouting shrubs that have been partially or completely top-killed. Surveys should be undertaken when regeneration is sufficiently advanced to identify species with confidence.	Land use and disturbance history has clearly influenced the 'state' of this patch according to the suitably qualified botanists that undertook the surveys. Regardless of the condition assessed at the time of the surveys, the patch identified remains critical to its overall survival. The patch identified meets the key diagnostic characteristics and is also larger than 0.01 ha in size. Recent disturbance by fire – a large portion of the identified patch was burnt to some extent in 2002/2003, which indicates that it may be in a regenerative state. The result at the time of the survey is a reduced vegetation cover, simplified vegetation structure, varying abundance of resprouting lower-strata shrubs, and the loss of the typical herbaceous ground layer. Additionally, the post-fire state of the patch would typically result in the proliferation of opportunistic introduced grass and forb species which was observed during the multiple quadrat sampling and traverses throughout the patch.
The total list of species that may be found in Honeymyrtle shrubland is larger than those listed here. Species presence and relative abundance varies naturally across the range of this ecological community — based on factors such as historical biogeography, soil properties (e.g., moisture, chemical composition, texture, depth and drainage), topography, hydrology and climate. They also change over time — for example, in response to disturbance (by fire or grazing), or to the climate and weather (e.g., seasons, floods, drought and extreme heat). The species recorded at a particular site can also be affected by sampling scale, season, effort and expertise. In general, the number of species recorded is likely to increase with the size of the site.	In line with the extract for the Approved conservation advice ((DCCEEW 2023)), the limited key species recorded from within the three quadrats sampled within the patches is expected given the size small size of the patch, its response to disturbance. Additionally, it is well known that species presence and relative abundance varies naturally across the range of this ecological community. given the identified patch is located approximately 67 km to occurrences known to the south, and 61 km occurrence north to the north

Plate 4.38: *Melaleuca huegelii* – *Melaleuca systena* shrublands on limestone **ridges' State TEC.**

Plate 4.39: *Melaleuca huegelii* – *Melaleuca systena* shrublands on limestone **ridges' State TEC.**

Plate 4.40: *Melaleuca huegelii* – *Melaleuca systena* shrublands on limestone **ridges' State TEC.**

Plate 4.41: *Melaleuca huegelii* – *Melaleuca systena* shrublands on limestone **ridges' State TEC.**

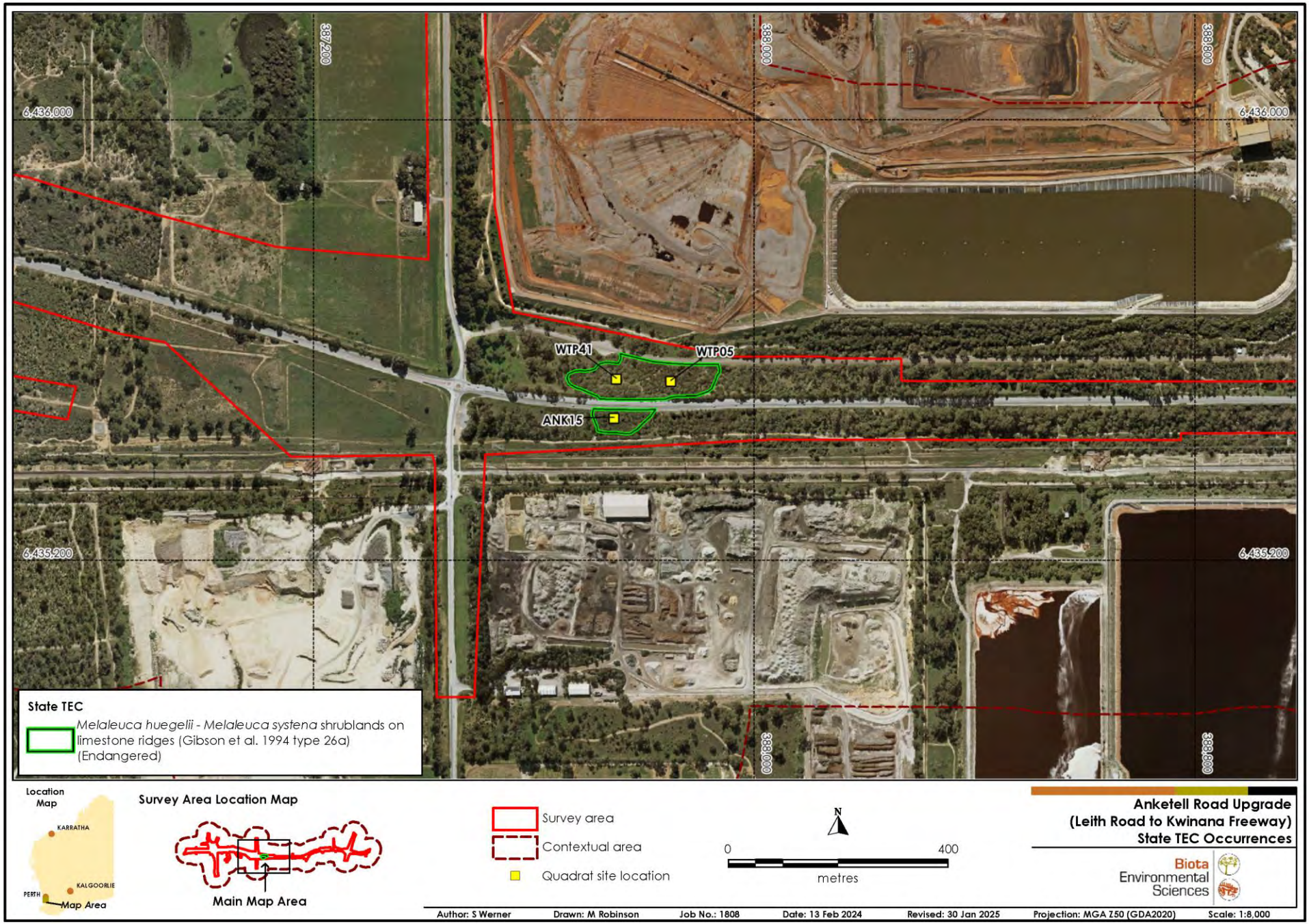

Figure 4.10: State TEC occurrences within the survey area.

4.6.3 Priority Ecological Communities

A breakdown of the individual FCTs identified within the survey area and contextual area which have relationships to State-listed PECs are provided in Table 4.14. The six FCTs identified (see also Section 4.5.3, Figure 4.4) are listed as belonging to four PECs at State level; none are listed as TECs at the State level.

Table 4.14: FCTs that occur in the survey area and have relationships to State-listed PECs.

PEC Name	Community Name	FCT	State Listing	Survey Area (ha)	Contextual Area (ha)
Low lying *Banksia attenuata* woodlands or shrublands (FCT 21c)	Low-lying *Banksia attenuata* woodlands or shrublands	FCT 21c	Priority 3	-	5.31
Banksia woodlands of the Swan Coastal Plain	Central *Banksia attenuata* - *Eucalyptus marginata* woodlands	FCT 21a	Priority 3	14.56	134.04
	Low-lying *Banksia attenuata* woodlands or shrublands	FCT 21c			
	Central *Banksia attenuata* - *Banksia menziesii* woodlands	FCT 23a			
	Northern Spearwood shrublands and woodlands	FCT 24			
	Spearwood *B. attenuata* or *B. attenuata-Eucalyptus* woodlands	FCT 28			
Northern Spearwood shrublands and woodlands (FCT 24)	Northern Spearwood shrublands and woodlands	FCT 24	Priority 3	57.12	89.21
Tuart (*Eucalyptus gomphocephala*) woodlands and forests of the Swan Coastal Plain	Quindalup *E. gomphocephala* and/or *A. flexuosa* woodlands	FCT 30b	Priority 3	40.99	59.58

Beyond the contextual area, a further 176.22 ha of the 'Banksia woodlands of the Swan Coastal Plain' PEC, 0.04 ha of the 'Low-lying *Banksia attenuata* woodlands or shrublands' PEC, and 32.39 ha of 'Northern Spearwood shrublands and woodlands' was inferred to occur within the study area as a continuation of patches that were identified within the survey area and/or contextual area.

4.6.3.1 Low-lying *Banksia attenuata* woodlands or shrublands (FCT 21c) Priority 3

The Priority 3 'Low-lying *Banksia attenuata* woodlands or shrublands' PEC (FCT 21c sub-community) was identified within the contextual area (Figure 4.11, Plate 4.42 to Plate 4.45), with the floristic analyses from both the Westport Freight Road Additional Biological Survey (Biota 2023a) and the Anketell Road Planning Study Biological Survey (Biota 2022) demonstrating support for its presence (Table 4.6). This State-listed PEC is a component of the Commonwealth Banksia Woodlands TEC described in Section 4.6.1.2, and the patches within contextual area that were representative of the PEC comprised 5.31 ha.

This PEC is associated with parts of vegetation unit B1 and was sampled with quadrats WTP29 and WTP30 from the Westport Freight Road Additional Biological Survey (Biota 2023a), and quadrats ANK54 and ANK55 from the Anketell Road Planning Study Biological Survey (Biota 2022)(see Section 4.1).

4.6.3.2 Banksia woodlands of the Swan Coastal Plain Priority 3

Five FCTs identified within the study area (FCT 21a, FCT 21c, FCT 23a, FCT 24, and FCT 28; listed in Table 4.14) identified from the Westport Freight Road Additional Biological Survey (Biota 2023a), Anketell Road Planning Study Biological Survey (Biota 2022), and the current Westport Last Mile Area Biological Survey (Biota 2024a) and Rockingham Road Biological Survey (Biota 2024c), are all considered components of the Commonwealth Banksia Woodlands TEC, as well as the State-listed Priority 3 'Banksia woodlands of the Swan Coastal Plain' PEC. This PEC comprised 14.56 ha within the survey area, and 134.04 ha within the contextual area (Figure 4.11, Plate 4.46 to Plate 4.49).

This PEC is associated with vegetation units B1, B2, B4, and EB1(see Section 4.1) and was sampled with numerous quadrats from the previous surveys associated with this project: ANK08, ANK22, ANK23, ANK25, ANK26, ANK27, ANK28, ANK33, ANK36, ANK38, ANK39, ANK40, ANK41, ANK42, ANK43, ANK44, ANK45, ANK46, ANK47, ANK53, ANK56, ANK57, ANK58, ANK61, ANK63, ANK65, ANK67, ANK69, ANK70, ANK73, ANK74, ANK76, ANK90, ANK91, ANK92, ANK100, WTP13, WTP14, WTP17, WTP18, WTP19, WTP20, WTP21, WTP22, WTP23, WTP24, WTP27 and WTP28.

4.6.3.3 Northern Spearwood shrublands and woodlands (FCT 24) Priority 3

The Priority 3 'Northern Spearwood shrublands and woodlands' PEC (FCT 24 sub-community) was identified from the Westport Freight Road Additional Biological Survey (Biota 2023a), Anketell Road Planning Study Biological Survey (Biota 2022), and the Rockingham Road Biological Survey (Biota 2024c) (Figure 4.11, Plate 4.50 to Plate 4.53), with the floristic analysis demonstrating support for its presence (Table 4.6). This State-listed PEC is also a component of the Commonwealth Banksia Woodlands TEC described in Section 4.6.1.2. The patches within the survey area and contextual area that were representative of the PEC comprised 57.12 ha and 89.21 ha respectively.

This PEC is associated with parts of vegetation units A1, A2, B2, B3, B4, B5, E1, and EB1 and was sampled with numerous quadrats from both the current surveys (ROC01, ROC02, ROC03, ROC04, ROC25, ROC05, ROC07, ROC08, ROC33, ROC22, ROC24, ROC23, ROC10, ROC21, ROC31, ROC15, ROC12, ROC16, ROC18, ROC30, ROC19) and the previous surveys: ANK02, ANK05, ANK06, ANK07, ANK10, ANK11, ANK12, ANK14, ANK16, ANK17, ANK18, ANK19, ANK20, ANK21, ANK34, ANK75a, ANK75b, ANK93, ANK94 and WTP01, WTP02, WTP06, WTP08, WTP09, WTP10, WTP11, WTP12, WTP16, WTP38, WTP39, WTP40 and WTP43 (see Section 4.1).

4.6.3.4 Tuart (*Eucalyptus gomphocephala*) woodlands and forests of the SCP Priority 3

The Priority 3 'Tuart (*Eucalyptus gomphocephala*) woodlands and forests of the Swan Coastal Plain' PEC (FCT 30b sub-community) was identified within the survey area (Figure 4.11, Plate 4.54 to Plate 4.57), with the floristic analysis demonstrating support for its presence (Table 4.5) from the Westport Freight Road Additional Biological Survey (Biota 2023a) and Anketell Road Planning Study Biological Survey (Biota 2022).

This PEC is mostly confined to Quindalup Dunes and Spearwood Dunes but can also occur on the Bassendean dunes and Pinjarra Plain. Tuart is the key upper canopy species although it may co-occur with *Agonis flexuosa*, *Banksia grandis*, *B. attenuata*, *Eucalyptus marginata*; and less commonly, *Corymbia calophylla*, *B. menziesii* and *B. prionotes*. An understorey of native plants is typically present, which may include introduced grasses and herbs.

This State-listed PEC is a component of the Commonwealth Tuart Woodlands and Forests TEC described in Section 4.6.1.1, and the patches within the survey area and contextual area that were representative of the PEC comprised 40.99 ha and 59.58 ha respectively, located north of Anketell Road.

This PEC is associated with a part of vegetation unit E1 and was sampled with quadrat ANK99 from the Anketell Road Planning Study Biological Survey (Biota 2022).

Plate 4.42: **Priority 3 'Low**-lying *Banksia attenuata* woodlands or shrublands (FCT **21c)' PEC.**

Plate 4.43: **Priority 3 'Low**-lying *Banksia attenuata* woodlands or shrublands (FCT **21c)' PEC.**

Plate 4.44: **Priority 3 'Low**-lying *Banksia attenuata* woodlands or shrublands (FCT **21c)' PEC.**

Plate 4.45: **Priority 3 'Low**-lying *Banksia attenuata* woodlands or shrublands (FCT **21c)' PEC.**

Plate 4.46: **Priority 3 'Banksia woodlands of the Swan Coastal Plain' PEC.**

Plate 4.47: **Priority 3 'Banksia woodlands of the Swan Coastal Plain' PEC**

Plate 4.48: **Priority 3 'Banksia woodlands of the Swan Coastal Plain' PEC.**

Plate 4.49: **Priority 3 'Banksia woodlands of the Swan Coastal Plain' PEC.**

Plate 4.50: **Priority 3 'Northern Spearwood shrublands and woodlands (FCT 24)'** PEC.

Plate 4.51: **Priority 3 'Northern Spearwood shrublands and woodlands (FCT 24)'** PEC.

Plate 4.52: **Priority 3 'Northern Spearwood shrublands and woodlands (FCT 24)'** PEC.

Plate 4.53: **Priority 3 'Northern Spearwood shrublands and woodlands (FCT 24)'** PEC.

Plate 4.54: **Priority 3 'Tuart (***Eucalyptus* gomphocephala) woodlands and forests of the Swan Coastal Plain) PEC.

Plate 4.55: **Priority 3 'Tuart (***Eucalyptus* gomphocephala) woodlands and forests of the Swan Coastal Plain) PEC.

Plate 4.56: **Priority 3 'Tuart (***Eucalyptus* gomphocephala) woodlands and forests of the Swan Coastal Plain) PEC.

Plate 4.57: **Priority 3 'Tuart (***Eucalyptus* gomphocephala) woodlands and forests of the Swan Coastal Plain) PEC.

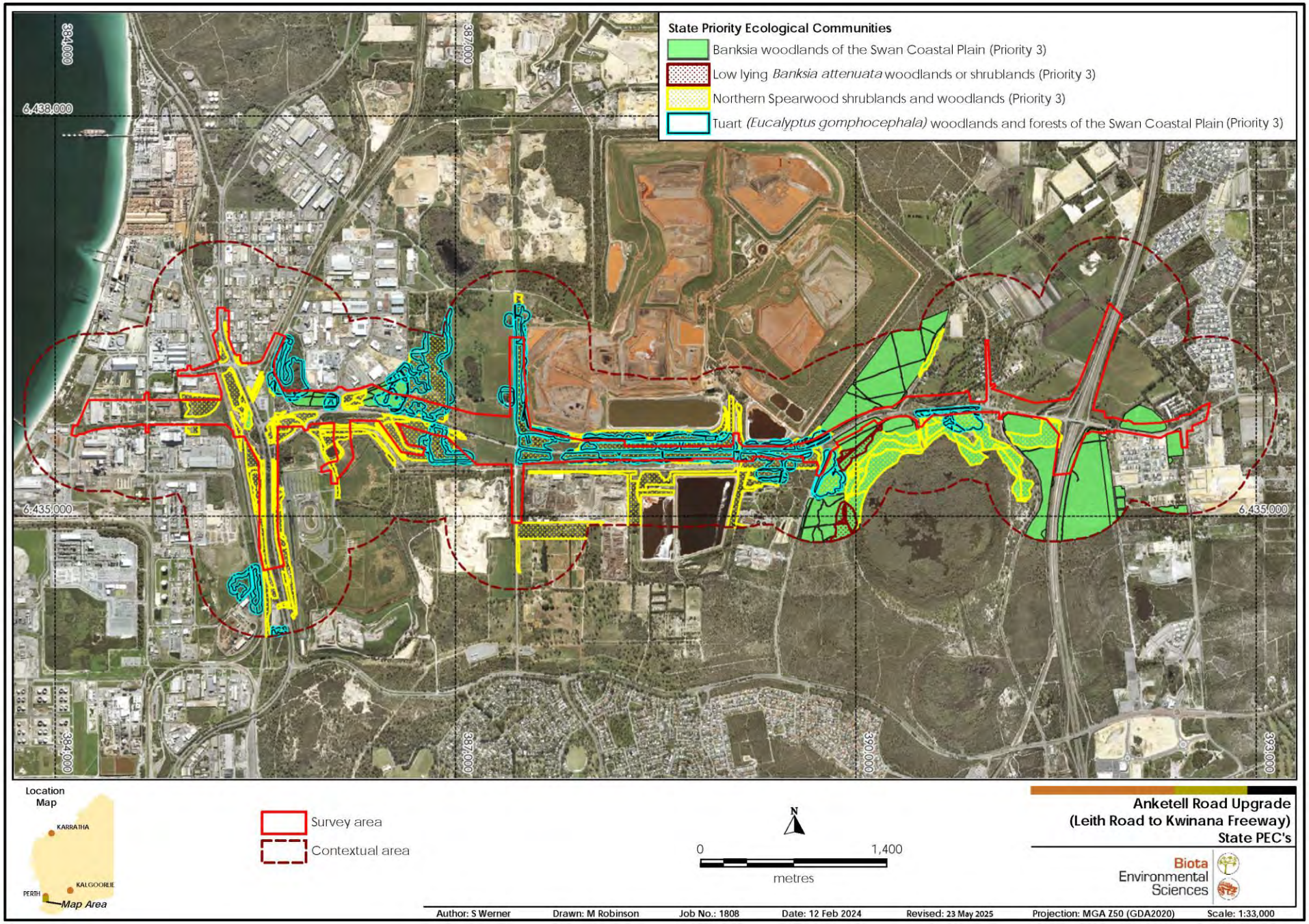

Figure 4.11: State PEC occurrences within the survey area and contextual area.

5.0 Flora Results

5.1 Overview

A total of 243 native vascular flora taxa from 130 genera and 53 families were recorded from the survey area (see Appendix 15). In addition, 131 introduced flora species (identified to species level) were recorded, as discussed in Section 5.5.

The dominant native plant families and genera recorded from the survey area are typically well represented in species lists from the Swan Coastal Plain (see Table 5.1).

Table 5.1: Native families and genera with the highest species richness in the survey area.

Family	No. of Native Species	Genus	No. of Native Species
Fabaceae	29	*Acacia*	14
Myrtaceae	27	*Drosera*	9
Proteaceae	19	*Eucalyptus*	8
Asteraceae	15	*Banksia*	7
Orchidaceae	13	*Caladenia*	7
Asparagaceae	12	*Calothamnus*	6
Cyperaceae	9	*Hibbertia*	6
Droseraceae	9	*Melaleuca*	6
Haemodoraceae	9	*Conostylis*	5

5.2 Identification Notes and Unresolved Taxa

Most specimens (approximately 95%) were able to be determined with confidence to the lowest level possible within the currently available taxonomic framework. Overall, 99% of specimens were able to be identified to genus level, however some lacked sufficient material for further classification. Potentially problematic groups are briefly discussed below:

- *Lepidosperma*
  Taxa identified within the *Lepidosperma* genus should be treated as tentative as the genus is currently undergoing taxonomic revision by Dr Russell Barrett. Numerous new entities will be formally described, but their distinguishing characters are not yet available.
- *Thysanotus*
  Unless flowering, the climbing species of *Thysanotus* (*T. manglesianus* and *T. patersonii*) are difficult to distinguish. When flowering *T. manglesianus* is distinguishable from *T. patersonii* by having anthers of unequal length (Barrett and Tay 2018). However, Mike Hislop from the WA Herbarium has also advised that "substantial changes are pending in the taxonomy of the twining *Thysanotus* spp., with recognition of many new taxa" (pers. comm. 2020). Within the current framework, the flowering specimens of *Thysanotus* were generally determined to be *T. manglesianus*.
- Orchidaceae
  Specimens within the Orchidaceae family were mostly identified to species level, with the remainder to genus; this was primarily due to the specimens not flowering and lacking sufficient material for identification.
- *Xanthorrhoea*
  Two species of *Xanthorrhoea* were identified within the survey area, *X. preissii* and *X. brunonis* subsp. *brunonis*; these are distinguishable from each other by *X. brunonis* having a trunkless habit and short flowering spike (Barrett and Tay 2018). The only circumstance where identification becomes difficult is when *X. preissii* is young (short with no trunk) and no flowering spike is present. With the high level of experience in flora surveys within the field team, there is strong confidence in the identifications of the *Xanthorrhoea* species within the survey area.

5.3 Sampling Adequacy

The species accumulation curve generated from the combined 265 sampling sites (including resamples) that lie within the consolidated survey area, from the following previous and current surveys (S(obs) data)):

- Anketell Road Planning Study Biological Survey (Biota 2022).
- Westport Freight Road Additional Biological Survey (Biota 2023a).
- Rockingham Road Biological Survey (Biota 2024c).
- Westport Last Mile Area Biological Survey (Biota 2024a).

began to approach a plateau, indicating that the sampling of the survey area was adequately thorough (Figure 5.1).

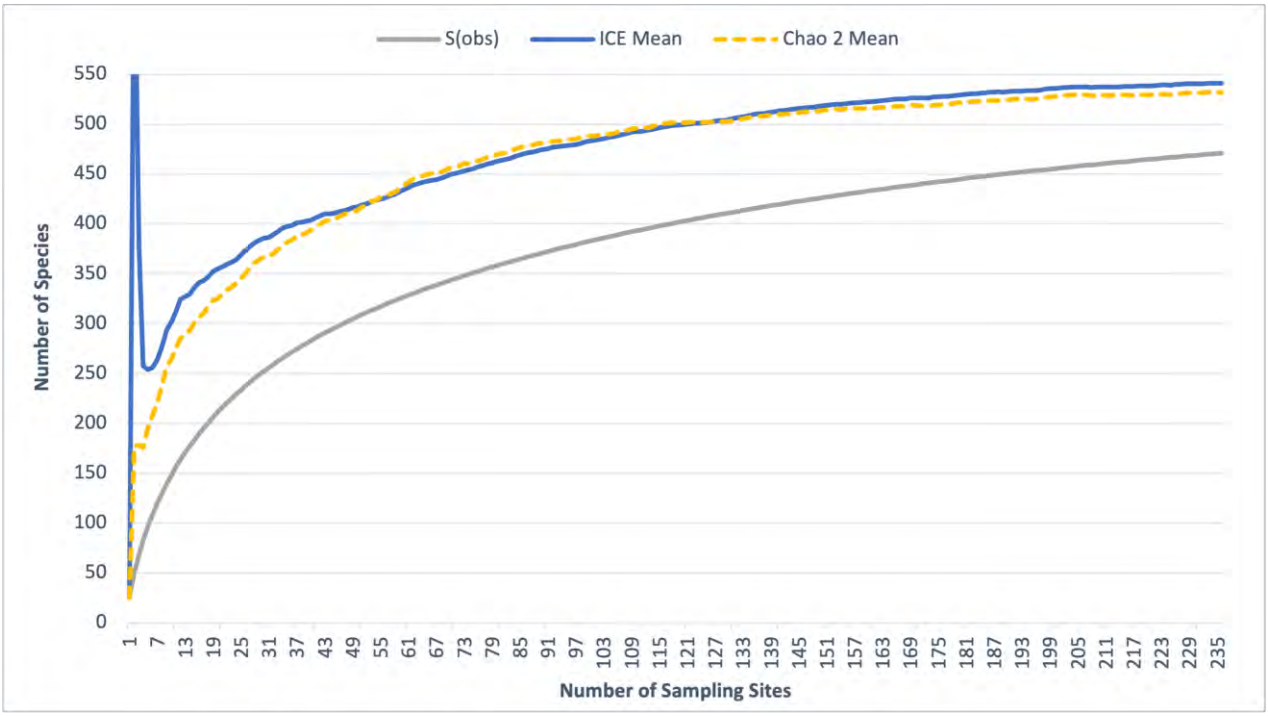

Figure 5.1: Species accumulation curve based on actual observations at the sampling sites (S(obs)), together with two estimates of species richness (ICE and Chao 2).

The two estimates of species richness (ICE and Chao2) suggested that the actual number of species present in the sampled area was approximately 538 (averaged), which would mean that approximately 86-89% of the total flora was recorded during the site sampling for the combined surveys (Table 5.2). A further 61 species were recorded opportunistically, which would indicate that 100% of the estimated total flora was recorded from the entire consolidated survey effort.

Table 5.2: Recorded species richness compared with predicted species richness using incidence-based estimators (without opportunistic records).

Parameter		Number of Species	Percentage of Estimated Richness Recorded
Number of taxonomic entities recorded		478	-
Estimated number of species	Chao 2	534	86%
	ICE Mean	542	89%

5.4 Significant Flora

No Threatened species listed under the EPBC Act or BC Act were recorded within the survey area.

Three native Priority species were identified within the survey area (*Poranthera moorokatta*, *Hibbertia leptotheca*, and *Eucalyptus foecunda* subsp. *foecunda*), with a further three Priority species recorded only within the contextual area. Detailed location information for each species is presented in Table 5.3 and on Figure 5.2, with a summary of each species provided below.

Poranthera moorokatta Priority 2

Poranthera moorokatta (Plate 5.1) is an erect, monoecious annual that is typically found in *Banksia menziesii – B. attenuata* woodlands on white silica sands, co-occurring with the more widespread *P. microphylla*. *Poranthera moorokatta* is historically known from only two locations; the first being Kings Park in Perth, and the second being in Ellenbrook (Barrett 2012).

A single individual was recorded from the survey area from quadrat ANK34 near the intersection of Anketell Road and the Kwinana Freeway within the EB1 (Jarrah-Banksia) vegetation unit (Table 5.3, Figure 5.2). Four additional records of this species were made nearby, outside the current survey and contextual area, during in the Westport Freight Road Additional Biological Survey (Biota 2023a).

Eryngium pinnatifidum subsp. Palustre (G.J. Keighery 13459) Priority 3

Eryngium pinnatifidum subsp. Palustre (Plate 5.2) is an erect perennial herb with white/blue flowers, growing to 0.5 m high (WA Herbarium 2024). This species is known from a total of 11 locations extending from north of Perth to south of Mandurah, associated with areas of sand over clay and winter wet flats (WA Herbarium 2024).

A single individual was recorded within quadrat ANK26, near the intersection of Anketell Road and Clementi Road. This record was in the contextual area and located within the B2 vegetation unit (see Table 5.3, Figure 5.2).

Hibbertia leptotheca Priority 3

Hibbertia leptotheca (Plate 5.3) is a small spreading shrub to 0.3 m high, distinguished from all other species in the '*Hibbertia spicata* species group' with glabrous outer sepals and long, narrow anthers (Thiele 2019). This species is known from a total of 39 coastal and near-coastal locations extending from west of Cataby in the north to Lake Preston in the south (WA Herbarium 2024), and grows in sand over limestone in coastal heaths and thickets, usually dominated by species of *Melaleuca* and *Acacia* (Thiele 2019).

This species was recorded from three quadrats (WLM09, WLM14 and WLM38) within the survey area, from vegetation units M2 (*Melaleuca lanceolata* low woodland) and M4 (Mixed *Melaleuca* over *Xanthorrhoea*) located on a limestone ridge between Rockingham Road and the freight railway (line 16/18) (see Table 5.3, Figure 5.2). The projective foliage cover of this species within the respective quadrats was 0.1% at WLM14, 9% at WLM09 and 1% at WLM38. A total of 59 individuals were recorded from 17 separate locations within the survey area. A further 23 individuals were recorded from 16 locations within the contextual area.

Pimelea calcicola Priority 3

Pimelea calcicola (Plate 5.4), also known as Coastal Banjine, is an erect to spreading shrub to 1 m high with pink flowers in spring (WA Herbarium 2024). There are a total of 31 vouchered records of this species at the WA Herbarium, between Guilderton and Yalgorup National Park (WA Herbarium 2024). Typical habitat for this species is coastal limestone ridges and sand over limestone (WA Herbarium 2024).

Thirteen opportunistic records of this species, totalling 57 individuals, were made in the contextual area from vegetation units M4 (Mixed Melaleuca over *Xanthorrhoea*), (M6 (*Melaleuca systena* and *Acacia saligna* over *Templetonia retusa, Spyridium globulosum* and *Acacia lasiocarpa)* and

E7 (*Eucalyptus foecunda* over *Spyridium globulosum* and *Acacia rostellifera* with *Hibbertia)*, including from two from quadrats (ROC18 and ROC19) (see Table 5.3, Figure 5.2).

Pimelea calcicola was also sought out in areas outside of the study area in order to provide contextual information regarding the possible local restriction of the species (see Appendix 16). A total of 24 individuals from eight locations were recorded at a regional scale, within Bush Forever Site 395 (Paganoni Swamp and Adjacent Bushland, Singleton), approximately 25 km south of the survey area.

Plate 5.1: *Poranthera moorokatta.*

Plate 5.2: *Eryngium pinnatifidum* subsp. Palustre (G.J. Keighery 13459).

Plate 5.3: *Hibbertia leptotheca*

Plate 5.4: *Pimelea calicola.*

Eucalyptus foecunda subsp. *foecunda* Priority 4

Eucalyptus foecunda subsp. *foecunda* (Plate 5.5, Plate 5.6, and Plate 5.7), or Fremantle Mallee, is a small mallee Eucalypt endemic to WA, and is associated with coastal sand overlying limestone and has been recoded between Jurien Bay and Lake Preston from 75 vouchered records (WA Herbarium 2024). This species grows to 8 m in height and has rough bark over lower parts of the trunk, barrel-shaped fruit and glossy green adult leaves (French and Nicolle 2019). It has been recorded from several reserves including Leda Nature Reserve, Bold Park, Neerabup National Park, Yalgorup National Park and Yanchep National Park (WA Herbarium 2024).

This species was a dominant component of the overstorey stratum for vegetation unit E7 (*Eucalyptus foecunda* over *Spyridium globulosum* and *Acacia rostellifera* with *Hibbertia*), which was mapped from a small patch of remnant vegetation in the survey area situated between Rockingham Road and the rail line. A total of 40 individuals were recorded from 10 separate locations within the survey area. A further 111 individuals were recorded from 29 locations within the contextual area. (see Table 5.3, Figure 5.2), and was also recorded from two quadrats within the contextual area, ROC08 and ROC22, where it was estimated to have 31 and 28% projected foliage cover, respectively.

Caladenia speciosa Priority 4

Caladenia speciosa (Plate 5.8) is a tuberous perennial orchid within the '*Caladenia longicauda* complex'. This species grows to 60 cm tall with white flowers often with a pink tinge and relatively long fringed teeth to 15 mm (Brundrett 2014). It has been recorded from 84 locations between Dandaragan and Busselton, distributed over a range of approximately 300 km (DBCA 2020).

A single individual was recorded in the contextual area from an opportunistic location in the within the B1 vegetation unit (see Table 5.3, Figure 5.2).

Plate 5.5: *Eucalyptus foecunda* subsp. *foecunda* (juvenile)

Plate 5.6: *Eucalyptus foecunda* subsp. *foecunda* (adult)

Plate 5.7: *Eucalyptus foecunda* subsp. *foecunda* (pressed specimen; showing fruit).

Plate 5.8: *Caladenia speciosa.*

Table 5.3: Priority flora locations within the survey and/or contextual area.

Species	Status	Site	Easting	Northing	Number
Survey Area					
Poranthera moorokatta	Priority 2	ANK34	391501	6435717	1
Hibbertia leptotheca	Priority 3	Opportunistic	385323	6435995	2
Hibbertia leptotheca		Opportunistic	385324	6435957	3
Hibbertia leptotheca		Opportunistic	385327	6435990	2
Hibbertia leptotheca		Opportunistic	385330	6435903	1
Hibbertia leptotheca		WLM09	385332	6435932	9% cover
Hibbertia leptotheca		Opportunistic	385333	6435947	3
Hibbertia leptotheca		Opportunistic	385333	6435955	2
Hibbertia leptotheca		Opportunistic	385334	6435935	32
Hibbertia leptotheca		Opportunistic	385339	6435931	2
Hibbertia leptotheca		WLM14	385340	6435839	0.1% cover
Hibbertia leptotheca		Opportunistic	385340	6435996	6
Hibbertia leptotheca		Opportunistic	385344	6435992	2
Hibbertia leptotheca		Opportunistic	385348	6435830	1
Hibbertia leptotheca		Opportunistic	385354	6435828	3
Hibbertia leptotheca		WLM38	385411	6435805	1% cover
Eucalyptus foecunda subsp. foecunda	Priority 4	Opportunistic	385531	6435191	3
Eucalyptus foecunda subsp. foecunda		Opportunistic	385533	6435050	1
Eucalyptus foecunda subsp. foecunda		Opportunistic	385536	6434993	2
Eucalyptus foecunda subsp. foecunda		Opportunistic	385537	6435093	6
Eucalyptus foecunda subsp. foecunda		Opportunistic	385538	6435093	4
Eucalyptus foecunda subsp. foecunda		Opportunistic	385538	6435187	6
Eucalyptus foecunda subsp. foecunda		Opportunistic	385539	6435072	2
Eucalyptus foecunda subsp. foecunda		Opportunistic	385539	6435078	4
Eucalyptus foecunda subsp. foecunda		Opportunistic	385539	6435111	6
Eucalyptus foecunda subsp. foecunda		Opportunistic	385541	6435063	6
Contextual Area					
Eryngium pinnatifidum subsp. Palustre (G.J. Keighery 13459)	Priority 3	ANK26	390275	6435869	1
Hibbertia leptotheca	Priority 3	Opportunistic	385095	6436975	4
Hibbertia leptotheca		Opportunistic	385108	6436984	3
Hibbertia leptotheca		Opportunistic	385450	6435483	2
Hibbertia leptotheca		Opportunistic	385454	6435471	1
Hibbertia leptotheca		Opportunistic	385465	6435374	2
Hibbertia leptotheca		Opportunistic	385468	6435392	2
Hibbertia leptotheca		Opportunistic	385469	6435484	1
Hibbertia leptotheca		Opportunistic	385494	6435364	1
Hibbertia leptotheca		Opportunistic	385495	6435330	1
Hibbertia leptotheca		Opportunistic	385498	6435368	4
Hibbertia leptotheca		Opportunistic	385503	6435270	2
Pimelea calcicola	Priority 3	Opportunistic	385478	6435378	1
Pimelea calcicola		Opportunistic	385481	6435374	1
Pimelea calcicola		Opportunistic	385481	6435405	1
Pimelea calcicola		Opportunistic	385483	6435389	2
Pimelea calcicola		Opportunistic	385484	6435363	2
Pimelea calcicola		Opportunistic	385496	6435416	1
Pimelea calcicola		Opportunistic	385509	6435218	1
Pimelea calcicola		Opportunistic	385513	6435197	2
Pimelea calcicola		Opportunistic	385523	6435180	5
Pimelea calcicola		ROC18	385645	6434075	0.1% cover
Pimelea calcicola		Opportunistic	385675	6434101	4
Pimelea calcicola		Opportunistic	385713	6434021	35
Pimelea calcicola		ROC19	385721	6434011	0.1% cover

Species	Status	Site	Easting	Northing	Number
Caladenia speciosa	Priority 4	Opportunistic	393113	6435940	1
Eucalyptus foecunda subsp. foecunda	Priority 4	ROC22	385482	6435250	28% cover
Eucalyptus foecunda subsp. foecunda		Opportunistic	385494	6435262	3
Eucalyptus foecunda subsp. foecunda		Opportunistic	385496	6435197	1
Eucalyptus foecunda subsp. foecunda		Opportunistic	385496	6435238	3
Eucalyptus foecunda subsp. foecunda		Opportunistic	385496	6435248	1
Eucalyptus foecunda subsp. foecunda		Opportunistic	385496	6435254	1
Eucalyptus foecunda subsp. foecunda		Opportunistic	385497	6435141	5
Eucalyptus foecunda subsp. foecunda		Opportunistic	385498	6435257	5
Eucalyptus foecunda subsp. foecunda		Opportunistic	385504	6435199	2
Eucalyptus foecunda subsp. foecunda		Opportunistic	385507	6435178	4
Eucalyptus foecunda subsp. foecunda		Opportunistic	385507	6435189	8
Eucalyptus foecunda subsp. foecunda		Opportunistic	385508	6435170	1
Eucalyptus foecunda subsp. foecunda		Opportunistic	385510	6435145	3
Eucalyptus foecunda subsp. foecunda		Opportunistic	385513	6435122	4
Eucalyptus foecunda subsp. foecunda		Opportunistic	385513	6435169	1
Eucalyptus foecunda subsp. foecunda		Opportunistic	385517	6435166	1
Eucalyptus foecunda subsp. foecunda		Opportunistic	385518	6435175	2
Eucalyptus foecunda subsp. foecunda		Opportunistic	385519	6435063	5
Eucalyptus foecunda subsp. foecunda		Opportunistic	385520	6435166	4
Eucalyptus foecunda subsp. foecunda		Opportunistic	385522	6435143	6
Eucalyptus foecunda subsp. foecunda		Opportunistic	385522	6435180	5
Eucalyptus foecunda subsp. foecunda		Opportunistic	385524	6435053	6
Eucalyptus foecunda subsp. foecunda		Opportunistic	385524	6435175	10
Eucalyptus foecunda subsp. foecunda		Opportunistic	385525	6435185	4
Eucalyptus foecunda subsp. foecunda		Opportunistic	385527	6435152	2
Eucalyptus foecunda subsp. foecunda		ROC08	385527	6435187	31% cover
Eucalyptus foecunda subsp. foecunda		Opportunistic	385529	6435003	7
Eucalyptus foecunda subsp. foecunda		Opportunistic	385529	6435195	7
Eucalyptus foecunda subsp. foecunda		Opportunistic	385530	6435131	4
Eucalyptus foecunda subsp. foecunda		Opportunistic	385530	6435143	2
Eucalyptus foecunda subsp. foecunda		Opportunistic	385531	6435181	4

5.4.1 Other Significant Flora that May Occur

Four species of Threatened orchids, *Caladenia huegelii*, *Diuris micrantha*, *Diuris purdiei* and *Drakaea elastica,* were considered likely to occur in the survey area due to suitable habitat and historical records located in close proximity (Appendix 4). The species were considered likely to occur in the following habitats:

- B1: *Banksia attenuata (B. menziesii)* over *Adenanthos, Jacksonia, Kunzea* with mixed low shrubland over mixed perennial herbland;
- B2: *Banksia menziesii (B. attenuata)* over *Xanthorrhoea* spp. with *Hibbertia* and *Conostylis*;
- B3: *Banksia menziesii, B. ilicifolia (B. attenuata)* over *Kunzea* with occasional *Xanthorrhoea* spp. and *Scholtzia*; and
- EB1: *Eucalyptus marginata (Banksia* spp.) over *Kunzea* and *Acacia* with *Xanthorrhoea* spp. over *Hibbertia.*

However, despite extensive targeted searches within the survey area being conducted within in these habitats in accordance with the draft *Survey Guidelines for Australia's Threatened Orchids* (Department of the Environment 2013a), these four species were not recorded during any of the surveys. It is considered unlikely that these orchid species would be present within the survey area, given that significant spatial and temporal survey effort has been allocated to their detection across a minimum of three seasons.

It was also considered that another two Threatened flora species, *Synaphea* sp. Pinjarra Plain (A.S. George 17182) and *Synaphea* sp. Serpentine (G.R. Brand 103), and 13 other Priority species would be unlikely to occur in the survey area, given the survey effort across five phases of sampling to date. Despite targeted searches, none of these significant flora species were recorded in the survey area. All are perennial species that should have been identifiable during the field survey/s if present.

No other flora species recorded were of other significance or represented range extensions.

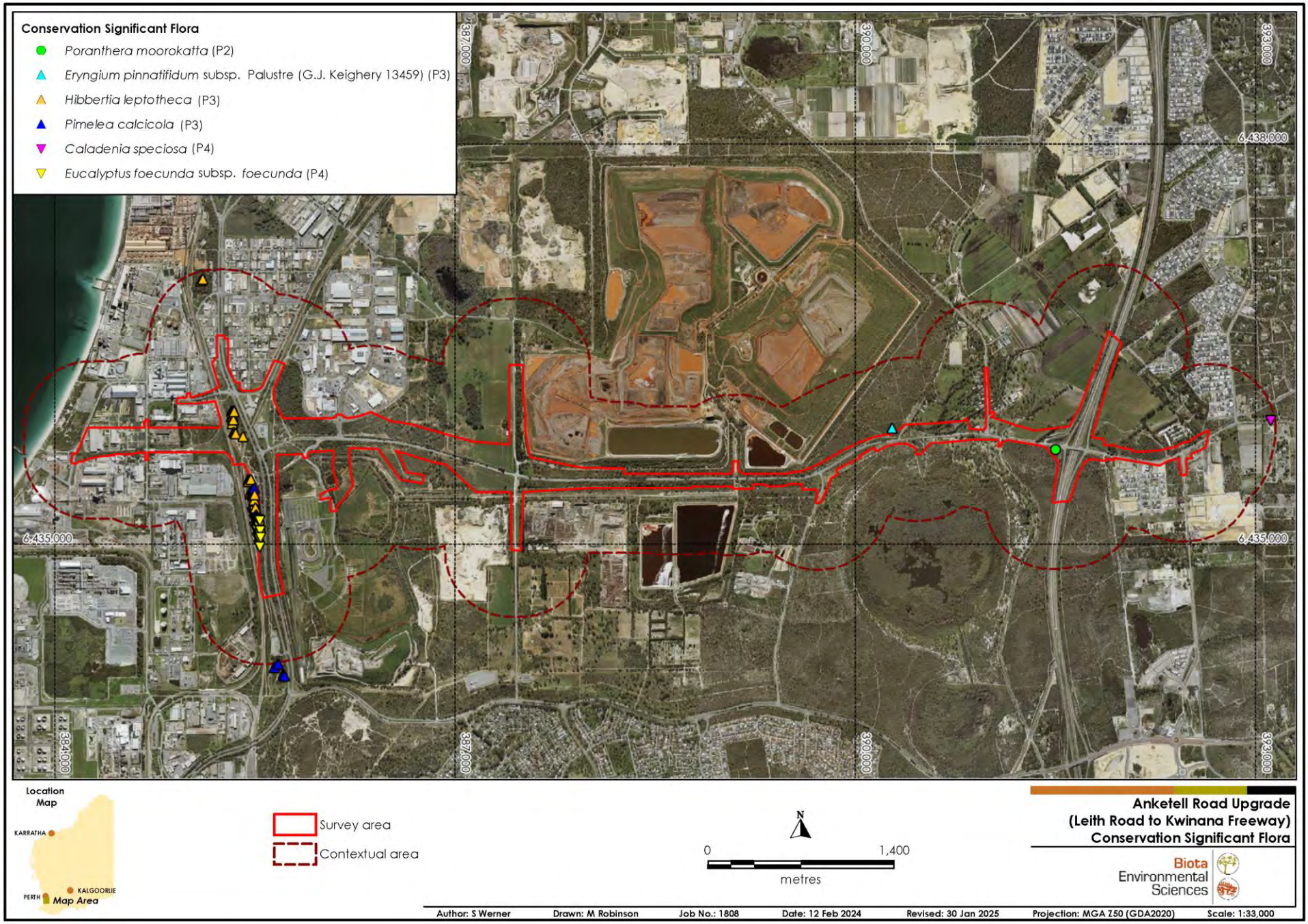

Figure 5.2: Locations of significant flora within the survey area and contextual area.

5.5 Introduced Flora

Introduced flora were common through the entirety of the survey area, reflecting its landscape setting. A total of 95 introduced species from 72 genera and 28 families were recorded opportunistically or within quadrats. Due to the number of introduced species and their abundance, it was not practical to fully map and record numbers of individuals of all introduced species during the field survey. A list of the locations recorded is presented in Appendix 17.

The Department of Parks and Wildlife (now DBCA) Swan Region Species Prioritisation Process (Department of Parks and Wildlife 2016) rated weed species known from the region against their qualitatively assessed 'Ecological Impact' and 'Invasiveness', whilst considering the potential distribution and current distribution. A list of all 95 introduced species and their corresponding Ecological Impact and Invasiveness rankings is provided in Table 5.4.

5.5.1 Weeds of National Significance and Declared Pests

Thirty-two species of weeds have been federally declared as WoNS based on their invasiveness, potential for spread, and for environmental, social, and economic impacts. To protect agriculture in WA, the Department of Primary Industry and Regional Development (DPIRD) regulates harmful plants under the BAM Act. Plants that are prevented entry into the state or have control or keeping requirements in WA are known as Declared Pests (DPIRD 2020).

Five species listed as Declared Pests under the BAM Act (including **Asparagus asparagoides,* which is also listed as a WoNS) were recorded within the survey area. Some were recorded at resampled sites across multiple phases and multiple projects. Each is discussed briefly below.

5.5.1.1 **Asparagus asparagoides* (Bridal Creeper)

**Asparagus asparagoides*, listed as a Declared Pest and a WoNS, is a South African native that is a perennial rhizome/tuber climbing herb from the Asparagaceae family. Bridal Creeper has been recorded across the Swan Coastal Plain, Avon Wheatbelt, Coolgardie, Esperance Plains, Geraldton Sandplains, Jarrah Forrest, Mallee, and Warren IBRA bioregions (WA Herbarium 2024). This species is rated as having a 'High' Ecological Impact and 'Rapid' Invasiveness (Department of Parks and Wildlife 2016). Bridal Creeper is highly invasive and can smother other vegetation. It also increases fire risk during the summer die-off phase (WA Herbarium 2024).

A total of 690 individuals from 108 locations were recorded within the current survey area, with sites that were resampled over multiple phases having variable numbers recorded due to seasonality. Additional individuals are expected to occur throughout the survey area.

5.5.1.2 **Echium plantagineum* (Paterson's Curse)

**Echium plantagineum*, listed as a Declared Pest, is a native from the Macaronesian Islands region and temperate Asia. It is from the Boraginaceae family and is an erect annual or biennial herb found on roadsides, vacant land and disturbed areas. Paterson's Curse has been recorded across the Swan Coastal Plain, Avon Wheatbelt, Carnarvon, Coolgardie, Esperance Plains, Geraldton Sandplains, Hampton, Jarrah Forest, Mallee, Murchison, Nullarbor, Warren and Yalgoo IBRA bioregions (WA Herbarium 2024). This species is poisonous to mammals and is rated as having a 'High' Ecological Impact and 'Moderate' Invasiveness (Department of Parks and Wildlife 2016).

A single individual was recorded opportunistically during the current survey.

5.5.1.3 **Gomphocarpus fruticosus* (Narrow-leaved Cotton Bush)

**Gomphocarpus fruticosus*, listed as a Declared Pest, is a Southern Africa native that is an erect perennial shrub from the Apocynaceae family. Narrow-leaved Cotton Bush has been recorded across the Swan Coastal Plain, Avon Wheatbelt, Esperance Plains, Jarrah Forest, Mallee, and Nullarbor IBRA bioregions . This species is rated as having a 'High' Ecological Impact and 'Rapid'

Invasiveness (Department of Parks and Wildlife 2016). Narrow-leaved Cotton Bush is highly toxic and can form vast dense thickets if left untreated.

A total of 307 individuals were recorded from 53 locations within the current survey area.

5.5.1.4 **Moraea flaccida* (One-leaf Cape Tulip)

**Moraea flaccida*, listed as a Declared Pest, is native to Southern Africa and is a cormous, perennial herb with an annually renewed corm. One-leaf Cape Tulip has been recorded across the Swan Coastal Plain, Avon Wheatbelt, Esperance Plains, Jarrah Forest, Mallee, and Warren IBRA bioregions(WA Herbarium 2024).. This species is rated as having a 'High' Ecological Impact and 'Rapid' Invasiveness (Department of Parks and Wildlife 2016).

Approximately 126 individuals were recorded both opportunistically and within quadrats across 13 locations within the current survey area. Additional individuals are expected to occur throughout the survey area.

*5.5.1.5 *Zantedeschia aethiopica* (Arum Lily)

**Zantedeschia aethiopica*, listed as a Declared Pest, is a South African native from the Araceae family. This rhizomatous perennial herb is predominately found in swamps or low-lying areas. Arum Lily has been recorded across the Swan Coastal Plain, Avon Wheatbelt, Geraldton Sandplains, Jarrah Forest, and Warren IBRA bioregions (WA Herbarium 2024). All parts of an Arum Lily plant are toxic, and the species is rated as having a 'High' Ecological Impact and 'Rapid' Invasiveness (Department of Parks and Wildlife 2016).

Approximately 41 individuals were recorded from 13 locations within the current survey area. Additional individuals are expected to occur throughout the survey area.

Table 5.4: Summary of rankings for the weed species recorded within the survey area.

Family	Species (Common Name)	Ecological Impact	Invasiveness	Weed Status
Aizoaceae	**Carpobrotus edulis* (Hottentot Fig)	H	R	-
	**Tetragonia decumbens* (Sea Spinach)	H	R	-
Anacardiaceae	**Schinus terebinthifolius* (Brazilian Pepper)	H	M	-
Apocynaceae	**Gomphocarpus fruticosus* (Narrow-leaved Cotton Bush)	H	R	Declared Pest
Araceae	**Zantedeschia aethiopica* (Arum Lily)	H	R	Declared Pest
Arecaceae	**Washingtonia filifera* (Cotton Palm)	U	S	-
Asparagaceae	**Asparagus asparagoides* (Bridal Creeper)	H	R	Declared Pest; WoNS
Asphodelaceae	**Trachyandra divaricata* (Dune Onion Weed)	U	R	-
	**Asphodelus fistulosus* (Onion Weed)	U	R	-
Asteraceae	**Arctotheca calendula* (Cape Weed)	H	R	-
	**Carduus pycnocephalus* (Slender Thistle)	H	R	-
	**Centaurea melitensis* (Maltese Cockspur)	M	R	-
	**Cirsium vulgare* (Spear Thistle)	U	R	
	**Erigeron bonariensis* (Fleabane)	L	M	-
	**Erigeron sumatrensis* (Fleabane)	M	R	-
	**Hypochaeris glabra* (Smooth Catsear)	H	R	-
	**Hypochaeris radicata* (Flatweed)	H	R	-
	**Lactuca serriola forma serriola* (Prickly Lettuce)	H	R	-
	**Leontodon rhagadioloides* (Cretan Weed)	-	-	-
	**Reichardia tingitana* (False Sowthistle)	U	U	
	**Senecio condylus* (Perth Groundsel)	U	U	-
	**Sonchus asper* (Rough Sowthistle)	U	R	-
	**Sonchus oleraceus* (Common Sowthistle)	U	R	-
	**Symphyotrichum squamatum* (Bushy Starwort)	M	R	-
	**Taraxacum khatoonae* (Dandelion)	-	-	-
	**Urospermum picroides* (False Hawkbit)	M	R	-
Brassicaceae	**Brassica tournefortii* (Mediterranean Turnip)	H	R	-
	**Raphanus raphanistrum* (Wild Radish)	U	M	-
Caprifoliaceae	**Centranthus macrosiphon* (Pretty Betsy)	H	R	-
	**Sixalix atropurpurea*	-	-	-

Family	Species (Common Name)	Ecological Impact	Invasiveness	Weed Status
Caryophyllaceae	**Cerastium glomeratum* (Mouse Ear Chickweed)	U	R	-
	**Cerastium pumilum* (Small Mouse-ear Chickweed)	L	R	-
	**Minuartia mediterranea* (Sandwort)	U	R	-
	**Petrorhagia dubia* (Velvet Pink)	M	R	-
	**Polycarpon tetraphyllum* (Fourleaf Allseed)	M	R	-
	**Stellaria pallida*	L	R	-
Crassulaceae	**Crassula glomerata* (Stonecrop)	U	R	-
Euphorbiaceae	**Euphorbia paralias* (Sea Spurge)	U	M	
	**Euphorbia peplus* (Petty Spurge)	U	M	-
	**Euphorbia terracina* (Geraldton Carnation Weed)	H	R	-
	**Ricinus communis* (Caster Oil Plant)	M	R	-
Fabaceae	**Acacia longifolia* (Sydney Golden Wattle)	U	M	-
	**Lupinus cosentinii* (Sandplain Lupin)	H	M	-
	**Medicago polymorpha* (Burr Medic)	U	R	-
	**Trifolium angustifolium* var. *angustifolium* (Narrowleaf Clover)	U	U	-
	**Trifolium arvense* var. *arvense* (Haresfoot Clover)	U	U	-
	**Trifolium campestre* var. *campestre* (Hop Clover)	U	U	-
	**Trifolium glomeratum* (Ball Clover)	U	U	-
	**Trifolium scabrum* (Rough Clover)	U	U	
	**Trifolium tomentosum* var. *tomentosum* (Wooly Clover)	U	U	-
	**Vicia sativa* subsp. *cordata* (Common Vetch)	U	U	-
	**Vicia sativa* subsp. *sativa* (Common Vetch)	U	U	-
	**Vicia sativa* (Common Vetch)	U	S	-
Geraniaceae	**Erodium botrys* (Long Storksbill)	U	M	-
	**Erodium cicutarium* (Common Storksbill)	U	M	
	**Geranium molle* (Dove's Foot Cranesbill)	L	S	-
	**Pelargonium capitatum* (Rose Pelargonium)	H	R	-
Iridaceae	**Gladiolus caryophyllaceus* (Wild Gladiolus)	H	R	-
	**Moraea flaccida* (One-leaf Cape Tulip)	H	R	Declared Pest
	**Romulea rosea var. australis* (Guildford Grass)	U	R	-
Myrtaceae	**Eucalyptus utilis* (Coastal Moort)	U	U	Naturalised
	**Gaudium laevigatum* (Coast Teatree)	H	R	Naturalised
Oleaceae	**Olea europaea subsp. Europaea* (Olive)	H	R	-
Onagraceae	**Oenothera drummondii* subsp. *drummondii* (Beach Evening Primrose)	U	R	-
Orobanchaceae	**Orobanche minor* (Lesser Broomrape)	U	R	-
Oxalidaceae	**Oxalis corniculata* (Yellow Wood Sorrel)	L	S	-
	**Oxalis pes-caprae* (Soursob)	H	S	-
Papaveraceae	**Fumaria capreolata* (Whiteflower Fumitory)	H	R	-
Pinaceae	**Pinus pinaster* (Maratime Pine)	U	M	-
Poaceae	**Avena barbata* (Bearded Oat)	H	R	-
	**Briza maxima* (Blowfly Grass)	U	R	-
	**Briza minor* (Shivery Grass)	U	R	-
	**Bromus diandrus* (Great Brome)	H	R	-
	**Bromus hordeaceus* (Soft Brome)	H	R	-
	**Cenchrus setaceus* (Fountain Grass)	H	S	-
	**Cynodon dactylon* (Couch)	H	R	-
	**Ehrharta calycina* (Perennial Veldt Grass)	H	R	-
	**Ehrharta longiflora* (Annual Veldt Grass)	M	R	-
	**Eragrostis curvula* (African Love Grass)	H	R	-
	**Hyparrhenia hirta* (Tambookie Grass)	H	R	-
	**Lagurus ovatus* (Hare's Tail Grass)	H	R	-
	**Lolium multiflorum*	H	R	
	**Lolium perenne*	H	R-	-
	**Lolium perenne x rigidum*	H	R	-
	**Lolium sp.* (Rye grass)	H	R	-
	**Rostraria cristata* (Annual Cat's-tail)	U	U	-
	**Vulpia bromoides* (Squirrel Tail Fescue)	H	R	-
	**Vulpia myuros forma myuros* (Rat's-tail Fescue)	H	R	-
	**Poa annua* (Winter Grass)	U	U	-
	**Stenotaphrum secundatum* (Buffalo Grass)	H	S	-

Family	Species (Common Name)	Ecological Impact	Invasiveness	Weed Status
Primulaceae	**Lysimachia arvensis* (Pimpernel)	U	R	-
	**Lysimachia linum-stellatum*	-	-	-
Rhamnaceae	**Rhamnus alaternus* (Buckthorn)	H	R	-
	**Galium murale* (Small Goosegrass)	L	R	-
Scrophulariaceae	**Verbascum virgatum* (Green Mullein)	L	R	-
Solanaceae	**Nicotiana glauca* (Tree Tobacco)	L	R	-
	**Solanum nigrum* (Black Berry Nightshade)	M	R	-

6.0 Wetlands

6.1 Wetlands of the Survey Area

6.1.1 Geomorphic Wetlands of the Swan Coastal Plain

Geomorphic Wetland data sets are managed by DBCA to assist in the protection of wetlands in the southwest of Western Australia. Wetlands on the SCP are evaluated and assigned management categories to provide guidance on use and protection, with the categories comprising Conservation, Resource Enhancement and Multiple Use (DBCA 2018). Geomorphic wetlands intersected by the survey area and contextual area are outlined in Table 6.1, shown in Figure 6.1, with the assessment results presented in Appendix 18. The 'Multiple Use' wetlands were the only management category wetlands intersecting the survey area.

Table 6.1: Geomorphic Wetlands that intersect the contextual area (as described by DBCA (2018a)).

UFI	Geomorphic Classification	Management Category	Area (ha)
6379	Dampland	Resource Enhancement	2.1
6380	Dampland	Resource Enhancement	2.0
6381	Dampland	Multiple Use	1.5
6530	Dampland	Multiple Use	215.4
6538	Dampland	Multiple Use	20.1
6539	Sumpland	Conservation	132.1
12980	Sumpland	Conservation	12.5
12981	Dampland	Conservation	3.4
14063	Sumpland	Multiple Use	3.8
15391	Sumpland	Conservation	14.7

6.2 Wetlands of the Contextual and Study Area

6.2.1 Directory of Important Wetlands of Australia

The Directory of Important Wetlands of Australia (DIWA; DAWE 2021) not only identifies nationally important wetlands but provides a substantial knowledge base of what defines wetlands, their variety, the species that depend on them, the ecosystem services they provide, and information about their social and cultural values. One wetland listed under the DIWA intersects the contextual area, with an additional wetland system occurring within the study area:

- Spectacles Swamp

Spectacles Swamp (Site WA090) consists of two wetlands: 'Big Eye Spectacle' (113.1 ha) and 'Small Eye Spectacle' (28.4 ha) and intersects the contextual area with its closest boundary situated approximately 115 m from the survey area. Spectacles Swamp is a representative example of a wooded swamp of the SCP, supporting small breeding colonies of five waterbirds and consists of a low open-forest dominated by Flooded Gum (*Eucalyptus rudis*) with a low closed-forest of *Melaleuca rhaphiophylla* and *M. teretifolia*.

The vegetation of Spectacles Swamp has been identified as regionally significant bushland and recommended for protection (Western Australian Planning Commission 1998).

- Gibbs Road Swamp System

The Gibbs Road Swamp System (Site WA078) comprises eight wooded swamps on the east slope of the Jandakot groundwater mound of a micro-mesoscale round and/or elongate sumpland nature. The collection of swamps represent a good example of the formerly extensive network of

small wooded/shrub swamps in the south-east part of the Perth Metropolitan Area. Ecologically, the site is a major breeding area for the Freckled Duck (*Stictonetta naevosa*) in south-western Australia, with the number of breeding waterbirds (18) considered to be high in a regional context.

The seasonally inundated paperbark swamps (dominated by *Melaleuca* spp. with the occasional *Eucalyptus rudis*) are significant because they have otherwise largely disappeared from the metropolitan area. The vegetation of Gibbs Road Swamp System has been identified as regionally significant bushland and recommended for protection (Western Australian Planning Commission 1998).

The closest mapped boundary of the Gibbs Road Swamp System is 3.6 km to the northeast of the contextual area and 4.2 km northeast of the survey area.

6.2.2 Ramsar Wetlands of International Importance

Nine wetland areas were proposed in 1990 by the State Government for listing as Wetlands of International Importance under the (Ramsar Convention). 'Forrestdale and Thomsons Lake' (Australian Ramsar Site 35) are jointly listed as a Wetland of International Importance under the Ramsar Convention (Department of the Environment 2014), and are the closest situated occurrences of Ramsar Wetland of International Importance to the survey area.

- Forrestdale and Thomsons Lakes

The two lakes together (comprising a total 784 ha) are described as the best remaining examples of fresh/brackish, seasonal wetlands, predominantly fed by groundwater, with extensive fringing sedgeland on the Swan Coastal Plain.

The lakes provide important habitat for waterbirds with 85 species of waterbird occurring at the two lakes with 27 of them breeding. Twenty-one species of migratory birds protected by international migratory bird conservation agreements have been recorded at the lakes (Maher and Davis 2009).

The Forrestdale and Thomsons Lakes Ramsar site meets four of the nine criteria for Ramsar listing: Criterion 1, 3, 5, and 5 (Department of Conservation and Land Management 2009).

The closest mapped boundary of Forrestdale Lake is 7.7 km to the northeast of the contextual area and 8.2 km to the northeast of the survey area, while the closest boundary of Thompsons Lake is 5 km to the north of the contextual area and 5.6 km to the north of the survey area.

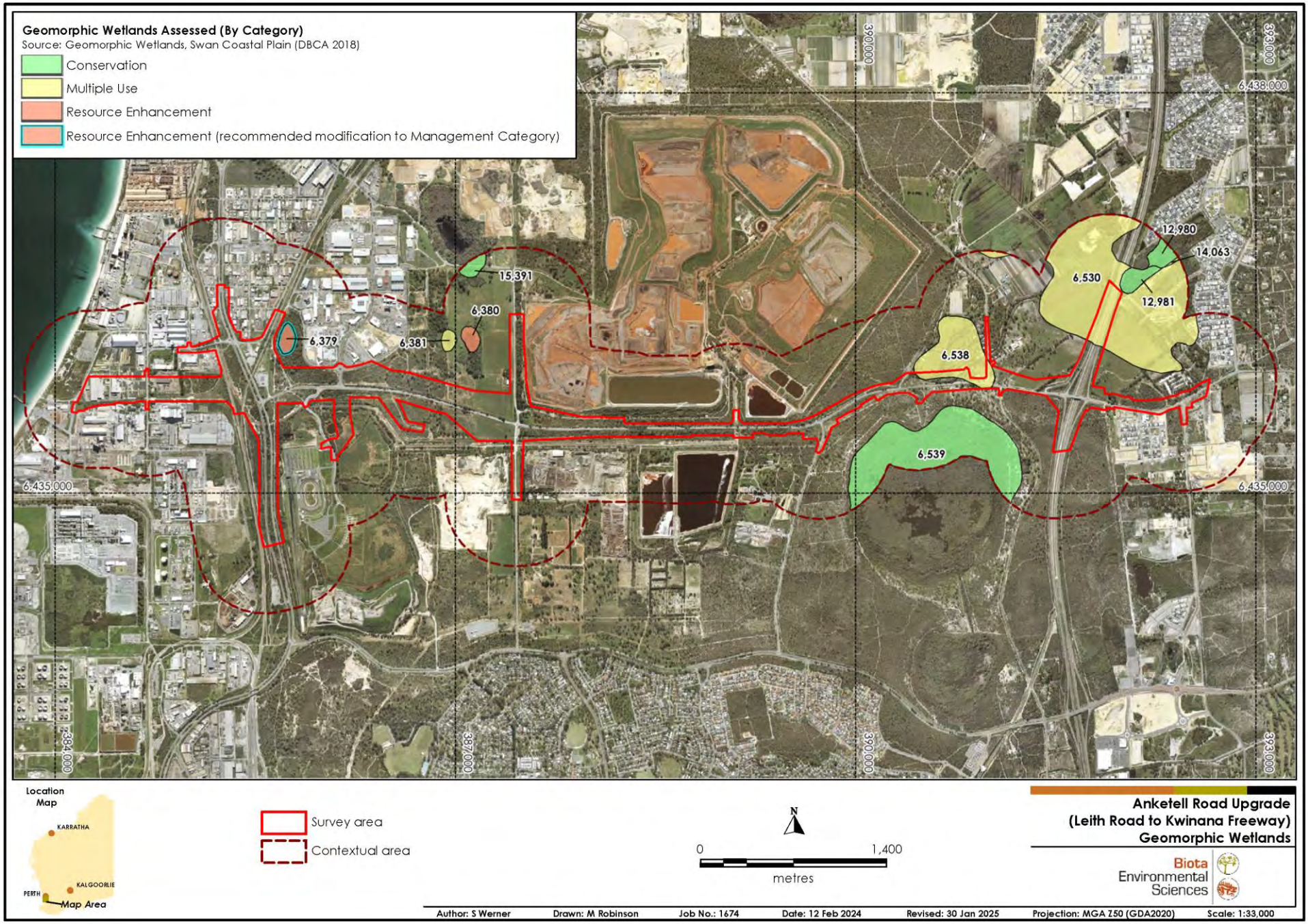

Figure 6.1: Geomorphic Wetlands assessed within the survey area and contextual area.

7.0 Fauna Results

7.1 Fauna Habitats

The fauna habitats of the survey area and contextual area using combinations of vegetation units, which were considered likely to together support a distinct fauna assemblages or species of significance based on three-dimensional structure, microhabitats present and available foraging resources.

Approximately 126.28 ha (56.16%) of the survey area comprised cleared, degraded, or modified areas including roads, residential and commercial infrastructure and paddocks. Excluding these areas, seven fauna habitats, predominantly comprising native vegetation, were identified and mapped over the remainder of the survey area (Figure 7.1). An additional three fauna habitats were identified as occurring only within the contextual area (Table 7.2, Figure 7.1), all in association with the western coastline.

The western, near-coastal, extent of the survey area consists of a mixture of various fauna habitats. The most prevalent being *Acacia* shrubland on sand and limestone (28.11 ha, 12.50%). Five of the remaining seven fauna habitats identified in the survey area are present in much smaller extents: *Melaleuca* shrubland, *Banksia* Woodland, Jarrah/*Banksia* Woodland, Eucalypt Woodland, and Damplands. All (excluding Jarrah/*Banksia* Woodland) extend into the contextual area to some degree but are otherwise surrounded by Modified (largely cleared) areas (Figure 7.1). *Acacia* Shrubland and *Banksia* Woodland likely represent two of the more suitable habitats for the significant fossorial reptiles, the Perth Lined Slider (P3), and Black-striped Snake (P3). Quenda (P4) are known to utilise a variety of habitat types and were recorded at various locations within this western extent of the survey area. Forest Red-tailed Black Cockatoo were recorded using the Jarrah/*Banksia* Woodland for foraging; it is likely Carnaby's Cockatoos would also use this habitat type as a foraging resource.

Immediately inland, Eucalypt Woodland/Forest became dominant, and this habitat represents the most extensive within the survey area (33.09 ha, 14.72%). This habitat occurred as a largely continuous extent within the survey area but had little continuity within the contextual area, where much of this habitat has been historically cleared (mapped as Modified areas, Figure 7.1). This habitat included foraging tree species important to Forest Red-tailed and Carnaby's black cockatoo species including Jarrah, and *Banksia* species, and represented core habitat for Quenda.

The eastern extent of the survey area was dominated by cleared or modified areas interspersed with small areas of remnant vegetation (Figure 7.1). These remnants generally had larger continuous extents in the surrounding contextual area. Fauna habitats in this eastern extent included *Banksia* Woodland, Jarrah/*Banksia* woodland, Damplands, and Emergent Flooded Gum and Marri. Quenda were recorded utilising the various habitat types on both sides of the Kwinana Freeway. Chuditch (VU) and Western Brush Wallaby (P4) may use the *Banksia* and Jarrah/*Banksia* Woodlands east of the Kwinana Freeway on a transitory basis (as foraging individuals only). Forest Red-tailed and Carnaby's black cockatoos are likely to use these habitats for foraging, including the planted roadside vegetation.

The three fauna habitats identified in the contextual area, but not survey area, were Beach/Ocean (14.69 ha), Dune (1.86 ha) and Coastal Moort Woodland (0.64 ha). The beach and dune represent areas of potential habitat for marine and migratory bird species. Quenda were recorded in the Coastal Moort Woodland on motion camera. Birds of prey, including the Specially Protected Peregrine Falcon, may use these areas for foraging.

Table 7.1: Fauna habitats identified within the survey and contextual areas.

EW - *Eucalyptus* Woodland/Forest	
Survey Area: 33.09 ha (14.72%) Contextual area: 104.76 ha Landforms: Gentle undulating slopes. Substrate: Loamy sand soils. Vegetation: *Eucalyptus gomphocephala*, *E. decipiens, E. foecunda*, *E. marginata* forest over *Banksia* spp., *Acacia rostellifera*, with *Allocasuarina fraseriana* woodland and *Xanthorrhoea preissii* grass trees. Veg. Units: E1, E5, E6, E7. Values: Habitat for Quenda, Forest Red-tailed and Carnaby's Black Cockatoo foraging tree species present. Sandy soils may provide habitat for fossorial species. Leaf litter and fallen debris for SRE invertebrate groups.	
AS - *Acacia* Shrubland	
Survey area: 28.11 ha (12.50%) Contextual area: 54.16 ha Landforms: Gentle slopes, coastal dunes. Substrate: Limestone rock, sandy soils. Vegetation: *Acacia rostellifera* shrublands, *A. saligna* shrubland, with mixed *Banksia* spp., *Xanthorrhoea* and *Hibbertia* and isolated *Eucalyptus marginata*. *Gaudium* over *Acacia* shrubland. Veg. Units: A1, A2, A3, A4, A5, T1. Values: Habitat for Quenda. Sandy soils may provide habitat for fossorial species. *Banksia* species provide foraging habitat for Carnaby's Black Cockatoo. Rocky microhabitats present.	
BW - *Banksia* Woodland	
Survey area: 16.74 ha (7.45%) Contextual area: 115.07 ha Landforms: Gently sloping plains. Substrate: Sandy soils. Vegetation: *Banksia attenuata, B. menziesii, B. ilicifolia, B. sessilis* with *Adenanthos, Jacksonia, Kunzea, Xanthorrhoea, Hibbertia* and *Conostylis.* Veg. Units: B1, B2, B3, B4, B5, B6. Values: Habitat for Quenda, Western Brush Wallaby, Chuditch (transitory basis only), and *Idiosoma sigillatum*. Leaf litter and fallen debris for SRE invertebrate groups. Sandy soils are favourable for fossorial species. *Banksia* species provide foraging habitat for Carnaby's Black Cockatoo.	

JBW - *Jarrah/Banksia* Woodland	
Survey area: 7.58 ha (3.37%) Contextual area: 29.54 ha Landforms: Gentle slopes. Substrate: Sandy soils. Vegetation: *Eucalyptus marginata* and *Banksia menziesii*/*B. attenuata* woodland over *Kunzea*, *Hibbertia hypericoides* and *Acacia* spp. shrublands and *Xanthorrhoea brunonis* over scattered herbland/grassland. Veg. Units: EB1 Values: Habitat for Quenda, Chuditch (transitory only) and Western Brush Wallaby (transitory only) and Forest Red-tailed and Carnaby's Black Cockatoo species.	
MS - Melaleuca Shrubland	
Survey area: 4.64 ha (2.07%) Contextual area: 11.73 ha Substrate: Limestone rock, sandy soils. Vegetation: *Melaleuca systena*, *M. huegelii* over *Xanthorrhoea*, *Spyridium globulosum*, *Templetonia retusa*, and mixed *Acacia* spp. Veg. Units: M4, M5, M6. Values: Dense cover suitable for Quenda. Sandy soils are favourable for fossorial species. Rocky limestone microhabitats.	
PL - Emergent Flooded Gum and Marri	
Survey area: 5.66 ha (2.52%) Contextual area: 3.16 ha Vegetation: Modified/Planted *Callistemon* and *Calothamnus* on roadsides. Veg. Units: R2 Values: Potential foraging habitat for Forest Red-tailed and Carnaby's Black Cockatoo.	

DL - Damplands	
Survey area: 2.74 ha (1.22%) Contextual area: 51.00 ha Substrate: Loamy sand soils. Vegetation: *Melaleuca* low woodlands with *Astartea*, generally surrounded by *Kunzea*. Veg. Units: K1, M1, M2. Landforms: Seasonally inundated damplands Values: Habitat for Quenda and in open areas, Glossy Ibis. Foraging habitat for birds of prey.	
CM - Modified Areas	
Survey area: 35.79 ha (15.92%) Contextual area: 663.99 ha Substrate: Silt loam, loamy sand. Vegetation: Isolated trees over previously cleared areas or pasture, modified or revegetated areas of mixed *Banksia*, man-made drainages and land modified for farming or residential purposes. Veg. Units: IP, ML, R3 Values: Pastures provide potential habitat for Glossy Ibis. Foraging habitat for birds of prey.	
CL - Degraded/Cleared	
Survey area: 90.49 ha (40.24%) Contextual area: 285.25 ha Substrate: Open sandy areas. Vegetation: Weeds and scattered herbs, including cleared areas, roads and rail. Veg. Units: CL, D, RR. Values: Habitat for small fossorial species may be present in sandier areas. Foraging habitat for birds of prey.	

Table 7.2 Fauna habitats identified within only the contextual area.

B – Beach/Ocean	
Contextual area: 14.69 ha Substrate: Sand, Water (ocean) Veg. Units: B, O. Values: Habitat for migratory and marine bird species. Foraging habitat for birds of prey.	
D - Dune	
Contextual area: 1.86 ha Substrate: Limestone rock, sandy soils. Vegetation: *Spinifex* and **Ammophila* with occasional *Scaevola* and *Olearia, Eucalyptus utilis, Callitris preissii* over *Melaleuca lanceolata* with *Rhagodia.* Veg. Units: DU1. Values: Habitat for migratory and marine bird species. Sandy soils are favourable for fossorial species. Foraging habitat for birds of prey.	
CW – Coastal Moort Woodland	
Contextual area: 0.64 ha Substrate: Sandy soils. Vegetation: *Eucalyptus utilis*, *Callitris preissii* over *Melaleuca lanceolata* with *Rhagodia*, *Olearia*, *Scaevola* over *Spinifex* Veg. Units: DU2. Values: Habitat for Quenda. Sandy soils are favourable for fossorial species. Foraging habitat for birds of prey.	

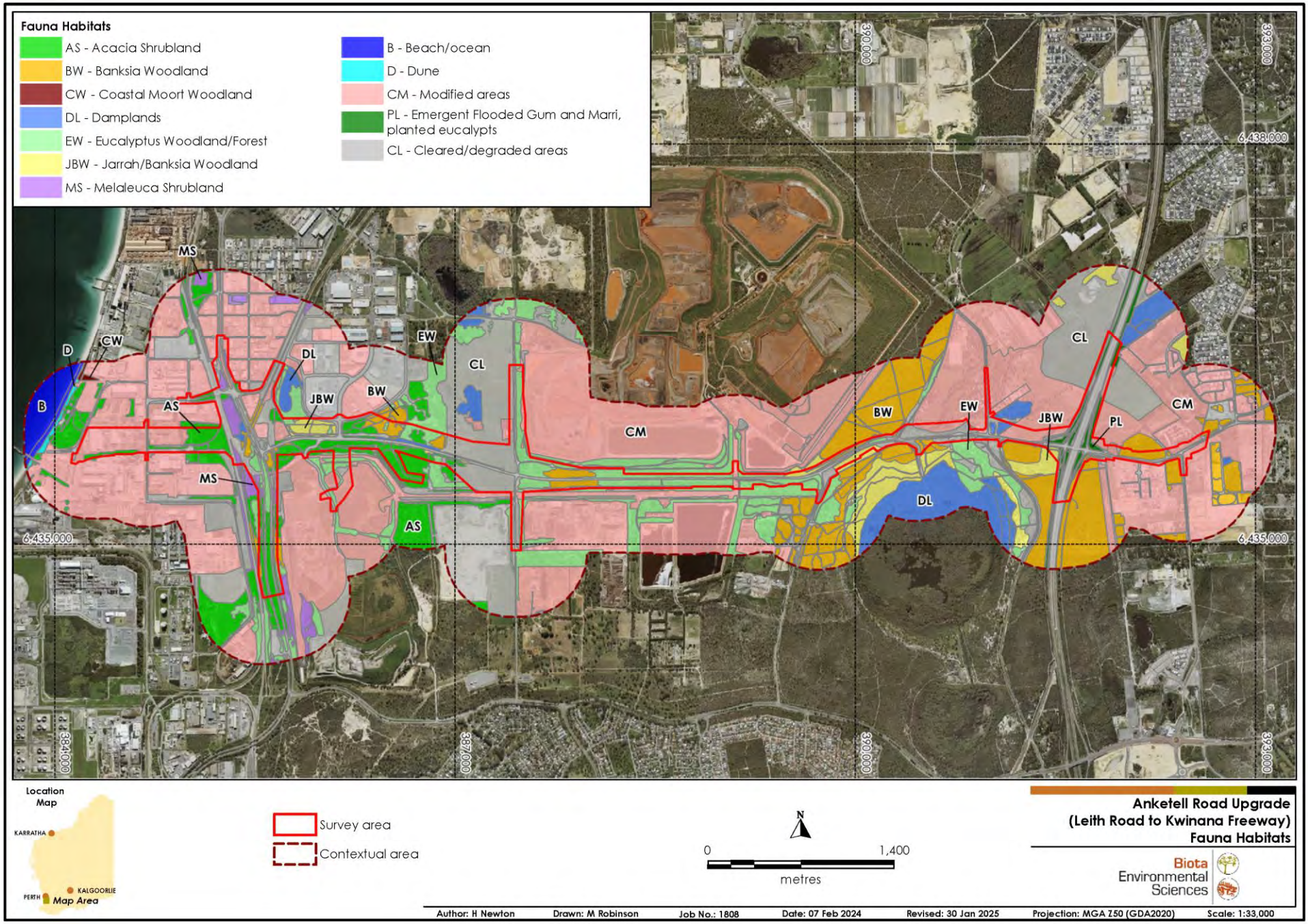

Figure 7.1 Fauna habitats of the survey and contextual area.

7.2 Recorded Vertebrate Fauna

Forty-nine species of vertebrate fauna were recorded from the survey area, seven were introduced mammal species (Table 7.3).

Table 7.3: Summary of vertebrate fauna species recorded during the survey.

Fauna Group	Status	Species	Significant Species
Ground-dwelling mammals	Native	2	1
	Introduced	7	0
Birds	Native	34	1
Reptiles	Native	6	0
Amphibians	Native	0	0
	Total	49	2

Two species of significance were recorded during the survey, one mammal and one bird species:

- Quenda, *Isoodon fusciventer* (Priority 4), individuals were observed, together with secondary evidence and records via motion camera (Plate 7.1).
- Forest Red-tailed Black Cockatoo, *Calyptorhynchus banksii naso* (VU), foraging evidence was found in the survey area (Plate 7.2).

The location of significant fauna records is shown in Figure 7.2. Quenda were recorded in a variety of habitats including *Banksia* and eucalypt woodlands, *Acacia* shrublands, and *Melaleuca* shrublands. Evidence of foraging by Forest Red-tailed Black Cockatoos was recorded within Jarrah/*Banksia* woodland.

Plate 7.1 Quenda (WLMA03MC)

Plate 7.2 Feeding evidence of Forest Red-tailed Black Cockatoo

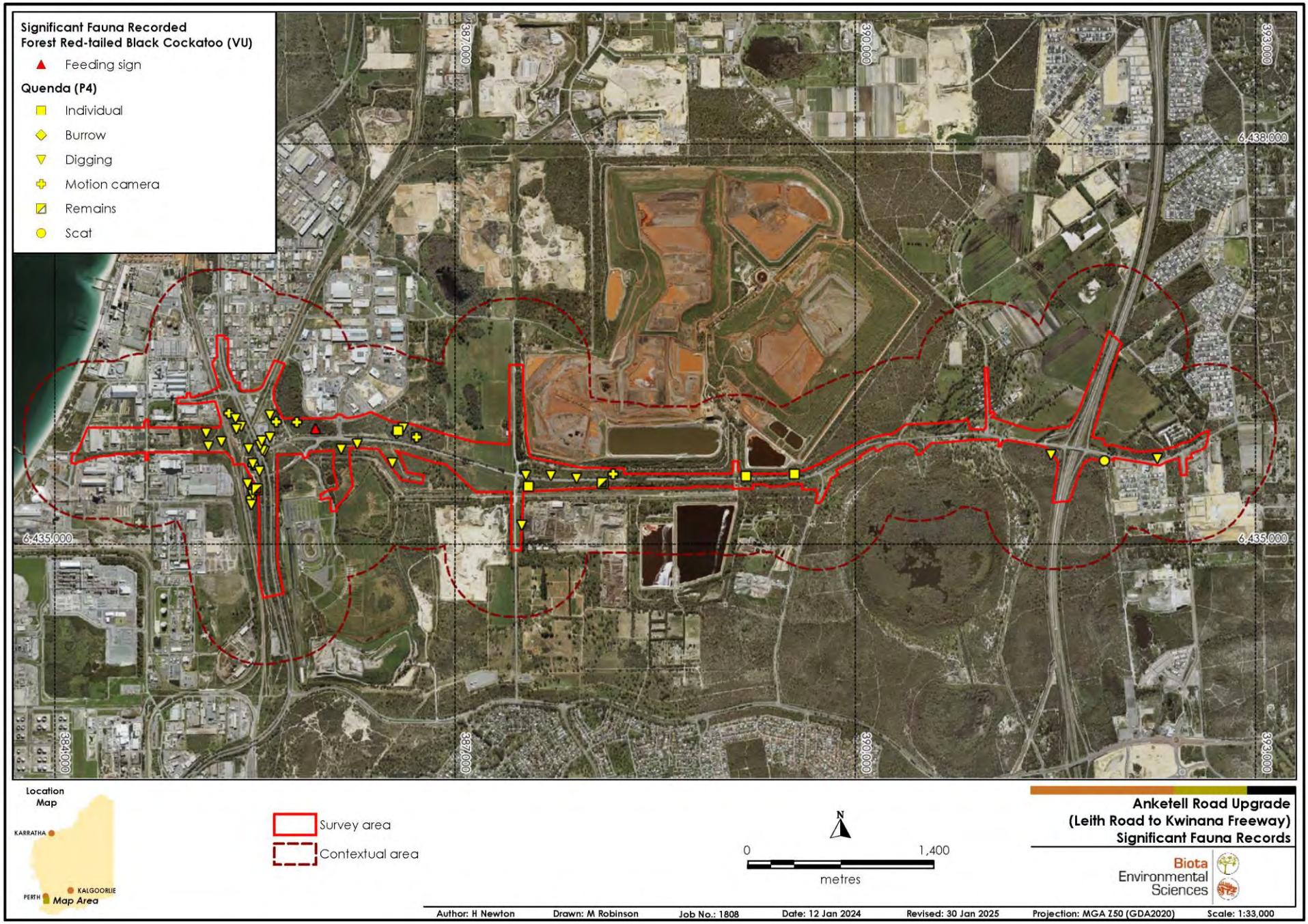

Figure 7.2 Significant fauna records within the survey area.

Table 7.4 Species records from the survey area (*denotes introduced species).

Species	Common Name	Status		Ground truthing		Motion Camera Locations							
		State	C. wealth	Individuals Observed	Secondary Signs/Evidence	WRF03MC	WRF04MC	WRF05MC	WRF06MC	RRB01MC	WLMA03MC	WLMA04MC	WLMA05MC
Mammals													
Isoodon fusciventer	Quenda	P4		4	35D, 1B		•	•	•	•	•	•	
*Bos primigenius taurus**	European Cattle			1		•							
*Rattus rattus**	Black Rat			1	1R		•	•	•				
*Canis familiaris familiaris**	Dog				1T			•					
*Felis catus**	Cat			1	1T, 2S		•					•	
*Mus musculus**	House Mouse						•		•	•	•		
*Oryctolagus cuniculus**	Rabbit			1	5S, 1R, 1B		•						•
Trichosurus vulpecula	Common Brushtail Possum							•					
*Vulpes vulpes**	Red Fox				3B	•		•					
Birds													
Artamus cinereus	Black-faced Woodswallow			3									
Barnardius zonarius	Australian Ringneck			8									
Cacatua sanguinea	Little Corella			7									
Calyptorhynchus banksii naso	Forest Red-tailed Black Cockatoo	VU	VU		F								
Circus approximans	Swamp Harrier			1									
Columba livia	Rock Dove			8									
Coracina novaehollandiae	Black-faced Cuckooshrike			7									
Corvus coronoides	Australian Raven			14		•					•		
Cracticus nigrogularis	Pied Butcherbird			1									
Cracticus torquatus	Grey Butcherbird			3									
Eolophus roseicapilla	Galah			5									
Gavicalis virescens	Singing Honeyeater			9									
Grallina cyanoleuca	Magpie-lark			1									
Gymnorhina tibicen	Australian Magpie			3									
Hirundo neoxena	Welcome Swallow			3									
Ocyphaps lophotes	Crested Pigeon			1									
Lichmera indistincta	Brown Honeyeater							•					
Malurus splendens	Splendid Fairywren			6				•					
Neophema elegans	Elegant Parrot			1									
Pachycephala rufiventris	Rufous Whistler			1									
Pelecanus conspicillatus	Australian Pelican			14									
Petrochelidon nigricans	Tree Martin			7									
Phaps chalcoptera	Common Bronzewing					•							

Species	Common Name	Status		Ground truthing		Motion Camera Locations							
		State	C. wealth	Individuals Observed	Secondary Signs/Evidence	WRF03MC	WRF04MC	WRF05MC	WRF06MC	RRB01MC	WLMA03MC	WLMA04MC	WLMA05MC
Phylidonyris novaehollandiae	New Holland Honeyeater			22									
Polytelis anthopeplus	Regent Parrot			7		•							
Purpureicephalus spurius	Red-capped Parrot			10									
Rhipidura albiscapa	Grey Fantail			4									
Rhipidura leucophrys	Willie Wagtail			12								•	•
Sericornis maculatus	Spotted Scrubwren								•				
Smicrornis brevirostris	Weebill			7									
Spilopelia senegalensis	Laughing Dove			10									•
Threskiornis molucca	Australian White Ibis			2									
Threskiornis spinicollis	Straw-necked Ibis					•							
Trichoglossus moluccanus	Rainbow Lorikeet			4									
Zosterops lateralis	Silvereye			6									
Reptiles													
Tiliqua rugosa				3	1R		•		•		•	•	
Cryptoblepharus buchananii				2									
Hemiergis quadrilineatus				1									
Heteronotia binoei[5]	Bynoe's Gecko			1									
Morethia lineoocellata				1									
Notechis scutatus	Tiger Snake			2									

B – Burrow; T – Track; S – Scat; D – Digging; R – Remains; F – Foraging Evidence; • - indicates presence of at least one individual at the camera trap site

[5] Urban Perth is outside the normal distribution for this species, but small populations have become established from pet escapees.

7.3 Black Cockatoo Habitat Assessment

7.3.1 Individuals

No individuals from any of the three black cockatoo species were recorded within the survey area.

7.3.2 Breeding Habitat

On the Swan Coastal Plain, the closest known black cockatoo breeding localities are approximately 13.5 km north in Bibra Lake and 15 km south in Baldivis (BirdLife Australia data, species not provided). Additionally, on the Darling Scarp, all three species have been recorded breeding in the Wungong Dam catchment, between 20-30 km east of the survey area (Johnstone et al. 2011).

During the current survey, a total of 608 suitable DBH trees were recorded. No definitive evidence of black cockatoo nesting was recorded. One Tuart tree within the survey area was assessed as a Category 2 tree; feathers from an unknown species of bird were present within the hollow.

Ten trees were assessed as Category 3 trees, that is: trees with suitable DBH with a potentially suitable hollow with no signs of use, following the examination of their hollows using a pole-mounted camera. The average DBH of trees within this category was 719 mm. Tree species with suitable hollows included Jarrah (n=5), Tuart (n=3), and dead stags (n=2).

Plate 7.3 Example of suitable nesting tree (Category 3).

Plate 7.4 Example of suitable nesting hollow (with no signs of use).

Four trees supported hollows that from ground-level, appeared potentially suitable but could not be assessed further as all were infested by the European Bee (*Apis mellifera*). These trees have been precautionarily classified as Category 4, in the event that after the infestation passes, the hollows may become suitable for breeding although it is acknowledged that considerable time may be required.

Three trees within the survey area had suitable DBH and appeared to have suitable hollows from ground level but could not be accessed with the pole-camera to determine suitability or if there were signs of use, they were thus classified as Category 5 trees.

Sixteen trees of suitable DBH had hollows of unsuitable size, depth and/or orientation for black cockatoo breeding (Category 6). Tree species were Jarrah (n=7), Tuart (n=8) and one unknown eucalypt (stag).

An additional 574 trees met the criteria for Category 7 trees, that is: trees of a suitable DBH to form hollows but that did not currently have any hollows present. These trees were predominantly Jarrah, Tuart and Flooded Gum with a diverse array of trees of other species in much smaller numbers including Marri, Wandoo, Karri and introduced eucalypt species, as well as stags.

A summary of the number of trees within each breeding habitat tree category is provided in Table 7.5 and the locations are mapped in Figure 7.3 and Figure 7.4. For individual tree data (exact location, species name, DBH) see Appendix 19.

Table 7.5: Summary of breeding habitat tree types within the survey area.

Category Number	Basic Category Description	Number of Trees in Survey Area
1	Suitable DBH Tree with Known Nesting Hollows.	0
2	Suitable DBH Tree with a potentially suitable hollow with signs of use (not confirmed).	1
3	Suitable DBH Tree with a suitable hollow with no signs of use (confirmed).	10
4	Suitable DBH Tree with a marginally unsuitable hollow with no signs of use (confirmed).	4
5	Suitable DBH Tree with a potential suitable hollow with no signs of use (not confirmed).	3
6	Suitable DBH Tree with unsuitable hollows (confirmed).	16
7	Suitable DBH Tree without hollows.	574

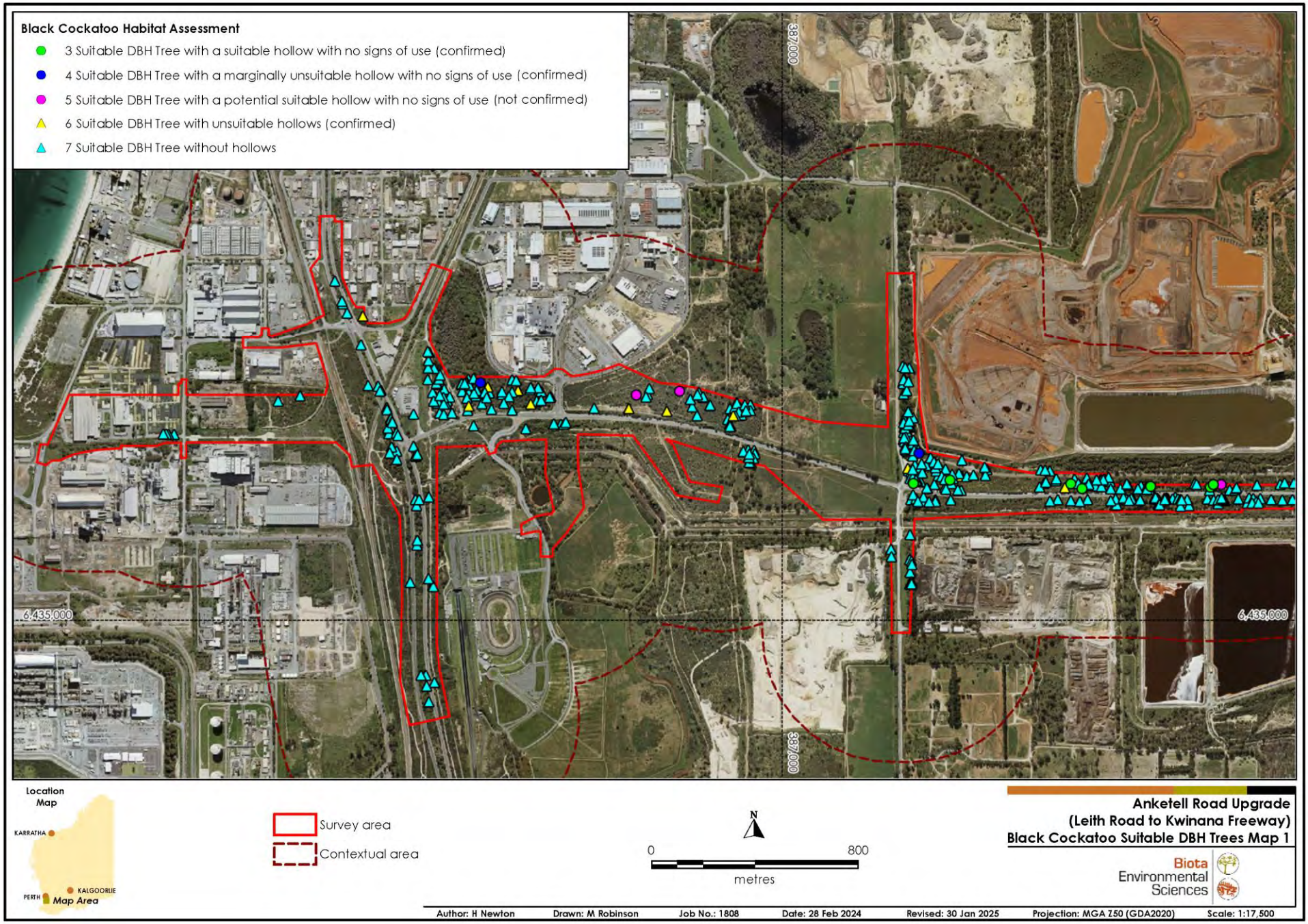

Figure 7.3 Black cockatoo breeding habitat tree locations within the survey area (Map 1 of 2).

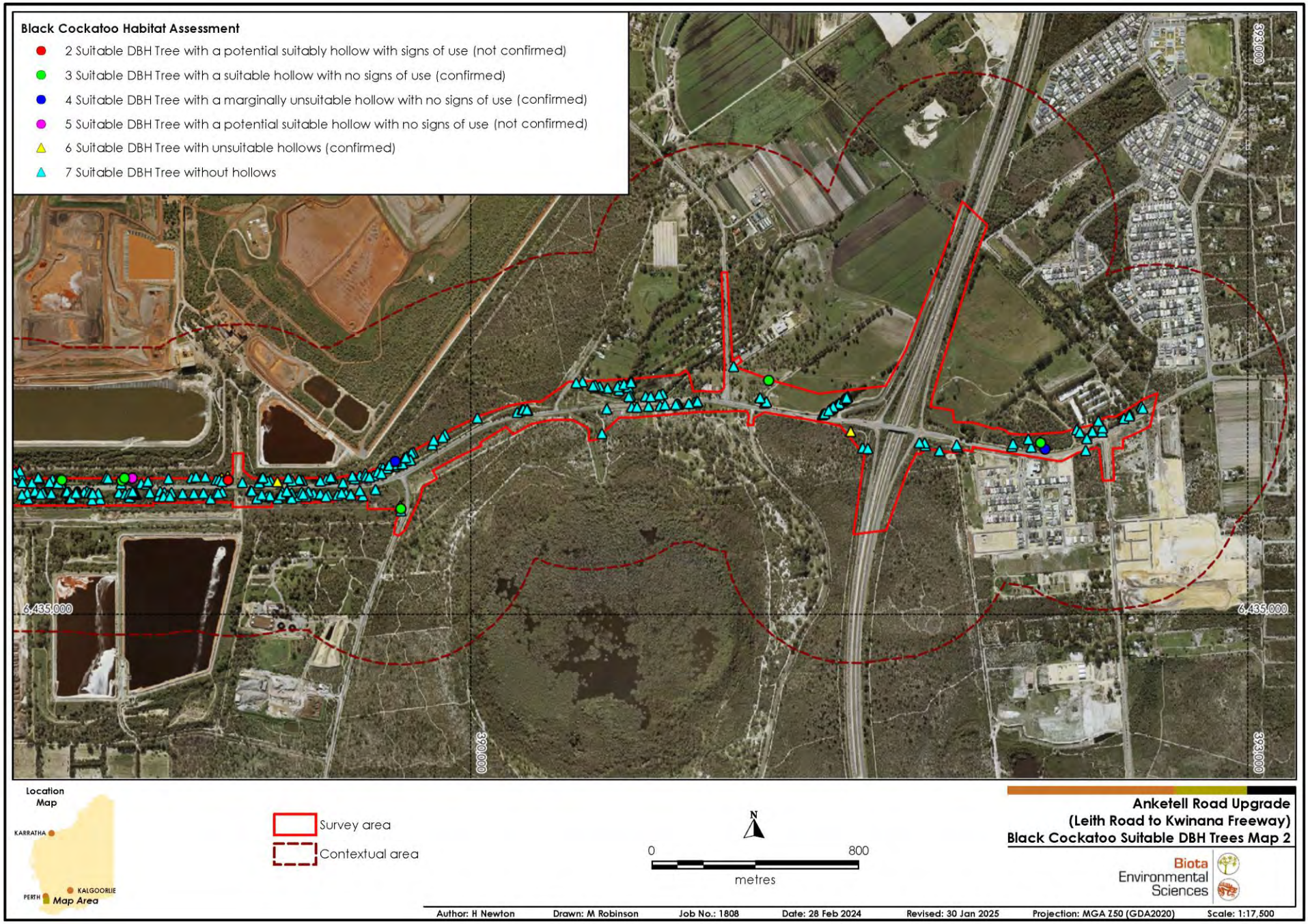

Figure 7.4 Black Cockatoo suitable DBH trees within the survey area (Map 2 of 2).

7.3.3 Roosting Habitat

No evidence of roosting was recorded within the survey area, nor did the BirdLife Australia database of Great Cocky Count roost data return any roosts within the survey area.

Roosting locations are generally in close proximity (usually within 2 km) of a permanent water source and in areas of high quality foraging habitat (DAWE 2022). The survey area did not intersect any areas of permanent water, although damplands may be used when seasonally inundated (Figure 7.1). A portion of the survey area intersects the northernmost fringes of The Spectacles wetland, which represents the most significant permanent water source in proximity to the survey area. The larger Tuart and Jarrah trees bordering this wetland represent some of the most prospective roosting habitat.

The occurrence of roosts near the survey area must be considered to better assess the importance of foraging habitat within it (DAWE 2022). The most recent available data returned four confirmed roosting locations within 3 km of the survey area, three white-tailed black cockatoo sites and one mixed roosting site. At the mixed roost site, 64 white-tailed black cockatoos, and no Forest Red-tailed Cockatoos were recorded during the 2022 Great Cocky Count. Two of the other three roost sites were not surveyed in 2022, the third was and 51 white-tailed black cockatoos were recorded (Birdlife Australia data).

A further 51 roosts were returned from the BirdLife Australia data from a 12 km radius (16 white-tailed black cockatoo roosts, 11 Forest Red-tailed Black Cockatoo roosts, 22 joint roosts, and two roost sites which have since been cleared). The majority of roosts closest to the survey area were white-tailed black cockatoo roosts and, consistent with the advice provided with the BirdLife Australia roost dataset, most white-tailed black cockatoos recorded in coastal regions belong to Carnaby's Black Cockatoos. This, taken together with the modelled distribution of Baudin's Black Cockatoo largely excluding the survey area, would indicate that roosts nearby the survey area are likely to be populated by Carnaby's Black Cockatoos. Most of these roosts were located within the Bassendean vegetation complex, which is dominated by *Banksia* species, an important foraging resource for Carnaby's Black Cockatoo on the Swan Coastal Plain.

A high degree of variability in the use of the roosts is evident in the annual count data from the local area and it is rare for a roost to support birds every year of census; only four roosts in the dataset of 55 have had birds every year of census, and two of these had only been surveyed on two occasions (BirdLife Australia data).

7.3.4 Foraging Habitat Quality Scoring (DCCEEW)

7.3.4.1 Site Condition

It is important to note that the Habitat Quality Scoring (HQS) system is designed to rate the quality of habitat to be impacted for the purposes of offsetting. Here we are applying it to a wider survey area without a defined footprint, and as such may include foraging habitat types that will not be impacted. A site condition score was calculated for each black cockatoo species likely to occur in the survey area (Forest Red-tailed and Carnaby's) for each vegetation unit described within the survey area (Table 7.6), such that it is possible for only those vegetation units occurring within a later designed proposed footprint to be considered in isolation.

One vegetation unit comprising 7.58 ha of the survey area was ranked as Very High foraging quality (Score 7) for both black cockatoo species due to the high cover of Jarrah and *Banksia*; EB1 *Eucalyptus marginata* (*Banksia* spp.) over *Kunzea* and *Acacia* with *Xanthorrhoea* spp. over *Hibbertia*. We would note that the general lack of Marri within the EB1 complex is likely to reduce foraging quality for Carnaby's Black Cockatoos for which Jarrah is of much lower foraging preference than Marri, however the additional presence of *Banksia* contributes to quality. For Forest Red-tailed Black Cockatoos, Jarrah represents a primary food resource.

Banksia woodland units (B2 and B3, together totalling 7.36 ha) were ranked as Moderate (Score 4) foraging habitat quality for Carnaby's Black Cockatoo.

Low (score 2) foraging quality was applicable to areas of open (cover percentages of 2 – 10%) woodland or shrubland of *Banksia* with or without emergent eucalypts for Carnaby's Black Cockatoo (B4, B5, B6, E1 and E5). The same applies to the Forest Red-tailed Black Cockatoo, but only where Jarrah is present in the foliage assemblage (E1).

A Negligible to Low (score 1) foraging score was applicable to areas of scattered foraging plants including all Modified Areas which ranged from commercial/residential mixed land use, mosaic of highly degraded areas to isolated trees over previously cleared areas (including paddocks).

Cleared land (including rail and road infrastructure) (81.58 ha) received a score of 0 (No Potential Sources of Food).

Table 7.6 Survey area vegetation units scored against foraging habitat HQS.

Mapping Unit Code: Short Description	Survey Area ha (%)	Fauna Habitat ha (%)	CBC[1]	FRTBC[2]
Intact Vegetation Units				
A1: *Acacia rostellifera* over *Xanthorrhoea* and *Hibbertia* on limestone	9.06 (4.03)	*Acacia* Shrubland 28.1 (12.5)	1. Negligible - Low	1. Negligible - Low
A2: *Acacia rostellifera* with isolated *Banksia* and *Eucalyptus marginata* over *Xanthorrhoea* with *Hibbertia* on limestone	5.39 (2.40)			
A3: *Acacia rostellifera* shrublands shallow pale sands	2.40 (1.07)			
A4: *Acacia saligna* tall shrubland	6.28 (2.79)			
T1: *Gaudium* over mixed *Acacia* open shrubland	4.98 (2.21)			
B2: *Banksia menziesii* (*B. attenuata*) over *Xanthorrhoea* spp. with *Hibbertia* and *Conostylis*	6.83 (3.04)	*Banksia* Woodland 16.7 (7.4)	4. Moderate	
B3: *Banksia menziesii*, *B. illicifolia* (*B. attenuata*) over *Kunzea* with occasional *Xanthorrhoea* spp. and *Scholtzia*	0.53 (0.23)			
B4: *Banksia attenuata* over *Hibbertia* and *Allocasuarina humilis* on limestone	4.22 (1.88)		2. Low	
B5: *Banksia sessilis* shrubland on limestone	3.93 (1.75)			
B6: *Banksia sessilis* with mixed *Acacia*	1.23 (0.55)			
E1: *Eucalyptus gomphocephala* with occasional *E. marginata*, *Banksia* spp. over *Acacia rostellifera* over *Xanthorrhoea*	31.17 (13.86)	Eucalypt Woodland/Forest 33.1 (14.7)		2. Low
E5: *Eucalyptus decipiens* over *Banksia sessilis* over *Melaleuca* systena and mixed *Acacia* with *Hardenbergia comptoniana*	0.39 (0.17)			1. Negligible - Low
E6: *Eucalyptus gomphocephala* over *Acacia rostellifera* over occasional *Xanthorrhoea*	1.30 (0.58)		1. Negligible - Low	
E7: *Eucalyptus foecunda* over *Spyridium globulosum* and *Acacia rostellifera* with *Hibbertia*	0.24 (0.11)			
EB1: *Eucalyptus marginata* (*Banksia* spp.) over *Kunzea* and *Acacia* with *Xanthorrhoea* spp. over *Hibbertia*	7.58 (3.37)	Jarrah/Banksia Woodland 7.6 (3.4)	7. Very High	7. Very High
M1: *Melaleuca preissiana* low woodland over *Astartea*	0.00 (0.00)	Damplands 2.7 (1.2)	1. Negligible - Low	1. Negligible - Low
M2: Melaleuca lanceolata low woodland	1.81 (0.81)			
K1: *Kunzea* tall shrubland to tall open scrub	0.92 (0.41)			
M4: Mixed *Melaleuca* (*Melaleuca systena*) over *Xanthorrhoea* with mixed *Fabaceae/Proteaceae/Rhamnaceae* and *Hibbertia*	2.50 (1.11)	Melaleuca Shrubland 4.6 (2.1)		
M5: *Melaleuca huegelii* over *Spyridium globulosum* and *Acacia rostellifera* on limestone	0.54 (0.24)			
M6: *Melaleuca systena* and *Acacia saligna* over *Templetonia retusa*, *Spyridium globulosum* and *Acacia lasiocarpa*	1.61 (0.71)			
Modified Areas				
R2: Modified/Planted Callistemon and Calothamnus on roadsides	5.66 (2.52)	Emergent Flooded Gum and Marri 5.7 (2.5)	1. Negligible - Low	1. Negligible - Low
R3: Modified/Revegetation/Planted Mosaic of B1 and B2 vegetation	1.65 (0.73)	Modified Areas 35.8 (15.9)	4. Moderate	
IP: Isolated Trees over Previously Cleared or Pasture	6.92 (3.08)		1. Negligible - Low	
ML: Commercial/Residential Mixed Land Use	27.23 (12.11)			
Degraded/Cleared Areas				
D: Mosaic of highly modified degraded areas	8.90 (3.96)	Degraded/Cleared 90.5 (40.2)	1. Negligible - Low	1. Negligible - Low
CL: Cleared areas	45.34 (20.17)		0. No potential sources of food.	0. No potential sources of food.
RR: Roads, Rail	36.24 (16.12)			

1. Carnaby's Black Cockatoo, 2. Forest Red-tailed Black Cockatoo

7.3.4.2 Site Context

A single site context score for each black cockatoo species was calculated based on the proximity of known breeding areas or quality foraging resources, as per the HQS criteria (Table 3.14).

A site context score of 3 was reached for both species. Although the nearest known breeding sites are approximately 13.5 km north in Bibra Lake and 15 km south in Baldivis (BirdLife Australia data, species not provided), which could result in a site context score of 1, the proximity of quality foraging habitat within 12 km (greater than a score of 3) results in a site score of 3 (Table 3.14).

To ascertain the potential foraging habitat availability within 12 km, the broad scale Heddle Swan Coastal Plain vegetation mapping (DPaW 2017) over those remnants within a 12 km radius of the survey area was considered (Figure 7.5). Considering potential foraging habitat within a 12 km radius is also recommended in DAWE (2022), as it represents the average maximum distance that black cockatoos will fly from nesting locations to forage. Four broad vegetation complexes occur within the survey area: (Heddle et al. 1980, Webb et al. 2016). It must be noted that these are broad scale thematic layers and as such are not necessarily accurate at a fine scale.

Jarrah, a preferred food resource for the Forest Red-tailed Black Cockatoo, was common throughout much of the survey area and is a major component of three of the four vegetation complexes present; Karrakatta, Bassendean and Cottesloe. The Cottesloe complex was the most dominant within the survey area and is characterised by Tuart, Jarrah and Marri woodland and heath, however, we would note that within the survey area, Marri was largely absent. This complex represented 55.09 ha within the survey area, which was approximately 2% of its occurrence within a 12 km radius. Some of the local occurrence of the Cottesloe complex is protected within Bush Forever sites such as 349 Leda and adjacent bushland. Within the survey area, Marri was largely absent from the Karrakatta complex also, and it was mapped as vegetation unit E1, dominated by Tuart woodland of generally low foraging value but with a midstorey of open *Banksia* spp. woodland of foraging value particularly to Carnaby's Black Cockatoo. The Karrakatta complex within the survey area was generally continuous with similar habitat north and south but it was overall uncommon within 12 km of the survey area as much of this complex has been cleared historically.

The two remaining complexes had a smaller occurrence within the survey area. The Bassendean Complex aligns with much of the occurrence of *Banksia* woodland within the survey area, which represents an important foraging resource for white-tailed black cockatoos, particularly Carnaby's Black Cockatoo. As illustrated in (Figure 7.5), the Bassendean complex within the survey area is moderately continuous (connected by smaller roadside vegetation patches) with larger extents east of the survey area, including the Wandi Nature Reserve and Jandakot Regional Park, both Bush Forever sites protected as environmentally sensitive areas under the EP Act. The extent of the Bassendean complex within the survey area represents less than 1% of its extent within a 12 km radius (Figure 7.5). We may assume that this vegetation is continuous outside of the survey area and would be of at least a similar foraging quality (Score 4).

The Herdsman complex is dominated by sedges that are not favourable for foraging (1.14 ha), this complex represents a small proportion of the survey area and surrounding area.

Given the continuity of vegetation complexes within the survey area to the surrounding contextual area (Figure 7.5), including vegetation complexes having foraging habitat quality scores greater than 3 (Table 3.13), results in a site context score of 3.

Table 7.7 Occurrence of the Swan Coastal Plain vegetation complexes (DPaW 2017) within the survey area and vegetation fragments within a 12 km radius.

SCP Veg. Code	Complex Name	Complex Description	Extent within Survey Area (ha)	Extent within 12 km (ha)	Proportion (%)
52	Cottesloe Complex-Central and South	Mosaic of woodland of *Eucalyptus gomphocephala* (Tuart) and open forest of *Eucalyptus gomphocephala* (Tuart) - *Eucalyptus marginata* (Jarrah) - *Corymbia calophylla* (Marri); closed heath on the Limestone outcrops.	55.09	2,550.16	2.16
49	Karrakatta Complex-Central and South	Predominantly open forest of *Eucalyptus gomph*ocephala (Tuart) - *Eucalyptus marginata* (Jarrah) - *Corymbia calophylla* (Marri) and woodland of *Eucalyptus marginata* (Jarrah) - *Banksia* species. *Agonis flexuosa* (Peppermint) is co-dominant south of the Capel River.	7.96	654.39	1.22
53	Bassendean Complex-Central and South	Vegetation ranges from woodland of *Eucalyptus marginata* (Jarrah) - *Allocasuarina fraseriana* (Sheoak) - *Banksia* species to low woodland of *Melaleuca* species, and sedgelands on the moister sites. This area includes the transition of *Eucalyptus marginata* (Jarrah) to *Eucalyptus todtia*na (Pricklybark) in the vicinity of Perth.	2.38	3,823.20	0.06
44	Herdsman Complex	Sedgelands and fringing woodland of *Eucalyptus rudis* (Flooded Gum) - *Melaleuca* species.	1.14	810.22	0.14

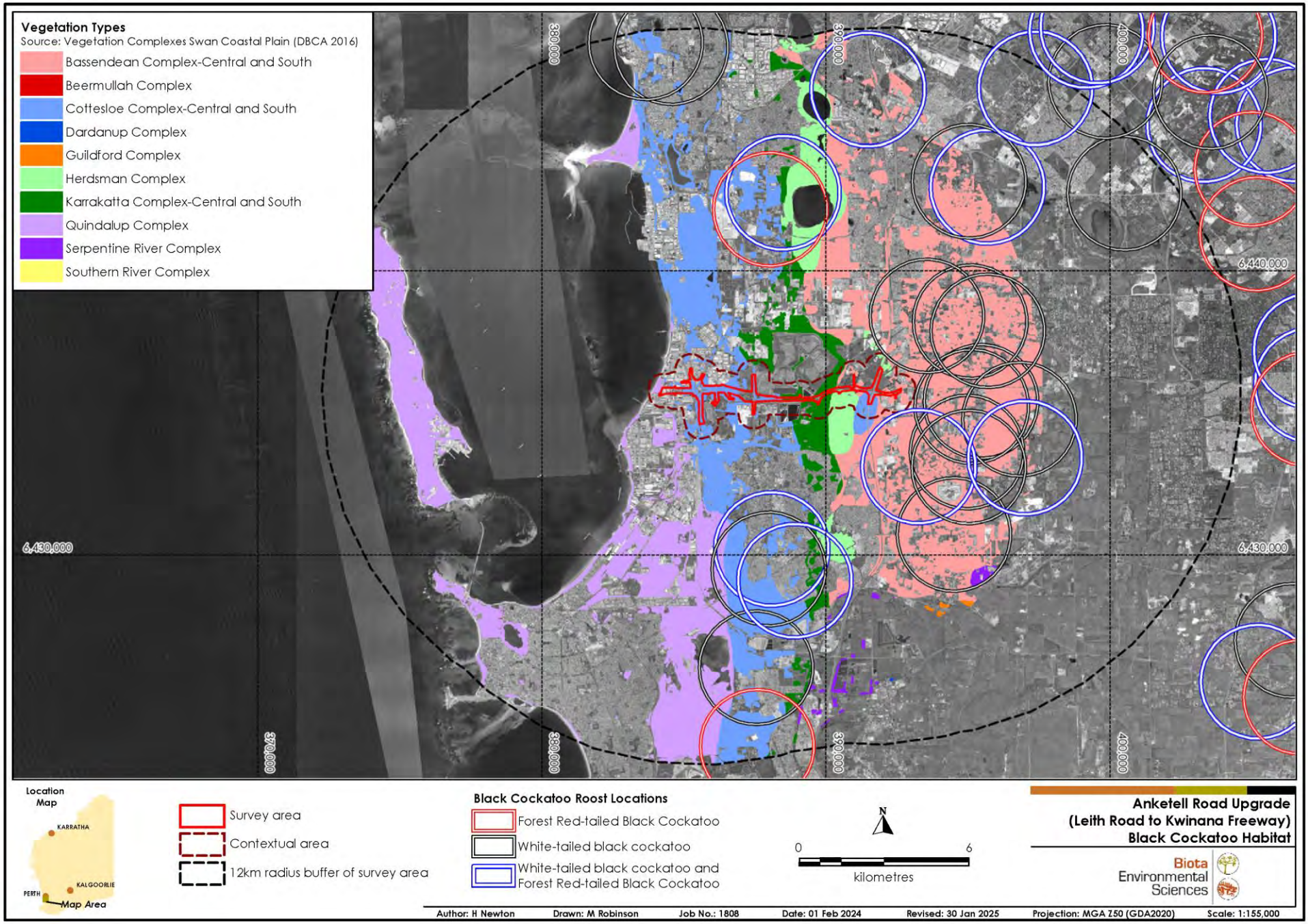

Figure 7.5 Vegetation complexes of the survey area and surrounding 12 km. Black cockatoo roosts (buffered) are also shown.

7.3.4.3 Overall Score

The overall scores resulting from the application of the HQS system are presented in Table 7.8. Results are summarised according to how many hectares of vegetation within the survey area were rated at each score for both Forest Red-tailed and Carnaby's black cockatoo species (Table 7.8).

The very large majority of the survey area was rated as having a score of 5/10 or lower. Areas of higher proportional cover of *Banksia* received a score out of 7/10 for Carnaby's Black Cockatoo (9.01 ha) while a single vegetation complex (EB1), comprising 7.58 ha of the survey area received a score of 10/10 for both species.

Table 7.8: Black cockatoo foraging habitat quality scores.

			Habitat Area (ha)	
Site Condition	Site Context	Overall Score	CBC[1]	FRTBC[2]
0. No potential sources of food	3. Site is within 12 km of other foraging resources with site condition of at least 3.	3	81.58	81.58
1. Negligible to Low	3. Site is within 12 km of other foraging resources with site condition of at least 3.	4	85.74	104.52
2. Low	3. Site is within 12 km of other foraging resources with site condition of at least 3.	5	40.94	31.17
4. Moderate	3. Site is within 12 km of other foraging resources with site condition of at least 3.	7	9.01	-
7. Very High	3. Site is within 12 km of other foraging resources with site condition of at least 3.	10	7.58	7.58

[1] Carnaby's Black Cockatoo [2] Forest Red-tailed Black Cockatoo

Given the mobile nature of black cockatoos and in many cases, a seasonal migratory occurrence, the presence/absence of birds cannot be used as a reliable indicator of habitat importance. However, we can note the presence of foraging evidence of Forest Red-tailed Black Cockatoo recorded within the survey area during the study. Furthermore, the considerable number of roosts located within a 12 km radius of the survey area (Figure 7.5) would support the likely regular presence of Forest Red-tailed and Carnaby's Black Cockatoos within the survey area.

7.4 Significant Species Likelihood

The desktop studies returned a total of 19 significant species occurring in the study area (5 km buffer around the survey area), seventeen vertebrates and two invertebrates (Biota 2022, 2023b). Of these, four have been recorded in the survey area, four are likely to occur in the survey area, and four may occur in the survey area. The remaining are considered unlikely to or would not occur in the survey area.

An assessment of the likelihood of occurrence of a short-tongued bee (*Neopasiphae simplicior*) has been included despite previous records being more than 5 km away from the survey area as so little is known about the species ecology and distribution.

Table 7.9 details the likelihood of occurrence of each significant species returned from the desktop study. Each species that was recorded or considered likely to or may occur in the survey area are discussed in more detail in Section 7.5.

Table 7.9 Likelihood of occurrence of significant species in the survey area.

Taxon	Common Name	Conservation Status		Preferred Habitat	Habitat Available in Survey Area?	Desktop and Current Survey Records	Likelihood of Occurrence (Prior to Survey)	Likelihood of Occurrence (Post–survey)
		State	Commonwealth					
Mammals								
Isoodon fusciventer	Southern Brown Bandicoot, Quenda	P4	–	Variety of forest, woodland, shrubland and heath communities, but prefer areas of denser vegetation, including wetland fringes and heathland.	✓	Between 1990 and 2016 there have been numerous records within the locality, 5 of which are inside the survey area boundary, as well as numerous records from the current survey.	Recorded (previously).	Recorded (Biota 2022, 2023a, 2024a)
Notamacropus irma	Western Brush Wallaby	P4	–	Preferred habitat is open forest or woodland, especially with seasonally wet flats with low grasses and scrubby thickets; also, larger areas of mallee, heathland, and wet sclerophyll forest.	✓	Five records from between 1967 to 2015. The nearest previous record is 2.9 km from the survey area. Recorded on motion camera in the locality (Biota 2022).	May occur.	May occur (in transit).
Dasyurus geoffroii	Western Quoll, Chuditch	VU	VU	Now primarily restricted to Jarrah forest and woodland, with smaller numbers in other eucalypt woodland and mallee.	✓	Two records from 2009 and 2013. The nearest record 440 m south of the survey area boundary.	May occur.	May occur (in transit).
Phascogale tapoatafa wambenger	Wambenger Brush-tailed Phascogale	CD	-	Dry sclerophyll forests and open woodlands that contain hollow-bearing trees	✓	One record from 1961 from within the contextual area.	Unlikely to occur.	Unlikely to occur.
Hydromys chrysogaster	Water–rat	P4	-	Occurs in fresh or brackish water habitats.	-	Two DBCA records in the locality from 1973, one north and one south of the survey area.	Unlikely to occur.	Would not occur.
Falsistrellus mackenziei	Western Falsistrelle	P4	–	Karri forest, Jarrah and Tuart and woodlands of the Swan Coastal Plain.	✓	One record in DBCA database from Harry Waring Mammal reserve, recorded in 1993.	Unlikely to occur.	Unlikely to occur.
Birds								
Oxyura australis	Blue–billed Duck	P4	-	Deep freshwater wetlands. Almost entirely aquatic.	-	Four records from the locality, from between 1998-2008. Three of the records from the Spectacles Wetland (one in the contextual area).	Unlikely to occur.	Would not occur.
Calidris acuminata	Sharp-tailed Sandpiper	MI	MI	Shallows and margins of coastal and inland wetlands, preferring freshwater, less commonly coastal and estuarine intertidal mudflats.	✓ (marginal)	Two records within the locality. One from 1980, the other from 1984.	Unlikely to occur.	Unlikely to occur.
Zanda latirostris	Carnaby's Black Cockatoo	EN	EN	Eucalypt woodlands and nearby heathlands.	✓	Individuals were recorded in the locality during Biota (2022) survey. One DBCA record falls within the survey area.	Recorded (previously).	Recorded (previously).

Taxon	Common Name	Conservation Status		Preferred Habitat	Habitat Available in Survey Area?	Desktop and Current Survey Records	Likelihood of Occurrence (Prior to Survey)	Likelihood of Occurrence (Post–survey)
		State	Commonwealth					
Calyptorhynchus banksia naso	Forest Red–tailed Black Cockatoo	VU	VU	Marri, Jarrah and Karri forests or woodlands.	✓	Seven previous records from the locality, the most recent from 2017 and the nearest record less than 500 m from the survey area boundary.	Likely to occur.	Recorded – (Foraging evidence) (Biota 2022).
Falco peregrinus	Peregrine Falcon	OS	–	A wide range of habitats, including forests, woodland, wetland and coastal areas, and open country.	✓	Recorded once approximately 5 km north of the survey area in 2005 and on the west coast adjacent to the survey area by Biota (2024a).	Likely to occur.	Likely to occur (foraging visitor).
Zanda baudinii	Baudin's Black Cockatoo	EN	EN	Marri, Jarrah and Karri forests or woodlands.	✓ (foraging)	Two unconfirmed "White-tailed Black Cockatoo" records from the locality. The nearest record is approximately 2.6 km south of the survey area.	May occur.	Unlikely to occur.
Plegadis falcinellus	Glossy Ibis	MI	MA, MI	Freshwater wetlands and pastures.	✓	Two records from the locality, one within the contextual area.	May occur.	May occur.
Tyto novaehollandiae novaehollandiae	Masked Owl (southern)	P3	-	Forests or woodlands interspersed with natural clearings or agricultural areas.	-	One DBCA record from 2005, 4 km north of the survey area but generally a rare visitor to the coastal plain around Perth.	Unlikely to occur.	Unlikely to occur.
Reptiles								
Lerista lineata	Perth Lined Slider	P3	–	Sandy coastal heath and shrubland on lower west coast.	✓	Fourteen records from the locality, two of which occur inside the survey area boundary and two in the contextual area.	Recorded – previously (DBCA T&P fauna Db).	Recorded – previously (DBCA T&P fauna Db).
Neelaps calonotos	Black–striped Snake	P3	–	Dunes and sandplains vegetated with heaths and eucalypt or banksia woodlands mostly along the swan coastal plain.	✓	One historical record located within the contextual area. Remains of one individual were found during a previous survey 0.2 km south of the survey area.	Likely to occur.	Likely to occur.
Ctenotus gemmula	Jewelled Ctenotus	P3	–	Coastal heaths characterised by Banksia or Mallee woodlands with pale sand plains	✓	One generalised ALA record from the locality (date unavailable).	Unlikely to occur.	Unlikely to occur.
Invertebrates								
Synemon gratiosa	Graceful Sunmoth	P4	–	Sedgelands, heathlands and woodlands. Breeds on *Lomandra* mat rush. Coastal *Banksia* Woodland herbland, heathland or shrubland close to the coast	✓	Six records recorded between 1948 and 2011. The oldest record occurs in the contextual area.	Likely to occur.	Likely to occur.
Idiosoma sigillatum	Swan Coastal Plain Shield–	P3	–	*Banksia* woodland and heathland on sandy soils on the Swan Coastal Plain.	✓	Four records from the locality (DBCA and ALA), the most recent from 1977 and the	Likely to occur.	May occur.

Taxon	Common Name	Conservation Status		Preferred Habitat	Habitat Available in Survey Area?	Desktop and Current Survey Records	Likelihood of Occurrence (Prior to Survey)	Likelihood of Occurrence (Post–survey)
		State	Commonwealth					
	backed Trapdoor Spider					nearest approximately 0.5 km away from the survey area, just outside the contextual area.		
Neopasiphae simplicior	A short–tongued bee	EN	CR	*Goodenia filiformis, Lobelia tenuior, Angianthus preissianus.*	✓ (marginal)	Recorded from the Forrestdale Lake Nature Reserve (approx. 8.5 km N of survey area).	Unlikely to occur (data deficient)	Unlikely to occur (data deficient)

7.5 Vertebrate Fauna

7.5.1 Significant Vertebrate Species Recorded in the Survey Area

7.5.1.1 Quenda, *Isoodon fusciventer*

Quenda are listed as a Priority 4 species by the DBCA. They occur patchily through southwestern Australia from just north of Perth to Esperance. Quenda occur in a variety of habitat types, including forest, woodland, shrubland, and heathland, but prefers areas with denser vegetation. Quenda also favour sandy substrates to allow for digging up food, and often occur in association with wetland areas (van Dyck and Strahan 2008, van Dyck et al. 2013).

The Quenda is a medium-sized ground-dwelling marsupial that is primarily nocturnal but may be active during the day on occasions, as seen during the various Biota surveys. Motion camera records from the current study recorded Quenda active during the day on multiple occasions. Quenda are territorial and defend a home range. Breeding in this species is opportunistic, but typically begins in winter and peaks in spring, lasting 6 – 8 months. Nests of ground litter over shallow depressions are constructed next to or under logs, shrubs or debris piles. Quenda feed on invertebrates, fungi and subterranean plant material (van Dyck and Strahan 2008, van Dyck et al. 2013).

Quenda were recorded within the survey area in a variety of habitat types including *Banksia* and eucalypt woodlands, *Acacia* shrublands, and *Melaleuca* shrublands. Individuals were seen on four occasions within the survey area and captured on motion-sensitive cameras. Numerous diggings were also recorded from multiple locations (see Figure 7.2).

7.5.1.2 Forest Red-tailed Black Cockatoo, *Calyptorhynchus banksii naso*

Forest Red-tailed Black Cockatoos are listed as Vulnerable under the EPBC Act and BC Act. The species is restricted to the southwest corner of Western Australia, from Gingin to the Albany area. They occur primarily in eucalypt forests of the Darling Scarp and far south-west, but in the last 10 years have become more common in suburban Perth.

Forest Red-tailed Black Cockatoos nest in hollows in Jarrah, Marri and Karri trees. They feed primarily on seeds of eucalypts, and other species such as *Allocasuarina* (Johnstone and Storr 1998). More recently, they have begun foraging on introduced Cape Lilac (**Melia azedarach*) on the coastal plain near Perth.

Foraging evidence (Marri nut scarring) was recorded within the survey area (see Figure 7.2) in Jarrah/Banksia Woodland habitat. An area of 38.34 ha of the survey area represented low to very high-quality foraging habitat for the species (vegetation units EB1 and E1, Table 7.6). Individuals and feeding signs have been recorded in previous surveys east of the survey area (Biota 2023a), and there are up to 10 roost sites (mixed and individual) within a 12 km radius of the survey area (Figure 7.5).

7.5.1.3 Carnaby's Black Cockatoo, *Zanda latirostris*

Carnaby's Black Cockatoo are listed as Endangered under the EPBC Act and BC Act. They are endemic to Western Australia and occur from approximately southwest of the line from Kalbarri to Esperance. This species inhabits mainly proteaceous shrublands and heaths, and eucalypt woodlands and forests (Johnstone and Storr 1998).

Carnaby's Black Cockatoo is a long-lived species, and breeds annually from four years of age (Saunders 1986). Breeding takes place from July to October, primarily in the Wheatbelt. Following breeding, many individuals disperse towards the coast, and during this time they are common in the Perth metropolitan area. The species feeds primarily on the seeds of *Hakea*, *Banksia*, *Grevillea*, *Eucalyptus* and introduced pines, as well as insect larvae (Johnstone and Storr 1998).

An area of 57.53 ha of the survey area represented low to very high-quality foraging habitat for the species (vegetation units B2, B3, B4, B5, B6, E1, E5, and EB1, and modified vegetation unit R3

Table 7.6). While not recorded within the survey area during this study, Carnaby's Black Cockatoo have been recorded within the survey area previously and there are many records of the species within a 12 km radius of the survey area, with individuals and foraging evidence being recorded during previous surveys within the study area (Biota 2022, 2023a).

7.5.1.4 Perth Lined Slider, *Lerista lineata*

The skink species *Lerista lineata* is listed as a DBCA Priority 3 species. It occurs in a small coastal area between Perth and Mandurah, with isolated populations on Rottnest Island, Woodleigh Station in the mid-west coast, and Busselton (Wilson and Swan 2017). This species favours sandy coastal heath and shrubland, and shelters in the upper layer of loose soil beneath leaf litter, logs and at the base of shrubs. Perth Lined Slider are a fossorial species and extensive land clearing has led to small pockets of fragmented remnant habitat.

The species has been recorded previously within survey area on two occasions, once in 2007 and the other in 2014 (DBCA Threatened and Priority Fauna Database). There are also two records within the contextual area. The coastal *Acacia* shrubland (27.87 ha) and *Banksia* Woodland (17.26 ha) represent the most suitable habitats for the species within the survey area.

7.5.2 Significant Vertebrate Species Likely to Occur in the Survey Area

7.5.2.1 Peregrine Falcon, *Falco peregrinus*

The Peregrine Falcon is an Other Specially Protected species under the BC Act. It occurs Australia-wide and inhabits a wide range of habitats, including forest, woodlands, wetlands and open country (Pizzey and Knight 2007). Home ranges are probably defended year-round and are variable in size, though not typically less than 480 ha (Marchant and Higgins 1993). The species typically nests on ledges in cliffs, granite outcrops and quarries, but also in hollow trees and in old nests constructed by other species such as Wedge-tailed Eagles and Ravens (Johnstone and Storr 1998).

Peregrine Falcons are likely to occur as foraging visitors in the survey area. The species has been recorded once approximately 5 km north of the survey in 2005 and on the west coast adjacent to the survey area during the Westport Last Mile Area shorebird survey in January 2024.

7.5.2.2 Black-striped Snake, *Neelaps calonotos*

The Black-striped Snake is a DBCA Priority 3 listed species. It is restricted to the sandy coastal strip of the Swan Coastal Plain between Mandurah and Lancelin, with some records existing inland of Gingin, Bullsbrook and Caversham. It primarily occurs on dunes and sand plains vegetated with heaths and eucalypt or *Banksia* woodlands. The species feeds predominantly on *Lerista praepedita*, a small burrowing skink. Due to extensive land clearing only small pockets of fragmented remnant habitat exist.

As a nocturnal, burrowing species Black-striped Snake are seldom seen. However, given the availability of suitable habitat (*Banksia* woodland and Jarrah/*Banksia* woodland) within the survey and surrounding contextual area, it is likely the species would occur. There is a historical record of the species in the western end of the contextual area, and the remains of one individual were recorded in a previous survey not far from the survey area (Biota 2021).

7.5.3 Significant Vertebrate Species That May Occur in the Survey Area

7.5.3.1 Western Brush Wallaby, *Notamacropus irma*

The Western Brush Wallaby is listed as a DBCA Priority 4 species. It is endemic to the south-west of Western Australia, where it is distributed from north of Kalbarri to near Cape Arid. It inhabits a wide range of habitats, including open forest and woodland, mallee, heathland, low open grasslands and thickets (Woinarksi and Burbidge 2016). The species is absent from Karri forests with dense undergrowth.

Surprisingly little is known of the ecology of the species. It is a grazer rather than a browser, but its food preferences are little-known (van Dyck and Strahan 2008, Woinarski et al. 2014). Breeding occurs between April and May, with young emerging from the pouch from October to November. Historically, population declines were caused by poachers trading skins, the introduction of the fox, and clearing of habitat for agriculture. Foxes are still a threat to the survival of this species, with juveniles most at risk of predation.

Records of the Western Brush Wallaby from the northern Swan Coastal Plain are limited, the species is far more common in the better wooded Jarrah and Warren regions (NatureMap records). There are five historical records of the species occurring within 10 km of the survey area, the nearest is less than 3 km away on the Marri Park Golf Course (1999). Furthermore, the species was recorded on a motion camera approximately 3.5 km east of the survey area boundary, in Jarrah/*Banksia* woodland habitat by Biota (2022). The species may occur based on the presence of suitable habitat and a small number of local records. However, given the fragmented nature of the habitat within the survey area, and the presence of the Kwinana Freeway representing a barrier to the better wooded areas east of the freeway, it is considered unlikely to occur west of the Kwinana Freeway. The species is considered to have some, albeit low, chance of occurrence east of the Kwinana Freeway, particularly in the areas nearest to and in The Spectacles.

7.5.3.2 Western Quoll, Chuditch, *Dasyurus geoffroii*

Chuditch are listed as Vulnerable under the EPBC Act and BC Act. It formerly occurred over much of the Australian continent but is now restricted to south-western Australia (Woinarski et al. 2014). It previously occurred across a wide range of habitats including woodlands, dry sclerophyll forests and desert areas. It now occurs primarily in the Jarrah forests and nearby areas, but with isolated subpopulations still present in the Avon Wheatbelt, eastern Goldfields woodlands, and near Fitzgerald River National Park and Ravensthorpe Range (Woinarski et al. 2014).

Chuditch are nocturnal and solitary, and may move large distances (up to several kilometres) during a night while foraging (van Dyck and Strahan 2008). Chuditch are seasonal breeders, with mating occurring from late April to early July (Menkhorst and Knight 2011). Chuditch utilise hollow logs and burrows as dens or refuge in eucalypt forests, dry woodlands and mallee shrublands (Strahan 1995).

While the species is rarely recorded on the Swan Coastal Plain, two contemporary records (2009 and 2013) place the Chuditch in the nearby reserves of Jandakot Regional Park and The Spectacles (part of Beeliar Regional Park). The portion of the survey area that falls within the boundary of The Spectacles east of the Kwinana Freeway represents the locality of highest likelihood of occurrence for the Chuditch, albeit as a transient visitor from further east. This portion of the survey forms part of a connected corridor across the Beeliar and Jandakot Regional Parks, which have a higher probability of supporting the Chudtich, which generally need sizeable areas of woodland habitat (>20,000 ha) to persist (DEC 2012). This corridor also stretches eastward toward the northern Jarrah forests where the Chuditch is more commonly recorded. The Chuditch is considered unlikely to occur within the survey area west of the Kwinana Freeway primarily due the significant barrier to movement created by the freeway with four lanes of traffic and dual railway. Main Roads have commissioned Biota to undertake a motion-camera monitoring study, within the survey area and nearby reserves, to determine whether a local population of Chuditch may occur across the wider area.

7.5.3.3 Glossy Ibis, *Plegadis falcinellus*

Glossy Ibis are listed as Migratory under the EPBC Act and BC Act and are widely distributed globally. Within Western Australia, this species is particularly concentrated in well-watered flatlands of the Kimberley and Swan Coastal Plain (Johnstone and Storr 1998). It is a non-breeding visitor to the Swan Coastal Plain, where it is generally rare to uncommon but increasing in abundance (Johnstone and Storr 1998). This species mainly forages on aquatic invertebrates, as well as terrestrial invertebrates and small vertebrates.

Glossy Ibis May occur in the survey area. Only two records of the species were returned from within the desktop study: one within the contextual area near the Spectacles Wetlands, the other

south-east of the survey area in a paddock. However, given the presence of some suitable habitat (Damplands, Figure 7.1) and the highly mobile nature of the species, it is considered to potentially occur.

7.6 Invertebrate Fauna

7.6.1 Significant Invertebrate Fauna Likely to Occur in the Survey Area

7.6.1.1 Graceful Sunmoth, *Synemon gratiosa*

Graceful Sunmoth are a DBCA Priority 4 listed species. They occur on Coastal *Banksia* Woodland herbland, heathland or shrubland close to the coast. Graceful Sunmoths are brightly coloured and active during the day, usually when the weather is warmer. They breed on host plant species *Lomandra hermaphrodita* and *Lomandra maritima*.

Graceful Sunmoth are likely to occur in the survey area. The desktop study returned six records, recorded between 1948 and 2011. The oldest record occurs in the contextual area. Both known host plant species *Lomandra hermaphrodita* and *L. maritima* were recorded within the survey area.

7.6.2 Significant Invertebrate Fauna Species That May Occur in the Survey Area

7.6.2.1 Swan Coastal Plain Shield-backed Trapdoor Spider, *Idiosoma sigillatum*

The Swan Coastal Plain Shield-backed Trapdoor Spider is a DBCA Priority 3 listed species. *Idiosoma sigillatum* occurs on the Swan Coastal Plain in the southwest of Western Australia. Its range extends from Dalyellup north to Ledge Point, including Rottnest Island and Garden Island, and to the east as far as Boyanup north to Gingin (Rix et al. 2018). Burrows have been found on the sandy soils of *Banksia* woodlands and heathland (Rix et al. 2018). While small populations of *I. sigillatum* still exist in some reserves in the Perth metropolitan region, and in other remnant woodlands, the species is now locally extinct across the majority of its former range (Rix, M. G. et al. 2017).

Idiosoma sigillatum build a moustache-like arrangement of twigs or leaves of *Allocasuarina* around the entrance to their burrow (Rix et al. 2018). Males have been observed wandering in search of females during the cooler months of May – July with a peak in activity corresponding to the first winter rains, usually in May.

The Swan Coastal Plain Shield-backed Trapdoor Spider may occur in the survey area. The desktop returned four records from the study area (DBCA and ALA), the most recent from 1977 and the nearest approximately 0.5 km away, just outside the contextual area. This location was visited in order to confirm local habitat preferences. While habitat is available within the survey area, the species was not recorded despite targeted searches for their burrows, which are generally detectable with targeted effort by experienced zoologists.

7.6.3 Significant Invertebrate Fauna Potentially Occurring in the Survey Area

7.6.3.1 A Short-tongued Bee, *Neopasiphae simplicior*

Neopasiphae simplicior is listed as Endangered under the BC Act, and Critically Endangered under the EPBC Act. Forrestdale Lake Nature Reserve on the Swan Coastal Plain may represent the sole remaining population of the species (Department of the Environment 2023). The reserve lies on the Bassendean dunes and the vegetation is largely comprised of *Banksia* woodland and closed Swamp Paperbark forests. Historically the species has also been recorded from Cannington and Kooljerrenup Nature Reserve near Lake Clifton (Eco Logical 2015). The known and historical distribution of this species overlaps the 'Claypans of the Swan Coastal Plain' TEC, and it has been found within clay-based wetlands and vegetation subject to seasonal flooding. It is known to utilise *Goodenia filiformis*, *Lobelia tenuior* (recorded within the survey area) and (males only) *Angianthus preissianus* (Houston 2000) although other species are expected to be utilised.

With so little known of the species, including its distribution which is currently known to include only the Forrestdale Lake Nature Reserve, it difficult to assess likelihood. If restricted to Forrestdale Lake Nature Reserve, then it may be considered unlikely to occur. Main Roads have commissioned Biota to undertake further work in collaboration with bee specialist Dr Kit Prendergast to better ascertain the likelihood of the bee occurring.

7.7 Short-Range Endemic Invertebrate Fauna

7.7.1 Habitat for Known or Potential SREs

Microhabitats supporting moisture for longer periods are more amenable to the non-burrowing groups prone to short-range endemism such as snails, millipedes, and isopods. These microhabitats include deep leaf litter, under rocks and fallen logs and other debris. Patches of these microhabitats were scattered throughout many of the fauna habitats with the survey area. Rocky habitats were less common and largely present as limestone outcropping within the Acacia Shrubland and Melaleuca Shrubland habitat types at the western coastal end of the survey area (Figure 7.6). None of the known SRE species from the desktop study have a preference for this habitat type (see Appendix 19), however, many invertebrates from SRE-prone groups, particularly snails and millipedes, are saxicoline.

Woodland areas in better vegetation condition, particularly the Banksia woodland immediately west and east of Kwinana Freeway, offered many areas of accumulated leaf litter and debris suitable for SRE groups. This area was also a focus of SRE sampling effort because it is the preferred habitat type of *Idiosoma sigillatum* (DBCA Priority 3) (see Figure 7.6, Figure 7.7). An important consideration is the wider availability of the habitats present, with ongoing clearing of vegetation on the already fragmented Swan Coastal Plain, having the potential to considerably reduce area of occupancy through local population removal. For example, *I. sigillatum* is a relatively widespread species but with a distribution constrained to the Swan Coastal Plain in Banksia habitats that have been heavily cleared, with Banksia woodlands of the Swan Coastal Plains recognized as an endangered TEC. However, considerable survey effort within the survey area did not detect the species and Banksia habitats are well represented in the contextual area and beyond within the Beeliar Regional Park (the Spectacles).

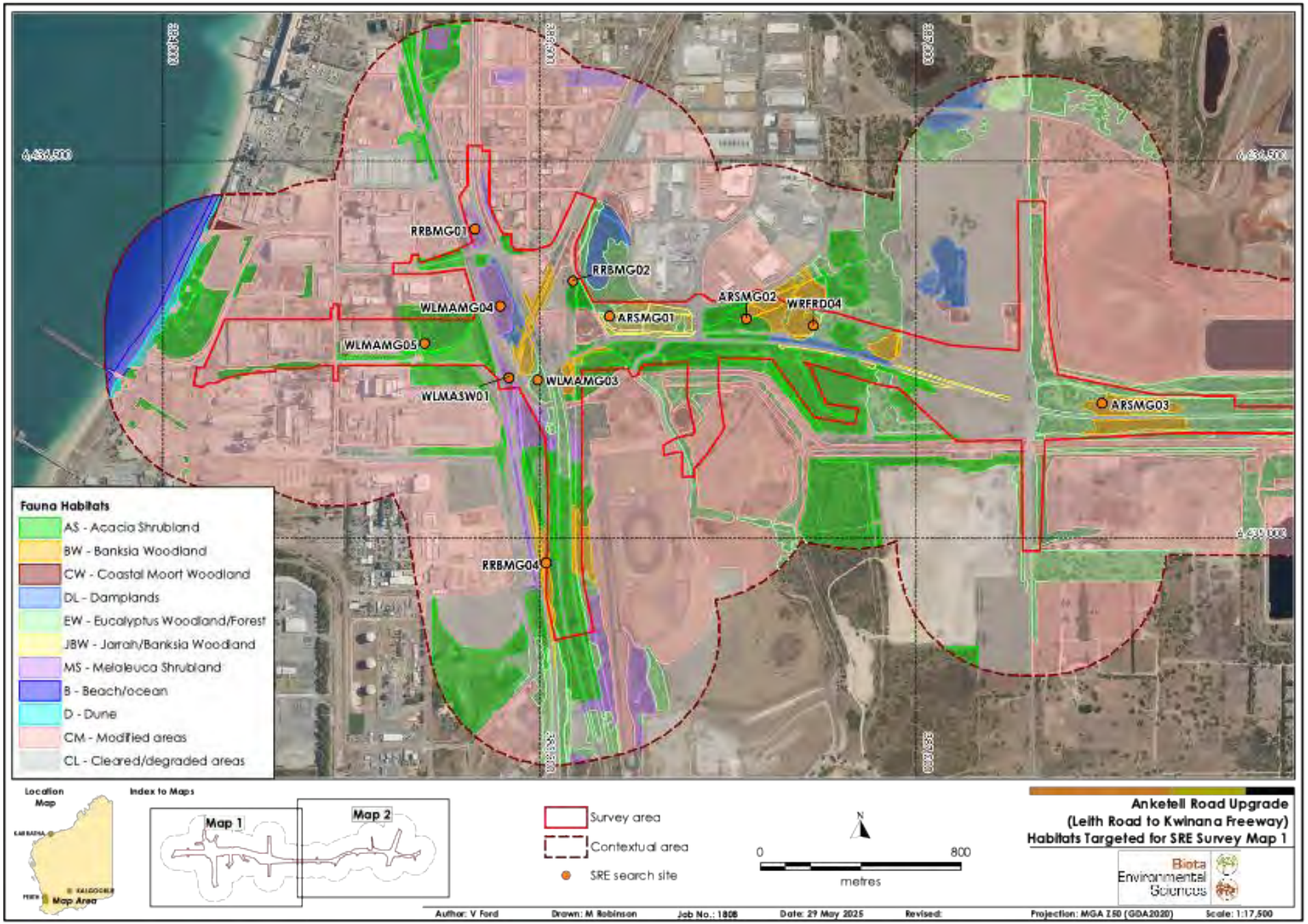

Figure 7.6: Short-range endemic invertebrate sampling effort with habitats of the survey area and contextual area (map 1 of 2).

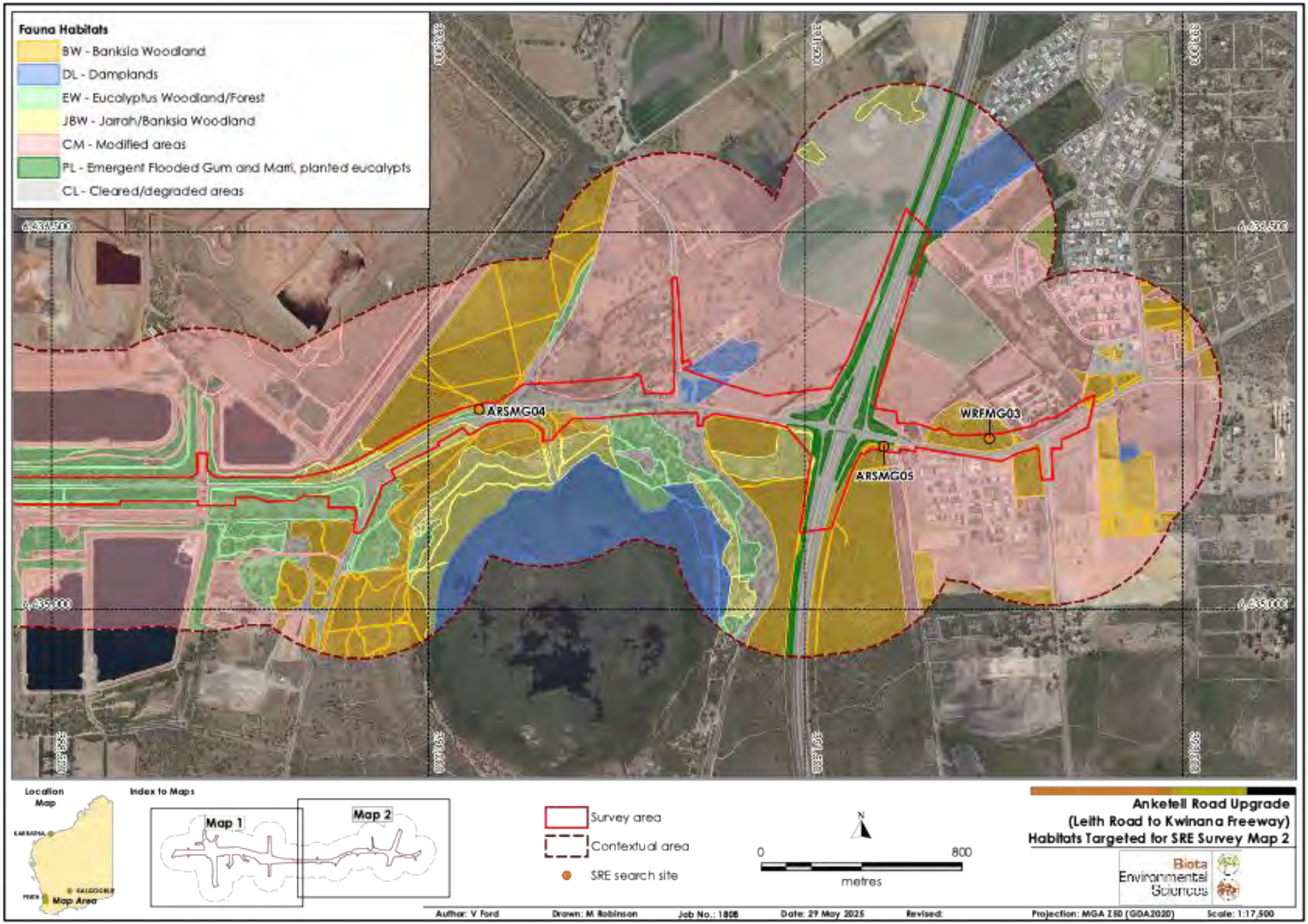

Figure 7.7: Short-range endemic invertebrate sampling effort with habitats of the survey area and contextual area (map 2 of 2).

7.7.2 SRE Likelihood of Occurrence

No known or potential SRE fauna were recorded from within the survey area, contextual area or study area. The majority of invertebrate fauna recorded were readily identifiable in the field as widespread or exotic species (i.e., *Ommatoiulus moreleti, Theba pisana*) and so were not collected. Three specimens were collected (one camaenid snail, one buthid scorpion, one isopod) and specialist identifications were sought for these from the WA Museum and Alacran Environmental Science. None of the recorded specimens were found to belong to species that represent potential SRE fauna (further detail in Appendix 20).

The desktop study identified 17 confirmed SRE species within the 100 km buffer of the survey area. This total comprises eight mygalomorph spiders, four millipedes, three isopods and two annelids. Further examination of distributional records and habitat preferences for these taxa revealed that the vast majority demonstrate distributions localised to the Darling Scarp and are therefore not expected to occur within the survey area (further detail provided in Appendix 19). The following two species were exceptions to this:

- the Swan Coastal Plain Shield-backed Trapdoor Spider, *Idiosoma sigillatum* (discussed in Section 7.6.2.1), and
- isopod species *Buddelundia cinerascens* and *Buddelundia inaequalis* (likely represent the same species) - WAM records show both of these species exhibit a restricted distribution confined to the westerly margin of the Swan Coastal Plain and Rottnest Island. Records suggest this species may be widespread within the area.

A further 88 taxa of unresolved taxonomy were considered to represent potential SREs, comprising; 42 mygalomorph spiders, 18 isopods, 16 millipedes, nine pseudoscorpions and three scorpions. The remaining taxa were either not considered SRE taxa due to demonstrated large distributions or because they lack enough taxonomic resolution to provide an accurate assessment of their status. However, they do belong to groups broadly recognised as prone to short-range endemism. Findings of the SRE desktop are presented in Appendix 19.

Introduced invertebrates were recorded in considerable numbers during the SRE searches and were likely to have been outcompeting native invertebrates reliant on similar habitats in some areas. Introduced invertebrates included the White Italian Snails (*Theba pisana*), Portuguese millipedes (*Ommatoiulus moreleti*) and Garden Snails (*Cornu adspersum*) amongst others.

8.0 Summary of Significant Features

8.1 Vegetation Representing Matters of National Environmental Significance

8.1.1 'Banksia Woodlands of the Swan Coastal Plain ecological community' TEC

A total of nine patches of the Commonwealth-listed 'Banksia Woodlands of the Swan Coastal Plain ecological community' TEC occurred either wholly or partially within the survey area. The extent of this TEC within the survey area comprised 14.56 ha, meaning that 9.80% of the 'local' extent of this TEC occurs within the survey area.

8.1.2 'Tuart (*Eucalyptus gomphocephala*) woodlands and forests of the Swan Coastal Plain' TEC

A total of eight patches of the Commonwealth-listed 'Tuart (*Eucalyptus gomphocephala*) woodlands and forests of the Swan Coastal Plain' TEC occurred either wholly or partially within the survey area, whilst another nineteen patches that were assessed did not meet the diagnostic criteria in order to be recognised as the TEC. The extent of this TEC within the survey area comprised 40.99 ha (18.23%), with a further 59.58 ha of this TEC that was mapped within the contextual area.

8.1.3 'Honeymyrtle shrubland on limestone ridges of the Swan Coastal Plain Bioregion' TEC

Two patches of the Commonwealth-listed 'Honeymyrtle shrubland' TEC was confirmed to occur within the survey area after meeting the key diagnostic criteria for recognition according to the approved conservation advice released on 15 February 2023. Both patches occurred within the survey area north and south of Anketell Rd and comprised a total of 1.96 ha.

8.1.4 Flora

No species listed as Threatened under the EPBC Act were recorded within the survey area.

8.2 Fauna Species Representing Matters of National Environmental Significance

The likelihood of species representing Matters of National Environmental Significance occurring within the survey area is summarised as follows:

- Carnaby's Black Cockatoo (Endangered) – Recorded (previously);
- Forest Red-tailed Black Cockatoo (Vulnerable) – Recorded (foraging sign);
- Chuditch (Vulnerable) – May occur (in transit);
- Baudin's Black Cockatoo (Endangered) – Unlikely to occur;
- Glossy Ibis (Migratory) – May occur; and
- *Neopasiphae simplicior* (a short-tongued bee) (Critically Endangered) – Unlikely to occur (data deficient).

8.3 Other Features of Significance

8.3.1 Vegetation

A single State-level TEC was identified within the survey area:

- Endangered '*Melaleuca huegelii – Melaleuca systena* shrublands on limestone ridges (Gibson et. al. 1994 type 26a)' – 1.96 ha;

Three State-level PECs were identified within the survey area:

- Priority 3 'Banksia woodlands of the Swan Coastal Plain' – 14.65 ha;
- Priority 3 'Northern Spearwood shrublands and woodlands (FCT 24)' – 57.12 ha; and
- Priority 3 'Tuart (*Eucalyptus gomphocephala*) woodlands and forests of the Swan Coastal Plain' (FCT 30b) – 40.99 ha.

With a further PEC (Priority 3 'Low lying *Banksia attenuata* woodlands or shrublands (FCT 21c)') only mapped from within the contextual area (5.31 ha).

All areas identified as the State-listed 'Banksia woodlands of the Swan Coastal Plain' PEC correspond with the Commonwealth 'Banksia Woodlands of the Swan Coastal Plain ecological community' TEC.

8.3.2 Flora

Three native State-listed Priority species were identified within the survey area during the current study:

- *Poranthera moorokatta* (Priority 2): a single individual was recorded within a single quadrat in the EB1 vegetation unit;
- *Hibbertia leptotheca* (Priority 3): recorded percentage cover at three quadrats within either the M2 or M4 vegetation units. A total of 59 individuals were recorded from 17 separate locations within the survey area; and
- *Eucalyptus foecunda* subsp. *foecunda* (Priority 4): was a dominant component of the overstorey stratum for vegetation unit E7. A total of 40 individuals were recorded from 10 separate locations within the survey area.

8.3.3 Wetlands

Two Multiple use geomorphic wetlands intersected the eastern end of the survey area. A single 'Resource Enhancement' wetland is situated immediately adjacent to the western end of the survey area within the contextual area, with the recommendation that it be upgraded to 'Conservation' category status.

All ten wetlands situated within the contextual area belonged to either dampland or sumpland geomorphology and varied in their ecological function, vegetation values, and overall condition and disturbance levels.

One wetland listed under the Directory of Important Wetlands of Australia (DIWA; DAWE 2021) intersects the contextual area, with an additional wetland system occurring within the study area:

Spectacles Swamp intersects the contextual area with its closest boundary situated approximately 115 m from the survey area. Spectacles Swamp is a representative example of a wooded swamp of the SCP, supporting small breeding colonies of five waterbirds. The vegetation of Spectacles Swamp has been identified as regionally significant bushland and recommended for protection (Western Australian Planning Commission 1998).

9.0 Discussion

9.1 Vegetation

Twenty intact vegetation units were identified and described within the survey area. These units comprised 41%, with the remainder of the areas representing modified or cleared areas.

The most widespread intact vegetation unit in the survey area was E1 (*Eucalyptus gomphocephala* with occasional *E. marginata, Banksia* spp. over *Acacia rostellifera over Xanthorrhoea*) which comprised 13.86% of the survey area. Overall, four *Acacia* dominated vegetation units, five *Banksia* vegetation units, four *Eucalyptus* vegetation units, four *Melaleuca* vegetation units, and a single *Kunzea* unit and single *Gaudium* unit were mapped within the survey area.

Seven units not assessed as intact vegetation associations were also identified and mapped within the survey area: these comprised two units representing Modified/Revegetated/Planted areas of vegetation; three units representing highly modified areas; and two units representing cleared areas.

9.1.1 Threatened Ecological Communities

A total of nine patches of the Commonwealth-listed 'Banksia Woodlands of the Swan Coastal Plain ecological community' TEC occurred either wholly or partially within the survey area, with 14.56 ha intersecting the survey area. An additional 134.04 ha was inferred to occur within the contextual area, with a further 176.22 ha of the combined patch area mapped outside of the contextual area, meaning that at most 9.80% of the 'local' extent occurs within the survey area.

The condition of the patches that occurred within the survey area ranged from Good to Excellent, with the majority being in Very Good condition. The extent of this TEC has declined significantly on the Swan Coastal Plain, with an approximate 60% reduction in area. The remaining patches are heavily fragmented, with a median patch size estimated at 1.6 hectares, and are typically small over much of its range but especially around the Perth metro area. Small sizes make remnant patches more vulnerable to disturbances and the separation between the patches also causes problems for ecological processes that support the overall health of the ecological community.

A total of eight patches of the Commonwealth-listed 'Tuart (*Eucalyptus gomphocephala*) woodlands and forests of the Swan Coastal Plain' TEC occurred either wholly or partially within the survey area, totalling 40.99 ha within the survey area. An additional 59.58 ha was inferred to occur within the contextual area, with a further 13.19 ha of the combined patch area mapped outside of the contextual area, meaning that at most 40.76% of the 'local' extent occurs within the survey area.

The condition of the patches that occurred within the survey area ranged from Good to Excellent, with the majority being in either a Good or Very Good condition. The Tuart woodlands and forests ecological community encompasses considerable natural variation across its range and has been either heavily cleared and/or degraded. Remnants are small and isolated, while others are larger and yet have been heavily modified. Given the high rates and loss of the ecological community across its range, all remnants contribute, but not all are protected, as Matters of National Environmental Significance.

Two areas (considered a single patch) of the State and Commonwealth-listed Critically Endangered '*Honeymyrtle shrubland on limestone ridges of the Swan Coastal Plain Bioregion'* TEC (relating to Floristic Community Type 26a) occurred within the survey area. The patch occurred within the survey area both north and south of Anketell Rd and comprised a total of 1.96 ha in a degraded condition.

FCT 26a is highly restricted and occurs on skeletal soil on ridge slopes and ridge tops and is currently known from massive limestone ridges around Yanchep north of Perth, and south of Perth near Lake Clifton. The community is currently known from a total of approximately 164 hectares. Currently, there are approximately 148 ha of the community found on public lands. Of this, about eight hectares are in CALM Reserves, 26 ha are in National Parks, 106 ha are in State Forest (most of which is proposed to be changed to National Park, Nature Reserve or Conservation Park (English and Luu 2005), and about eight hectares are on lands under the care, control and management of other authorities (mainly Local Government Authorities). Another 16 ha of the community occur on private land (i.e., Alcoa Australia). Areas of threatened ecological communities that occur in State Forest are proposed to be managed for their conservation or recovery as recommended in (1997).

With respect to the currently known, and surveyed areas (English and Luu 2005):

- Occurrence 34 and all of Occurrences 36 and 37 have been cleared for limestone mining but have regenerated to some extent.
- Occurrence 59 is to be cleared for the extension of the Mitchell Freeway.
- Occurrences 62-63 occur off Old Coast Road on private property. These occurrences appear to have been historically grazed.
- Occurrences 68-69 occur on private property at Jindalee. Approval for subdivision has been given, and the occurrences are to be cleared for housing and associated infrastructure.
- Occurrences 72 and 74 occur on private property adjacent to Dayrell Road in Nowergup. This site is proposed for limestone extraction with the application to clear currently with the Environmental Protection Authority. The site is burnt frequently, with three fires occurring in 2003, and this has resulted in an increase in weed invasion
- Occurrence 75 (this known occurrence with the Anketell Road Upgrade survey area) occurs on land under the care, control and management of Alcoa World Alumina Australia. The area appears to have been heavily grazed historically and the land managers intend to, and have previously) rehabilitated the area by using methods that include replanting and weed control

Most occurrences of community 26a are also included in Perth's Bush Forever, in areas of 'regionally significant bushland to be retained and protected forever' (State of Western Australia 2000). Occurrences that occur within the area covered by Bush Forever mainly occur on private property.

9.1.2 State Priority Ecological Communities

As of December 2022, 390 ecological communities considered rare (but not currently threatened), with insufficient information to be considered a TEC, are referred to as priority ecological communities. It is considered highly important to identify, maintain, and manage whole ecosystems, their processes, and the species assemblages within them.

Within the survey area two State-level PECs were identified that may be representative of the Commonwealth-listed 'Banksia Woodlands of the Swan Coastal Plain ecological community' TEC (discussed above):

- Priority 3 'Banksia woodlands of the Swan Coastal Plain' PEC; and
- Priority 3 'Northern Spearwood shrublands and woodlands' PEC.

A further State-level PEC was identified that may be representative of the of Commonwealth-listed 'Tuart (*Eucalyptus gomphocephala*) woodlands and forests of the Swan Coastal Plain' TEC (discussed above):

- Priority 3 'Tuart (*Eucalyptus gomphocephala*) woodlands and forests of the Swan Coastal Plain' PEC

9.2 Flora

A significant amount temporal and spatial survey effort was assigned to targeted systematic searches for Threatened and Priority taxa throughout the entirety of the Rockingham Road, Westport Last Mile Area Biological Survey, Westport Freight Road Biological Survey, and the Anketell Road Planning Study Biological Survey areas, and even more so within suitable habitat pertaining to Threatened orchid species in the genera *Caladenia*, *Diuris*, and *Drakaea* that were considered potentially occurring within the survey area.

Despite extensive targeted searches within the survey area being conducted in accordance with the draft *Survey Guidelines for Australia's Threatened Orchids* (Department of the Environment 2013a), the four species of Threatened orchid that were identified in the desktop study were not recorded during any of the surveys. It is considered unlikely that these orchid species would be present within the survey area, given that significant spatial and temporal survey effort has been allocated to their detection across a minimum of three seasons.

Three native Priority species were identified within the survey area:

- *Poranthera moorokatta* (Priority 2) – a single individual was recorded within the survey area from quadrat ANK34 near the intersection of Anketell Road and the Kwinana Freeway within the EB1 (Jarrah-Banksia) vegetation unit. Four additional records of this species were made nearby, outside the current survey and contextual area, during in the Westport Freight Road Additional biological survey. *Poranthera moorokatta* is known from only two locations: the first being Kings Park in Perth, and the second being in Ellenbrook. It is highly under-surveyed due to its size, and it is likely significantly more populations exist within the Perth metro area.
- *Hibbertia leptotheca* (Priority 3) – a total of 59 individuals were recorded from 17 separate locations within the survey area. Three populations were recorded from three quadrats (WLM09, WLM14 and WLM38) within the survey area, from vegetation units M2 (*Melaleuca lanceolata* low woodland) and M4 (Mixed *Melaleuca* over *Xanthorrhoea*); the projective foliage cover of this species within the respective quadrats was 0.1 % at WLM14, 9% at WLM09 and 1% at WLM38. A further 23 individuals were recorded from 16 locations within the contextual area. This species is known from a total of 39 coastal and near-coastal locations extending from west of Cataby in the north to Lake Preston in the south and grows in sand over limestone in coastal heaths and thickets, usually dominated by species of *Melaleuca* and *Acacia*.
- *Eucalyptus foecunda* subsp. *foecunda* (Priority 3) - was a dominant component of the overstorey stratum for vegetation unit E7 (*Eucalyptus foecunda* over *Spyridium globulosum* and *Acacia rostellifera* with *Hibbertia*), which was mapped from a small patch in the survey area between Rockingham Road and the rail line. Ten opportunistic records, comprising a total of 40 individuals were recorded within the survey area. A total of 40 individuals were recorded from 10 separate locations within the survey area. A further 111 individuals were recorded from 29 locations within the contextual area, and also recorded from two quadrats within the contextual area, ROC08 and ROC22, where it was estimated to have 31 and 28% projected foliage cover, respectively.

9.3 Geomorphic Wetlands

Ten geomorphic wetlands intersected the survey area and contextual area: four 'Conservation' category, two 'Resource Enhancement' category, and four 'Multiple Use' category. All ten wetlands belonged to either dampland or sumpland geomorphology and varied in their ecological function, vegetation values, and overall condition and disturbance levels.

The 'Resource Enhancement' management category was most common within the survey area but least common in the contextual area, whilst 'Multiple Use' wetlands were the most common within the contextual area.

9.4 Fauna

For significant species potentially occurring, additional consideration of habitat availability and types within the survey area was considered against the definitions below:

- "core"- equivalent to "habitat critical to the survival of the species" as per Department of the Environment (2013b). This comprised habitat considered to potentially contain roosting, denning or breeding sites, primary foraging areas, or refugia during drought, fire or other stress; or
- "secondary" – habitats which may be used on a transitory, dispersing or occasional basis and for secondary foraging but does not represent core habitat.

Table 9.1 details the categorisation of habitat as core or secondary for the significant species either recorded (in this study or previous studies) or assessed as having some potential to occur (ie. may occur or likely to occur) within the survey area. Here we further consider the likelihood and type of occurrence for significant species in the context of habitats available in the survey area and more broadly.

9.4.1 Significant Species Recorded

Quenda, *Isoodon fusciventer* (DBCA listed Priority 4), were recorded via motion camera, diggings, and scats throughout almost the entire survey area (Figure 7.2) as well as individuals being observed on four occasions. Quenda were found in many different habitat types, including *Banksia* and *Eucalyptus* woodlands, *Acacia* shrublands, and *Melaleuca* shrublands including areas within and adjacent to cleared and highly modified areas. We have seen the species persist in isolated fragments within the survey area, and surrounds, however, it is anticipated that larger populations exist in adjacent reserve areas, particularly The Spectacles dampland where the dense groundcover preferred by the species is prevalent.

Forest Red-tailed Black Cockatoos are known to use the survey area for foraging with evidence (Marri nut scarring) recorded in 2022 in Jarrah/Banksia Woodland. *Eucalyptus* Woodland/Forest (specifically vegetation unit E1, Table 7.6) and Jarrah/Banksia Woodland represent core foraging habitat for the species due to the dominance of Jarrah, while *Banksia* Woodland, and Emergent Flooded Gum and Marri represent secondary foraging habitats (Table 9.1). Locally, within the 500 m contextual area, these habitats were underrepresented except for The Spectacles where Jarrah/Banksia woodland occurred. More widely, within the average 12 km foraging distance from roosts, the Cottesloe and Karrakatta Central and South complexes include Jarrah woodlands and are well-represented within the Beeliar Regional Park and Jandakot Regional Park as well as the Bush Forever site 349 Leda. Wandi Nature Reserve and Modong Nature Reserve (parts of Jandakot Regional Park) located within 12 km of the survey area and near known roost locations (Figure 7.5), are listed as important habitat sites on the Swan Coastal Plain for black cockatoos by Johnstone and Kirkby (2011).

Black cockatoo breeding is considered unlikely to occur based on known breeding sites and modelled breeding ranges, however, potential breeding habitat was assessed. A total of 608 trees of suitable DBH were recorded and assessed of which eleven trees were found to support hollows of suitable size for black cockatoo breeding (one category 3 tree, three category 3 trees – see section 7.3.2).

9.4.2 Significant Species Previously Recorded or Likely to Occur

The DBCA listed Priority 3 reptile species, the Perth Lined Slider, *Lerista lineata*, has previously been recorded within the survey area while the Black-striped Snake, *Neelaps calonotus* has been recorded within the contextual area at the west end of the survey area as well as within *Banksia* woodland habitat of Jandakot Regional Park approximately 4 km east of the survey area (Biota 2021). Both are fossorial and difficult to record contributing to an unknown population size (IUCN red list), however, both have fragmented and limited distributions on the Swan Coastal Plain significantly overlapping with urban expansion. *Lerista lineata* has a particularly restricted distribution between the Swan River and Mandurah. With a preference for

sandier substrates and substantial groundcover, *Acacia* shrubland and *Banksia* woodland habitat types were considered to represent core habitat for both species (Table 9.1).

A record of Carnaby's Black Cockatoos within the survey area and two in close proximity were returned from the DBCA Threatened and Priority Fauna Database. Furthermore, records of the species were made east of the survey area in 2022, one of which was less than 1 km away (Biota 2023a). The species is considered likely to occur foraging and potentially roosting within the survey area. Two fauna habitats; *Banksia* Woodland and Jarrah/*Banksia* Woodland were assessed as representing core foraging habitat for Carnaby's Black Cockatoo while Eucalypt woodland and areas of Emergent Flooded Gum and Marri were assessed as secondary foraging habitat (Table 9.1). Similar to Forest Red-tailed Black Cockatoo, more extensive foraging habitat, including suitable *Banksia* woodland, occurs in the surrounding Jandakot and Beeliar Regional Parks. *Banksia* woodland being particularly well represented within the nearby Spectacles (Figure 7.1). The known breeding distribution of Carnaby's Black Cockatoo does not extend into the survey area (Johnstone et al. 2010, DAWE 2022). As such, habitat has only been assessed on its potential to represent foraging habitat although we would note that, as described above for Forest Red-tailed Black Cockatoo, breeding habitat was assessed.

The entire survey area could be considered secondary habitat for the Peregrine Falcon (BC Act Other Specially Protected fauna). As highly skilled hunters, they forage over a vast array of habitat types, including over highly modified areas. If seen in the survey area, they will likely be flying high overhead searching for prey. Glossy Ibis are migratory birds and are non-breeding visitors to the Swan Coastal Plain. Areas of potential foraging habitat within the survey area are small and would only be suitable to the species during times of seasonal inundation of water, the contextual area contains more suitable habitat for this species.

The Graceful Sunmoth is considered likely to occur within the survey area given the numerous previous records from the study area (particularly Jandakot Regional Park east of the survey area but also a record from near the western extreme of the survey area), together with the presence of *Lomandra hermaphrodita* and *Lomandra maritima* representing core breeding habitat within the survey area.

9.4.3 Significant Species that May Occur

The Chuditch had largely disappeared from the Swan Coastal Plain by the 1930s and contemporary occurrence is limited to scattered records from widely spaced larger reserves (DEC 2012). However, two such records of the Chuditch include one from The Spectacles in 2013, located south adjacent the eastern extent of the survey area and from the Wandi Nature Reserve in 2009, approximately 2.4 km east-northeast of the survey area. Following the criteria outlined in Table 3.2, we have assessed the Chuditch as having some potential, albeit low, to occur within the survey area east of the Kwinana Freeway, as a foraging visitor. The presence of vegetated corridors connecting the survey area to larger areas of potential core habitat (Wandi Nature Reserve, Jandakot Regional Park, and Modong Nature Reserve), and a historical record less than 250 m from the survey area support this evaluation. The Kwinana Freeway and Mandurah-Perth passenger rail intersect the survey area, presenting a considerable barrier to fauna movement. As a result, the Chuditch is considered unlikely to occur in the survey area anywhere west of the Kwinana Freeway due to the prevalence of highly modified and cleared areas between suitable habitat fragments. As detailed in Table 9.1, given the relatively low likelihood of occurrence within the survey area, the woodland habitats of the survey area have been assessed as potentially secondary foraging habitat for the Chuditch. Main Roads has commissioned a longer-term study on Chuditch occurrence in the survey area and surrounding regional parks. The results of this study will provide some insight into the potential of a persistent, although likely small, population of Chuditch in the surrounding regional parks, and therefore of the likelihood of Chuditch occurring in the survey area as a foraging visitor.

The Western Brush Wallaby, *Notamacropus irma*, (DBCA listed Priority 4) was not recorded within the survey area, but has been recorded recently east of the survey area in the Jandakot Regional Park (Biota 2023a). This species is another example where relatively large areas of habitat are required to support a population, and it is likely that this species would be predominately restricted to the larger

portions of remnant bushland east of the survey area. Similar to the Chuditch, Western Brush Wallaby has a relatively low likelihood of occurring overall but some potential to occur in the eastern extent of the survey area as a foraging visitor to *Banksia* woodland habitat (Table 9.1) but is unlikely to occur anywhere west of the bushland surrounding the Spectacles Wetlands.

The Swan Coastal Plain Shield-backed Trapdoor Spider may occur in the survey area, particularly in areas of *Banksia* woodland on sandy substrates. It is notable that there are few contemporary records of the spider from the study area and that burrows of the spider were not found within the survey area despite targeted effort. However, given their cryptic, camouflaged nature it is possible the species may persist in the survey area.

Table 9.1: Habitat classification in relation to significant fauna species (green cells indicate core habitat, orange cells secondary habitat).

	Status	*Acacia* Shrubland	*Banksia* Woodland	Cleared/Degraded Area	Modified Areas	Damplands	Eucalypt Woodland	Jarrah/*Banksia* Woodland	*Melaleuca* Shrubland	Emergent Flooded Gum and Marri
		28.11 ha	16.74 ha	90.49 ha	35.79 ha	2.74 ha	33.09 ha	7.58 ha	4.64 ha	5.66 ha
Species Recorded (current survey and previously)										
Quenda	P4	Breeding Foraging	Breeding Foraging	-	-	Breeding Foraging	Breeding Foraging	Breeding Foraging	Breeding Foraging	-
Carnaby's Black Cockatoo	EN	-	Foraging	-	-	-	Foraging	Foraging	-	Foraging
Forest Red-tailed Black Cockatoo	VU	-	-	-	-	-	Foraging	Foraging	-	Foraging
Perth Lined Slider	P3	Breeding Foraging	Breeding Foraging	-	-	-	-	-	-	-
Species that are Likely to Occur										
Peregrine Falcon	OS	Foraging	Foraging	Foraging	Foraging	Foraging	Foraging	Foraging	Foraging	Foraging
Black-striped Snake	P3	Breeding Foraging	Breeding Foraging	-	-	-	-	-	-	-
Graceful Sunmoth	P4	Breeding Foraging	Breeding Foraging	-	-	-	-	-	-	-
Species that May Occur										
Chuditch	VU	-	Foraging	-	-	-	Foraging	Foraging	-	-
Western Brush Wallaby	P4	-	Foraging	-	-	-	-	-	-	-
Glossy Ibis	MI	-	-	-	Foraging[1]	Foraging	-	-	-	-
Swan Coastal Plain Shield-backed Trapdoor Spider	P3	-	Breeding Foraging	-	-	-	Breeding Foraging	Breeding Foraging	-	-

[1] Foraging on suitable, isolated trees in paddocks.
[2] Foraging in paddocks when inundated.

10.0 References

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Appendix 1

DBCA TPRF Forms

Supplied separately to Main Roads WA

Appendix 2

DBCA TEC and PEC Forms

Supplied separately to Main Roads WA

Appendix 3

Framework for Significance Rankings of Communities and Species in WA

Appendix 3

Framework for Significance Rankings of Communities and Species in WA

A. Definitions, Categories and Criteria for Threatened and Priority Ecological Communities

Species and Communities Branch, Department of Environment and Conservation, December 2010.

1. General Definitions

Ecological Community
A naturally occurring biological assemblage that occurs in a particular type of habitat.

Note: The scale at which biological communities are defined will often depend on the level of detail in the information source, therefore no particular scale is specified.

A threatened ecological community (TEC) is one which is found to fit into one of the following categories; "presumed totally destroyed", "critically endangered", "endangered" or "vulnerable".

Possible threatened ecological communities that do not meet survey criteria are added to the Department of Parks and Wildlife's Priority Ecological Community Lists under Priorities 1, 2 and 3. Ecological Communities that are adequately known, are rare but not threatened, or meet criteria for Near Threatened, or that have been recently removed from the threatened list, are placed in Priority 4. These ecological communities require regular monitoring. Conservation Dependent ecological communities are placed in Priority 5.

An assemblage is a defined group of biological entities.

Habitat is defined as the areas in which an organism and/or assemblage of organisms lives. It includes the abiotic factors (e.g. substrate and topography), and the biotic factors.

Occurrence: a discrete example of an ecological community, separated from other examples of the same community by more than 20 metres of a different ecological community, an artificial surface or a totally destroyed community.

By ensuring that every discrete occurrence is recognised and recorded future changes in status can be readily monitored.

Adequately Surveyed is defined as follows:
"An ecological community that has been searched for thoroughly in most likely habitats, by relevant experts."

Community structure is defined as follows:
"The spatial organisation, construction and arrangement of the biological elements comprising a biological assemblage" (e.g. *Eucalyptus salmonophloia* woodland over scattered small shrubs over dense herbs; structure in a faunal assemblage could refer to trophic structure, e.g. dominance by feeders on detritus as distinct from feeders on live plants).

Definitions of Modification and Destruction of an ecological community:

Modification: "changes to some or all of ecological processes (including abiotic processes such as hydrology), species composition and community structure as a direct or indirect result of human activities. The level of damage involved could be ameliorated naturally or by human intervention."

Destruction: "modification such that reestablishment of ecological processes, species composition and community structure within the range of variability exhibited by the original community is unlikely within the foreseeable future even with positive human intervention."

Note: Modification and destruction are difficult concepts to quantify, and their application will be determined by scientific judgement. Examples of modification and total destruction are cited below:

Modification of ecological processes: The hydrology of Toolibin Lake has been altered by clearing of the catchment such that death of some of the original flora has occurred due to dependence on fresh water. The system may be bought back to a semblance of the original state by redirecting saline runoff and pumping waters of the rising underground watertable away to restore the hydrological balance. Total destruction of downstream lakes has occurred due to hydrology being altered to the point that few of the original flora or fauna species are able to tolerate the level of salinity and/or water logging.

Modification of structure: The understorey of a plant community may be altered by weed invasion due to nutrient enrichment by addition of fertiliser. Should the additional nutrients be removed from the system the balance may be restored, and the original plant species better able to compete. Total destruction may occur if additional nutrients continue to be added to the system causing the understorey to be completely replaced by weed species, and death of overstorey species due to inability to tolerate high nutrient levels.
Modification of species composition: Pollution may cause alteration of the invertebrate species present in a freshwater lake. Removal of pollutants may allow the return of the original inhabitant species. Addition of residual highly toxic substances may cause permanent changes to water quality, and total destruction of the community.

Threatening processes are defined as follows:
"Any process or activity that threatens to destroy or significantly modify the ecological community and/or affect the continuing evolutionary processes within any ecological community."

Examples of some of the continuing threatening processes in Western Australia include: general pollution; competition, predation and change induced in ecological communities as a result of introduced animals; competition and displacement of native plants by introduced species; hydrological changes; inappropriate fire regimes; diseases resulting from introduced micro-organisms; direct human exploitation and disturbance of ecological communities.

Restoration is defined as returning an ecological community to its pre-disturbance or natural state in terms of abiotic conditions, community structure and species composition.

Rehabilitation is defined as the re-establishment of ecological attributes in a damaged ecological community although the community will remain modified.

2. Definitions and Criteria for Presumed Totally Destroyed, Critically Endangered, Endangered and Vulnerable Ecological Communities

ECOLOGICAL COMMUNITIES

Presumed Totally Destroyed (PD)
An ecological community that has been adequately searched for but for which no representative occurrences have been located. The community has been found to be totally destroyed or so extensively modified throughout its range that no occurrence of it is likely to recover its species composition and/or structure in the foreseeable future.

An ecological community will be listed as presumed totally destroyed if there are no recent records of the community being extant and either of the following applies (A or B):

A) Records within the last 50 years have not been confirmed despite thorough searches of known or likely habitats or
B) All occurrences recorded within the last 50 years have since been destroyed

Critically Endangered (CR)
An ecological community that has been adequately surveyed and found to have been subject to a major contraction in area and/or that was originally of limited distribution and is facing severe modification or destruction throughout its range in the immediate future, or is already severely degraded throughout its range but capable of being substantially restored or rehabilitated.

An ecological community will be listed as Critically Endangered when it has been adequately surveyed and is found to be facing an extremely high risk of total destruction in the immediate future. This will be determined on the basis of the best available information, by it meeting any one or more of the following criteria (A, B or C):

A) The estimated geographic range, and/or total area occupied, and/or number of discrete occurrences since European settlement have been reduced by at least 90% and either or both of the following apply (i or ii):
    i) geographic range, and/or total area occupied and/or number of discrete occurrences are continuing to decline such that total destruction of the community is imminent (within approximately 10 years);
    ii) modification throughout its range is continuing such that in the immediate future (within approximately 10 years) the community is unlikely to be capable of being substantially rehabilitated.
B) Current distribution is limited, and one or more of the following apply (i, ii or iii):

i) geographic range and/or number of discrete occurrences, and/or area occupied is highly restricted and the community is currently subject to known threatening processes which are likely to result in total destruction throughout its range in the immediate future (within approximately 10 years);
ii) there are very few occurrences, each of which is small and/or isolated and extremely vulnerable to known threatening processes;
iii) there may be many occurrences but total area is very small and each occurrence is small and/or isolated and extremely vulnerable to known threatening processes.

C) The ecological community exists only as highly modified occurrences that may be capable of being rehabilitated if such work begins in the immediate future (within approximately 10 years).

Endangered (EN)
An ecological community that has been adequately surveyed and found to have been subject to a major contraction in area and/or was originally of limited distribution and is in danger of significant modification throughout its range or severe modification or destruction over most of its range in the near future.

An ecological community will be listed as Endangered when it has been adequately surveyed and is not Critically Endangered but is facing a very high risk of total destruction in the near future. This will be determined on the basis of the best available information by it meeting any one or more of the following criteria (A, B, or C):

A) The geographic range, and/or total area occupied, and/or number of discrete occurrences have been reduced by at least 70% since European settlement and either or both of the following apply (i or ii):
i) the estimated geographic range, and/or total area occupied and/or number of discrete occurrences are continuing to decline such that total destruction of the community is likely in the short term future (within approximately 20 years);
ii) modification throughout its range is continuing such that in the short term future (within approximately 20 years) the community is unlikely to be capable of being substantially restored or rehabilitated.

B) Current distribution is limited, and one or more of the following apply (i, ii or iii):
i) geographic range and/or number of discrete occurrences, and/or area occupied is highly restricted and the community is currently subject to known threatening processes which are likely to result in total destruction throughout its range in the short term future (within approximately 20 years);
ii) there are few occurrences, each of which is small and/or isolated and all or most occurrences are very vulnerable to known threatening processes;
iii) there may be many occurrences but total area is small and all or most occurrences are small and/or isolated and very vulnerable to known threatening processes.

C) The ecological community exists only as very modified occurrences that may be capable of being substantially restored or rehabilitated if such work begins in the short-term future (within approximately 20 years).

Vulnerable (VU)
An ecological community that has been adequately surveyed and is found to be declining and/or has declined in distribution and/or condition and whose ultimate security has not yet been assured and/or a community that is still widespread but is believed likely to move into a category of higher threat in the near future if threatening processes continue or begin operating throughout its range.

An ecological community will be listed as Vulnerable when it has been adequately surveyed and is not Critically Endangered or Endangered but is facing a high risk of total destruction or significant modification in the medium to long-term future. This will be determined on the basis of the best available information by it meeting any one or more of the following criteria (A, B or C):

A) The ecological community exists largely as modified occurrences that are likely to be capable of being substantially restored or rehabilitated.

B) The ecological community may already be modified and would be vulnerable to threatening processes, is restricted in area and/or range and/or is only found at a few locations.

C) The ecological community may be still widespread but is believed likely to move into a category of higher threat in the medium to long term future because of existing or impending threatening processes.

3. Definitions and Criteria for Priority Ecological Communities

PRIORITY ECOLOGICAL COMMUNITY LIST

Possible threatened ecological communities that do not meet survey criteria or that are not adequately defined are added to the Priority Ecological Community Lists under Priorities 1, 2 and 3. These three categories are ranked in order of priority for survey and/or definition of the community, and evaluation of conservation status, so that consideration can be given to their declaration as threatened ecological communities. Ecological Communities that are adequately known, and are rare but not threatened or meet criteria for Near Threatened, or that have been recently removed from the threatened list, are placed in Priority 4. These ecological communities require regular monitoring. Conservation Dependent ecological communities are placed in Priority 5.

Priority One: Poorly-known ecological communities

Ecological communities with apparently few, small occurrences, all or most not actively managed for conservation (e.g. within agricultural or pastoral lands, urban areas, active mineral leases) and for which current threats exist. Communities may be included if they are comparatively well-known from one or more localities but do not meet adequacy of survey requirements, and/or are not well defined, and appear to be under immediate threat from known threatening processes across their range.

Priority Two: Poorly-known ecological communities

Communities that are known from few small occurrences, all or most of which are actively managed for conservation (e.g. within national parks, conservation parks, nature reserves, State forest, unallocated Crown land, water reserves, etc.) and not under imminent threat of destruction or degradation. Communities may be included if they are comparatively well known from one or more localities but do not meet adequacy of survey requirements, and/or are not well defined, and appear to be under threat from known threatening processes.

Priority Three: Poorly known ecological communities

(i) Communities that are known from several to many occurrences, a significant number or area of which are not under threat of habitat destruction or degradation or:

(ii) communities known from a few widespread occurrences, which are either large or within significant remaining areas of habitat in which other occurrences may occur, much of it not under imminent threat, or;

(iii) communities made up of large, and/or widespread occurrences, that may or not be represented in the reserve system, but are under threat of modification across much of their range from processes such as grazing by domestic and/or feral stock, and inappropriate fire regimes.

Communities may be included if they are comparatively well known from several localities but do not meet adequacy of survey requirements and/or are not well defined, and known threatening processes exist that could affect them.

Priority Four: Ecological communities that are adequately known, rare but not threatened or meet criteria for Near Threatened, or that have been recently removed from the threatened list. These communities require regular monitoring.

(a) Rare. Ecological communities known from few occurrences that are considered to have been adequately surveyed, or for which sufficient knowledge is available, and that are considered not currently threatened or in need of special protection, but could be if present circumstances change. These communities are usually represented on conservation lands.

(b) Near Threatened. Ecological communities that are considered to have been adequately surveyed and that do not qualify for Conservation Dependent, but that are close to qualifying for Vulnerable.

(c) Ecological communities that have been removed from the list of threatened communities during the past five years.

Priority Five: Conservation Dependent ecological communities

Ecological communities that are not threatened but are subject to a specific conservation program, the cessation of which would result in the community becoming threatened within five years.

B. Categories for Flora and Fauna Species

1. Western Australian *Biodiversity Conservation Act 2016,* and Priority Species Classification

In Western Australia, 'Threatened', 'Extinct' and 'Specially Protected' fauna and flora species are protected under the *Biodiversity Conservation Act 2016* (the BC Act), making it an offence to take or disturb these species without Ministerial approval. The definition of 'take' is broad, and includes killing, injuring, harvesting or capturing fauna, and gathering, cutting, destroying, harvesting or damaging flora.

Such species are classified within a framework of several categories.

Species of the highest conservation significance are designated as Threatened species and are protected under sections 19(1)(a), 19(1)(b) and 19(1)(c) of the BC Act. Species are listed within one of three categories:

- Critically endangered (CR), Endangered (EN), or Vulnerable (V), representing those species listed in Schedules 1 to 3 respectively of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018* or the *Wildlife Conservation (Rare Flora) Notice 2018*.

Presumed extinct species are protected under sections 24 and 25 of the BC Act and are listed in one of two categories:

- Extinct (EX), representing those species listed in Schedule 4 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018* or the *Wildlife Conservation (Rare Flora) Notice 2018*; or
- Extinct in the wild (EW); there are currently no listed species under this category.

Specially protected species are protected under section 13(1) of the BC Act, and include species of special conservation interest, migratory species, cetaceans, species subject to international agreement, or species otherwise in need of special protection. Of these:

- Migratory species (MI) are those listed under schedule 5 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018*;
- Species of special conservation interest (conservation dependent fauna) (CD) are those listed under schedule 6 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018*; and
- Other specially protected fauna (OS) are those listed under schedule 7 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018*;

In addition to the species formally designated as protected under the BC Act, the WA Department of Biodiversity, Conservation and Attractions (DBCA) also maintains a list of 'Priority species'.

Species that appear to be rare or threatened, but for which there is insufficient information to properly evaluate their conservation significance, are assigned to one of three Priority categories (Priority 1 to Priority 3), while species that are adequately known but require regular monitoring are assigned to Priority 4.

Note that of the above classifications, only 'Threatened', 'Extinct' and 'Specially Protected' species have statutory standing. The Priority flora and fauna classifications are employed by the WA DBCA to manage and classify their database of species considered potentially rare or at risk, but these categories have no legislative status.

Further explanations of the categories is provided in more detail in the following pages.

Department of **Biodiversity, Conservation and Attractions**

GOVERNMENT OF WESTERN AUSTRALIA

CONSERVATION CODES

For Western Australian Flora and Fauna

Threatened, Extinct and Specially Protected fauna or flora[1] are species[2] which have been adequately searched for and are deemed to be, in the wild, threatened, extinct or in need of special protection, and have been gazetted as such.

The *Wildlife Conservation (Specially Protected Fauna) Notice 2018* and the *Wildlife Conservation (Rare Flora) Notice 2018* have been transitioned under regulations 170, 171 and 172 of the *Biodiversity Conservation Regulations 2018* to be the lists of Threatened, Extinct and Specially Protected species under Part 2 of the *Biodiversity Conservation Act 2016.*

Categories of Threatened, Extinct and Specially Protected fauna and flora are:

T **Threatened species**

Listed by order of the Minister as Threatened in the category of critically endangered, endangered or vulnerable under section 19(1), or is a rediscovered species to be regarded as threatened species under section 26(2) of the *Biodiversity Conservation Act 2016* (BC Act).

Threatened fauna is that subset of 'Specially Protected Fauna' listed under schedules 1 to 3 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018* for Threatened Fauna.

Threatened flora is that subset of 'Rare Flora' listed under schedules 1 to 3 of the *Wildlife Conservation (Rare Flora) Notice 2018* for Threatened Flora.

The assessment of the conservation status of these species is based on their national extent and ranked according to their level of threat using IUCN Red List categories and criteria as detailed below.

CR **Critically endangered species**

Threatened species considered to be "*facing an extremely high risk of extinction in the wild in the immediate future, as determined in accordance with criteria set out in the ministerial guidelines*".

Listed as critically endangered under section 19(1)(a) of the BC Act in accordance with the criteria set out in section 20 and the ministerial guidelines. Published under schedule 1 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018* for critically endangered fauna or the *Wildlife Conservation (Rare Flora) Notice 2018* for critically endangered flora.

EN **Endangered species**

Threatened species considered to be "*facing a very high risk of extinction in the wild in the near future, as determined in accordance with criteria set out in the ministerial guidelines*".

Listed as endangered under section 19(1)(b) of the BC Act in accordance with the criteria set out in section 21 and the ministerial guidelines. Published under schedule 2 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018* for endangered fauna or the *Wildlife Conservation (Rare Flora) Notice 2018* for endangered flora.

VU **Vulnerable species**

Threatened species considered to be "*facing a high risk of extinction in the wild in the medium-term future, as determined in accordance with criteria set out in the ministerial guidelines*".

Listed as vulnerable under section 19(1)(c) of the BC Act in accordance with the criteria set out in section 22 and the ministerial guidelines. Published under schedule 3 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018* for vulnerable fauna or the *Wildlife Conservation (Rare Flora) Notice 2018* for vulnerable flora.

Extinct species

Listed by order of the Minister as extinct under section 23(1) of the BC Act as extinct or extinct in the wild.

EX Extinct species

Species where "*there is no reasonable doubt that the last member of the species has died*", and listing is otherwise in accordance with the ministerial guidelines (section 24 of the BC Act).

Published as presumed extinct under schedule 4 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018* for extinct fauna or the *Wildlife Conservation (Rare Flora) Notice 2018* for extinct flora.

EW Extinct in the wild species

Species that *"is known only to survive in cultivation, in captivity or as a naturalised population well outside its past range; and it has not been recorded in its known habitat or expected habitat, at appropriate seasons, anywhere in its past range, despite surveys over a time frame appropriate to its life cycle and form*", and listing is otherwise in accordance with the ministerial guidelines (section 25 of the BC Act).

Currently there are no threatened fauna or threatened flora species listed as extinct in the wild. If listing of a species as extinct in the wild occurs, then a schedule will be added to the applicable notice.

Specially protected species

Listed by order of the Minister as specially protected under section 13(1) of the BC Act. Meeting one or more of the following categories: species of special conservation interest; migratory species; cetaceans; species subject to international agreement; or species otherwise in need of special protection.

Species that are listed as threatened species (critically endangered, endangered or vulnerable) or extinct species under the BC Act cannot also be listed as Specially Protected species.

MI Migratory species

Fauna that periodically or occasionally visit Australia or an external Territory or the exclusive economic zone; or the species is subject of an international agreement that relates to the protection of migratory species and that binds the Commonwealth; and listing is otherwise in accordance with the ministerial guidelines (section 15 of the BC Act).

Includes birds that are subject to an agreement between the government of Australia and the governments of Japan (JAMBA), China (CAMBA) and The Republic of Korea (ROKAMBA), and fauna subject to the *Convention on the Conservation of Migratory Species of Wild Animals* (Bonn Convention), an environmental treaty under the United Nations Environment Program. Migratory species listed under the BC Act are a subset of the migratory animals, that are known to visit Western Australia, protected under the international agreements or treaties, excluding species that are listed as Threatened species.

Published as migratory birds protected under an international agreement under schedule 5 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018*.

CD Species of special conservation interest (conservation dependent fauna)

Fauna of special conservation need being species dependent on ongoing conservation intervention to prevent it becoming eligible for listing as threatened, and listing is otherwise in accordance with the ministerial guidelines (section 14 of the BC Act).

Published as conservation dependent fauna under schedule 6 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018*.

OS Other specially protected species

Fauna otherwise in need of special protection to ensure their conservation, and listing is otherwise in accordance with the ministerial guidelines (section 18 of the BC Act).

Published as other specially protected fauna under schedule 7 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018*.

P Priority species

Possibly threatened species that do not meet survey criteria, or are otherwise data deficient, are added to the Priority Fauna or Priority Flora Lists under Priorities 1, 2 or 3. These three categories are ranked in order of priority for survey and evaluation of conservation status so that consideration can be given to their declaration as threatened fauna or flora.

Species that are adequately known, are rare but not threatened, or meet criteria for near threatened, or that have been recently removed from the threatened species or other specially protected fauna lists for other than taxonomic reasons, are placed in Priority 4. These species require regular monitoring.

Assessment of Priority codes is based on the Western Australian distribution of the species, unless the distribution in WA is part of a contiguous population extending into adjacent States, as defined by the known spread of locations.

1 Priority 1: Poorly-known species

Species that are known from one or a few locations (generally five or less) which are potentially at risk. All occurrences are either: very small; or on lands not managed for conservation, e.g. agricultural or pastoral lands, urban areas, road and rail reserves, gravel reserves and active mineral leases; or otherwise under threat of habitat destruction or degradation. Species may be included if they are comparatively well known from one or more locations but do not meet adequacy of survey requirements and appear to be under immediate threat from known threatening processes. Such species are in urgent need of further survey.

2 Priority 2: Poorly-known species

Species that are known from one or a few locations (generally five or less), some of which are on lands managed primarily for nature conservation, e.g. national parks, conservation parks, nature reserves and other lands with secure tenure being managed for conservation. Species may be included if they are comparatively well known from one or more locations but do not meet adequacy of survey requirements and appear to be under threat from known threatening processes. Such species are in urgent need of further survey.

3 Priority 3: Poorly-known species

Species that are known from several locations, and the species does not appear to be under imminent threat, or from few but widespread locations with either large population size or significant remaining areas of apparently suitable habitat, much of it not under imminent threat. Species may be included if they are comparatively well known from several locations but do not meet adequacy of survey requirements and known threatening processes exist that could affect them. Such species are in need of further survey.

4 Priority 4: Rare, Near Threatened and other species in need of monitoring

(a) Rare. Species that are considered to have been adequately surveyed, or for which sufficient knowledge is available, and that are considered not currently threatened or in need of special protection but could be if present circumstances change. These species are usually represented on conservation lands.
(b) Near Threatened. Species that are considered to have been adequately surveyed and that are close to qualifying for vulnerable but are not listed as Conservation Dependent.
(c) Species that have been removed from the list of threatened species during the past five years for reasons other than taxonomy.

[1] The definition of flora includes algae, fungi and lichens
[2]Species includes all taxa (plural of taxon - a classificatory group of any taxonomic rank, e.g. a family, genus, species or any infraspecific category i.e. subspecies or variety, or a distinct population).

2. Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*

Many of the species that are specially protected at State level are also listed as Threatened species at the Federal level, as one of the Matters of National Environmental Significance (MNES) identified under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (the EPBC Act). These may be classified as 'critically endangered', 'endangered', 'vulnerable' or 'lower risk', consistent with IUCN categories:

1. Critically Endangered (CR): a taxon is Critically Endangered when it is facing an extremely high risk of extinction in the wild in the immediate future.
2. Endangered (EN): a taxon is Endangered when it is not Critically Endangered but is facing a very high risk of extinction in the wild in the near future.
3. Vulnerable (VU): a taxon is Vulnerable when it is not Critically Endangered or Endangered but is facing a high risk of extinction in the wild in the medium-term future.
4. Lower Risk (LR): a taxon is Lower Risk when it has been evaluated, does not satisfy the criteria for any of the categories Critically Endangered, Endangered or Vulnerable. Taxa included in the Lower Risk category can be separated into three subcategories:
    - Conservation Dependent (CD). Taxa which are the focus of a continuing taxon-specific or habitat-specific conservation program targeted towards the taxon in question, the cessation of which would result in the taxon qualifying for one of the threatened categories above within a period of five years.
    - Near Threatened (NT). Taxa which do not qualify for Conservation Dependent, but which are close to qualifying for Vulnerable.
    - Least Concern (LC). Taxa which do not qualify for Conservation Dependent or Near Threatened.

In addition, numerous Migratory species are listed as MNES under the EPBC Act (some of which are also listed as Threatened). Migratory species are those animals that migrate to Australia and its external territories, or pass through or over Australian waters during their annual migrations. The list of migratory species consists of those species listed under the following international conventions:

1. Convention on the Conservation of Migratory Species of Wild Animals (Bonn Convention);
2. China-Australia Migratory Bird Agreement (CAMBA);
3. Japan-Australia Migratory Bird Agreement (JAMBA); and,
4. Republic of Korea-Australia Migratory Bird Agreement (ROKAMBA).

Marine species are also protected under the EPBC Act, and are listed to ensure the long-term conservation of the species. Marine species include all Australian sea snakes, seals, crocodiles, dugongs, marine turtles, seahorses and seabirds that naturally occur in the Commonwealth marine area.

Under the terms of the EPBC Act, an action (e.g. a project or development) is required to be referred to the Australian Government Environment Minister for approval if it has, will have, or is likely to have, a significant impact on an MNES. The term 'action' includes projects and developments subsequent to commencement of the Act, however there are a number of exemptions (e.g. projects in Commonwealth areas). According to Department of the Environment (2013), a 'significant impact' is an impact which is important, notable, or of consequence, having regard to its context or intensity. Whether or not an action is likely to have a significant impact depends upon the sensitivity, value, and quality of the environment which is impacted, and upon the intensity, duration, magnitude and geographic extent of the impacts.

References:

Department of the Environment (2013). Matters of National Environmental Significance - Significant Impact Guidelines 1.1 *Environment Protection and Biodiversity Conservation Act 1999*. Department of the Environment, Canberra, Australia.

Appendix 4

Likelihood of Significant Flora Occurring in the Survey Area

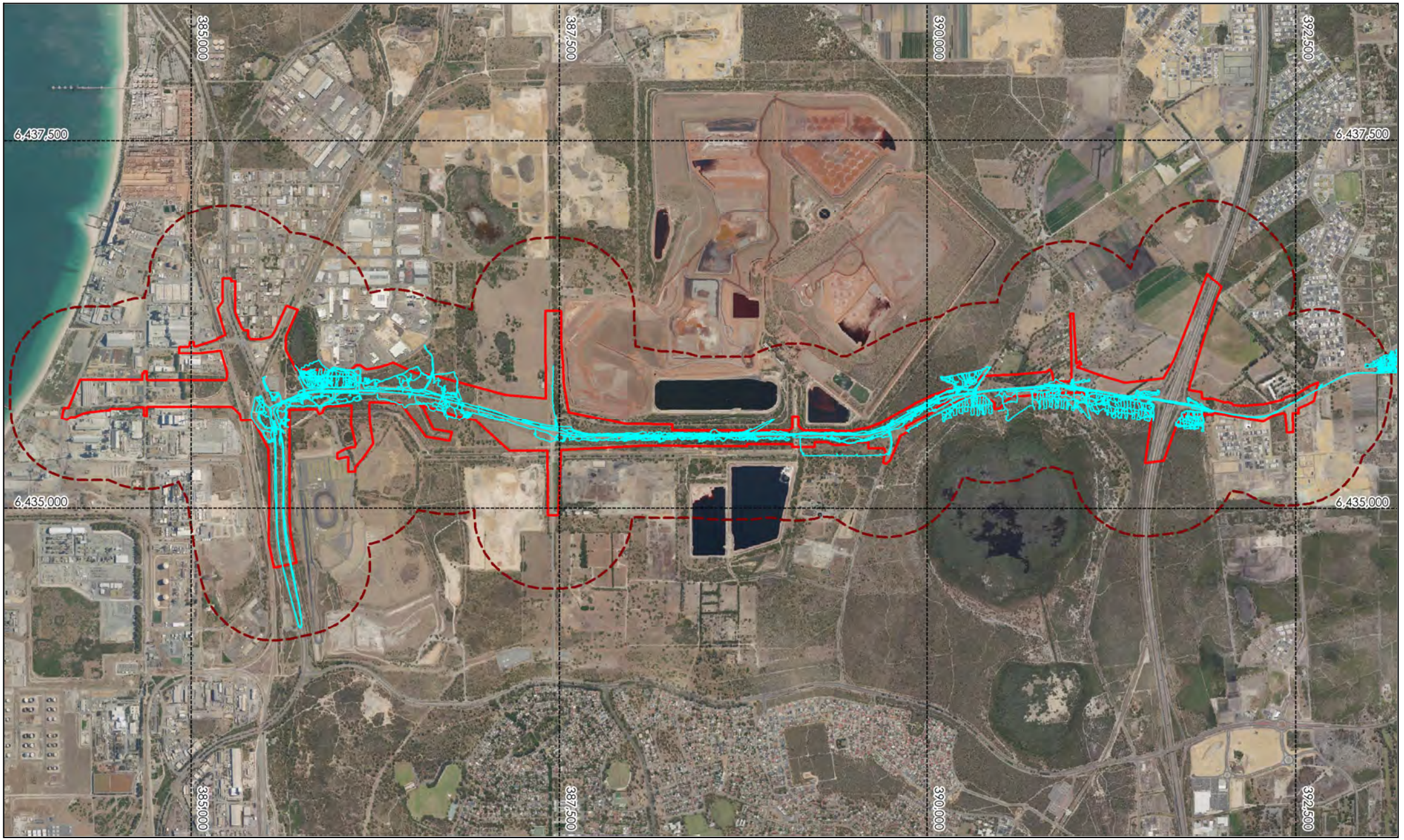
Taxon	Habit^	Habitat^	Database Searches							Likelihood of Occurrence	
			NatureMap	Gibson 1994 SCP	WAHerb (MRWA)	TPFL (MRWA)	Bush Forever (WAPC 2000)	EPBC PMST	Previous Surveys	Initial Ranking Based on Desktop Study	Final Ranking Including Results of Field Surveys
Threatened											
Andersonia gracilis	Slender erect or open straggly shrub, 0.1-0.5(-1) m high. Fl. white to pink to purple.	White/grey sand, sandy clay, gravelly loam. Winter-wet areas, near swamps.						✓		Would not occur; areas of suitable habitat present, however no records in locality.	Would not occur.
Caladenia huegelii	Tuberous, perennial, herb, 0.25-0.6 m high. Fl. green & cream & red.	Grey or brown sand, clay loam.	✓			✓		✓	✓	Likely to occur; suitable habitat; previously recorded within the area.	Unlikely to occur; given survey effort.
Diuris drummondii	Tuberous, perennial, herb, 0.5-1.05 m high. Fl. yellow.	Low-lying depressions, swamps.						✓		Unlikely to occur; areas of suitable habitat present, however no records in locality.	Would not occur.
Diuris micrantha	Tuberous, perennial, herb, 0.3-0.6 m high.	Brown loamy clay. Winter-wet swamps, in shallow water.	✓		✓	✓		✓		Likely to occur; suitable habitat; records within 5 km.	Unlikely to occur; given survey effort.
Diuris purdiei	Tuberous, perennial, herb, 0.15-0.35 m high.	Grey-black sand, moist. Winter-wet swamps.	✓		✓	✓		✓		Likely to occur; suitable habitat; record within 1 km of survey area.	Unlikely to occur; given survey effort.
Drakaea elastica	Tuberous, perennial, herb, 0.12-0.3 m high.	White or grey sand. Low-lying situations adjoining winter-wet swamps.	✓		✓	✓		✓		Likely to occur; suitable habitat; previously recorded within the contextual area.	Unlikely to occur; given survey effort.
Drakaea micrantha	Tuberous, perennial, herb, 0.15-0.3 m high	White-grey sand.						✓		Unlikely to occur; areas of suitable habitat present, however no records in locality.	Would not occur.
Eleocharis keigheryi	Rhizomatous, clumped perennial, grass-like or herb (sedge), to 0.4 m high	Clay, sandy loam. Emergent in freshwater creeks, claypans.						✓		Would not occur; no/minimal areas of suitable habitat and no records in proximity.	Would not occur.
Eucalyptus ×balanites	(Mallee), to 5 m high, bark rough, flaky.	Sandy soils with lateritic gravel.						✓		Unlikely to occur; no suitable habitat; however no records in locality.	Would not occur.
*Grevillea curviloba**	Prostrate to erect shrub, 0.1-2.5 m high. Fl. white-cream.	Grey sand, sandy loam.						✓		Unlikely to occur; areas of suitable habitat present, however no records in locality.	Would not occur.
Lepidosperma rostratum	Rhizomatous, tufted perennial, grass-like or herb (sedge), 0.5 m high. Fl. brown.	Peaty sand, clay.						✓		Unlikely to occur; areas of suitable habitat present, however no records in locality.	Would not occur.
Synaphea sp. Fairbridge Farm (D. Papenfus 696)	Dense, clumped shrub, to 0.3 m high, to 0.4 m wide.	Sandy with lateritic pebbles. Near winter-wet flats, in low woodland with weedy grasses.						✓		Unlikely to occur; areas of suitable habitat present, however no records in locality.	Would not occur.
Synaphea sp. Pinjarra Plain (A.S. George 17182)	Erect, clumped shrub (sub-shrub), to 0.8 m high. Fl. Yellow.	Grey sandy loam or clay, grey-brown clayey sand, brown clayey loam, laterite. Flats, seasonally wet areas, railroad reserves often with wet depressions or drains.						✓		May potentially occur; suitable habitat present; record within 5 km of survey area.	Unlikely to occur; given survey effort.
Synaphea sp. Serpentine (G.R. Brand 103)	perennial, erect, clumped shrub to 60cm high by 50cm wide with yellow flowers borne on long spikes well above the leaves.	Grey-brown sandy loams or clay in seasonally wet areas.	✓		✓	✓		✓		May potentially occur; suitable habitat present; records within 5 km of survey area.	Unlikely to occur; given survey effort.
Priority 2											
Tetraria sp. Chandala (G.J. Keighery 17055)	Perennial, tufted, erect sedge. 70 cm.	Winter-wet, low-lying areas. Eucalyptus rudis/Melaleuca spp. woodland over sedges.	✓		✓					May potentially occur; suitable habitat; one record from 2010 within 5 km.	Unlikely to occur; given survey effort.
Priority 3											
Austrostipa mundula	Perennial tufted grass, ca. 70 cm tall.	Grey sand.	✓		✓					May potentially occur; suitable habitat present; records within 5 km of survey area.	Unlikely to occur; given survey effort.
Cyathochaeta teretifolia	Rhizomatous, clumped, robust perennial, grass-like or herb (sedge), to 2 m high, to 1.0 m wide. Fl. brown.	Grey sand, sandy clay. Swamps, creek edges.	✓			✓				May potentially occur; areas of suitable habitat; records within 1 km of the survey area.	Unlikely to occur; given survey effort.

Taxon	Habit^	Habitat^	Database Searches							Likelihood of Occurrence	
			NatureMap	Gibson 1994 SCP	WAHerb (MRWA)	TPFL (MRWA)	Bush Forever (WAPC 2000)	EPBC PMST	Previous Surveys	Initial Ranking Based on Desktop Study	Final Ranking Including Results of Field Surveys
Hibbertia leptotheca (previously *Hibbertia stricta* subsp. *leptotheca)*	Small, spreading *shrubs* to 0.3 m high (Thiele 2019).	Occurs in coastal and near-coastal sites, growing in sand over limestone in coastal heaths and thickets usually dominated by species of *Melaleuca* and *Acacia* (Thiele 2019).	✓	✓						May potentially occur; suitable habitat; no records within proximity.	Recorded.
Jacksonia gracillima	Prostrate, spreading or scrambling, shrub, spindly shrub	Banksia woodland (emergent Corymbia/Eucalyptus) with occasional myrtaceous scrub.	✓		✓				✓	Likely to occur; very suitable habitat; records within <1 km.	Unlikely to occur; given survey effort.
Pimelea calcicola	Erect to spreading shrub, 0.2-1 m high. Fl. Pink.	Sand. Coastal limestone ridges.	✓	✓	✓					May potentially occur; areas of suitable habitat; records within 5 km of the survey area.	Recorded.
Pithocarpa corymbulosa	Erect to scrambling perennial, herb, 0.5-1 m high.	Gravelly or sandy loam. Amongst granite outcrops.	✓	✓						Unlikely to occur; limited suitable habitat; no records within proximity.	Would not occur.
Stylidium paludicola	Reed-like perennial, herb, 0.35-1 m high. Inflorescence racemose. Fl. Pink.	Peaty sand over clay. Winter wet habitats. Marri and Melaleuca woodland, Melaleuca shrubland.	✓		✓					Likely to occur; minimal suitable habitat; records within 1 km.	Unlikely to occur; given survey effort.
Priority 4											
Aponogeton hexatepalus	Rhizomatous or cormous, aquatic perennial, herb, leaves floating. Fl. green-white	Mud. Freshwater: ponds, rivers, claypans.	✓			✓				Unlikely to occur; no suitable habitat; records within 5 km.	Unlikely to occur; no suitable habitat; records within 5 km.
Dodonaea hackettiana	Erect shrub or tree, 1-5 m high. Fl. yellow-green/red.	Sand. Outcropping limestone.	✓			✓	✓			May potentially occur; few areas of suitable habitat; records within 1 km.	Unlikely to occur; given survey effort
Stylidium ireneae	Lax perennial, herb, (0.06-)0.1-0.28 m high, leaves oblanceolate, 0.4-2 cm long, 1-3 (-5) mm wide, apex subacute to acuminate, margin entire, glandular. Scape glandular. Inflorescence racemose. Fl. pink.	Sandy loam. Valleys near creek lines, woodland, often with Agonis	✓		✓					Unlikely to occur; no suitable habitat; records within 5 km.	Unlikely to occur; no suitable habitat; records within 5 km.
Stylidium striatum	Rosetted perennial, herb, 0.15-0.55 m high,	Brown clay loam over laterite. Hillslopes. Jarrah/Marri forest, Wandoo woodland.	✓		✓					Unlikely to occur; no/minimal areas of suitable habitat; records within 5 km.	Unlikely to occur; no/minimal areas of suitable habitat; records within 5 km.
Verticordia lindleyi subsp. *lindleyi*	Erect shrub, 0.2-0.75 m high. Fl. pink.	Sand, sandy clay. Winter-wet depressions.	✓			✓				May potentially occur; areas of suitable habitat; records within 5 km.	Unlikely to occur; given survey effort

All habit and habitat information taken from FloraBase (http://florabase.dpaw.wa.gov.au) unless referenced otherwise.
(Rye 2015) – A revision of the south-western Australian genus Babingtonia (Myrtaceae: Chamelaucieae).
(Focused Vision 2020) – Flora and Vegetation Review, Lot 9103 Warton Road, Piara Waters.
(GHD 2017) – Rowley, Anketell and Thomas Roads Planning Assessment - Flora and Fauna Assessment'.
(Thiele 2019) – Thiele, K.R. The Hibbertia polystachya–H. spicata (Dilleniaceae) species group in Western Australia. Nuytsia 30: 291–308.
WA Planning Commission (2000) – Bush Forever Volume 2: Directory of Bush Forever Sites. Government of Western Australia, Department of Environmental Protection, Perth.

Appendix 5

Targeted Flora Survey Effort Across Multiple Surveys



Location Map

Survey area

Contextual area

Traverse (Anketell Road Planning Study Biological Survey (Biota 2022))

N

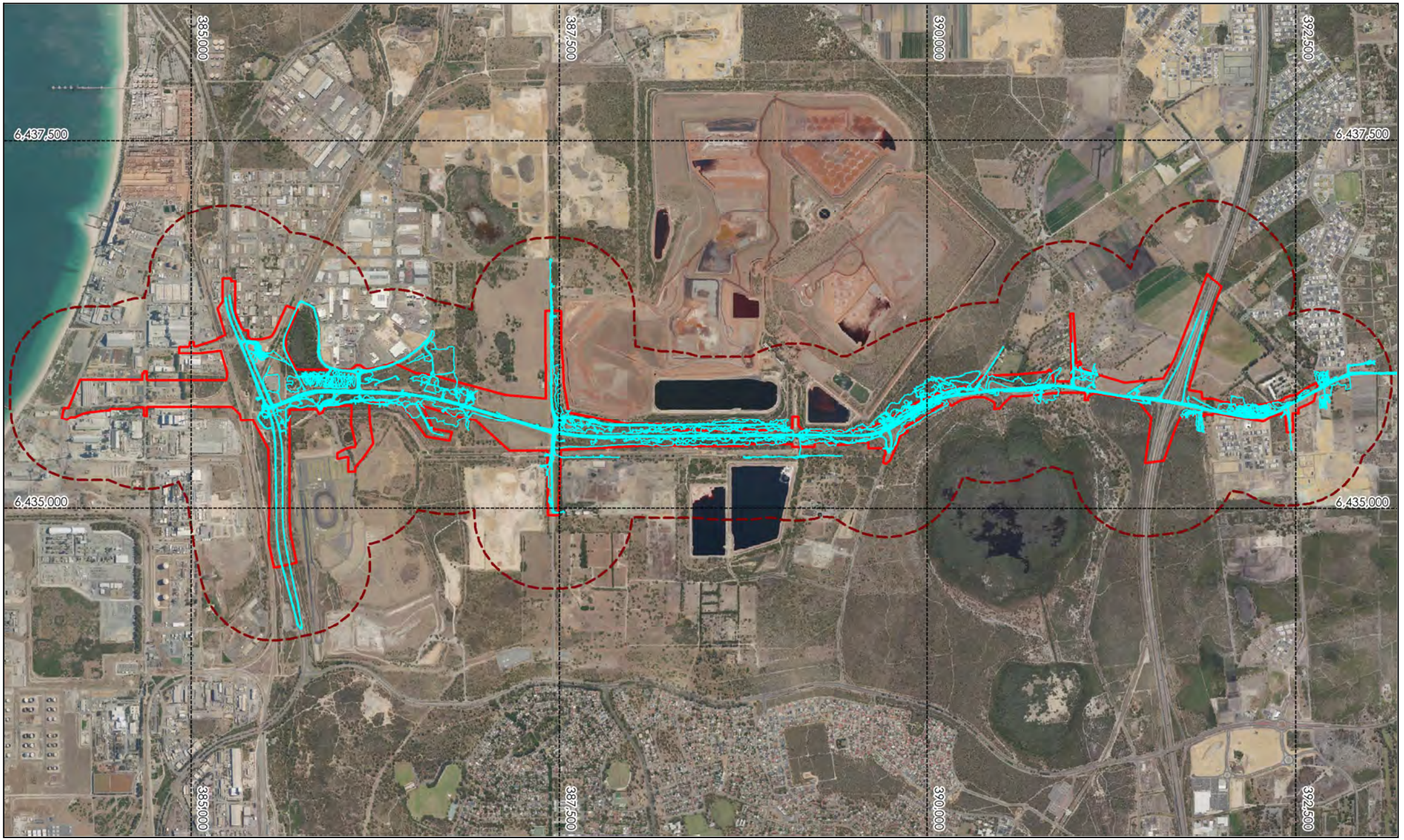
0 1,500

metres

Anketell Road Upgrade (Leith Road to Kwinana Freeway) Flora Survey Effort (Searches)

Biota Environmental Sciences

Author: S Werner | Drawn: M Robinson | Job No.: 1808 | Date: 27 May 2025 | Revised: | Projection: MGA Z50 (GDA2020) | Scale: 1:32,500



Location Map

Survey area

Contextual area

Traverse (Westport Freight Road Additional Biological Survey (Biota 2023a))

N

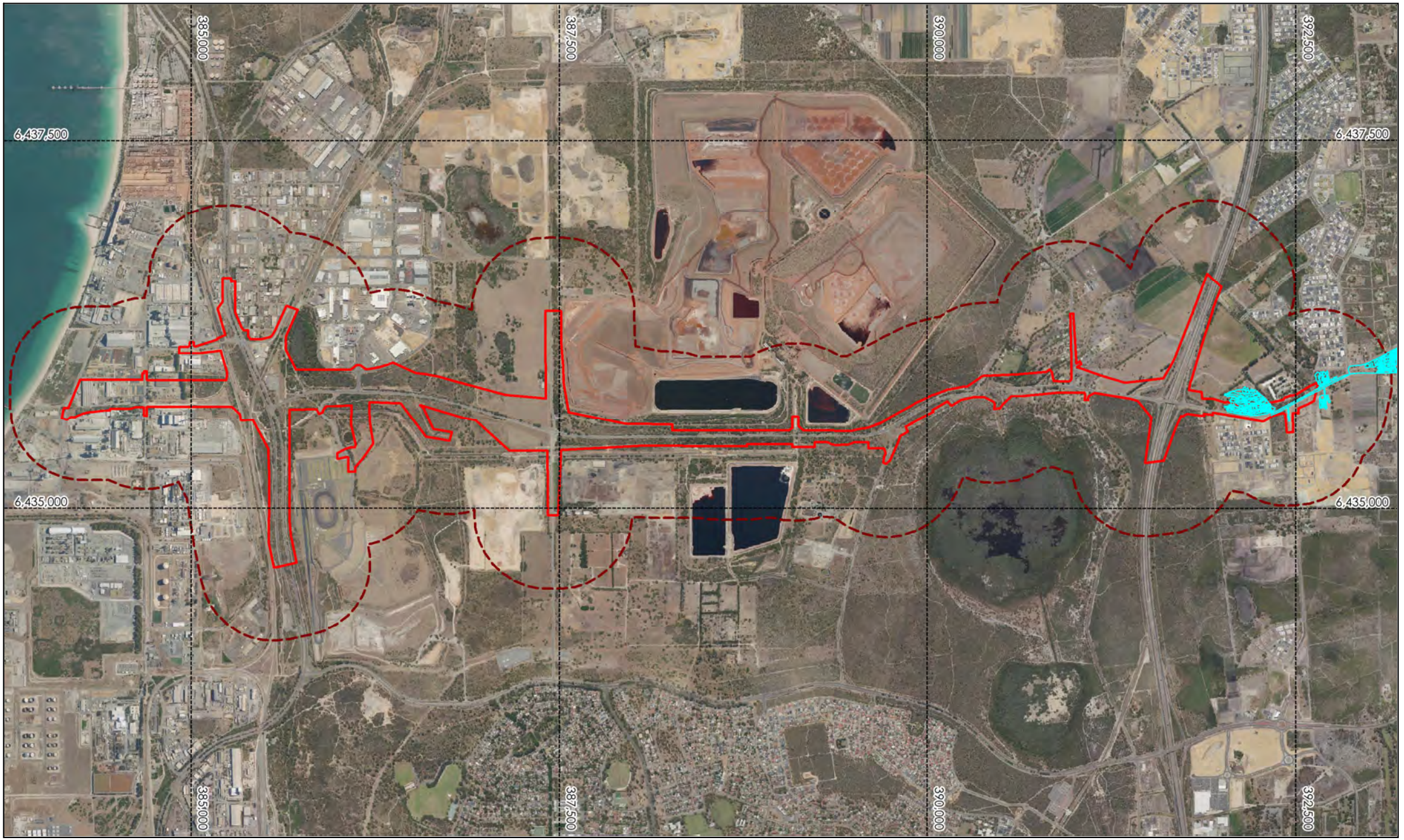
0 1,500

metres

Anketell Road Upgrade (Leith Road to Kwinana Freeway) Flora Survey Effort (Searches)

Biota Environmental Sciences

Author: S Werner | Drawn: M Robinson | Job No.: 1808 | Date: 27 May 2025 | Revised: | Projection: MGA Z50 (GDA2020) | Scale: 1:32,500



Location Map

Survey area

Contextual area

Traverse (Anketell Road Additional *Caladenia huegelii* Targeted Survey (Biota 20204b))

N

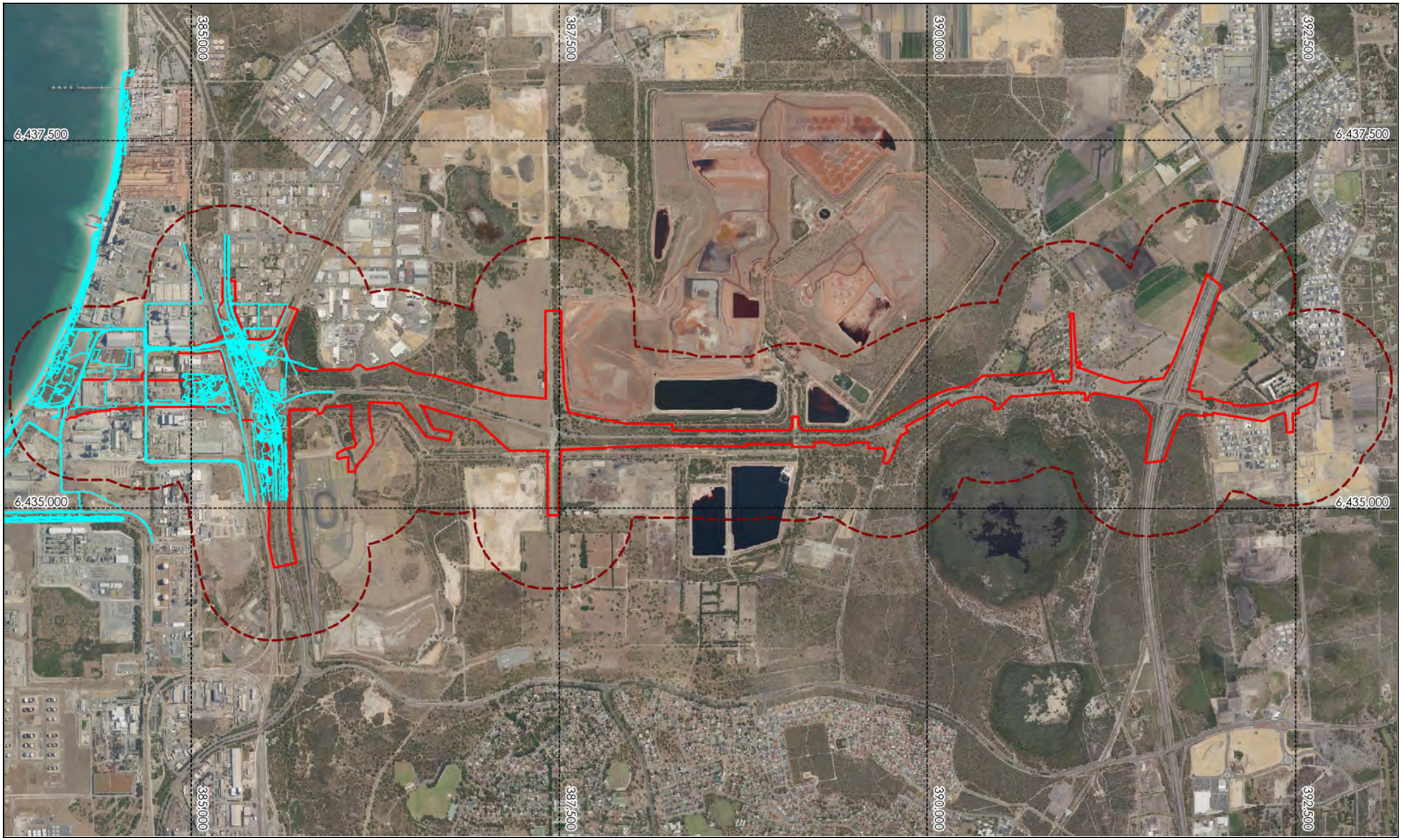
0 1,500

metres

Anketell Road Upgrade (Leith Road to Kwinana Freeway) Flora Survey Effort (Searches)

Biota Environmental Sciences

Author: S Werner | Drawn: M Robinson | Job No.: 1808 | Date: 27 May 2025 | Revised: | Projection: MGA Z50 (GDA2020) | Scale: 1:32,500



Location Map

Survey area

Contextual area

Traverse (Westport Last Mile Area Biological Survey (Biota 2024a))

N

0 1,500

metres

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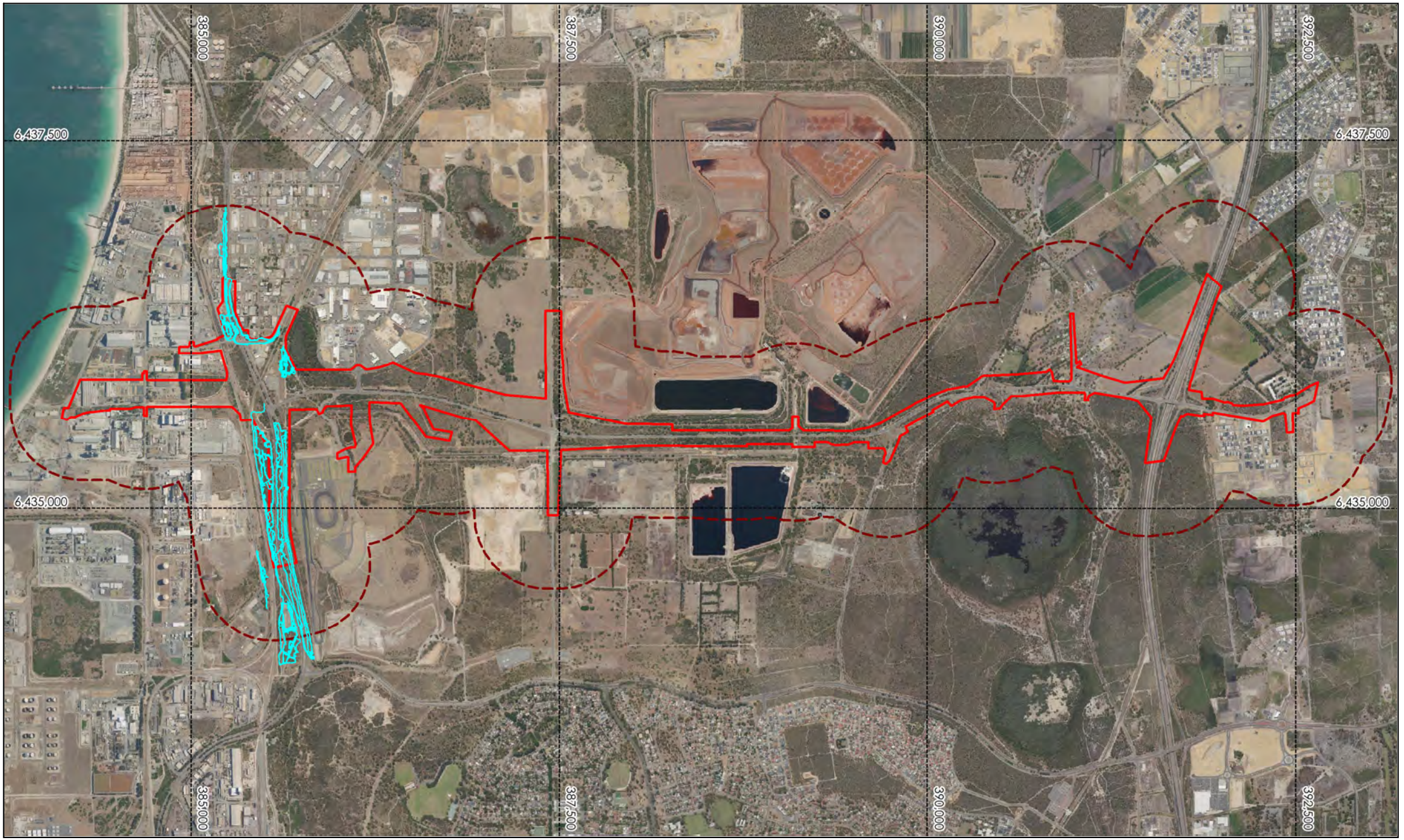

Location Map

Survey area

Contextual area

Traverse (Rockingham Road Biological Survey (Biota 2024c))

N

0 1,500

metres

Anketell Road Upgrade (Leith Road to Kwinana Freeway) Flora Survey Effort (Searches)

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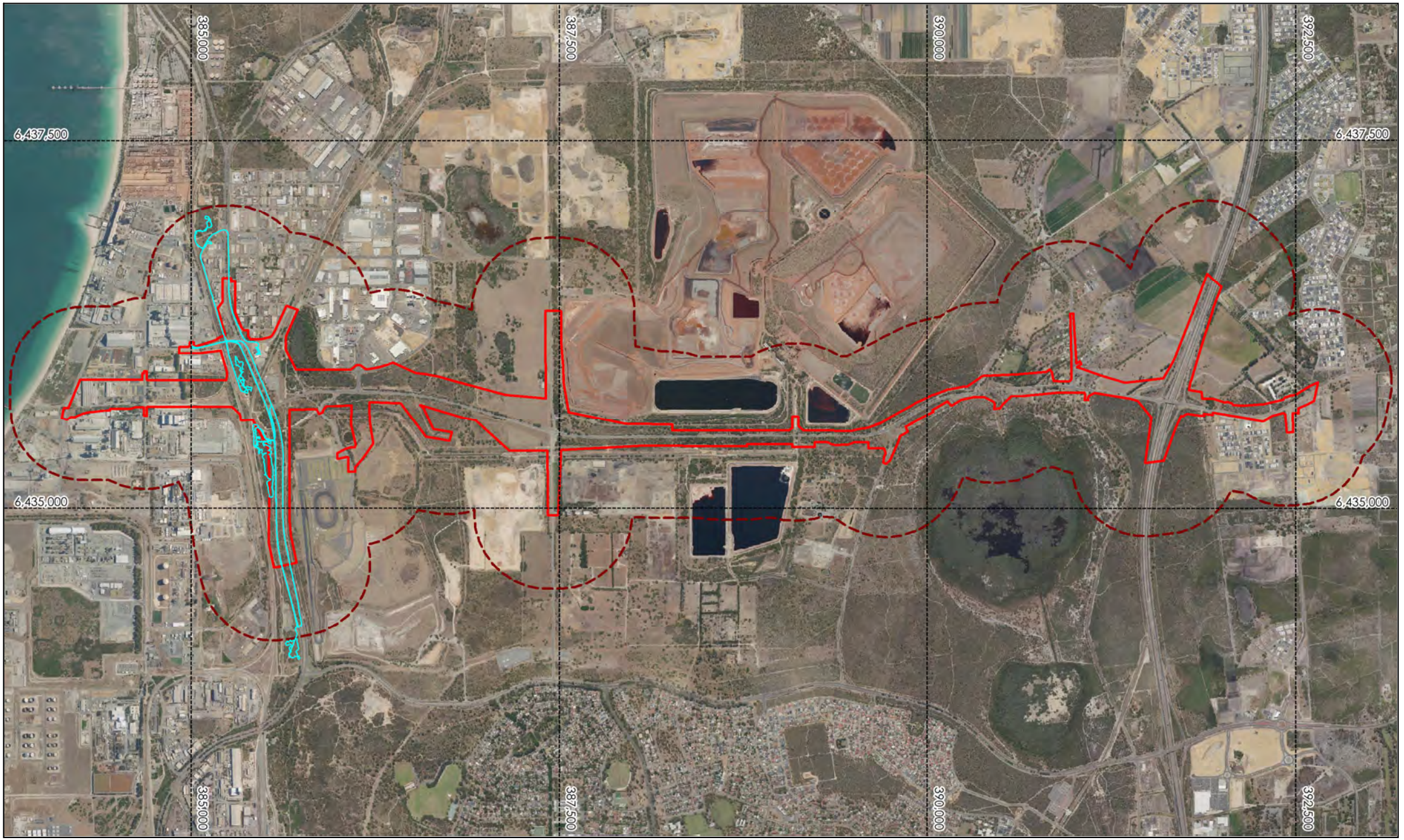


Location Map

Survey area

Contextual area

Traverse (Priority Flora Contextual/ Additional Searches (Biota 2024d))

N

0 1,500

metres

Anketell Road Upgrade
(Leith Road to Kwinana Freeway)
Flora Survey Effort (Searches)

Biota Environmental Sciences

Author: S Werner | Drawn: M Robinson | Job No.: 1808 | Date: 27 May 2025 | Revised: | Projection: MGA Z50 (GDA2020) | Scale: 1:32,500

Appendix 6

Vegetation Structural Classification and Condition Ranking

Vegetation Structural Classes*

Stratum	Canopy Cover (%)				
	70-100%	30-70%	10-30%	2-10%	<2%
Trees over 30 m	Tall closed forest	Tall open forest	Tall woodland	Tall open woodland	Scattered tall trees
Trees 10-30 m	Closed forest	Open forest	Woodland	Open woodland	Scattered trees
Trees under 10 m	Low closed forest	Low open forest	Low woodland	Low open woodland	Scattered low trees
Tree Mallee	Closed tree mallee	Tree mallee	Open tree mallee	Very open tree mallee	Scattered tree mallee
Shrub Mallee	Closed shrub mallee	Shrub mallee	Open shrub mallee	Very open shrub mallee	Scattered shrub mallee
Shrubs over 2 m	Tall closed scrub	Tall open scrub	Tall shrubland	Tall open shrubland	Scattered tall shrubs
Shrubs 1-2 m	Closed heath	Open heath	Shrubland	Open shrubland	Scattered shrubs
Shrubs under 1 m	Low closed heath	Low open heath	Low shrubland	Low open shrubland	Scattered low shrubs
Hummock grasses	Closed hummock grassland	Hummock grassland	Open hummock grassland	Very open hummock grassland	Scattered hummock grasses
Grasses, Sedges, Herbs	Closed tussock grassland / bunch grassland / sedgeland / herbland	Tussock grassland / bunch grassland / sedgeland / herbland	Open tussock grassland / bunch grassland / sedgeland / herbland	Very open tussock grassland / bunch grassland / sedgeland / herbland	Scattered tussock grasses / bunch grasses / sedges / herbs

- Based on Keighery (1994), adapted from Muir (1977), and Aplin's (1979) modification of the vegetation classification system of Specht (1970):
  - Keighery B.J. (1994). *Bushland Plant Survey: A Guide for Community Surveys*. Wildflower Society of Western Australia, Perth WA;
  - Aplin T.E.H. (1979). The Flora. Chapter 3 *In* O'Brien, B.J. (ed.) (1979). *Environment and Science.* University of Western Australia Press;
  - Muir B.G. (1977). Biological Survey of the Western Australian Wheatbelt. Part II: Vegetation and habitat of Bendering Reserve. *Records of the Western Australian Museum, Suppl.* No. 3;
  - Specht R.L. (1970). Vegetation. *In The Australian Environment.* 4th edn (Ed. G.W. Leeper). Melbourne.

Extracts from the NVIS framework (1990) of relevance to the current study.

Table 1: The NVIS Information Hierarchy.

Hierarchical Level	Description	NVIS structural/floristic components required
I	Class*	Dominant growth form for the ecologically or structurally dominant stratum
II	Structural Formation*	Dominant growth form, cover and height for the ecologically or structurally dominant stratum.
III	Broad Floristic Formation**	Dominant growth form, cover, height and dominant land cover genus for the upper most or the ecologically or structurally dominant stratum.
IV	Sub-Formation**	Dominant growth form, cover, height and dominant genus for each of the three traditional strata. (i.e. Upper, Mid and Ground)
V	Association**	Dominant growth form, height, cover and species (3 species) for the three traditional strata. (i.e. Upper, Mid and Ground)
VI	Sub-Association**	Dominant growth form, height, cover and species (5 species) for all layers/sub-strata.

* Walker & Hopkins (2016a)
** NVIS (defined for the NVIS Information Hierarchy)

Table 4: NVIS structural Formation Terminology.

	Cover Characteristics							
	Foliage cover *	70-100	30-70	10-30		» 0	0-5	unknown
	Crown cover **	>80	50-80	20-50	0.25-20		0-5	unknown
	% Cover ***	>80	50-80	20-50	0.25-20		0-5	unknown
	Cover code	d	c	i	r	bi	bc	unknown
Growth Form	Height Ranges (m)	Structural Formation Classes						
tree, palm	30	closed forest	open forest	woodland	open woodland	isolated trees	isolated clumps of trees	trees
shrub, cycad, grass-tree, tree-fern	2	closed shrubland	shrubland	open shrubland	sparse shrubland	isolated shrubs	isolated clumps of shrubs	shrubs
heath shrub	2	closed heathland	heathland	open heathland	sparse heathland	isolated heath shrubs	isolated clumps of heath shrubs	heath shrubs
tussock grass	0.5	closed tussock grassland	tussock grassland	open tussock grassland	sparse tussock grassland	isolated tussock grasses	isolated clumps of tussock grasses	tussock grasses
other grass	0.5	closed grassland	grassland	open grassland	sparse grassland	isolated grasses	isolated clumps of grasses	other grasses
sedge	0.5	closed sedgeland	sedgeland	open sedgeland	sparse sedgeland	isolated sedges	isolated clumps of sedges	sedges
rush	0.5	closed rushland	rushland	open rushland	sparse rushland	isolated rushes	isolated clumps of rushes	rushes
forb	0.5	closed forbland	forbland	open forbland	sparse forbland	isolated forbs	isolated clumps of forbs	forbs
fern	2	closed fernland	fernland	open fernland	sparse fernland	isolated ferns	isolated clumps of ferns	ferns
vine	30	closed vineland	vineland	open vineland	sparse vineland	isolated vines	isolated clumps of vines	vines

* Foliage Cover is defined for each stratum as 'the proportion of the ground that would be shaded if sunshine came from directly overhead'. It includes branches and leaves and is similar to the Crown type of Walker & Hopkins (1990) but is applied to a stratum or plot rather than an individual crown. It is generally not directly measured in the field for the upper stratum, although it can be measured by various line interception methods for ground layer vegetation. For the attribute COVER CODE in the Stratum table, the ground cover category refers to ground foliage cover not percentage cover.
** Crown Cover (canopy cover) as per Walker & Hopkins (1990). Although relationships between the two are dependent on season, species, species age etc (Walker & Hopkins (1990), the crown cover category classes have been adopted as the defining measure.
*** The percentage cover is defined as the percentage of a strictly defined plot area, covered by vegetation. This can be an estimate and is a less precise measure than using, for example, a point intercept transect methods on ground layer, or overstorey vegetative cover. That is for precisely measured values (e.g. crown densitometer or point intercept transects) the value measured would be 'foliage' cover. Where less precise or qualitative measures are used these will most probably be recorded as 'percentage' cover.

Table 6: Example usage of the NVIS Information Hierarchy (**Note: For definitions of U, M, G, U1, U2, U3, M1, M2, M3, G1, and G2 refer to Table 1.)

Level	Description	Species	Growth form	Cover	Height
I	CLASS	-	1 dominant growth form for the dominant stratum	-	-
	Example	*Tree*			
II	STRUCTURAL FORMATION	-	1 dominant growth form for the dominant stratum	1 cover class for the dominant stratum	1 height class for the dominant stratum
	Example	*Open woodland*			
III	BROAD FLORISTIC FORMATION	1 dominant genus name for the dominant stratum	1 dominant growth form for dominant stratum	1 cover class for dominant stratum	1 height class for dominant stratum
	Example	*Eucalyptus open woodland*			
IV	SUB-FORMATION	1 dominant genus name for each stratum ((max 3 strata; i.e. for U, M, G where substantially present)	1 dominant growth form for each stratum (max 3 strata)	1 cover class for each stratum (max 3 strata)	1 height class for each stratum (max 3 strata)
	Example	*+Eucalyptus open woodland \ Acacia tall sparse shrubland \ Aristida open tussock grassland*			
V	ASSOCIATION	Up to 3 dominant species for each stratum (max 3 strata; i.e. for U, M, G where present)	Up to 3 dominant growth forms for each stratum (max 3 strata; i.e. for U, M, G where present)	1 cover class code for each stratum (max 3 strata; i.e. for U, M, G where present)	1 height class code for each stratum (max 3 strata; i.e. for U, M, G where present)
	Example	*U+ ^Eucalyptus coolabah,Casuarina cristata,Flindersia maculosa \ ^tree \ 7 \ r;M ^Acacia salicina,Alectryon oleifolius,Acacia stenophylla \ ^shrub \ 4 \ r;G ^Aristida ramosa,Astrebla squarrosa,Bothriochloa decipiens \ ^tussock grass,forb,sedge \ 2 \ i*			
VI	SUB-ASSOCIATION	Up to 5 dominant species for each sub-stratum (i.e. for U1, U2, U3, M1, M2, M3, G1, G2 where present) • Indicate characteristic genus in each sub-stratum with an up arrow or hat "^". Must match characteristic growth form.	Up to 5 dominant growth forms for each sub-stratum. • Indicate characteristic growth form with an up arrow or hat "^". Must match characteristic genus	1 cover class code for each sub-stratum	1 height class code for each sub-stratum
	Example	*U1+ ^Eucalyptus coolabah,Casuarina cristata,Flindersia maculosa \ Eucalyptus \ ^tree \ 7 \ r;M1 ^Acacia salicina,Alectryon oleifolius ,Acacia stenophylla,Acacia victoriae subsp. victoriae,Eremophila bignoniiflora \ Acacia \ ^shrub \ 4 \ bi;M2 Eremophila longifolia,Muehlenbeckia florulenta \ Eremophila \ shrub \ 3 \ r;G1 ^Aristida ramosa,Astrebla squarrosa,Bothriochloa decipiens,Dichanthium sericeum,Enteropogon acicularis \ Aristida \ ^tussock grass,forb,sedge \ 2 *			

Vegetation condition scale taken from EPA (1994), based on scales developed by Keighery (1988) and Trudgen (1988).

Vegetation Condition	South West and Interzone Botanical Provinces	Eremaean and Northern Botanical Provinces
Pristine	Pristine or nearly so, no obvious signs of disturbance or damage caused by human activities since European settlement.	
Excellent	Vegetation structure intact, disturbance affecting individual species and weeds are non-aggressive species. Damage to trees caused by fire, the presence of non-aggressive weeds and occasional vehicle tracks.	Pristine or nearly so, no obvious signs of damage caused by human activities since European settlement.
Very Good	Vegetation structure altered, obvious signs of disturbance. Disturbance to vegetation structure caused by repeated fires, the presence of some more aggressive weeds, dieback, logging and grazing.	Some relatively slight signs of damage caused by human activities since European settlement. For example, some signs of damage to tree trunks caused by repeated fire, the presence of some relatively non-aggressive weeds, or occasional vehicle tracks.
Good	Vegetation structure significantly altered by very obvious signs of multiple disturbances. Retains basic vegetation structure or ability to regenerate it. Disturbance to vegetation structure caused by very frequent fires, the presence of very aggressive weeds, partial clearing, dieback and grazing.	More obvious signs of damage caused by human activity since European settlement, including some obvious impact on the vegetation structure such as that caused by low levels of grazing or slightly aggressive weeds.
Poor		Still retains basic vegetation structure or ability to regenerate it after very obvious impacts of human activities since European settlement, such as grazing, partial clearing, frequent fires or aggressive weeds.
Degraded	Basic vegetation structure severely impacted by disturbance. Scope for regeneration but not to a state approaching good condition without intensive management. Disturbance to vegetation structure caused by very frequent fires, the presence of very aggressive weeds at high density, partial clearing, dieback and grazing.	Severely impacted by grazing, very frequent fires, clearing or a combination of these activities. Scope for some regeneration but not to a state approaching good condition without intensive management. Usually with a number of weed species present including very aggressive species.
Completely Degraded	The structure of the vegetation is no longer intact and the area is completely or almost completely without native species. These areas are often described as 'parkland cleared' with the flora comprising weed or crop species with isolated native trees and shrubs.	Areas that are completely or almost completely without native species in the structure of their vegetation; i.e. areas that are cleared or 'parkland cleared' with their flora comprising weed or crop species with isolated native trees or shrubs.

Appendix 7

Flora Sampling Site Coordinates

SITE	PEG ID	DATUM/ZONE	EASTING (mE)	NORTHING (mN)
ANK01	1	WGS84	385516	6435622
	2	WGS84	385508	6435628
	3	WGS84	385502	6435618
	4	WGS84	385511	6435613
ANK02	1	WGS84	385449	6435739
	2	WGS84	385441	6435747
	3	WGS84	385448	6435754
	4	WGS84	385457	6435747
ANK05	1	WGS84	385657	6435591
	2	WGS84	385649	6435595
	3	WGS84	385652	6435603
	4	WGS84	385661	6435599
ANK06	1	WGS84	385745	6435716
	2	WGS84	385755	6435715
	3	WGS84	385754	6435707
	4	WGS84	385744	6435708
ANK07	1	WGS84	385880	6435768
	2	WGS84	385881	6435759
	3	WGS84	385892	6435760
	4	WGS84	385890	6435769
ANK08	1	WGS84	386141	6435764
	2	WGS84	386148	6435758
	3	WGS84	386142	6435750
	4	WGS84	386135	6435755
ANK09	1	WGS84	386441	6435798
	2	WGS84	386432	6435801
	3	WGS84	386431	6435791
	4	WGS84	386439	6435789
ANK10	1	WGS84	386714	6435658
	2	WGS84	386704	6435654
	3	WGS84	386700	6435663
	4	WGS84	386709	6435666
ANK100	1	WGS84	385859	6435862
	2	WGS84	385866	6435863
	3	WGS84	385865	6435871
	4	WGS84	385857	6435869
ANK11	1	WGS84	386717	6435808
	2	WGS84	386709	6435801
	3	WGS84	386715	6435795
	4	WGS84	386722	6435801
ANK12	1	WGS84	386873	6435630

SITE	PEG ID	DATUM/ZONE	EASTING (mE)	NORTHING (mN)
	2	WGS84	386868	6435623
	3	WGS84	386859	6435630
	4	WGS84	386865	6435638
ANK14	1	WGS84	387522	6435455
	2	WGS84	387529	6435463
	3	WGS84	387538	6435459
	4	WGS84	387532	6435447
ANK15	1	WGS84	387745	6435458
	2	WGS84	387747	6435449
	3	WGS84	387755	6435448
	4	WGS84	387756	6435457
ANK16	1	WGS84	387935	6435456
	2	WGS84	387937	6435468
	3	WGS84	387948	6435461
	4	WGS84	387946	6435452
ANK17	1	WGS84	388176	6435464
	2	WGS84	388184	6435467
	3	WGS84	388182	6435457
	4	WGS84	388173	6435458
ANK18	1	WGS84	388477	6435472
	2	WGS84	388476	6435464
	3	WGS84	388467	6435465
	4	WGS84	388468	6435474
ANK19	1	WGS84	388845	6435463
	2	WGS84	388836	6435462
	3	WGS84	388835	6435471
	4	WGS84	388845	6435471
ANK20	1	WGS84	389347	6435477
	2	WGS84	389337	6435478
	3	WGS84	389337	6435470
	4	WGS84	389347	6435469
ANK21	1	WGS84	389623	6435488
	2	WGS84	389632	6435484
	3	WGS84	389628	6435474
	4	WGS84	389619	6435478
ANK22	1	WGS84	389897	6435596
	2	WGS84	389890	6435592
	3	WGS84	389894	6435604
	4	WGS84	389887	6435602
ANK23	1	WGS84	390083	6435709
	2	WGS84	390075	6435704

SITE	PEG ID	DATUM/ZONE	EASTING (mE)	NORTHING (mN)
	3	WGS84	390071	6435714
	4	WGS84	390079	6435716
ANK25	1	WGS84	390210	6435781
	2	WGS84	390208	6435790
	3	WGS84	390197	6435789
	4	WGS84	390199	6435779
ANK26	1	WGS84	390270	6435864
	2	WGS84	390270	6435873
	3	WGS84	390279	6435874
	4	WGS84	390279	6435864
ANK27	1	WGS84	390306	6435691
	2	WGS84	390307	6435698
	3	WGS84	390314	6435696
	4	WGS84	390315	6435689
ANK28	1	WGS84	390379	6435645
	2	WGS84	390382	6435636
	3	WGS84	390376	6435632
	4	WGS84	390372	6435640
ANK32	1	WGS84	391092	6435861
	2	WGS84	391101	6435861
	3	WGS84	391100	6435871
	4	WGS84	391091	6435871
ANK33	1	WGS84	391186	6435707
	2	WGS84	391184	6435715
	3	WGS84	391193	6435718
	4	WGS84	391195	6435708
ANK34	1	WGS84	391495	6435713
	2	WGS84	391506	6435713
	3	WGS84	391506	6435721
	4	WGS84	391496	6435721
ANK35	1	WGS84	391771	6435741
	2	WGS84	391778	6435744
	3	WGS84	391773	6435752
	4	WGS84	391766	6435748
ANK36	1	WGS84	391764	6435627
	2	WGS84	391755	6435623
	3	WGS84	391757	6435613
	4	WGS84	391766	6435614
ANK38	1	WGS84	392665	6435829
	2	WGS84	392684	6435838
ANK39	1	WGS84	393113	6435944

SITE	PEG ID	DATUM/ZONE	EASTING (mE)	NORTHING (mN)
	2	WGS84	393109	6435936
	3	WGS84	393100	6435941
	4	WGS84	393105	6435948
ANK40	1	WGS84	393141	6436012
	2	WGS84	393131	6436011
	3	WGS84	393133	6436002
	4	WGS84	393142	6436002
ANK41	1	WGS84	393331	6435950
	2	WGS84	393338	6435951
	3	WGS84	393342	6435943
	4	WGS84	393331	6435938
ANK42	1	WGS84	393589	6435895
	2	WGS84	393587	6435906
	3	WGS84	393597	6435908
	4	WGS84	393599	6435898
ANK43	1	WGS84	394045	6435883
	2	WGS84	394044	6435893
	3	WGS84	394053	6435892
	4	WGS84	394054	6435883
ANK44	1	WGS84	394149	6436013
	2	WGS84	394150	6436003
	3	WGS84	394140	6436004
	4	WGS84	394140	6436013
ANK45	1	WGS84	394401	6435931
	2	WGS84	394400	6435940
	3	WGS84	394392	6435930
	4	WGS84	394390	6435939
ANK46	1	WGS84	394567	6435975
	2	WGS84	394560	6435983
	3	WGS84	394567	6435989
	4	WGS84	394575	6435983
ANK47	1	WGS84	394565	6435892
	2	WGS84	394565	6435902
	3	WGS84	394555	6435894
	4	WGS84	394556	6435903
ANK49	1	WGS84	394822	6435980
	2	WGS84	394820	6435988
	3	WGS84	394829	6435992
	4	WGS84	394831	6435982
ANK51	1	WGS84	395701	6435784
	2	WGS84	395692	6435782

SITE	PEG ID	DATUM/ZONE	EASTING (mE)	NORTHING (mN)
	3	WGS84	395690	6435791
	4	WGS84	395699	6435794
ANK52	1	WGS84	395789	6435749
	2	WGS84	395781	6435754
	3	WGS84	395786	6435763
	4	WGS84	395795	6435758
ANK53	1	WGS84	395859	6435933
	2	WGS84	395850	6435938
	3	WGS84	395855	6435946
	4	WGS84	395865	6435942
ANK54	1	WGS84	395838	6435842
	2	WGS84	395832	6435850
	3	WGS84	395839	6435855
	4	WGS84	395845	6435848
ANK55	1	WGS84	395972	6435786
	2	WGS84	395981	6435786
	3	WGS84	395982	6435777
	4	WGS84	395972	6435775
ANK56	1	WGS84	396092	6435763
	2	WGS84	396082	6435762
	3	WGS84	396079	6435771
	4	WGS84	396088	6435773
ANK57	1	WGS84	396147	6435859
	2	WGS84	396141	6435853
	3	WGS84	396134	6435860
	4	WGS84	396140	6435867
ANK58	1	WGS84	396121	6435961
	2	WGS84	396119	6435970
	3	WGS84	396110	6435969
	4	WGS84	396111	6435960
ANK59	1	WGS84	396246	6435796
	2	WGS84	396251	6435788
	3	WGS84	396241	6435784
	4	WGS84	396239	6435794
ANK60	1	WGS84	396378	6435820
	2	WGS84	396380	6435811
	3	WGS84	396372	6435808
	4	WGS84	396369	6435818
ANK61	1	WGS84	396470	6436043
	2	WGS84	396467	6436052
	3	WGS84	396458	6436049

SITE	PEG ID	DATUM/ZONE	EASTING (mE)	NORTHING (mN)
	4	WGS84	396462	6436041
ANK62	1	WGS84	396518	6435771
	2	WGS84	396514	6435760
	3	WGS84	396505	6435765
	4	WGS84	396509	6435774
ANK63	1	WGS84	396553	6435951
	2	WGS84	396560	6435955
	3	WGS84	396551	6435961
	4	WGS84	396559	6435964
ANK64	1	WGS84	396740	6435813
	2	WGS84	396734	6435806
	3	WGS84	396724	6435813
	4	WGS84	396732	6435821
ANK65	1	WGS84	396800	6435936
	2	WGS84	396800	6435926
	3	WGS84	396810	6435927
	4	WGS84	396809	6435936
ANK66	1	WGS84	396823	6435796
	2	WGS84	396816	6435792
	3	WGS84	396809	6435798
	4	WGS84	396816	6435803
ANK67	1	WGS84	396979	6436044
	2	WGS84	396982	6436052
	3	WGS84	396973	6436055
	4	WGS84	396970	6436046
ANK68	1	WGS84	397056	6435817
	2	WGS84	397057	6435809
	3	WGS84	397048	6435804
	4	WGS84	397046	6435815
ANK69	1	WGS84	397372	6435953
	2	WGS84	397374	6435964
	3	WGS84	397364	6435964
	4	WGS84	397364	6435954
ANK70	1	WGS84	397451	6436055
	2	WGS84	397457	6436048
	3	WGS84	397449	6436042
	4	WGS84	397443	6436050
ANK71	1	WGS84	397521	6435870
	2	WGS84	397521	6435878
	3	WGS84	397510	6435879
	4	WGS84	397510	6435869

SITE	PEG ID	DATUM/ZONE	EASTING (mE)	NORTHING (mN)
ANK72	1	WGS84	397599	6435986
	2	WGS84	397596	6435995
	3	WGS84	397605	6435998
	4	WGS84	397607	6435989
ANK73	1	WGS84	397645	6436005
	2	WGS84	397654	6436002
	3	WGS84	397651	6435993
	4	WGS84	397642	6435996
ANK74	1	WGS84	385948	6435846
	2	WGS84	385953	6435841
	3	WGS84	385958	6435847
	4	WGS84	385953	6435853
ANK75a	1	WGS84	386257	6435846
	2	WGS84	386259	6435835
	3	WGS84	386245	6435834
	4	WGS84	386245	6435847
ANK75b	5	WGS84	386188	6435879
	6	WGS84	386179	6435882
	7	WGS84	386184	6435870
	8	WGS84	386175	6435875
ANK76	1	WGS84	386404	6435876
	2	WGS84	386413	6435874
	3	WGS84	386414	6435882
	4	WGS84	386406	6435884
ANK90	1	WGS84	393901	6435961
	2	WGS84	393904	6435970
	3	WGS84	393895	6435974
	4	WGS84	393893	6435964
ANK91	1	WGS84	393486	6435963
	2	WGS84	393482	6435954
	3	WGS84	393491	6435950
	4	WGS84	393495	6435958
ANK92	1	WGS84	394232	6435909
	2	WGS84	394226	6435902
	3	WGS84	394219	6435909
	4	WGS84	394225	6435916
ANK93	1	WGS84	386484	6435758
	2	WGS84	386489	6435746
	3	WGS84	386477	6435745
	4	WGS84	386473	6435755
ANK94	1	WGS84	386709	6435757

SITE	PEG ID	DATUM/ZONE	EASTING (mE)	NORTHING (mN)
	2	WGS84	386707	6435748
	3	WGS84	386698	6435749
	4	WGS84	386700	6435758
ANK95	1	WGS84	387330	6435506
	2	WGS84	387339	6435495
	3	WGS84	387329	6435497
	4	WGS84	387340	6435505
ANK96	1	WGS84	397901	6435963
	2	WGS84	397895	6435954
	3	WGS84	397904	6435949
	4	WGS84	397909	6435957
ANK99	1	WGS84	385770	6435916
	2	WGS84	385780	6435913
	3	WGS84	385783	6435922
	4	WGS84	385772	6435925
ANK98	1	WGS84	391564	6435785
	2	WGS84	391442	6435776
WTP31	1	WGS84	396796	6435839
	2	WGS84	396797	6435848
	3	WGS84	396788	6435850
	4	WGS84	396787	6435841
WTP33	1	WGS84	396907	6435854
	2	WGS84	396905	6435863
	3	WGS84	396915	6435858
	4	WGS84	396913	6435866
WTP32	1	WGS84	396734	6435874
	2	WGS84	396740	6435881
	3	WGS84	396733	6435889
	4	WGS84	396728	6435882
WTP30	1	WGS84	396044	6435837
	2	WGS84	396040	6435826
	3	WGS84	396049	6435822
	4	WGS84	396053	6435830
ANK57	1	WGS84	396147	6435859
WTP29	1	WGS84	395928	6435858
	2	WGS84	395930	6435848
	3	WGS84	395919	6435857
	4	WGS84	395922	6435847
ANK60	1	WGS84	396376	6435815
WTP28	1	WGS84	395783	6435915
	2	WGS84	395794	6435916

SITE	PEG ID	DATUM/ZONE	EASTING (mE)	NORTHING (mN)
	3	WGS84	395795	6435924
	4	WGS84	395784	6435924
WTP24	1	WGS84	394351	6435901
	2	WGS84	394355	6435908
	3	WGS84	394364	6435903
	4	WGS84	394359	6435895
ANK92	1	WGS84	394221	6435912
WTP25	1	WGS84	394790	6435917
	2	WGS84	394780	6435927
	3	WGS84	394789	6435928
	4	WGS84	394780	6435917
ANK43	1	WGS84	394045	6435894
WTP23	1	WGS84	393827	6435882
	2	WGS84	393825	6435892
	3	WGS84	393835	6435894
	4	WGS84	393836	6435884
ANK42	1	WGS84	393589	6435897
WTP22	1	WGS84	393484	6435906
	2	WGS84	393482	6435920
	3	WGS84	393488	6435914
	4	WGS84	393476	6435912
ANK20	1	WGS84	389338	6435472
ANK19	1	WGS84	388844	6435460
ANK18	1	WGS84	388475	6435467
ANK99	1	WGS84	385771	6435913
WTP43	1	WGS84	385614	6435579
	2	WGS84	385614	6435589
	3	WGS84	385624	6435587
	4	WGS84	385623	6435577
WTP15	1	WGS84	390462	6435782
	2	WGS84	390433	6435775
WTP16	1	WGS84	390766	6435735
	2	WGS84	390758	6435740
	3	WGS84	390763	6435748
	4	WGS84	390773	6435743
WTP05	1	WGS84	387848	6435525
	2	WGS84	387837	6435524
	3	WGS84	387837	6435534
	4	WGS84	387846	6435533
WTP08	1	WGS84	388591	6435545
	2	WGS84	388601	6435546

SITE	PEG ID	DATUM/ZONE	EASTING (mE)	NORTHING (mN)
	3	WGS84	388602	6435536
	4	WGS84	388591	6435535
WTP41	1	WGS84	387749	6435529
	2	WGS84	387747	6435536
	3	WGS84	387737	6435536
	4	WGS84	387738	6435527
WTP38	1	WGS84	387494	6435565
	2	WGS84	387503	6435566
	3	WGS84	387501	6435576
	4	WGS84	387492	6435575
WTP39	1	WGS84	387525	6435568
	2	WGS84	387525	6435577
	3	WGS84	387534	6435568
	4	WGS84	387534	6435577
WTP40	1	WGS84	387657	6435560
	2	WGS84	387646	6435560
	3	WGS84	387647	6435570
	4	WGS84	387657	6435570
WTP06	1	WGS84	388344	6435531
	2	WGS84	388354	6435534
	3	WGS84	388349	6435542
	4	WGS84	388339	6435540
WTP09	1	WGS84	389021	6435535
	2	WGS84	389019	6435524
	3	WGS84	389029	6435523
	4	WGS84	389030	6435534
WTP17	1	WGS84	392081	6435675
	2	WGS84	392071	6435676
	3	WGS84	392070	6435666
	4	WGS84	392078	6435664
WTP10	1	WGS84	389174	6435512
	2	WGS84	389172	6435522
	3	WGS84	389181	6435523
	4	WGS84	389183	6435514
WTP18	1	WGS84	392184	6435666
	2	WGS84	392193	6435672
	3	WGS84	392198	6435662
	4	WGS84	392190	6435658
WTP02	1	WGS84	386878	6435753
	2	WGS84	386886	6435762
	3	WGS84	386878	6435762

SITE	PEG ID	DATUM/ZONE	EASTING (mE)	NORTHING (mN)
	4	WGS84	386885	6435753
WTP01	1	WGS84	386847	6435818
	2	WGS84	386851	6435810
	3	WGS84	386844	6435802
	4	WGS84	386838	6435810
WTP14	1	WGS84	390092	6435823
	2	WGS84	390087	6435830
	3	WGS84	390078	6435826
	4	WGS84	390084	6435819
WTP11	1	WGS84	389539	6435528
	2	WGS84	389538	6435539
	3	WGS84	389547	6435541
	4	WGS84	389549	6435531
WTP12	1	WGS84	389686	6435585
	2	WGS84	389686	6435594
	3	WGS84	389677	6435595
	4	WGS84	389677	6435585
WTP13	1	WGS84	389876	6435704
	2	WGS84	389867	6435702
	3	WGS84	389878	6435694
	4	WGS84	389868	6435693
WTP44	1	WGS84	397698	6435647
	2	WGS84	397673	6435618
WTP27	1	WGS84	395518	6435969
	2	WGS84	395507	6435969
	3	WGS84	395509	6435959
	4	WGS84	395517	6435959
WTP21	1	WGS84	392691	6435718
	2	WGS84	392700	6435720
	3	WGS84	392702	6435712
	4	WGS84	392693	6435710
WTP19	1	WGS84	392425	6435643
	2	WGS84	392431	6435649
	3	WGS84	392424	6435655
	4	WGS84	392418	6435650
WTP20	1	WGS84	392697	6435869
	2	WGS84	392693	6435877
	3	WGS84	392685	6435874
	4	WGS84	392690	6435864
WTP35	1	WGS84	398491	6436320
	2	WGS84	398487	6436327

SITE	PEG ID	DATUM/ZONE	EASTING (mE)	NORTHING (mN)
	3	WGS84	398479	6436324
	4	WGS84	398485	6436316
WTP34	1	WGS84	398025	6436022
	2	WGS84	398031	6436015
	3	WGS84	398018	6436014
	4	WGS84	398025	6436009
WTP36	1	WGS84	398450	6436159
	2	WGS84	398444	6436151
	3	WGS84	398452	6436145
	4	WGS84	398458	6436153
WTP37	1	WGS84	398004	6435850
	2	WGS84	398004	6435842
	3	WGS84	397995	6435844
	4	WGS84	397993	6435853
WLM05	1	WGS84	384256	6436424
	2	WGS84	384262	6436423
	3	WGS84	384262	6436439
	4	WGS84	384268	6436437
WLM06	1	WGS84	384171	6436126
	2	WGS84	384162	6436130
	3	WGS84	384157	6436122
	4	WGS84	384166	6436117
WLM10	1	WGS84	384217	6435958
	2	WGS84	384225	6435953
	3	WGS84	384219	6435945
	4	WGS84	384211	6435950
WLM12	1	WGS84	384162	6435907
	2	WGS84	384159	6435898
	3	WGS84	384171	6435905
	4	WGS84	384168	6435895
WLM08	1	WGS84	384097	6435951
	2	WGS84	384090	6435957
	3	WGS84	384083	6435950
	4	WGS84	384090	6435943
WLM11	1	WGS84	384036	6435925
	2	WGS84	384031	6435916
	3	WGS84	384023	6435920
	4	WGS84	384028	6435930
WLM15	1	WGS84	384095	6435785
	2	WGS84	384097	6435794
	3	WGS84	384088	6435797

SITE	PEG ID	DATUM/ZONE	EASTING (mE)	NORTHING (mN)
	4	WGS84	384086	6435788
WLM17	1	WGS84	383926	6435734
	2	WGS84	383930	6435742
	3	WGS84	383922	6435747
	4	WGS84	383916	6435740
WLM22	1	WGS84	383300	6434823
	2	WGS84	383307	6434813
	3	WGS84	383314	6434820
	4	WGS84	383309	6434826
WLM23	1	WGS84	383259	6434763
	2	WGS84	383253	6434771
	3	WGS84	383250	6434758
	4	WGS84	383245	6434766
WLM24	1	WGS84	382908	6434061
	2	WGS84	382905	6434070
	3	WGS84	382896	6434068
	4	WGS84	382899	6434059
WLM32	1	WGS84	382951	6433883
	2	WGS84	382943	6433883
	3	WGS84	382944	6433872
	4	WGS84	382952	6433876
WLM25	1	WGS84	382858	6434019
	2	WGS84	382858	6434029
	3	WGS84	382848	6434031
	4	WGS84	382848	6434020
WLM29	1	WGS84	382874	6433876
	2	WGS84	382876	6433866
	3	WGS84	382885	6433868
	4	WGS84	382885	6433878
WLM27	1	WGS84	382826	6433875
	2	WGS84	382826	6433885
	3	WGS84	382816	6433885
	4	WGS84	382816	6433876
WLM26	1	WGS84	382908	6433906
	2	WGS84	382912	6433898
	3	WGS84	382903	6433894
	4	WGS84	382900	6433904
WLM33	1	WGS84	382941	6434079
	2	WGS84	382933	6434080
	3	WGS84	382941	6434070
	4	WGS84	382930	6434071

SITE	PEG ID	DATUM/ZONE	EASTING (mE)	NORTHING (mN)
WLM16	1	WGS84	385089	6435772
	2	WGS84	385092	6435781
	3	WGS84	385082	6435783
	4	WGS84	385079	6435774
WLM28	1	WGS84	382777	6433822
	2	WGS84	382777	6433831
	3	WGS84	382787	6433832
	4	WGS84	382787	6433823
WLM34	1	WGS84	382942	6434223
	2	WGS84	382931	6434225
	3	WGS84	382929	6434217
	4	WGS84	382939	6434215
WLM07	1	WGS84	385307	6436060
	2	WGS84	385317	6436061
	3	WGS84	385317	6436051
	4	WGS84	385308	6436050
WLM19	1	WGS84	383815	6435591
	2	WGS84	383807	6435598
	3	WGS84	383801	6435591
	4	WGS84	383809	6435584
WLM20	1	WGS84	383729	6435476
	2	WGS84	383723	6435467
	3	WGS84	383732	6435462
	4	WGS84	383737	6435471
WLM21	1	WGS84	383555	6435201
	2	WGS84	383563	6435197
	3	WGS84	383568	6435205
	4	WGS84	383560	6435211
WLM36	1	WGS84	383626	6435331
	2	WGS84	383633	6435327
	3	WGS84	383640	6435335
	4	WGS84	383632	6435340
WLM01	1	WGS84	384557	6437754
	2	WGS84	384547	6437757
	3	WGS84	384551	6437767
	4	WGS84	384559	6437763
WLM02	1	WGS84	384520	6437431
	2	WGS84	384526	6437455
	3	WGS84	384530	6437454
	4	WGS84	384524	6437430
WLM13	1	WGS84	385092	6435870

SITE	PEG ID	DATUM/ZONE	EASTING (mE)	NORTHING (mN)
	2	WGS84	385083	6435873
	3	WGS84	385079	6435866
	4	WGS84	385089	6435862
WLM04	1	WGS84	384423	6437032
	2	WGS84	384414	6437037
	3	WGS84	384418	6437045
	4	WGS84	384427	6437042
WLM03	1	WGS84	384482	6437196
	2	WGS84	384489	6437194
	3	WGS84	384485	6437186
	4	WGS84	384477	6437189
WLM09	1	WGS84	385332	6435932
	2	WGS84	385328	6435940
	3	WGS84	385336	6435944
	4	WGS84	385341	6435936
WLM30	1	WGS84	385236	6435739
	2	WGS84	385238	6435748
	3	WGS84	385248	6435746
	4	WGS84	385245	6435736
WLM18	1	WGS84	385232	6435808
	2	WGS84	385228	6435798
	3	WGS84	385219	6435802
	4	WGS84	385222	6435811
WLM14	1	WGS84	385340	6435839
	2	WGS84	385337	6435849
	3	WGS84	385347	6435850
	4	WGS84	385349	6435842
WLM38	1	WGS84	385411	6435805
	2	WGS84	385403	6435801
	3	WGS84	385405	6435792
	4	WGS84	385414	6435796
WLM40	1	WGS84	385373	6435636
	2	WGS84	385368	6435644
	3	WGS84	385366	6435630
	4	WGS84	385360	6435639
WLM41	1	WGS84	385280	6435981
	2	WGS84	385290	6435984
	3	WGS84	385286	6435993
	4	WGS84	385277	6435991
WLM42	1	WGS84	385453	6435739
	2	WGS84	385452	6435749

SITE	PEG ID	DATUM/ZONE	EASTING (mE)	NORTHING (mN)
	3	WGS84	385462	6435742
	4	WGS84	385461	6435751
WLMR43	1	WGS84	385496	6435971
	2	WGS84	385522	6436017
WLM01R	1	WGS84	384557	6437754
	2	WGS84	384547	6437757
	3	WGS84	384551	6437767
	4	WGS84	384559	6437763
WLM02R	1	WGS84	384520	6437431
	2	WGS84	384526	6437455
	3	WGS84	384530	6437454
	4	WGS84	384524	6437430
WLM07R	1	WGS84	385307	6436060
	2	WGS84	385317	6436061
	3	WGS84	385317	6436051
	4	WGS84	385308	6436050
WLM09R	1	WGS84	385332	6435932
	2	WGS84	385328	6435940
	3	WGS84	385336	6435944
	4	WGS84	385341	6435936
WLM13R	1	WGS84	385092	6435870
	2	WGS84	385083	6435873
	3	WGS84	385079	6435866
	4	WGS84	385089	6435862
WLM14R	1	WGS84	385340	6435839
	2	WGS84	385337	6435849
	3	WGS84	385347	6435850
	4	WGS84	385349	6435842
WLM15R	1	WGS84	384095	6435785
	2	WGS84	384097	6435794
	3	WGS84	384088	6435797
	4	WGS84	384086	6435788
WLM16R	1	WGS84	385089	6435772
	2	WGS84	385092	6435781
	3	WGS84	385082	6435783
	4	WGS84	385079	6435774
WLM25R	1	WGS84	382858	6434019
	2	WGS84	382858	6434029
	3	WGS84	382848	6434031
	4	WGS84	382848	6434020
WLM26R	1	WGS84	382908	6433906

SITE	PEG ID	DATUM/ZONE	EASTING (mE)	NORTHING (mN)
	2	WGS84	382912	6433898
	3	WGS84	382903	6433894
	4	WGS84	382900	6433904
WLM27R	1	WGS84	382826	6433875
	2	WGS84	382826	6433885
	3	WGS84	382816	6433885
	4	WGS84	382816	6433876
WLM29R	1	WGS84	382874	6433876
	2	WGS84	382876	6433866
	3	WGS84	382885	6433868
	4	WGS84	382885	6433878
WLM40R	1	WGS84	385373	6435636
	2	WGS84	385368	6435644
	3	WGS84	385366	6435630
	4	WGS84	385360	6435639
WLM44	1	WGS84	383007	6434466
ROC15	1	WGS84	385759	6434387
	2	WGS84	385750	6434386
	3	WGS84	385750	6434376
	4	WGS84	385761	6434377
ROC05	1	WGS84	385464	6435478
	2	WGS84	385455	6435477
	3	WGS84	385456	6435467
	4	WGS84	385463	6435466
ROC06	1	WGS84	385600	6435469
	2	WGS84	385590	6435468
	3	WGS84	385602	6435460
	4	WGS84	385591	6435460
ROC21	1	WGS84	385736	6434496
	2	WGS84	385727	6434495
	3	WGS84	385728	6434484
	4	WGS84	385738	6434487
ROC23	1	WGS84	385650	6434903
	2	WGS84	385660	6434903
	3	WGS84	385660	6434912
	4	WGS84	385650	6434911
ROC08	1	WGS84	385527	6435187
	2	WGS84	385523	6435196
	3	WGS84	385515	6435192
	4	WGS84	385517	6435183
ROC10	1	WGS84	385673	6434795

SITE	PEG ID	DATUM/ZONE	EASTING (mE)	NORTHING (mN)
	2	WGS84	385675	6434786
	3	WGS84	385666	6434783
	4	WGS84	385665	6434794
ROC07	1	WGS84	385505	6435296
	2	WGS84	385514	6435298
	3	WGS84	385513	6435306
	4	WGS84	385504	6435305
ROC22	1	WGS84	385482	6435250
	2	WGS84	385490	6435251
	3	WGS84	385488	6435261
	4	WGS84	385480	6435260
ROC24	1	WGS84	385494	6435134
	2	WGS84	385492	6435125
	3	WGS84	385503	6435131
	4	WGS84	385501	6435123
ROC11	1	WGS84	385490	6434691
	2	WGS84	385481	6434688
	3	WGS84	385478	6434697
	4	WGS84	385487	6434700
ROC13	1	WGS84	385499	6434517
	2	WGS84	385507	6434528
	3	WGS84	385498	6434526
	4	WGS84	385507	6434520
ROC01	1	WGS84	385277	6436437
	2	WGS84	385267	6436435
	3	WGS84	385267	6436426
	4	WGS84	385277	6436427
ROC03	1	WGS84	385362	6436184
	2	WGS84	385353	6436183
	3	WGS84	385352	6436194
	4	WGS84	385362	6436194
ROC12	1	WGS84	385705	6434337
	2	WGS84	385706	6434330
	3	WGS84	385716	6434331
	4	WGS84	385713	6434339
ROC02	1	WGS84	385258	6436257
	2	WGS84	385254	6436267
	3	WGS84	385245	6436264
	4	WGS84	385249	6436254
ROC25	1	WGS84	385281	6436212
	2	WGS84	385283	6436204

SITE	PEG ID	DATUM/ZONE	EASTING (mE)	NORTHING (mN)
	3	WGS84	385272	6436201
	4	WGS84	385270	6436212
ROC19	1	WGS84	385721	6434011
	2	WGS84	385717	6434021
	3	WGS84	385707	6434016
	4	WGS84	385711	6434008
ROC18	1	WGS84	385645	6434075
	2	WGS84	385654	6434074
	3	WGS84	385656	6434083
	4	WGS84	385647	6434084
ROC20	1	WGS84	385778	6434275
	2	WGS84	385782	6434278
	3	WGS84	385776	6434288
	4	WGS84	385775	6434287
ROC04	1	WGS84	385630	6436000
	2	WGS84	385641	6435994
	3	WGS84	385621	6435986
	4	WGS84	385635	6435981
ROC27	1	WGS84	385602	6434872
	2	WGS84	385600	6434860
	3	WGS84	385608	6434864
	4	WGS84	385615	6434873
ROC16	1	WGS84	385662	6434137
	2	WGS84	385657	6434146
	3	WGS84	385648	6434143
	4	WGS84	385653	6434133
ROC30	1	WGS84	385591	6434043
	2	WGS84	385592	6434053
	3	WGS84	385601	6434052
	4	WGS84	385601	6434042
ROC31	1	WGS84	385591	6434412
	2	WGS84	385591	6434421
	3	WGS84	385582	6434420
	4	WGS84	385582	6434410
ROC32	1	WGS84	385541	6434789
	2	WGS84	385552	6434789
	3	WGS84	385552	6434779
	4	WGS84	385541	6434780
ROC33	1	WGS84	385446	6435307
	2	WGS84	385449	6435299
	3	WGS84	385458	6435302

SITE	PEG ID	DATUM/ZONE	EASTING (mE)	NORTHING (mN)
	4	WGS84	385456	6435311
ROCR34	1	WGS84	385432	6435092
	2	WGS84	385431	6435118
ROCR38	1	WGS84	385076	6436110
	2	WGS84	385143	6436126
ROC19R	1	WGS84	385721	6434011
	2	WGS84	385717	6434021
	3	WGS84	385707	6434016
	4	WGS84	385711	6434008
ROC18R	1	WGS84	385645	6434075
	2	WGS84	385654	6434074
	3	WGS84	385656	6434083
	4	WGS84	385647	6434084
ROC16R	1	WGS84	385662	6434137
	2	WGS84	385657	6434146
	3	WGS84	385648	6434143
	4	WGS84	385653	6434133
ROC31R	1	WGS84	385591	6434412
	2	WGS84	385591	6434421
	3	WGS84	385582	6434420
	4	WGS84	385582	6434410
ROC12R	1	WGS84	385705	6434337
	2	WGS84	385706	6434330
	3	WGS84	385716	6434331
	4	WGS84	385713	6434339
ROC06R	1	WGS84	385600	6435469
	2	WGS84	385590	6435468
	3	WGS84	385602	6435460
	4	WGS84	385591	6435460
ROC24R	1	WGS84	385494	6435134
	2	WGS84	385492	6435125
	3	WGS84	385503	6435131
	4	WGS84	385501	6435123
ROC08R	1	WGS84	385527	6435187
	2	WGS84	385523	6435196
	3	WGS84	385515	6435192
	4	WGS84	385517	6435183
ROC22R	1	WGS84	385482	6435250
	2	WGS84	385490	6435251
	3	WGS84	385488	6435261
	4	WGS84	385480	6435260

SITE	PEG ID	DATUM/ZONE	EASTING (mE)	NORTHING (mN)
ROC07R	1	WGS84	385505	6435296
	2	WGS84	385514	6435298
	3	WGS84	385513	6435306
	4	WGS84	385504	6435305
ROC30R	1	WGS84	385591	6434043
	2	WGS84	385592	6434053
	3	WGS84	385601	6434052
	4	WGS84	385601	6434042
ROC32R	1	WGS84	385541	6434789
	2	WGS84	385552	6434789
	3	WGS84	385552	6434779
	4	WGS84	385541	6434780
ROC33R	1	WGS84	385446	6435307
	2	WGS84	385449	6435299
	3	WGS84	385458	6435302
	4	WGS84	385456	6435311

Appendix 8

Raw Data and Photographs from Flora Sampling Sites

(Rockingham Road Biological Survey, Westport Last Mile Area Biological Survey, Westport Freight Road Additional Biological Survey, and Anketell Road Planning Study Biological Survey)

Westport Freight Rd Biological Site WTP01

Described by ALPLdK Date 15/09/2022 Type Q 10x10m

MGA Zone 50 386847 mE 6435818 mN 115.7993553 E -32.2085339 S

Habitat Gentle east facing slope on tertiary coastal dune.

Soil 7.5YR 4/4 Brown sand

Rock Type Limestone

Vegetation *Eucalyptus gomphocephala* open forest over *Banksia attenuata* scattered low trees over *Xanthorrhoea preissii* tall open shrubland.

Veg Condition Poor

Fire Age Very long unburnt.

Notes

Species	Cover (%)	Height (cm)	Specimen
**Asparagus asparagoides*	0.1	60	
Banksia attenuata	2	250	
Banksia dallanneyi subsp. *dallanneyi* var. *dallanneyi*	0.1	30	WTP02-15=
**Bromus diandrus*	0.1	10	
**Carpobrotus edulis*	0.1	10	
Clematis linearifolia	0.1	70	
Dianella revoluta var. *revoluta*	0.1	65	
**Ehrharta calycina*	55	110	
**Ehrharta longiflora*	0.1	25	
Eucalyptus gomphocephala	35	1700	
**Euphorbia peplus*	2	10	
Hardenbergia comptoniana	0.1	60	
Lomandra caespitosa	0.1	35	WTP01-02
**Lysimachia arvensis*	0.1	15	
**Oxalis corniculata*	0.1	10	
**Petrorhagia dubia*	0.1	5	
**Sonchus oleraceus*	0.1	20	
**Urospermum picroides*	0.1	10	
**Vulpia myuros forma myuros*	0.1	15	WTP02-09=
**Wahlenbergia capensis*	0.1	2	WTP01-01
Xanthorrhoea preissii	3	210	

WTP01	

Westport Freight Rd Biological Site WTP02

Described by ALPLdK Date 15/09/2022 Type Q 10x10m

MGA Zone 50 386878 mE 6435753 mN 115.79968 E -32.209115 S

Habitat Gentle east facing slope on tertiary coastal dune.

Soil 7.5YR 4/4 Brown sand

Rock Type Limestone

Vegetation *Banksia attenuata* low woodland over *Xanthorrhoea preissii* (*Macrozamia riedlei*) tall open shrubland over *Calothamnus quadrifidus* subsp*. angustifolius*, *Allocasuarina humilis* open shrubland over Hib*bertia hypericoides* subsp*. hypericoides* (*Hovea pungens*) low open shrubland over *Drosera erythrorhiza* scattered herbs.

Veg Condition Very Good.

Fire Age Very long unburnt.

Notes Some dead mature *Acacia pulchella*. Some dead *Banksia attenuata* adjacent to quadrat.

Species	Cover (%)	Height (cm)	Specimen
Acacia pulchella var. *glaberrima*	0.1	170	
Acacia rostellifera	0.1	85	
Allocasuarina humilis	4	160	
**Asparagus asparagoides*	0.1	100	NI=10
Banksia attenuata	11	410	
Banksia dallanneyi subsp. *dallanneyi* var. *dallanneyi*	0.1	10	WTP02-15
**Briza maxima*	0.1	25	
**Briza minor*	0.1	10	
Calandrinia granulifera	0.1	4	WTP02-03
Calothamnus quadrifidus subsp. *angustifolius*	5	180	WTP02-08
**Carpobrotus edulis*	1	10	
Centrolepis drummondiana	0.1	6	WTP02-14
Centrolepis drummondiana	0.1	3	WTP02-10
**Cerastium glomeratum*	0.1	15	WTP02-04
Crassula colorata var. *colorata*	0.1	5	WTP02-06
**Crassula glomerata*	0.1	4	
Desmocladus asper	0.1	25	WTP02-16
Desmocladus flexuosus	0.1	25	WTP02-11
Dianella revoluta var. *revoluta*	0.1	65	
Dischisma arenarium	0.1	5	WTP02-19
Drosera erythrorhiza	0.5	2	
Drosera pallida	0.1	110	WTP02-05
Drosera zonaria	0.1	1	WTP02-13
**Ehrharta calycina*	11	110	
**Ehrharta longiflora*	0.1	30	
**Euphorbia peplus*	0.1	10	
**Galium murale*	0.5	5	
**Gladiolus caryophyllaceus*	0.1	90	NI=10
Gompholobium tomentosum	0.1	25	
Hibbertia hypericoides subsp. *hypericoides*	5	85	
Hovea pungens	1	60	WTP02-01
**Hypochaeris glabra*	0.1	2	
**Hypochaeris radicata*	0.1	2	
Isolepis marginata	0.1	5	WTP02-17
**Lagurus ovatus*	0.1	10	
**Lysimachia arvensis*	0.1	10	
Macrozamia riedlei	1.5	210	
**Oxalis corniculata*	0.1	10	
**Petrorhagia dubia*	0.1	5	
*Polycarpon tetraphyllum	0.1	5	
Poranthera microphylla	0.1	4	WTP02-18
**Sonchus oleraceus*	0.1	10	
Thysanotus manglesianus	0.1	60	WTP02-02

Species	Cover (%)	Height (cm)	Specimen
**Trifolium arvense* var. *arvense*	0.1	8	WTP02-07
**Trifolium campestre* var. *campestre*	0.1	10	WTP38-02=
**Urospermum picroides*	0.1	10	
**Vulpia myuros forma myuros*	1	40	WTP02-09
**Wahlenbergia capensis*	0.1	2	
**Wahlenbergia capensis*	0.1	8	WTP02-12
Xanthorrhoea preissii	5	210	
**Zantedeschia aethiopica*	0.1	60	NI=5

WTP02

Westport Freight Rd Biological Site WTP05

Described by ABSTH Date 15/09/2022 Type Q 10x10m

MGA Zone 50 387848 mE 6435525 mN 115.8099432 E -32.2112769 S

Habitat Slope north.

Soil

Rock Type

Vegetation *Banksia sessilis* var. *cygnorum* low open forest.

Veg Condition

Fire Age Very long unburnt.

Notes *Hibbertia hyo. hyp.* in surrounds

Species	Cover (%)	Height (cm)	Specimen
Arctotheca calendula	0.1	10	
**Asparagus asparagoides*	0.5	150	
Banksia sessilis var. *cygnorum*	43	510	WTP05-01
Caladenia latifolia	0.1	45	WTP05-04
Caladenia reptans subsp. *reptans*	0.1	20	WTP05-03
**Cerastium glomeratum*	0.1	25	
**Crassula glomerata*	0.1	5	
**Ehrharta calycina*	69	60	
**Ehrharta longiflora*	4	30	
**Euphorbia peplus*	0.1	15	
**Euphorbia terracina*	0.1	45	
**Fumaria capreolata*	0.1	15	
**Galium murale*	0.1	5	
**Hypochaeris glabra*	0.1	2	
**Lysimachia arvensis*	0.5	20	
**Oxalis corniculata*	0.5	10	
**Petrorhagia dubia*	0.1	5	
**Sonchus hydrophilus*	0.1	15	
**Sonchus oleraceus*	0.1	20	
**Stellaria pallida*	0.1	10	WTP05-02
**Trifolium campestre* var. *campestre*	0.1	20	
**Urospermum picroides*	0.1	10	

WTP05	

Westport Freight Rd Biological Site WTP06

Described by ABSTH Date 15/09/2022 Type Q 10x10m

MGA Zone 50 388344 mE 6435531 mN 115.8152083 E -32.21126868 S

Habitat Depression.

Soil 10YR 2/2 very dark brown sand.

Rock Type

Vegetation *Eucalyptus gomphocephala (Eucalyptus marginata* subsp*. marginata)* open forest over *Xanthorrhoea preissii, Acacia rostellifera* tall open shrubland over *Macrozamia riedlei* open shrubland over *Clematis pubescens, Hardenbergia comptoniana, Stirlingia latifolia* low open shrubland.

Veg Condition Good.

Fire Age No sign of recent fire.

Notes

Name	Cover (%)	Height (cm)	Specimen
Acacia rostellifera	2	220	WTP06-02
**Briza maxima*	0.1	30	
**Bromus diandrus*	0.1	20	
Burchardia congesta	0.1	40	
**Carpobrotus edulis*	0.1	10	
Clematis pubescens	2	90	
**Ehrharta calycina*	48	110	
**Ehrharta longiflora*	2	35	
**Erigeron bonariensis*	0.1	40	WTP06-01
Eucalyptus gomphocephala	31	1900	
Eucalyptus marginata subsp. *marginata*	11	1400	
**Euphorbia peplus*	0.1	20	
**Euphorbia terracina*	1	80	
**Fumaria capreolata*	0.1	20	
**Gladiolus caryophyllaceus*	0.1	25	
Hardenbergia comptoniana	1.5	80	
Lupinus angustifolius	0.1	80	
**Lysimachia arvensis*	0.1	15	
Macrozamia riedlei	3	160	
**Oxalis corniculata*	0.1	20	
**Oxalis pes-caprae*	8	25	
**Sonchus oleraceus*	0.1	20	
Stirlingia latifolia	1.5	80	
**Trifolium campestre* var. *campestre*	0.1	15	
Xanthorrhoea preissii	3	210	

WTP06	

Westport Freight Rd Biological Site WTP08

Described by JTRH Date 15/09/2022 Type Q 10x10m

MGA Zone 50 388591 mE 6435545 mN 115.8178285 E -32.21116485 S

Habitat Mid slope of low hill.

Soil

Rock Type

Vegetation *Eucalyptus gomphocephala* open forest over *Banksia grandis (Banksia attenuata, Allocasuarina fraseriana)* low woodland over *Acacia rostellifera, Hardenbergia comptoniana* tall open shrubland over *Jacksonia sternbergiana, Clematis linearifolia* scattered shrubs.

Veg Condition Very Good to Good.

Fire Age No sign of recent fire.

Notes

Species	Cover (%)	Height (cm)	Specimen
Acacia rostellifera	1.5	270	WTP08-01
Allocasuarina fraseriana	2.5	510	
**Avena barbata*	0.1	60	
Banksia attenuata	3	500	
Banksia grandis	6	720	
**Briza maxima*	0.1	20	
Burchardia congesta	0.1	70	
Caladenia latifolia	0.1	25	
Clematis linearifolia	0.5	120	
Disa bracteata	0.1	25	WTP16-05=
**Ehrharta calycina*	16	100	
**Ehrharta longiflora*	2	45	
Eucalyptus gomphocephala	34	1100	
**Euphorbia peplus*	0.1	15	
**Fumaria capreolata*	0.1	25	
**Galium murale*	0.1	3	
**Gladiolus caryophyllaceus*	0.25	100	
Hardenbergia comptoniana	1	400	
**Hypochaeris radicata*	0.1	3	
Jacksonia sternbergiana	1.5	135	WTP08-02
Macrozamia riedlei	0.25	90	
**Oxalis corniculata*	0.1	15	
**Sonchus oleraceus*	0.1	15	
**Sonchus oleraceus*	0.1	20	WTP08-03
**Urospermum picroides*	0.1	10	
**Wahlenbergia capensis*	0.1	10	WTP15-03=
Xanthorrhoea brunonis subsp. *brunonis*	0.1	90	

WTP08	

Westport Freight Rd Biological Site WTP09

Described by JTRH Date 15/09/2022 Type Q 10x10m

MGA Zone 50 389021 mE 6435535 mN 115.8223863 E -32.21129846 S

Habitat NW sloping sandplain

Soil

Rock Type

Vegetation *Eucalyptus gomphocephala (Eucalyptus marginata* subsp*. marginata, Allocasuarina fraseriana)* open forest over *Banksia attenuata* low open woodland *over Hardenbergia comptoniana* scattered tall shrubs over *Rhagodia baccata* subsp*. baccata (Macrozamia riedlei, Xanthorrhoea brunonis subsp. brunonis)* low shrubland over *Burchardia congesta* scattered herbs.

Veg Condition Very Good.

Fire Age Burnt 3-5 years ago.

Notes

Species	Cover (%)	Height (cm)	Specimen
Acacia saligna	0.1	60	WTP09-02
Allocasuarina fraseriana	7	1005	
Banksia attenuata	4	950	
Burchardia congesta	1	40	
Chamaescilla corymbosa var. *corymbosa*	0.1	15	
Conostylis aculeata subsp. *aculeata*	0.1	25	
Crassula colorata var. *colorata*	0.1	2	
**Crassula glomerata*	0.1	2	
Drosera porrecta	0.1	20	
**Ehrharta calycina*	45	125	
**Ehrharta longiflora*	11	100	
**Erigeron bonariensis*	0.1	105	WTP09-01
Eucalyptus gomphocephala	22	1600	
Eucalyptus marginata subsp. *marginata*	14	1108	
**Gladiolus caryophyllaceus*	0.1	50	
Gompholobium tomentosum	0.1	45	
Hardenbergia comptoniana	1.5	250	
**Hypochaeris glabra*	0.1	3	
**Hypochaeris radicata*	0.1	3	
Isolepis marginata	0.1	5	
Leontodon rhagadioloides	0.1	3	WTP09-03
Lepidosperma calcicola	0.1	65	WTP09-05
Lomandra caespitosa	0.1	30	
**Lysimachia arvensis*	0.1	5	
Macrozamia riedlei	3	100	
Melaleuca lanceolata	0.1	45	WTP09-06
**Pelargonium capitatum*	0.1	40	
**Petrorhagia dubia*	0.1	10	
Podolepis gracilis	0.1	3	WTP08=
Poranthera microphylla	0.1	3	
Pterostylis vittata	0.1	45	
Ptilotus polystachyus	0.1	30	WTP09-06
Rhagodia baccata subsp. *baccata*	7	60	WTP09-04
**Sonchus oleraceus*	0.1	10	
Sowerbaea laxiflora	0.1	45	
**Trifolium campestre* var. *campestre*	0.1	8	
**Ursinia anthemoides* subsp. *anthemoides*	0.1	15	
Xanthorrhoea brunonis subsp. *brunonis*	1.5	100	

WTP09	

Westport Freight Rd Biological Site WTP10

Described by JTRH Date 15/09/2022 Type Q 10x10m

MGA Zone 50 389174 mE 6435512 mN 115.8240083 E -32.21151831 S

Habitat NW sloping roadside sand plain.

Soil

Rock Type

Vegetation *Allocasuarina fraseriana (Eucalyptus gomphocephala)* low open forest over *Acacia rostellifera (Xanthorrhoea preissii, Hardenbergia comptoniana)* tall open shrubland over *Macrozamia riedlei* open shrubland over *Xanthorrhoea brunonis* subsp*. Brunonis (Gompholobium tomentosum)* low open shrubland over *Lepidosperma* sp. scattered sedges over *Conostylis aculeata* subsp. *aculeata, Lomandra preissii, Hybanthus calycinus* scattered herbs.

Veg Condition Very Good.

Fire Age Burnt 3-5 years ago.

Notes Quenda observed next to quadrat.

Species	Cover (%)	Height (cm)	Specimen
Acacia rostellifera	3	240	WTP10-01
Allocasuarina fraseriana	29	1000	
**Avena barbata*	0.5	68	
**Brassica tournefortii*	0.1	10	
**Briza maxima*	8	35	
Burchardia congesta	0.1	50	
Caladenia latifolia	0.1	20	
**Carpobrotus edulis*	1	15	
Conostylis aculeata subsp. *aculeata*	0.5	25	
Dianella revoluta var. *revoluta*	0.1	40	
**Ehrharta calycina*	28	100	
**Ehrharta longiflora*	1.5	20	
Eucalyptus gomphocephala	14	650	WTP10-08
**Euphorbia peplus*	0.1	10	
**Gladiolus caryophyllaceus*	0.1	70	
Gompholobium tomentosum	0.5	40	
Hardenbergia comptoniana	0.5	300	
Hybanthus calycinus	0.25	25	
**Hypochaeris glabra*	0.1	5	
**Hypochaeris radicata*	0.1	5	
Lepidosperma sp.	0.5	55	WTP10-04
Lomandra preissii	0.5	25	
**Lysimachia arvensis*	0.1	15	
Macrozamia riedlei	5	150	
Microtis media subsp. *media*	0.1	35	WTP10-03
**Petrorhagia dubia*	0.1	10	
Pimelea rosea subsp. *rosea*	0.1	30	WTP10-05
Rhagodia baccata subsp. *baccata*	0.1	30	WTP09-04=
**Romulea rosea* var. *australis*	0.1	15	
Silene gallica var. *gallica*	0.1	15	WTP10-07
**Sonchus oleraceus*	0.1	10	
Sowerbaea laxiflora	0.1	40	
Thysanotus manglesianus	0.1	10	WTP10-02
**Urospermum picroides*	0.1	10	
**Ursinia anthemoides* subsp. *anthemoides*	0.1	25	
**Wahlenbergia capensis*	0.1	15	WTP10-06
Xanthorrhoea brunonis subsp. *brunonis*	3	100	
Xanthorrhoea preissii	1.5	380	

WTP10	

Westport Freight Rd Biological Site WTP11

Described by JTRH Date 16/09/2022 Type Q 10x10m

MGA Zone 50 389539 mE 6435528 mN 115.8278895 E -32.21141449 S

Habitat Sand plain sloping SW.

Soil 5YR, 5/1 sand.

Rock Type

Vegetation *Eucalyptus marginata* subsp. *marginata* open woodland over *Agonis flexuosa* var. *flexuosa (Acacia saligna)* low woodland over *Jacksonia furcellata* scattered tall shrubs over *Macrozamia riedlei* scattered low shrubs over *Conostylis aculeata* subsp. *preissii* scattered herbs.

Veg Condition Very Good.

Fire Age Burnt 3-5 years ago.

Notes Quenda observed in quadrat, banksia recruitment, one rubbish in quadrat.

Species	Cover (%)	Height (cm)	Specimen
Acacia saligna	1	410	WTP11-02
Agonis flexuosa var. *flexuosa*	14	640	
Banksia attenuata	0.1	50	Sapling
**Briza maxima*	1.5	15	
Burchardia congesta	0.1	55	
Conostylis aculeata subsp. *preissii*	1	20	WTP14-05=
Corymbia citriodora	11	1000	WTP11-01
Desmocladus flexuosus	0.1	15	
Dianella revoluta var. *revoluta*	0.1	40	
Disa bracteata	0.1	40	WTP16-05=
Drosera porrecta	0.1	20	
**Ehrharta calycina*	28	75	
Eucalyptus marginata subsp. *marginata*	9	1100	
**Euphorbia peplus*	0.1	5	
**Gladiolus caryophyllaceus*	0.1	90	
Gompholobium tomentosum	0.1	45	
Hardenbergia comptoniana	0.1	200	
**Hypochaeris glabra*	0.1	2	
**Hypochaeris radicata*	0.1	3	
Jacksonia furcellata	0.5	220	
Kennedia prostrata	0.1	8	
**Lagurus ovatus*	0.1	10	
Lomandra caespitosa	0.1	30	
**Lupinus cosentinii*	0.1	35	
Macrozamia riedlei	1.5	100	
**Oxalis pes-caprae*	1	15	
**Pelargonium capitatum*	0.1	2	
**Petrorhagia dubia*	0.1	10	
Lysiandra calycina	0.1	60	
**Romulea rosea* var. *australis*	0.1	25	
**Sonchus oleraceus*	0.1	15	
Sowerbaea laxiflora	0.1	50	
**Trifolium campestre* var. *campestre*	1.5	10	
*Urospermum *picroides*	0.1	5	
**Ursinia anthemoides* subsp. *anthemoides*	0.1	10	

WTP11	

Westport Freight Rd Biological Site WTP12

Described by ALPLdK Date 16/09/2022 Type Q 10x10m

MGA Zone 50 389686 mE 6435585 mN 115.8294539 E -32.21091494 S

Habitat Gentle east facing slope on tertiary coastal dune.

Soil 10YR, 2/1 black loamy sand.

Rock Type Limestone.

Vegetation *Eucalyptus marginata* subsp. *marginata* woodland over *Agonis flexuosa* var. *flexuosa, Banksia attenuata (Banksia menziesii, Allocasuarina fraseriana)* low woodland over *Acacia rostellifera (Hardenbergia comptoniana)* scattered tall shrubs over *Macrozamia riedlei* scattered shrubs over *Rhagodia baccata* subsp. *baccata, Styphelia propinqua, Xanthorrhoea brunonis subsp. brunonis scattered* low shrubs.

Veg Condition Very Good.

Fire Age Very long unburnt.

Notes Possibly revegetation infill from a while ago.

Species	Cover (%)	Height (cm)	Specimen
-	0.1	40	WTP12-05
Acacia rostellifera	1-5	290	
Agonis flexuosa var. *flexuosa*	6	500	
Allocasuarina fraseriana	1.5	380	
Banksia attenuata	4.5	380	
Banksia menziesii	2	420	
**Briza maxima*	0.1	20	
**Briza minor*	0.1	10	
**Bromus diandrus*	0.1	25	
Caladenia latifolia	0.1	30	
**Cerastium glomeratum*	0.1	5	WTP02-04=
Conostylis aculeata subsp. *preissii*	0.1	25	WTP12-02
**Ehrharta calycina*	8	90	
**Ehrharta longiflora*	1	35	
Eucalyptus marginata subsp. *marginata*	25	1700	
**Euphorbia peplus*	1	10	
**Euphorbia terracina*	0.1	15	
**Galium murale*	0.1	5	
Hardenbergia comptoniana	0.5	250	
**Hypochaeris glabra*	0.5	2	
**Hypochaeris radicata*	0.1	2	
Isolepis marginata	0.1	5	WTP02-17=
Macrozamia riedlei	1.5	140	
**Pelargonium capitatum*	0.1	25	
**Petrorhagia dubia*	0.5	10	
Rhagodia baccata subsp. *baccata*	1	85	
**Sonchus oleraceus*	0.1	10	
Styphelia propinqua	0.5	40	WTP12-03
**Trifolium campestre* var. *campestre*	0.5	10	WTP12-01
**Urospermum picroides*	0.1	15	
**Vulpia bromoides*	0.1	10	WTP12-04
Xanthorrhoea brunonis subsp. *brunonis*	0.5	90	

WTP12	

Westport Freight Rd Biological Site WTP13

Described by ALPLdK Date 16/09/2022 Type Q 10x10m

MGA Zone 50 389876 mE 6435704 mN 115.8314796 E -32.2098625 S

Habitat Gently sloping plain.

Soil Loamy sand

Rock Type Limestone.

Vegetation *Banksia menziesii, Banksia attenuata, Eucalyptus marginata* subsp. *marginata, Allocasuarina fraseriana* low woodland over *Hibbertia hypericoides* subsp. *hypericoides (Calytrix flavescens, Styphelia propinqua, Daviesia triflora)* low shrubland over *Sowerbaea laxiflora, Drosera porrecta* scattered herbs.

Veg Condition Very Good.

Fire Age No sign of recent fire.

Notes

Species	Cover (%)	Height (cm)	Specimen
Acacia pulchella var. *glaberrima*	0.1	190	
Acacia stenoptera	0.1	50	WTP13-06
Aira cupaniana	0.1	5	WTP13-20
Allocasuarina fraseriana	3	420	
Amphipogon turbinatus	0.1	25	WTP13-09
Banksia attenuata	4	500	
Banksia dallanneyi subsp. *dallanneyi* var. *dallanneyi*	0.1	5	
Banksia menziesii	4.5	390	
**Briza maxima*	0.5	50	
Burchardia congesta	0.1	65	
Caesia micrantha	0.1	50	WTP13-08
Caladenia flava subsp. *flava*	0.1	5	
Calytrix flavescens	1	50	WTP13-12
**Carpobrotus edulis*	1	15	
Centrolepis drummondiana	0.1	4	WTP13-23
**Cerastium glomeratum*	0.1	5	WTP12=
Chamaescilla corymbosa var. *corymbosa*	0.1	15	
Conostylis aculeata subsp. *preissii*	0.1	20	WTP12-02=
Daviesia triflora	0.5	85	
Dianella revoluta	0.1	70	
Drosera erythrorhiza	0.1	2	
Drosera macrantha	0.1	60	WTP13-13
Drosera porrecta	0.5	15	WTP13-04
**Ehrharta calycina*	0.1	80	
Eucalyptus marginata subsp. *marginata*	3	420	
**Gladiolus caryophyllaceus*	0.1	85	
Gompholobium tomentosum	0.1	75	
Haemodorum sp.	0.1	70	
Hardenbergia comptoniana	0.1	410	
Heliophila pusilla	0.1	15	WTP13-01
Hibbertia hypericoides subsp. *hypericoides*	20	80	
Homalosciadium homalocarpum	0.1	5	WTP13-03
Hovea trisperma var. *trisperma*	0.1	20	
Hypocalymma robustum	0.1	110	
**Hypochaeris glabra*	0.1	2	
**Hypochaeris radicata*	0.1	2	
Isotropis cuneifolia subsp. *cuneifolia*	0.1	20	
Kennedia prostrata	0.1	15	
Lepidosperma calcicola	0.1	30	WTP13-18
Lepidosperma calcicola	0.1	25	WTP13-10
Lomandra caespitosa	0.1	25	WTP13-17
Lomandra preissii	0.1	40	WTP13-24
Lomandra suaveolens	0.1	10	WTP13-14
Lomandra suaveolens	0.1	25	WTP13-22
**Lotus subbiflorus*	0.1	5	WTP13-21

Species	Cover (%)	Height (cm)	Specimen
**Lysimachia arvensis*	0.1	10	
Macrozamia riedlei	0.1	70	
Mesomelaena pseudostygia	0.1	25	WTP13-11
Persoonia saccata	0.1	130	WTP13-15
Petrophile linearis	0.1	40	
**Petrorhagia dubia*	0.1	10	
Lysiandra calycina	0.1	30	
Poranthera microphylla	0.1	5	WTP13-02
**Romulea rosea* var. *australis*	0.1	25	
Scaevola canescens	0.1	25	WTP13-07
Silene gallica var. *gallica*	0.1	15	WTP13-05
**Sonchus oleraceus*	0.1	25	
Sowerbaea laxiflora	0.5	60	
Styphelia propinqua	0.5	40	WTP12-03=
Thysanotus manglesianus	0.1	50	WTP13-19
**Trachymene pilosa*	0.1	5	
**Trifolium campestre* var. *campestre*	0.1	10	WTP12-01=
**Ursinia anthemoides* subsp. *anthemoides*	1	30	
**Wahlenbergia capensis*	0.1	2	
Xanthorrhoea brunonis subsp. *brunonis*	0.1	110	

WTP13

Westport Freight Rd Biological Site WTP14

Described by JTRH Date 15/09/2022 Type Q 10x10m

MGA Zone 50 389876 mE 6435704 mN 115.8314796 E -32.2098625 S

Habitat Flat sandy plain.

Soil 5YR, 4/1, dark grey sand.

Rock Type

Vegetation *Eucalyptus marginata* subsp. *marginata* woodland over *Banksia menziesii, Banksia attenuata* low open woodland over *Acacia pulchella* var. *pulchella (Jacksonia furcellata, Exocarpos sparteus)* tall shrubland over *Xanthorrhoea brunonis* subsp. *brunonis* scattered scattered shrubs over *Phyllanthus calycinus, Styphelia propinqua, Hypocalymma robustum* scattered low shrubs over *Morelotia* octandra scattered sedges over *Conostylis aculeata* subsp. *preissii, Caesia micrantha, Drosera porrecta* scattered herbs.

Veg Condition Very Good.

Fire Age Burnt 3-5 years ago.

Notes

Species	Cover (%)	Height (cm)	Specimen
Acacia pulchella var. *pulchella*	15	210	
**Asparagus asparagoides*	0.1	5	
Banksia attenuata	3	320	
Banksia menziesii	4	500	
**Briza maxima*	3	10	
Burchardia congesta	0.1	50	
Caesia micrantha	0.5	30	
Caladenia flava subsp. *flava*	0.1	20	
Conostylis aculeata subsp. *preissii*	0.5	30	WTP14-05
Drosera erythrorhiza	0.1	2	
Drosera porrecta	0.25	20	
**Ehrharta calycina*	8	130	
Eucalyptus marginata subsp. *marginata*	24	1100	
Exocarpos sparteus	0.5	220	WTP14-04
**Gladiolus caryophyllaceus*	0.1	120	
Gompholobium tomentosum	0.1	50	
Haemodorum sp.	0.1	20	WTP14-06
Hardenbergia comptoniana	0.1	100	
Hibbertia hypericoides subsp. *hypericoides*	0.1	60	
Hibbertia racemosa	0.1	50	WTP14-03
Homalosciadium homalocarpum	0.1	5	
Hypocalymma robustum	0.25	60	
**Hypochaeris glabra*	0.1	2	
**Hypochaeris radicata*	0.1	5	
Jacksonia furcellata	4	280	
Lagenophora huegelii	0.1	20	
Lomandra caespitosa	0.1	25	
Mesomelaena pseudostygia	0.1	40	
Morelotia octandra	1	30	WTP14-02
Petrophile linearis	0.1	5	
**Petrorhagia dubia*	0.1	10	
Lysiandra calycina	1	40	
Pterostylis vittata	0.1	15	
Rhagodia baccata subsp. *baccata*	0.1	80	WTP09-04=
**Sonchus oleraceus*	0.1	20	
Sowerbaea laxiflora	0.1	40	
Styphelia propinqua	0.5	50	WTP14-01
**Trachymene pilosa*	0.1	10	
**Urospermum picroides*	0.1	5	
**Ursinia anthemoides* subsp. *anthemoides*	0.5	25	
Xanthorrhoea brunonis subsp. *brunonis*	0.5	120	

WTP14	

Westport Freight Rd Biological Site WTP15

Described by JTRH Date 14/09/2022 Type R 10x10m

MGA Zone 50 390462 mE 6435782 mN 115.8377036 E -32.209215 S

Habitat Artificial hill/ corridor between road and major drainage line.

Soil 5YR, 4/1, dark grey sand.

Rock Type

Vegetation *Acacia saligna (Eucalyptus rudis* subsp*. rudis)* low open woodland over *Banksia sessilis* var*. cygnorum, Jacksonia furcellata* tall open shrubland over *Pteridium esculentum* subsp*. esculentum* open shrubland*.*

Veg Condition Good.

Fire Age Very long unburnt.

Notes

Species	Cover (%)	Height (cm)	Specimen
Acacia saligna	7	470	WTP15-01
Arctotheca calendula	0.1	8	
**Avena barbata*	4	60	
Banksia sessilis var. *cygnorum*	5	320	WTP15-05
**Brassica tournefortii*	0.1	15	
**Bromus diandrus*	4	30	
Conostylis aculeata subsp. *aculeata*	0.1	30	
Crassula colorata var. *colorata*	0.1	3	
**Ehrharta calycina*	45	110	
**Ehrharta longiflora*	1	60	
Eucalyptus rudis subsp. *rudis*	500	900	
**Euphorbia peplus*	0.5	5	
**Euphorbia terracina*	1	40	
**Fumaria capreolata*	15	45	
**Galium murale*	0.1	3	
**Hypochaeris glabra*	0.1	2	
**Hypochaeris radicata*	0.1	3	
Jacksonia furcellata	4	450	
Leontodon rhagadioloides	0.1	30	WTP15-07
**Lolium perenne*	20	40	WTP15-02
Macrozamia riedlei	0.1	75	
**Oxalis purpurea*	0.1	5	WTP15-06
**Pelargonium capitatum*	0.1	25	
Pteridium esculentum subsp. *esculentum*	6	110	
**Sonchus oleraceus*	0.1	20	
**Trifolium campestre* var. *campestre*	0.1	10	
Vicia sativa subsp. *sativa*	0.1	30	WTP15-04
**Wahlenbergia capensis*	0.1	15	WTP15-03

WTP15

Westport Freight Rd Biological Site WTP16

Described by JTRH Date 14/09/2022 Type Q 10x10m

MGA Zone 50 390766 mE 6435735 mN 115.8409282 E -32.209668 S

Habitat Low rising hill sloping SW.

Soil 5YR, 4/1, dark grey sand.

Rock Type

Vegetation *Eucalyptus gomphocephala* low woodland over *Scholtzia involucrata* tall open shrubland over *Macrozamia riedlei* scattered shrubs.

Veg Condition Very Good.

Fire Age Very long unburnt.

Notes

Species	Cover (%)	Height (cm)	Specimen
Aira praecox	0.1	8	WTP16-02
**Asparagus asparagoides*	0.1	25	
**Briza maxima*	9	20	
Burchardia congesta	0.1	55	
Caladenia flava subsp. *flava*	0.1	10	
**Carpobrotus edulis*	0.5	10	
Centrolepis drummondiana	0.1	4	
**Cerastium glomeratum*	0.1	8	
Crassula colorata var. *colorata*	0.1	2	
Dianella revoluta var. *revoluta*	0.1	45	
Disa bracteata	0.1	20	WTP16-05
**Ehrharta calycina*	4	80	
**Ehrharta longiflora*	4	45	
Eucalyptus gomphocephala	25	950	
**Gladiolus caryophyllaceus*	0.1	25	
Gnephosis angianthoides	0.1	5	WTP16-03
**Hypochaeris glabra*	0.1	3	
**Hypochaeris radicata*	0.1	3	
Isolepis marginata	0.1	4	
Macrozamia riedlei	1.5	125	
**Romulea rosea* var. *australis*	0.1	15	
Scholtzia involucrata	8	250	WTP16-01
Stylidium repens	0.1	8	
**Trachymene pilosa*	0.1	5	
**Ursinia anthemoides* subsp. *anthemoides*	0.1	20	
**Vulpia myuros forma myuros*	0.1	5	WTP16-04

WTP16	

Westport Freight Rd Biological Site WTP17

Described by ABSTH Date 15/09/2022 Type Q 10x10m

MGA Zone 50 392081 mE 6435675 mN 115.8548675 E -32.21033482 S

Habitat Plain.

Soil 10YR 3/3 dark brown sand.

Rock Type

Vegetation *Banksia menziesii (Banksia attenuata)* low woodland over *Hibbertia hypericoides* subsp. *hypericoides* low shrubland.

Veg Condition Good.

Fire Age No sign of recent fire.

Notes

Species	Cover (%)	Height (cm)	Specimen
Arctotheca calendula	0.1	2	
Asteraceae sp.	0.1	15	WTP17-02
Banksia attenuata	6	850	
Banksia menziesii	18	710	
Burchardia congesta	0.1	40	
Drosera porrecta	0.1	15	
**Ehrharta calycina*	34	70	
**Ehrharta longiflora*	0.1	35	
**Euphorbia peplus*	0.1	2	
**Euphorbia terracina*	0.1	10	
Hardenbergia comptoniana	0.1	45	
Hibbertia hypericoides subsp. *hypericoides*	21	90	
**Hypochaeris glabra*	0.1	1	
Jacksonia furcellata	0.1	2	
Kennedia prostrata	0.1	5	
**Lupinus cosentinii*	0.1	20	
Patersonia occidentalis var. *occidentalis*	0.1	20	
**Pelargonium capitatum*	0.1	2	
**Romulea rosea* var. *australis*	6	15	
Senecio condylus	0.1	20	WTP17-01
**Ursinia anthemoides* subsp. *anthemoides*	0.1	5	
**Wahlenbergia capensis*	0.1	3	

WTP17	

Westport Freight Rd Biological Site WTP18

Described by ABSTH Date 15/09/2022 Type Q 10x10m

MGA Zone 50 392184 mE 6435666 mN 115.8559594 E -32.2104225 S

Habitat Plain sloping northish.

Soil Sand.

Rock Type

Vegetation *Banksia attenuata, Banksia menziesii (Banksia ilicifolia)* low woodland over *Kunzea glabrescens, Jacksonia furcellata* tall open shrubland over *Hibbertia hypericoides* subsp. *hypericoides (Brachyloma preissii, Daviesia divaricata* subsp. *divaricata)* low shrubs.

Veg Condition Very Good.

Fire Age No sign of recent fire.

Notes

Species	Cover (%)	Height (cm)	Specimen
Acacia pulchella var. *glaberrima*	0.1	160	WTP18-03
Allocasuarina fraseriana	0.1	40	
Amphipogon turbinatus	0.1	35	
Arctotheca calendula	0.1	2	
Banksia attenuata	16	800	
Banksia ilicifolia	1	980	
Banksia menziesii	10	750	
Brachyloma preissii	1	80	WTP18-01
**Briza maxima*	0.1	20	
Burchardia congesta	0.1	40	
**Carpobrotus edulis*	0.1	10	
Chaetospora curvifolia	0.1	25	
Chamaescilla corymbosa var. *corymbosa*	0.1	20	
Conostylis aculeata subsp. *aculeata*	0.1	30	
Daviesia divaricata subsp. *divaricata*	0.5	80	WTP18-05
Desmocladus flexuosus	0.1	20	WTP18-04
Drosera erythrorhiza	0.1	1	
Drosera porrecta	0.1	20	
**Ehrharta calycina*	3	60	
**Ehrharta longiflora*	0.1	25	
**Freesia alba x leichtlinii*	0.5	20	
**Gastrolobium capitatum*	0.1	40	WTP18-02
Gompholobium tomentosum	0.1	30	
Hibbertia hypericoides subsp. *hypericoides*	16	80	
Hovea trisperma var. *trisperma*	0.1	40	
**Hypochaeris glabra*	0.1	1	
Jacksonia furcellata	1.5	210	
Kunzea glabrescens	1.5	210	
Lepidosperma calcicola	0.1	40	WTP18-06
Lomandra suaveolens	0.1	15	WTP18-08
Mesomelaena pseudostygia	0.1	70	
**Petrorhagia dubia*	0.1	5	
**Romulea rosea* var. *australis*	4	20	
Sowerbaea laxiflora	0.1	35	
Stylidium repens	0.1	10	
Synaphea spinulosa subsp. *spinulosa*	0.1	15	WTP18-07
Thysanotus manglesianus	0.1	40	
**Trifolium campestre* var. *campestre*	0.1	10	
**Urospermum picroides*	0.1	10	
**Ursinia anthemoides* subsp. *anthemoides*	0.1	15	
**Wahlenbergia capensis*	0.1	5	

WTP18	

Westport Freight Rd Biological Site WTP19
Described by THRH Date 20/09/2022 Type Q 10x10m
MGA Zone 50 392425 mE 6435643 mN 115.8585211 E -32.2106593 S
Habitat Slight north facing slope.
Soil 10YR 5/1 grey sand.
Rock Type
Vegetation *Banksia menziesii*, *Banksia attenuata* low woodland over *Macrozamia riedlei* scattered shrubs.
Veg Condition Good.
Fire Age No sign of recent fire.
Notes Road on N and E of quadrat. Banksia recruitment. Fallen living Adenanthos just outside site.

Species	Cover (%)	Height (cm)	Specimen
Arctotheca calendula	0.1	5	
Austrostipa compressa	0.1	15	WTP19-07
Banksia attenuata	2	410	
Banksia menziesii	18	450	
Burchardia congesta	0.1	60	
Crassula colorata var. *acuminata*	0.1	3	
Drosera geniculata	0.1	1	
**Ehrharta calycina*	56	150	
**Ehrharta longiflora*	2	80	
**Euphorbia terracina*	0.1	40	
**Fumaria muralis*	0.1	40	WTP19-06
**Gladiolus caryophyllaceus*	0.1	30	
Gompholobium tomentosum	0.1	30	
**Hypochaeris radicata*	0.1	3	
Isolepis marginata	0.1	5	WTP19-05
Jacksonia furcellata	0.1	80	
**Lysimachia arvensis*	0.1	5	
Macrozamia riedlei	1.5	200	
Senecio condylus	0.1	20	WTP19-01
**Sonchus oleraceus*	0.1	3	
**Sonchus oleraceus*	0.1	20	WTP19-02
Sowerbaea laxiflora	0.1	25	
**Urospermum picroides*	0.1	5	
**Ursinia anthemoides* subsp. *anthemoides*	0.1	15	
Vulpia myuros forma *megalura*	0.1	25	WTP19-04
*Wahlenbergia capensis	0.1	10	WTP19-03

WTP19	

Westport Freight Rd Biological Site WTP20

Described by THRH Date 20/09/2022 Type Q 10x10m

MGA Zone 50 392697 mE 6435869 mN 115.8614302 E -32.20864466 S

Habitat Slight depression.

Soil 10YR 3/1 very dark grey sand.

Rock Type

Vegetation *Banksia menziesii, Eucalyptus todtiana* low woodland over *Jacksonia furcellata (Kunzea glabrescens)* tall open shrubland over *Xanthorrhoea preissii* open shrubland over *Styphelia conostephioides, Calytrix flavescens, Brachyloma preissii, Scholtzia involucrata* low open shrubland over *Desmocladus flexuosus, Patersonia occidentalis* var. *occidentalis, Phlebocarya ciliata, Burchardia congesta* very open herbland.

Veg Condition Excellent.

Fire Age No sign of recent fire.

Notes

Species	Cover (%)	Height (cm)	Specimen
Acacia huegelii	0.1	20	
Aira cupaniana	0.1	5	
Banksia menziesii	15	850	
Bossiaea eriocarpa	0.1	15	
Brachyloma preissii	1.5	100	WTP20-02
**Briza maxima*	0.5	15	
Burchardia congesta	0.5	80	
Caladenia flava subsp. *flava*	0.1	10	
Caladenia longicauda subsp. *longicauda*	0.1	20	
Calytrix flavescens	2.5	20	WTP20-15
Cassytha sp.	0.1	15	WTP20-29
Centrolepis drummondiana	0.1	5	WTP20-25
Chaetospora curvifolia	0.1	25	WTP20-11
Conostylis aculeata subsp. *preissii*	0.1	20	WTP20-20
Conostylis juncea	0.1	40	WTP20-21
Crassula colorata var. *acuminata*	0.1	3	
Dampiera linearis	0.1	20	WTP20-06
Desmocladus flexuosus	1.5	20	WTP20-03
Dianella revoluta var. *revoluta*	0.1	20	
Drosera menziesii	0.1	15	WTP20-08
**Ehrharta calycina*	1	120	
Eucalyptus todtiana	14	950	WTP20-01
**Freesia alba x leichtlinii*	0.5	15	
**Gladiolus caryophyllaceus*	0.1	40	
Haemodorum spicatum	0.1	40	WTP20-22
Homalosciadium homalocarpum	0.1	2	
Hovea trisperma var. *trisperma*	0.1	10	WTP20-05
Hypocalymma robustum	0.1	40	
*Hypochaeris glabra	0.1	1	
Isolepis marginata	0.1	5	WTP19-05=
Jacksonia furcellata	5	300	
Kunzea glabrescens	1.5	220	
**Lagurus ovatus*	0.1	4	
Laxmannia squarrosa	0.1	10	WTP20-26
Lomandra caespitosa	0.1	25	
Lomandra hermaphrodita	0.1	10	WTP20-16
Lomandra suaveolens	0.1	25	WTP20-28
Melaleuca thymoides	0.1	100	WTP20-23
**Oxalis pes-caprae*	0.1	10	WTP20-14
Patersonia occidentalis var. *occidentalis*	1	80	WTP20-07
Philotheca spicata	0.1	60	WTP20-18
Phlebocarya ciliata	1	30	WTP20-17
Phlebocarya ciliata	0.1	25	WTP20-04
Poranthera microphylla	0.1	5	WTP20-12

Species	Cover (%)	Height (cm)	Specimen
Pterostylis vittata	0.1	30	
Quinetia urvillei	0.1	20	WTP20-19
Scholtzia involucrata	0.1	30	WTP20-13
Scholtzia involucrata	1	30	
**Sonchus oleraceus*	0.1	2	
Sowerbaea laxiflora	0.1	25	
Stylidium repens	0.1	5	
Stylidium schoenoides	0.1	15	WTP20-10
Styphelia conostephioides	3	80	
Thysanotus manglesianus	0.1	20	WTP20-09
**Tricoryne elatior*	0.1	25	
**Ursinia anthemoides* subsp. *anthemoides*	0.1	15	
**Vulpia bromoides*	0.1	10	WTP20-24
**Wahlenbergia capensis*	0.1	5	WTP19-03=
Wahlenbergia sp.	0.1	10	WTP20-27
Xanthorrhoea brunonis subsp. *brunonis*	0.1	120	
Xanthorrhoea preissii	4	180	

WTP20

Westport Freight Rd Biological Site WTP21

Described by ABSJT Date 20/09/2022 Type Q 10x10m

MGA Zone 50 392691 mE 6435718 mN 115.861345 E -32.2100045 S

Habitat Plain slightly sloping W.

Soil 10YR 3/1 very dark grey sand.

Rock Type

Vegetation *Banksia menziesii, Banksia attenuata* low open forest over *Kunzea glabrescens* tall open shrubland over *Xanthorrhoea preissii* open shrubland over *Xanthorrhoea brunonis* subsp. *brunonis* low open shrubland over *Desmocladus flexuosus (Lyginia imberbis)* very open herbland.

Veg Condition Very Good.

Fire Age Very long unburnt.

Notes Quenda digging present.

Species	Cover (%)	Height (cm)	Specimen
Banksia attenuata	24	780	
Banksia menziesii	28	820	
Bossiaea eriocarpa	0.1	30	
**Briza maxima*	1	15	
**Bromus diandrus*	0.1	45	
Burchardia congesta	0.1	40	
Chaetospora curvifolia	0.1	15	
Chamaescilla corymbosa var. *corymbosa*	0.1	20	
Dampiera linearis	0.1	60	
Dasypogon bromeliifolius	0.1	40	
Desmocladus flexuosus	3	25	WTP21-02
Dianella revoluta var. *revoluta*	0.1	50	
Drosera erythrorhiza	0.1	2	
**Ehrharta calycina*	5	75	
**Ehrharta longiflora*	0.1	35	
**Freesia alba x leichtlinii*	11	15	
**Fumaria bastardii*	0.1	110	
Gompholobium tomentosum	0.1	40	
Hypocalymma robustum	0.1	65	
**Hypochaeris glabra*	0.1	2	
Hypolaena exsulca	0.1	45	WTP21-01
Kunzea glabrescens	6	620	
Lyginia imberbis	0.5	35	WTP21-04
**Oxalis pes-caprae*	0.1	20	
Patersonia occidentalis var. *occidentalis*	0.1	45	
Philotheca spicata	0.1	25	
**Sonchus oleraceus*	0.1	20	
Styphelia conostephioides	0.1	10	
**Trachymene pilosa*	0.1	10	
**Tricoryne elatior*	0.1	35	WTP21-03
**Ursinia anthemoides* subsp. *anthemoides*	0.1	20	
Xanthorrhoea brunonis subsp. *brunonis*	6	55	
Xanthorrhoea preissii	3	175	
**Zantedeschia aethiopica*	0.1	30	

WTP21	

Westport Freight Rd Biological Site WTP22

Described by ALRH Date 08/09/2022 Type Q 10x10m

MGA Zone 50 393484 mE 6435906 mN 115.8697841E -32.2083857 S

Habitat Gentle SE facing slope on undulating sand plain.

Soil 7.5YR 5/1 grey sand.

Rock Type

Vegetation *Banksia menziesii, Banksia attenuata* low woodland over *Adenanthos cygnorum* subsp. *cygnorum, Jacksonia furcellata* tall open shrubland over *Xanthorrhoea preissii, Stirlingia latifolia* open shrubland over *Scholtzia involucrata (Hibbertia hypericoides* subsp. *hypericoides), Styphelia conostephioides, Brachyloma preissii, Daviesia triflora)* low open shrubland.

Veg Condition Very Good.

Fire Age Very long unburnt.

Notes Banksia recruitment.

Species	Cover (%)	Height (cm)	Specimen
Acacia pulchella var. pulchella	0.1	80	
Adenanthos cygnorum subsp. *cygnorum*	2.5	210	
Banksia attenuata	8	600	
Banksia menziesii	10	550	
Bossiaea eriocarpa	0.1	20	
Brachyloma preissii	0.5	75	
**Briza maxima*	0.1	15	
Burchardia congesta	0.1	40	
Caladenia flava subsp. *flava*	0.1	15	
Calytrix flavescens	0.1	20	
**Carpobrotus edulis*	0.1	1	
Chamaescilla corymbosa var. *corymbosa*	0.1	10	
Conostylis aculeata subsp. *aculeata*	0.1	25	
Conostylis setigera subsp. *setigera*	0.1	10	
Crassula colorata var. *colorata*	0.1	5	WTP22-06
Dampiera linearis	0.1	15	
Dasypogon bromeliifolius	0.1	35	
Daviesia triflora	0.5	70	
Desmocladus flexuosus	0.1	20	
Dianella revoluta var. *revoluta*	0.1	35	
Drosera erythrorhiza	0.1	2	
Drosera menziesii	0.1	20	WTP22-01
**Ehrharta longiflora*	0.1	50	
**Gladiolus caryophyllaceus*	0.1	25	
Hibbertia hypericoides subsp. *hypericoides*	1	75	
Hovea trisperma var. *trisperma*	0.1	15	
Hypocalymma robustum	0.1	90	
**Hypochaeris glabra*	0.1	2	
Jacksonia furcellata	1	290	
Laxmannia squarrosa	0.1	7	
Lomandra caespitosa	0.1	20	WTP22-12
Lomandra preissii	0.1	25	
Lomandra suaveolens	0.1	15	WTP22-09
Lyginia barbata	0.1	60	WTP22-04
Macarthuria australis	0.1	35	WTP22-02
Persoonia saccata	0.1	30	WTP22-13
Phlebocarya ciliata	0.1	40	
Podotheca angustifolia	0.1	2	WTP22-08
Quinetia urvillei	0.1	5	
**Romulea rosea* var. *australis*	0.1	15	
Rytidosperma occidentale	0.1	25	WTP22-10
Scholtzia involucrata	2.5	20	
Senecio condylus	0.1	10	WTP22-07
Siloxerus humifusus	0.1	2	
Sowerbaea laxiflora	0.1	40	

Species	Cover (%)	Height (cm)	Specimen
Stirlingia latifolia	1.5	130	
Stylidium neurophyllum	0.1	2	WTP22-05
Stylidium repens	0.1	5	
Styphelia conostephioides	0.5	25	
Thysanotus manglesianus	0.1	20	
**Trachymene pilosa*	0.1	5	
**Tricoryne elatior*	0.1	20	
**Ursinia anthemoides* subsp. *anthemoides*	1.5	25	
**Vulpia myuros forma myuros*	0.1	10	WTP22-11
**Wahlenbergia capensis*	0.1	1	
Waitzia suaveolens var. *suaveolens*	0.1	2	WTP22-03
Xanthorrhoea preissii	2	150	

WTP22

Westport Freight Rd Biological Site WTP23

Described by ALRH Date 08/09/2022 Type Q 10x10m

MGA Zone 50 393825 mE 6435892 mN 115.873402 E -32.2085428 S

Habitat Gently sloping N facing sandy plain.

Soil 7.5YR 4/1 dark grey. White flecks sand grains sand.

Rock Type

Vegetation *Eucalyptus todtiana* open woodland over *Banksia menziesii* low open woodland over *Adenanthos cygnorum* subsp*. cygnorum (Kunzea glabrescens)* tall open shrubland over *Stirlingia latifolia* scattered shrubs over *Daviesia triflora*, *Hibbertia hypericoides* subsp*. hypericoides, Dasypogon bromeliifolius, Brachyloma preissii* low open shrubland over *Mesomelaena pseudostygia* scattered sedges over *Drosera erythrorhiza, Lyginia barbata* scattered herbs.

Veg Condition Very Good.

Fire Age Very long unburnt.

Notes Eucalyptus todtiana recruitment.

Species	Cover (%)	Height (cm)	Specimen
Adenanthos cygnorum subsp. *cygnorum*	6	420	
Banksia attenuata	0.1	320	
landscape/ veg type.			
Banksia menziesii	3	350	
Bossiaea eriocarpa	0.1	20	
Brachyloma preissii	0.5	80	
**Briza maxima*	0.1	20	
Burchardia congesta	0.1	40	
Caladenia flava subsp. *flava*	0.1	15	
Calytrix flavescens	0.1	25	WTP23-08
Chamaescilla corymbosa var. *corymbosa*	0.1	10	
Conostephium pendulum	0.1	20	WTP23-04
Conostylis aculeata subsp. *aculeata*	0.1	20	
Corynotheca micrantha	0.1	25	WTP23-02
Crassula colorata var. *colorata*	3	20	WTP24-01
Dampiera linearis	0.1	20	
Dasypogon bromeliifolius	1	25	
Daviesia triflora	1	50	
Dianella revoluta var. *revoluta*	0.1	40	
Drosera erythrorhiza	0.5	2	
**Ehrharta calycina*	0.1	20	
**Ehrharta longiflora*	0.1	90	
Eucalyptus todtiana	9	1600	
**Gladiolus caryophyllaceus*	0.1	25	
Gompholobium tomentosum	0.1	10	
Hemiandra pungens	0.1	15	
Hibbertia hypericoides subsp. *hypericoides*	1	60	
Hypocalymma robustum	0.1	70	
**Hypochaeris glabra*	0.1	2	
Jacksonia furcellata	0.1	110	
Kunzea glabrescens	2.5	330	
Lomandra suaveolens	0.1	10	WTP23-05
Lyginia barbata	0.5	75	WTP23-06
Lyginia barbata	0.1	25	WTP23-06
**Lysimachia arvensis*	0.1	8	
Mesomelaena pseudostygia	0.5	70	
Patersonia occidentalis var. *occidentalis*	0.1	60	
Persoonia saccata	0.1	110	WTP23-03
Philotheca spicata	0.1	60	
Phyllangium paradoxum	0.1	7	
Podotheca angustifolia	0.1	7	WTP23-07
Poranthera microphylla	0.1	5	
Quinetia urvillei	0.1	7	

Species	Cover (%)	Height (cm)	Specimen
Sowerbaea laxiflora	0.1	25	
Stirlingia latifolia	2	140	
Styphelia conostephioides	0.1	20	
Thysanotus manglesianus	0.1	60	
**Trachymene pilosa*	0.1	5	
**Ursinia anthemoides* subsp. *anthemoides*	0.5	25	
**Wahlenbergia capensis*	0.1	5	
Xanthosia huegelii	0.1	10	

WTP23

Westport Freight Rd Biological Site WTP24

Described by ALRH Date 07/09/2022 Type Q 10x10m

MGA Zone 50 394351 mE 6435901 mN 115.878976 E -32.2085152 S

Habitat Gently sloping sandy plain. Slightly north facing.

Soil 10YR, 4/2 dark greyish brown sand.

Rock Type

Vegetation *Banksia attenuata, Banksia menziesii* low woodland over *Adenanthos cygnorum* subsp. *cygnorum, Kunzea glabrescens* tall shrubland over *Hibbertia hypericoides* subsp. *hypericoides (Allocasuarina humilis)* shrubland over *Scholtzia involucrata, Conostephium preissii* low shrubland over *Mesomelaena pseudostygia* scattered sedges.

Veg Condition Very Good.

Fire Age Very long unburnt.

Notes

Species	Cover (%)	Height (cm)	Specimen
Adenanthos cygnorum subsp. *cygnorum*	6	420	
Allocasuarina humilis	0.5	120	
Anigozanthos manglesii subsp. *manglesii*	0.1	10	
Banksia attenuata	7	650	
Banksia menziesii	6	650	
Bossiaea eriocarpa	0.1	20	
Brachyloma preissii	0.1	75	
**Briza maxima*	0.1	20	
Burchardia congesta	0.1	30	
Caladenia discoidea	0.1	30	
Caladenia flava subsp. *flava*	0.1	10	
Calandrinia corrigioloides	0.1	5	
Chamaescilla corymbosa var. *corymbosa*	0.1	5	
Conostephium preissii	1.5	25	
Conostylis aculeata	0.1	25	
Conostylis setigera subsp. *setigera*	0.1	10	
Crassula colorata var. *colorata*	0.1	2	WTP24-01
Daviesia physodes	0.1	35	
Daviesia triflora	0.1	75	
Desmocladus flexuosus	0.1	10	
Drosera erythrorhiza	0.1	1	
Drosera pallida	0.1	80	WTP24-03
**Ehrharta calycina*	0.1	15	
**Ehrharta longiflora*	0.1	90	
**Galium divaricatum*	0.1	5	
**Gladiolus caryophyllaceus*	0.1	90	
Gompholobium tomentosum	0.1	25	
Hibbertia hypericoides subsp. *hypericoides*	25	110	
**Hypochaeris glabra*	0.1	1	
Isotropis cuneifolia subsp. *cuneifolia*	0.1	25	
Jacksonia sternbergiana	0.1	600	
Kunzea glabrescens	6	400	
Laxmannia squarrosa	0.1	2	
Lomandra preissii	0.1	25	
Lomandra suaveolens	0.1	20	WTP24-06
**Lysimachia arvensis*	0.1	10	
Mesomelaena pseudostygia	1.5	70	
Millotia tenuifolia var. *tenuifolia*	0.1	5	ANK45-06=
Neurachne alopecuroidea	0.1	25	
Phyllangium paradoxum	0.1	5	
Poaceae sp.	0.1	2	WTP24-05
Podolepis gracilis	0.1	7	ANK45-01=
Podotheca angustifolia	0.1	8	WTP24-02
Pyrorchis nigricans	0.1	2	

Species	Cover (%)	Height (cm)	Specimen
Quinetia urvillei	0.1	5	
Scholtzia involucrata	2.5	20	
Siloxerus humifusus	0.1	1	
Stylidium piliferum	0.1	1	
Stylidium repens	0.1	5	
Styphelia conostephioides	0.1	20	
Thysanotus multiflorus	0.1	35	
**Trachymene pilosa*	0.1	5	
**Ursinia anthemoides* subsp. *anthemoides*	0.1	25	
Vulpia myuros forma *megalura*	0.5	10	WTP24-04

WTP24

Westport Freight Rd Biological Site WTP25
Described by ABSJT Date 07/09/2022 Type Q 10x10m
MGA Zone 50 394790 mE 6435917 mN 115.8836358 E -32.20840921 S
Habitat Minor depression.
Soil 5YR 4/1 dark grey sand.
Rock Type
Vegetation *Kunzea glabrescens, Adenanthos cygnorum* subsp. *cygnorum* tall open scrub.
Veg Condition Good to Poor.
Fire Age Very long unburnt.
Notes Quenda diggings present.

Species	Cover (%)	Height (cm)	Specimen
Adenanthos cygnorum subsp. *cygnorum*	6	310	
Aira praecox	0.1	10	WTP25-04
Arctotheca calendula	0.1	10	
**Briza maxima*	1	25	
**Carpobrotus edulis*	0.5	10	
Centrolepis drummondiana	0.1	2	WTP25-03
Crassula colorata var. *colorata*	0.1	5	
**Ehrharta calycina*	0.1	75	
**Ehrharta longiflora*	1	25	
Erigeron sp.	0.1	2	
**Euphorbia peplus*	0.1	5	
**Galium murale*	0.1	5	
**Gladiolus caryophyllaceus*	0.1	30	
**Hypochaeris glabra*	0.1	3	
**Hypochaeris radicata*	1	1	
Isolepis marginata	0.1	3	
Kunzea glabrescens	31	420	
Lolium perenne	0.1	20	WTP25-05
Nuytsia floribunda	0.1	380	
Poranthera microphylla	0.1	2	WTP25-02
Quinetia urvillei	0.1	3	
**Romulea rosea* var. *australis*	0.1	20	
**Sonchus oleraceus*	0.1	15	
Trachymene pilosa	0.1	2	
**Trifolium campestre* var. *campestre*	0.1	5	
**Ursinia anthemoides* subsp. *anthemoides*	0.1	15	
**Vulpia myuros forma myuros*	36	25	WTP25-01

WTP25	

Westport Freight Rd Biological Site WTP27

Described by ABSJT Date 20/09/2022 Type Q 10x10m

MGA Zone 50 395518 mE 6435969 mN 115.891364 E -32.2080067 S

Habitat Flat plain sloping NW.

Soil 10YR, 4/1, Dark grey sand.

Rock Type

Vegetation *Banksia attenuata* low open woodland over *Eremaea pauciflora* var. *pauciflora (Stirlingia latifolia, Bossiaea eriocarpa)* low shrubland over *Corynotheca micrantha* var. *micrantha, (Conostylis aculeata* subsp. *aculeata, Patersonia occidentalis* var. *occidentalis.)* very open herbland.

Veg Condition Good to Degraded.

Fire Age Very long unburnt.

Notes

Species	Cover (%)	Height (cm)	Specimen
Banksia attenuata	5	420	
Bossiaea eriocarpa	1	40	
**Briza maxima*	0.1	3	
**Bromus diandrus*	0.1	20	
Burchardia congesta	0.1	40	
Caladenia flava subsp. *flava*	0.1	10	
**Carpobrotus edulis*	3	15	
Conostephium pendulum	0.1	2	WTP27-05
Conostylis aculeata subsp. *aculeata*	1	45	
Corynotheca micrantha var. *micrantha*	4	10	
Crassula colorata var. *acuminata*	0.1	3	WTP27-04
Dampiera linearis	0.1	15	
Desmocladus flexuosus	0.1	25	WTP27-02
**Ehrharta calycina*	2	60	
Eremaea pauciflora var. *pauciflora*	11	50	
**Gladiolus caryophyllaceus*	0.1	10	
**Hypochaeris glabra*	0.1	2	
Hypolaena exsulca	0.1	35	WTP27-03
**Lolium perenne*	0.5		WTP27-01
Lomandra hermaphrodita	0.1	18	
Lomandra suaveolens	0.1	20	WTP27-08
Lotus subbiflorus	0.1	4	
**Oxalis* sp.	0.1	3	WTP27-06
Patersonia occidentalis var. *occidentalis*	0.5	35	
**Petrorhagia dubia*	0.1	8	
Podotheca gnaphalioides	0.1	30	
**Romulea rosea* var. *australis*	0.1	10	
Senecio condylus	0.1	25	WTP27-07
Stirlingia latifolia	1	80	
**Ursinia anthemoides* subsp. *anthemoides*	2.5	30	

WTP27	

Westport Freight Rd Biological Site WTP28

Described by ABSJT Date 07/09/2022 Type Q 10x10m

MGA Zone 50 395783 mE 6435915 mN 115.8941742 E -32.20851928 S

Habitat Plain sloping south.

Soil 7.5YR 25/1 black sand.

Rock Type

Vegetation *Banksia menziesii (Banksia attenuata)* low woodland over *Hibbertia hypericoides* subsp. *Hypericoides (Stirlingia latifolia)* low shrubland over *Conostylis aculeata* subsp. *Aculeata, Desmocladus flexuosus* scattered herbs.

Veg Condition Excellent.

Fire Age No sign of recent fire.

Notes

Species	Cover (%)	Height (cm)	Specimen
Aira sp.	0.1	5	
Banksia attenuata	4	600	
Banksia menziesii	21	610	
Bossiaea eriocarpa	0.1	15	
Briza maxima	0.1	25	
Burchardia congesta	0.1	45	
Caladenia flava subsp. *flava*	0.1	12	
Calandrinia corrigioloides	0.1	2	
Calytrix flavescens	0.1	35	
Centrolepis drummondiana	0.1	2	WTP28-02
Chamaescilla corymbosa var. *corymbosa*	0.1	20	
Conostylis aculeata subsp. *aculeata*	1	20	
Corynotheca micrantha var. *micrantha*	0.1	30	
Crassula colorata var. *colorata*	0.1	2	
Dasypogon bromeliifolius	0.1	15	
Daviesia triflora	0.1	45	
Desmocladus flexuosus	0.5	10	
Drosera *erythrorhiza*	0.1	1	
Drosera sp.	0.1	5	
drummondii			
**Ehrharta calycina*	0.1	25	
Eremaea pauciflora	0.1	80	WTP28-01
**Euphorbia peplus*	0.1	10	
***Gladiolus caryophyllaceus*	0.1	20	
Hibbertia hypericoides subsp. *hypericoides*	12	90	
Hibbertia subvaginata	0.1	25	
**Hypochaeris glabra*	0.1	2	
Kunzea glabrescens	0.1	60	
Lagenophora huegelii	0.1	20	
Lepidosperma calcicola	0.1	45	WTP28-07
Lepidosperma calcicola	0.1	20	WTP28-05
Lomandra caespitosa	0.1	15	
Lotus subbiflorus	0.1	4	
**Lysimachia arvensis*	0.1	5	
Microtis sp.	0.1	25	
Persoonia saccata	0.1	25	
Petrophile linearis	0.1	15	
Phlebocarya ciliata	0.1	20	
Podotheca gnaphalioides	0.1	15	
Poranthera microphylla	0.1	5	WTP28-04
Pterostylis sp.	0.1	18	
Quinetia urvillei	0.1	2	
**Romulea rosea* var. *australis*	0.1	15	
**Sonchus oleraceus*	0.1	5	
Stirlingia latifolia	0.5	75	

Species	Cover (%)	Height (cm)	Specimen
Stylidium repens	0.1	5	
Thysanotus sp. (manglesianus/patersonii)	0.1	10	
Trachymene pilosa	0.1	3	
**Urospermum picroides*	0.1	8	
**Ursinia anthemoides* subsp. *anthemoides*	0.1	20	
Wahlenbergia sp.	0.1	4	WTP28-06
Wahlenbergia sp.	0.1	1	WTP28-03
Waitzia suaveolens var. *suaveolens*	0.1	2	ANK53-05=

WTP28

Westport Freight Rd Biological Site WTP29

Described by ABSJT Date 06/09/2022 Type Q 10x10m

MGA Zone 50 395928 mE 6435858 mN 115.8957103 E -32.2090482 S

Habitat Plain sloping south east.

Soil 5YR, 4/1, dark grey sand.

Rock Type

Vegetation *Banksia attenuata* low woodland over *Kunzea glabrescens (Adenanthos cygnorum* subsp. *cygnorum)* tall shrubland over *Styphelia conostephioides, Scholtzia involucrata (Bossiaea eriocarpa, Hibbertia subvaginata)* low open shrubland.

Veg Condition Excellent.

Fire Age Very long unburnt.

Notes

Name	Cover (%)	Height (cm)	Specimen
Adenanthos cygnorum subsp. *cygnorum*	3	380	
Amphipogon turbinatus	0.1	5	WTP29-05
Amphipogon turbinatus	0.1	8	
Anigozanthos humilis	0.1	5	
Banksia attenuata	24	750	
Bossiaea eriocarpa	0.5	40	
Caladenia flava subsp. *flava*	0.1	5	
Calytrix flavescens	0.1	8	
Conostylis aculeata subsp. *aculeata*	0.1	25	
Conostylis aculeata subsp. *preissii*	0.1	20	WTP29-10
Drosera erythrorhiza	0.1	1	
Drosera macrantha	0.1	20	WTP29-03
Gastrolobium capitatum	0.1	25	WTP29-06b
**Gladiolus caryophyllaceus*	0.1	20	
Gompholobium tomentosum	0.1	20	
Hemiandra pungens	0.1		WTP29-06a
Hibbertia subvaginata	0.5	25	
Hybanthus calycinus	0.1	15	
**Hypochaeris glabra*	0.1	1	
Jacksonia furcellata	0.1	150	
Kunzea glabrescens	11	450	
Laxmannia squarrosa	0.1	5	WTP29-01
Lechenaultia floribunda	0.1	20	
Lomandra caespitosa	0.1	20	
Patersonia occidentalis var. *occidentalis*	0.1	25	
**Pelargonium capitatum*	0.1	2	
Poranthera moorokatta	0.1	1	WTP29-07
Pterostylis sp.	0.1	8	NC
Quinetia urvillei	0.1	4	
Schoenus clandestinus	0.1	1	WTP29-04
Scholtzia involucrata	2	10	
Siloxerus humifusus	0.1	1	
Stirlingia latifolia	0.1	50	
Stylidium brunonianum	0.1	5	WTP29-02
Stylid*ium piliferum*	0.1	5	
Stylidium repens	0.1	2	
Styphelia conostephioides	2	20	
Thysanotus sp. (manglesianus/patersonii)	0.1	20	NC
Trachymene pilosa	0.1	5	
Tricoryne elatior	0.1	10	WTP29-08
**Ursinia anthem*oides subsp. *anthemoides*	0.1	10	
Waitzia suaveolens var. *suaveolens*	0.1	3	WTP53-05=
Xanthosia huegelii	0.1	4	WTP29-09

WTP29	

Westport Freight Rd Biological Site WTP30

Described by ALTH Date 05/09/2022 Type Q 10x10m

MGA Zone 50 396044 mE 6435837 mN 115.8969336 E -32.20924947 S

Habitat Gentle SE facing slope.

Soil 5 YR 21/1 black White top layer sand.

Rock Type

Vegetation *Banksia attenuata (Banksia menziesii, Banksia ilicifolia)* low woodland over *Kunzea glabrescens* scattered shrubs over *Calytrix angulata, Dasypogon bromeliifolius, Hibbertia subvaginata, Nuytsia floribunda low* open shrubland over *Lyginia barbata, Patersonia occidentalis* var. *occidentalis* very open herbland.

Veg Condition Very Good.

Fire Age Very long unburnt.

Notes Lots of *Banksia attenuata* recruitment.

Species	Cover (%)	Height (cm)	Specimen
Alexgeorgea nitens	0.1	20	
Banksia attenuata	12	700	
Banksia grandis	0.1	15	
Banksia ilicifolia	4	850	
Banksia menziesii	4	700	
Bossiaea eriocarpa	0.1	30	
**Briza maxima*	0.1	10	
Burchardia congesta	0.1	15	
Caladenia flava subsp. *flava*	0.1	15	
Calytrix angulata	2	35	
Chamaescilla corymbosa var. *corymbosa*	0.1	15	
Conostylis aculeata	0.1	15	WTP30-10
Dasypogon bromeliifolius	1.5	50	
Diuris corymbosa	0.1	3	
Diuris corymbosa	0.1	40	
Drosera erythrorhiza	0.1	1	
Drosera menziesii	0.1		WTP30-13
**Ehrharta calycina*	0.1	20	
Elythranthera brunonis	0.1	15	
**Gladiolus caryophyllaceus*	0.1	10	
Hibbertia subvaginata	1	20	WTP30-02
**Hypochaeris glabra*	0.5	2	
Kunzea glabrescens	1	170	
Lomandra sp.	0.1	20	WTP30-12
Lyginia barbata	4	120	WTP30-01
Nuytsia floribunda	1	40	WTP30-04
Patersonia occidentalis var. *occidentalis*	2	100	
Petrophile linearis	0.1	20	
Petrophile linearis	0.1	30	WTP30-06
Philotheca spicata	0.1	25	
Poaceae sp.	0.1	10	WTP30-07
Quinetia urvillei	0.1		WTP30-03
Scholtzia involucrata	0.1	30	WTP30-11
Sowerbaea laxiflora	0.1	20	
Stylidium araeophyllum	0.1	30	
Stylidium piliferum	0.1	3	WTP30-08
Stylidium repens	0.1	5	
Styphelia conostephioides	0.1	10	WTP30-09
Thysanotus manglesianus	0.1	30	
**Trachymene pilosa*	0.1	3	
**Ursinia anthemoides* subsp. *anthemoides*	0.5	15	
Waitzia suaveolens var. *suaveolens*	0.1	10	WTP30-05

WTP30	

Westport Freight Rd Biological Site WTP31

Described by ALTH Date 05/09/2022 Type Q 10x10m

MGA Zone 50 396796 mE 6435839 mN 115.9049074 E -32.2092947 S

Habitat Low lying sandy plain.

Soil 5YR, 25/1 black sand.

Rock Type

Vegetation *Melaleuca rhaphiophylla* low woodland over *Kunzea glabrescens* tall open scrub over *Dielsia stenostachya* very open herbland.

Veg Condition Very Good.

Fire Age Very long unburnt.

Notes

Species	Cover (%)	Height (cm)	Specimen
Caladenia flava subsp. *flava*	0.1	15	
Crassula colorata var. *acuminata*	0.1	4	WTP31-04
Dielsia stenostachya	2.5	65	WTP31-01
Disa bracteata	0.1	15	WTP31-07
***Gladiolus caryophyllaceus*	0.1	35	
**Hypochaeris glabra*	2.5	3	
Isolepis marginata	0.1	5	WTP31-03
Kunzea glabrescens	50	470	
Lotus subbiflorus	0.5	10	
Melaleuca rhaphiophylla	15	450	
Poaceae sp.	0.1	15	WTP31-05
Podotheca gnaphalioides	0.1	10	WTP31-02
Pterostylis ectypha	0.1	15	WTP31-06
**Romulea rosea* var. *australis*	0.1	20	
**Trachymene pilosa*	0.1	5	
**Ursinia anthemoides* subsp. *anthemoides*	0.1	35	
**Zantedeschia aethiopica*	0.1	5	

WTP31	

Westport Freight Rd Biological Site WTP32

Described by ALTH Date 05/09/2022 Type Q 10x10m

MGA Zone 50 396734 mE 6435874 mN 115.9042542 E -32.2089768 S

Habitat Low lying sandy plain.

Soil 5YR black sand.

Rock Type

Vegetation *Kunzea glabrescens* tall, closed scrub.

Veg Condition Very Good.

Fire Age Very long unburnt.

Notes Revegetated site.

Species	Cover (%)	Height (cm)	Specimen
-	0.1	20	WTP32-05
Acacia rostellifera	0.1	20	WTP32-04
Austrostipa compressa	0.1	30	WTP32-01
Caladenia flava subsp. *flava*	0.1	10	
Crassula colorata var. *acuminata*	0.1	5	WTP31-04=
Disa bracteata	0.1	5	WTP31-07=
**Erodium botrys*	0.1	4	
**Hypochaeris glabra*	0.1	3	
Isolepis marginata	0.1	4	
Kunzea glabrescens	72	370	
**Lagurus ovatus*	0.1	10	WTP32-02
Lotus subbiflorus	0.1	2	
Podotheca angustifolia	0.1	20	
Podotheca gnaphalioides	0.1	10	WTP31-02=
**Romulea rosea* var. *australis*	0.1	20	
Senecio condylus	0.1	5	WTP32-06
**Trifolium campestre* var. *campestre*	0.1	5	WTP32-03
**Ursinia anthemoides* subsp. *anthemoides*	0.1	20	

WTP32	

Westport Freight Rd Biological Site WTP33

Described by ALTH Date 05/09/2022 Type Q 10x10m

MGA Zone 50 396907 mE 6435854 mN 115.9060953 E -32.20917146 S

Habitat Low lying sandy plain.

Soil 5YR 25/1 black sand.

Rock Type

Vegetation *Melaleuca rhaphiophylla* low woodland over *Kunzea glabrescens* tall open scrub over *Dielsia stenostachya* very open herbland.

Veg Condition Very Good.

Fire Age Very long unburnt.

Notes

Species	Cover (%)	Height (cm)	Specimen
-	0.1	5	WTP33-02
Caladenia flava subsp. *flava*	0.1	15	
Crassula colorata var. *acuminata*	0.1	5	WTP31-04=
Dianella revoluta	0.1	7	
Dielsia stenostachya	3	100	WTP31-01
**Ehrharta longiflora*	0.1	5	WTP33-01
**Hypochaeris glabra*	1.5	2	
Kunzea glabrescens	50	550	
Lotus subbiflorus	0.1	10	
**Lysimachia arvensis*	0.1	10	
Melaleuca rhaphiophylla	11	550	
Orchidaceae sp.	0.1	15	WTP33-03
Poaceae sp.	0.1	8	WTP33-06
Podotheca gnaphalioides	0.1	4	WTP31-02=
Pterostylis ectypha	0.1	10	WTP31-06=
Quinetia urvillei	0.1	5	WTP33-04
**Romulea rosea* var. *australis*	0.1	25	
Rostraria cristata	0.1	15	WTP33-05
**Trachymene pilosa*	0.1	2	
**Ursinia anthemoides* subsp. *anthemoides*	0.1	20	
**Zantedeschia aethiopica*	0.1	3	

WTP33	

Westport Freight Rd Biological Site WTP34
Described by SWJT Date 21/09/2022 Type Q 10x10m
MGA Zone 50 398025 mE 6436022 mN 115.9179671E -32.20776354 S
Habitat Flat plain.
Soil 10YR, 4/1, very dark grey sand.
Rock Type
Vegetation *Eucalyptus camaldulensis* open forest over *Jacksonia furcellata* tall shrubland.
Veg Condition Degraded.
Fire Age Very long unburnt.
Notes

Species	Cover (%)	Height (cm)	Specimen
**Avena barbata*	2	60	
**Briza maxima*	3	41	
**Bromus diandrus*	9	60	
Burchardia congesta	0.1	40	
Conostylis aculeata subsp. *preissii*	0.1	20	WTP34-04
**Ehrharta calycina*	27	110	
Eucalyptus camaldulensis	41	1400	WTP35-01=
Hypolaena exsulca	0.1	40	WTP34-03
Jacksonia furcellata	14	420	
**Lolium perenne x rigidum*	9	55	WTP35-02=
Ornithopus compressus	0.5	25	WTP34-01
Ornithopus sativus	0.5	30	WTP34-02
**Romulea rosea* var. *australis*	0.1	25	
**Zantedeschia aethiopica*	0.1	25	

WTP34

Westport Freight Rd Biological Site WTP35

Described by SWJT Date 21/09/2022 Type Q 10x10m

MGA Zone 50 398491 mE 6436320 mN 115.9229489 E -32.2051159 S

Habitat Flat plain.

Soil 10YR, 4/1, very dark grey sand.

Rock Type

Vegetation *Eucalyptus camaldulensis* open forest over *Xanthorrhoea brunonis* subsp. *brunonis* scattered low shrubs.

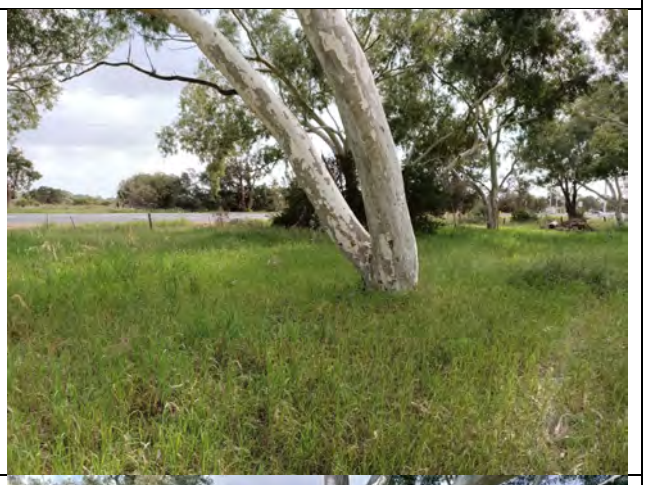
Veg Condition Degraded II

Fire Age Very long unburnt.

Notes

Species	Cover (%)	Height (cm)	Specimen
**Bromus diandrus*	20	45	
**Ehrharta calycina*	20	100	
**Ehrharta longiflora*	18	45	
Eucalyptus camaldulensis	45	1300	WTP35-01
**Lolium perenne* x *rigidum*	15	50	WTP35-02
**Romulea rosea* var. *australis*	12	25	
Xanthorrhoea brunonis subsp. *brunonis*	1	100	
**Zantedeschia aethiopica*	0.1	25	

WTP35



Westport Freight Rd Biological Site WTP36

Described by THRH Date 21/09/2022 Type Q 10x10m

MGA Zone 50 398450 mE 6436159 mN 115.922497 E -32.20656043 S

Habitat Top of low rise.

Soil 10YR 4/2 dark greyish brown sand.

Rock Type

Vegetation *Xylomelum occidentale* low woodland over *Xanthorrhoea brunonis* subsp. *brunonis* scattered shrubs.

Veg Condition Degraded.

Fire Age Very long unburnt.

Notes

Name	Cover (%)	Height (cm)	Specimen
Arctotheca calendula	0.1	10	
Cynodon dactylon	0.1	10	
**Ehrharta calycina*	85	150	
**Erodium botrys*	0.1	15	WTP36-02
**Euphorbia terracina*	0.1	30	
**Lolium* sp.	0.1		
Lotus subbiflorus	0.1	10	WTP36-03
**Romulea rosea* var. *australis*	5	50	
Senecio sp.	0.1	25	WTP36-01
**Wahlenbergia capensis*	0.1		WTP19-03=
Xanthorrhoea brunonis subsp. *brunonis*	1.5	150	
Xylomelum occidentale	20	600	

WTP36

Westport Freight Rd Biological Site WTP37

Described by THRH Date 21/09/2022 Type Q 10x10m

MGA Zone 50 398004 mE 6435850 mN 115.9177267 E -32.20930904 S

Habitat Palusplain historic geomorphic.

Soil 10YR 2/2 very dark brown sand.

Rock Type

Vegetation *Eucalyptus camaldulensis* open forest over *Eucalyptus rudis* subsp. *rudis low* open woodland over *Calytrix* sp. shrubland.

Veg Condition Degraded.

Fire Age Very long unburnt.

Notes

Species	Cover (%)	Height (cm)	Specimen
Briza maxima	22	30	
Bromus sp.	0.1	15	
Calytrix sp.	6	200	WTP37-03
**Ehrharta longiflora*	23	30	
Eucalyptus camaldulensis	32	1500	WTP37-02
Eucalyptus rudis subsp. *rudis*	8	800	WTP37-01
Hypocalymma angustifolium subsp. Swan Coastal Plain (G.J. Keighery 16777)	0.1	30	WTP37-04
Leptospermum laevigatum	7	950	
Lolium sp.	0.1	40	
**Romulea rosea* var. *australis*	1	40	
**Zantedeschia aethiopica*	0.1	3	

WTP37

Westport Freight Rd Biological Site WTP38

Described by ALPLdK Date 15/09/2022 Type Q 10x10m

MGA Zone 50 387494 mE 6435565 mN 115.8061946 E -32.2108788 S

Habitat Tertiary coastal swale.

Soil 7.5YR 3/2 dark brown loamy sand.

Rock Type Limestone.

Vegetation *Eucalyptus gomphocephala* closed forest over *Xanthorrhoea preissii (Hardenbergia comptoniana)* tall open shrubland over *Macrozamia riedlei* scattered shrubs.

Veg Condition Good.

Fire Age Very long unburnt.

Notes Some rubbish and dog scat. Channels cut through the landscape outside quadrat.

SPECIES LIST:

Species	Cover (%)	Height (cm)	Specimen
*Asparagus asparagoides	1	190	
*Bromus diandrus	0.1	50	WTP38-01
*Cenchrus setaceus	0.1	60	
Cynodon dactylon	0.1	25	
*Ehrharta calycina	0.5	90	
*Ehrharta longiflora	0.5	25	
*Erigeron bonariensis	0.1	25	
Eucalyptus gomphocephala	71	1900	
*Euphorbia peplus	0.1	20	
*Euphorbia terracina	0.1	50	
*Fumaria capreolata	31	60	
Hardenbergia comptoniana	1	300	
Macrozamia riedlei	0.5	110	
*Oxalis corniculata	0.1	15	
*Oxalis pes-caprae	45	25	
*Sonchus oleraceus	0.1	15	
*Trifolium campestre var. campestre	0.1	15	WTP38-02
*Xanthorrhoea preissii	4.5	210	

WTP38	

Westport Freight Rd Biological Site WTP39

Described by ALPLdK Date 15/09/2022 Type Q 10x10m

MGA Zone 50 387525 mE 6435568 mN 115.8065193 E -32.210856 S

Habitat Tertiary Coastal swale.

Soil 7.5YR 3/2 dark brown loamy sand.

Rock Type Limestone.

Vegetation *Eucalyptus marginata* subsp. *marginata (Banksia grandis)* open forest over *Xanthorrhoea preissii (Clematis linearifolia, Hardenbergia comptoniana)* tall shrubland over *Macrozamia riedlei* scattered low shrubs.

Veg Condition Good.

Fire Age Very long unburnt.

Notes

SPECIES LIST:

Species	Cover (%)	Height (cm)	Specimen
**Asparagus asparagoides*	0.1	150	
Banksia grandis	20	1800	
**Bromus diandrus*	0.1	90	WTP38-01=
Clematis linearifolia	2	220	
**Ehrharta calycina*	17	130	
**Ehrharta longiflora*	5	35	
**Erigeron bonariensis*	0.1	90	WTP38-03
Eucalyptus marginata subsp. *marginata*	49	1800	
**Euphorbia peplus*	0.1	10	
**Euphorbia terracina*	2	95	
**Fumaria capreolata*	50	170	
**Galium murale*	0.1	5	
Geranium molle	0.1	5	
Geranium solanderi	0.1	25	WTP39-02
Hardenbergia comptoniana	1	250	
**Hypochaeris glabra*	0.1	7	
**Hypochaeris radicata*	0.1	20	WTP39-01
Lupinus angustifolius	0.1	70	
**Lupinus cosentinii*	0.1	50	
Macrozamia riedlei	1	100	
**Oxalis corniculata*	0.1	15	
**Oxalis pes-caprae*	0.5	25	
**Sonchus oleraceus*	0.1	30	
**Trifolium campestre* var. *campestre*	0.1	10	WTP38-02=
Xanthorrhoea brunonis subsp. *brunonis*	0.1	70	
Xanthorrhoea preissii	12	350	
**Zantedeschia aethiopica*	0.1	80	

WTP39

Westport Freight Rd Biological Site WTP40

Described by ALPLdK Date 15/09/2022 Type Q 10x10m

MGA Zone 50 387657 mE 6435560 mN 115.8079191E -32.21094132 S

Habitat Tertiary coastal swale (slightly West facing gentle slope).

Soil 7.5YR 3/2 dark brown loamy sand.

Rock Type Limestone.

Vegetation *Eucalyptus gomphocephala* woodland over *Acacia rostellifera* tall shrubland.

Veg Condition Poor.

Fire Age Very long unburnt.

Notes Surrounding tall shrubs are more open in surrounding area but tussock grasses are persistent.

SPECIES LIST:

Species	Cover (%)	Height (cm)	Specimen
Acacia rostellifera	29	320	WTP40-01
**Asparagus asparagoides*	2	170	
**Avena barbata*	0.1	80	WTP40-02
**Bromus diandrus*	16	60	WTP38-01=
Dianella revoluta var. *revoluta*	0.1	50	
**Ehrharta calycina*	15	110	
**Ehrharta longiflora*	40	35	
Eucalyptus gomphocephala	29	2900	
**Euphorbia peplus*	0.1	15	
**Euphorbia terracina*	1	110	
**Fumaria capreolata*	0.1	20	
Gomphocarpus fruticosus	1	190	
**Lysimachia arvensis*	0.1	10	
**Oxalis corniculata*	1	15	
**Sonchus oleraceus*	0.1	15	
**Urospermum picroides*	0.1	15	

WTP40	

Westport Freight Rd Biological Site WTP41

Described by ABSTH Date 15/09/2022 Type Q 10x10m

MGA Zone 50 387749 mE 6435529 mN 115.8088937 E -32.21123095 S

Habitat Slope north.

Soil

Rock Type

Vegetation *Melaleuca huegelii* subsp. *huegelii* tall open scrub over *Melaleuca systena* scattered shrubs.

Veg Condition Good.

Fire Age Very long unburnt.

Notes *Banksia sessilis* adjacent to quad; area has been revegetated but Melaleuca is established.

SPECIES LIST:

Species	Cover (%)	Height (cm)	Specimen
**Bromus diandrus*	0.1	35	
**Crassula glomerata*	0.1	2	
Dianella revoluta var. *revoluta*	0.1	25	
**Ehrharta calycina*	1	45	
**Ehrharta longiflora*	19	20	
**Erodium botrys*	0.1	20	WTP41-03
**Euphorbia peplus*	0.1	15	
**Euphorbia terracina*	0.1	25	
**Fumaria capreolata*	0.1	30	
*Galium murale	0.1	2	
Gomphocarpus fruticosus	0.1	50	
**Hypochaeris glabra*	0.1	2	
**Lolium perenne*	0.5	45	WTP41-05
**Lysimachia arvensis*	0.1	20	
Melaleuca huegelii subsp. huegelii	56	290	WTP41-02
Melaleuca systena	1	110	WTP41-01
**Oxalis corniculata*	0.1	10	
**Petrorhagia dubia*	0.1	5	
**Sonchus oleraceus*	0.1	20	
**Trifolium campestre* var. *campestre*	0.1	15	
**Trifolium campestre* var. *campestre*	0.1	15	WTP41-04
**Urospermum picroides*	0.1	5	

WTP41	

Westport Freight Rd Biological Site WTP43

Described by ALPLdK Date 14/09/2022 Type Q 10x10m

MGA Zone 50 385614 mE 6435579 mN 115.7862462 E -32.21056063 S

Habitat Degraded low coastal dune, lower slope.

Soil Sand.

Rock Type Limestone.

Vegetation *Banksia attenuata* low open forest over *Melaleuca systena, Macrozamia riedlei, Xanthorrhoea preissii* open shrubland over *Hibbertia hypericoides* subsp. *hypericoides* low open shrubland over *Mesomelaena pseudostygia* scattered sedges over *Corynotheca micrantha, Sowerbaea laxiflora* scattered herbs.

Veg Condition Very Good to Good.

Fire Age Very long unburnt.

Notes Veg classification from Keighery 1994.

SPECIES LIST:

Species	Cover (%)	Height (cm)	Specimen
Allocasuarina humilis	0.1	100	
**Asparagus asparagoides*	0.5	50	.
Banksia attenuata	50	800	
**Bromus diandrus*	1	70	WTP43-04
**Bromus diandrus*	2	25	N=25.
Caladenia latifolia	0.1	25	
Caladenia latifolia	0.1	40	
**Cenchrus setaceus*	0.1	60	
Corynotheca micrantha	1	50	WTP43-01
Dianella revoluta var. *revoluta*	0.1	40	
**Ehrharta calycina*	4	110	
**Ehrharta longiflora*	35	40	
**Euphorbia peplus*	0.5	30	N=100.
**Euphorbia terracina*	3	50	
**Fumaria capreolata*	7	70	
**Galium murale*	0.1	8	
Hibbertia hypericoides subsp. *hypericoides*	6	100	
**Hypochaeris glabra*	0.1	10	
**Lagurus ovatus*	0.5	25	
Lepidosperma calcicola	0.1	40	
Macrozamia riedlei	1	120	
Melaleuca systena	2.5	160	
Mesomelaena pseudostygia	1	50	
**Oxalis pes-caprae*	0.1	30	
**Pelargonium capitatum*	0.1	35	
**Pelargonium capitatum*	0.1	15	WTP43-03
**Romulea rosea* var. *australis*	0.1	25	
Schinus terebinthifolia	0.1	25	
**Sonchus oleraceus*	0.1	40	
Sowerbaea laxiflora	0.5	50	
Spyridium globulosum	0.1	15	
**Trachyandra divaricata*	0.1	50	
**Trifolium campestre* var. *campestre*	0.1	15	WTP43-02
**Urospermum picroides*	0.1	25	
Xanthorrhoea preissii	1	170	

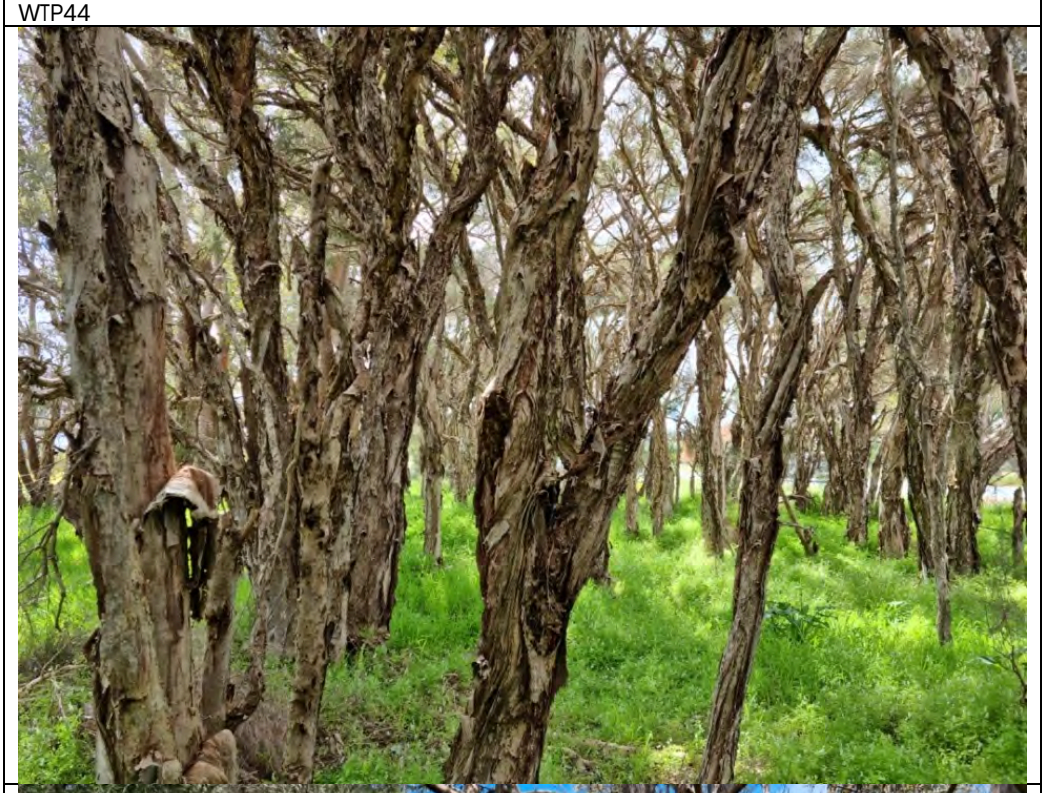
WTP43	

Westport Freight Rd Biological Site WTP44
Described by JTRH Date 16/09/2022 Type Q 10x10m
MGA Zone 50 397698 mE 6435647 mN 115.9144655 E -32.21111691 S
Habitat Roadside swampy drainage area.
Soil 7.5YR 4/1 loamy sand.
Rock Type
Vegetation *Corymbia calophylla* open forest over *Melaleuca preissiana* low woodland over *Caladenia latifolia* scattered herbs.
Veg Condition Good.
Fire Age No sign of recent fire.
Notes

SPECIES LIST:

Species	Cover (%)	Height (cm)	Specimen
Allocasuarina humilis	0.1	100	
**Asparagus asparagoides*	0.5	50	
Banksia attenuata	50	800	
**Bromus diandrus*	1	70	WTP43-04
**Bromus diandrus*	2	25	
Caladenia latifolia	0.1	25	
Caladenia latifolia	0.1	40	
**Cenchrus setaceus*	0.1	60	
Corynotheca micrantha	1	50	WTP43-01
Dianella revoluta var. *revoluta*	0.1	40	
**Ehrharta calycina*	4	110	
**Ehrharta longiflora*	35	40	
**Euphorbia peplus*	0.5	30	
**Euphorbia terracina*	3	50	
**Fumaria capreolata*	7	70	
**Galium murale*	0.1	8	
Hibbertia hypericoides subsp. *hypericoides*	6	100	
**Hypochaeris glabra*	0.1	10	
**Lagurus ovatus*	0.5	25	
Lepidosperma calcicola	0.1	40	
Macrozamia riedlei	1	120	
Melaleuca systena	2.5	160	
Mesomelaena pseudostygia	1	50	
**Oxalis pes-caprae*	0.1	30	
**Pelargonium capitatum*	0.1	35	
**Pelargonium capitatum*	0.1	15	WTP43-03
**Romulea rosea* var. *australis*	0.1	25	
Schinus terebinthifolia	0.1	25	
**Sonchus oleraceus*	0.1	40	
Sowerbaea laxiflora	0.5	50	
Spyridium globulosum	0.1	15	
**Trachyandra divaricata*	0.1	50	
**Trifolium campestre* var. *campestre*	0.1	15	WTP43-02
**Urospermum picroides*	0.1	25	
Xanthorrhoea preissii	1	170	

WTP44



Site ANK01

Ph 1: Described by	SWJT	Date	15/10/2020	Type	Quadrat	10 x 10 m		
Ph 2: Described by	RMJT	Date	23/11/2020	Type	Quadrat	10 x 10 m		
Ph 3: Described by	ABSTH	Date	12/09/2022	Type	Quadrat	10 x 10 m		
MGA Zone	50	385516	mE	6435622	mN	115.785217 E	-32.210158 S	

Habitat Roadside historical drainage sump, NW aspect, 20% slope from Anketell Rd.

Soil 10YR 3/2 very dark greyish brown. Sandy loam.

Rock Type Introduced landscape boulders, some limestone fragments

Vegetation Ph 1: *Eucalyptus gomphocephala* open forest over *Eucalyptus utilis, Agonis flexuosa* low open forest over **Asparagus asparagoides* climbing herbland over **Bromus diandrus, *Ehrharta longiflora, *Cenchrus setaceus, *Avena barbata* closed grassland over **Fumaria capreolata* annual herbland.

Ph 2: *Eucalyptus gomphocephala* open forest over *Eucalyptus utilis, Agonis flexuosa* low open forest to low woodland over **Olea* europaea scattered low trees over **Asparagus asparagoides* climbing herbland over *Spyridium globulosum* scattered low shrub over **Bromus diandrus, *Ehrharta longiflora, *Cenchrus setaceus* open grassland.

Ph 3: *Eucalyptus gomphocephala* open forest over *Eucalyptus utilis* (*Agonis flexuosa var. flexuosa*) low open forest over *Clematis linearifolia* scattered shrubs over *Spyridium globulosum* scattered low shrubs.

Veg Condition Ph 1: Degraded. Ph 2: Degraded. Ph 3:

Fire Age No sign of recent fire.

Species	Phase 1			Phase 2			Phase 3		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
Agonis flexuosa	23	800 cm		23	800 cm		16	800 cm	
Anagallis arvensis							0.1	15 cm	
**Asparagus asparagoides*	5	170 cm		5	170 cm		7	170 cm	
**Avena barbata*	1	55 cm	ANK01-7	0.1	55 cm	ANK01-7=			
**Briza maxima*				0.1	15 cm				
**Bromus diandrus*	45	60 cm	ANK01-3	1.5	60 cm	ANK01-3=	0.1	25 cm	
Caladenia latifolia							0.1	30 cm	
**Carduus pycnocephalus*	0.1	25 cm	ANK01-6	0.1	15 cm	ANK01R-1	0.1	10 cm	ANK01-01
**Cenchrus setaceus*	1	70 cm		7	70 cm		7	50 cm	
Clematis linearifolia	0.1	80 cm		0.1	80 cm		1	150 cm	
Dianella revoluta var. *revoluta*	0.1	35 cm		0.1	35 cm		0.1	30 cm	
**Ehrharta longiflora*	35	50 cm		7	50 cm		7	20 cm	
**Erodium botrys*	0.1	20 cm							
Eucalyptus gomphocephala	64	1800 cm		64	1800 cm		64	1800 cm	
Eucalyptus utilis	27	700 cm	ANK01-1	35	700 cm	ANK01-1=	35	700 cm	
**Euphorbia peplus*	0.1	20 cm		0.1	20 cm		0.1	10 cm	
**Euphorbia terracina*	0.1	50 cm		0.1	50 cm				
**Fumaria capreolata*	3	30 cm		0.1	30 cm		15	30 cm	
Geranium molle							0.1	20 cm	

Species	Phase 1			Phase 2			Phase 3		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
**Lagurus ovatus*	0.1	60 cm		0.1	60 cm		0.1	20 cm	
**Lysimachia arvensis*	0.1	8 cm		0.1	8 cm				
Microtis media subsp. *media*	0.1	20 cm	ANK01-4						
**Olea europaea* subsp. *europaea*	0.1	200 cm		0.5	200 cm		0.5	310 cm	
**Rhamnus alaternus*	0.1	60 cm	ANK01-2						
**Schinus terebinthifolia*				0.1	90 cm	ANK01-2=	0.1	175 cm	
**Sonchus hydrophilus*				0.1	80 cm	ANK01-5=			
**Sonchus oleraceus*	0.1	80 cm	ANK01-5	0.1	25 cm		0.1	20 cm	
Spyridium globulosum	0.1	60 cm		1	60 cm		1	70 cm	
**Trifolium arvense* var. *arvense*	0.1	10 cm	ANK60-01=						
**Urospermum picroides*	0.1	20 cm		0.1	20 cm				

ANK01	Phase 1	Phase 2	Phase 3
Understorey			
Overstorey			

Site ANK02

Ph 1: Described by	SWJT	Date	15/10/2020	Type	Quadrat	10 x 10 m		
Ph 2: Described by	RMJT	Date	23/11/2020	Type	Quadrat	10 x 10 m		
Ph 3: Described by	ALPLdK	Date	12/09/2022	Type	Quadrat	10 x 10 m		
MGA Zone	50	385449	mE	6435739	mN	115.784524 E	-32.209101 S	

Habitat Plain adjacent to Anketell Rd and railway line; sloping 20% northwest.

Soil 10YR 3/2 very dark greyish brown. Sandy loam.

Rock Type Nil

Vegetation Ph 1: *Banksia attenuata* low open woodland over *Xanthorrhoea preissii, X. brunonis* subsp. *brunonis* open grass trees over *Hibbertia hypericoides* subsp. *hypericoides*, *Allocasuarina humilis, Spyridium globulosum*, *Acacia pulchella var. pulchella*, *Grevillea vestita* subsp. *vestita* shrubland over **Ehrharta calycina, *Lolium perenne x rigidum, *Briza maxima, *Bromus diandrus* open grassland.
Ph 2: *Banksia attenuata* low open woodland over *Xanthorrhoea preissii, X. brunonis* subsp. *brunonis* open grass trees over *Hibbertia hypericoides* subsp. *hypericoides, Allocasuarina humilis, Spyridium globulosum, Melaleuca systena, Acacia pulchella* var. *pulchella, Grevillea vestita* subsp. *vestita* shrubland over **Ehrharta calycina* open grassland.
Ph 3: *Banksia attenuata* low open woodland over *Spyridium globulosum* scattered shrubs over *Xanthorrhoea preissii*, *Hibbertia hypericoides subsp. hypericoides* (*Allocasuarina humilis, Melaleuca systena, Xanthorrhoea brunonis subsp. brunonis*) low open heath.

Veg Condition Ph 1: Good. Ph 2: Good. Ph 3: Good.

Fire Age No sign of recent fire.

Species	Phase 1			Phase 2			Phase 3		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
Acacia pulchella var. *pulchella*	2	110 cm		2	110 cm		0.1	100 cm	
Allocasuarina humilis	9	170 cm	ANK02-1	11	170 cm	ANK02-1=			
**Asparagus asparagoides*	0.1	60 cm		0.1	60 cm		0.1	120 cm	
**Avena barbata*	0.1	90 cm		0.1	90 cm				
Banksia attenuata	6	400 cm		8	400 cm		7	400 cm	
Banksia dallanneyi subsp. *dallanneyi* var. *dallanneyi*	0.1	27 cm	ANK02-7	0.1		ANK02-7=			
**Brachypodium distachyon*	0.1	30 cm	ANK02-3	0.1	20 cm	ANK02R-4			
**Brassica tournefortii*	0.1	60 cm					0.1	50 cm	
**Briza maxima*	2	30 cm		0.1	30 cm		1	40 cm	
**Briza minor*	0.1	10 cm		0.1	10 cm		0.1	25 cm	
**Bromus diandrus*	1	30 cm	ANK02-6						
**Bromus hordeaceus*				0.1	45 cm				
Burchardia congesta	0.1	60 cm		0.1	40 cm	ANK02R-7	0.1	50 cm	
Caladenia flava subsp. *flava*	0.1	10 cm							
Caladenia latifolia R. Br.							0.1	40 cm	
Casuarina humilis							9	100 cm	
Conostylis aculeata subsp. *preissii*	0.1	20 cm	ANK02-10	0.1	20 cm	ANK02-10=	0.1	30 cm	
Crassula colorata var. tuberculata							0.1		ANK100-
Crassula glomerata							0.1	8 cm	

Species	Phase 1			Phase 2			Phase 3		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
Desmocladus flexuosus	0.1	20 cm	ANK02-8	0.1	15 cm	ANK02R-2			
Drosera erythrorhiza							0.1	5 cm	
Dryandra lindleyana subsp. lindleyana var. lindleyana							0.1	40 cm	
**Ehrharta calycina*	6.5	150 cm		11	150 cm		9	80 cm	
**Ehrharta longiflora*	0.1	25 cm		0.1	25 cm		9	40 cm	
**Euphorbia peplus*	0.1	10 cm		0.1	10 cm		3	25 cm	
Freesia alba x leichtlinii							0.1	25 cm	
**Fumaria capreolata*	0.1	60 cm		0.1	60 cm		2	100 cm	
**Galium murale*	0.1	5 cm	ANK02-5	0.1	5 cm	ANK02-5=	1	8 cm	
**Gladiolus caryophyllaceus*	0.1	70 cm		0.1	70 cm		0.1	80 cm	
Gompholobium tomentosum	0.1	50 cm		0.1	50 cm		0.1	15 cm	
Grevillea vestita subsp. *vestita*	1	70 cm	ANK02-12	2	70 cm	ANK02-12=	0.5	40 cm	
Hibbertia hypericoides subsp.	14	60 cm		14	60 cm		15	70 cm	
Hypochaeris glabra							0.1	25 cm	
Hypochaeris radicata							0.1	15 cm	
**Lagurus ovatus*	0.1	20 cm		0.1	20 cm		0.1	25 cm	
**Lolium perenne x rigidum*	2	50 cm	ANK02-2	0.1	50 cm	ANK02-2=			
Loxocarya flexuosa (R.Br.)							0.1	25 cm	
**Lysimachia arvensis*	0.1	10 cm		0.1	10 cm				
Melaleuca systena	0.5	25 cm	ANK02-4	2.5	90 cm	ANK02-4=	2.5	90 cm	
Mesomelaena pseudostygia				0.1	55 cm	ANK02R-5			
Microtis media subsp. *media*	0.1	25 cm	ANK01-4=						
**Oxalis pes-caprae*	0.1	15 cm					0.5	25 cm	
**Petrorhagia dubia*				0.1	60 cm	ANK02R-6			
**Sonchus asper*				0.1	10 cm	ANK02R-1			
**Sonchus hydrophilus*				0.1	10 cm				
**Sonchus oleraceus*	0.1	10 cm		0.1	10 cm		0.1	15 cm	
Spyridium globulosum	3	200 cm		3	200 cm		2	150 cm	
Thysanotus sp.							0.1	30 cm	
Trachyandra Kunth							0.1	45 cm	
**Trifolium arvense* var. *arvense*	0.1	20 cm	ANK60-01=	0.1	20 cm	ANK60-01=			
*Trifolium campestre. var. campestre							0.5		ANK74-03=
Triglochin isingiana							0.1	ANK100-09	
**Urospermum picroides*	0.1	15 cm		0.1	15 cm		0.1	40 cm	
Vulpia myuros var. myuros							0.1	25 cm	ANK02-01
Xanthorrhoea brunonis subsp. *brunonis*	2	100 cm		2	100 cm		2	100 cm	
Xanthorrhoea preissii	21	280 cm		19	280 cm		20	200 cm	

ANK02	Phase 1	Phase 2	Phase 3
Understorey			
Overstorey			

Site ANK05

Ph 1: Described by	SWABS	Date	16/10/2020	Type	Quadrat	10 x 10 m		
Ph 2: Described by	RMJT	Date	23/11/2020	Type	Quadrat	10 x 10 m		
Ph 3: Described by	JTRH	Date	12/09/2022	Type	Quadrat	10 x 10 m		
MGA Zone	50	385657	mE	6435591	mN	115.786711 E	-32.210453 S	

Habitat Mid slope 3-5% gradient west-northwest.

Soil 10YR 4/3 brown. Sand.

Rock Type Subsurface limestone.

Vegetation Ph 1: *Banksia attenuata* low open woodland over *Acacia rostellifera* tall open scrub over *Macrozamia riedlei* scattered cycads over *Xanthorrhoea preissii* scattered grass trees over *Hibbertia hypericoides* subsp. *hypericoides, Melaleuca systena* low open shrubland over **Oxalis pes-caprae, *Fumaria capreolata, *Euphorbia peplus* scattered herbland over **Ehrharta calycina, *Bromus diandrus, *Briza maxima, *Avena barbata* open grassland.

Ph 2: *Banksia attenuata* low open woodland over *Acacia rostellifera* tall open scrub over *Macrozamia riedlei* scattered cycads over *Xanthorrhoea preissii* scattered grass trees over *Hibbertia hypericoides* subsp. *hypericoides*, *Melaleuca systena* low open shrubland over **Ehrharta calycina, *Avena barbata* open grasslands.

Ph 3: *Acacia rostellifera* (*Banksia attenuata*) low open forest over *Xanthorrhoea preissii*, *Macrozamia riedlei* open shrubland over *Hibbertia hypericoides subsp. hypericoides* (*Melaleuca systena*) low open shrubland.

Veg Condition Ph 1: Good. Ph 2: Good. Ph 3: Good.

Fire Age No sign of recent fire.

Notes Rabbit scatts and diggings

Species	Phase 1			Phase 2			Phase 3		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
Acacia rostellifera	41	240 cm	ANK05-01	48	240 cm	ANK05-01=	49	250 cm	
**Asparagus asparagoides*				0.1	50 cm		0.1	5 cm	
**Avena barbata*	0.5	30 cm		0.5	60 cm				
Banksia attenuata	2.5	350 cm		10.5	350 cm		8	400 cm	
**Brassica tournefortii*	0.1	45 cm	ANK05-04				0.1	8 cm	
**Briza maxima*	0.5	25 cm		0.1	25 cm		1	25 cm	
**Briza minor*	0.1	15 cm		0.1	15 cm		0.1	5 cm	
**Bromus diandrus*	3	25 cm		0.1	25 cm		0.1	40 cm	
Carduus pycnocephalus							0.1	2 cm	ANK05-02
**Carpobrotus edulis*	0.1	10 cm		0.1	2 cm				
**Cerastium glomeratum*	0.1	15 cm					0.1	5 cm	
**Conyza* sp.	0.1	2 cm							
Crassula colorata var. *acuminata*	0.1	5 cm	ANK05-08				0.1	3 cm	ANK05-01
**Crassula glomerata*	0.1	5 cm	ANK05-07	0.1	4 cm	ANK05R-2			
Dianella revoluta var. *revoluta*				0.1	40 cm		0.1	30 cm	
**Ehrharta calycina*	7	100 cm		11	100 cm		13	100 cm	
**Ehrharta longiflora*	0.1	45 cm		0.1	45 cm		0.1	70 cm	

Species	Phase 1			Phase 2			Phase 3		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
**Euphorbia peplus*	0.5	20 cm		0.1	20 cm		0.1	3 cm	
**Fumaria capreolata*	0.5	40 cm		0.1	40 cm		3.5	60 cm	
**Galium murale*	0.25	10 cm		0.1	5 cm	ANK05R-1	0.1	3 cm	
Hibbertia hypericoides subsp.	2	50 cm		3	50 cm		4.5	60 cm	
**Hypochaeris glabra*	0.1	25 cm		0.1	25 cm		0.1	4 cm	
**Hypochaeris radicata*	0.1	25 cm					0.1	2 cm	
Isolepsis marginata							0.1	3 cm	
**Lagurus ovatus*	0.1	30 cm		0.1	30 cm		0.1	20 cm	
**Lolium perenne x rigidum*	0.1	25 cm	ANK05-02	0.1	25 cm	ANK05-02=			
**Lysimachia arvensis*	0.1	20 cm		0.1	20 cm		0.1	15 cm	
Macrozamia riedlei	1.5	160 cm		1.5	160 cm		1.5	150 cm	
Melaleuca systena	0.5	60 cm	ANK05-05	1	60 cm	ANK05-05=	0.5	65 cm	ANK05-05
Microtis media subsp. *media*	0.1	30 cm							
**Oxalis pes-caprae*	3	20 cm					4.5	15 cm	
**Pelargonium capitatum*	0.1	5 cm		0.1	5 cm		0.1	4 cm	
**Polycarpon tetraphyllum*	0.1	10 cm		0.1	5 cm	ANK05R-3	0.1	3 cm	
**Sonchus oleraceus*	0.1	15 cm		0.1	15 cm		0.1	4 cm	
**Trachyandra divaricata*	0.1	30 cm		0.1	30 cm		0.1	20 cm	ANK05-04
**Trifolium arvense* var. *arvense*				0.1	10 cm				
**Trifolium campestre* var. *campestre*	0.1	15 cm					0.1	10 cm	
**Urospermum picroides*	0.1	20 cm		0.1	20 cm		0.1	3 cm	
Xanthorrhoea preissii	1.5	100 cm		1.5	100 cm		1.5	180 cm	

ANK05	Phase 1	Phase 2	Phase 3
Understorey			
Overstorey			

Site ANK06

Ph 1: Described by	NPAL	Date	14/10/2020	Type	Quadrat	10 x 10 m		
Ph 2: Described by	SW	Date	24/11/2020	Type	Quadrat	10 x 10 m		
Ph 2: Described by	JTRH	Date	12/09/2022	Type	Quadrat	10 x 10 m		
MGA Zone	50	385745	mE	6435716	mN	115.787658 E	-32.209338 S	

Habitat Moderately steep north facing dune slope.

Soil 2.5Y; 3/2 very dark greyish brown. Sand.

Rock Type Subsurface limestone.

Vegetation Ph 1: *Xanthorrhoea preissii* very open grass trees over *Melaleuca systena, Hibbertia hypericoides* subsp. *hypericoides* (*Phyllanthus calycinus*) low open shrubland over **Ehrharta calycina, *Eragrostis curvula, *Bromus diandrus, *Briza maxima* very open grassland.

Ph 2: *Acacia rostellifera* (*Acacia saligna*) tall shrubland over *Xanthorrhoea preissii* very open grass trees over *Hibbertia hypericoides* subsp. *hypericoides, Melaleuca systena* low shrubland over *Conostylis aculeata* subsp. *aculeata, Tricoryne elatior* scattered herbs over **Ehrharta calycina, *Eragrostis curvula, *Cenchrus setaceus, *Avena barbata* very open grassland.

Ph 3: *Acacia rostellifera* low woodland over *Acacia saligna* scattered tall shrubs over *Melaleuca systena, Xanthorrhoea preissii* shrubland over *Hibbertia hypericoides subsp. hypericoides* low open shrubland over *Tricoryne elatior, Phyllanthus calycinus* very open.

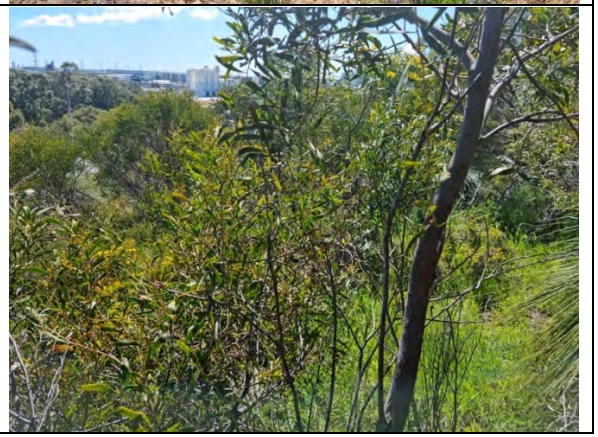
Veg Condition Ph 1: Very Good. Ph 2: Very Good. Ph 3: Very Good.

Fire Age No sign of recent fire.

Notes Four 6 m *Banksia attenuata* north of quadrat (not representative of overall vegetation in area)

Species	Phase 1			Phase 2			Phase 3		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
Acacia pulchella var. *pulchella*	0.1	150 cm		0.1	150 cm		0.1	125 cm	
Acacia rostellifera	0.1	350 cm	ANK06-01	11	350 cm	ANK06-01=	19	520 cm	
Acacia saligna	0.1	220 cm		1.5	220 cm		0.25	390 cm	
**Arctotheca calendula*	0.1	15 cm							
Asteraceae sp.							0.1	10 cm	ANK06-06
**Avena barbata*	0.1	150 cm		0.5	150 cm				
Banksia dallanneyi subsp. *dallanneyi* var. *dallanneyi*	0.1	30 cm	ANK06-14	0.1	30 cm		0.1	10 cm	
**Brassica tournefortii*	0.1	50 cm	ANK06-08				0.1	25 cm	
**Briza maxima*	1	30 cm		0.1	30 cm		0.1	30 cm	
**Bromus diandrus*	1	50 cm		0.1	50 cm		0.1	15 cm	
**Cenchrus setaceus*	0.1	60 cm		1	65 cm		0.1	65 cm	
**Centaurea melitensis*	0.1	15 cm	ANK06-05						
Conostylis aculeata subsp. *preissii*	0.1	20 cm	ANK06-13	0.5	30 cm	ANK06-13=	0.1	25 cm	
Crassula colorata var. *acuminata*	0.1	5 cm	ANK06-09				0.1	5 cm	
Dianella revoluta var. *revoluta*	0.1	50 cm		0.1	50 cm		0.1	40 cm	
**Ehrharta calycina*	5	80 cm		5	120 cm		12	90 cm	
**Ehrharta longiflora*	0.1	70 cm					0.1	75 cm	
**Eragrostis curvula*	1	120 cm		3	180 cm		4	155 cm	

Species	Phase 1			Phase 2			Phase 3		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
**Euphorbia peplus*	0.1	15 cm		0.1	15 cm		0.1	5 cm	
**Euphorbia terracina*	0.1	15 cm		0.1	25 cm		0.1	15 cm	
**Galium divaricatum*	0.1	10 cm		0.1	10 cm				
**Galium murale*							0.1	3 cm	
Hibbertia hypericoides subsp.	5	80 cm	ANK06-12	8	80 cm		8	90 cm	
Hybanthus calycinus	0.1	25 cm	ANK06-03				0.1	25 cm	
**Hypochaeris glabra*	0.1	5 cm					0.1	10 cm	
**Hypochaeris radicata*							0.1	5 cm	
**Lagurus ovatus*	0.1	35 cm		0.1	35 cm		0.1	25 cm	
**Lolium rigidum*	0.1	25 cm							
**Lysimachia arvensis*	0.1	15 cm		0.1	10 cm		0.1	10 cm	
Melaleuca systena	3	100 cm	ANK06-02	4	120 cm	ANK06-02=	7	200 cm	
Minuartia mediterranea							0.1	4 cm	ANK06-03
Pelargonium capitatum							0.1	2 cm	
**Petrorhagia dubia*	0.1	20 cm		0.1	20 cm		0.1	20 cm	ANK06-07
Phyllanthus calycinus	0.5	75 cm		0.1	55 cm		1	65 cm	
**Polycarpon tetraphyllum*	0.1	3 cm	ANK06-10				0.1	2 cm	
**Sagina apetala*	0.1	10 cm	ANK06-04						
Scaevola canescens	0.1	25 cm	ANK06-15	0.1	25 cm	ANK06-15=	0.1	25 cm	
Silene nocturna							0.1	8 cm	ANK06-02
**Sonchus oleraceus*	0.1	10 cm		0.1	10 cm		0.1	10 cm	
Taraxacum khatoonae							0.1	5 cm	ANK06-01
Thysanotus arenarius	0.1	60 cm	ANK06-11	0.1	85 cm	ANK06-11=	0.1	35 cm	
**Trachyandra divaricata*	0.1	30 cm		0.1	45 cm				
Tricoryne elatior	0.1	40 cm	ANK06-07	0.5	45 cm	ANK06-07=	1.5	25 cm	
Trifolium campestre var. campestre							0.1	10 cm	
**Urospermum picroides*	0.1	30 cm		0.1	35 cm		0.1	12 cm	
Vulpia myuros var. myuros							0.1	20 cm	ANK06-05
Xanthorrhoea brunonis subsp. *brunonis*	0.1	80 cm		0.1	80 cm		0.1	50 cm	
Xanthorrhoea preissii	4	150 cm		4	150 cm		5	180 cm	

ANK06	Phase 1	Phase 2	Phase 3
Understorey			
Overstorey			

Site ANK07

Ph 1: Described by	NPAL	Date	14/10/2020	Type	Quadrat	10 x 10 m		
Ph 2: Described by	SW	Date	24/11/2020	Type	Quadrat	10 x 10 m		
Ph 3: Described by	JTRH	Date	12/09/2022	Type	Quadrat	10 x 10 m		
MGA Zone	50	385880	mE	6435768	mN	115.789097 E	-32.208883 S	

Habitat Gently sloping north facing road verge.

Soil 10YR 4/6 dark yellowish brown. Sand.

Rock Type Subsurface limestone.

Vegetation Ph 1: *Banksia attenuata* (*B. menziesii*) low woodland over *Acacia rostellifera* (*A. pulchella*) tall shrubland over *Conostylis aculeata* subsp. *preissii* scattered herbs over **Ehrharta calycina*, **Briza maxima*, **Bromus diandrus* open grassland.

Ph 2: *Banksia attenuata* (*B. menziesii*) low woodland over *Acacia rostellifera* (*A. pulchella*) tall shrubland over *Conostylis aculeata* subsp. *preissii* scattered herbs over **Ehrharta calycina*, **Briza maxima*, **Bromus diandrus* open grassland.

Ph 3: *Banksia attenuata* (*Banksia menziesii*) low woodland over *Acacia rostellifera* tall shrubland.

Veg Condition Ph 1: Very Good. Ph 2: Very Good. Ph 3: Very Good.

Fire Age No sign of recent fire.

Species	Phase 1			Phase 2			Phase 3		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
Acacia pulchella	0.1	210 cm		1	210 cm		0.1	50 cm	
Acacia rostellifera	0.1	230 cm	ANK06-01=	18	230 cm	ANK07R-01	27	400 cm	
Acacia saligna	0.1	40 cm		0.1	40 cm		0.1	75 cm	
**Avena barbata*	0.1	70 cm		0.1	70 cm		0.1	30 cm	
Banksia attenuata	0.1	650 cm		16	850 cm		16	850 cm	
Banksia menziesii	0.1	250 cm		2	250 cm		2	270 cm	
Brassica tournefortii							0.1	40 cm	ANK07-01
**Briza maxima*	0.1	35 cm		3	30 cm		12	45 cm	
**Bromus diandrus*	0.1	35 cm		1	35 cm		0.1	23 cm	
**Carpobrotus edulis*	0.1	15 cm		0.1	45 cm				
Conostylis aculeata subsp. *preissii*	0.1	20 cm	ANK07-02	1	25 cm	ANK07-02=	0.1	20 cm	
**Conyza bonariensis*	0.1	5 cm							
Crassula colorata var. *acuminata*	0.1	5 cm	ANK07-01				0.1	2 cm	
**Crassula glomerata*	0.1	3 cm					0.1	2 cm	
**Cynodon dactylon*	0.1	15 cm		0.1	15 cm		0.1	15 cm	
Drosera erythrorhiza							0.1	2 cm	
**Ehrharta calycina*	0.1	110 cm		18	110 cm		22	70 cm	
**Ehrharta longiflora*							3	110 cm	
**Erodium botrys*	0.1	5 cm		0.1	10 cm		0.1	8 cm	ANK07-02
**Euphorbia peplus*	0.1	15 cm		0.1	15 cm		1	5 cm	
**Euphorbia terracina*	0.1	20 cm		0.1	25 cm		0.1	10 cm	

Species	Phase 1			Phase 2			Phase 3		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
**Fumaria capreolata*	0.1	100 cm		0.1	100 cm		0.5	40 cm	
**Galium divaricatum*	0.1	5 cm		0.1	10 cm				
**Galium murale*							0.1	1 cm	
Hardenbergia comptoniana	0.1	10 cm		0.1	10 cm		0.1	50 cm	
**Hypochaeris glabra*	0.1	15 cm					0.1	2 cm	
Isolepsis marginata							0.1	5 cm	ANK07-04
**Lactuca serriola* forma *serriola*				0.1	25 cm	ANK07R-02a			
**Lagurus ovatus*	0.1	30 cm		0.1	10 cm		0.1	20 cm	
**Lolium perenne*							0.1	20 cm	ANK07-05
**Lolium rigidum*	0.1	35 cm		0.1	35 cm				
Lupinus cosentinii							0.1	35 cm	
**Lysimachia arvensis*	0.1	10 cm		0.1	10 cm		0.1	10 cm	
Microtis media subsp. *media*	0.1	25 cm		0.1	25 cm				
**Oxalis corniculata*	0.1	3 cm							
**Oxalis pes-caprae*							0.1	5 cm	
**Pelargonium capitatum*	0.1	70 cm		0.1	60 cm		0.1	30 cm	
**Petrorhagia dubia*	0.1	25 cm		0.1	20 cm				
Podotheca chrysantha	0.1	5 cm	ANK07-04						
Romulea rosea var. australis							0.1	21 cm	
**Sonchus oleraceus*	0.1	30 cm		0.1	25 cm	ANK07R-03	0.1	10 cm	
**Trachyandra divaricata*	0.1	35 cm		0.1	35 cm		0.1	20 cm	ANK05-04=
**Trifolium arvense var. arvense*							0.1	3 cm	
**Trifolium campestre* var. *campestre*	0.1	15 cm					0.1	10 cm	
**Trifolium* sp.				0.1	10 cm				
**Urospermum picroides*	0.1	20 cm		0.1	20 cm		0.1	3 cm	
**Ursinia anthemoides* subsp.	0.1	35 cm		0.1	25 cm		0.1	3 cm	
**Vulpia myuros* forma *myuros*	0.1	15 cm	ANK07-03	0.1	10 cm	ANK07-03=			
**Wahlenbergia capensis*	0.1	20 cm					0.1	3 cm	ANK07-03
Wahlenbergia sp.							0.1	3 cm	NC

ANK07	Phase 1	Phase 2	Phase 3
Understorey			
Overstorey			

Site ANK08

Ph 1: Described by	NPAL	Date	14/10/2020	Type	Quadrat	10 x 10 m		
Ph 2: Described by	SW	Date	24/11/2020	Type	Quadrat	10 x 10 m		
Ph 3: Described by	JTRH	Date	12/09/2022	Type	Quadrat	10 x 10 m		
MGA Zone	50	386141	mE	6435764	mN	115.791864 E	-32.208949 S	

Habitat Gently sloping west facing roadside.

Soil 10YR 3/4 dark yellowish brown. Sand.

Rock Type Subsurface limestone.

Vegetation Ph 1: *Eucalyptus marginata* subsp. *marginata* open woodland over *Acacia rostellifera, Hakea lissocarpha, Banksia attenuata* low woodland over *Hibbertia hypericoides* subsp. *hypericoides* scattered low shrubs over **Ehrharta calycina, *E. longiflora, *Briza maxima, *Bromus diandrus* open grassland.

Ph 2: *Eucalyptus marginata* subsp. *marginata* woodland over *Acacia rostellifera, Hakea lissocarpha, Banksia attenuata, B. menziesii* low open forest over *Xanthorrhoea preissii, X. brunonis* subsp. *brunonis* very open grass trees over *Hibbertia hypericoides* subsp. *hypericoides* low open shrubland over **Ehrharta calycina, *Ehrharta longiflora, *Bromus diandrus, *Briza maxima* grassland over **Asparagus asparagoides* scattered herbs.

Ph 3: *Eucalyptus marginata subsp. marginata* woodland over *Banksia attenuata* scattered low trees over *Acacia rostellifera* (*Xanthorrhoea preissii, Hakea lissocarpha*) tall open scrub over *Hibbertia hypericoides subsp. hypericoides* low open shrubland.

Veg Condition Ph 1: Very Good. Ph 2: Very Good to Good. Ph 3: Very Good to Good.

Fire Age No sign of recent fire.

Notes Rubbish in general area.

Species	Phase 1			Phase 2			Phase 3		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
Acacia pulchella	0.1	110 cm		0.1	110 cm		0.1	55 cm	
Acacia rostellifera	25	500 cm	ANK08-01	25	850 cm	ANK08-01=	29	500 cm	
**Arctotheca calendula*	0.1	10 cm		0.1	10 cm				
**Asparagus asparagoides*	0.1	150 cm		0.5	150 cm		5	220 cm	
**Avena barbata*				0.1	70 cm		0.1	45 cm	
Banksia attenuata	1	150 cm		1.5	360 cm		1.5	450 cm	
Banksia dallanneyi subsp. *dallanneyi* var. *dallanneyi*	0.1	20 cm	ANK06-14=	0.1	25 cm	ANK06-14=	0.1	10 cm	
Banksia menziesii	0.1	300 cm		0.1	350 cm		0.1	420 cm	
**Briza maxima*	5	40 cm		4	30 cm		31	25 cm	
**Briza minor*	0.1	15 cm							
**Bromus diandrus*	2	40 cm		3	30 cm		0.1	30 cm	
Burchardia congesta	0.1	60 cm		0.1	45 cm		0.1	50 cm	
**Carpobrotus edulis*	0.1	15 cm		0.1	15 cm				
**Cenchrus setaceus*	0.1	100 cm		0.1	100 cm		0.5	80 cm	
Chamaescilla corymbosa var.	0.1	10 cm					0.1	15 cm	
Clematis linearifolia	0.1	100 cm		0.1	100 cm		0.1	200 cm	
Conostylis aculeata subsp. *preissii*	0.1	25 cm	ANK08-02	0.1	30 cm	ANK08-02=	0.1	20 cm	
Crassula colorata var. acuminata							0.1	1 cm	

Species	Phase 1			Phase 2			Phase 3		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
Crassula glomerata							0.1	1 cm	
Daviesia triflora				0.1	80 cm	ANK08-06=			
Desmocladus flexuosus	0.1	15 cm	ANK08-05				0.1	15 cm	
Drosera porrecta	0.1	25 cm	ANK08-07						
**Ehrharta calycina*	20	120 cm		20	120 cm		4	80 cm	
**Ehrharta longiflora*	15	70 cm		9	70 cm		28	40 cm	
Eucalyptus marginata subsp.	10	1500 cm		13	1500 cm		14	1350 cm	
**Euphorbia peplus*	0.1	10 cm		0.1	10 cm		0.1	5 cm	
**Euphorbia terracina*	0.1	15 cm		0.1	15 cm		0.1	20 cm	
**Fumaria capreolata*	0.1	60 cm		0.1	60 cm		0.1	40 cm	
**Galium divaricatum*	0.1	5 cm		0.1	5 cm				
**Galium murale*							0.1	2 cm	
**Gladiolus caryophyllaceus*	0.1	130 cm		0.1	130 cm		0.1	1 cm	
Hakea lissocarpha	3	210 cm		4	240 cm		5	250 cm	
Hardenbergia comptoniana	0.1	170 cm		0.1	170 cm		0.1	450 cm	
Hibbertia hypericoides subsp.	1	90 cm	ANK08-04	4	90 cm	ANK08-04=	7	60 cm	
Hovea pungens	0.1	70 cm		0.1	70 cm				
**Hypochaeris glabra*	0.1	5 cm					0.1	2 cm	
**Hypochaeris radicata*							0.1	1 cm	
**Hypochaeris* sp.				0.1	3 cm				
Isolepsis marginata							0.1	2 cm	
**Lactuca serriola* forma *serriola*				0.1	40 cm				
**Lagurus ovatus*	0.1	40 cm		0.1	40 cm				
Lepidosperma apricola	0.1	35 cm	ANK08-08a						
**Lolium rigidum*	0.1	40 cm							
Lomandra caespitosa							0.1	15 cm	
**Lysimachia arvensis*	0.1	15 cm		0.1	15 cm		0.1	5 cm	
Macrozamia riedlei	0.1	40 cm		0.1	65 cm		0.1	100 cm	
Mesomelaena pseudostygia	0.1	50 cm		0.1	45 cm		0.1	60 cm	
Microtis media subsp. *media*	0.1	25 cm							
**Pelargonium capitatum*	0.1	75 cm		0.1	65 cm		0.1	30 cm	
**Petrorhagia dubia*				0.1	15 cm				
**Romulea rosea* var. *australis*	0.1	20 cm		0.1	10 cm				
Scaevola canescens	0.1	15 cm	ANK06-15=	0.1	20 cm	ANK06-15=			
**Schinus terebinthifolia*	0.1	2 cm		0.1	120 cm				
**Sonchus asper*							0.1	20 cm	
**Sonchus oleraceus*	0.1	30 cm		0.1	20 cm		0.1	8 cm	
Sowerbaea laxiflora							0.1	45 cm	
Thysanotus manglesianus	0.1	75 cm							

Species	Phase 1			Phase 2			Phase 3		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
Thysanotus sp.	0.1	80 cm	ANK08-06						
**Trifolium arvense* var. *arvense*	0.1	20 cm							
**Trifolium campestre* var. *campestre*	0.1	15 cm					0.1	5 cm	
**Trifolium* sp.				0.1	15 cm				
**Urospermum picroides*	0.1	15 cm		0.1	20 cm		0.1	10 cm	
Xanthorrhoea brunonis subsp. *brunonis*	0.1	60 cm		0.5	60 cm		0.1	60 cm	
Xanthorrhoea preissii	0.1	210 cm		5	210 cm		6	210 cm	
**Zantedeschia aethiopica*	0.1	60 cm					0.1	50 cm	

ANK08	Phase 1	Phase 2	Phase 3
Understorey			
Overstorey			

Site ANK09

Ph 1: Described by	NPABS	Date	13/10/2020	Type	Quadrat	10 x 10 m		
Ph 2: Described by	SW	Date	23/11/2020	Type	Quadrat	10 x 10 m		
Ph 3: Described by	ABSTH	Date	12/09/2022	Type	Quadrat	10 x 10 m		
MGA Zone	50	386441	mE	6435798	mN	115.795055 E	-32.208671 S	

Habitat Slope 20-30% south aspect

Soil 10YR 3/6 dark yellowish brown. Sand

Rock Type Nil.

Vegetation Ph 1: *Eucalyptus decipiens* low closed forest over *Melaleuca lanceolata* low woodland over *Calothamnus rupestris* open shrubland over *Macrozamia riedlei* scattered cycads over **Ehrharta calycina*, **E. longiflora* open grassland over **Asparagus asparagoides*, **Fumaria capreolata*, **Oxalis pes-caprae*, **Lysimachia arvensis* open to very open herbland.

Ph 2: *Eucalyptus decipiens* low closed forest over *Melaleuca lanceolata* low woodland over Cal*othamnus rupestris*, *Acacia cyclops*, *A. pulchella* var. *pulchella* open shrubland over *Macrozamia riedlei* scattered cycads over **Ehrharta calycina*, **E. longiflora*, **Bromus diandrus*, **Avena barbata* grassland over **Asparagus asparagoides* (**Euphorbia peplus*) very open herbland.

Ph 3: *Eucalyptus decipiens* (*Melaleuca lanceolata*) low closed forest over *Calothamnus rupestris* tall open shrubland.

Veg Condition Ph 1: Degraded. Ph 2: Good to Degraded Ph 3: Good to Degraded

Fire Age No sign of recent fire.

Species	Phase 1			Phase 2			Phase 3		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
Acacia cyclops	0.5	100 cm	ANK09-04	0.5	150 cm	ANK09-04=	0.1	30 cm	
Acacia pulchella var. *pulchella*	0.5	100 cm	ANK09-03	0.5	100 cm	ANK09-03=			
**Asparagus asparagoides*	11	50 cm		5	50 cm		9	110 cm	
**Avena barbata*	0.1	60 cm		0.5	60 cm				
**Briza maxima*	0.1	20 cm		0.1	15 cm				
**Bromus diandrus*	0.1	30 cm		12	35 cm				
Calothamnus rupestris	7	120 cm	ANK09-02	7	120 cm	ANK09-02=	4	210 cm	
Cenchrus setaceus							0.1	40 cm	
Dianella revoluta var. *revoluta*	0.1	40 cm		0.1	45 cm		0.1	25 cm	
**Ehrharta calycina*	17	110 cm		17	110 cm		8	90 cm	
**Ehrharta longiflora*	2	60 cm		2	60 cm		11	25 cm	
Eucalyptus decipiens	71	800 cm	ANK09-01	71	980 cm		71	980 cm	
**Euphorbia peplus*	0.5	20 cm		0.5	15 cm		0.1	10 cm	
**Euphorbia terracina*	0.1	60 cm		0.1	60 cm		0.1	20 cm	
**Fumaria capreolata*	2	50 cm		0.1	50 cm		2	38 cm	
**Galium murale*	0.1	10 cm		0.1	10 cm				
Geranium molle							0.1	20 cm	
**Lysimachia arvensis*	1	20 cm		0.1	20 cm		0.1	15 cm	
Macrozamia riedlei	1	60 cm		1	75 cm				
Melaleuca lanceolata	15	400 cm		21	500 cm		21	500 cm	

Species	Phase 1			Phase 2			Phase 3		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
**Olea europaea* subsp. *europaea*	0.1	50 cm		0.1	50 cm		0.1	50 cm	
**Oxalis pes-caprae*	1.5	10 cm					1.5	30 cm	
Raphanus raphanistrum							0.1	30 cm	
**Romulea rosea* var. *australis*	0.1	20 cm		0.1	15 cm		0.1	25 cm	
**Sonchus oleraceus*	0.1	20 cm		0.1	15 cm		0.1	90 cm	
**Trifolium campestre* var. *campestre*	0.1	10 cm							
**Urospermum picroides*	0.1	30 cm		0.1	30 cm				
**Zantedeschia aethiopica*	0.5	50 cm		0.1	50 cm		0.1	45 cm	

ANK09	Phase 1	Phase 2	Phase 3
Understorey			
Overstorey			

Site ANK10

Ph 1: Described by	ALJT	Date	13/10/2020	Type	Quadrat	10 x 10 m		
Ph 2: Described by	ABS	Date	25/11/2020	Type	Quadrat	10 x 10 m		
Ph 3: Described by	JTRH	Date	14/09/2022	Type	Quadrat	10 x 10 m		
MGA Zone	50	386714	mE	6435658	mN	115.797930 E	-32.209961 S	

Habitat Gently undulating coastal dune.

Soil 5YR 3/4 dark reddish brown. Sand.

Rock Type Subsurface limestone.

Vegetation Ph 1: *Acacia rostellifera* shrubland over *Xanthorrhoea preissii* very open grass trees over *Hibbertia hypericoides* subsp. *hypericoides, Grevillea vestita* open shrubland over *Clematis linearifolia* climbing herbs.

Ph 2: *Acacia rostellifera* shrubland over *Xanthorrhoea preissii* very open grass trees over *Hibbertia hypericoides* subsp. *hypericoides, Grevillea vestita* open shrubland over *Clematis linearifolia* climbing herbs over **Ehrharta calycina* open grassland over **Carpobrotus edulis* very open succulent herbland.

Ph 3: *Xanthorrhoea preissii* tall open shrubland over *Acacia rostellifera* (*Clematis linearifolia, Hibbertia hypericoides subsp. Hypericoides*) shrubland over *Grevillea vestita subsp. vestita* low open shrubland.

Veg Condition Ph 1: Very Good. Ph 2: Very Good to Good. Ph 3: Very Good to Good.

Fire Age No sign of recent fire.

Notes General vegetation more like an open heathland rather than shrubland however shrubs 1-2 m don't exceed 30% inside quadrat.

Species	Phase 1			Phase 2			Phase 3		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
Acacia cochlearis	0.1	195 cm		0.1	195 cm				
Acacia rostellifera	13	140 cm		15	150 cm	ANK10R-01	16	160 cm	
**Asparagus asparagoides*	0.1	30 cm		0.1	30 cm		0.1	140 cm	
**Avena barbata*	0.1	80 cm		0.1	80 cm				
**Briza maxima*	0.1	35 cm		0.1	35 cm		0.1	15 cm	
**Bromus diandrus*	0.1	60 cm		0.1	60 cm		0.1	60 cm	
Burchardia congesta				0.1	35 cm		0.1	60 cm	
**Carpobrotus edulis*	0.1	15 cm		5	15 cm		5	20 cm	
***Cerastium glomeratum*	0.1	10 cm	ANK10-03	0.1	10 cm	ANK10-03=	0.1	4 cm	
Clematis linearifolia	3	150 cm		3	150 cm		7	140 cm	
Conostylis candicans subsp. *candicans*	0.1	25 cm	ANK10-06	0.1	25 cm	ANK10-06=	0.1	25 cm	
Crassula colorata var. colorata							0.1	2 cm	
**Crassula glomerata*	0.1	4 cm		0.1	4 cm		0.1	2 cm	
Dianella revoluta var. *revoluta*	0.1	60 cm		0.1	60 cm		0.1	45 cm	
**Ehrharta calycina*	0.1	100 cm		23	100 cm		26	80 cm	
**Ehrharta longiflora*	0.1	80 cm	ANK10-01				0.1	70 cm	
**Euphorbia peplus*	0.1	20 cm		0.1	20 cm		0.1	10 cm	
**Euphorbia terracina*	0.1	60 cm		0.1	60 cm		0.1	20 cm	
**Galium murale*	0.1	10 cm	ANK10-02	0.1	10 cm	ANK10-02=	0.1	2 cm	
**Gladiolus caryophyllaceus*	0.1	140 cm		0.1	140 cm		0.1	80 cm	

Species	Phase 1			Phase 2			Phase 3		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
Grevillea vestita subsp. *vestita*	4	110 cm	ANK10-07	4	110 cm	ANK10-07=	5	50 cm	
Haemodorum discolor	0.1	80 cm	ANK10-12	0.1	80 cm	ANK10-12=			
Haemodorum paniculatum				0.1	100 cm	ANK10R-03	0.1	100 cm	
Hardenbergia comptoniana	0.1	100 cm		0.1	100 cm		0.1	110 cm	
Hibbertia hypericoides subsp.	5	110 cm	ANK11-11=	5	110 cm	ANK11-11=	5	105 cm	
**Hypochaeris glabra*	0.1	5 cm		0.1	5 cm		0.1	3 cm	
**Hypochaeris radicata*							0.1	2 cm	
Isolepis marginata	0.1	4 cm	ANK10-05	0.1	4 cm	ANK10-05=	0.1	2 cm	
**Lolium rigidum*	0.1	30 cm							
**Lysimachia arvensis*	0.1	15 cm		0.1	15 cm		0.1	3 cm	
**Oxalis corniculata*	0.1	15 cm		0.1	15 cm		0.1	4 cm	
**Petrorhagia dubia*	0.1	25 cm		0.1	25 cm		0.1	8 cm	
**Polycarpon tetraphyllum*				0.1	3 cm	ANK10R-02	0.1	1 cm	
**Sagina apetala*				0.1	5 cm	ANK94R-02=	0.1	2 cm	ANK10-01
**Sonchus asper*							0.1	20 cm	
**Sonchus oleraceus*	0.1	65 cm	ANK10-04	0.1	35 cm		0.1	5 cm	
**Trifolium campestre* var. *campestre*	0.1	15 cm					0.1	2 cm	
Xanthorrhoea preissii	3	200 cm		3	200 cm		4	350 cm	

ANK10	Phase 1	Phase 2	Phase 3
Understorey			
Overstorey			

Site ANK11

Ph 1: Described by	ALJT	Date	13/10/2020	Type	Quadrat	10 x 10 m		
Ph 2: Described by	ABS	Date	25/11/2020	Type	Quadrat	10 x 10 m		
Ph 3: Described by	ALPLdK	Date	14/09/2022	Type	Quadrat	10 x 10 m		
MGA Zone	50	386717	mE	6435808	mN	115.797976 E	-32.208603 S	

Habitat Gently sloping south facing aeolian sand dune.

Soil 5YR; 90% 3/4 dark reddish brown, 10% 3/3 dark reddish brown. Sand.

Rock Type Subsurface limestone.

Vegetation Ph 1: *Acacia rostellifera* tall open scrub over *Xanthorrhoea preissii* very open grass trees over *Hibbertia hypericoides* subsp. *hypericoides* low open shrubland over **Ehrharta calycina* open grassland over **Oxalis corniculata* scattered herbs.

Ph 2: *Acacia rostellifera* tall open scrub over *Xanthorrhoea preissii* very open grass trees over *Hibbertia hypericoides* subsp. *hypericoides* open shrubland over **Ehrharta calycina* open grassland over **Carpobrotus edulis, *Oxalis corniculata* scattered herbs.

Ph 3: *Acacia rostellifera* (*Xanthorrhoea preissii*) tall open scrub over *Acacia pulchella var. glaberrima*, *Macrozamia riedlei* scattered shrubs over *Hibbertia hibbertioides var. hibbertioides* low open shrubland.

Veg Condition Ph 1: Good. Ph 2: Very Good. Ph 3: Very Poor.

Fire Age No sign of recent fire.

Notes Open woodland of *E. gomphocephala*. No individuals in quadrat but several >15 m tall in parcel.

Species	Phase 1			Phase 2			Phase 3		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
Acacia pulchella var. *glaberrima*	0.1	80 cm		0.1	80 cm		1	160 cm	
Acacia rostellifera	31	220 cm	ANK11-01	31	220 cm	ANK11-01=	35	240 cm	
**Asparagus asparagoides*	0.1	60 cm		0.1	60 cm		0.1	80 cm	
**Avena barbata*	0.1	35 cm		0.1	35 cm				
Banksia dallanneyi subsp. *dallanneyi*	0.1	25 cm	ANK11-07	0.1	25 cm	ANK11-07=			
**Bromus diandrus*	0.1	60 cm		0.1	60 cm		0.1	25 cm	
**Carpobrotus edulis*	0.1	15 cm		0.5	40 cm				
Casuarina humilis							0.1	140 cm	
Crassula colorata var. *acuminata*	0.1	5 cm	ANK11-10	0.1	5 cm	ANK11-10=	0.1	8 cm	
**Crassula glomerata*	0.1	5 cm		0.1	5 cm		0.1	5 cm	
**Cynodon dactylon*	0.1	15 cm	ANK21-06=	0.1	15 cm	ANK21-06=			
**Ehrharta calycina*	12	110 cm		12	110 cm		15	140 cm	
Fumaria capreolata subsp. *capreolata*							0.1	40 cm	
**Euphorbia peplus*	0.1	15 cm		0.1	15 cm		0.1	25 cm	
**Euphorbia terracina*	0.1	20 cm		0.1	20 cm				
**Galium murale*	0.1	5 cm	ANK11-04						
Hardenbergia comptoniana	0.1	150 cm		0.1	150 cm		0.1	190 cm	
Hibbertia hypericoides subsp.	3	70 cm	ANK11-11	3	70 cm	ANK11-11=	3	80 cm	
**Hypochaeris glabra*	0.1	5 cm		0.1	5 cm		0.1	10 cm	

Species	Phase 1			Phase 2			Phase 3		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
Isolepsis marginata							0.1	5 cm	
**Lactuca serriola* forma *serriola*	0.1	5 cm		0.1	5 cm		0.1	25 cm	
**Lysimachia arvensis*	0.1	20 cm		0.1	20 cm		0.1	10 cm	
Macrozamia riedlei	0.1	180 cm		0.1	180 cm		1	180 cm	
**Oxalis corniculata*	0.5	15 cm		0.5	15 cm		1	15 cm	
**Oxalis pes-caprae*							0.1	25 cm	
Phyllopodium cordatum							0.1	8 cm	ANK11-01
**Polycarpon tetraphyllum*	0.1	4 cm	ANK11-05	0.1	4 cm	ANK11-05=	0.1	10 cm	
**Sagina apetala*	0.1	4 cm	ANK11-03	0.1	4 cm	ANK11-03=	0.1	10 cm	
Sonchus oleraceus							0.1	30 cm	
Urospermum picroides							0.1	30 cm	
**Vulpia bromoides*	0.1	5 cm	ANK11-02	0.1	5 cm	ANK11-02=	1	30 cm	
**Wahlenbergia capensis*	0.1	7 cm	ANK11-06	0.1	7 cm	ANK11-06=	0.1	10 cm	
Xanthorrhoea preissii	8	250 cm		8	250 cm		8	320 cm	
**Zantedeschia aethiopica*	0.1	50 cm		0.1	50 cm		1.5	50 cm	

ANK11	Phase 1	Phase 2	Phase 3
Understorey			
Overstorey			

Site ANK12

Ph 1: Described by	ALJT	Date	13/10/2020	Type	Quadrat	10 x 10 m		
Ph 2: Described by	ABS	Date	25/11/2020	Type	Quadrat	10 x 10 m		
Ph 3: Described by	JTRH	Date	14/09/2022	Type	Quadrat	10 x 10 m		
MGA Zone	50	386873	mE	6435630	mN	115.799614 E	-32.210228 S	

Habitat Gently sloping north facing coastal dune.

Soil 2.5YR; 90% 2.5/3 dark reddish brown, 10% 2.5/2 very dusky red. Sand.

Rock Type Subsurface limestone.

Vegetation Ph 1: *Eucalyptus gomphocephala* open forest over *Xanthorrhoea preissii* scattered grass trees over **Ehrharta calycina* (**Bromus diandrus*) closed grassland over **Asparagus asparagoides, *Euphorbia peplus* scattered herbs.

Ph 2: *Eucalyptus gomphocephala* open forest over *Xanthorrhoea preissii* scattered grass trees over **Ehrharta calycina* closed grassland.

Ph 3: *Eucalyptus gomphocephala* open forest over *Xanthorrhoea preissii*, *Clematis linearifolia* scattered shrubs over *Hibbertia hypericoides subsp*. hypericoides scattered low shrubs.

Veg Condition Ph 1: Very Good. Ph 2: Good. Ph 3: Good.

Fire Age Very long unburnt.

Species	Phase 1			Phase 2			Phase 3		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
**Asparagus asparagoides*	0.5	170 cm		0.5	170 cm		9	150 cm	
**Avena barbata*	0.1	50 cm		0.1	50 cm				
**Briza maxima*	0.1	30 cm		0.1	30 cm		2	30 cm	
**Bromus diandrus*	0.5	60 cm		0.5	60 cm		0.5	40 cm	
**Carpobrotus edulis*	0.1	15 cm		0.5	15 cm		0.5	15 cm	
**Cerastium glomeratum*	0.1	15 cm	ANK10-03=	0.1	15 cm	ANK10-03=	0.1	5 cm	
Clematis linearifolia				0.5	160 cm		0.5	160 cm	
Dianella revoluta var. *revoluta*	0.1	20 cm		0.25	30 cm		0.1	4 cm	
**Ehrharta calycina*	75	120 cm		75	120 cm		77	90 cm	
**Ehrharta longiflora*	0.1	20 cm	ANK10-01=				0.1	45 cm	
Eucalyptus gomphocephala	67	30 cm		67	1700 cm	ANK12R-01	68	1800 cm	
**Euphorbia peplus*	0.5	20 cm		0.5	20 cm		1	10 cm	
**Euphorbia terracina*	0.1	20 cm		0.1	20 cm				
**Galium murale*	0.1	7 cm	ANK10-02=	0.1	7 cm	ANK10-02=	0.1	5 cm	
**Gladiolus caryophyllaceus*	0.1	120 cm		0.1	120 cm		0.1	50 cm	
Hardenbergia comptoniana	0.1	100 cm		0.1	100 cm		0.1	150 cm	
Hibbertia hypericoides subsp.	0.1	70 cm	ANK12-01	0.1	70 cm	ANK12-01=	1	75 cm	
**Lysimachia arvensis*	0.1	15 cm		0.1	15 cm		0.1	5 cm	
Olea europaea subsp. *europaea*							0.1	40 cm	
**Oxalis corniculata*	0.1	15 cm		0.1	15 cm		0.1	5 cm	
**Petrorhagia dubia*	0.1	15 cm		0.1	15 cm		0.1	10 cm	

Species	Phase 1			Phase 2			Phase 3		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
**Sonchus oleraceus*				0.1	25 cm		0.1	25 cm	
**Trifolium campestre* var. *campestre*	0.1	15 cm	ANK12-02	0.1	15 cm	ANK12-02=	0.1	3 cm	
Xanthorrhoea preissii	1	150 cm		1	150 cm		1.5	170 cm	
**Zantedeschia aethiopica*	0.1	60 cm		0.1	60 cm		0.25	55 cm	

ANK12	Phase 1	Phase 2	Phase 3
Understorey			

ANK12	Phase 1	Phase 2	Phase 3
Overstorey			

Site ANK14

Ph 1: Described by	NPABS	Date	13/10/2020	Type	Quadrat	10 x 10 m		
Ph 2: Described by	SW	Date	23/11/2020	Type	Quadrat	10 x 10 m		
Ph 3: Described by	JTRH	Date	14/09/2022	Type	Quadrat	10 x 10 m		
MGA Zone	50	387522	mE	6435455	mN	115.806475 E	-32.211870 S	

Habitat Slope 0-3% north aspect.

Soil 5YR 3/4 dark reddish brown. Loamy sand.

Rock Type Nil.

Vegetation Ph 1: *Eucalyptus gomphocephala* open woodland over *Xanthorrhoea preissii* very open grass trees over *Macrozamia riedlei* scattered cycads over *Hardenbergia comptoniana* scattered twining shrub over **Bromus diandrus, *Ehrharta longiflora, *E. calycina, *Cenchrus setaceus, *Lolium rigidum, *Avena barbata* grasslands over **Fumaria capreolata, *Euphorbia terracina* scattered herbs.

Ph 2: *Eucalyptus gomphocephala* open forest over *Xanthorrhoea preissii* very open grass trees over *Macrozamia riedlei* scattered cycads over *Hardenbergia comptoniana* scattered twining shrub over **Bromus diandrus, *Ehrharta calycina. *E. longiflora, *Cenchrus setaceus, *Avena barbata* grassland over **Euphorbia terracina* scattered herbs.

Ph 3: *Eucalyptus gomphocephala* open forest over *Xanthorrhoea preissii* tall open shrubland over *Macrozamia riedlei* scattered shrubs over *Hardenbergia comptoniana* scattered low shrubs.

Veg Condition Ph 1: Degraded. Ph 2: Good. Ph 3: Good.

Fire Age No sign of recent fire.

Species	Phase 1			Phase 2			Phase 3		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
**Asparagus asparagoides*				0.1	15 cm		0.1	20 cm	
**Avena barbata*	2	120 cm		3	120 cm		1	55 cm	
**Briza maxima*	1	25 cm		0.5	25 cm		0.1	10 cm	
**Bromus diandrus*	35	50 cm		35	40 cm		31	60 cm	
**Cenchrus setaceus*	13	80 cm		8	65 cm		8	110 cm	
**Ehrharta calycina*	9	110 cm		9	110 cm		20	75 cm	
**Ehrharta longiflora*	15	80 cm		8	50 cm		20	65 cm	
Erigeron sumatrensis	0.1	50 cm	ANK14-01	0.1	45 cm	ANK14-01=			
Eucalyptus gomphocephala	7	25 cm		40	1300 cm		42	1350 cm	
**Euphorbia peplus*	0.1	20 cm		0.1	20 cm		0.1	10 cm	
**Euphorbia terracina*	1	90 cm		1	50 cm		1.5	85 cm	
Freesia alba x leichtlinii							0.1	10 cm	
**Fumaria capreolata*	1	60 cm		0.1	15 cm		25	55 cm	
Hardenbergia comptoniana	1	80 cm		1	65 cm		1	75 cm	
**Lactuca serriola* forma *serriola*	0.1	40 cm		0.1	65 cm		0.1	30 cm	
**Lagurus ovatus*				0.1	25 cm				
**Lolium rigidum*	5	40 cm		0.5	40 cm				
**Lysimachia arvensis*	0.1	15 cm		0.1	20 cm		0.1	15 cm	
Macrozamia riedlei	2	50 cm		2	50 cm		2	130 cm	

Species	Phase 1			Phase 2			Phase 3		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
Microtis media subsp. *media*	0.1	50 cm							
**Olea europaea* subsp. *europaea*	0.25	120 cm		0.25	120 cm		0.25	135 cm	
**Oxalis corniculata*	0.1	10 cm					0.1	5 cm	
Romulea rosea var. australis							0.1	20 cm	
**Solanum nigrum*	0.1	40 cm		0.1	40 cm				
**Sonchus oleraceus*	0.5	25 cm		0.1	25 cm		0.1	25 cm	
**Trifolium campestre* var. *campestre*	0.5	20 cm		0.1	25 cm		0.1	5 cm	
**Urospermum picroides*	0.1	30 cm		0.1	35 cm				
Xanthorrhoea preissii	4.5	180 cm		4.5	180 cm		4.5	250 cm	

ANK14	Phase 1	Phase 2	Phase 3
Understorey			
Overstorey			

Site ANK15

Ph 1: Described by	NPABS	Date	13/10/2020	Type	Quadrat	10 x 10 m		
Ph 2: Described by	MKJT	Date	25/11/2020	Type	Quadrat	10 x 10 m		
Ph 3: Described by	ABSTH	Date	14/09/2022	Type	Quadrat	10 x 10 m		
MGA Zone	50	387745	mE	6435458	mN	115.808842 E	-32.211870 S	

Habitat Slope 0-3% west aspect.

Soil 5YR 3/4 dark reddish brown. Loamy sand.

Rock Type Subsurface limestone.

Vegetation Ph 1: *Melaleuca huegelii* subsp. *huegelii* (*Banksia sessilis*) low woodland over A*cacia rostellifera* (*Grevillea vestita* subsp. *vestita, Hibbertia hypericoides* subsp. *hypericoides*) open heath over **Gomphocarpus fruticosus* scattered shrubs over *Clematis linearifolia, *Fumaria capreolata, Hardenbergia comptoniana* scattered climbing herbs/shrubs over **Bromus diandrus, *Ehrharta longiflora, *E. calycina, *Lagurus ovatus, *Lolium rigidum* grassland over **Euphorbia terracina, *Galium murale, *Zantedeschia aethiopica* very open herbland.
Ph 2: *Melaleuca huegelii* subsp. *huegelii* (*Banksia sessilis*) low open woodland over *Acacia rostellifera* (*Grevillea vestita* subsp. *vestita, Hibbertia hypericoides* subsp. *hypericoides*) open heath over **Gomphocarpus fruticosus* scattered shrubs over *Clematis linearifolia, *Fumaria capreolata, Hardenbergia comptoniana* scattered climbing herbs/shrubs over **Bromus diandrus, *Ehrharta calycina, *Lagurus ovatus, *Avena barbata* open grassland over **Euphorbia terracina, *Hypochaeris glabra* very open herbland.
Ph 3: *Banksia sessilis*, *Melaleuca huegelii subsp. huegelii* low woodland over *Acacia rostellifera* tall shrubland over *Hibbertia h*ypericoides *subsp. hypericoides*, *Clematis linearifolia*, *Grevillea vestita subsp. vestita* open shrubland.

Veg Condition Ph 1: Degraded. Ph 2: Degraded Ph 3: Good to Poor.

Fire Age Very long unburnt.

Notes Rabbit warrens present

Species	Phase 1			Phase 2			Phase 3		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
Acacia rostellifera	27	180 cm	ANK15-01	27	180 cm	ANK15-01=	27	250 cm	ANK15-03
**Arctotheca calendula*	0.1	20 cm							
**Asparagus asparagoides*	0.1	100 cm		0.1	100 cm		1	100 cm	
Asteraceae sp.				0.1	3 cm	ANK15R-1			
**Avena barbata*	1	80 cm		1	80 cm				
Banksia sessilis	7	150 cm		7	150 cm		7	360 cm	ANK15-01
**Brassica tournefortii*	0.1	60 cm	ANK15-04				0.1	5 cm	
**Bromus diandrus*	12	50 cm		12	50 cm		0.1	100 cm	
Cenchrus setaceus							0.1	80 cm	
**Cerastium glomeratum*	0.1	20 cm	ANK15-07	0.1	20 cm	ANK15-07=	0.1	10 cm	
Clematis linearifolia	9	120 cm	ANK17-03=	9	120 cm	ANK17-03=	3	150 cm	ANK15-04
**Crassula glomerata*	0.1	15 cm	ANK17-07=				0.1	3 cm	
Dianella revoluta var. *revoluta*	0.1	50 cm		0.1	50 cm		0.1	70 cm	ANK15-08
**Ehrharta calycina*	10	110 cm		10	110 cm				
**Ehrharta longiflora*	11	60 cm		0.1	60 cm		28	120 cm	
**Euphorbia peplus*	0.1	20 cm		0.1	20 cm		24	30 cm	

Species	Phase 1			Phase 2			Phase 3		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
**Euphorbia terracina*	7	80 cm		7	80 cm		0.1	5 cm	
**Fumaria capreolata*	4	100 cm		4	100 cm		0.5	20 cm	
**Galium murale*	2	15 cm		0.1	15 cm		4	30 cm	
Geranium molle							0.1	15 cm	
**Gomphocarpus fruticosus*	1.5	220 cm		1.5	220 cm		0.1	200 cm	
Grevillea vestita subsp. *vestita*	5	75 cm	ANK15-02	5	75 cm	ANK15-02=	3	120 cm	ANK15-07
Hardenbergia comptoniana	1	50 cm		1	50 cm		0.1	60 cm	ANK15-06
Hibbertia hypericoides subsp.	4	60 cm		4	60 cm		4	120 cm	ANK15-05
**Hypochaeris glabra*	1	30 cm		1	30 cm		0.1	2 cm	
**Lagurus ovatus*	8	25 cm		8	25 cm				
Lepidosperma calcicola	0.1	60 cm	ANK15-03	0.1	60 cm	ANK15R-2	0.1	50 cm	
**Lolium rigidum*	5	30 cm		0.1	30 cm		1	50 cm	
**Lysimachia arvensis*	0.5	20 cm		0.1	20 cm		0.1	10 cm	
Melaleuca huegelii subsp. *huegelii*	4	550 cm	ANK15-06	4	550 cm	ANK15-06=	4	550 cm	ANK15-02
**Orobanche minor*				0.1	30 cm				
**Oxalis corniculata*							0.1	5 cm	
**Oxalis pes-caprae*	0.1	10 cm		0.1	10 cm				
**Petrorhagia dubia*	0.5	70 cm		0.1	70 cm				
**Sagina apetala*	0.1	5 cm	ANK15-05						
**Sonchus oleraceus*	0.1	25 cm		0.1	25 cm		0.1	15 cm	
Thysanotus manglesianus	0.1	50 cm		0.1	50 cm		0.1	80 cm	ANK15-10
**Trifolium campestre* var. *campestre*	0.1	10 cm	ANK17-08a=						
**Urospermum picroides*	0.1	30 cm		0.1	30 cm		0.1	5 cm	
**Zantedeschia aethiopica*	1	60 cm		0.1	60 cm		0.1	50 cm	

ANK15	Phase 1	Phase 2	Phase 3
Understorey			
Overstorey			

Site ANK16

Ph 1: Described by	RMABS	Date	12/10/2020	Type	Quadrat	10 x 10 m		
Ph 2: Described by	MKJT	Date	25/11/2020	Type	Quadrat	10 x 10 m		
Ph 3: Described by	ABSTH	Date	14/09/2022	Type	Quadrat	10 x 10 m		
MGA Zone	50	387935	mE	6435456	mN	115.810856 E	-32.211900 S	

Habitat Crest of slope.

Soil 7.5YR 5/3 brown. Sandy loam.

Rock Type Nil.

Vegetation Ph 1: *Banksia sessilis, Eucalyptus gomphocephala* low open forest over **Leptospermum laevigatum* (*Hibbertia hypericoides* subsp. *hypericoides*) open shrubland over *Xanthorrhoea preissii* scattered grass trees over **Ehrharta longiflora, *E. calycina, *Bromus diandrus, *Avena barbata* grassland over **Trifolium campestre* var. *campestre, *Euphorbia terracina, *E. peplus, *Sonchus oleraceus* open herbland.

Ph 2: Banksia *sessilis, Eucalyptus gomphocephala* low open forest over *Hibbertia hypericoides* subsp. *hypericoides* open shrubland over *Xanthorrhoea preissii* scattered grass trees over **Ehrharta calycina, *Avena barbata* open grassland over **Trifolium campestre* var. *campestre, *Euphorbia terracina, *E. peplus* very open herbland.

Ph 3: *Banksia sessilis* low open forest over *Xanthorrhoea preissii* open shrubland over *Hibbertia hypericoides subsp. hypericoides* scattered low shrubs.

Veg Condition Ph 1: Good to Degraded. Ph 2: Degraded Ph 3: Good to Poor.

Fire Age No sign of recent fire/Very long unburnt.

Species	Phase 1			Phase 2			Phase 3		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
**Avena barbata*	3	80 cm		3	80 cm				
Banksia sessilis	61	400 cm	ANK16-01	61	400 cm	ANK16-01=	61	420 cm	
**Bromus diandrus*	6	40 cm		0.1	40 cm		1	80 cm	
Caladenia latifolia							0.1	30 cm	
Clematis linearifolia							0.1	120 cm	
**Conyza* sp.	0.1	5 cm		0.1	5 cm				
Dianella revoluta var. *revoluta*				0.1	25 cm				
**Ehrharta calycina*	28	100 cm		28	160 cm		60	100 cm	
**Ehrharta longiflora*	31	80 cm		0.5	80 cm		8	60 cm	
Eucalyptus gomphocephala	6	900 cm		6	900 cm		0.1	900 cm	
**Euphorbia peplus*	2	15 cm		2	15 cm		0.1	10 cm	
**Euphorbia terracina*	2.5	80 cm		2.5	80 cm		0.1	80 cm	
**Galium murale*	0.1	5 cm	ANK17-05=	0.1	4 cm	ANK17-05=	0.1	3 cm	
Hibbertia hypericoides subsp.	1.5	90 cm		2	100 cm		1.5	100 cm	
**Hypochaeris glabra*				0.1	4 cm		0.1	3 cm	
**Lagurus ovatus*	0.1	30 cm	ANK16-03	0.1	30 cm	ANK16-03=			
**Leptospermum laevigatum*	2	120 cm	ANK16-02	0.5	120 cm	ANK16-02=	1	200 cm	
**Lolium perenne x rigidum*	0.1	20 cm	ANK17-08b=	0.1	25 cm	ANK16R-1			
**Lysimachia arvensis*	0.1	20 cm		0.1	20 cm		0.1	10 cm	
Microtis media subsp. *media*	0.1	30 cm		0.1	35 cm	ANK16R-2			

Species	Phase 1			Phase 2			Phase 3		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
**Petrorhagia dubia*	0.1	20 cm					0.1	5 cm	
**Solanum nigrum*	0.1	20 cm		0.1	20 cm				
**Sonchus oleraceus*	1	155 cm		0.1	155 cm		0.1	20 cm	
**Trifolium campestre* var. *campestre*	7	20 cm	ANK17-08a=	7	20 cm	ANK17-08a=	0.1	3 cm	
**Urospermum picroides*	0.1	15 cm	ANK25-5=	0.1	20 cm	ANK25-5=	0.1	3 cm	
Xanthorrhoea preissii	1	180 cm		1	180 cm		2.5	180 cm	

ANK16	Phase 1	Phase 2	Phase 3
Understorey			
Overstorey			

Site ANK17

Ph 1: Described by	RMABS	Date	12/10/2020	Type	Quadrat	10 x 10 m		
Ph 2: Described by	MKJT	Date	25/11/2020	Type	Quadrat	10 x 10 m		
Ph 3: Described by	ABSTH	Date	14/09/2022	Type	Quadrat	10 x 10 m		
MGA Zone	50	388176 mE		6435464 mN		115.813419 E	-32.211853	S

Habitat Plain.

Soil 10YR 4/6 dark yellowish brown. Sandy loam.

Rock Type Nil.

Vegetation Ph 1: *Eucalyptus gomphocephala* woodland over *Kunzea glabrescens, Acacia rostellifera, Spyridium globulosum* tall shrubland over *Xanthorrhoea preissii* open grass trees over *Hardenbergia comptoniana* scattered climbing shrubs over **Ehrharta calycina, *Avena barbata* very open grassland over **Euphorbia terracina, Tricoryne elatior, *Lysimachia arvensis* scattered herbs

Ph 2: *Eucalyptus gomphocephala* woodland over *Kunzea glabrescens, Acacia rostellifera, Spyridium globulosum* tall shrubland over *Xanthorrhoea preissii* open grass trees over *Macrozamia riedlei* scattered cycads over *Hardenbergia comptoniana* scattered climbing shrubs over **Ehrharta calycina* open grassland over *Tricoryne elatior* scattered herbs

Ph 3: *Eucalyptus gomphocephala* woodland over *Kunzea glabrescens*, *Xanthorrhoea preissii* (*Acacia rostellifera*) tall shrubland over *Hardenbergia comptoniana*, *Spyridium globulosum* scattered shrubs over *Hybanthus calycinus* scattered herbs.

Veg Condition Ph 1: Good to Degraded. Ph 2: Good to Degraded. Ph 3: Good.

Fire Age No sign of recent fire.

Notes Old revegetation site (potential soil alteration associated with revegetation).

Species	Phase 1			Phase 2			Phase 3		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
Acacia rostellifera	4	200 cm	ANK17-01	4	200 cm	ANK17-01=	5	420 cm	
**Arctotheca calendula*	0.1	20 cm		0.1	20 cm		0.1	2 cm	
**Asparagus asparagoides*				0.1	50 cm		0.1	30 cm	
**Avena barbata*	6	120 cm		0.1	120 cm				
**Briza maxima*	0.25	30 cm		0.1	60 cm		0.25	60 cm	
**Briza minor*	0.1	20 cm		0.1	20 cm		0.1	20 cm	
**Bromus diandrus*	0.1	25 cm		0.1	25 cm		0.1	30 cm	
Caladenia latifolia							0.1	15 cm	
Calandrinia corrigioloides	0.1	10 cm	ANK17-06				0.1	5 cm	
Centrolepsis drummondiana							0.1	5 cm	
Clematis linearifolia	0.1	150 cm	ANK17-03	0.1	150 cm	ANK17-03=	0.1	170 cm	ANK17-02
**Conyza bonariensis*				0.1	15 cm	ANK15=			
**Crassula glomerata*	0.1	10 cm	ANK17-07	0.1	5 cm	ANK75bR-2=	0.1	5 cm	
Dianella revoluta var. *revoluta*	0.1	50 cm		0.1	50 cm		0.1	20 cm	
**Ehrharta calycina*	11	110 cm		11	110 cm		12	120 cm	
**Ehrharta longiflora*	0.1	50 cm		0.1	50 cm		4	60 cm	
Eucalyptus gomphocephala	17	1800 cm		17	1800 cm		26	1800 cm	

Species	Phase 1			Phase 2			Phase 3		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
**Euphorbia peplus*	0.1	20 cm		0.1	20 cm		0.1	10 cm	
**Euphorbia terracina*	1.5	80 cm		0.1	80 cm		0.1	15 cm	
**Fumaria capreolata*	0.1	70 cm					0.1	40 cm	
**Galium murale*	0.1	15 cm	ANK17-05				0.1	5 cm	
**Gladiolus caryophyllaceus*	0.1	80 cm		0.1	80 cm				
Hardenbergia comptoniana	1	100 cm		1	100 cm		1	170 cm	
Hybanthus calycinus							0.5	25 cm	
**Hypochaeris glabra*				0.1	8 cm		0.1	3 cm	
Kunzea glabrescens	12	400 cm		12	400 cm		12	450 cm	
**Lactuca serriola* forma *serriola*				0.1	8 cm	ANK17R-1			
**Lolium perenne x rigidum*	0.1	20 cm	ANK17-08b	0.1	20 cm	ANK17-08b=			
**Lysimachia arvensis*	1	15 cm		0.1	15 cm		0.1	10 cm	
Macrozamia riedlei	0.5	60 cm		0.5	60 cm		0.1	20 cm	
Microtis media subsp. *media*	0.1	30 cm	ANK25-01=	0.1	30 cm	ANK25-01=			
**Petrorhagia dubia*	0.1	20 cm		0.1	20 cm		0.1	5 cm	
Ptilotus polystachyus	0.1	25 cm	ANK17-04						
**Romulea rosea* var. *australis*				0.1	15 cm				
**Solanum nigrum*				0.1	4 cm				
**Sonchus oleraceus*	0.1	20 cm		0.1	20 cm		0.1	10 cm	
Spyridium globulosum	1	110 cm		1	110 cm		1	110 cm	
Thysanotus sp.	0.1	5 cm		0.1	5 cm				
Tricoryne elatior	1	40 cm		1	40 cm				
**Trifolium campestre* var. *campestre*	0.1	10 cm	ANK17-08a						
Triglochin isingiana							0.1	5 cm	ANK17-01
**Urospermum picroides*	0.1	45 cm		0.1	65 cm		0.1	10 cm	
Xanthorrhoea preissii	11	400 cm		16	500 cm		11	400 cm	

ANK17	Phase 1	Phase 2	Phase 3
Understorey			
Overstorey			

Site ANK18

Ph 1: Described by	ALJT	Date	12/10/2020	Type	Quadrat	10 x 10 m		
Ph 2: Described by	ABS	Date	25/11/2020	Type	Quadrat	10 x 10 m		
Ph 3: Described by	ALRH	Date	09/09/2022	Type	Quadrat	10 x 10 m		
MGA Zone	50	388477	mE	6435472	mN	115.816609 E	-32.211813 S	

Habitat South facing, gentle slope from road embankment.

Soil 7.5YR; 90% 2.5/1 black, 10% 2.5/2 very dark brown. Sand.

Rock Type Subsurface limestone.

Vegetation Ph 1: *Eucalyptus gomphocephala, E. marginata, Banksia grandis* closed forest over *Xanthorrhoea preissii* very open grass trees over *Macrozamia riedlei* scattered cycads over **Ehrharta longiflora, *Bromus diandrus* open grasslands over **Fumaria capreolata* herbland.

Ph 2: *Eucalyptus gomphocephala, E. marginata, Banksia grandis* closed forest over *Xanthorrhoea preissii* very open grass trees over *Macrozamia riedlei* scattered cycads over *Clematis pubescens* scattered climbing herbs over **Ehrharta calycina, *Bromus diandrus* very open grassland over **Fumaria capreolata* herbland.

Ph 3: *Eucalyptus gomphocephala* (*Banksia grandis, Eucalyptus marginata subsp. marginata*) closed forest over *Xanthorrhoea preissii* tall open shrubland over *Macrozamia riedlei* (*Clematis pubescens*) open shrubland.

Veg Condition Ph 1: Very Good. Ph 2: Very Good. Ph 3: Very Good.

Fire Age No sign of recent fire.

Notes Some rubbish around site. Total Tree cover higher than 70% so would consider a forest rather than an open forest.

Species	Phase 1			Phase 2			Phase 3		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
**Asparagus asparagoides*	0.1	20 cm		0.1	20 cm		0.1	15 cm	
Banksia grandis	15	1300 cm		15	1300 cm		17	1400 cm	
**Briza maxima*	0.1	40 cm		0.1	40 cm				
**Bromus diandrus*	5	75 cm		5	75 cm				
Clematis pubescens	0.1	170 cm		0.5	170 cm	ANK18R-01	0.5	150 cm	
**Ehrharta calycina*	0.1	70 cm		2	100 cm		2	70 cm	
**Ehrharta longiflora*	10	70 cm	ANK19-04=				25	95 cm	
Eucalyptus gomphocephala	50	2500 cm		50	2500 cm		50	2500 cm	
Eucalyptus marginata subsp.	10	1500 cm		10	1500 cm		10	1500 cm	
**Euphorbia peplus*				0.1	15 cm		0.1	15 cm	
**Euphorbia terracina*	0.1	35 cm		0.1	35 cm		0.1	25 cm	
**Fumaria capreolata*	65	170 cm		65	170 cm		55	110 cm	
Hardenbergia comptoniana	0.1	100 cm		0.1	100 cm		0.1	60 cm	
**Ixia* sp.	0.1	30 cm	ANK18-02	0.1	30 cm	ANK18-02=			
Macrozamia riedlei	3	150 cm		3	150 cm		3	150 cm	
Ornithogalum arabicum							0.1	35 cm	ANK18-01
Ornithogalum arabicum							0.1	50 cm	ANK18-02
**Oxalis corniculata*	0.1	20 cm	ANK18-01	0.1	20 cm	ANK18-01=	0.1	10 cm	

Species	Phase 1			Phase 2			Phase 3		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
**Solanum nigrum*	0.1	70 cm		0.1	70 cm		0.1	40 cm	
**Sonchus oleraceus*				0.1	25 cm				
Xanthorrhoea preissii	7	220 cm		7	220 cm		7	230 cm	

ANK18	Phase 1	Phase 2	Phase 3
Understorey			
Overstorey			

Site ANK19

Ph 1: Described by	ALJT	Date	12/10/2020	Type	Quadrat	10 x 10 m		
Ph 2: Described by	ABS	Date	25/11/2020	Type	Quadrat	10 x 10 m		
Ph 3: Described by	ALRH	Date	09/09/2022	Type	Quadrat	10 x 10 m		
MGA Zone	50	388845	mE	6435463	mN	115.820518 E	-32.211935 S	

Habitat: Gently sloping south facing bank off road.

Soil: 10YR; 90% 2/1 black, 10% 3/1 very dark grey. Sandy loam.

Rock Type: Subsurface limestone.

Vegetation: Ph 1: *Eucalyptus gomphocephala, E. marginata* subsp. *marginata* open forest over *Acacia rostellifera, Banksia menziesii* low open woodland over **Ehrharta longiflora, *E. calycina, *Briza maxima* grassland.

Ph 2: *Eucalyptus gomphocephala, E. marginata* subsp. *marginata* open forest over *Acacia rostellifera, Banksia menziesii* low open woodland over *Xanthorrhoea preissii, X. brunonis* subsp. *brunonis* scattered grass trees over **Ehrharta longiflora, *E. calycina, *Briza maxima* grassland.

Ph 3: *Eucalyptus gomphocephala*, *Eucalyptus marginata subsp. marginata* forest over *Banksia attenuata* scattered low trees over *Acacia rostellifera* (*Hardenbergia comptoniana, Acacia saligna*) tall open shrubland over *Xanthorrhoea brunonis subsp. brunonis* low open shrubland.

Veg Condition: Ph 1: Very Good. Ph 2: Very Good. Ph 3: Very Good.

Fire Age: No sign of recent fire.

Notes: Not very open, more likely a forest; signs of digging from rabbit or native mammal (e.g. bandicoot); evidence of revegetation present.

Species	Phase 1			Phase 2			Phase 3		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
Acacia rostellifera	2	550 cm	ANK19-02	2	550 cm	ANK19-02=	2	550 cm	
Acacia saligna	0.1	300 cm	ANK19-11	0.1	300 cm	ANK19-11=	0.5	340 cm	
Banksia attenuata	0.1	350 cm		0.1	350 cm		1	400 cm	
Banksia menziesii	1	220 cm	ANK19-01	1	220 cm	ANK19-01=	0.1	270 cm	
**Briza maxima*	10	25 cm		10	25 cm		0.1	15 cm	
**Bromus diandrus*	0.1	40 cm		0.1	40 cm				
Burchardia congesta	0.1	30 cm		0.1	30 cm		0.1	50 cm	
Caesia micrantha	0.1	30 cm	ANK19-09	0.1	30 cm	ANK19-09=	0.1	35 cm	
Caladenia flava subsp. *flava*	0.1	10 cm							
Caladenia latifolia							0.1	20 cm	
Chamaescilla corymbosa var.	0.1	20 cm	ANK19-04a				0.1	20 cm	
Conostylis aculeata subsp. *preissii*	0.1	20 cm	ANK19-08	0.1	20 cm	ANK19-08=	0.1	20 cm	
Dianella revoluta var. revoluta							0.1	25 cm	
Drosera porrecta	0.1	5 cm	ANK19-10				0.1	10 cm	
**Ehrharta calycina*	2	110 cm		2	110 cm		2	40 cm	
**Ehrharta calycina*							0.1	50 cm	ANK19-03
**Ehrharta longiflora*	30	45 cm	ANK19-04b	0.1	20 cm	ANK19-04b=	40	50 cm	
Eucalyptus gomphocephala	40	1500 cm		40	1500 cm		41	1600 cm	
Eucalyptus marginata subsp.	29	1500 cm		29	1500 cm		30	1500 cm	

Species	Phase 1			Phase 2			Phase 3		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
**Euphorbia peplus*							0.1	5 cm	
**Euphorbia terracina*	0.1	25 cm		0.1	25 cm		0.1	38 cm	
**Fumaria capreolata*	0.1	35 cm		0.1	35 cm		5	25 cm	
Hardenbergia comptoniana	0.1	120 cm		0.1	120 cm		0.5	320 cm	
Hibbertia hypericoides subsp.	0.1	60 cm	ANK19-06	0.1	60 cm	ANK19-06=	0.5	50 cm	
Lomandra caespitosa	0.1	45 cm	ANK19-05	0.1	45 cm	ANK19-05=	0.1	35 cm	
Lomandra preissii							0.1	15 cm	ANK19-02
Macrozamia riedlei	0.1	110 cm		0.1	110 cm		0.1	50 cm	
Microtis media subsp. *media*	0.1	20 cm		0.1	20 cm	ANK93R-01=			
Pterostylis vittata							0.1	15 cm	ANK19-01
Romulea rosea var. australis							0.1	15 cm	
**Sonchus oleraceus*	0.1	25 cm	ANK20-05=	0.1	30 cm		0.1	5 cm	
Sowerbaea laxiflora							0.1	30 cm	
Thelymitra macrophylla	0.1	25 cm	ANK19-07						
Tricoryne tenella				0.1	45 cm	ANK19R-01			
**Urospermum picroides*				0.1	30 cm				
Xanthorrhoea brunonis subsp. *brunonis*				1	80 cm		1	68 cm	
Xanthorrhoea preissii	0.1	100 cm		1	100 cm		1	70 cm	

ANK19	Phase 1	Phase 2	Phase 3
Understorey			
Overstorey			

Site ANK20

Ph 1: Described by	ALJT	Date	12/10/2020	Type	Quadrat	10 x 10 m		
Ph 2: Described by	SW	Date	23/11/2020	Type	Quadrat	10 x 10 m		
Ph 3: Described by	AL	Date	09/09/2022	Type	Quadrat	10 x 10 m		
MGA Zone	50	389347	mE	6435477	mN	115.825840 E	-32.211852 S	

Habitat Moderately steep south west facing road bank.

Soil 7.5YR 2.5/1 black. Sandy loam.

Rock Type Subsurface limestone.

Vegetation Ph 1: *Eucalyptus gomphocephala* woodland over *Banksia attenuata, Allocasuarina fraseriana* low open woodland over *Jacksonia furcellata* (*Acacia pulchella*) scattered tall shrubs over **Ehrharta calycina, *Bromus diandrus, *Avena barbata* closed grassland.

Ph 2: *Eucalyptus gomphocephala* woodland over *Banksia attenuata, Allocasuarina fraseriana* low woodland over *Jacksonia furcellata* (*Acacia pulchella*) tall open shrubland over **Ehrharta calycina, *Bromus diandrus*, **Avena barbata* closed grassland.

Ph 3: *Eucalyptus gomphocephala* woodland over *Allocasuarina fraseriana*, *Banksia attenuata* low open woodland over *Jacksonia furcellata* scattered tall shrubs over *Jacksonia sternbergiana* scattered shrubs.

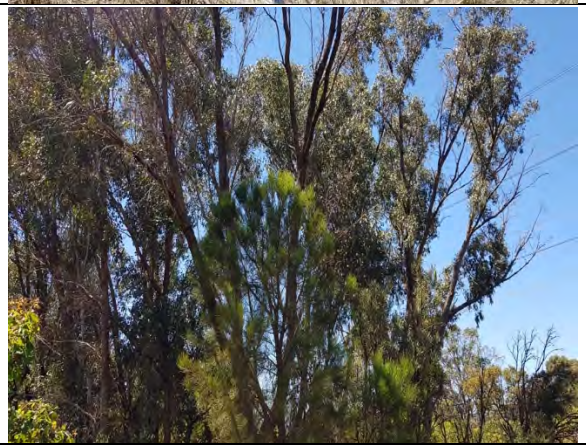
Veg Condition Ph 1: Good. Ph 2: Good. Ph 3: Good.

Fire Age No sign of recent fire.

Notes Tuart saplings in quadrat and some seedlings observed. Other annual grasses searched for but not found. *Pelargonium* just outside quadrat.

Species	Phase 1			Phase 2			Phase 3		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
**Acacia iteaphylla*	0.1	90 cm	ANK20-02	0.1	90 cm	ANK20-02=	1	190 cm	
Acacia pulchella	0.5	190 cm		1	190 cm		0.1	190 cm	
Allocasuarina fraseriana	5	600 cm	ANK20-06	6	600 cm	ANK20-06=			
**Avena barbata*	2	80 cm		2	80 cm				
Banksia attenuata	4	600 cm		4	680 cm		4	680 cm	
**Briza maxima*	0.1	25 cm		0.1	25 cm		0.1	20 cm	
**Briza minor*	0.1	20 cm							
**Bromus diandrus*	5	60 cm		4	60 cm				
Casuarina fraseriana							6	600 cm	
**Carpobrotus edulis*	0.1	10 cm		0.1	10 cm				
**Ehrharta calycina*	71	120 cm		71	170 cm		77	90 cm	
Eucalyptus gomphocephala	29	2000 cm		29	2000 cm		29	2000 cm	
**Euphorbia peplus*							0.1	10 cm	
**Euphorbia terracina*	0.1	70 cm		0.1	60 cm		0.1	45 cm	
**Gladiolus caryophyllaceus*	0.1	100 cm		0.1	100 cm		0.1	100 cm	
Hardenbergia comptoniana	0.1	100 cm		0.1	100 cm		0.1	300 cm	
**Hypochaeris glabra*	0.1	5 cm					0.1	2 cm	
Jacksonia furcellata	1.5	220 cm		1.5	220 cm		1.5	250 cm	
Jacksonia sternbergiana	0.1	110 cm		0.1	120 cm		0.5	130 cm	

Species	Phase 1			Phase 2			Phase 3		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
Kennedia prostrata	0.1	15 cm					0.1	100 cm	
**Lagurus ovatus*	0.1	60 cm		0.1	60 cm		0.1	30 cm	
**Lolium rigidum*	0.1	50 cm		0.1	25 cm				
**Lysimachia arvensis*	0.1	15 cm					0.1	10 cm	
**Oxalis pes-caprae*	0.1	20 cm					0.1	15 cm	
**Pelargonium capitatum*	0.1	5 cm		0.1	10 cm				
Phyllanthus calycinus	0.1	50 cm					0.1	50 cm	
**Romulea rosea* var. *australis*	0.1	20 cm	ANK20-03				0.1	30 cm	
Solanum nigrum							0.1	3 cm	
**Sonchus oleraceus*	0.1	25 cm	ANK20-05	0.1	20 cm	ANK20-05=	0.1	7 cm	
**Trifolium campestre* var. *campestre*	0.1	20 cm	ANK20-01	0.1	10 cm	ANK20-01=	0.1	7 cm	
**Urospermum picroides*	0.1	25 cm	ANK21-04=	0.1	20 cm				
**Wahlenbergia capensis*	0.1	10 cm	ANK20-04				0.1	5 cm	

ANK20	Phase 1	Phase 2	Phase 3
Understorey			
Overstorey			

Site ANK21

Ph 1: Described by	ALJT	Date	12/10/2020	Type	Quadrat	10 x 10 m		
Ph 2: Described by	SW	Date	23/11/2020	Type	Quadrat	10 x 10 m		
Ph 3: Described by	JTTH	Date	09/09/2022	Type	Quadrat	10 x 10 m		
MGA Zone	50	389623	mE	6435488	mN	115.828774 E	-32.211783 S	

Habitat Gently undulating coastal sand dunes.

Soil 7.5YR 2.5/1 black. Loamy sand.

Rock Type Subsurface limestone.

Vegetation Ph 1: *Eucalyptus gomphocephala, E. marginata* subsp. *marginata* woodland over **Ehrharta calycina, *Bromus diandrus* grassland over **Carpobrotus edulis* very open succulent herbland.

Ph 2: *Eucalyptus gomphocephala, E. marginata* subsp. *marginata* open forest over *Banksia sessilis* scattered low trees over *Macrozamia riedlei* scattered cycads over **Ehrharta calycina, *Bromus diandrus* grassland over **Carpobrotus edulis* very open succulent herbland.

Ph 3: *Eucalyptus gomphocephala* open forest over *Eucalyptus marginata subsp. marginata* (*Banksia grandis*) low woodland over *Banksia sessilis* (*Macrozamia riedlei*, *Hardenbergia comptoniana*) open shrubland over *Acacia lasiocarpa var. lasiocarpa* scattered low shrubs.

Veg Condition Ph 1: Good. Ph 2: Good. Ph 3: Good.

Fire Age Very long unburnt.

Notes Revegetated road verge.

Species	Phase 1			Phase 2			Phase 3		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
Acacia pulchella var. *pulchella*	0.1	20 cm		0.1	20 cm				
Acacia lasiocarpa var. lasiocarpa							1	60 cm	ANK21-01
**Avena barbata*	0.1	60 cm		0.1	60 cm				
Banksia grandis	0.5	170 cm		0.5	180 cm		0.5	210 cm	
Banksia sessilis	0.1	190 cm		1.5	200 cm		2.5	200 cm	
**Bromus diandrus*	2	60 cm		4	60 cm		25	25 cm	ANK21-02
Calothamnus quadrifidus subsp.	0.1	55 cm	ANK21-03	0.1	50 cm	ANK21-03=			
**Carpobrotus edulis*	3	15 cm		7	15 cm		16	10 cm	
Conostylis aculeata subsp. *aculeata*	0.1	20 cm		0.1	25 cm				
Conostylis candicans subsp. *candicans*	0.1	25 cm		0.1	25 cm		0.1	40 cm	
**Cynodon dactylon*	0.1	15 cm	ANK21-06				0.1	15 cm	
Dianella revoluta var. *revoluta*	0.1	60 cm		0.1	60 cm		0.1	60 cm	
**Ehrharta calycina*	60	120 cm		60	140 cm		35	110 cm	
Eragrostis curvula							0.1	100 cm	
Eucalyptus gomphocephala	22	1500 cm		42	1900 cm		44	1900 cm	
Eucalyptus marginata subsp.	4	900 cm		18	900 cm		20	900 cm	
**Euphorbia peplus*				0.1	10 cm		0.1	15 cm	
**Euphorbia terracina*	0.1	35 cm		0.5	30 cm		1	70 cm	
**Gladiolus caryophyllaceus*	0.1	65 cm		0.1	65 cm		0.1	30 cm	

Species	Phase 1			Phase 2			Phase 3		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
Gompholobium tomentosum	0.1	60 cm		0.1	60 cm		0.1	45 cm	
Hardenbergia comptoniana	0.1	190 cm		0.1	190 cm		0.5	160 cm	
Kennedia prostrata	0.1	5 cm		0.1	5 cm		0.1	5 cm	
**Lupinus angustifolius*	0.1	70 cm		0.1	70 cm		0.1	35 cm	
**Lysimachia arvensis*	0.1	15 cm					0.1	5 cm	
Macrozamia riedlei	0.1	130 cm		1	130 cm		1	170 cm	
Melaleuca systena	0.1	55 cm	ANK21-02	0.5	55 cm	ANK21-02=	0.25	50 cm	
**Melilotus indicus*	0.1	20 cm	ANK21-05	0.1	15 cm	ANK21-05=			
Microtis media subsp. *media*	0.1	20 cm							
**Oxalis pes-caprae*	0.1	20 cm					0.1	5 cm	
**Romulea rosea var. australis*							0.1	5 cm	
**Sonchus oleraceus*				0.1	15 cm				
Sporobolus virginicus				0.1	15 cm				
**Trifolium campestre* var. *campestre*	0.1	15 cm					0.1	20 cm	
**Urospermum picroides*	0.1	25 cm	ANK21-04	0.1	15 cm	ANK21-04=	0.1	10 cm	
**Urospermum picroides*							0.1	3 cm	ANK21-03

ANK21	Phase 1	Phase 2	Phase 3
Understorey			
Overstorey			

Site ANK22

Ph 1: Described by	SWABS	Date	12/10/2020	Type	Quadrat	10 x 10 m		
Ph 2: Described by	SW	Date	20/11/2020	Type	Quadrat	10 x 10 m		
Ph 3: Described by	JTTH	Date	09/09/2022	Type	Quadrat	10 x 10 m		
MGA Zone	50	389897	mE	6435596	mN	115.831695 E	-32.210834 S	

Habitat Road verge sloping 5% south.

Soil 10YR 4/2 dark greyish brown. Loamy sand.

Rock Type Nil.

Vegetation Ph 1: Banksia menziesii, B. attenuata open forest over *Eucalyptus marginata* subsp. *marginata* woodland over *Acacia pulchella* var. *pulchella, Rhagodia baccata* subsp. *baccata* open shrubland over *Xanthorrhoea brunonis* subsp. *brunonis* scattered grass trees over *Hibbertia hypericoides* subsp. *hypericoides, Phyllanthus calycinus, Styphelia propinqua, Conostylis aculeata* subsp. *aculeata* low open shrubland over *Lepidosperma apricola* scattered sedges over **Ehrharta calycina* very open grassland.

Ph 2: *Banksia menziesii, B. attenuata* open forest over *Eucalyptus marginata* subsp. *marginata* woodland over *Acacia pulchella* var. *pulchella, Rhagodia baccata* subsp. *baccata* open shrubland over *Xanthorrhoea brunonis* subsp. *brunonis* scattered grass trees over *Hibbertia hypericoides* subsp. *hypericoides, Phyllanthus calycinus, Styphelia propinqua, Conostylis aculeata* subsp. *aculeata* low open shrubland over *Lepidosperma a*pricola scattered sedges over **Ehrharta calycina* very open grassland.

Ph 3: *Eucalyptus marginata subsp. marginata* woodland over *Banksia menziesii* (*Banksia attenuata*) low open forest over *Acacia pulchella var. pulchella*, *Xanthorrhoea brunonis subsp. brunonis*, *Rhagodia baccata subsp. baccata* open shrubland over *Hibbertia hypericoides* subsp. *hypericoides, Phyllanthus calycinus, Styphelia propinqua, Conostylis aculeata* subsp. *aculeata* low open shrubland over *Lepidosperma a*pricola scattered sedges over **Ehrharta calycina* very open grassland.

Veg Condition Ph 1: Very Good to Good. Ph 2: Very Good to Good. Ph 3: Very Good.

Fire Age No sign of recent fire.

Notes Approximately 65% leaf litter cover from *Banksia* and *Eucalyptus*. Quenda diggings present.

Species	Phase 1			Phase 2			Phase 3		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
Acacia pulchella var. *pulchella*	3	120 cm		3	180 cm		2.5	200 cm	
Banksia attenuata	9	550 cm		9	550 cm		8	560 cm	
Banksia menziesii	28	1100 cm		28	1100 cm		29	900 cm	
Bossiaea eriocarpa				0.5	40 cm		0.1	40 cm	
**Briza maxima*				0.5	15 cm		0.1	40 cm	
Burchardia congesta				0.1	60 cm		0.5	60 cm	
Caesia micrantha							0.1	40 cm	ANK22-01
Caladenia flava subsp. flava							0.1	15 cm	
**Carpobrotus edulis*	0.1	10 cm		0.1	10 cm		0.1	10 cm	
Centrolepis drummondiana	0.1	10 cm					0.1	2 cm	
Chaemaescilla corymbose var. corymbosa							1	40 cm	
Conostylis aculeata subsp. *aculeata*	1	30 cm	ANK26-05=	1	25 cm	ANK26-05=	1	10 cm	

Species	Phase 1			Phase 2			Phase 3		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
Crassula colorata var. *acuminata*	0.1	10 cm	ANK66-02=				0.1	1 cm	
Dianella revoluta var. *revoluta*	0.1	50 cm		0.1	50 cm		0.1	50 cm	
Drosera erythrorhiza	0.1	5 cm					0.1	1 cm	
Drosera porrecta	0.1	10 cm	ANK23-06=				0.1	25 cm	
**Ehrharta calycina*	7	90 cm		7	150 cm		9	100 cm	
Eucalyptus marginata subsp.	12	1200 cm		12	1200 cm		14	1400 cm	
**Gladiolus caryophyllaceus*	0.1	110 cm		0.1	110 cm		0.1	50 cm	
Glischrocaryon aureum	0.1	40 cm							
Gompholobium tomentosum	0.1	45 cm		0.1	55 cm		0.1	60 cm	
Haemodorum spicatum	0.1	175 cm	ANK22-6				0.1	25 cm	
Hardenbergia comptoniana	0.1	150 cm		0.1	150 cm		0.1	50 cm	
Hibbertia hypericoides subsp.	4	65 cm		4	65 cm		5	50 cm	
Homalosciadium verticillatum							0.1	2 cm	ANK22-04
Hovea trisperma var. *trisperma*	0.1	45 cm		0.1	30 cm		0.1	35 cm	
Hypocalymma robustum	0.1	60 cm	ANK23-01=	0.1	60 cm	ANK23-01=			
**Hypochaeris radicata*	0.1	10 cm					0.1	3 cm	
Hypolaena exsulca	0.25	50 cm	ANK22-1				0.1	50 cm	
Kennedia prostrata	0.1	25 cm		0.1	25 cm		0.1	4 cm	
Lepidosperma apricola	1	80 cm	ANK22-3	1	90 cm	ANK22-03=	1.5	50 cm	
Lepidosperma calcicola	0.5	60 cm	ANK23-04=	0.5	70 cm	ANK23-04=	0.5	50 cm	
Lomandra hermaphrodita	0.1	25 cm		0.1	25 cm		0.1	45 cm	
Macrozamia sp.							0.1	15 cm	NC
Microtis media subsp. *media*				0.1	25 cm				
**Pelargonium capitatum*				0.1	10 cm		0.1	10 cm	
Phyllanthus calycinus	2	55 cm	ANK26-04=	2	65 cm	ANK26-04=	4	50 cm	
Podolepis gracilis	0.1	15 cm	ANK40-04=				0.1	5 cm	
Poranthera microphylla	0.1	5 cm		0.1	6 cm		0.1	2 cm	
Pterostylis vittata							0.1	10 cm	
Rhagodia baccata subsp. *baccata*	2	90 cm	ANK22-2	2	80 cm		1.5	80 cm	
**Romulea rosea* var. *australis*	0.1	15 cm		0.1	10 cm		0.1	15 cm	
**Sonchus oleraceus*	0.1	45 cm		0.1	20 cm				
Sowerbaea laxiflora	0.1	45 cm		0.1	30 cm				
Styphelia propinqua	1	45 cm	ANK22-5	1	30 cm	ANK22-05=			
Thysanotus mangalesianus							0.1	140 cm	ANK25-03=
Thysanotus sp.	0.1	45 cm							
Trachymene pilosa	0.1	8 cm		0.1	8 cm		0.1	2 cm	
**Urospermum picroides*	0.1	25 cm		0.1	25 cm				
**Ursinia anthemoides* subsp.	0.1	15 cm		0.1	10 cm		0.1	5 cm	
Xanthorrhoea brunonis subsp. *brunonis*	1	140 cm		1	110 cm		2	190 cm	

Species	Phase 1			Phase 2			Phase 3		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
Xanthosia huegelii	0.1	25 cm	ANK22-4				0.1	5 cm	ANK22-02

ANK22	Phase 1	Phase 2	Phase 3
Understorey			
Overstorey			

Site ANK23

Ph 1: Described by	SWABS	Date	11/10/2020	Type	Quadrat	10 x 10 m		
Ph 2: Described by	SW	Date	20/11/2020	Type	Quadrat	10 x 10 m		
Ph 3: Described by	JTTH	Date	09/09/2022	Type	Quadrat	10 x 10 m		
MGA Zone	50	390083	mE	6435709	mN	115.833682 E	-32.209835 S	

Habitat Road verge sloping 5% south.

Soil 10YR 3/1 very dark grey. Sand.

Rock Type Nil.

Vegetation Ph 1: *Eucalyptus marginata* subsp. *marginata* woodland over *Banksia menziesii, Allocasuarina fraseriana, Jacksonia furcellata* low woodland over *Hibbertia hypericoides* subsp. *hypericoides, Hypocalymma robustum, Banksia dallanneyi* subsp. *dallanneyi* var. *dallanneyi* low open shrubland over *Schoenus andrewsii* scattered sedges over **Ehrharta calycina, *E. longiflora, *Briza maxima* grassland.

Ph 2: *Eucalyptus marginata* subsp. *marginata* woodland over *Banksia menziesii, Allocasuarina fraseriana, Jacksonia furcellata* low woodland over *Hibbertia hypericoides* subsp. *hypericoides, Phyllanthus calycinus, Hypocalymma robustum, Banksia dallanneyi* subsp. *dallanneyi* var. *dallanneyi* low open shrubland over *Schoenus andrewsii* scattered sedges over **Ehrharta calycina, *E. longiflora, *Briza maxima* grassland.

Ph 3: *Eucalyptus marginata subsp. marginata* woodland over *Allocasuarina fraseriana*, *Banksia menziesii* low woodland over *Jacksonia furcellata* scattered shrubs over *Hibbertia hibbertioides var. hibbertioides* (*Banksia dallanneyi subsp. dallanneyi var. dallanneyi*) low open shrubland over *Schoenus andrewsii* scattered sedges over **Ehrharta calycina, *E. longiflora, *Briza maxima* grassland.

Veg Condition Ph 1: Very Good to Good. Ph 2: Very Good to Good. Ph 3: Very Good to Good.

Fire Age No sign of recent fire.

Notes *Kunzea glabrescens* 240cm 3% outside quadrat in general roadside veg unit. Quenda diggings present.

Species	Phase 1			Phase 2			Phase 3		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
Acacia pulchella var. *pulchella*	0.1	60 cm		0.1	60 cm		0.5	80 cm	
Allocasuarina fraseriana	16	600 cm		16	600 cm				
**Asparagus asparagoides*	0.1	50 cm		0.25	40 cm		0.25	15 cm	
**Avena barbata*	0.5	50 cm		0.5	50 cm		0.5	100 cm	
Banksia dallanneyi subsp. *dallanneyi*	1	40 cm	ANK23-2	1	40 cm	ANK23-02=	1	5 cm	
Banksia menziesii	13	800 cm		13	780 cm		12	790 cm	
**Briza maxima*	1	15 cm		1	15 cm		0.1	20 cm	
Burchardia congesta	0.1	40 cm		0.1	40 cm		3	45 cm	
Caladenia flava subsp. *flava*							0.1	15 cm	
Casuarina fraseriana							17	620 cm	
Chamaescilla corymbosa var. *corymbosa*							0.1	15 cm	
Conostephium pendulum	0.1	45 cm	ANK23-8	0.1	45 cm	ANK23-08=	0.1	30 cm	
Conostylis aculeata subsp. *aculeata*	0.1	45 cm	ANK26-05=	0.1	40 cm	ANK26-05=	0.1	15 cm	

Species	Phase 1			Phase 2			Phase 3		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
Corynotheca micrantha var. *micrantha*	1	40 cm		0.5	40 cm		0.5	20 cm	
Daviesia triflora	0.1	60 cm		0.1	60 cm		0.1	4 cm	
Desmocladus flexuosus	0.1	20 cm	ANK23-7	0.1	15 cm	ANK23-07=	0.1	10 cm	
Dianella revoluta var. *revoluta*	0.1	42 cm		0.1	45 cm		0.1	60 cm	
Diuris corymbosa							0.1	30 cm	NC
Drosera erythrorhiza	0.1	4 cm					0.1	1 cm	
Drosera porrecta	0.1	20 cm	ANK23-6				0.1	5 cm	
**Ehrharta calycina*	25	90 cm		25	110 cm		26	110 cm	
**Ehrharta longiflora*	8	30 cm		6	30 cm		4	75 cm	
Eucalyptus marginata subsp.	26	1200 cm		26	1200 cm		27	1250 cm	
**Gladiolus caryophyllaceus*	0.1	45 cm		0.1	45 cm		0.1	40 cm	
Glischrocaryon aureum	0.1	20 cm							
Gompholobium tomentosum	0.1	40 cm		0.1	45 cm		0.1	40 cm	
Haemodorum sp.							0.1	20 cm	NC
Hardenbergia comptoniana							0.1	5 cm	
Hibbertia hypericoides subsp.	4	54 cm		5	50 cm		6	40 cm	
Hovea trisperma var. *trisperma*	0.1	15 cm	ANK23-3	0.1	20 cm	ANK23-03=	0.1	8 cm	
Hypocalymma robustum	1	56 cm	ANK23-1	1	60 cm	ANK23-01=	1	40 cm	
**Hypochaeris glabra*							0.1	2 cm	
**Hypochaeris radicata*	0.1	10 cm					0.1	3 cm	
**Hypochaeris radicata*							0.1	2 cm	ANK23-02
Jacksonia furcellata	2	320 cm		2	320 cm		0.5	130 cm	
Kennedia prostrata	0.1	10 cm		0.1	10 cm		0.1	5 cm	
Lepidosperma calcicola	0.1	50 cm	ANK23-4	0.1	50 cm	ANK23-04=	2	50 cm	
Lomandra hermaphrodita	0.1	30 cm		0.1	30 cm		0.1	60 cm	
**Lysimachia arvensis*	0.1	10 cm					0.1	4 cm	
Microtis media subsp. *media*	0.1	40 cm	ANK25-01=						
Pelargonium capitatum							0.1	3 cm	
Phyllanthus calycinus	0.5	50 cm	ANK26-04=	1.5	50 cm	ANK26-04=	1	40 cm	
Poranthera microphylla	0.1	5 cm	ANK23-5				0.1	3 cm	
Pterostylis vittata	0.1	10 cm	ANK26-17=				0.1	40 cm	
Ptilotus drummondii	0.1	30 cm	ANK23-8				0.1	2 cm	
Quinetia urvillei							0.1	3 cm	
Schoenus andrewsii	2	50 cm	ANK26-08=	2	50 cm	ANK26-08=			
**Sonchus oleraceus*	0.1	20 cm		0.1	15 cm		0.1	4 cm	
Stackhousia monogyna	0.5	45 cm	ANK26-09=	0.5	45 cm	ANK26-09=			
Thysanotus manglesianus							0.1	25 cm	ANK25-03=

Species	Phase 1			Phase 2			Phase 3		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
Thysanotus sp. *(manglesianus/patersonii)*	0.1	20 cm							
Trachymene pilosa	0.1	10 cm		0.1	10 cm		0.1	1 cm	
Tricoryne elatior	0.1	60 cm					3	40 cm	
Tricoryne elatior							0.1	55 cm	ANK23-01
**Urospermum picroides*	0.1	25 cm		0.1	25 cm		0.1	5 cm	
**Ursinia anthemoides* subsp.	0.1	20 cm		0.1	20 cm		0.1	5 cm	
**Zantedeschia aethiopica*							0.1	15 cm	

ANK23	Phase 1	Phase 2	Phase 3
Understorey			

ANK23	Phase 1	Phase 2	Phase 3
Overstorey			

Site ANK25

Ph 1: Described by	SWABS	Date	11/10/2020	Type	Quadrat	10 x 10 m		
Ph 2: Described by	SW	Date	20/11/2020	Type	Quadrat	10 x 10 m		
Ph 3: Described by	JTTH	Date	08/09/2022	Type	Quadrat	10 x 10 m		
MGA Zone	50	390210	mE	6435781	mN	115.835030 E	-32.209200 S	

Habitat Roadside verge sloping east 5%.

Soil 10YR 2/1 black. Loamy sand.

Rock Type Nil.

Vegetation Ph 1: *Eucalyptus gomphocephala* closed forest over *Banksia menziesii, B. attenuata, Eucalyptus marginata* subsp. *marginata* low woodland over *Allocasuarina fraseriana, Jacksonia furcellata* tall open shrubland over **Ehrharta calycina, *E. longiflora, *Bromus diandrus, *Avena barbata, *Briza maxima, *Lolium perenne* closed grassland over *Schoenus andrewsii* very open sedgeland over **Asparagus asparagoides, *Euphorbia terracina, *Fumaria capreolata* very open herbland.

Ph 2: *Eucalyptus gomphocephala* closed forest over *Banksia menziesii, B. attenuata, Eucalyptus marginata* subsp. *marginata* low woodland over *Allocasuarina fraseriana, Jacksonia furcellata* tall open shrubland over **Ehrharta calycina, *Bromus diandrus, *Avena barbata, *Briza maxima* closed grassland over *Schoenus andrewsii* very open sedgeland over **Asparagus asparagoides, *Euphorbia terracina* very open herbland.

Ph 3: *Eucalyptus gomphocephala* closed forest over *Banksia menziesii*, *Eucalyptus marginata subsp. marginata* (*Allocasuarina fraseriana, Banksia attenuata*) low woodland over *Jacksonia furcellata* scattered tall shrubs over *Xanthorrhoea brunonis subsp. brunonis* scattered.

Veg Condition Ph 1: Good. Ph 2: Good. Ph 3: Good.

Fire Age No sign of recent fire.

Notes Road verge.

Species	Phase 1			Phase 2			Phase 3		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
Allocasuarina fraseriana	2	650 cm		2	550 cm				
**Asparagus asparagoides*	2	40 cm		2	40 cm		3	40 cm	
Austrostipa mollis	0.1	110 cm	ANK25-3						
**Avena barbata*	4	90 cm		3	90 cm				
Banksia attenuata	2	250 cm		2	260 cm		0.5	280 cm	
Banksia menziesii	7	750 cm		7	750 cm		7	770 cm	
**Briza maxima*	1	20 cm		0.1	20 cm				
**Bromus diandrus*	18	90 cm		16	70 cm		16	100 cm	
Burchardia congesta	0.1	55 cm	ANK26-10=				0.1	35 cm	
Caesia micrantha	0.1	45 cm					0.1	30 cm	ANK25-01
Caladenia latifolia							0.1	25 cm	
Caladenia sp.							0.1	5 cm	NC
Casuarina fraseriana							2	670 cm	
Conostylis aculeata subsp. *aculeata*	0.1	45 cm	ANK25-2	0.1	45 cm	ANK25-02=			
Dianella revoluta var. *revoluta*	0.1	45 cm		0.1	40 cm		0.1	30 cm	
**Ehrharta calycina*	60	110 cm		60	110 cm		60	100 cm	

Species	Phase 1			Phase 2			Phase 3		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
**Ehrharta calycina*							0.1	70 cm	ANK35-06=
**Ehrharta longiflora*	1	58 cm		0.1	60 cm		0.1	90 cm	
Eucalyptus gomphocephala	85	2200 cm		85	2200 cm		72	2200 cm	
Eucalyptus marginata subsp.	3	750 cm		3	750 cm		4	750 cm	
**Euphorbia terracina*	2	45 cm		1	45 cm		1	80 cm	
**Fumaria capreolata*	2	25 cm					22	45 cm	
**Gladiolus caryophyllaceus*	0.1	80 cm		0.1	60 cm		0.1	30 cm	
Gompholobium tomentosum	0.1	45 cm		0.1	50 cm				
Haemodorum sp.							0.1	60 cm	ANK25-04
Hardenbergia comptoniana	0.1	45 cm		0.1	45 cm		0.1	350 cm	
Hibbertia hypericoides subsp.	0.5	50 cm		0.5	50 cm		0.1	30 cm	
Hypochaeris radicata							7	40 cm	ANK25-02
Jacksonia furcellata	1	320 cm		1	320 cm		1	500 cm	
Kennedia prostrata	0.1	25 cm		0.1	20 cm				
**Lolium perenne x rigidum*	1	45 cm	ANK25-4				0.1	60 cm	WTP35-02=
**Lysimachia arvensis*	0.1	10 cm							
Macrozamia sp.							0.1	20 cm	NC
Microtis media subsp. *media*	0.1	45 cm	ANK25-1						
**Moraea flaccida*	0.1	45 cm							
**Pelargonium capitatum*	0.5	50 cm		0.5	50 cm		0.5	40 cm	
Phyllanthus calycinus	0.1	55 cm	ANK26-04=	0.1	60 cm	ANK26-04=	0.1	45 cm	
**Romulea rosea* var. *australis*	0.1	10 cm		0.1	10 cm		0.1	4 cm	
Schoenus andrewsii	7	45 cm	ANK26-08=	7	65 cm	ANK26-08=			
**Sonchus oleraceus*	0.1	25 cm					0.1	5 cm	
Sowerbaea laxiflora	0.5	45 cm		0.5	25 cm		0.5	60 cm	
Thysanotus manglesianus							0.1	30 cm	ANK25-03
Tricoryne tenella							0.1	50 cm	ANK25-05
**Urospermum picroides*	0.1	25 cm	ANK25-5						
Xanthorrhoea brunonis subsp. *brunonis*	0.25	80 cm		0.25	80 cm		0.5	80 cm	
Xanthorrhoea preissii	0.25	80 cm		0.25	80 cm		0.5	60 cm	

ANK25	Phase 1	Phase 2	Phase 3
Understorey			
Overstorey			

Site ANK26

Ph 1: Described by	SWABS	Date	11/10/2020	Type	Quadrat	10 x 10 m	
Ph 2: Described by	SW	Date	20/11/2020	Type	Quadrat	10 x 10 m	
MGA Zone	50	390270	mE	6435864	mN	115.835678 E	-32.208458 S

Habitat Elevated sandy plain sloping towards Anketell Rd, 10%.

Soil 10YR 2/2 very dark brown. Loamy sand.

Rock Type Nil.

Vegetation Ph 1: *Banksia menziesii, B. attenuata, B. ilicifolia* low woodland over *Acacia pulchella* var. *glaberrima, Hibbertia hypericoides* subsp. *hypericoides*, *Phyllanthus calycinus, Hypocalymma robustum* shrubland over *Macrozamia riedlei* scattered cycads over *Xanthorrhoea brunonis* scattered grass trees over *Schoenus andrewsii* closed sedgeland.

Ph 2: *Banksia menziesii, B. attenuata, B. ilicifolia* low woodland over *Acacia pulchella* var. *glaberrima, Hibbertia hypericoides* subsp. *hypericoides*, *Phyllanthus calycinus, Hypocalymma robustum* shrubland over *Macrozamia riedlei* scattered cycads over *Xanthorrhoea brunonis* subsp. *brunonis* scattered grass trees over *Schoenus andrewsii* sedgeland.

Veg Condition Ph 1: Excellent to Very Good. Ph 2: Excellent to Very Good.

Fire Age No sign of recent fire.

Notes No phase 2 photos

Species	Phase 1			Phase 2		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
Acacia pulchella var. *glaberrima*	31	200 cm	ANK26-15	31	200 cm	ANK26-15=
**Asparagus asparagoides*	0.1	10 cm		0.1	15 cm	
Banksia attenuata	4	450 cm		5	450 cm	
Banksia ilicifolia	1	320 cm		1	320 cm	
Banksia menziesii	11	520 cm		11	520 cm	
Bossiaea eriocarpa	0.1	50 cm	ANK26-19	0.1	50 cm	ANK26-19=
**Briza maxima*	0.1	10 cm		0.1	10 cm	
**Briza minor*	0.1	20 cm				
Burchardia congesta	0.1	60 cm	ANK26-10	0.1	60 cm	ANK26-10=
Caesia micrantha				0.25	50 cm	ANK26-09=
Caladenia flava subsp. *flava*	0.1	10 cm				
**Carpobrotus edulis*	0.1	10 cm		0.1	10 cm	
Conostylis aculeata subsp. *aculeata*	0.1	50 cm	ANK26-5	0.1	50 cm	ANK26-05=
Corynotheca micrantha var. *micrantha*	0.1	50 cm		0.1	50 cm	
**Crassula glomerata*	0.1	5 cm	ANK26-7			
Desmocladus flexuosus				0.1	25 cm	
Dianella revoluta var. *revoluta*	0.1	40 cm		0.1	40 cm	
Drosera erythrorhiza	0.1	2 cm				
**Ehrharta calycina*	0.1	60 cm		0.1	60 cm	
**Ehrharta longiflora*	0.1	45 cm		0.1	45 cm	
**Fumaria capreolata*	0.5	60 cm				

Species	Phase 1			Phase 2		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
**Gladiolus caryophyllaceus*	0.1	60 cm		0.1	60 cm	
Glischrocaryon aureum	0.1	30 cm				
Hardenbergia comptoniana	0.1	50 cm		0.1	50 cm	
**Heliophila pusilla*	0.1	5 cm	ANK26-2			
Hibbertia cuneiformis	0.5	50 cm		0.5	50 cm	
Hibbertia hypericoides subsp. *hypericoides*	6	50 cm		8	65 cm	
Hypocalymma robustum	1	50 cm	ANK26-1	1	50 cm	ANK26-01=
**Hypochaeris radicata*	0.1	5 cm		0.1	5 cm	
Luzula meridionalis	0.1	30 cm	ANK26-21			
**Lysimachia arvensis*	0.1	10 cm		0.1	10 cm	
Macrozamia riedlei	4	110 cm		3	120 cm	
**Petrorhagia dubia*	0.1	60 cm				
Phyllanthus calycinus	2	60 cm	ANK26-4	2	60 cm	ANK26-04=
Podolepis gracilis	0.1	15 cm	ANK40-04=			
Pterostylis vittata	0.1	20 cm	ANK26-17			
**Romulea rosea* var. *australis*	0.1	20 cm				
Schoenus andrewsii	77	60 cm	ANK26-8	65	55 cm	
Senecio condylus	0.1	10 cm	ANK26-23			
**Silene gallica* var. *gallica*	0.1	20 cm	ANK26-22			
**Sonchus oleraceus*	0.1	15 cm		0.1	8 cm	
Sowerbaea laxiflora	0.1	60 cm		0.1	30 cm	
Thysanotus arenarius	0.1	50 cm	ANK26-18			
Thysanotus manglesianus	0.1	40 cm	ANK26-20			
Thysanotus patersonii	0.1	20 cm				
Thysanotus sp. (*manglesianus/patersonii*)				0.1	50 cm	
Trachymene pilosa	0.1	15 cm			5 cm	
**Urospermum picroides*	0.1	15 cm	ANK26-12			
**Ursinia anthemoides* subsp. *anthemoides*	0.1	10 cm		0.1	10 cm	
**Vulpia bromoides*	0.1	25 cm	ANK26-14			
**Vulpia myuros* forma *myuros*	0.1	20 cm	ANK26-11	0.1	20 cm	ANK26-11=
**Wahlenbergia capensis*	0.1	15 cm	ANK26-13			
Xanthorrhoea brunonis subsp. *brunonis*	1	75 cm		1	75 cm	

ANK26	Phase 1	Phase 2
Understorey		
Overstorey		

Site ANK27

Ph 1: Described by	RMABS	Date	12/10/2020	Type	Quadrat	10 x 10 m	
Ph 2: Described by	ABSMK	Date	20/11/2020	Type	Quadrat	10 x 10 m	
MGA Zone	50	390306	mE	6435691	mN	115.836043 E	-32.210023 S

Habitat Plain sloping south.

Soil 7.5YR 2.5/1 black Sand.

Rock Type Nil.

Vegetation Ph 1: *Banksia attenuata, B. menziesii* low woodland over *Scholtzia involucrata* (*Gompholobium tomentosum*) tall open shrubland over *Lepidosperma apricola* scattered sedges over **Ehrharta calycina, *Aira praecox* grassland over *Conostylis aculeata* subsp. *aculeata* very open to scattered herbland over **Carpobrotus edulis* open succulent herbland.

Ph 2: *Banksia attenuata, B. menziesii* low woodland over *Scholtzia involucrata* (*Gompholobium tomentosum*) tall open shrubland over *Lepidosperma apricola* scattered sedges over **Ehrharta calycina, *Aira praecox* grassland over *Conostylis aculeata* subsp. *aculeata* very open to scattered herbland over **Carpobrotus edulis* open succulent herbland.

Veg Condition Ph 1: Good to Degraded. Ph 2: Degraded.

Fire Age No sign of recent fire.

Species	Phase 1			Phase 2		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
**Aira praecox*	0.25	20 cm	ANK27-02a	0.25	20 cm	ANK27-02a=
Austrostipa sp.	0.1	20 cm	ANK27-04	0.1	20 cm	ANK27-04=
Banksia attenuata	6	400 cm		6	400 cm	
Banksia menziesii	5	300 cm		5	300 cm	
**Briza maxima*	0.1	30 cm		0.1	30 cm	
Burchardia congesta	0.1	30 cm		0.1	30 cm	
**Carpobrotus edulis*	12	20 cm		12	20 cm	
Cartonema philydroides	0.1	25 cm	ANK27-07			
Centrolepis drummondiana	0.1	5 cm		0.1	5 cm	
Conostylis aculeata subsp. *aculeata*	3	40 cm	ANK27-06	3	40 cm	ANK27-06=
Crassula colorata var. *acuminata*	0.1	5 cm	ANK66-02=	0.1	5 cm	ANK66-02=
Dianella revoluta var. *revoluta*	0.1	50 cm		0.1	50 cm	
**Ehrharta calycina*	45	110 cm		45	110 cm	
**Gladiolus caryophyllaceus*	0.1	120 cm		0.1	120 cm	
Gompholobium tomentosum	0.5	90 cm		0.5	90 cm	
**Hypochaeris radicata*	0.1	10 cm		0.1	10 cm	
Isolepis marginata				0.1	5 cm	
Lepidosperma apricola	1.5	30 cm	ANK27-03	1.5	45 cm	ANK27R-01
Lomandra hermaphrodita	0.1	30 cm		0.1	30 cm	
**Lotus subbiflorus*	0.1	20 cm	ANK27-08	0.1	20 cm	ANK27-08=
Microtis media subsp. *media*	0.1	20 cm		0.1	25 cm	ANK27R-02
**Romulea rosea* var. *australis*				0.1	20 cm	

Species	Phase 1			Phase 2		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
Scholtzia involucrata	3.5	280 cm	ANK27-01	3.5	280 cm	ANK27-01=
Sowerbaea laxiflora	0.1	30 cm				
Thysanotus manglesianus	0.1	50 cm	ANK27-02b			
Thysanotus sp. (*manglesianus/patersonii*)				0.1	50 cm	
**Ursinia anthemoides* subsp. *anthemoides*	0.1	10 cm		0.1	10 cm	
**Vulpia bromoides*	0.1	20 cm	ANK27-05			

ANK27	Phase 1	Phase 2
Understorey		
Overstorey		

Site ANK28

Ph 1: Described by	RMABS	Date	12/10/2020	Type	Quadrat	10 x 10 m		
Ph 2: Described by	ABSMK	Date	20/11/2020	Type	Quadrat	10 x 10 m		
MGA Zone	50	390379	mE	6435645	mN	115.836813 E	-32.210442 S	

Habitat Plain gently sloping south.

Soil 10YR 2/1 black. Sandy loam.

Rock Type Nil.

Vegetation Ph 1: *Melaleuca preissiana, Banksia ilicifolia, B. attenuata* low woodland over *Kunzea glabrescens, Jacksonia sternbergiana* tall shrubland over *Lepidosperma apricola* sedgeland over **Briza maxima, *Ehrharta calycina* very open grassland over **Carpobrotus edulis* very open succulent herbland.
Ph 2: *Melaleuca preissiana, Banksia ilicifolia, B. attenuata* low woodland over *Kunzea glabrescens, Jacksonia sternbergiana* tall shrubland over *Lepidosperma apricola* sedgeland over **Briza maxima, *Ehrharta calycina* very open grassland over **Carpobrotus edulis* very open succulent herbland.

Veg Condition Ph 1: Very Good to Good. Ph 2: Very Good.

Fire Age No sign of recent fire.

Notes Rabbit diggings around site.

Species	Phase 1			Phase 2		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
**Aira praecox*	0.1	20 cm	ANK27-02=	0.1	8 cm	ANK27-02=
Banksia attenuata	5	750 cm		5	750 cm	
Banksia ilicifolia	11	900 cm	ANK28-01	11	900 cm	ANK28-01=
**Briza maxima*	2	40 cm		2	40 cm	
**Briza minor*	0.1	20 cm		0.1	20 cm	
Caladenia sp.	0.1	20 cm				
**Carpobrotus edulis*	8	20 cm		8	20 cm	
Centrolepis drummondiana	0.1	5 cm		0.1	5 cm	
Crassula colorata var. *acuminata*	0.1	5 cm	ANK66-02=	0.1	5 cm	ANK66-02=
**Crassula glomerata*	0.1	5 cm	ANK26-07=			
Dianella revoluta var. *revoluta*	0.5	50 cm		0.5	50 cm	
Drosera glanduligera	0.1	5 cm	ANK28-04			
**Ehrharta calycina*	1	90 cm		1	90 cm	
**Ehrharta longiflora*	0.1	50 cm		0.1	50 cm	
**Gladiolus caryophyllaceus*	0.1	70 cm		0.1	70 cm	
**Hypochaeris radicata*	0.1	20 cm		0.1	20 cm	
Isolepis marginata	0.1	5 cm	ANK28-03	0.1	5 cm	ANK28-03=
Jacksonia sternbergiana	8	500 cm		8	500 cm	
Kunzea glabrescens	14	450 cm		14	450 cm	
Lechenaultia sp.	0.25	30 cm	ANK28-06	0.25	30 cm	ANK28-06=
Lepidosperma apricola	42	70 cm	ANK27-03=	42	70 cm	ANK27-03=
Melaleuca preissiana	2	800 cm		2	800 cm	
Microtis media subsp. *media*	0.1	30 cm		0.1	30 cm	ANK28R-01

Species	Phase 1			Phase 2		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
**Pentameris airoides*	0.1	5 cm	ANK28-05	0.1	5 cm	ANK28-05=
Poranthera microphylla	0.1	5 cm	ANK26=			
**Romulea rosea* var. *australis*				0.1	20 cm	
**Sonchus oleraceus*				0.1	15 cm	
Thysanotus manglesianus	0.1	40 cm	ANK28-03b	0.1	40 cm	ANK28-03b=
**Urospermum picroides*	0.1	20 cm		0.1	20 cm	
**Ursinia anthemoides* subsp. *anthemoides*	0.1	40 cm		0.1	40 cm	

ANK28	Phase 1	Phase 2
Understorey		
Overstorey		

Site ANK32

Ph 1: Described by	NPMK	Date	11/10/2020	Type	Quadrat	10 x 10 m		
Ph 2: Described by	Not resampled							
MGA Zone	50	391092	mE	6435861	mN	115.844397 E	-32.208562 S	

Habitat Sandplain, potentially seasonally inundated.

Soil 10YR 2/1 black. Sand.

Rock Type Nil.

Vegetation *Kunzea glabrescens* tall open shrubland over *Xanthorrhoea preissii* scattered grass trees over *Acacia pulchella* scattered shrubs over **Ehrharta longiflora, *Vulpia myuros, *Bromus diandrus, *Lagurus ovatus* scattered grasses over **Arctotheca calendula* scattered herbs.

Veg Condition Degraded.

Fire Age No sign of recent fire.

Notes Area heavily grazed by livestock.

Species	Phase 1		
	Cover (%)	Height (cm)	Specimen
Acacia pulchella	0.5	180 cm	
**Arctotheca calendula*	1	15 cm	
**Bromus diandrus*	0.5	15 cm	
Crassula decumbens var. *decumbens*	0.1	5 cm	ANK32-02
**Ehrharta calycina*	0.1	85 cm	
**Ehrharta longiflora*	0.5	10 cm	
**Eragrostis curvula*	0.1	45 cm	
**Erodium botrys*	0.1	10 cm	ANK35-09=
Hibbertia hypericoides subsp. *hypericoides*	0.1	25 cm	
**Hypochaeris glabra*	0.1	10 cm	
**Hypochaeris radicata*	0.1	10 cm	
Kunzea glabrescens	4	350 cm	ANK52-01=
**Lagurus ovatus*	0.5	15 cm	
**Lolium rigidum*	0.1	20 cm	
**Orobanche minor*	0.1	15 cm	
Polygonum sp.	0.1	5 cm	ANK32-03
**Romulea rosea* var. *australis*	0.1	15 cm	
**Trifolium hirtum*	0.1	5 cm	ANK32-04
**Vulpia myuros* forma *myuros*	0.1	13 cm	ANK32-01
Xanthorrhoea preissii	1	350 cm	

ANK32	Phase 1
Understorey	
Overstorey	

Site ANK33

Ph 1: Described by	NPMK	Date	11/10/2020	Type	Quadrat	10 x 10 m	
Ph 2: Described by	ABSMK	Date	20/11/2020	Type	Quadrat	10 x 10 m	
MGA Zone	50	391186	mE	6435707	mN	115.845381 E	-32.209962 S

Habitat Flat plain.

Soil 10YR 2/1 black. Sand; high humic matter.

Rock Type Nil.

Vegetation Ph 1: *Xylomelum occidentale, Banksia menziesii, B. attenuata* low woodland over *Kunzea glabrescens* scattered tall shrubs over *Xanthorrhoea preissii* open grass trees over *Macrozamia riedlei* scattered cycads over *Hibbertia hypericoides* subsp. *hypericoides* low open shrubland over **Ehrharta calycina* scattered grasses.

Ph 2: *Xylomelum occidentale, Banksia menziesii, B. attenuata* low woodland over *Kunzea glabrescens* scattered tall shrubs over *Xanthorrhoea preissii* open grass trees over *Macrozamia riedlei* scattered cycads over *Hibbertia hypericoides* subsp. *hypericoides* low open shrubland over **Ehrharta calycina* scattered grasses.

Veg Condition Ph 1: Very Good. Ph 2: Very Good.

Fire Age No sign of recent fire.

Notes *Kunzea, Xylomelum* & *Banksia* seedling recruitment present.

Species	Phase 1			Phase 2		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
Acacia pulchella	0.1	15 cm		0.1	15 cm	
Acacia stenoptera	0.1	50 cm	ANK33-06			
**Arctotheca calendula x populifolia*	0.1	20 cm	ANK34-07=			
**Asparagus asparagoides*	0.1	45 cm				
Austrostipa compressa	0.1	20 cm	ANK33-01	0.1	45 cm	ANK73R-02=
Austrostipa mollis				0.1	100 cm	ANK33R-06
Banksia attenuata	1	350 cm		1	450 cm	
Banksia menziesii	3	400 cm		3	400 cm	
**Briza maxima*	0.1	20 cm		0.1	20 cm	
Burchardia congesta	0.1	45 cm	ANK33-04	0.1	55 cm	
Caesia micrantha	0.1	30 cm	ANK33-02	0.1	30 cm	ANK33R-03
Caladenia flava subsp. *flava*	0.1	10 cm		0.1	10 cm	
Calytrix flavescens	0.1	10 cm	ANK33-07			
Centrolepis drummondiana	0.1	5 cm	ANK33-03			
Chamaescilla corymbosa var. *corymbosa*	0.1	20 cm		0.1	20 cm	
Conostylis aculeata subsp. *aculeata*	0.1	25 cm		0.1	25 cm	ANK33R-02
Desmocladus flexuosus	0.1	15 cm	ANK33-08			
Dianella revoluta var. *revoluta*	0.1	45 cm	ANK34-02=			
Drosera porrecta	0.1	15 cm	ANK36-05=			
**Ehrharta calycina*	1	70 cm		1	70 cm	

Species	Phase 1			Phase 2		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
**Ehrharta longiflora*				0.1	30 cm	
Erigeron sp.				0.1	1 cm	ANK51R-04=
Gastrolobium capitatum	0.1	15 cm	ANK33-09	0.1	40 cm	ANK33R-01
**Gladiolus caryophyllaceus*	0.1	25 cm		0.1	25 cm	
Gompholobium tomentosum	0.1	10 cm		0.1	10 cm	
Hardenbergia comptoniana	0.1	500 cm		0.1	500 cm	
Hibbertia hypericoides subsp. *hypericoides*	5	55 cm		5	120 cm	
Homalosciadium homalocarpum				0.1	4 cm	ANK34R-03=
**Hypochaeris glabra*	0.1	3 cm		0.1	3 cm	
**Hypochaeris radicata*	0.1	1 cm		0.1	1 cm	
Jacksonia sp.	0.1	7 cm	ANK33-10			
Jacksonia sternbergiana	0.1	10 cm		0.1	10 cm	
Kunzea glabrescens	2	300 cm	ANK52-01=	2	400 cm	ANK52-01=
Lepidosperma calcicola				0.1	70 cm	ANK33R-07
Levenhookia stipitata	0.1	4 cm	ANK52-04=	0.1	10 cm	
Lomandra caespitosa	0.1	40 cm	ANK33-12			
Lomandra preissii	0.1	55 cm	ANK33-05	0.1	55 cm	ANK33-05
**Lysimachia arvensis*	0.1	6 cm		0.1	6 cm	
Macrozamia riedlei	1	100 cm		1	100 cm	
Mesomelaena pseudostygia	0.1	40 cm	ANK36-01=	0.1	40 cm	ANK36-01=
Phyllanthus calycinus	0.1	20 cm		0.1	20 cm	
Podolepis gracilis	0.1	15 cm	ANK42-09=			
**Romulea rosea* var. *australis*	0.1	50 cm		0.1	50 cm	
Schoenus clandestinus				0.1	8 cm	ANK33R-05
**Sonchus oleraceus*	0.1	10 cm		0.1	10 cm	
Sowerbaea laxiflora	0.1	55 cm				
Trachymene pilosa	0.1	15 cm		0.1	15 cm	
**Ursinia anthemoides* subsp. *anthemoides*				0.1	20 cm	
**Wahlenbergia capensis*	0.1	4 cm		0.1	20 cm	
Xanthorrhoea brunonis subsp. *brunonis*				0.1	100 cm	
Xanthorrhoea preissii	10	250 cm		10	250 cm	
Xylomelum occidentale	20	500 cm		20	500 cm	
**Zantedeschia aethiopica*	0.1	25 cm				

ANK33	Phase 1	Phase 2
Understorey		
Overstorey		

Site ANK34

Ph 1: Described by	NPMK	Date	11/10/2020	Type	Quadrat	10 x 10 m		
Ph 2: Described by	ABSMK	Date	20/11/2020	Type	Quadrat	10 x 10 m		
Ph 3: Described by	ALPLdK	Date	14/09/2022	Type	Quadrat	10 x 10 m		
MGA Zone	50	391495	mE	6435713	mN	115.848663 E	-32.209937 S	

Habitat Roadside verge, slightly sloping.

Soil 10YR 2/1 black. Sand; high humic matter.

Rock Type Nil.

Vegetation Ph 1: *Eucalyptus marginata* (*Banksia menziesii*) low woodland over *Kunzea glabrescens, Calothamnus quadrifidus* subsp. *teretifolius* tall shrubland over *Hibbertia hypericoides* subsp. *hypericoides, Hardenbergia comptoniana* open shrubland over *Mesomelaena pseudostygia* scattered sedges over **Eragrostis curvula, *Ehrharta calycina* very open grassland.

Ph 2: *Eucalyptus marginata* (*Banksia menziesii*) low woodland over *Kunzea glabrescens, Calothamnus quadrifidus* subsp. *teretifolius* tall shrubland over *Xanthorrhoea brunonis* subsp. *brunonis* scattered grass trees over *Hibbertia hypericoides* subsp. *hypericoides, Hardenbergia comptoniana* open shrubland over *Mesomelaena pseudostygia* scattered sedges over **Eragrostis curvula, *Ehrharta calycina* very open grassland.

Ph 3: *Eucalyptus marginata subsp. marginata* (*Banksia menziesii*) low woodland over *Kunzea glabrescens* tall shrubland over *Calothamnus quadrifidus subsp. teretifolius* open shrubland over *Hibbertia hypericoides subsp. hypericoides* low open shrubland over *Mesomelae.*

Veg Condition Ph 1: Good. Ph 2: Good. Ph 3: Poor.

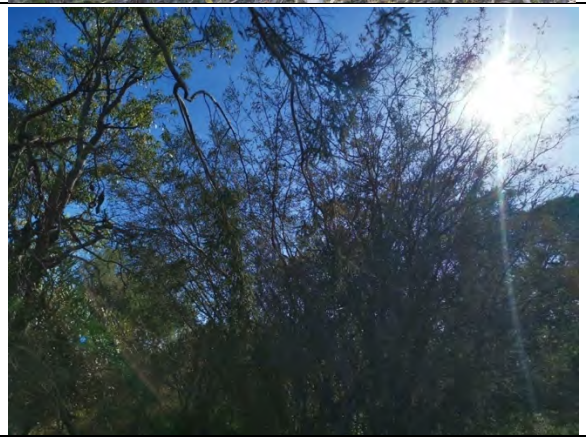
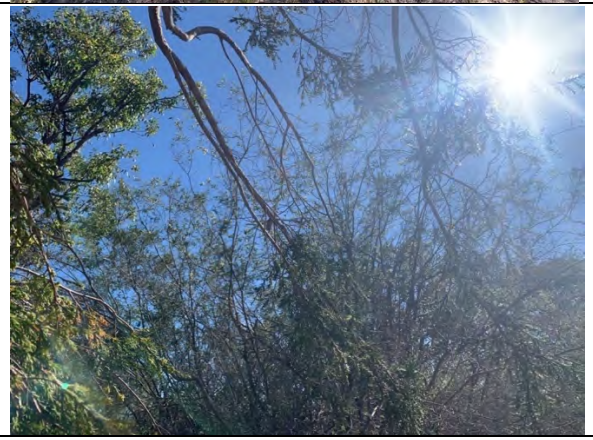
Fire Age No sign of recent fire.

Notes *Banksia* seedling recruitment present.

Species	Phase 1			Phase 2			Phase 3		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
Acacia willdenowiana							0.1	50	ANK34-06
**Arctotheca calendula*	0.1	20 cm							
**Arctotheca calendula x populifolia*	0.1	15 cm	ANK34-07				50	1	
**Asparagus asparagoides*	0.1	15 cm		0.1	15 cm		0.1	40	
**Avena barbata*	0.1	85 cm		0.1	85 cm				
Banksia menziesii	5	250 cm		5	350 cm		330	2	
**Briza maxima*	0.1	20 cm		0.1	20 cm		25	1	
Caladenia flava subsp. *flava*	0.1	10 cm		0.1	10 cm				
Caladenia latifolia							40	1	
Calothamnus quadrifidus subsp.	5	250 cm	ANK35-01=				5	180	
Centrolepis polygyna				0.1	10 cm		0.1	8	
Chamaescilla corymbosa var. *corymbosa*							0.1	15	
Conostylis aculeata subsp. *aculeata*	0.1	20 cm		0.1	20 cm	ANK34R-02	0.1	40	
Crassula colorata var. *colorata*	0.1	5 cm	ANK52-09=	0.1	5 cm	ANK52-09=	0.1	8	
**Crassula glomerata*	0.1	5 cm	ANK34-08	0.1	5 cm	ANK34-08=	0.1	8	
Desmocladus flexuosus	0.1	10 cm	ANK38-03=	0.1	10 cm	ANK38-03=	0.1	25	

Species	Phase 1			Phase 2			Phase 3		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
Dianella revoluta var. *revoluta*	0.1	45 cm	ANK34-02	0.1	45 cm	ANK34-02=	0.1	50	
Drosera porrecta							0.1	10	
**Ehrharta calycina*	0.5	120 cm		1.5	100 cm		3	100	
**Ehrharta longiflora*	0.1	15 cm		0.1	15 cm		0.5	40	
**Eragrostis curvula*	5	100 cm		5	100 cm		5	100	
**Erodium botrys*	0.1	15 cm	ANK36-17=	0.1	15 cm	ANK36-17=			
Eucalyptus marginata subsp.	15	650 cm		15	900 cm		15	900	
**Euphorbia peplus*							0.1	25	
**Euphorbia terracina*	0.1	35 cm	ANK35-05=	0.1	35 cm	ANK35-05=	0.5	15	
Freesia alba x leichtlinii							0.1	25	
**Gladiolus caryophyllaceus*				0.1	35 cm		0.1	50	
Gompholobium tomentosum				0.1	5 cm		0.1	50	
Hardenbergia comptoniana	0.5	250 cm		0.5	250 cm		0.1	230	
Hibbertia hypericoides subsp.	5	100 cm		5	100 cm		5	100	
Homalosciadium homalocarpum				0.1	8 cm	ANK34R-03			
**Hypochaeris glabra*	0.1	5 cm		0.1	5 cm		0.1	40	
**Hypochaeris radicata*	0.1	10 cm		0.1	10 cm		0.1	80	
Kunzea glabrescens	20	500 cm	ANK52-01=	20	500 cm	ANK52-01=	20	550	
**Leontodon rhagadioloides*	0.1	20 cm	ANK35-08=	0.1	20 cm	ANK35-08=			
Lomandra hermaphrodita	0.1	45 cm	ANK34-05a	0.1	45 cm	ANK34-05a=			
**Lupinus cosentinii*							0.1	25	
**Lupinus* sp.	0.1	15 cm	ANK34-05b						
**Lysimachia arvensis*	0.1	15 cm		0.1	15 cm		10	1	
**Lythrum* sp.	0.1	3 cm	ANK34-04						
Macrozamia riedlei	0.1	100 cm		0.1	100 cm				
Mesomelaena pseudostygia	0.5	70 cm	ANK36-01=	0.5	70 cm	ANK36-01=	1	90	
Microtis media subsp. *media*	0.1	15 cm							
**Olea europaea* subsp. *europaea*	0.1	45 cm	ANK34-06	0.1	45 cm	ANK34-06=	0.1	60	
**Petrorhagia dubia*	0.1	20 cm		0.1	20 cm				
Poranthera moorokatta	0.1	3 cm	ANK42-08=						
Pterostylis ectypha							0.1	5	ANK34-04
Pterostylis sp.	0.1	8 cm							
Pterostylis vittata							0.1	15	ANK34-05
Retama raetam							0.1	15	ANK34-02
**Romulea rosea* var. *australis*	0.1	15 cm		0.1	15 cm		0.25	40	
**Silene gallica* var. *gallica*				0.1	20 cm	ANK34R-01			
**Solanum nigrum*	0.1	2 cm	ANK34-03						
**Sonchus oleraceus*	0.1	20 cm		0.1	20 cm		0.1	45	
Styphelia propinqua	0.1	65 cm	ANK34-01	0.1	65 cm	ANK34-01=			

Species	Phase 1			Phase 2			Phase 3		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
Trachymene pilosa	0.1	6 cm		0.1	6 cm		0.1	8	
**Trifolium campestre* var. *campestre*	0.1	2 cm		0.1	2 cm		0.1	25	
**Urospermum picroides*				0.1	25 cm		0.1	25	
**Ursinia anthemoides* subsp.	0.1	35 cm		0.1	35 cm		0.1	40	
Vulpia myuros var. *myuros*							0.1	50	ANK34-01
**Wahlenbergia capensis*	0.1	3 cm		0.1	3 cm				
Xanthorrhoea brunonis subsp. *brunonis*	0.1	50		0.5	50 cm		0.1	70	
Xanthorrhoea preissii	0.1	120 cm		0.1	125 cm				

ANK34	Phase 1	Phase 2	Phase 3
Understorey			
Overstorey			

Site ANK35

Ph 1: Described by	NPMK	Date	10/10/2020	Type	Quadrat	10 x 10 m		
Ph 2: Described by	Not resampled							
Ph 3: Described by	JTTH	Date	08/09/2022	Type	Quadrat	10 x 10 m		
MGA Zone	50	391771	mE	6435741	mN	115.851589 E	-32.209710 S	

Habitat Roadside drain.

Soil 10YR 3/2 very dark greyish brown. Sand.

Rock Type Nil.

Vegetation Ph 1: **Callistemon citrinus* tall open shrubland over *Calothamnus quadrifidus* subsp. *teretifolius, C. rupestris, Melaleuca systena* closed heath over **Ehrharta longiflora, Austrostipa compressa* very open grassland over **Oxalis pes-caprae, *Euphorbia peplus, *Lotus subbiflorus, *Trifolium campestre* var. *campestre* very open herbland.

Ph 3: *Calothamnus rupestris* (*Melaleuca systena*) tall shrubland over *Calothamnus quadrifidus subsp. teretifolius* open heath.

Veg Condition Ph 1: Degraded. Ph 3: Very Poor to Completely Degraded.

Fire Age No sign of recent fire.

Notes Very weedy area with planted veg (Callistemon and Calothamnus). Eucalyptus rudis and Acacia spp. nearby plot.

Species	Phase 1			Phase 3		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
**Asparagus asparagoides*				0.1	40	
Austrostipa compressa	1	15 cm	ANK52-03=			
**Avena barbata*	0.1	40 cm				
Caladenia flava subsp. *flava*				0.1	5	
**Callistemon citrinus*	5	300 cm	ANK35-03			
Calothamnus quadrifidus subsp. *teretifolius*	50	150 cm	ANK35-01	50	160	
Calothamnus rupestris	20	200 cm	ANK35-02	20	210	
Clematis linearifolia				0.1	75	ANK35-01
Cynodon dactylon				0.1	10	ANK35-04
**Ehrharta calycina*	0.1	100 cm		1.5	45	
**Ehrharta calycina*				0.1	50	ANK35-06
**Ehrharta longiflora*	2	40 cm		60	45	
**Erodium botrys*	0.1	15 cm	ANK35-09			
**Euphorbia peplus*	2	20 cm	ANK35-06	2.5	5	
**Euphorbia terracina*	0.1	40 cm	ANK35-05	0.1	60	
**Gladiolus caryophyllaceus*	0.1	65 cm	ANK35-07	0.1	60	ANK35-02
**Hypochaeris glabra*	0.1	15 cm				
Lactuca serriola				0.1	8	
**Lagurus ovatus*	0.5	20 cm				
**Leontodon rhagadioloides*	0.1	20 cm	ANK35-08			
**Lolium perenne*				0.1	30	ANK35-05

Species	Phase 1			Phase 3		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
**Lolium rigidum*	0.1	30 cm				
**Lotus subbiflorus*	1	15 cm		0.25	3	
**Lysimachia arvensis*	0.1	10 cm		0.1	8	
**Medicago polymorpha*	0.1	15 cm				
Melaleuca systena	1	200 cm	ANK35-04	1.5	220	
**Oxalis pes-caprae*	5	10 cm		8	35	
**Sonchus oleraceus*	0.5	65 cm		0.1	8	
**Trifolium campestre* var. *campestre*	1	15 cm		0.1	5	
Urospermum picroides				0.1	8	
Unknown, narrow leaf grass, no culm				0.1	20	ANK35-03
Vulpia myuros var. *megalura*				0.1	22	ANK35-07

ANK35	Phase 1	Phase 3
Understorey		
Overstorey		

SiteANK36

Ph 1: Described by	NPMK	Date	10/10/2020	Type	Quadrat	10 x 10 m		
Ph 2: Described by	SW	Date	19/11/2020	Type	Quadrat	10 x 10 m		
Ph 3: Described by	JTTH	Date	08/09/2022	Type	Quadrat	10 x 10 m		
MGA Zone	50	391764	mE	6435627	mN	115.851498 E	-32.210739 S	

Habitat Low lying plain.

Soil 10YR 3/1 very dark grey. Sand.

Rock Type Nil.

Vegetation Ph 1: *Banksia menziesii* low woodland over **Leptospermum laevigatum, Kunzea glabrescens* tall open shrubland over *Hibbertia hypericoides* subsp. *hypericoides* low open shrubland over *Conostylis aculeata* subsp. *aculeata* scattered herbs.

Ph 2: *Banksia menziesii* low open forest over *Kunzea glabrescens, *Leptospermum laevigatum* tall shrubland over *Hibbertia hypericoides* subsp. *hypericoides* low shrubland over *Mesomelaena pseudostygia* very open sedgeland over *Conostylis aculeata* subsp. *aculeata* scattered herbs.

Ph 3: *Banksia menziesii* low open forest over *Kunzea glabrescens* tall open shrubland over *Hibbertia hypericoides subsp. hypericoides* low shrubland over *Mesomelaena pseudostygia* scattered sedges over *Conostylis aculeata subsp. aculeata* (*Chamaescilla corymbosa var. corymbosa*).

Veg Condition Ph 1: Very Good. Ph 2: Excellent to Very Good. Ph 3: Very Good.

Fire Age No sign of recent fire.

Notes Lots of leaf litter from *Banksia*. *Banksia menziesii* seedling recruitment through quadrat. Quenda diggings present.

Species	Phase 1			Phase 2			Phase 3		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
Acacia sp.							0.1	3 cm	NC
Acacia stenoptera							0.1	40 cm	ANK36-02
**Aira cupaniana*	0.1	5 cm							
Banksia menziesii	20	650 cm		46	800 cm		47	650 cm	
Bossiaea eriocarpa	0.1	15 cm		0.1	20 cm				
**Briza maxima*	0.1	30 cm		0.1	20 cm		0.1	20 cm	
Caladenia flava subsp. *flava*	0.1	8 cm					0.1	4 cm	
Centrolepis drummondiana							0.1	1 cm	
Chamaescilla corymbosa var.	0.1	20 cm		0.1	20 cm		0.5	15 cm	
Conostylis aculeata subsp. *aculeata*	1	25 cm		1.5	25 cm		1.5	20 cm	
Conostylis aculeata subsp. *preissii*	0.1	25 cm	ANK36-16	0.1	25 cm	ANK36-16=			
Daviesia divaricata subsp. *divaricata*	0.1	75 cm	ANK36-04	0.1	75 cm	ANK36-04=	0.1	30 cm	
Drosera erythrorhiza	0.1	1 cm	ANK36-10				0.1	2 cm	
Drosera porrecta	0.1	25 cm	ANK36-05				0.1	10 cm	
Drosera sp.	0.1	10 cm	ANK36-15						
**Ehrharta calycina*	0.1	120 cm		0.1	20 cm		0.1	100 cm	
**Ehrharta longiflora*							0.1	30 cm	
**Erodium botrys*	0.1	2 cm	ANK36-17						
Fabaceae sp.	0.1	5 cm	ANK36-14	0.1	5 cm	ANK36R-03			

Species	Phase 1			Phase 2			Phase 3		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
Gastrolobium capitatum	0.1	15 cm	ANK36-03				0.1	30 cm	
**Gladiolus caryophyllaceus*	0.1	80 cm		0.1	80 cm		0.1	100 cm	
Gompholobium tomentosum	0.1	30 cm		0.1	30 cm		0.1	10 cm	
Haemodorum sp.	0.1	45 cm	ANK36-13						
Hibbertia hypericoides subsp.	8	100 cm		12	100 cm		17	100 cm	
Hovea trisperma var. *trisperma*	0.1	45 cm	ANK36-12	0.1	45 cm	ANK36-12=	0.1	70 cm	
Hybanthus calycinus	0.1	15 cm	ANK36-02				0.1	15 cm	
Hypocalymma robustum							0.1	50 cm	ANK36-01
**Hypochaeris glabra*	0.1	30 cm		0.1	10 cm		0.1	5 cm	
Jacksonia sternbergiana	0.1	110 cm		0.1	110 cm				
Kunzea glabrescens	2	200 cm	ANK52-01=	6	400 cm	ANK52-01=	7	500 cm	
**Leptospermum laevigatum*	2	350 cm		4	500 cm		6	550 cm	
Levenhookia stipitata	0.1	3 cm	ANK52-04=	0.1	10 cm	ANK36R-02			
Lomandra caespitosa	0.1	35 cm	ANK36-08				0.1	40 cm	
Lomandra hermaphrodita				0.1	40 cm		0.1	45 cm	
**Lysimachia arvensis*							0.1	3 cm	
Mesomelaena pseudostygia	0.1	55 cm	ANK36-01	2	50 cm	ANK36-01=	2	80 cm	
Microtis media subsp. *media*	0.1	20 cm		0.1	20 cm				
Persoonia saccata	0.1	110 cm	ANK36-09	0.1	110 cm	ANK36-09=	0.1	80 cm	
Podolepis gracilis	0.1	15 cm	ANK42-09	0.1	15 cm	ANK36R-01	0.1	10 cm	
Pterostylis vittata							0.1	30 cm	
**Romulea rosea* var. *australis*	0.1	25 cm	ANK36-07	0.1	50 cm	ANK36-07=	0.1	25 cm	
Schoenus clandestinus	0.1	5 cm	ANK36-06				0.1	5 cm	
**Sonchus oleraceus*	0.1	5 cm		0.1	10 cm		0.1	1 cm	
Sowerbaea laxiflora	0.1	55 cm		0.1	55 cm		0.1	45 cm	
Thysanotus sp.	0.1	40 cm	ANK52-15=				0.1	20 cm	NC
Trachymene pilosa	0.1	10 cm		0.1	10 cm		0.1	2 cm	
**Ursinia anthemoides* subsp.	0.1	20 cm		0.1	25 cm		0.1	5 cm	

ANK36	Phase 1	Phase 2	Phase 3
Understorey			
Overstorey			

Site ANK38

Ph 1: Described by	NPMK	Date	10/10/2020	Type	Relevé	5 x 20 m		
Ph 2: Described by	SW	Date	19/11/2020	Type	Relevé	5 x 20 m		
Ph 3: Described by	JTTH	Date	08/09/2022	Type	Relevé	5 x 20 m		
MGA Zone	50	392665	mE	6435829	mN	115.861081 E	-32.209006 S	

Habitat Roadside verge, flat plain.

Soil 10YR 3/1 very dark grey. Sand.

Rock Type Nil.

Vegetation Ph 1: *Banksia menziesii* low open woodland over *Kunzea glabrescens* tall shrubland over *Xanthorrhoea preissii* scattered grass trees over **Ehrharta calycina, *Eragrostis curvula* grassland over **Freesia alba x leichtlinii, Conostylis aculeata* subsp. *aculeata* very open perennial herbland.

Ph 2: *Banksia menziesii* low open woodland over *Kunzea glabrescens* tall shrubland over *Xanthorrhoea preissii* very open grass trees over *Stirlingia latifolia* scattered low shrubs over **Ehrharta calycina, *Eragrostis curvula, *Avena barbata* open grassland over *Conostylis aculeata* subsp. *aculeata* scattered herbland.

Ph 3: *Banksia menziesii* low open woodland over *Kunzea glabrescens* tall shrubland over *Xanthorrhoea preissii* open shrubland over *Conostylis aculeata subsp. aculeata* scattered herbs.

Veg Condition Ph 1: Degraded.Ph 2: Good. Ph 3: Good to Poor.

Fire Age No sign of recent fire.

Species	Phase 1			Phase 2			Phase 3		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
Acacia pulchella	0.1	25 cm		0.1	40 cm		0.1	100 cm	
**Avena barbata*	0.1	85 cm		2	85 cm				
Banksia menziesii	2	150 cm		8	620 cm		9	630 cm	
Bossiaea eriocarpa							0.1	35 cm	
Brachyloma preissii	0.1	30 cm	ANK38-02	0.1	55 cm	ANK38-02=	0.1	70 cm	
Brassica tournefortii							0.1	20 cm	ANK38R-06
**Briza maxima*	0.5	15 cm		0.5	20 cm		0.1	20 cm	
Conostylis aculeata subsp. *aculeata*	1	25 cm		1	25 cm		0.5	25 cm	
Crassula colorata var. *colorata*	0.1	3 cm	ANK52-09=				0.1	1 cm	
Dampiera linearis	0.1	10 cm		0.1	10 cm		0.1	4 cm	
Dampiera linearis							0.1	20 cm	ANK38R-01
Desmocladus flexuosus	0.1	20 cm	ANK38-04						
Dianella revoluta var. *revoluta*				0.1	45 cm		0.1	55 cm	
Drosera erythrorhiza	0.1	1 cm	ANK36-10=				0.1	1 cm	
**Ehrharta calycina*	30	130 cm		24	130 cm		29	105 cm	
**Eragrostis curvula*	1	130 cm		2	120 cm		4	130 cm	
**Euphorbia peplus*	0.1	10 cm	ANK35-06=	0.1	10 cm		0.1	10 cm	
**Euphorbia terracina*	0.1	20 cm	ANK35-05=	0.1	30 cm		0.1	30 cm	
**Freesia alba x leichtlinii*	2	20 cm					6	20 cm	
**Galium murale*	0.1	6 cm	ANK38-05				0.1	3 cm	

Species	Phase 1			Phase 2			Phase 3		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
**Gladiolus caryophyllaceus*	0.5	25 cm		0.1	80 cm		0.1	30 cm	
Gompholobium tomentosum	0.5	40 cm		0.5	50 cm		0.1	80 cm	
Hypocalymma robustum							0.1	50 cm	ANK36-01=
**Hypochaeris glabra*	0.1	1 cm		0.1	25 cm		0.1	5 cm	
**Hypochaeris radicata*	0.1	2 cm					0.1	5 cm	
Isolepis marginata	0.1	4 cm	ANK52-17=				0.1	3 cm	
Jacksonia furcellata							0.1	170 cm	
Kunzea glabrescens	25	300 cm	ANK52-01=	18	390 cm	ANK52-01=	20	400 cm	
Lolium perenne							0.1	10 cm	ANK38R-03
Lomandra caespitosa	0.1	40 cm	ANK38-06	0.1	40 cm	ANK38-06=	0.1	25 cm	
Loxocarya flexuosa							0.1	25 cm	
**Lysimachia arvensis*	0.1	3 cm					0.1	3 cm	
Medicago polymorpha							0.1	5 cm	ANK38R-07
Microtis media subsp. *media*	0.1	50 cm							
**Orobanche minor*				0.1	15 cm				
**Petrorhagia dubia*	0.1	20 cm							
**Romulea rosea* var. *australis*	0.1	15 cm		0.1	10 cm		0.1	5 cm	
**Sonchus oleraceus*	0.1	3 cm		0.1	15 cm		0.1	5 cm	
Stirlingia latifolia	0.1	65 cm		1	80 cm		0.1	80 cm	
Thysanotus manglesianus							0.1	35 cm	ANK38R-04
Thysanotus sp.	0.1	100 cm	ANK52-15=						
Trachymene pilosa							0.1	1 cm	
**Ursinia anthemoides* subsp.	0.1	20 cm		0.1	25 cm		0.1	10 cm	
**Wahlenbergia capensis*	0.1	4 cm					0.1	2 cm	ANK38R-02
**Wahlenbergia capensis*							0.1	8 cm	ANK38R-05
Xanthorrhoea preissii	1	160 cm		3	210 cm		3	155 cm	

ANK38	Phase 1	Phase 2	Phase 3
Understorey		N/A	
Overstorey			

Site ANK39

Ph 1: Described by	SWABS	Date	10/10/2020	Type	Quadrat	10 x 10 m	
Ph 2: Described by	SW	Date	19/11/2020	Type	Quadrat	10 x 10 m	
MGA Zone	50	393113	mE	6435944	mN	115.865850 E	-32.208010 S

Habitat Roadside verge beneath powerline.

Soil 10YR 3/2 very dark greyish brown. Sand.

Rock Type Nil.

Vegetation Ph 1: *Banksia attenuata, B. menziesii* low open woodland over *Adenanthos cygnorum* subsp. *cygnorum*, *Kunzea glabrescens* tall open shrubland over *Hibbertia hypericoides* subsp. *hypericoides, Styphelia conostephioides, Stirlingia latifolia, Hypocalymma robustum, Scholtzia involucrata* low shrubland over *Mesomelaena pseudostygia* scattered sedges over **Ehrharta calycina, *Briza maxima* very open grassland over **Arctotheca calendula, *Ursinia anthemoides* subsp. *anthemoides* scattered herbs.

Ph 2: *Banksia attenuata, B. menziesii* low open woodland over *Adenanthos cygnorum* subsp. *cygnorum, Kunzea glabrescens, Jacksonia sternbergiana* tall shrubland over *Hibbertia hypericoides* subsp. *hypericoides, Styphelia conostephioides, Conostephium pendulum, Stirlingia latifolia, Hypocalymma robustum, Scholtzia involucrata* low shrubland over **Ehrharta calycina, *Briza maxima* very open grassland.

Veg Condition Ph 1: Very Good. Ph 2: Very Good.

Fire Age No sign of recent fire.

Species	Phase 1			Phase 2		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
Acacia alata var. *alata*	0.1	25 cm	ANK39-9	0.1	30 cm	ANK39-09=
Acacia stenoptera	0.1	40 cm		0.1	40 cm	
Adenanthos cygnorum subsp. *cygnorum*	8	420 cm		8	420 cm	
**Arctotheca calendula*	1	350 cm				
Austrostipa compressa	0.1	15 cm	ANK39-3	0.1	25 cm	ANK39-03=
**Avena barbata*	0.1	40 cm		0.1	40 cm	
Banksia attenuata	5	420 cm		6	420 cm	
Banksia menziesii	2	350 cm		2.5	350 cm	
**Briza maxima*	1	30 cm		1	30 cm	
Burchardia congesta	0.1	25 cm		0.1	25 cm	
Caladenia discoidea	0.1	12 cm				
Caladenia flava subsp. *flava*	0.1	10 cm				
Calytrix flavescens				0.5	40 cm	ANK39R-01
**Carpobrotus edulis*	0.1	10 cm		0.1	5 cm	
Cassytha flava/pomiformis	0.1	25 cm	ANK39-7			
Centrolepis drummondiana	0.1	10 cm				
Conostephium pendulum				3	45 cm	ANK40-27=
Conostylis setigera subsp. *setigera*	0.1	10 cm		0.1	15 cm	
Crassula colorata var. *acuminata*	0.1	10 cm	ANK66-02=			
Crassula colorata var. *colorata*				0.1	4 cm	ANK66-02=
Dampiera linearis	0.1	25 cm	ANK40-16=	0.1	30 cm	ANK39R-02

Species	Phase 1			Phase 2		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
Daviesia triflora	0.1	65 cm		0.1	65 cm	
Desmocladus flexuosus	0.5	30 cm	ANK40-03=			
Drosera menziesii	0.1	25 cm	ANK39-1			
**Ehrharta calycina*	5	60 cm		5	120 cm	
**Freesia alba x leichtlinii*	0.25	20 cm				
**Gladiolus caryophyllaceus*	0.1	60 cm		0.1	65 cm	
Glischrocaryon aureum	0.1	60 cm				
Gompholobium tomentosum	0.1	50 cm		0.1	50 cm	
Gonocarpus pithyoides	0.1	70 cm		0.1	70 cm	
Hibbertia hypericoides subsp. *hypericoides*	4	65 cm		4	65 cm	
Hybanthus calycinus	0.1	40 cm	ANK39-14			
Hypocalymma robustum	1	70 cm		1	70 cm	
**Hypochaeris glabra*	0.1	5 cm	ANK39-11			
Jacksonia furcellata	0.1	110 cm	ANK39-13	0.1	110 cm	ANK39-13=
Jacksonia sternbergiana				1.5	350 cm	
Kunzea glabrescens	1.5	200 cm		1.5	200 cm	
Laxmannia squarrosa	0.1	10 cm	ANK39-8	0.1	10 cm	
Levenhookia stipitata	0.1	4 cm	ANK39-10			
Lomandra caespitosa	0.1	15 cm		0.1	15 cm	
Lomandra hermaphrodita	0.1	25 cm		0.1	40 cm	
Lyginia barbata	0.1	40 cm	ANK40-01=	0.1	45 cm	
**Lysimachia arvensis*	0.1	5 cm				
Mesomelaena pseudostygia	1	45 cm		0.1	45 cm	
Patersonia occidentalis var. *occidentalis*	0.5	40 cm		0.5	45 cm	
Petrophile linearis	0.1	40 cm		0.1	45 cm	
Phyllangium paradoxum	0.1	10 cm				
Quinetia urvillei	0.1	5 cm	ANK39-2			
Rhodanthe citrina	0.1	8 cm	ANK39-6			
**Romulea rosea* var. *australis*	0.1	10 cm				
Scholtzia involucrata	1	55 cm	ANK39-12	1	55 cm	ANK39-12=
Siloxerus humifusus	0.1	5 cm				
**Sonchus oleraceus*	0.1	25 cm				
Sowerbaea laxiflora	0.1	40 cm		0.1	45 cm	
Stirlingia latifolia	2	90 cm		2	90 cm	
Stylidium neurophyllum	0.1	25 cm	ANK40-08=	0.1	35 cm	ANK39R-03
Stylidium repens	0.1	5 cm		0.1	5 cm	
Styphelia conostephioides	3	45 cm	ANK39-5	3	45 cm	ANK39-05=
Thysanotus sp. (*manglesianus/patersonii*)	0.1	25 cm				
Trachymene pilosa	0.1	10 cm		0.1	5 cm	

Species	Phase 1			Phase 2		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
**Ursinia anthemoides* subsp. *anthemoides*	1	10 cm		0.1	25 cm	
**Vulpia myuros* forma *megalura*	0.1	15 cm	ANK39-4	0.1	15 cm	ANK39-04=
**Wahlenbergia capensis*	0.1	40 cm		0.5	50 cm	

ANK39	Phase 1	Phase 2
Understorey		
Overstorey		

Site ANK40

Ph 1: Described by	SWABS	Date	10/10/2020	Type	Quadrat	10 x 10 m	
Ph 2: Described by	ABSMK	Date	19/11/2020	Type	Quadrat	10 x 10 m	
MGA Zone	50	393141	mE	6436012	mN	115.866156 E	-32.207393 S

Habitat Sandy plain between two roads.

Soil 10YR 3/1 very dark grey. Sand; high humic matter.

Vegetation Ph 1: *Eucalyptus todtiana, Banksia menziesii, B. attenuata, Allocasuarina fraseriana* low open forest over *Lyginia barbata, Phlebocarya ciliata, Desmocladus flexuosus, Dasypogon bromeliifolius, Sowerbaea laxiflora, Lomandra caespitosa, Patersonia occidentalis* var. *occidentalis, Conostylis aculeata* subsp. *aculeata, Glischrocaryon aureum* perennial herbland.

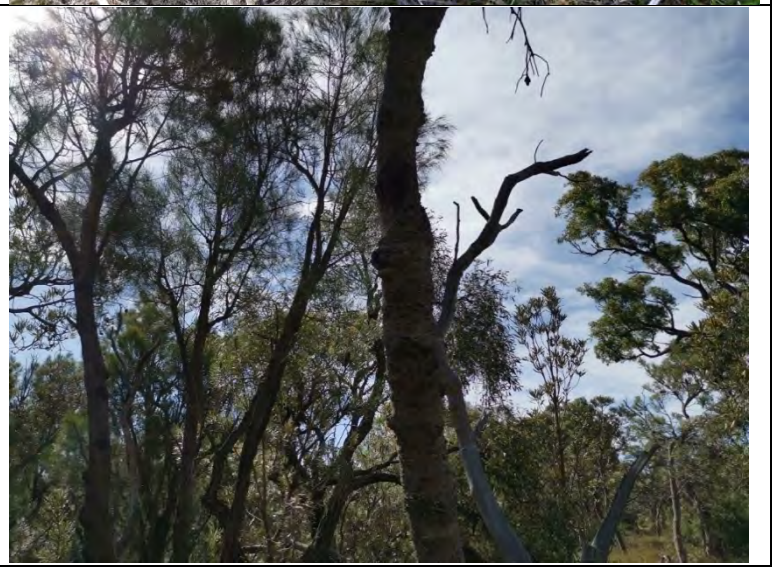
Ph 2: *Eucalyptus todtiana, Banksia menziesii, B. attenuata, Allocasuarina fraseriana* low open forest over *Lyginia barbata, Phlebocarya ciliata, Desmocladus flexuosus, Dasypogon bromeliifolius, Sowerbaea laxiflora, Lomandra caespitosa, Patersonia occidentalis* var. *occidentalis, Conostylis aculeata* subsp. *aculeata* open perennial herbland.

Veg Condition Ph 1: Excellent. Ph 2: Excellent.

Fire Age No sign of recent fire.

Species	Phase 1			Phase 2		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
Acacia huegelii	0.1	15 cm	ANK40-25			
Acacia stenoptera	0.1	40 cm	ANK40-17	0.1	40 cm	ANK40-17=
Allocasuarina fraseriana	6	520 cm		6	600 cm	
Amphipogon turbinatus	0.1	20 cm	ANK40-14	0.1	20 cm	ANK40-14=
Banksia attenuata	4	410 cm		4	410 cm	
Banksia menziesii	6	620 cm		6	750 cm	
Bossiaea eriocarpa	0.1	42 cm		0.1	42 cm	
Brachyloma preissii	0.5	100 cm	ANK40-27	0.5	100 cm	ANK40-27=
**Briza maxima*	0.1	20 cm		0.1	20 cm	
Burchardia congesta	0.1	40 cm		0.1	40 cm	
Caesia micrantha	0.1	45 cm	ANK40-5b			
Caesia occidentalis				0.1	40 cm	ANK40R-02
Caladenia flava subsp. *flava*	0.1	15 cm				
Calytrix flavescens	0.1	45 cm	ANK40-11	0.1	45 cm	ANK40-11=
**Carpobrotus edulis*	0.1	10 cm		0.1	10 cm	
Centrolepis drummondiana	0.1	10 cm				
Chaetospora curvifolia	0.1	45 cm	ANK40-12	0.1	45 cm	ANK40-12=
Chamaescilla corymbosa var. *corymbosa*				0.1	25 cm	
Conostylis aculeata subsp. *aculeata*	1	40 cm	ANK40-2	1	40 cm	ANK40-2=
Conostylis juncea	0.1	25 cm	ANK40-24	0.1	25 cm	ANK40-24=
Conostylis setigera subsp. *setigera*				0.1	15 cm	
Dampiera linearis	0.1	25 cm	ANK40-16	0.1	25 cm	ANK40-16=
Dasypogon bromeliifolius	3	50 cm		3	50 cm	

Species	Phase 1			Phase 2		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
Daviesia triflora	0.1	50 cm	ANK40-19	0.1	50 cm	ANK40-19=
Desmocladus flexuosus	3	20 cm	ANK40-3	3	20 cm	ANK40-3=
Dianella revoluta var. *revoluta*	0.1	50 cm		0.1	50 cm	
**Disa bracteata*	0.1	25 cm	ANK40-15	0.1	15 cm	
Drosera erythrorhiza	0.1	2 cm				
**Ehrharta calycina*	0.1	50 cm		0.1	50 cm	
Elythranthera brunonis	0.1	40 cm	ANK40-20			
Eucalyptus todtiana	16	550 cm		16	550 cm	ANK40R-01
**Freesia alba x leichtlinii*	0.1	20 cm		0.1	20 cm	
Gastrolobium capitatum	0.1	30 cm				
**Gladiolus caryophyllaceus*	0.1	50 cm		0.1	50 cm	
Glischrocaryon aureum	1	40 cm				
Gompholobium tomentosum	0.1	30 cm		0.1	30 cm	
Homalosciadium homalocarpum				0.1	2 cm	ANK40R-04
Hypocalymma robustum	0.1	50 cm		0.1	50 cm	
**Hypochaeris radicata*	0.1	10 cm				
Kunzea glabrescens	0.1	40 cm		0.1	40 cm	
Lepidosperma calcicola	0.1	60 cm	ANK40-28	0.1	60 cm	ANK40-28=
Lomandra caespitosa	2	40 cm	ANK40-13	2	40 cm	ANK40-13=
Lomandra sp.	0.1	25 cm	ANK40-6	0.1	25 cm	ANK40-6=
Lyginia barbata	13	50 cm	ANK40-1	13	50 cm	ANK40-1=
**Lysimachia arvensis*				0.1	3 cm	
Microtis media subsp. *media*				0.1	45 cm	ANK40R-03
Patersonia occidentalis var. *occidentalis*	1.5	45 cm		1.5	45 cm	
Petrophile linearis	0.1	50 cm		0.1	50 cm	
Phlebocarya ciliata	5	60 cm	ANK40-26	5	60 cm	ANK40-26=
Phyllangium paradoxum	0.1	10 cm		0.1	10 cm	
Podolepis gracilis	0.1	10 cm	ANK40-4			
Poranthera microphylla	0.1	5 cm	ANK40-7			
Sowerbaea laxiflora	3	25 cm	ANK40-5a	3	25 cm	ANK40-5a=
Stylidium neurophyllum	0.1	45 cm	ANK40-8	0.1	45 cm	ANK40-8=
Stylidium repens	0.1	10 cm		0.1	10 cm	
Thysanotus multiflorus				0.1	15 cm	
Thysanotus patersonii	0.1	20 cm		0.1	20 cm	
Trachymene pilosa	0.1	10 cm		0.1	10 cm	
Tricoryne elatior	0.1	40 cm	ANK40-29	0.1	40 cm	ANK40-29=
**Ursinia anthemoides* subsp. *anthemoides*	0.1	20 cm		0.1	20 cm	
Xanthosia huegelii	0.1	25 cm	ANK40-22	0.1	25 cm	

ANK40	Phase 1	Phase 2
Understorey		
Overstorey		

Site ANK41

Ph 1: Described by	SWABS	Date	10/10/2020	Type	Quadrat	10 x 10 m	
Ph 2: Described by	SW	Date	19/11/2020	Type	Quadrat	10 x 10 m	
MGA Zone	50	393331	mE	6435950	mN	115.868163 E	-32.207975 S

Habitat: Previously cleared sandplain underneath powerlines.

Soil: 10YR 3/2 very dark greyish brown. Sand.

Rock Type: Nil.

Vegetation: Ph 1: *Banksia menziesii* low woodland over *Jacksonia sternbergiana* open shrubland over *Hibbertia hypericoides* subsp. *hypericoides* scattered low shrubs over **Ehrharta calycina, *Lolium rigidum, *Bromus diandrus* open grassland over **Ursinia anthemoides* subsp. *anthemoides* open herbland over **Carpobrotus edulis* very open succulent herbland.

Ph 2: *Banksia menziesii* low woodland over *Jacksonia sternbergi*ana open shrubland over *Hibbertia hypericoides* subsp. *hypericoides, Daviesia triflora, Stirlingia latifolia* low open shrubland over **Ehrharta calycina* very open grassland over **Ursinia anthemoides* subsp. *anthemoides* open herbland over **Carpobrotus edulis* very open succulent herbland.

Veg Condition: Ph 1: Good. Ph 2: Good to Degraded.

Fire Age: No sign of recent fire.

Notes: Revegetation site under powerlines.

Species	Phase 1			Phase 2		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
**Arctotheca calendula*	0.1	10 cm				
**Avena barbata*				0.1	25 cm	
Banksia menziesii	18	320 cm		18	320 cm	
**Bromus diandrus*	3	40 cm	ANK41-1			
**Carpobrotus edulis*	8	20 cm		8	20 cm	
Brachyloma preissii	0.1	40 cm	ANK40-27=	0.1	40 cm	ANK40-27=
Crassula colorata var. *colorata*	0.1	5 cm	ANK66-02=	0.1	5 cm	ANK66-02=
Daviesia triflora	0.5	50 cm		0.5	50 cm	
**Ehrharta calycina*	8	60 cm		9	100 cm	
Hibbertia hypericoides subsp. *hypericoides*	1.5	70 cm		1.5	70 cm	
**Hypochaeris radicata*	0.5	10 cm				
Jacksonia sternbergiana	2	200 cm		2	210 cm	
**Lolium rigidum*	3	10 cm		0.1	15 cm	
Lomandra caespitosa	0.1	25 cm				
Stirlingia latifolia	0.5	110 cm		0.5	120 cm	
**Ursinia anthemoides* subsp. *anthemoides*	16	20 cm		12	20 cm	
**Wahlenbergia capensis*	0.1	20 cm				

ANK41	Phase 1	Phase 2
Understorey		
Overstorey		

Site ANK42

Ph 1: Described by	NPMK	Date	09/10/2020	Type	Quadrat	10 x 10 m		
Ph 2: Described by	ABSMK	Date	19/11/2020	Type	Quadrat	10 x 10 m		
Ph 3: Described by	ALRH	Date	08/09/2022	Type	Quadrat	10 x 10 m		
MGA Zone	50	393589	mE	6435895	mN	115.870894 E	-32.208492 S	

Habitat Slightly sloping flat plain.

Soil 10YR 7/2 light grey. Sand.

Rock Type Nil.

Vegetation Ph 1: *Banksia menziesii, B. attenuata* low woodland over *Jacksonia sternbergiana* scattered shrubs over *Stirlingia latifolia, Styphelia conostephioides* low open shrubland over **Briza maxima* scattered grasses over *Conostylis aculeata* subsp. *aculeata*, **Ursinia anthemoides* subsp. *anthemoides* scattered herbs.
Ph 2: *Banksia menziesii, B. attenuata* low woodland over *Jacksonia sternbergiana* scattered shrubs over *Stirlingia latifolia, Styphelia conostephioides* low open shrubland over **Briza maxima* scattered grasses over *Conostylis aculeata* subsp. *aculeata, *Ursinia anthemoides* subsp. *anthemoides* scattered herbs.
Ph 3: *Banksia menziesii* (*Banksia attenuata*) low woodland over *Jacksonia furcellata*, *Jacksonia sternbergiana* scattered tall shrubs over *Stirlingia latifolia*, *Kunzea glabrescens* open shrubland over *Styphelia conostephioides* (*Daviesia triflora, Adenanthos cygnorum*).

Veg Condition Ph 1: Very Good. Ph 2: Excellent to Very Good. Ph 3: Very Good.

Fire Age No sign of recent fire.

Notes *Banksia* seedling recruitment present.

Species	Phase 1			Phase 2			Phase 3		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
Acacia stenoptera	0.1	45 cm	ANK71-10=	0.1	45 cm	ANK71R-10=	0.1	15 cm	
Adenanthos cygnorum subsp.	0.1	15 cm		0.1	15 cm		0.5	25 cm	
**Aira cupaniana*	0.1	8 cm							
**Aira praecox*				0.1	15 cm	ANK42R-03			
Austrostipa compressa	0.1	20 cm	ANK71-06=	0.1	35 cm	ANK71-06=			
Banksia attenuata	4	450 cm		4	600 cm		4.5	650 cm	
Banksia menziesii	10	300 cm		10	500 cm		10	500 cm	
Bossiaea eriocarpa	0.1	20 cm		0.1	20 cm		0.1	25 cm	
**Briza maxima*	1	15 cm		1	15 cm		0.1	45 cm	
Burchardia congesta	0.1	35 cm		0.1	35 cm		0.1	40 cm	
Caladenia discoidea	0.1	20 cm		0.1	20 cm				
Caladenia flava subsp. *flava*	0.1	15 cm		0.1	15 cm		0.1	20 cm	
Caladenia sp.	0.1	15 cm							
Calytrix flavescens	0.1	15 cm	ANK42-04	0.1	15 cm	ANK42-04=	0.1	30 cm	
**Carpobrotus edulis*	0.1	1 cm		0.1	1 cm		0.1	5 cm	
Centrolepis inconspicua	0.1	2 cm	ANK42-13	0.1	2 cm	ANK42-13=			
Conostephium pendulum				0.1	15 cm	ANK42-02a	0.1	20 cm	
Conostylis aculeata subsp. *aculeata*	1	40 cm		0.1	40 cm	ANK42R-01	0.5	30 cm	
Conostylis setigera subsp. *setigera*	0.1	6 cm	ANK42-16	0.1	6 cm	ANK42-16=	0.1	15 cm	

Species	Phase 1			Phase 2			Phase 3		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
Corynotheca micrantha var.	0.1	20 cm	ANK42-02b				0.1	20 cm	
Crassula colorata var. *colorata*	0.1	6 cm	ANK52-09=	0.1	6 cm	ANK52-09=	0.1	2 cm	
Dasypogon bromeliifolius	0.1	20 cm		0.1	20 cm		0.1	20 cm	
Daviesia triflora	0.1	55 cm	ANK42-01	0.1	55 cm	ANK42-01=	0.5	50 cm	
Desmocladus asper	0.1	20 cm	ANK42-15	0.1	20 cm	ANK42-15=	0.1	15 cm	
Desmocladus flexuosus	0.1	15 cm	ANK42-07	0.1	15 cm	ANK42-07=	0.1	15 cm	
Drosera erythrorhiza							0.5	2 cm	
**Ehrharta calycina*				0.1	35 cm		0.1	10 cm	
**Ehrharta longiflora*	0.1	35 cm		0.1	35 cm		0.1	30 cm	
**Gladiolus caryophyllaceus*	0.1	20 cm		0.1	20 cm		0.1	20 cm	
Gompholobium tomentosum	0.1	4 cm		0.1	4 cm		0.1	5 cm	
Hovea trisperma var. *trisperma*				0.1	3 cm	ALOP16=			
**Hypochaeris glabra*	0.1	10 cm		0.1	10 cm		0.5	2 cm	
**Hypochaeris radicata*	0.1	1 cm					0.1	8 cm	
Hypolaena exsulca	0.1	35 cm	ANK42-05	0.1	35 cm	ANK42-05=	0.1	20 cm	
Isolepis marginata	0.1	4 cm	ANK52-17=	0.1	4 cm	ANK52-17=			
Isotropis cuneifolia subsp. *cuneifolia*	0.1	15 cm		0.1	20 cm	ANK42R-04	0.1	15 cm	
Jacksonia furcellata	0.1	180 cm		0.1	180 cm		1	280 cm	
Jacksonia sternbergiana	0.5	150 cm		0.5	200 cm		0.5	270 cm	
Kunzea glabrescens	0.1	200 cm	ANK52-01=	0.1	200 cm	ANK52-01=	1	180 cm	
Laxmannia squarrosa	0.1	10 cm							
Lepidosperma calcicola	0.1	30 cm	ANK42-17	0.1	30 cm	ANK42-17=	0.1	60 cm	
Levenhookia stipitata	0.1	3 cm	ANK52-04=	0.1	3 cm	ANK52-04=			
Lomandra caespitosa	0.1	20 cm	ANK42-03	0.1	20 cm	ANK42-03=	0.1	20 cm	
Lomandra preissii				0.1	30 cm	ANK47R-02=	0.1	20 cm	
Lomandra suaveolens	0.1	15 cm	ANK42-06	0.1	15 cm	ANK42-06=	0.1	20 cm	
Lyginia imberbis	0.1	45 cm	ANK71-05=	0.1	45 cm	ANK71-05=	0.1	30 cm	
Microlaena stipoides	0.1	10 cm							
Patersonia occidentalis var.	0.1	30 cm		0.1	30 cm		0.1	20 cm	
Persoonia saccata	0.1	100 cm	ANK42-14	0.1	100 cm	ANK42-14=			
Phyllangium paradoxum	0.1	6 cm	ANK52-02=	0.1	15 cm				
Poa drummondiana	0.1	45 cm							
Podolepis gracilis	0.1	10 cm	ANK42-09	0.1	10 cm	ANK42-09=			
Podotheca angustifolia	0.1	5 cm	ANK42-10	0.1	5 cm	ANK42-10=			
Poranthera moorokatta	0.1	2 cm	ANK42-08	0.1	2 cm	ANK42-08=			
Quinetia urvillei	0.1	10 cm		0.1	10 cm		0.1	5 cm	
Rytidosperma occidentale				0.1	45 cm	ANK45R-03=			
Siloxerus humifusus	0.1	1 cm	ANK52-08=						
Sowerbaea laxiflora	0.1	40 cm		0.1	40 cm		0.1	30 cm	

Species	Phase 1			Phase 2			Phase 3		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
Stirlingia latifolia	2	180 cm		2	180 cm		2	180 cm	
Stylidium brunonianum				0.1	1 cm				
Styphelia conostephioides	2	15 cm	ANK42-12	3	30 cm	ANK42-12=			
Thysanotus manglesianus							0.1	15 cm	ANK42-01
Thysanotus sp.	0.1	20 cm	ANK52-15=						
Thysanotus thyrsoideus	0.1	30 cm	ANK42-18						
Trachymene pilosa	0.1	6 cm		0.1	6 cm		0.1	5 cm	
Tricoryne elatior				0.1	25 cm				
**Ursinia anthemoides* subsp.	1	20 cm		1	20 cm		0.1	20 cm	
**Vulpia myuros* var. *megalura*							0.1	10 cm	ANK42
**Vulpia myuros* var. *megalura*							0.1	10 cm	ANK42-03
**Vulpia myuros* forma *myuros*	0.1	15 cm							
**Wahlenbergia capensis*	0.1	3 cm		0.1	3 cm		0.1	5 cm	
**Wahlenbergia gracilenta*				0.1	20 cm	ANK45R-02=			

ANK42	Phase 1	Phase 2	Phase 3
Understorey			
Overstorey			

Site ANK43

Ph 1: Described by	SWMG	Date	09/10/2020	Type	Quadrat	10 x 10 m		
Ph 2: Described by	SW	Date	18/11/2020	Type	Quadrat	10 x 10 m		
Ph 3: Described by	ALTH	Date	07/09/2022	Type	Quadrat	10 x 10 m		
MGA Zone	50	394045	mE	6435883	mN	115.875727 E	-32.208646 S	

Habitat Sandy plain sloping north 10%.

Soil 7.5YR 3/1 very dark grey. Loamy sand.

Rock Type Nil.

Vegetation Ph 1: *Eucalyptus marginata* subsp. *marginata* ,*Banksia menziesii* low woodland over *Kunzea glabrescens* tall open shrubland over *Hibbertia hypericoides* subsp. *hypericoides, Stirlingia latifolia* low shrubland over *Mesomelaena pseudostygia* very open sedgeland over **Arctotheca calendula, Desmocladus flexuosus* open herbland.

Ph 2: *Eucalyptus marginata* subsp. *marginata, Banksia menziesii* low woodland over *Kunzea glabrescens* tall open shrubland over *Hibbertia hypericoides* subsp. *hypericoides, Stirlingia latifolia, Styphelia conostephioides* low shrubland over *Mesomelaena pseudostygia* very open sedgeland over *Desmocladus flexuosus* open herbland.

Ph 3: *Banksia menziesii*, *Eucalyptus marginata subsp. marginata* low woodland over *Kunzea glabrescens* (*Acacia pulchella var. pulchella*) tall open shrubland over *Hibbertia hypericoides subsp. hypericoides* (*Stirlingia latifolia*) shrubland over *Kennedia prostrata*.

Veg Condition Ph 1: Excellent. Ph 2: Excellent. Ph 3: Excellent.

Fire Age No sign of recent fire.

Notes High amount of leaf litter/organic material in soil. Partial *B. menzezii* cover from overhanging neighbour.

Species	Phase 1			Phase 2			Phase 3		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
Acacia applanata							0.1	40 cm	ANK43-05
Acacia pulchella var. *pulchella*	0.1	160 cm		0.1	160 cm		0.5	210 cm	
Acacia sp.	0.1	45 cm	ANK43-21	0.1	45 cm	ANK43-21=			
Anigozanthos flavidus	0.1	10 cm		0.1	10 cm				
Anigozanthos manglesii subsp. *manglesii*							0.1	20 cm	
Anigozanthos sp.	0.1	15 cm							
**Arctotheca calendula*	14	700 cm							
Austrostipa compressa	0.1	20 cm	ANK43-11				0.1	20 cm	
**Avena barbata*	0.1	10 cm	ANK43-13						
Banksia menziesii	15	550 cm		15	550 cm		15	650 cm	
Bossiaea eriocarpa	0.1	50 cm	ANK43-10	0.1	40 cm	ANK43-10=	0.1	20 cm	
**Briza maxima*	0.1	20 cm		0.1	10 cm		0.1	15 cm	
Burchardia congesta	0.1	50 cm					0.1	20 cm	
Caladenia flava subsp. *flava*	0.1	20 cm					0.1	15 cm	
Caladenia sp.	0.1	10 cm							
Calytrix angulata							0.1	15 cm	

Species	Phase 1			Phase 2			Phase 3		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
Calytrix sp.	0.1	40 cm	ANK43-14	0.1	30 cm	ANK43-14=			
Cassytha sp.							0.1	20 cm	ANK43-04
Centrolepis drummondiana							0.1	3 cm	WTP24-05
Chamaescilla corymbosa var. corymbosa							0.1	20 cm	
Conostephium pendulum	0.1	20 cm	ANK44-03=	0.1	25 cm	ANK44-03=	0.1	25 cm	
Conostylis aculeata subsp. *aculeata*	0.1	20 cm		0.1	25 cm		0.1	25 cm	
Conostylis psyllium							0.1	5 cm	
Dampiera cuneata							0.1	15 cm	ANK43-03
Daucus glochidiatus	0.1	10 cm					0.1	3 cm	
Daviesia triflora	0.1	30 cm		0.1	30 cm		0.1	60 cm	
Desmocladus flexuosus	1	20 cm	ANK43-2	0.5	15 cm	ANK43-02=	0.5	15 cm	
Drosera erythrorhiza	0.1	2 cm	ANK44-11=				1	1 cm	
**Ehrharta calycina*	0.1	100 cm		0.1	75 cm		0.1	10 cm	
Eucalyptus marginata subsp.	15	780 cm		14	750 cm		15	850 cm	
**Gladiolus caryophyllaceus*	0.1	20 cm		0.1	65 cm		0.1	120 cm	
Glischrocaryon aureum	0.1	40 cm					0.1	10 cm	
Gompholobium tomentosum	0.1	8 cm		0.1	15 cm		0.1	30 cm	
Haemodorum sp.	0.1	35 cm	ANK43-12	0.1	40 cm	ANK43-12=			
Haemodorum spicatum	0.1	70 cm	ANK43-20	0.1	70 cm	ANK43-20=			
Hardenbergia comptoniana	0.1	40 cm		0.1	35 cm		0.1	10 cm	
Hibbertia hypericoides subsp.	16	80 cm		16	120 cm		16	120 cm	
Hibbertia subvaginata	0.1	45 cm		1	45 cm		0.1	25 cm	
Hypocalymma robustum	0.1	140 cm	ANK43-17	0.1	110 cm	ANK43-17=	0.1	110 cm	
**Hypochaeris glabra*	0.1	10 cm		0.1	2 cm		0.1	1 cm	
Isotropis cuneifolia subsp. *cuneifolia*							0.1	25 cm	
Kennedia coccinea subsp. *coccinea*				0.1	10 cm				
Kennedia prostrata	0.1	10 cm					0.5	20 cm	
Kunzea glabrescens	2	300 cm		3	300 cm		2.5	350 cm	
Laxmannia squarrosa							0.1	5 cm	
Lepidosperma calcicola	0.1	60 cm	ANK43-19	0.1	60 cm	ANK43-19=	0.1	65 cm	
Lomandra caespitosa	0.1	25 cm	ANK43-1				0.1	20 cm	
Lomandra hermaphrodita				0.1	30 cm		0.1	30 cm	
Lomandra suaveolens	0.1	40 cm	ANK43-9				0.1	20 cm	
Macrozamia riedlei	0.1	80 cm		0.1	85 cm		0.1	90 cm	
Mesomelaena pseudostygia	2	100 cm	ANK43-4	2	100 cm	ANK43-04=	2	110 cm	
Microlaena stipoides	0.1	40 cm		0.1	45 cm				
Patersonia occidentalis var.				0.1	25 cm		0.1	25 cm	

Species	Phase 1			Phase 2			Phase 3		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
Pelargonium capitatum							0.1	2 cm	
Petrophile linearis	0.1	15 cm		0.1	15 cm				
Phyllangium paradoxum	0.1	5 cm					0.1	5 cm	
Podolepis gracilis	0.1	20 cm	ANK43-16				0.1	5 cm	ANK92-03=
Poranthera microphylla							0.1	2 cm	
Poranthera moorokatta	0.1	10 cm	ANK43-3						
Pterostylis sp.	0.1	15 cm							
Pterostylis vittata							0.1	10 cm	ANK43-01
**Romulea rosea* var. *australis*	0.1	15 cm					0.1	30 cm	
Scaevola canescens	0.1	6 cm	ANK43-7	0.1	8 cm	ANK43-07=	0.1	8 cm	
Senecio condylus	0.1	10 cm							
Sonchus oleraceus							0.1	6 cm	
Sowerbaea laxiflora	0.1	40 cm		0.1	40 cm		0.1	70 cm	
Stirlingia latifolia	0.5	120 cm		1	120 cm		1	110 cm	
Stylidium piliferum	0.1	50 cm	ANK43-18	0.1	5 cm	ANK43-18=	0.1	35 cm	
Stylidium repens	0.1	15 cm	ANK44-06=	0.1	5 cm		0.1	7 cm	
Styphelia conostephioides	0.1	20 cm	ANK43-5	0.5	25 cm	ANK43-05=			
Synaphea spinulosa subsp. *spinulosa*	0.1	20 cm	ANK43-15				0.1	30 cm	
Thysanotus manglesianus							0.1	65 cm	ANK43-02
Thysanotus sp.	0.1	30 cm	ANK43-8						
Trachymene pilosa				0.1	5 cm		0.1	5 cm	
**Ursinia anthemoides* subsp.	0.1	15 cm		0.1	15 cm		0.1	15 cm	
**Wahlenbergia capensis*	0.1	25 cm					0.1	5 cm	

ANK43	Phase 1	Phase 2	Phase 3
Understorey			
Overstorey			

Site ANK44

Ph 1: Described by	SWMG	Date	09/10/2020	Type	Quadrat	10 x 10 m	
Ph 2: Described by	SW	Date	18/11/2020	Type	Quadrat	10 x 10 m	
MGA Zone	50	394149	mE	6436013	mN	115.876853 E	-32.207486 S

Habitat Sandplain sloping north away from Anketell Rd.

Soil 10YR 4/1 dark grey. Loamy sand.

Rock Type Nil.

Vegetation Ph 1: *Banksia attenuata, B menziesii, Eucalyptus marginata* subsp. *marginata* low open forest over *Kunzea glabrescens* tall open shrubland over *Xanthorrhoea preissii* open grass trees over *Conostephium pendulum, Styphelia conostephioides, Brachyloma preissii, Hibbertia hypericoides* subsp. *hypericoides, Calytrix angulata* low open shrubland.

Ph 2: *Banksia attenuata, B menziesii, Eucalyptus marginata* subsp. *marginata* low open forest over *Kunzea glabrescens* tall open shrubland over *Xanthorrhoea preissii, X. brunonis* subsp. *brunonis* scattered grass trees over Co*nostephium pendulum, Brachyloma preissii, Hibbertia hypericoides* subsp. *hypericoides, Calytrix angulata* low open shrubland.

Veg Condition Ph 1: Excellent. Ph 2: Excellent.

Fire Age No sign of recent fire.

Notes High amount of leaf litter/organic material in soil.

Species	Phase 1			Phase 2		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
Acacia stenoptera	0.1	20 cm	ANK44-12	0.1	25 cm	ANK44-12=
**Aira praecox*	0.1	15 cm	ANK44-19			
Anigozanthos manglesii subsp. *manglesii*				0.1	60 cm	
Anigozanthos sp.	0.1	60 cm				
Austrostipa compressa	0.1	10 cm	ANK44-7	0.1	45 cm	ANK44-07=
Banksia attenuata	13	500 cm			650 cm	
Banksia menziesii	6	500 cm			650 cm	
Banksia sp.				0.1	15 cm	ANK44R-03
Bossiaea eriocarpa	0.1	35 cm	ANK44-2			
Brachyloma preissii	2	120 cm	ANK44-14	2	120 cm	ANK44-14=
**Briza maxima*	0.1	15 cm		0.1	15 cm	
Caladenia sp.	0.1	15 cm				
Calytrix angulata	1	130 cm	ANK44-18	1.5	140 cm	ANK44-18=
Calytrix flavescens	0.5	20 cm	ANK44-15	0.5	25 cm	ANK44-15=
Conostephium pendulum	2	40 cm	ANK44-3	2	45 cm	ANK44-03=
Conostylis aculeata subsp. *aculeata*	0.1	20 cm			45 cm	
Conostylis setigera subsp. *setigera*	0.1	15 cm	ANK44-13	0.1	25 cm	ANK44-13=
Corynotheca micrantha var. *micrantha*				0.1	30 cm	
Dasypogon bromeliifolius	0.1	25 cm		0.1	40 cm	
Daviesia triflora	0.1	60 cm		0.1	60 cm	

Species	Phase 1			Phase 2		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
Desmocladus flexuosus	0.1	20 cm	ANK44-1	0.1	15 cm	ANK44R-01
Drosera erythrorhiza	0.1	2 cm	ANK44-11			
**Ehrharta calycina*				0.1	45 cm	
Eucalyptus marginata subsp. *marginata*	11	500 cm			720 cm	
**Gladiolus caryophyllaceus*	0.1	90 cm		0.1	75 cm	
Gompholobium tomentosum	0.1	35 cm		0.1	35 cm	
Hardenbergia comptoniana	0.1	80 cm				
Hibbertia hypericoides subsp. *hypericoides*	1.5	80 cm		2.5	110 cm	
Hovea trisperma var. *trisperma*				0.1	45 cm	
Isotropis cuneifolia subsp. *cuneifolia*	0.1	25 cm	ANK44-9	0.1	35 cm	ANK44-09=
Kunzea glabrescens	7	220 cm	ANK49-01=	7	450 cm	ANK49-01=
Laxmannia squarrosa	0.1	15 cm	ANK44-17			
Lomandra hermaphrodita	0.1	25 cm	ANK44-8	0.1	35 cm	ANK44-08=
Macrozamia riedlei	0.1	45 cm		0.1	45 cm	
Microlaena stipoides	0.1	50 cm				
Patersonia occidentalis var. *occidentalis*				0.1	30 cm	ANK44R-06
Phyllangium paradoxum	0.1	10 cm		0.1	10 cm	
Poranthera microphylla	0.1	10 cm	ANK44-5	0.1	10 cm	ANK44-05=
Senecio condylus	0.1	20 cm				
Siloxerus humifusus	0.1	2 cm		0.1	3 cm	
Sowerbaea laxiflora	0.1	50 cm		0.1	25 cm	
Stylidium neurophyllum	0.1	50 cm	ANK44-16			
Stylidium piliferum	0.1	5 cm	ANK44-10	0.1	5 cm	ANK44-10=
Stylidium repens	0.1	10 cm	ANK44-6	0.1	10 cm	ANK44-06=
Styphelia conostephioides	2	40 cm	ANK44-4			
Trachymene pilosa	0.1	5 cm		0.1	5 cm	
**Ursinia anthemoides* subsp. *anthemoides*	0.1	10 cm		0.1	25 cm	
Xanthorrhoea brunonis subsp. *brunonis*				1	80 cm	
Xanthorrhoea preissii	14	220 cm		14	150 cm	
Xerochrysum sp.	0.1	8 cm				

ANK44	Phase 1	Phase 2
Understorey		
Overstorey		

Site ANK45

Ph 1: Described by	ALJT	Date	09/10/2020	Type	Quadrat	10 x 10 m	
Ph 2: Described by	ABSMK	Date	19/11/2020	Type	Quadrat	10 x 10 m	
Ph 3: Described by	ALTH	Date	06/09/2022	Type	Quadrat	10 x 10 m	
MGA Zone	50	394401	mE	6435931	mN	115.879516 E	-32.208248 S

Habitat Gently sloping north facing plain

Soil 10YR; 10% 3/3 dark brown, 90% 4/3 brown. Sand.

Rock Type Nil.

Vegetation Ph 1: *Banksia attenuata* low open woodland over *Jacksonia sternbergiana, Adenanthos cygnorum* subsp. *cygnorum, Allocasuarina humilis* tall shrubland over *Hibbertia hypericoides* subsp. *hypericoides, Scholtzia involucrata* low shrubland.

Ph 2: *Banksia attenuata* low woodland over *Jacksonia sternbergiana, Adenanthos cygnorum* subsp. *cygnorum, Allocasuarina humilis* tall shrubland over *Hibbertia hypericoides* subsp. *hypericoides, Scholtzia involucrata* low shrubland.

Ph 3: *Banksia attenuata* low woodland over *Jacksonia sternbergiana, Adenanthos cygnorum subsp. cygnorum* tall open shrubland over *Allocasuarina humilis* (*Calytrix fraseri*) open shrubland over *Hibbertia hypericoides subsp. hypericoides* (*Scholtzia involucrate*).

Veg Condition Ph 1: Very Good. Ph 2: Very Good. Ph 3: Excellent.

Fire Age No sign of recent fire.

Notes *Banksia* seedling recruitment present. Mammal diggings at base of *Banksia*.

Species	Phase 1			Phase 2			Phase 3		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
Adenanthos cygnorum subsp.	4	320 cm		4	250 cm		4	280 cm	
**Aira caryophyllea*	0.1	15 cm	ANK47-20=	0.1	15 cm	ANK47-20=			
**Aira praecox*	0.1	10 cm	ANK47-17=	0.1	10 cm	ANK47-17=			
Allocasuarina humilis	2.5	150 cm	ANK45-05	2.5	150 cm	ANK45-05=	3	160 cm	
Amphipogon turbinatus	0.1	15 cm	ANK47-12=	0.1	15 cm	ANK47-12=			
Arnocrinum preissii				0.1	40 cm	ANK45R-04			
Austrostipa compressa	0.1	7 cm	ANK47-06=	0.1	40 cm	ANK73R-02=	0.1	15 cm	
Banksia attenuata	8	650 cm		23	650 cm		23	650 cm	
Bossiaea eriocarpa	0.1	50 cm		0.1	50 cm				
Brachyloma preissii	0.1	75 cm	ANK45-08	0.1	75 cm	ANK45-08=	0.5	80 cm	
**Briza maxima*	0.1	25 cm		0.1	40 cm		0.1	10 cm	
Burchardia congesta	0.1	30 cm		0.1	30 cm		0.1	40 cm	
Caladenia flava subsp. *flava*	0.1	15 cm					0.1	15 cm	
Caladenia sp.							0.1	5 cm	ANK45-04
Calandrinia corrigioloides	0.1	5 cm	ANK45-02				0.1	3 cm	ANK60=
Calandrinia corrigioloides							0.1	3 cm	ANK45-08
Calytrix angulata				0.1	35 cm	ANK63R-04=	0.1	25 cm	
Calytrix fraseri	0.1	130 cm	ANK45-07	0.1	130 cm	ANK45-07=	0.5	170 cm	
**Carpobrotus edulis*	0.1	2 cm		0.1	4 cm		0.1	2 cm	

Species	Phase 1			Phase 2			Phase 3		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
Cassytha racemosa forma *racemosa*	0.1	15 cm	ALOP25=	0.1	15 cm	ALOP25=			
Chamaescilla corymbosa var.	0.1	15 cm	ANK45-19	0.1	15 cm	ANK45-19=	0.1	15 cm	
Conostephium preissii	0.1	80 cm	ANK45-10	0.1	60 cm	ANK45-10=	0.1	60 cm	
Conostylis setigera subsp. *setigera*	0.1	15 cm	ALOP34=	0.1	15 cm	ALOP34=	0.1	15 cm	
Crassula colorata var. *colorata*	0.1	5 cm	ANK47-15=	0.1	5 cm	ANK47-15=	0.1	3 cm	
Desmocladus flexuosus	0.1	35 cm	ANK45-16	0.1	35 cm	ANK45-16=	0.1	20 cm	
Desmocladus flexuosus							0.1	20 cm	ANK45-03
Dianella revoluta var. *revoluta*	0.1	15 cm							
Drosera drummondii	0.1	15 cm							
Drosera erythrorhiza	0.1	1 cm					0.1	1 cm	
Drosera pedicellaris							0.1	10 cm	
**Ehrharta calycina*	0.1	70 cm		0.1	70 cm		0.1	20 cm	
**Ehrharta longiflora*							0.1	90 cm	
Galium divaricatum							0.1	4 cm	
**Gladiolus caryophyllaceus*	0.1	110 cm		0.1	110 cm		0.1	90 cm	
Hemiandra pungens				0.1	10 cm	ANK45R-01	0.1	5 cm	
Hibbertia hypericoides subsp.	20	80 cm	ANK45-09	20	80 cm	ANK45-09=	20	100 cm	
Hibbertia subvaginata	0.1	20 cm	ANK45-14	0.1	20 cm	ANK45-14=	0.1	30 cm	
Hybanthus calycinus	0.1	20 cm							
Hybanthus sp.				0.1	15 cm	ANK45R-05			
**Hypochaeris glabra*	0.1	5 cm		0.1	5 cm		0.1	1 cm	
Isolepis marginata	0.1	5 cm	ANK47-14=	0.1	5 cm	ANK47-14=	0.1	5 cm	
Jacksonia sternbergiana	6	350 cm		8	400 cm		6	420 cm	
Lactuca serriola							0.1	2 cm	
Laxmannia squarrosa	0.1	10 cm	ANK45-01	0.1	10 cm	ANK45-01=			
Levenhookia stipitata				0.1	7 cm				
Lomandra hermaphrodita	0.1	15 cm	ANK45-18	0.1	15 cm	ANK45-18=	0.1	15 cm	
Lomandra preissii	0.1	35 cm	ANK45-15	0.1	35 cm	ANK45-15=	0.1	30 cm	
Loxocarya									
**Lysimachia arvensis*							0.1	7 cm	
Millotia tenuifolia var. *tenuifolia*	0.1	7 cm	ANK47-21=				0.1	3 cm	ANK45-06
Patersonia occidentalis var.	0.1	30 cm		0.1	30 cm		0.1	60 cm	
Phyllangium paradoxum	0.1	5 cm		0.1	5 cm		0.1	3 cm	
Poaceae sp.				0.1	85 cm	ANK45R-06			
Podolepis gracilis	0.1	15 cm	ANK45-12	0.1	15 cm	ANK45-12=	0.1	10 cm	ANK45-01
Podolepis gracilis							0.1	3 cm	ANK45-02
Podotheca angustifolia	0.1	7 cm	ANK45-11	0.1	7 cm	ANK45-11=	0.1	5 cm	
Poranthera microphylla	0.1	5 cm	ANK60-09=	0.1	10 cm		0.1	5 cm	
Poranthera microphylla							0.1	2 cm	ANK45-09

Species	Phase 1			Phase 2			Phase 3		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
Pyrorchis sp.	0.1	1 cm							
Pyrorchis nigricans							0.1	5 cm	
Pyrorchis nigricans							0.1	2 cm	
Quinetia urvillei	0.1	5 cm					0.1	4 cm	
Rytidosperma occidentale	0.1	60 cm	ANK45-13	0.1	80 cm	ANK45R-03			
Schoenus clandestinus	0.1	2 cm	ANK45-06				0.1	15 cm	ANK45-07
Scholtzia involucrata	3	20 cm	ANK47-03=	3	20 cm	ANK47-03=	3	20 cm	
Siloxerus humifusus	0.1	1 cm	ANK47-07=	0.1	1 cm	ANK47-07=			
Sowerbaea laxiflora	0.1	50 cm		0.1	50 cm		0.1	30 cm	
Stirlingia latifolia	0.1	70 cm		0.1	70 cm		0.1	110 cm	
Stylidium repens	0.1	10 cm		0.1	10 cm		0.1	5 cm	
Styphelia conostephioides	0.1	80 cm	ANK45-04	0.1	60 cm	ANK45-04=			
Synaphea spinulosa subsp. *spinulosa*	0.1	50 cm	ANK45-03	0.1	50 cm	ANK45-03=	0.1	50 cm	
Thysanotus manglesianus	0.1	60 cm		0.1	60 cm		0.1	60 cm	
Trachymene pilosa	0.1	10 cm		0.1	10 cm		0.1	2 cm	
**Ursinia anthemoides* subsp.	0.1	20 cm		0.1	20 cm		0.1	10 cm	
Vulpia bromoides							0.1	5 cm	ANK45-05
**Wahlenbergia gracilenta*				0.1	30 cm	ANK45R-02			
**Wahlenbergia preissii*	0.1	20 cm	ANK45-17						

ANK45	Phase 1	Phase 2	Phase 3
Understorey			
Overstorey			

Site ANK46

Ph 1: Described by	ALJT	Date	09/10/2020	Type	Quadrat	10 x 10 m	
Ph 2: Described by	ABSMK	Date	19/11/2020	Type	Quadrat	10 x 10 m	
MGA Zone	50	394567	mE	6435975	mN	115.881279 E	-32.207865 S

Habitat Gently sloping north facing plain.

Soil 10YR; 90% 2/1 black, 10% 3/1 very dark grey. Sand.

Rock Type Nil.

Vegetation Ph 1: *Banksia attenuata* low open woodland over *Adenanthos cygnorum* subsp. *cygnorum* tall open shrubland over *Scholtzia involucrata, Styphelia conostephioides* low open shrubland over **Carpobrotus edulis* very open succulent herbland.

Ph 2: *Banksia attenuata* low open woodland over *Adenanthos cygnorum* subsp. *cygnorum* tall open shrubland over *Scholtzia involucrata, Styphelia conostephioides, Calytrix angulata* low shrubland over *Phlebocarya ciliata, *Carpobrotus edulis* very open herbland.

Veg Condition Ph 1: Good. Ph 2: Very Good to Good.

Fire Age No sign of recent fire.

Notes Site located directly under power lines.

Species	Phase 1			Phase 2		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
Adenanthos cygnorum subsp. *cygnorum*	4	320 cm	ANK46-09	5	250 cm	ANK46-09=
**Aira praecox*	0.1	10 cm	ANK47-16=	0.1	10 cm	ANK47-16=
Austrostipa compressa	0.1	20 cm	ANK47-06=	0.1	20 cm	ANK47-06=
Banksia attenuata	3.5	400 cm		7	400 cm	
Banksia menziesii				0.1	80 cm	
**Briza maxima*	0.1	30 cm		0.1	30 cm	
Burchardia congesta	0.1	35 cm		0.1	35 cm	
Caladenia flava subsp. *flava*	0.1	15 cm				
Calandrinia granulifera	0.1	3 cm	ANK47-26=			
Calytrix angulata	0.1	65 cm	ANK46-04	3	65 cm	ANK46-04
**Carpobrotus edulis*	2.5	15 cm		2.5	15 cm	
Centrolepis drummondiana	0.1	5 cm	ANK47-27=			
Conostylis aculeata subsp. *aculeata*	0.1	20 cm	ANK46-03	0.1	20 cm	ANK46-03=
Corynotheca micrantha var. *micrantha*	0.1	30 cm	ANK47-25=	0.1	30 cm	ANK46R-01
Crassula colorata var. *colorata*	0.1	5 cm	ANK47-15=	0.1	5 cm	ANK47-15=
Dasypogon bromeliifolius	0.1	25 cm	ALOP07=	0.1	25 cm	ALOP07=
Desmocladus flexuosus	0.1	20 cm	ANK47-10=	0.1	20 cm	ANK47-10=
**Ehrharta calycina*	0.1	100 cm		0.1	100 cm	
**Gladiolus caryophyllaceus*	0.1	70 cm		0.1	70 cm	
**Hypochaeris glabra*	0.1	2 cm		0.1	2 cm	
Isolepis marginata	0.1	5 cm	ANK47-14=	0.1	5 cm	ANK47-14=
Levenhookia stipitata	0.1	5 cm	ANK60-15=	0.1	5 cm	ANK60-15=

Species	Phase 1			Phase 2		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
Lomandra caespitosa				0.1	30 cm	ANK46R-02
Lomandra suaveolens				0.1	20 cm	ANK56R-07=
Lyginia imberbis	0.1	60 cm	ANK46-05	0.1	60 cm	ANK46-05=
Microtis media subsp. *media*	0.1	35 cm	ANK46-02	0.1	35 cm	ANK46-02=
Patersonia occidentalis var. *occidentalis*	0.1	40 cm		0.1	40 cm	
Phlebocarya ciliata	0.1	40 cm		3	40 cm	
Phyllangium paradoxum	0.1	10 cm		0.1	10 cm	
Poaceae sp.	0.1	7 cm	ANK46-06			
Quinetia urvillei	0.1	5 cm		0.1	5 cm	
Scholtzia involucrata	3	20 cm	ANK47-03=	11	20 cm	ANK47-03=
Siloxerus humifusus	0.1	1 cm	ANK47-07=			
**Sonchus oleraceus*				0.1	15 cm	
Stylidium repens	0.1	10 cm		0.1	10 cm	
Styphelia conostephioides	1	25 cm	ANK47-11=	1	25 cm	ANK47-11=
Trachymene pilosa	0.1	10 cm	ANK47-08=	0.1	10 cm	ANK47-08=
**Ursinia anthemoides* subsp. *anthemoides*	0.1	25 cm		0.1	25 cm	
**Vulpia bromoides*	0.1	15 cm	ANK46-07	0.1	15 cm	ANK46-07=
**Vulpia myuros* forma *megalura*	0.1	10 cm	ANK46-01	0.1	10 cm	ANK46-01=
**Wahlenbergia capensis*	0.1	15 cm		0.1	15 cm	

ANK46	Phase 1	Phase 2
Understorey		
Overstorey		

Site ANK47

Ph 1: Described by	ALJT	Date	09/10/2020	Type	Quadrat	10 x 10 m		
Ph 2: Described by	ABSMK	Date	19/11/2020	Type	Quadrat	10 x 10 m		
Ph 3: Described by	ABSJT	Date	07/09/2022	Type	Quadrat	10 x 10 m		
MGA Zone	50	394565	mE	6435892	mN	115.881244 E	-32.208610 S	

Habitat Crest of plain, gently sloping north.

Soil 10YR; 90% 3/1 very dark grey, 10% 2/1 black. Sand.

Rock Type Nil.

Vegetation Ph 1: *Banksia attenuata, B. menziesii* low woodland over *Adenanthos cygnorum* subsp. *cygnorum, Kunzea glabrescens* tall open shrubland over *Calytrix flavescens, Stirlingia latifolia, Hibbertia hypericoides* subsp. *hypericoides* low open shrubland.

Ph 2: *Banksia attenuata, B. menziesii* low woodland over *Adenanthos cygnorum* subsp. *cygnorum, Kunzea glabrescens* tall open shrubland over *Scholtzia involucrata, Calytrix flavescens, Stirlingia latifolia, Hibbertia hypericoides* subsp. *hypericoides* low open shrubland over *Phlebocarya ciliata* very open herbland.

Ph 3: *Banksia attenuata* (*Banksia menziesii*) low woodland over *Adenanthos cygnorum subsp. cygnorum*, *Kunzea glabrescens* tall open shrubland over *Scholtzia involucrata, Calytrix flavescens* (*Hibbertia hypericoides subsp. hypericoides, Stirlingia latifolia*) low open shrubland.

Veg Condition Ph 1: Good. Ph 2: Very Good. Ph 3: Very Good.

Fire Age No sign of recent fire.

Notes Quadrat close to firebreak. *Banksia* seedling recruitment present.

Species	Phase 1			Phase 2			Phase 3		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
Acacia pulchella var. *glaberrima*	0.1	120 cm	ANK47-09	0.1	120 cm	ANK47-09=	0.1	130 cm	
Acacia stenoptera	0.1	15 cm	ANK47-28	0.1	45 cm	ANK47-28=			
Adenanthos cygnorum subsp.	5	350 cm		5	350 cm		5	350 cm	
**Aira caryophyllea*	0.1	15 cm	ANK47-20	0.1	15 cm	ANK47-20=			
**Aira praecox*	0.1	7 cm	ANK47-17						
**Aira* sp.							0.1	3 cm	
Amphipogon turbinatus	0.1	35 cm	ANK47-12	0.1	35 cm	ANK47-12=	0.1	15 cm	
Anigozanthos manglesii subsp.	0.1	25 cm		0.1	25 cm		0.1	25 cm	
Austrostipa compressa	0.1	35 cm	ANK47-06	0.1	40 cm	ANK73R-02=			
**Avena barbata*	0.1	30 cm		0.1	75 cm	ANK47R-01			
Banksia attenuata	9	550 cm		18	550 cm		18	610 cm	
Banksia menziesii	2	450 cm		2	450 cm		2	600 cm	
Bossiaea eriocarpa	0.1	60 cm		0.1	60 cm		0.1	30 cm	
**Briza maxima*	0.1	25 cm		0.1	25 cm		0.1	20 cm	
Burchardia congesta	0.1	60 cm		0.1	60 cm		0.1	30 cm	
Caladenia flava subsp. *flava*	0.1	10 cm					0.1	20 cm	
Calandrinia granulifera	0.1	3 cm	ANK47-26						
Calytrix flavescens	3	40 cm	ANK47-01	3	40 cm	ANK47-01=	3	30 cm	

Species	Phase 1			Phase 2			Phase 3		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
**Carpobrotus edulis*	0.1	15 cm		0.1	15 cm				
Cassytha flava/pomiformis				0.1	20 cm	ANK47R-06			
Centrolepis drummondiana	0.1	5 cm	ANK47-27				0.1	3 cm	
Chaetospora curvifolia				0.1	25 cm	ANK58R-04=			
Conostylis aculeata subsp. *aculeata*	0.1	25 cm	ANK47-04	0.1	25 cm	ANK47-04=	0.1	20 cm	
Conostylis setigera subsp. *setigera*	0.1	10 cm	ALOP34=	0.1	10 cm	ALOP34=	0.1	20 cm	
Corynotheca micrantha var.	0.1	25 cm	ANK47-25						
Crassula colorata var. *colorata*	0.1	5 cm	ANK47-15	0.1	5 cm	ANK47-15=	0.1	2 cm	
Dasypogon bromeliifolius	0.1	35 cm	ALOP07=	0.1	35 cm	ALOP07=	0.1	60 cm	
Daviesia triflora	0.1	60 cm	ANK47-24	0.1	60 cm	ANK47-24=	0.1	35 cm	
Desmocladus flexuosus	0.1	20 cm	ANK47-10	0.1	20 cm	ANK47-10=	0.1	15 cm	
Dianella revoluta var. *revoluta*	0.1	60 cm		0.1	60 cm		0.1	25 cm	
Drosera drummondii	0.1	35 cm					0.1	25 cm	
Drosera erythrorhiza	0.1	2 cm					0.1	1 cm	
**Ehrharta calycina*	0.1	75 cm		0.1	75 cm		0.1	50 cm	
**Galium murale*	0.1	10 cm	ANK47-29				0.1	5 cm	
**Gladiolus caryophyllaceus*	0.1	30 cm		0.1	30 cm		0.1	20 cm	
Gompholobium tomentosum	0.1	15 cm		0.1	15 cm		0.1	25 cm	
Gonocarpus pithyoides	0.1	25 cm	ANK47-19	0.1	25 cm	ANK47-19=	0.1	25 cm	
**Heliophila pusilla*	0.1	20 cm							
Hibbertia hypericoides subsp.	1	65 cm	ANK47-02	1.5	90 cm	ANK47-02=	1.5	40 cm	
Hovea trisperma var. *trisperma*	0.1	60 cm	ALOP16=	0.1	60 cm	ALOP16=			
**Hypochaeris glabra*							0.1	1 cm	
**Hypochaeris radicata*	0.1	5 cm		0.1	5 cm		0.1	1 cm	
Isolepis marginata	0.1	5 cm	ANK47-14				0.1	8 cm	
Jacksonia furcellata	0.1	60 cm		0.1	60 cm		0.1	160 cm	
Kunzea glabrescens	3	250 cm		3	250 cm		3	390 cm	
Laxmannia squarrosa	0.1	15 cm		0.1	15 cm				
Levenhookia stipitata	0.1	5 cm	ANK60-15=	0.1	5 cm	ANK60-15=			
Lomandra caespitosa							0.1	15 cm	
Lomandra preissii	0.1	20 cm	ANK47-13	0.1	30 cm	ANK47R-02			
Lyginia imberbis	0.1	60 cm	ANK47-05	0.1	60 cm	ANK47-05=	0.1	30 cm	
**Lysimachia arvensis*	0.1	10 cm		0.1	10 cm		0.1	5 cm	
Microtis media subsp. *media*	0.1	15 cm		0.1	25 cm	ANK47R-03			
Millotia tenuifolia var. *tenuifolia*	0.1	7 cm	ANK47-21				0.1	3 cm	ANK47-01
Patersonia occidentalis var.	0.1	35 cm		0.1	35 cm		0.1	30 cm	
Persoonia saccata				0.1	30 cm	ANK47R-05	0.1	30 cm	
Philotheca spicata	0.1	30 cm		0.1	30 cm				
Phlebocarya ciliata				2	40 cm		2	25 cm	

Species	Phase 1			Phase 2			Phase 3		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
Phyllangium paradoxum	0.1	5 cm		0.1	5 cm		0.1	2 cm	
Podotheca angustifolia	0.1	10 cm		0.1	10 cm		0.1	3 cm	
Pterostylis vittata	0.1	15 cm	ANK47-23				0.1	25 cm	
Quinetia urvillei							0.1	11 cm	
Scholtzia involucrata	0.1	20 cm	ANK47-03	4	30 cm	ANK47R-04	4	20 cm	
Siloxerus humifusus	0.1	2 cm	ANK47-07	0.1	2 cm	ANK47-07=	0.1	1 cm	
**Sonchus oleraceus*				0.1	15 cm		0.1	5 cm	
Stirlingia latifolia	1	75 cm		1	75 cm		1	75 cm	
Stylidium brunonianum	0.1	25 cm		0.1	25 cm		0.1	2 cm	
Stylidium repens	0.1	10 cm		0.1	10 cm		0.1	5 cm	
Styphelia conostephioides	0.1	35 cm	ANK47-11	0.1	35 cm	ANK47-11=			
Thysanotus manglesianus	0.1	35 cm					0.1	80 cm	
Thysanotus multiflorus				0.1	40 cm				
Trachymene pilosa	0.1	10 cm	ANK47-08	0.1	10 cm	ANK47-08=	0.1	3 cm	
Tricoryne elatior				0.1	15 cm	ANK56R-09=	0.1	25 cm	
**Trifolium campestre* var. *campestre*	0.1	15 cm		0.1	15 cm		0.1	5 cm	
**Ursinia anthemoides* subsp.	0.1	20 cm		0.1	20 cm		0.1	25 cm	
**Wahlenbergia capensis*	0.1	20 cm		0.1	20 cm				
**Wahlenbergia gracilenta*				0.1	20 cm	ANK45R-02=			
**Wahlenbergia preissii*	0.1	20 cm	ANK47-16						
**Wahlenbergia* sp.							0.1	2 cm	WTP28-03=
**Wahlenbergia* sp.							0.1	15 cm	WTP28-06=

ANK47	Phase 1	Phase 2	Phase 3
Understorey			
Overstorey			

Site ANK49

Ph 1: Described by	SWMG	Date	09/10/2020	Type	Quadrat	10 x 10 m	
Ph 2: Described by	ABSMK	Date	18/11/2020	Type	Quadrat	10 x 10 m	
MGA Zone	50	394822	mE	6435980	mN	115.883985 E	-32.207844 S

Habitat Winter damp land. Not depressed. Deep soils.

Soil 10YR 4/1 dark grey. Sand.

Rock Type Nil.

Vegetation Ph 1: *Kunzea glabrescens* tall open scrub over *Melaleuca teretifolia, Astartea scoparia, Jacksonia furcellata* tall shrubland over **Avena barbata, *Vulpia bromoides* grassland over **Carpobrotus edulis, Crassula colorata* var. *acuminata* very open succulent herbland.

Ph 2: *Kunzea glabrescens* tall open scrub over *Melaleuca teretifolia, Astartea scoparia, Jacksonia furcellata* tall shrubland over *Patersonia occidentalis* var. *occidentalis* scattered herbs over **Avena barbata* grassland over **Carpobrotus edulis, Crassula colorata* var. *acuminata* very open succulent herbland.

Veg Condition Ph 1: Very Good. Ph 2: Very Good.

Fire Age No sign of recent fire.

Species	Phase 1			Phase 2		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
Acacia pulchella	0.1	80 cm		0.1	80 cm	
Acacia sp.				0.1	5 cm	
**Aira cupaniana*				0.1	15 cm	ANK56R-03=
**Arctotheca calendula*	0.1	15 cm				
**Arctotheca calendula x populifolia*	0.1	15 cm	ANK49-13			
Astartea scoparia	5	220 cm	ANK49-14	5	220 cm	ANK49-14=
**Avena barbata*	50	1 cm	ANK49-10	50	1 cm	ANK49-10=
**Briza maxima*	0.1	10 cm		0.1	10 cm	
**Briza minor*	0.1	20 cm		0.1	20 cm	
Caladenia flava subsp. *flava*	0.1	20 cm				
Caladenia sp.	0.1	5 cm				
**Carpobrotus edulis*	4	15 cm		4	15 cm	
Crassula colorata var. *acuminata*	0.5	10 cm	ANK49-3	0.5	10 cm	ANK49-3=
Daucus glochidiatus	0.1	10 cm		0.1	10 cm	
Dianella revoluta var. *revoluta*				0.1	25 cm	ANK49R-02
**Ehrharta longiflora*	0.1	15 cm		0.1	15 cm	
**Galium murale*	0.1	5 cm	ANK49-7			
**Gladiolus caryophyllaceus*				0.1	10 cm	
Homalosciadium homalocarpum				0.1	3 cm	ANK49R-03
**Hypochaeris glabra*	0.1	25 cm	ANK49-5	0.1	10 cm	
**Hypochaeris radicata*	0.1	10 cm		0.1	10 cm	
Isolepis cernua var. *cernua*	0.1	5 cm		0.1	5 cm	ANK56R-05=
Jacksonia furcellata	0.5	350 cm	ANK49-15	0.5	350 cm	ANK49-15=

Species	Phase 1			Phase 2		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
Juncus pallidus	0.1	80 cm	ANK49-11	0.1	80 cm	ANK49-11=
Kunzea glabrescens	33	450 cm	ANK49-1	33	450 cm	ANK49-1=
Lepidosperma longitudinale	0.1	50 cm	ANK49-8	0.1	50 cm	ANK49-8=
**Lotus subbiflorus*	0.1	15 cm	ANK49-6	0.1	15 cm	ANK49-6=
**Lysimachia arvensis*				0.1	10 cm	
Melaleuca teretifolia	8	220 cm	ANK49-2	8	220 cm	ANK49-2=
**Monopsis debilis* var. *depressa*	0.1	4 cm	ANK49-9			
Patersonia occidentalis var. *occidentalis*	0.1	65 cm		0.5	65 cm	ANK49R-01
**Sonchus oleraceus*	0.1	12 cm				
Trachymene pilosa	0.1	8 cm		0.1	8 cm	
**Ursinia anthemoides* subsp. *anthemoides*	0.1	20 cm		0.1	20 cm	
**Vulpia bromoides*	0.5	15 cm	ANK49-4			
**Vulpia myuros* forma *myuros*				0.1	15 cm	ANK52-10=
**Vulpia* sp.	0.1	20 cm	ANK49-16	0.1	20 cm	ANK49-16=

ANK49	Phase 1	Phase 2
Understorey		
Overstorey		

Site ANK51

Ph 1: Described by	NPMK	Date	09/10/2020	Type	Quadrat	10 x 10 m	
Ph 2: Described by	ABSMK	Date	18/11/2020	Type	Quadrat	10 x 10 m	
MGA Zone	50	395701	mE	6435784	mN	115.893286 E	-32.209692 S

Habitat Low lying damp land, seasonally inundated.

Soil 10YR 2/1 black. Loamy sand; high humic matter

Rock Type Nil.

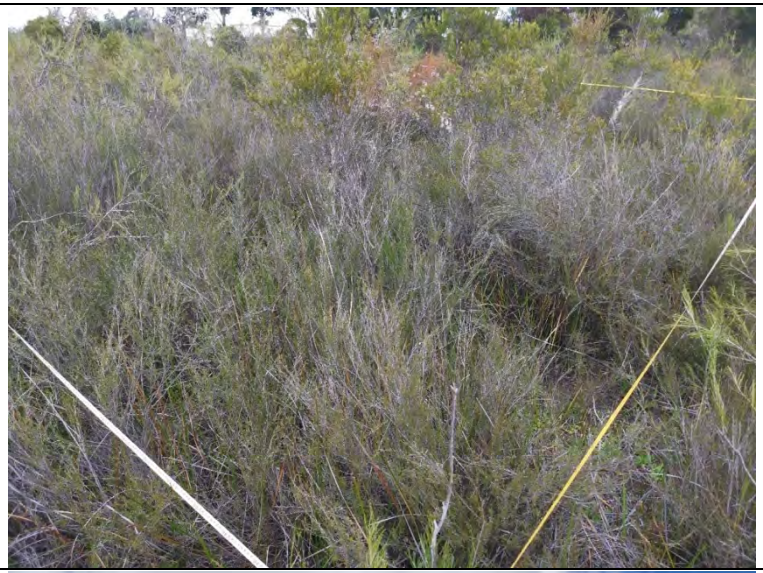
Vegetation Ph 1: *Astartea scoparia, Melaleuca teretifolia, Melaleuca preissiana, Eutaxia virgata* open heath over *Cassytha racemosa* forma *racemosa* scattered climbing herb over *Lepidosperma longitudinale, L. apricola* very open sedgeland.
Ph 2: *Astartea scoparia, Melaleuca teretifolia, Melaleuca preissiana, Eutaxia virgata* closed heath over *Cassytha racemosa* forma *racemosa* scattered climbing herb over *Lepidosperma longitudinale, L. apricola* very open sedgeland.

Veg Condition Ph 1: Very Good. Ph 2: Very Good.

Fire Age No sign of recent fire.

Species	Phase 1			Phase 2		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
**Aira cupaniana*	0.1	6 cm		0.1	6 cm	
**Asparagus asparagoides*	0.1	15 cm				
Astartea scoparia	30	150 cm	ANK51-02	57	150 cm	ANK51-02=
**Avena barbata*	0.1	75 cm		0.1	75 cm	
**Briza maxima*	0.1	15 cm		0.1	15 cm	
**Briza minor*				0.1	10 cm	
**Carpobrotus edulis*	0.1	1 cm				
Cassytha racemosa forma *racemosa*	1	300 cm	ANK51-05	1	300 cm	ANK51-05=
Crassula colorata var. *colorata*	0.1	5 cm	ANK52-09=			
**Ehrharta calycina*	0.1	20 cm		0.1	20 cm	
**Ehrharta longiflora*	0.1	25 cm				
Erigeron sp.				0.1	5 cm	ANK51R-04
**Eucalyptus grandis*				0.1	60 cm	
Eutaxia virgata	4	100 cm	ANK51-04	4	100 cm	ANK51-04=
**Hypochaeris glabra*	0.1	1 cm		0.1	1 cm	
**Hypochaeris radicata*	0.1	1 cm		0.1	1 cm	
Kunzea glabrescens				0.1	40 cm	
Lepidosperma apricola	2	120 cm	ANK51-03	2	120 cm	ANK51-03=
Lepidosperma longitudinale	5	70 cm	ANK51-06	5	70 cm	ANK51-06=
Lobelia anceps				0.1	30 cm	ANK51R-02
**Lotus subbiflorus*				0.1	5 cm	
**Lysimachia arvensis*	0.1	5 cm				
**Lythrum hyssopifolia*	0.1	20 cm	ANK51-08			
Melaleuca preissiana	1	150 cm		2.5	250 cm	

Species	Phase 1			Phase 2		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
Melaleuca teretifolia	8	300 cm	ANK51-01	17	300 cm	ANK51R-05
**Pentameris airoides*				0.1	6 cm	ANK73R-01=
Phyllangium paradoxum	0.1	6 cm	ANK52-02=	0.1	20 cm	
Pterostylis sp.	0.1	1 cm				
Senecio condylus	0.1	10 cm	ANK51-07			
**Sonchus oleraceus*	0.1	15 cm		0.1	15 cm	
Thelymitra sp.	0.1	20 cm				
Trachymene pilosa	0.1	3 cm		0.1	3 cm	
**Vulpia bromoides*	0.1	20 cm	ANK51-09	0.1	25 cm	ANK51R-01
**Vulpia myuros* forma *myuros*	0.1	5 cm				

ANK51	Phase 1	Phase 2
Understorey		
Overstorey		

Site ANK52

Ph 1: Described by	NPMK	Date	09/10/2020	Type	Quadrat	10 x 10 m		
Ph 2: Described by	ABSMK	Date	18/11/2020	Type	Quadrat	10 x 10 m		
MGA Zone	50	395789	mE	6435749	mN	115.894220 E	-32.210016 S	

Habitat Low lying damp land, seasonally inundated.

Soil 10YR 2/1 black. Sand; high humic matter.

Rock Type Nil.

Vegetation Ph 1: *Kunzea glabrescens* tall open scrub over *Adenanthos cygnorum* subsp. *cygnorum* tall open shrubland.
Ph 2: *Kunzea glabrescens* tall open scrub over *Adenanthos cygnorum* subsp. *cygnorum* tall open shrubland.

Veg Condition Ph 1: Good. Ph 2: Good.

Fire Age No sign of recent fire.

Species	Phase 1			Phase 2		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
Acacia sp.	0.1	5 cm	ANK52-21	0.1	5 cm	ANK52-21=
Adenanthos cygnorum subsp. *cygnorum*	2	350 cm		3	350 cm	ANK52R-01
**Aira cupaniana*	0.1	6 cm		0.1	6 cm	
Austrostipa compressa	0.1	8 cm	ANK52-03	0.1	15 cm	ANK52R-02
**Briza maxima*	0.1	10 cm		0.1	10 cm	
Caladenia flava subsp. *flava*	0.1	7 cm				
**Carpobrotus edulis*	0.1	1 cm		0.1	1 cm	
Centrolepis drummondiana				0.1	4 cm	ANK52R-03
Chamaescilla corymbosa var. *corymbosa*	0.1	5 cm				
Crassula colorata var. *colorata*	0.1	3 cm	ANK52-09	0.1	3 cm	ANK52-09=
Dampiera linearis				0.1	15 cm	ANK52R-04
Drosera glanduligera	0.1	1 cm	ANK52-07			
**Ehrharta calycina*	0.1	40 cm		0.1	40 cm	
Fabaceae sp.	0.1	4 cm	ANK52-12	0.1	4 cm	ANK52-12=
**Gladiolus caryophyllaceus*	0.1	40 cm		0.1	40 cm	
Gompholobium tomentosum				0.1	15 cm	
**Hypochaeris glabra*	0.1	3 cm		0.1	3 cm	
**Hypochaeris radicata*	0.1	1 cm		0.1	1 cm	
Hypolaena exsulca	0.1	8 cm	ANK52-11	0.1	20 cm	ANK52R-06
Isolepis marginata	0.1		ANK52-17			
Kunzea glabrescens	60	500 cm	ANK52-01	60	500 cm	ANK52-01=
Lechenaultia floribunda				0.1	15 cm	ANK71R-03=
Lechenaultia sp.	0.1	50 cm	ANK52-13			
Levenhookia stipitata	0.1	6 cm	ANK52-04	0.1	5 cm	
Lomandra sp.				0.1	8 cm	ANK52R-05
Microtis media subsp. *media*	0.1	25 cm				

Species	Phase 1			Phase 2		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
Nuytsia floribunda	0.1	25 cm	ANK52-20	0.1	25 cm	ANK52-20=
**Pentameris airoides*				0.1	10 cm	ANK73R-01=
Phyllangium paradoxum	0.1	5 cm	ANK52-02a	0.1	15 cm	
Poaceae sp.	0.1	6 cm	ANK52-19			
Podotheca gnaphalioides	0.1	3 cm	ANK52-05			
Pterostylis sp.	0.1	1 cm				
**Rostraria cristata*	0.1	8 cm	ANK52-18			
Senecio sp.	0.1	15 cm	ANK52-16			
Siloxerus humifusus	0.1	1 cm	ANK52-08	0.1	1 cm	ANK52-08=
Siloxerus pygmaeus				0.1	2 cm	ANK52R-07
Thysanotus sp. (*manglesianus/patersonii*)	0.1	20 cm	ANK52-15	0.1	20 cm	ANK52-15=
Trachymene pilosa	0.1	3 cm		0.1	3 cm	
**Ursinia anthemoides* subsp. *anthemoides*	0.1	7 cm		0.1	7 cm	
**Vulpia myuros* forma *myuros*	0.1	10 cm	ANK52-10	0.1	10 cm	ANK52-10=

ANK52	Phase 1	Phase 2
Understorey		
Overstorey		

Site ANK53

Ph 1: Described by	ALJT	Date	07/10/2020	Type	Quadrat	10 x 10 m	
Ph 2: Described by	ABSMK	Date	17/11/2020	Type	Quadrat	10 x 10 m	
Ph 3: Described by	ABSJT	Date	06/09/2022	Type	Quadrat	10 x 10 m	
MGA Zone	50	395859	mE	6435933	mN	115.894981 E	-32.208362 S

Habitat Gently sloping south facing plain.

Soil 2.5Y; 90% 4/1 dark grey, 10% 3/1 very dark grey. Sand.

Rock Type Nil.

Vegetation Ph 1: *Allocasuarina fraseriana* open woodland over *Banksia attenuata, B. menziesii* low woodland over *Calytrix flavescens* low open shrubland.

Ph 2: *Banksia attenuata, B. menziesii, Allocasuarina fraseriana* low open forest over *Hibbertia hypericoides* subsp. *hypericoides, Calytrix flavescens, Stirlingia latifolia, Scholtzia involucrata* low shrubland over *Corynotheca micrantha* var. *micrantha* scattered herb.

Ph 3: *Banksia attenuata, Banksia menziesii* (*Allocasuarina fraseriana*) low open forest over *Calytrix flavescens* open shrubland over *Hibbertia hypericoides subsp. hypericoides* low shrubland over *Conostylis aculeata subsp. aculeata* scattered herbs.

Veg Condition Ph 1: Very Good. Ph 2: Excellent. Ph 3: Excellent.

Fire Age No sign of recent fire.

Species	Phase 1			Phase 2			Phase 3		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
Allocasuarina fraseriana	7	1100 cm		7	800 cm		7	900 cm	
Amphipogon turbinatus	0.1	35 cm	ANK53-13						
Asteridea pulverulenta	0.1	15 cm	ANK53-02	0.1	20 cm	ANK58R-02=	0.1	10 cm	
Austrostipa compressa	0.1	20 cm	ANK53-10	0.1	20 cm	ANK53-10=	0.1	5 cm	
**Avena barbata*				0.1	75 cm	ANK53R-04			
Banksia attenuata	15	700 cm		19	500 cm		15	580 cm	
Banksia menziesii	11	600 cm		11	600 cm		12	610 cm	
Bossiaea eriocarpa	0.1	50 cm		0.1	50 cm		0.1	35 cm	
**Briza maxima*	0.1	38 cm		0.1	38 cm		0.1	25 cm	
Burchardia congesta	0.1	50 cm		0.1	50 cm		0.1	40 cm	
Caladenia flava subsp. *flava*	0.1	15 cm					0.1	15 cm	
Calytrix flavescens	3	100 cm	ANK53-07	3	100 cm	ANK53-07=	3	110 cm	
**Carpobrotus edulis*	0.1	5 cm		0.1	5 cm		0.1	2 cm	
Chaetospora curvifolia	0.1	25 cm	ANK53-15	0.1	40 cm	ANK58R-04=			
Chamaescilla corymbose var. *corymbosa*							0.1	20 cm	
Conostylis aculeata subsp. *aculeata*	0.1	25 cm	ANK53-03	0.1	25 cm	ANK53-03=	1	35 cm	
Corynotheca micrantha var.	0.1	35 cm	ANK53-08	1	25 cm	ANK53R-01	0.1	35 cm	
Dasypogon bromeliifolius	0.1	50 cm		0.1	50 cm		0.1	40 cm	
Desmocladus flexuosus	0.1	25 cm	ANK53-05	0.1	25 cm	ANK53-05=	0.1	20 cm	
Drosera drummondii	0.1	15 cm							
Drosera erythrorhiza	0.1	3 cm					0.1	1 cm	

Species	Phase 1			Phase 2			Phase 3		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
Drosera macrantha							0.1	35 cm	ANK53-01
Drosera sp.				0.1	10 cm	ANK53R-02			
**Ehrharta calycina*	0.1	35 cm		0.1	35 cm		0.1	30 cm	
**Gladiolus caryophyllaceus*	0.1	100 cm		0.1	100 cm		0.1	10 cm	
Gompholobium tomentosum				0.1	10 cm				
Haemodorum sp.							0.1	50 cm	ANK53-02
Hibbertia hypericoides subsp.	6	100 cm	ANK53-01	6	100 cm	ANK53-01=	11	100 cm	
Hibbertia subvaginata	0.1	25 cm	ANK53-04	0.1	25 cm	ANK53-04=	0.1	25 cm	
**Hypochaeris glabra*	0.1	15 cm		0.1	15 cm		0.1	1 cm	
**Hypochaeris radicata*							0.1	1 cm	
Kunzea glabrescens	0.1	60 cm	ANK63-15=	0.1	60 cm	ANK63-15=	0.1	100 cm	
Lagenophora huegelii	0.1	25 cm		0.1	25 cm		0.1	15 cm	
Lepidosperma calcicola	0.1	60 cm	ANK53-11	0.1	60 cm	ANK53-11=	0.1	30 cm	
Levenhookia stipitata	0.1	5 cm	ANK53-09	0.1	10 cm				
Lomandra caespitosa				0.1	20 cm	ANK65R-02=	0.1	20 cm	
Lomandra suaveolens	0.1	20 cm	ANK53-12	0.1	35 cm	ANK53-12=	0.1	25 cm	
Lyginia barbata	0.1	40 cm	ANK63-07=				0.1	25 cm	
**Lysimachia arvensis*	0.1	10 cm		0.1	10 cm		0.1	5 cm	
Patersonia occidentalis var.	0.1	60 cm		0.1	60 cm		0.1	40 cm	
**Pelargonium capitatum*	0.1	5 cm					0.1	1 cm	
Petrophile linearis	0.1	20 cm		0.1	20 cm		0.1	20 cm	
Phlebocarya ciliata	0.1	25 cm		0.1	25 cm				
Phyllangium paradoxum	0.1	10 cm		0.1	10 cm		0.1	2 cm	
Podotheca angustifolia	0.1	7 cm							
Poranthera microphylla							0.1	1 cm	ANK53-04
Poranthera moorokatta	0.1	3 cm	ANK61-03=						
Quinetia urvillei	0.1	5 cm							
Rhodanthe citrina	0.1	10 cm	ANK63-08=	0.1	10 cm	ANK63-08=			
Rytidosperma occidentale	0.1	20 cm	ANK53-16	0.1	35 cm	ANK53-16=			
Scholtzia involucrata	0.1	30 cm	ANK63-06=	0.5	30 cm	ANK63-06=			
Siloxerus humifusus	0.1	2 cm							
**Sonchus oleraceus*				0.1	10 cm				
Stirlingia latifolia	0.1	70 cm		2	70 cm		0.1	100 cm	
Stylidium repens	0.1	15 cm		0.1	15 cm		0.1	3 cm	
Styphelia conostephioides				0.1	15 cm	ANK53R-03			
Thysanotus manglesianus	0.1	25 cm		0.1	25 cm		0.1	60 cm	
Trachymene pilosa	0.1	15 cm	ANK53-06	0.1	15 cm	ANK53-06=	0.1	2 cm	
**Urospermum picroides*	0.1	20 cm	ANK53-14	0.1	20 cm		0.1	5 cm	
**Ursinia anthemoides* subsp.	0.1	25 cm		0.1	25 cm		0.1	20 cm	

Species	Phase 1			Phase 2			Phase 3		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
Wahlenbergia sp.							0.1	8 cm	ANK53-06
Waitzia suaveolens var. *suaveolens*							0.1	2 cm	ANK53-03
Waitzia suaveolens var. *suaveolens*							0.1	2 cm	ANK53-05

ANK53	Phase 1	Phase 2	Phase 3
Understorey			
Overstorey			

Site ANK54

Ph 1: Described by	ALJT	Date	07/10/2020	Type	Quadrat	10 x 10 m		
Ph 2: Described by	ABSMK	Date	18/11/2020	Type	Quadrat	10 x 10 m		
Ph 3: Described by	ABSJT	Date	06/09/2022	Type	Quadrat	10 x 10 m		
MGA Zone	50	395838	mE	6435842	mN	115.894746 E	-32.209186 S	

Habitat Gently sloping south facing plain.

Soil 2.5Y; 90% 4/1 dark grey, 10% 3/1 very dark grey. Sand.

Rock Type Nil.

Vegetation Ph 1: *Banksia attenuata, B. menziesii* low woodland over *Adenanthos cygnorum* subsp. *cygnorum, Kunzea glabrescens* tall open shrubland over *Calytrix angulata* low open shrubland over *Patersonia occidentalis* var. *occidentalis* scattered herbs.

Ph 2: *Banksia attenuata, B. menziesii* low open forest over *Adenanthos cygnorum* subsp. *cygnorum, Kunzea glabrescens* tall open shrubland over *Calytrix angulata, Bossiaea eriocarpa* low open shrubland over *Patersonia occidentalis* var. *occidentalis* scattered herbs.

Ph 3: *Banksia menziesii*, *Banksia attenuata* low open forest over *Adenanthos cygnorum subsp. cygnorum* tall open shrubland over *Calytrix angulata* (*Bossiaea eriocarpa*) low open shrubland over *Patersonia occidentalis var. occidentalis* scattered herbs.

Veg Condition Ph 1: Very Good. Ph 2: Very Good. Ph 3: Excellent.

Fire Age No sign of recent fire.

Notes High recruitment of *Bossiaea*, *Jacksonia* and *Banksia* seedlings.

Species	Phase 1			Phase 2			Phase 3		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
Acacia sp.				0.1	5 cm	ANK52-21=			
Adenanthos cygnorum subsp.	5	350 cm		5	350 cm		5	360 cm	
Austrostipa compressa	0.1	20 cm	ANK53-10=	0.1	20 cm	ANK53-10=	0.1	25 cm	
Banksia attenuata	14	950 cm		14	800 cm		14	780 cm	
Banksia menziesii	15	650 cm		19	650 cm		19	580 cm	
Bossiaea eriocarpa	0.1	60 cm		1	60 cm		1	30 cm	
**Briza maxima*	0.1	25 cm		0.1	25 cm		1	5 cm	
Burchardia congesta	0.1	35 cm		0.1	35 cm		0.1	25 cm	
Caladenia flava subsp. *flava*	0.1	15 cm					0.1	5 cm	
Calandrinia corrigioloides	0.1	10 cm	ANK54-11				0.1	1 cm	
Calytrix angulata	8	65 cm	ANK54-01	8	65 cm	ANK54-01=	8	25 cm	
Calytrix flavescens	0.1	40 cm	ANK53-07=	0.1	40 cm	ANK53-07=	0.1	90 cm	
Chamaescilla corymbosa var.	0.1		ANK54-13						
Conostylis aculeata subsp. *aculeata*	0.1	30 cm	ANK54-12	0.1	30 cm	ANK54-12=	0.1	40 cm	
Corynotheca micrantha var.	0.1	60 cm	ANK54-07	0.1	35 cm	ANK53R-01	0.1	35 cm	
Crassula colorata var. *colorata*	0.1	5 cm	ANK63-13=	0.1	5 cm	ANK63-13=			
Dampiera linearis	0.1	20 cm	ALOP02=	0.1	20 cm	ALOP02=			
Desmocladus flexuosus	0.1	20 cm	ANK53-05=	0.1	20 cm	ANK53-05=	0.1	10 cm	
Drosera erythrorhiza							0.1	1 cm	

Species	Phase 1			Phase 2			Phase 3		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
Drosera erythrorhiza							0.1	20 cm	WTP53=
**Ehrharta calycina*	0.1	75 cm		0.1	75 cm		0.1	10 cm	
**Gladiolus caryophyllaceus*	0.1	100 cm		0.1	100 cm		0.1	10 cm	
Gompholobium tomentosum	0.1	20 cm		0.1	20 cm		0.1	10 cm	
Hemiandra pungens	0.1	15 cm	ANK54-05						
Hibbertia subvaginata	0.1	20 cm	ANK53-04=	0.1	20 cm	ANK53-04=	0.1	25 cm	
Hyalosperma cotula				0.1	10 cm	ANK54R-02			
**Hypochaeris glabra*	0.1	5 cm		0.1	5 cm		0.1	2 cm	
Hypolaena exsulca				0.1	10 cm	ANK52R-06			
Isolepis marginata	0.1	5 cm	ANK63-16=						
Jacksonia furcellata	0.1	15 cm		0.1	35 cm		0.1	35 cm	
Kennedia prostrata							0.1	2 cm	
Kunzea glabrescens	1	240 cm		1	240 cm		0.1	250 cm	
Laxmannia sp.							0.1	4 cm	NC
Laxmannia ramosa subsp. *ramosa*	0.1	10 cm	ANK54-04	0.1	10 cm	ANK54-04=			
Laxmannia squarrosa	0.1	3 cm		0.1	3 cm				
Lechenaultia floribunda							0.1	20 cm	
Levenhookia stipitata	0.1	5 cm	ANK54-02	0.1	5 cm	ANK54-02=			
Lomandra caespitosa	0.1	45 cm	ANK54-09	0.1	45 cm	ANK54-09=	0.1	25 cm	
**Lysimachia arvensis*							0.1	5 cm	NC
Patersonia occidentalis var.	0.5	45 cm		1	45 cm	ANK54R-01	1	40 cm	
Phyllangium paradoxum	0.1	5 cm		0.1	5 cm				
Podotheca gnaphalioides							0.1	10 cm	
Pyrorchis nigricans							0.1	1 cm	
Pyrorchis sp.	0.1	2 cm							
Quinetia urvillei	0.1	5 cm					0.1	5 cm	
Scholtzia involucrata	0.1	30 cm	ANK54-06	0.1	30 cm	ANK54-06=	0.1	20 cm	
Siloxerus humifusus	0.1	2 cm	ANK54-03	0.1	2 cm	ANK54-03=			
**Sonchus oleraceus*	0.1	35 cm	ANK54-14	0.1	10 cm		0.1	15 cm	
Stirlingia latifolia	0.1	110 cm		0.1	110 cm		0.1	60 cm	
Styphelia conostephioides	0.1	15 cm	ANK60-12=	0.1	15 cm	ANK60-12=			
Thelymitra vulgaris/frenchii	0.1	25 cm	ANK54-08						
Thysanotus manglesianus	0.1	20 cm		0.1	20 cm		0.1	30 cm	
Trachymene pilosa	0.1	15 cm	ANK53-06=	0.1	15 cm	ANK53-06=	0.1	2 cm	
**Ursinia anthemoides* subsp.	0.1	25 cm		0.1	25 cm		0.1	3 cm	
Waitzia suaveolens var. *suaveolens*							0.1	5 cm	WTP53-05=

ANK54	Phase 1	Phase 2	Phase 3
Understorey			
Overstorey			

Site ANK55

Ph 1: Described by	SWMG	Date	07/10/2020	Type	Quadrat	10 x 10 m	
Ph 2: Described by	SW	Date	17/11/2020	Type	Quadrat	10 x 10 m	
MGA Zone	50	395972	mE	6435786	mN	115.896166 E	-32.209703 S

Habitat Sandplain downslope from Anketell Rd.

Soil 10YR 3/2 very dark greyish brown. Sand.

Rock Type Nil.

Vegetation Ph 1: *Banksia attenuata, B. menziesii* low woodland over *Kunzea glabrescens* tall open shrubland over *Scholtzia involucrata, Calytrix flavescens, Melaleuca thymoides* low open shrubland over *Lyginia barbata, Dasypogon bromeliifolius, Desmocladus flexuosus* open herbland.

Ph 2: *Banksia attenuata, B. menziesii* low woodland over *Kunzea glabrescens* tall open shrubland over C*alytrix angulata, C. flavescens, Hibbertia hypericoides* subsp. *hypericoides, Melaleuca thymoides* low open shrubland over *Lyginia barbata, Dasypogon bromeliifolius, Desmocladus flexuosus* open herbland.

Veg Condition Ph 1: Excellent. Ph 2: Excellent.

Fire Age No sign of recent fire.

Species	Phase 1			Phase 2		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
Anigozanthos manglesii subsp. *manglesii*				0.1	45 cm	
Anigozanthos sp.	0.1	20 cm				
Austrostipa compressa	0.1	30 cm	ANK55-8	0.1	45 cm	ANK55-08=
Banksia attenuata	16.5	650 cm		16.5	650 cm	
Banksia menziesii	8	600 cm		8	600 cm	
Banksia sp.				0.1	15 cm	ANK55R-05
Bossiaea eriocarpa	0.1	10 cm	ANK55-9			
**Briza maxima*	0.1	25 cm		0.1	25 cm	
Burchardia congesta	0.1	50 cm		0.1	45 cm	
Caladenia flava subsp. *flava*	0.1	15 cm				
Calytrix angulata	0.5	120 cm	ANK55-10	5	85 cm	ANK55R-02
Calytrix flavescens	1.5	35 cm	ANK56-06=	1.5	40 cm	ANK56-06=
Calytrix fraseri				0.1	45 cm	ANK55R-01
**Carpobrotus edulis*				0.1	3 cm	
Conostylis aculeata subsp. *aculeata*	0.1	20 cm		0.1	45 cm	ANK55R-03
Dasypogon bromeliifolius	5	40 cm	ANK56=	5	45 cm	
Daucus glochidiatus	0.1	10 cm		0.1	10 cm	
Desmocladus flexuosus	2	10 cm	ANK56=	2	15 cm	ANK56-08=
Drosera sp.	0.1	15 cm	ANK55-6			
**Ehrharta calycina*	0.1	60 cm		0.1	60 cm	
**Ehrharta longiflora*				0.1	40 cm	
Gastrolobium capitatum	0.1	30 cm		0.1	40 cm	
**Gladiolus caryophyllaceus*	0.1	25 cm		0.1	25 cm	

Species	Phase 1			Phase 2		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
Glischrocaryon aureum	0.1	40 cm				
Gompholobium tomentosum	0.1	20 cm		0.1	30 cm	
Hibbertia hypericoides subsp. *hypericoides*	0.1	20 cm		1	30 cm	
Hibbertia subvaginata	0.1	20 cm		0.1	30 cm	
**Hypochaeris glabra*	0.1	25 cm		0.1	5 cm	
**Hypochaeris radicata*				0.1	2 cm	
Jacksonia furcellata	0.1	120 cm		0.1	120 cm	
Kunzea glabrescens	2	220 cm	ANK56-01=	2	220 cm	ANK56-01=
Lobelia tenuior				0.1	15 cm	ANK57R=
Lomandra sp.	0.1	10 cm	ANK56-03=			
Lyginia barbata	6	40 cm	ANK55-1	6	40 cm	ANK55-01=
**Lysimachia arvensis*	0.1	20 cm		0.1	10 cm	
Melaleuca thymoides	1	150 cm	ANK55-13	1.5	150 cm	ANK55-13=
Microlaena stipoides	0.1	15 cm				
Patersonia occidentalis var. *occidentalis*	0.1	50 cm		0.1	55 cm	
Petrophile linearis	0.1	20 cm	ANK55-12	0.1	30 cm	ANK55-12=
Philotheca spicata	0.1	45 cm	ANK55-14	0.1	45 cm	ANK55-14=
Phyllangium paradoxum	0.1	8 cm		0.1	5 cm	
Podotheca chrysantha	0.1	25 cm	ANK55-11			
Podotheca gnaphalioides	0.1	15 cm				
Pyrorchis nigricans	0.1	2 cm	ANK55-7			
Scholtzia involucrata	4	40	ANK56-04=	0.5	35 cm	ANK55-16=
Senecio condylus	0.1	5 cm				
Siloxerus humifusus	0.1	4 cm	ANK55-4	0.1	3 cm	ANK55-04=
Sowerbaea laxiflora				0.1	35 cm	
Stirlingia latifolia	0.5	110 cm		0.5	110 cm	
Stylidium araeophyllum	0.1	4 cm	ANK57-22=	0.1	5 cm	ANK57-22=
Stylidium repens	0.1	10 cm	ANK55-3	0.1	15 cm	ANK55-03=
Styphelia conostephioides	0.1	40 cm	ANK57-20=	0.1	45 cm	ANK57-20=
Thysanotus sp. (*manglesianus/patersonii*)	0.1	30 cm	ANK57-23=			
**Ursinia anthemoides* subsp. *anthemoides*	0.1	50 cm		0.1	40 cm	
**Wahlenbergia capensis*	0.1	12 cm	ANK55-15			
Xerochrysum sp.	0.1	5 cm	ANK57-5=			
**Zantedeschia aethiopica*	0.1	2 cm				

ANK55	Phase 1	Phase 2
Understorey		
Overstorey		

Site ANK56

Ph 1: Described by	SWMG	Date	07/10/2020	Type	Quadrat	10 x 10 m	
Ph 2: Described by	ABSMK	Date	18/11/2020	Type	Quadrat	10 x 10 m	
MGA Zone	50	396092	mE	6435763	mN	115.897437 E	-32.209923 S

Habitat Sandplain downslope of Anketell Rd, 5%.

Soil 7.5YR 3/2 dark brown. Loamy sand; 10cm profile of organic matter and root mass.

Rock Type Nil.

Vegetation Ph 1: *Banksia menziesii, B. attenuata, B. ilicifolia* low woodland over *Kunzea glabrescens* tall shrubland over *Calytrix flavescens, Scholtzia involucrata* low open shrubland.

Ph 2: *Banksia menziesii, B. attenuata, B. ilicifolia* low woodland over *Kunzea glabrescens* tall shrubland over *Calytrix flavescens, Scholtzia involucrata* low open shrubland over *Patersonia occidentalis* var. *occidentalis* scattered herbs.

Veg Condition Ph 1: Excellent. Ph 2: Excellent.

Fire Age No sign of recent fire.

Species	Phase 1			Phase 2		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
Acacia sp.				0.1	5 cm	ANK52-21=
**Aira cupaniana*				0.1	10 cm	ANK56R-03
Austrostipa compressa	0.1	20 cm		0.1	65 cm	ANK73R-02=
Banksia attenuata	9	650 cm		9	650 cm	
Banksia ilicifolia	3	550 cm		3	550 cm	
Banksia menziesii	14	600 cm		14	600 cm	
Bossiaea eriocarpa				0.1	20 cm	
**Briza maxima*	0.1	10 cm		0.1	40 cm	
Burchardia congesta	0.1	60 cm		0.1	60 cm	
Caesia occidentalis	0.1	60 cm	ANK56-10			
Caladenia flava subsp. *flava*	0.1	10 cm		0.1	10 cm	
Caladenia sp.	0.1	10 cm				
Calytrix flavescens	2	30 cm	ANK56-6	2	30 cm	ANK56-6=
**Carpobrotus edulis*				0.1	2 cm	
Chamaescilla corymbosa var. *corymbosa*				0.1	15 cm	
Crassula colorata var. *colorata*	0.1	5 cm	ANK66-02=	0.1	5 cm	ANK66-02=
Dampiera linearis				0.1	15 cm	
Dasypogon bromeliifolius	0.1	50 cm	ANK56-7	0.1	50 cm	ANK56-7=
Daucus glochidiatus	0.5	5 cm				
Desmocladus flexuosus	0.1	20 cm	ANK56-8	0.1	20 cm	ANK56-8=
Drosera zonaria	0.1	2 cm	ANK57-10=			
Erigeron sp.				0.1	3 cm	ANK51R-04=
Gastrolobium capitatum	0.1	15 cm				
**Gladiolus caryophyllaceus*	0.1	10 cm		0.1	10 cm	

Species	Phase 1			Phase 2		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
Glischrocaryon aureum	0.1	20 cm				
Gompholobium tomentosum	0.1	40 cm		0.1	80 cm	
Gonocarpus pithyoides	0.1	25 cm	ANK56-9	0.1	15 cm	ANK56R-02
Hibbertia subvaginata	0.1	10 cm		0.1	10 cm	
**Hypochaeris glabra*	0.1	10 cm		0.1	10 cm	
**Hypochaeris radicata*	0.1	10 cm		0.1	10 cm	
Isolepis cernua var. *cernua*	0.1	10 cm		0.1	10 cm	
Isolepis marginata				0.1	7 cm	ANK56R-05
Jacksonia furcellata				0.1	2 cm	
Kunzea glabrescens	22	220 cm	ANK56-1	22	650 cm	ANK56-1=
Levenhookia stipitata				0.1	5 cm	
Lobelia sp.				0.1	15 cm	ANK56R-01
Lomandra caespitosa	0.1	20 cm		0.1	20 cm	
Lomandra suaveolens	0.1	25 cm	ANK56-3	0.1	25 cm	ANK56-3=
Lyginia barbata	0.5	45 cm	ANK56-5			
**Lysimachia arvensis*				0.1	15 cm	
Microlaena stipoides	0.1	30 cm				
Patersonia occidentalis var. *occidentalis*	0.5	70 cm		1	70 cm	
**Pentameris airoides*	0.1	8 cm		0.1	8 cm	
Phlebocarya ciliata				0.1	15 cm	ANK56R-08
Phyllangium paradoxum	0.1	8 cm		0.1	8 cm	
Podotheca gnaphalioides	0.1	15 cm		0.1	15 cm	
Poranthera microphylla	0.1	10 cm	ANK56-12	0.1	3 cm	
Rhodanthe citrina				0.1	10 cm	ANK56R-06
Scholtzia involucrata	1.5	15 cm	ANK56-4	1.5	15 cm	ANK56-4=
Stylidium araeophyllum	0.1	50 cm	ANK57-22=	0.1	50 cm	ANK57-22=
Stylidium repens				0.1	10 cm	
Styphelia conostephioides	0.1	8 cm	ANK57-20=	0.1	8 cm	ANK57-20=
Thysanotus sp. (*manglesianus/patersonii*)	0.1	20 cm	ANK57-23=	0.1	20 cm	ANK57-23=
Trachymene pilosa				0.1	10 cm	
Tricoryne tenella				0.1	20 cm	ANK56R-09
**Ursinia anthemoides* subsp. *anthemoides*	0.1	20 cm		0.1	20 cm	
Xerochrysum sp.	0.5	10 cm	ANK57-5=	0.5	10 cm	ANK57-5=

ANK56	Phase 1	Phase 2
Understorey		
Overstorey		

Site ANK57

Ph 1: Described by	SWMG	Date	07/10/2020	Type	Quadrat	10 x 10 m		
Ph 2: Described by	SW	Date	17/11/2020	Type	Quadrat	10 x 10 m		
Ph 3: Described by	ALTH	Date	06/09/2022	Type	Quadrat	10 x 10 m		
MGA Zone	50	396147	mE	6435859	mN	115.898030 E	-32.209055 S	

Habitat Sandplain sloping south 5%.

Soil 10YR 4/2 dark greyish brown. Sand; high humic matter.

Rock Type Nil.

Vegetation Ph 1: *Banksia menziesii* low open woodland over *Adenanthos cygnorum* subsp. *cygnorum, Kunzea glabrescens, Jacksonia furcellata* tall shrubland over *Phyllota gracilis, Bossiaea eriocarpa, Scholtzia involucrata* low open shrubland over **Briza maxima* scattered grasses over *Desmocladus flexuosus, *Ursinia anthemoides* subsp. *anthemoides* scattered herbs.

Ph 2: *Banksia menziesii* low open woodland over *Adenanthos cygnorum* subsp. *cygnorum*, *Kunzea glabrescens*, *Jacksonia furcellata* tall shrubland over *Phyllota gracilis, Bossiaea eriocarpa, Calytrix angulata, Lechenaultia floribunda* low open shrubland over *Desmocladus flexuosus, *Ursinia anthemoides* subsp. *anthemoides* scattered herbs.

Ph 3: *Banksia menziesii* low open woodland over *Adenanthos cygnorum subsp. cygnorum* (*Kunzea glabrescens, Jacksonia furcellata*) tall shrubland over *Phyllota gracilis, Bossiaea eriocarpa* (*Calytrix angulata, Lechenaultia floribunda*) low open shrubland over *Desmocladus flexuosus, *Ursinia anthemoides* subsp. *anthemoides* scattered herbs.

Veg Condition Ph 1: Excellent. Ph 2: Excellent. Ph 3: Very Good.

Fire Age No sign of recent fire.

Notes Surrounding vegetation contains mature *Banksia illicifolia*.

Species	Phase 1			Phase 2			Phase 3		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
Adenanthos cygnorum subsp.	9	350 cm	ANK57-1	9	370 cm	ANK57-01=	9	380 cm	
Aira praecox							0.1	5 cm	ANK57-03
Amphipogon turbinatus							0.1	35 cm	ANK57-01=
Anigozanthos sp.	0.1	50 cm							
Austrostipa compressa	0.1	20 cm	ANK57-6	0.1	25 cm	ANK60R-03=			
Banksia menziesii	8	450 cm		8	450 cm		8	470 cm	
Bossiaea eriocarpa	1.5	60 cm	ANK57-11	2	50 cm	ANK57-11=	2	20 cm	
**Briza maxima*	1.5	15 cm		0.1	15 cm		0.1	20 cm	
Burchardia congesta	0.1	60 cm					0.1	30 cm	
Caladenia flava subsp. *flava*	0.1	15 cm					0.1	10 cm	
Calytrix angulata				0.5	60 cm	ANK57R-03	0.5	60 cm	
**Carpobrotus edulis*	0.1	5 cm		0.1	10 cm				
Cassytha glabella	0.1	20 cm					0.1	10 cm	
Chaetospora curvifolia	0.1	30 cm	ANK57-17b						
Conostylis aculeata subsp. *aculeata*	0.1	25 cm		0.1	25 cm		0.1	25 cm	
Crassula colorata var. *colorata*	0.1	5 cm	ANK66-02=	0.1	5 cm	ANK66-02=	0.1	5 cm	

Species	Phase 1			Phase 2			Phase 3		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
Daucus glochidiatus	0.1	5 cm							
Desmocladus flexuosus	0.5	40 cm	ANK57-15	0.5	40 cm	ANK57-15=	0.5	20 cm	
Drosera erythrorhiza							0.1	3 cm	
Drosera filicaulis							0.1	10 cm	WTP30-13=
Drosera glanduligera	0.1	1 cm	ANK64-2=						
Drosera zonaria	0.1	2 cm	ANK57-10				0.1	1 cm	
**Ehrharta calycina*	0.1	50 cm		0.1	70 cm		0.1	15 cm	
**Ehrharta longiflora*	0.1	25 cm		0.1	20 cm		0.1	15 cm	
Gastrolobium capitatum	0.1	25 cm	ANK57-18	0.1	25 cm	ANK57-18=	0.1	20 cm	
Gastrolobium capitatum							0.1	10 cm	ANK57-05
**Gladiolus caryophyllaceus*	0.1	50 cm		0.1	65 cm		0.1	25 cm	
Gompholobium tomentosum	0.1	30 cm		0.1	35 cm				
Gonocarpus pithyoides	0.1	12 cm	ANK57-3						
Hibbertia subvaginata	0.1	25 cm		0.1	30 cm		0.1	30 cm	
**Hypochaeris glabra*	0.1	25 cm		0.1	2 cm		0.1	5 cm	
**Hypochaeris radicata*	0.1	10 cm					0.1	5 cm	
Isolepis marginata	0.1	5 cm	ANK57-12				0.1	5 cm	
Isolepis marginata							0.1	2 cm	ANK57-04
Jacksonia furcellata	0.5	200 cm		0.5	200 cm		1	250 cm	
Kunzea glabrescens	1	170 cm	ANK57-13	1	170 cm	ANK57-13=	1.5	260 cm	
Laxmannia squarrosa	0.1	20 cm	ANK57-4	0.1	30 cm	ANK57-04=	0.1	7 cm	
Lechenaultia floribunda				0.5	25 cm	ANK57R-02	0.5	20 cm	
Levenhookia stipitata	0.1	7 cm	ANK57-9						
Lomandra hermaphrodita				0.1	15 cm		0.1	20 cm	
Lyginia imberbis	0.1	70 cm	ANK57-19	0.1	55 cm	ANK57-19=	0.1	35 cm	
**Lysimachia arvensis*	0.1	15 cm		0.1	5 cm		0.1	5 cm	
**Mesembryanthemum crystallinum*	0.1	2 cm							
Mesomelaena stygia subsp. *stygia*	0.1	45 cm	ANK57-17						
Microlaena stipoides	0.1	15 cm							
Neurachne alopecuroidea				0.1	15 cm				
Patersonia occidentalis var. *occidentalis*							0.1	35 cm	ANK57-02
**Petrorhagia dubia*				0.1	10 cm				
Phyllangium paradoxum	0.1	10 cm		0.1	10 cm				
Phyllota gracilis	3	40 cm	ANK57-2	3	40 cm	ANK57R-01	3	40 cm	
Quinetia urvillei							0.1	5 cm	WTP30-03=
Scholtzia involucrata	1	15 cm	ANK57-8				0.1	35 cm	
**Sonchus asper*	0.1	40 cm							
Sowerbaea laxiflora							0.1	20 cm	

Species	Phase 1			Phase 2			Phase 3		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
Stirlingia latifolia	0.1	30 cm		0.1	35 cm				
Stylidium araeophyllum	0.1	50 cm	ANK57-22	0.1	30 cm	ANK57-22=	0.1	15 cm	
Stylidium repens				0.1	5 cm		0.1	10 cm	
Styphelia conostephioides	0.1	30 cm	ANK57-20	0.1	30 cm	ANK57-20=			
Thysanotus manglesianus							0.1	30 cm	
Trachymene pilosa				0.1	5 cm		0.1	5 cm	
**Ursinia anthemoides* subsp.	0.5	15 cm		0.5	15 cm		1	25 cm	
**Wahlenbergia capensis*	0.1	16 cm	ANK57-7				0.1	10 cm	
Waitzia suaveolens var. *suaveolens*							0.1	5 cm	WTP30-05=
Xerochrysum sp.	0.1	8 cm	ANK57-5	0.1	10 cm	ANK57-05=			

ANK57	Phase 1	Phase 2	Phase 3
Understorey			
Overstorey			

Site ANK58

Ph 1: Described by	ALJT	Date	06/10/2020	Type	Quadrat	10 x 10 m	
Ph 2: Described by	ABSMK	Date	17/11/2020	Type	Quadrat	10 x 10 m	
MGA Zone	50	396121	mE	6435961	mN	115.897762 E	-32.208136 S

Habitat Gently sloping south facing plain.

Soil 10YR; 3/1 very dark grey, 2/1 black. Sand.

Rock Type Nil.

Vegetation Ph 1: *Banksia attenuata* (*B. menziesii*) woodland over *Allocasuarina fraseriana* open woodland over *Calytrix flavescens, C. angulata, Hibbertia hypericoides* subsp. *hypericoides* low open shrubland over *Dasypogon bromeliifolius, Phlebocarya ciliata* very open herbland.

Ph 2: *Banksia attenuata, B. menziesii, B. ilicifolia* low woodland over *Allocasuarina fraseriana* low open woodland over *Calytrix flavescens, Hibbertia hypericoides* subsp. *hypericoides* low open shrubland over *Dasypogon bromeliifolius, Phlebocarya ciliata* very open herbland.

Veg Condition Ph 1: Very Good. Ph 2: Excellent.

Fire Age No sign of recent fire.

Species	Phase 1			Phase 2		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
Allocasuarina fraseriana	6	1200 cm		6	900 cm	ANK58R-01
Amphipogon turbinatus	0.1	60 cm	ANK58-13	0.1	60 cm	ANK58-13=
Anigozanthos manglesii subsp. *manglesii*	0.1	20 cm		0.1	20 cm	
Asteridea pulverulenta	0.1	20 cm	ANK58-01	0.1	20 cm	ANK58-01=
Austrostipa compressa	0.1	20 cm	ANK58-02	0.1	20 cm	ANK58-02=
**Avena barbata*	0.1	35 cm	ANK58-15	0.1	35 cm	ANK58-15=
Banksia attenuata	8	1000 cm		15	600 cm	
Banksia ilicifolia	0.1	150 cm		1	450 cm	
Banksia menziesii	7	450 cm		12	500 cm	
Bossiaea eriocarpa	0.1	60 cm		0.1	60 cm	
**Brachypodium distachyon*	0.1	30 cm	ANK58-04			
**Briza maxima*	0.1	20 cm		0.1	20 cm	
Burchardia congesta	0.1	60 cm		0.1	60 cm	
Caladenia flava subsp. *flava*	0.1	15 cm		0.1	15 cm	
Calytrix angulata	0.5	80 cm	ANK58-09	0.5	80 cm	ANK58-09=
Calytrix flavescens	3	40 cm	ANK63-01=	3	40 cm	ANK63-01=
Chaetospora curvifolia	0.1	20 cm	ANK58-06	0.1	45 cm	ANK58R-04
Conostephium pendulum	0.1	20 cm	ANK58-14	0.1	20 cm	ANK58-14=
Conostylis aculeata subsp. *aculeata*				0.1	20 cm	ANK63-10=
Crassula colorata var. *colorata*	0.1	5 cm	ANK63-13=			
Dasypogon bromeliifolius	1	60 cm		1	60 cm	
Desmocladus flexuosus	0.1	30 cm	ANK58-07	0.1	30 cm	ANK58-07=
Drosera drummondii	0.1	15 cm				
**Ehrharta calycina*	0.1	70 cm		0.1	70 cm	

Species	Phase 1			Phase 2		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
**Gladiolus caryophyllaceus*	0.1	15 cm				
Gompholobium tomentosum				0.1	8 cm	
Hibbertia hypericoides subsp. *hypericoides*	2	100 cm		2	100 cm	
Hibbertia subvaginata	0.1	12 cm	ANK58-10	0.1	12 cm	ANK58-10=
**Hypochaeris glabra*	0.1	5 cm		0.1	5 cm	
Jacksonia furcellata	0.1	10 cm		0.1	10 cm	
Lagenophora huegelii	0.1	25 cm		0.1	25 cm	
Lepidosperma calcicola	0.1	60 cm	ANK58-20	0.1	60 cm	ANK58-20=
Levenhookia stipitata				0.1	10 cm	ANK58R-03
Lomandra caespitosa	0.1	55 cm	ANK58-11	0.1	55 cm	ANK58-11=
**Lysimachia arvensis*	0.1	15 cm		0.1	40 cm	
Patersonia occidentalis var. *occidentalis*	0.1	50 cm		0.1	50 cm	
Petrophile linearis	0.1	30 cm		0.1	30 cm	
Phlebocarya ciliata	1	50 cm		1	50 cm	
Phyllangium divergens	0.1	10 cm	ANK58-17	0.1	10 cm	ANK58-17=
Podotheca gnaphalioides	0.1	5 cm	ANK63-02=			
Poranthera microphylla				0.1	6 cm	
Pterostylis sp.	0.1	5 cm	ANK58-16			
Rhodanthe citrina	0.1	5 cm	ANK63-08=			
**Romulea rosea* var. *australis*				0.1	5 cm	
Scholtzia involucrata	0.1	25 cm	ANK63-06=	0.1	25 cm	ANK63-06=
**Sonchus oleraceus*	0.1	40 cm	ANK58-05	0.1	5 cm	
Stirlingia latifolia	0.1	100 cm		0.1	100 cm	
Stylidium repens	0.1	5 cm		0.1	5 cm	
Styphelia conostephioides	0.1	10 cm	ANK58-18	0.1	10 cm	ANK58-18=
Thysanotus manglesianus	0.1	100 cm		0.1	100 cm	
Trachymene pilosa	0.1	10 cm	ANK63-04=	0.1	10 cm	ANK63-04=
Tricoryne tenella	0.1	15 cm	ANK58-19			
**Urospermum picroides*	0.1	25 cm	ANK58-03	0.1	30 cm	
**Ursinia anthemoides* subsp. *anthemoides*	0.1	25 cm		0.1	25 cm	
**Wahlenbergia preissii*	0.1	25 cm	ANK58-12			

ANK58	Phase 1	Phase 2
Understorey		
Overstorey		

Site ANK59

Ph 1: Described by	SWMG	Date	06/10/2020	Type	Quadrat	10 x 10 m	
Ph 2: Described by	SW	Date	17/11/2020	Type	Quadrat	10 x 10 m	
MGA Zone	50	396246	mE	6435796	mN	115.899076 E	-32.209634 S

Habitat Slight south sloping, open sandy plain.

Soil 10YR 4/1 dark grey. Sand.

Rock Type Nil.

Vegetation Ph 1: *Kunzea glabrescens* tall shrubland over *Scholtzia involucrata* low open shrubland.
Ph 2: *Kunzea glabrescens* tall shrubland over *Scholtzia involucrata* low open shrubland.

Veg Condition Ph 1: Excellent. Ph 2: Excellent.

Fire Age No sign of recent fire.

Notes Surrounded by revegetation sites to the east and north. Blow in species most likely from revegetation.

Species	Phase 1			Phase 2		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
**Avena barbata*	0.1	30 cm				
**Briza maxima*	0.1	10 cm		0.1	10 cm	
Burchardia congesta				0.1	15 cm	
Caladenia sp.	0.1	5 cm				
Calandrinia granulifera	0.1	4 cm	ANK59-1			
Crassula colorata var. *colorata*	0.1	3 cm	ANK66-02=			
**Disa bracteata*	0.1	12 cm	ANK59-8			
Drosera micrantha	0.1	4 cm	ANK59-9	0.1	1 cm	ANK59-09=
**Ehrharta calycina*	0.1	60 cm	ANK59-6	0.1	55 cm	
**Gladiolus caryophyllaceus*	0.1	20 cm		0.1	60 cm	
**Hypochaeris glabra*	0.1	22 cm	ANK62=			
**Hypochaeris* sp.				0.1	1 cm	
Isolepis marginata	0.1	4 cm	ANK59-10			
Kunzea glabrescens	22	350 cm	ANK59-4	22	370 cm	ANK59-04=
Lechenaultia sp.	0.5	20 cm	ANK59-7	0.5	25 cm	ANK59-07=
Lobelia sp.				0.1	10 cm	ANK59R-01
Microlaena stipoides	0.1	25 cm				
**Pentameris airoides*	0.1	10 cm				
**Petrorhagia dubia*				0.1	10 cm	
Phyllangium paradoxum				0.1	8 cm	
Podotheca gnaphalioides	0.1	10 cm		0.1	15 cm	
Scholtzia involucrata	4	30 cm	ANK59-2	4	35 cm	ANK59-02=
Senecio condylus	0.1	10 cm	ANK59-11			
Styphelia conostephioides	0.1	25 cm	ANK59-5	0.1	30 cm	ANK59-5=

Species	Phase 1			Phase 2		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
Trachymene pilosa	0.1	20 cm		0.1	8 cm	
**Ursinia anthemoides* subsp. *anthemoides*	0.1	25 cm	ANK59-3	0.1	55 cm	
**Vulpia myuros* forma *megalura*	0.1	25 cm		0.1	15 cm	

ANK59	Phase 1	Phase 2
Understorey		
Overstorey		

Site ANK60

Ph 1: Described by	ALJT	Date	07/10/2020	Type	Quadrat	10 x 10 m		
Ph 2: Described by	SW	Date	17/11/2020	Type	Quadrat	10 x 10 m		
Ph 3: Described by	ALTH	Date	06/09/2022	Type	Quadrat	10 x 10 m		
MGA Zone	50	396378	mE	6435820	mN	115.900471 E	-32.209432 S	

Habitat Gently sloping south facing plain.

Soil 2.5Y; 90% 4/1 dark grey, 10% 3/1 very dark grey. Sand.

Rock Type Nil.

Vegetation Ph 1: *Adenanthos cygnorum* subsp. *cygnorum, Jacksonia furcellata* tall shrubland over *Styphelia kingiana, Brachyloma preissii, Styphelia conostephioides* low open shrubs over *Austrostipa compressa* scattered grasses over *Dampiera linearis* scattered herbs.

Ph 2: *Adenanthos cygnorum* subsp. *cygnorum, Jacksonia furcellata* tall shrubland over *Lechenaultia floribunda, Hibbertia subvaginata, Styphelia kingiana, Styphelia conostephioides, Aotus procumbens* low shrubland over *Phlebocarya ciliata* scattered herbs.

Ph 3: *Banksia menziesii, Banksia attenuata* scattered low trees over *Adenanthos cygnorum subsp. cygnorum* (*Jacksonia furcellata*) tall shrubland over Lechenaultia floribunda (*Styphelia conostephioides, Brachyloma preissii, Styphelia kingiana*) low open shrubland over *Lyginia imberbis* scattered sedges.

Veg Condition Ph 1: Very Good. Ph 2: Very Good. Ph 3: Excellent.

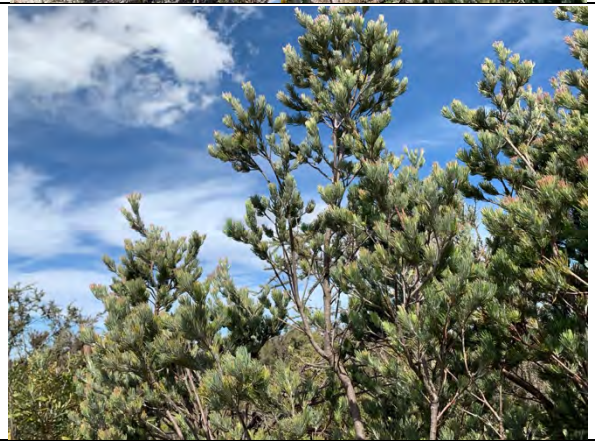
Fire Age No sign of recent fire.

Notes Revegetation site (8 years). No phase 2 photos.

Species	Phase 1			Phase 2			Phase 3		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
Adenanthos cygnorum subsp. *cygnorum*	11	300 cm		11	240 cm		11	250 cm	
Angiozanthos manglesii subsp. manglesii							0.1	50 cm	
Aotus procumbens	0.1	20 cm	ANK60-11	1.5	20 cm	ANK60-11=	0.1	15 cm	
**Arctotheca calendula*	0.1	10 cm					0.1	5 cm	
Austrostipa compressa	0.4	20 cm	ANK53-10=	0.1	30 cm	ANK60R-03			
**Avena barbata*	0.1	90 cm		0.1	70 cm				
Banksia attenuata	0.1	250 cm		0.5	230 cm		0.5	230 cm	
Banksia menziesii	0.1	200 cm		0.5	200 cm		1	210 cm	
Brachyloma preissii	2	40 cm	ANK60-10				2	60 cm	ANK60-03
**Briza maxima*	0.1	20 cm		0.1	15 cm		0.1	15 cm	
**Bromus diandrus*	0.1	30 cm		0.1	45 cm				
Caladenia pygmaea							0.1	1 cm	ANK60-02
Calandrinia granulifera	0.1	3 cm	ANK60-08						
Centrolepis drummondiana	0.1	5 cm	ANK60-04						
Chamaescilla corymbosa var. *corymbosa*							0.1	15 cm	
Crassula colorata var. *acuminata*	0.1	2 cm	ANK60-05A	0.1	3 cm	ANK60-05A=			
Crassula colorata var. *colorata*	0.1	3 cm	ANK60-05B				0.1	5 cm	ANK60-04

Species	Phase 1			Phase 2			Phase 3		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
**Cynodon dactylon*				0.1	10 cm				
Dampiera linearis	2	40 cm	ALOP02=						
**Ehrharta calycina*	0.1	130 cm		0.1	45 cm		0.1	50 cm	
**Ehrharta longiflora*							0.1	40 cm	
**Erodium botrys*	0.1	15 cm	ANK60-02						
**Gladiolus caryophyllaceus*	0.1	35 cm		0.1	60 cm		0.1	60 cm	
Gompholobium tomentosum	0.1	70 cm							
Hibbertia subvaginata	0.1	20 cm	ANK60-14	2.5	50 cm	ANK60-14=			
**Hypochaeris glabra*	0.1	10 cm					0.1	1 cm	
**Hypochaeris* sp.				0.1	2 cm				
Hypolaena exsulca	0.1	50 cm	ANK60-17	0.1	45 cm	ANK60R-02	0.1	35 cm	
Isolepis marginata	0.1	10 cm	ANK60-06				0.1	5 cm	
Jacksonia furcellata	1	350 cm		2	350 cm		2	230 cm	
Laxmannia squarrosa	0.1	10 cm		0.1	10 cm				
Lechenaultia floribunda				4	30 cm	ALOP02=	4	35 cm	
Levenhookia stipitata	0.1	5 cm	ANK60-15	0.1	4 cm	ANK60-15=			
Lyginia barbata	0.1	75 cm	ANK60-20						
Lyginia imberbis	0.1	55 cm	ANK60-20b	0.5	75 cm	ANK60R-01	0.5	40 cm	
**Lysimachia arvensis*	0.1	10 cm		0.1	10 cm		0.1	5 cm	
Melaleuca thymoides	0.1	150 cm	ANK60-16	0.1	150 cm	ANK60-16=			
Microtis media subsp. *media*	0.1	10 cm							
**Orobanche minor*	0.1	2 cm		0.1	15 cm				
**Oxalis pes-caprae*	0.1	10 cm					0.1	10 cm	
Patersonia occidentalis var.	0.1	60 cm							
**Pentameris airoides*	0.1	15 cm	ANK60-22	0.1	10 cm	ANK60-22=			
**Petrorhagia dubia*	0.1	25 cm		0.1	10 cm				
Phlebocarya ciliata	0.1	20 cm	ANK60-19	2	55 cm	ANK60-19=			
Phyllangium paradoxum	0.1	3 cm		0.1	5 cm				
Podotheca gnaphalioides	0.1	20 cm	ANK60-03	0.1	15 cm	ANK60-03=	0.1	15 cm	
Poranthera microphylla	0.1	5 cm	ANK60-09				0.1	5 cm	
Quinetia urvillei	0.1	7 cm					0.1	5 cm	
**Romulea rosea* var. *australis*							0.1	25 cm	
Scholtzia involucrata	0.1	20 cm	ANK54-06=				0.1	20 cm	
Senecio condyles							0.1	10 cm	ANK60-01
Siloxerus humifusus	0.1	2 cm	ANK54-03=						
Styphelia conostephioides	1	50 cm	ANK60-12	2	45 cm	ANK60-12=			
Styphelia kingiana	2	60 cm	ALOP03=	1	25 cm	ALOP03=			
Thysanotus manglesianus	0.1	40 cm					0.1	40 cm	
Trachymene pilosa	0.1	15 cm	ANK53-06=	0.1	5 cm		0.1	3 cm	

Species	Phase 1			Phase 2			Phase 3		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
**Trifolium arvense* var. *arvense*	0.1	5 cm	ANK60-01						
**Trifolium campestre* var. *campestre*	0.1	15 cm					0.1	15 cm	
**Ursinia anthemoides* subsp.	0.1	35 cm		0.1	15 cm		0.1	25 cm	
**Vulpia myuros* forma *myuros*	0.1	4 cm	ANK60-07						
**Vulpia* sp.	0.1	15 cm	ANK60-23						
**Wahlenbergia capensis*	0.1	15 cm	ALOP01=	0.1	25 cm				

ANK60	Phase 1	Phase 2	Phase 3
Understorey			
Overstorey			

Site ANK61

Ph 1: Described by	ALJT	Date	06/10/2020	Type	Quadrat	10 x 10 m	
Ph 2: Described by	ABSMK	Date	17/11/2020	Type	Quadrat	10 x 10 m	
MGA Zone	50	396470	mE	6436043	mN	115.901479 E	-32.207428 S

Habitat Gently sloping south facing plain.

Soil 10YR; 10% 2/1 black, 90% 3/1 very dark grey. Sand.

Rock Type Nil.

Vegetation Ph 1: *Banksia attenuata, B. menziesii, B. ilicifolia* woodland over *Kunzea glabrescens* scattered shrubs over *Styphelia conostephioides, Calytrix flavescens, Hibbertia hypericoides* subsp. *hypericoides* low open shrubland over *Phyllangium divergens* very open herbland.

Ph 2: *Banksia attenuata, B. menziesii, B. ilicifolia* woodland over *Kunzea glabrescens* scattered shrubs over *Calytrix flavescens, Hibbertia hypericoides* subsp. *hypericoides* low open shrubland.

Veg Condition Ph 1: Very Good. Ph 2: Excellent.

Fire Age No sign of recent fire.

Species	Phase 1			Phase 2		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
Acacia huegelii	0.1	2 cm	ANK63-24=	0.1	2 cm	ANK63-24=
Adenanthos cygnorum subsp. *cygnorum*	0.1	220 cm		0.1	220 cm	
**Aira caryophyllea*				0.1	25 cm	ANK69R-01=
Amphipogon turbinatus	0.1	15 cm	ANK63-14=	0.1	15 cm	ANK63-14=
Anigozanthos manglesii subsp. *manglesii*	0.1	65 cm		0.1	65 cm	
Austrostipa compressa	0.1	20 cm	ANK61-02	0.1	40 cm	ANK61-02=
Banksia attenuata	15	1000 cm		15	650 cm	
Banksia ilicifolia	1	300 cm		1	220 cm	
Banksia menziesii	7	700 cm		7	700 cm	
Bossiaea eriocarpa	0.1	25 cm	ANK61-04	0.1	25 cm	
**Briza maxima*	0.1	20 cm		0.1	20 cm	
Burchardia congesta	0.1	50 cm		0.1	50 cm	
Caladenia flava subsp. *flava*	0.1	15 cm				
Calytrix flavescens	1.5	20 cm	ANK63-01=	1.5	20 cm	ANK63-01=
Chaetospora curvifolia	0.1	20 cm	ANK63-25=			
Conostephium pendulum	0.1	50 cm	ANK61-07	0.1	50 cm	ANK61-07=
Desmocladus flexuosus	0.1	20 cm	ANK63-12=	0.1	20 cm	ANK63-12=
Drosera drummondii	0.1	20 cm				
Drosera erythrorhiza	0.1	1 cm				
**Gladiolus caryophyllaceus*	0.1	110 cm		0.1	110 cm	
Gompholobium tomentosum	0.1	35 cm		0.1	35 cm	
Hibbertia hypericoides subsp. *hypericoides*	1	60 cm		1	100 cm	
Hibbertia subvaginata	0.1	35 cm	ANK63-09=	0.1	35 cm	ANK63-09=
**Hypochaeris glabra*	0.1	1 cm				

Species	Phase 1			Phase 2		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
Hypolaena exsulca	0.1	60 cm	ANK61-13			
Isolepis marginata	0.1	5 cm	ANK63-16=			
Kunzea glabrescens	1	180 cm	ANK63-15=	1	180 cm	ANK63-15=
Lepidosperma calcicola	0.1	40 cm	ANK61-01	0.1	40 cm	ANK61-01=
Levenhookia stipitata				0.1	5 cm	
Lomandra caespitosa	0.1	25 cm	ANK61-12	0.1	25 cm	ANK61-12=
Lomandra sericea	0.1	25 cm	ANK61-10	0.1	25 cm	ANK61-10=
Lyginia barbata	0.1	45 cm	ANK63-07=	0.1	45 cm	ANK63-07=
Melaleuca thymoides	0.1	70 cm	ANK63-22=	0.1	70 cm	ANK63-22=
Patersonia occidentalis var. *occidentalis*	0.1	50 cm		0.1	50 cm	
Petrophile linearis	0.1	40 cm		0.1	40 cm	
Phyllangium divergens	0.1	5 cm	ANK63-20=	0.1	8 cm	
Podotheca chrysantha	0.1	15 cm	ANK61-09			
Poranthera moorokatta	0.1	1 cm	ANK61-03			
Rhodanthe citrina	0.1	10 cm	ANK63-08=			
Scholtzia involucrata	0.1	50 cm	ANK63-06=	0.1	50 cm	ANK63-06=
Stylidium brunonianum	0.1	5 cm		0.1	5 cm	
Stylidium piliferum	0.1	30 cm		0.1	30 cm	
Stylidium repens	0.1	10 cm		0.1	10 cm	
Styphelia conostephioides	3	50 cm	ANK63-05=	0.1	50 cm	ANK63-05=
Thysanotus manglesianus	0.1	30 cm		0.1	30 cm	
Trachymene pilosa	0.1	5 cm	ANK63-04=	0.1	5 cm	ANK63-04=
**Ursinia anthemoides* subsp. *anthemoides*	0.1	30 cm		0.1	30 cm	
Xanthorrhoea brunonis subsp. *brunonis*	0.1	120 cm				
Xanthorrhoea preissii				0.1	120 cm	ANK61R-01

ANK61	Phase 1	Phase 2
Understorey		
Overstorey		

Site ANK62

Ph 1: Described by	SWMG	Date	06/10/2020	Type	Quadrat	10 x 10 m	
Ph 2: Described by	SW	Date	17/11/2020	Type	Quadrat	10 x 10 m	
MGA Zone	50	396518	mE	6435771	mN	115.901950 E	-32.209882 S

Habitat Seasonally inundated depression.

Soil 10YR 2/1 black. Sand; high humic matter, 2cm leaf litter.

Rock Type Nil.

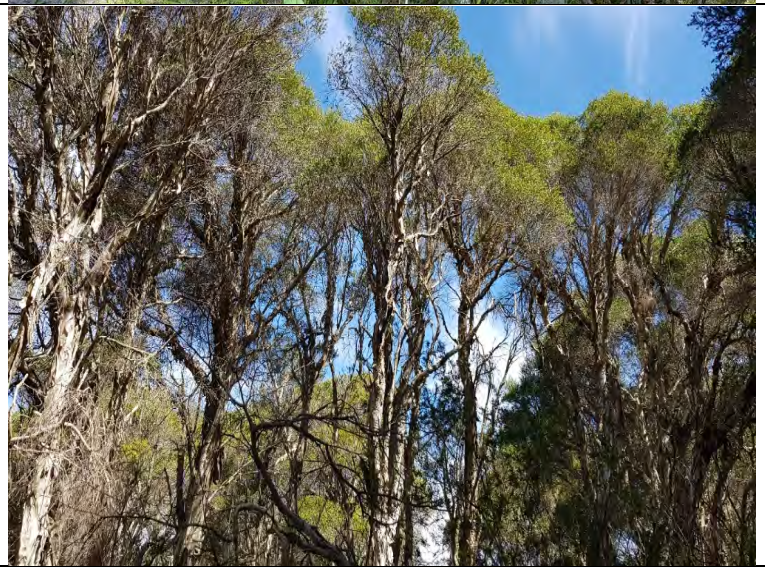
Vegetation Ph 1: *Melaleuca preissiana* low open forest over *Astartea scoparia* tall shrubland over **Ehrharta longiflora* very open grassland over **Galium murale* scattered herbs.

Ph 2: *Melaleuca preissiana* low open forest over *Astartea scoparia* tall shrubland over **Ehrharta longiflora* very open grassland over **Zantedeschia aethiopica* scattered herbs.

Veg Condition Ph 1: Degraded. Ph 2: Good.

Fire Age No sign of recent fire.

Species	Phase 1			Phase 2		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
Astartea scoparia	16	300 cm	ANK62-1	16	320 cm	ANK62-01=
Crassula colorata var. *colorata*	0.1	5 cm	ANK66-02=	0.1	5 cm	ANK66-02=
Crassula decumbens var. *decumbens*	0.1	5 cm	ANK66-06=	0.1	5 cm	ANK66-06=
**Ehrharta calycina*	0.1	25 cm		0.1	45 cm	
**Ehrharta longiflora*	7	30 cm		5	30 cm	
**Euphorbia peplus*	0.1	25 cm		0.1	10 cm	
**Galium murale*	2	5 cm	ANK62-3			
**Hypochaeris glabra*	0.25	25 cm				
**Hypochaeris radicata*	0.25	20 cm		0.1	5 cm	
Lagenophora huegelii	0.1	20 cm				
**Lolium perenne x rigidum*	0.1	50 cm		0.1	25 cm	
**Lotus subbiflorus*	0.1	5 cm	ANK66-7=			
**Lysimachia arvensis*	0.1	8 cm				
Melaleuca preissiana	55	650 cm		55	650 cm	
**Stellaria media*	0.1	15 cm	ANK62-2			
Trachymene pilosa	0.25	15 cm				
**Trifolium arvense* var. *arvense*				0.1	8 cm	ANK60-01=
**Ursinia anthemoides* subsp. *anthemoides*	0.1	10 cm		0.1	15 cm	
**Zantedeschia aethiopica*	0.25	80 cm		0.5	70 cm	

ANK62	Phase 1	Phase 2
Understorey		
Overstorey		

Site ANK63

Ph 1: Described by	ALJT	Date	06/10/2020	Type	Quadrat	10 x 10 m	
Ph 2: Described by	ABSMK	Date	17/11/2020	Type	Quadrat	10 x 10 m	
MGA Zone	50	396553	mE	6435951	mN	115.902347 E	-32.208263 S

Habitat Gently sloping southeast facing plain.

Soil 10YR; 90% 3/1 very dark grey, 10% 5/1 grey. Sand.

Rock Type Nil.

Vegetation Ph 1: *Banksia menziesii, B. attenuata* low open woodland over *Allocasuarina humilis, Melaleuca thymoides* open shrubland over *Scholtzia involucrata, Styphelia conostephioides, Calytrix flavescens* low open shrubland over *Desmocladus flexuosus* scattered sedge/herb.

Ph 2: *Banksia menziesii, B. attenuata* low open woodland over *Allocasuarina humilis, Adenanthos cygnorum* subsp. *cygnorum, Melaleuca thymoides* open shrubland over *Scholtzia involucrata, Stirlingia latifolia, Styphelia conostephioides, Calytrix flavescens* low shrubland over *Desmocladus flexuosus* scattered sedge/herb.

Veg Condition Ph 1: Very Good. Ph 2: Excellent.

Fire Age No sign of recent fire.

Notes *Banksia attenuata* seedling recruitment present.

Species	Phase 1			Phase 2		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
Acacia huegelii	0.1	60 cm	ANK63-24	0.1	60 cm	ANK63-24=
Adenanthos cygnorum subsp. *cygnorum*				2	200 cm	ANK63R-02
**Aira cupaniana*	0.1	7 cm		0.1	7 cm	
Allocasuarina humilis	4	170 cm		4	190 cm	ANK63R-01
Amphipogon turbinatus	0.1	20 cm	ANK63-14	0.1	20 cm	ANK63-14=
Anigozanthos humilis subsp. *humilis*	0.1	20 cm		0.1	20 cm	
Austrostipa compressa	0.1	20 cm	ANK63-03			
Banksia attenuata	1	450 cm		1	450 cm	
Banksia menziesii	7	500 cm		7	400 cm	
Bossiaea eriocarpa	0.1	30 cm		0.1	30 cm	
**Briza maxima*	0.1	25 cm		0.1	25 cm	
Burchardia congesta	0.1	40 cm		0.1	40 cm	
Caladenia flava subsp. *flava*	0.1	15 cm				
Calytrix angulata				0.1	35 cm	ANK63R-04
Calytrix flavescens	1	25 cm	ANK63-01	1	25 cm	ANK63-01=
Chaetospora curvifolia	0.1	25 cm	ANK63-25			
Conostephium pendulum				0.1	20 cm	ANK63R-03
Conostylis aculeata subsp. *aculeata*	0.1	30 cm	ANK63-10	0.1	30 cm	ANK63-10=
Crassula colorata var. *colorata*	0.1	5 cm	ANK63-13			
Dasypogon bromeliifolius	0.1	30 cm		0.1	30 cm	
Desmocladus flexuosus	1	10 cm	ANK63-12	1	10 cm	ANK63-12=

Species	Phase 1			Phase 2		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
Drosera drummondii	0.1	15 cm		0.1	15 cm	
Drosera erythrorhiza	0.1	2 cm				
**Ehrharta calycina*	0.1	70 cm		0.1	70 cm	
**Gladiolus caryophyllaceus*	0.1	20 cm		0.1	20 cm	
Hibbertia subvaginata	0.1	25 cm	ANK63-09	0.1	25 cm	ANK63-09=
**Hypochaeris glabra*	0.1	10 cm		0.1	10 cm	
Isolepis marginata	0.1	5 cm	ANK63-16	0.1	5 cm	
Jacksonia furcellata	0.1	70 cm		0.5	200 cm	
Kunzea glabrescens	0.5	250 cm	ANK63-15	0.5	250 cm	ANK63-15=
Laxmannia squarrosa	0.1	3 cm	ANK63-11			
Lepidosperma calcicola	0.1	45 cm	ANK63-18	0.1	45 cm	ANK63-18=
Levenhookia stipitata	0.1	10 cm	ANK63-26b			
Lobelia sp.				0.1	20 cm	ANK63R-07
Lomandra caespitosa	0.1	20 cm	ANK63-19	0.1	30 cm	ANK63-19=
Lyginia barbata	0.1	30 cm	ANK63-07	0.1	30 cm	ANK63-07=
**Lysimachia arvensis*	0.1	5 cm				
Melaleuca thymoides	1	180 cm	ANK63-22	1	100 cm	ANK63-22=
Petrophile linearis	0.1	45 cm		0.1	45 cm	ANK63-16=
Phlebocarya ciliata	0.1	40 cm		0.1	40 cm	
Phyllangium divergens	0.1	5 cm	ANK63-20			
Phyllota gracilis				0.1	25 cm	ANK63R-05
Podotheca gnaphalioides	0.1	10 cm	ANK63-02			
Quinetia urvillei	0.1	7 cm		0.1	7 cm	
Rhodanthe citrina	0.1	5 cm	ANK63-08			
Scholtzia involucrata	4	70 cm	ANK63-06	8	70 cm	ANK63-06=
Senecio condylus	0.1	10 cm	ANK63-21			
**Sonchus oleraceus*				0.1	20 cm	
Stirlingia latifolia	0.5	60 cm		2	60 cm	
Stylidium repens	0.1	15 cm		0.1	15 cm	
Styphelia conostephioides	1	50 cm	ANK63-05	1	50 cm	ANK63-05=
Thysanotus manglesianus	0.1	120 cm		0.1	120 cm	
Trachymene pilosa	0.1	5 cm	ANK63-04			
**Urospermum picroides*				0.1	20 cm	
**Ursinia anthemoides* subsp. *anthemoides*	0.1	30 cm		0.1	30 cm	
**Wahlenbergia capensis*	0.1	5 cm	ANK63-23			

ANK63	Phase 1	Phase 2
Understorey		
Overstorey		

Site ANK64

Ph 1: Described by	SWMG	Date	06/10/2020	Type	Quadrat	10 x 10 m		
Ph 2: Described by	SW	Date	16/11/2020	Type	Quadrat	10 x 10 m		
MGA Zone	50	396740	mE	6435813	mN	115.904313 E	-32.209532 S	

Habitat Sandy, flat plain.

Soil 10YR 1/2 black. Sand; high humic matter.

Rock Type Nil.

Vegetation Ph 1: *Kunzea glabrescens* tall open scrub over **Pentameris airoides* very open grassland.
Ph 2: *Kunzea glabrescens* tall open scrub over *Drosera glanduligera* scattered herb.

Veg Condition Ph 1: Excellent. Ph 2: Excellent.

Fire Age No sign of recent fire.

Notes A lot of *Kunzea glabrescens* seedlings coming up (approx. 300). No phase 2 photos.

Species	Phase 1			Phase 2		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
**Aira praecox*	0.1	8 cm	ANK64-6			
Caladenia sp.	0.1	5 cm				
Drosera glanduligera	0.1	4 cm	ANK64-2	1	2 cm	ANK64-02=
**Hypochaeris glabra*	0.1	6 cm	ANK64-7	0.1	2 cm	
Kunzea glabrescens	42	400 cm	ANK64-1	42	420 cm	ANK64-01=
Microtis media subsp. *media*	0.1	20 cm	ANK64-4			
**Pentameris airoides*	5	12 cm	ANK64-5			
Podotheca gnaphalioides	0.1	5 cm				
**Ursinia anthemoides* subsp. *anthemoides*	0.1	16 cm		0.1	10 cm	
**Vulpia myuros* forma *myuros*	0.1	12 cm	ANK64-3	0.1	10 cm	ANK68-01=

ANK64	Phase 1	Phase 2
Understorey		
Overstorey		

Site ANK65

Ph 1: Described by	CEFMK	Date	07/10/2020	Type	Quadrat	10 x 10 m		
Ph 2: Described by	ABSMK	Date	17/11/2020	Type	Quadrat	10 x 10 m		
Ph 3: Described by	ABSJT	Date	05/09/2022	Type	Quadrat	10 x 10 m		
MGA Zone	50	396800	mE	6435936	mN	115.904961 E	-32.208422 S	

Habitat Plain, adjacent to track.

Soil 2.5YR 2.5/1 black. Sand.

Rock Type Nil.

Vegetation Ph 1: *Allocasuarina fraseriana* low open woodland over *Kunzea glabrescens* tall closed scrub over *Xanthorrhoea preissii, X. brunonis* subsp. *brunonis* very open grass trees over *Dasypogon bromeliifolius, Phlebocarya ciliata* herbland.
Ph 2: *Allocasuarina fraseriana* low open woodland over *Kunzea glabrescens* tall closed scrub over *Xanthorrhoea preissii, X. brunonis* subsp. *brunonis* very open grass trees over *Dasypogon bromeliifolius, Phlebocarya ciliata* herbland.
Ph 3: *Allocasuarina fraseriana* scattered low trees over *Kunzea glabrescens* tall open scrub over *Xanthorrhoea preissii*, *Xanthorrhoea brunonis subsp. brunonis* open shrubland over Dasypogon *bromeliifolius* low open heath over *Phlebocarya ciliata* very open herbland.

Veg Condition Ph 1: Excellent. Ph 2: Excellent. Ph 3: Excellent.

Fire Age No sign of recent fire.

Notes *Banksia attenuata* and *B. illicifolia* nearby quadrat. One dead *B. attenuata* inside quadrat.
Weed control performed in area since Ph 1, noticed blue dye on plants in Ph 2.

Species	Phase 1			Phase 2			Phase 3		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
**Acacia longifolia*	0.1	15 cm	ANK65-13	0.1	15 cm	ANK65-13=	0.1	20 cm	
Acacia stenoptera	0.1	15 cm	ANK65-05	0.1	15 cm	ANK65-05=			
Adenanthos obovatus	0.1	150 cm	ANK65-02	0.1	150 cm	ANK65-02=	0.1	95 cm	
**Aira caryophyllea*				0.1	3 cm	ANK69R-01=			
**Aira cupaniana*	0.1	3 cm		0.1	3 cm		0.1	5 cm	ANK65-06
Allocasuarina fraseriana	3	600 cm		3	600 cm		2	500 cm	
Austrostipa compressa				0.1	25 cm	ANK73R-02=			
Austrostipa sp.	0.1	6 cm	ANK65-06						
Banksia attenuata	0.1	2 cm		0.1	2 cm		0.1	3 cm	
Boronia crenulata subsp. *viminea*	0.1	50 cm	ANK65-09	0.1	50 cm	ANK65-09=			
**Briza maxima*	0.1	25 cm		0.1	25 cm				
Caladenia flava subsp. *flava*	0.1	15 cm		0.1	15 cm		0.1	15 cm	
Caladenia paludosa	0.1	55 cm		0.1	55 cm				
Conostylis juncea	0.1	20 cm	ANK70-07=	0.1	20 cm	ANK65R-05	0.1	20 cm	
Crassula colorata var. *colorata*	0.1	2 cm	ANK65-03				0.1	5 cm	
Dampiera linearis	0.1	20 cm		0.1	20 cm		0.1	15 cm	
Dasypogon bromeliifolius	40	40 cm		40	40 cm		31	50 cm	
**Disa bracteata*	0.1	20 cm	ANK70-18=	0.1	20 cm	ANK70R-18=			
Diuris laxiflora							0.1	40 cm	ANK65-07

Species	Phase 1			Phase 2			Phase 3		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
Fabaceae sp.	0.1	5 cm	ANK65-17						
Gompholobium tomentosum	0.1	45 cm		0.1	45 cm		0.1	65 cm	
Hibbertia vaginata	0.1	15 cm	ANK65-11	0.1	15 cm	ANK65-11=	0.1	35 cm	
Hibbertia vaginata							0.1	25 cm	ANK65-01
Hypocalymma angustifolium subsp. Swan Coastal Plain (G.J. Keighery 16777)	0.1	30 cm	ANK70-04=	0.1	30 cm	ANK70R-04=	0.1	30 cm	
**Hypochaeris glabra*	0.1	3 cm		0.1	3 cm		0.1	1 cm	
**Hypochaeris radicata*	0.1	2 cm		0.1	2 cm				
Hypolaena exsulca	0.1	15 cm	ANK65-15	0.1	40 cm	ANK65R-08	0.1	20 cm	ANK65-05
Hypolaena exsulca							0.1	30 cm	
Isolepis marginata							0.1	5 cm	ANK69-02=
Kunzea glabrescens	75	450 cm	ANK65-01	75	450 cm	ANK65-01=	55	550 cm	
Lagenophora huegelii				0.1	15 cm	ANK65R-06			
Lomandra caespitosa				0.1	25 cm	ANK65R-02			
Lomandra hermaphrodita	0.1	20 cm	ANK65-07	0.1	30 cm	ANK69/70=			
Lomandra preissii							0.1	35 cm	
Lomandra purpurea	0.1	55 cm	ANK65-16						
Lomandra sp.							0.1	25 cm	ANK65-02
Lotus subbiflorus							0.1	3 cm	
Mesomelaena pseudostygia							0.1	25 cm	ANK65-03
**Pelargonium capitatum*	0.1	5 cm					0.1	2 cm	
Phlebocarya ciliata	12	40 cm		12	40 cm		8	30 cm	
Podotheca gnaphalioides	0.1	6 cm	ANK73-02=						
Pterostylis ectypha							0.1	20 cm	ANK96-01=
Pterostylis sp.	0.1	6 cm							
Stylidium carnosum				0.1	2 cm	ANK65R-01			
Stylidium repens	0.1	10 cm	ANK65-04	0.1	10 cm	ANK65-04=			
Thysanotus multiflorus				0.1	20 cm	ANK65R-07			
Thysanotus sp.	0.1	90 cm	ANK65-14	0.1	90 cm	ANK65-14=	0.1	30 cm	
Trachymene pilosa	0.1	4 cm	ANK70-02=						
Tricoryne elatior	0.1	20 cm	ANK70-08=						
**Trifolium campestre* var. *campestre*	0.1	6 cm		0.1	6 cm		0.1	5 cm	ANK65-03
**Urospermum picroides*				0.1	20 cm				
**Ursinia anthemoides* subsp.	0.1	45 cm		0.1	45 cm		0.1	15 cm	
**Vulpia myuros* forma *myuros*				0.1	15 cm	ANK65R-04			
**Wahlenbergia capensis*	0.1	6 cm	ANK65-08	0.1	25 cm		0.1	2 cm	
**Wahlenbergia capensis*							0.1	5 cm	ANK65-04
**Wahlenbergia gracilenta*				0.1	20 cm	ANK65-10=			

Species	Phase 1			Phase 2			Phase 3		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
**Wahlenbergia preissii*	0.1	20 cm	ANK65-10						
Xanthorrhoea brunonis subsp. *brunonis*	3	120 cm		2	120 cm	ANK70R-01=	3	120 cm	
Xanthorrhoea preissii	3	120 cm		4	120 cm		3	120 cm	
**Zantedeschia aethiopica*	0.1	3 cm		0.1	3 cm		0.1	3 cm	

ANK65	Phase 1	Phase 2	Phase 3
Understorey			
Overstorey			

Site ANK66

Ph 1: Described by	SWMG	Date	06/10/2020	Type	Quadrat	10 x 10 m	
Ph 2: Described by	SW	Date	16/11/2020	Type	Quadrat	10 x 10 m	
MGA Zone	50	396823	mE	6435796	mN	115.905192 E	-32.209685 S

Habitat Palusplain, seasonally inundated.

Soil 10YR 1/2 black. Loamy sand.

Rock Type Nil.

Vegetation Ph 1: *Melaleuca preissiana* low woodland over *Astartea scoparia* tall open scrub over *Dielsia stenostachya* (*Isolepis cernua* var. *cernua*) scattered sedges over **Ehrharta longiflora, *Vulpia myuros* forma *megalura* very open grassland over *Crassula colorata* var. *colorata, *Lotus subbiflorus, *Hypochaeris radicata, *H. glabra, *Galium murale* open herbland.

Ph 2: *Melaleuca preissiana* low woodland over *Astartea scoparia* tall open scrub over *Dielsia stenostachya* scattered sedges over **Ehrharta longiflora, *Vulpia myuros* forma *megalura* open grassland over *Crassula colorata* var. *colorata, *Lotus subbiflorus, *Hypochaeris radicata, *H. glabra, *Zantedeschia aethiopica* open herbland.

Veg Condition Ph 1: Good. Ph 2: Good.

Fire Age No sign of recent fire. No phase 2 photos.

Species	Phase 1			Phase 2		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
**Arctotheca calendula*	0.1	12 cm		0.1	10 cm	
Astartea scoparia	35	300 cm	ANK66-1	31	300 cm	ANK66-1=
**Avena barbata*	0.1	50 cm		0.1	50 cm	
Crassula colorata var. *colorata*	6	1 cm	ANK66-2A	1	3 cm	ANK66-02A=
Crassula decumbens var. *decumbens*	0.1	5 cm	ANK66-06	0.1	5 cm	ANK66-06=
Dielsia stenostachya	2	60 cm	ANK66-8	3	55 cm	ANK66-08=
Drosera glanduligera	0.1	5 cm	ANK64-2=			
**Ehrharta longiflora*	2	40 cm		2	65 cm	
**Euphorbia peplus*	0.1	20 cm				
**Galium murale*	2	6 cm	ANK66-4			
**Hypochaeris glabra*	3	20 cm		2	5 cm	
**Hypochaeris radicata*	3	15 cm		2	5 cm	
Isolepis cernua var. *cernua*	1	5 cm		0.1	5 cm	
**Lolium perenne x rigidum*	0.1	25 cm		0.1	25 cm	
**Lotus subbiflorus*	4	5 cm	ANK66-7	2	5 cm	ANK66-7=
Melaleuca preissiana	24	650 cm		27	650 cm	
**Monopsis debilis* var. *depressa*	0.1	10 cm	ANK66-05			
Phyllangium paradoxum				0.1	5 cm	
**Sonchus oleraceus*	0.1	10 cm				
**Ursinia anthemoides* subsp. *anthemoides*	0.1	40 cm		0.1	25 cm	
**Vulpia myuros* forma *megalura*	0.5	25 cm	ANK66-3	18	10 cm	ANK66-03=
**Zantedeschia aethiopica*	0.1	60 cm		0.5	2 cm	

ANK66	Phase 1	Phase 2
Understorey		
Overstorey		

Site ANK67

Ph 1: Described by	CEFMK	Date	07/10/2020	Type	Quadrat	10 x 10 m		
Ph 2: Described by	ABSMK	Date	16/11/2020	Type	Quadrat	10 x 10 m		
MGA Zone	50	396979	mE	6436044	mN	115.906877 E	-32.207466 S	

Habitat Plain.

Soil 7.5YR 3/1 dark grey. Sand.

Rock Type Nil.

Vegetation Ph 1: *Banksia menziesii, B. attenuata, B. ilicifolia* open forest over *Kunzea glabrescens* tall shrubland over *Scholtzia involucrata* scattered low shrubs over *Desmocladus flexuosus, Conostylis aculeata* subsp. *aculeata, Lyginia imberbis, Patersonia occidentalis* var. *occidentalis* open herbland.

Ph 2: *Banksia menziesii, B. attenuata, B. ilicifolia* low open forest over *Kunzea glabrescens* tall shrubland over *Scholtzia involucrata* scattered low shrubs over *Desmocladus flexuosus, Conostylis aculeata* subsp. *aculeata, Lyginia imberbis, Patersonia occidentalis* var. *occidentalis* open herbland.

Veg Condition Ph 1: Excellent. Ph 2: Excellent.

Fire Age No sign of recent fire.

Species	Phase 1			Phase 2		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
**Aira praecox*	0.1	10 cm	ANK67-24	0.1	10 cm	ANK67R-03
Amphipogon turbinatus	0.1	45 cm	ANK67-14			
Austrostipa compressa				0.1	20 cm	ANK73R-02=
Austrostipa sp.	0.1	10 cm	ANK65-06=	0.1	10 cm	ANK65-06=
Banksia attenuata	15	900 cm		15	650 cm	
Banksia ilicifolia	10	1100 cm		10	950 cm	
Banksia menziesii	35	1000 cm		35	800 cm	
Bossiaea eriocarpa	0.1	20 cm		0.1	30 cm	
**Briza maxima*	0.1	20 cm		0.1	20 cm	
Burchardia congesta	0.1	60 cm		0.1	60 cm	ANK67R-01
Caladenia flava subsp. *flava*	0.1	10 cm				
Calytrix flavescens	0.1	50 cm	ANK67-03	0.1	50 cm	ANK67R-03
Centrolepis drummondiana	0.1	5 cm	ANK67-25	0.1	10 cm	ANK67R-02
Conostephium pendulum	0.1	60 cm	ANK67-11	0.1	60 cm	ANK67R-11
Conostylis aculeata subsp. *aculeata*	1	35 cm	ANK67-08	1	35 cm	ANK67R-08
Crassula colorata var. *colorata*	0.1	2 cm	ANK67-21	0.1	2 cm	ANK67R-21
Desmocladus flexuosus	15	20 cm	ANK67-04	15	20 cm	ANK67R-04
**Disa bracteata*	0.1	15 cm	ANK70-18=	0.1	25 cm	ANK70R-28=
Drosera menziesii	0.1	5 cm	ANK67-05			
**Ehrharta calycina*				0.1	50 cm	
Hibbertia subvaginata	0.1	35 cm	ANK67-09			
Hovea trisperma var. *trisperma*	0.1	20 cm	ANK67-16	0.1	20 cm	ANK67R-16
Hyalosperma cotula	0.1	5 cm	ANK67-06			
**Hypochaeris glabra*	0.1	10 cm				

Species	Phase 1			Phase 2		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
Isolepis marginata	0.1	10 cm	ANK67-23	0.1	10 cm	ANK67R-23
Kunzea glabrescens	20	350 cm	ANK65-01=	20	350 cm	ANK65-01=
Lagenophora huegelii	0.1	5 cm	ANK67-18	0.1	5 cm	ANK67R-18
Lepidosperma calcicola	0.1	35 cm	ANK67-17	0.1	15 cm	ANK67R-27
Lomandra sp.				0.1	35 cm	ANK67R-17
Lyginia imberbis	1	35 cm	ANK67-07	1	35 cm	ANK67R-07
Melaleuca thymoides				0.1	60 cm	ANK67R-04
Opercularia vaginata	0.1	20 cm	ANK67-19	0.1	20 cm	ANK67R-19
Patersonia occidentalis var. *occidentalis*	1	50 cm		1	50 cm	
Petrophile linearis	0.1	15 cm		0.1	15 cm	
Philotheca spicata	0.1	45 cm	ANK67-13			
Phlebocarya ciliata	0.1	20 cm		0.1	20 cm	
Podotheca gnaphalioides	0.1	15 cm	ANK73-02=			
Pterostylis sp.	0.1	5 cm				
Quinetia urvillei	0.1	5 cm	ANK67-10			
Scholtzia involucrata	2	10 cm	ANK67-02	2	10 cm	ANK67R-02
Stylidium repens	0.1	5 cm	ANK65-04=	0.1	5 cm	ANK65-04=
Styphelia conostephioides	0.1	45 cm	ANK67-20	0.1	45 cm	ANK67R-20
Thysanotus thyrsoideus	0.1	60 cm	ANK67-15	0.1	60 cm	ANK67R-15
Trachymene pilosa	0.1	5 cm	ANK67-01	0.1	5 cm	ANK67R-01
**Ursinia anthemoides* subsp. *anthemoides*	0.1	20 cm		0.1	20 cm	
**Zantedeschia aethiopica*	0.1	2 cm				

ANK67	Phase 1	Phase 2
Understorey		
Overstorey		

Site ANK68

Ph 1: Described by	SWMG	Date	06/10/2020	Type	Quadrat	10 x 10 m	
Ph 2: Described by	SW	Date	16/11/2020	Type	Quadrat	10 x 10 m	
MGA Zone	50	397056	mE	6435817	mN	115.907666 E	-32.209518 S

Habitat Sandplain, surrounding seasonally inundated Melaleuca vegetation.

Soil 10YR 2/1 black. Sand; high humic matter.

Rock Type Nil.

Vegetation Ph 1: *Kunzea glabrescens* tall open scrub.
Ph 2: *Kunzea glabrescens* tall open scrub

Veg Condition Ph 1: Excellent. Ph 2: Excellent.

Fire Age No sign of recent fire.

Notes *Kunzea glabrescens* seedlings (approx 160)

Species	Phase 1			Phase 2		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
**Acacia longifolia*	0.1	180 cm	ANK68-2			
Corybas sp.	0.1	5 cm				
Crassula colorata var. *colorata*	0.1	3 cm	ANK66-02=	0.1	5 cm	ANK66-02=
**Hypochaeris glabra*	0.1	5 cm	ANK64-7=			
**Hypochaeris radicata*	0.1	15 cm		0.1	3 cm	
Kunzea glabrescens	60	450 c m	ANK64-1=	60	480 cm	ANK64-01=
Microtis media subsp. *media*	0.1	10 cm	ANK64-4=			
Paracaleana sp.	0.1	5 cm				
Podotheca gnaphalioides	0.1	8 cm				
**Ursinia anthemoides* subsp. *anthemoides*	0.1	20 cm		0.1	10 cm	
**Vulpia myuros* forma *myuros*	0.1	10 cm	ANK68-1	0.1	10 cm	ANK68-01=
**Zantedeschia aethiopica*	0.1	5 cm				

ANK68	Phase 1	Phase 2
Understorey		
Overstorey		

Site ANK69

Ph 1: Described by	CEFMK	Date	07/10/2020	Type	Quadrat	10 x 10 m		
Ph 2: Described by	ABSMK	Date	16/11/2020	Type	Quadrat	10 x 10 m		
Ph 3: Described by	ABSJT	Date	05/09/2022	Type	Quadrat	10 x 10 m		
MGA Zone	50	397372	mE	6435953	mN	115.911039 E	-32.208320 S	

Habitat Plain.

Soil 2.5YR 2.5/1 black. Sand.

Rock Type Nil.

Vegetation Ph 1: *Banksia attenuata, B. ilicifolia* woodland over *Kunzea glabrescens* tall shrubland over *Xanthorrhoea brunonis* subsp. *brunonis* scattered grass trees over **Briza maxima, *Vulpia bromoides* very open grassland over **Ursinia anthemoides* subsp. *anthemoides, *Hypochaeris glabra, Dasypogon bromeliifolius, *Arctotheca calendula, Trachymene pilosa, Desmocladus flexuosus* very open herbland.

Ph 2: *Banksia attenuata, B. ilicifolia* woodland over *Kunzea glabrescens* tall shrubland over **Ehrharta longiflora, *Briza maxima* very open grassland over **Ursinia anthemoides* subsp. *anthemoides, *Hypochaeris glabra, Dasypogon bromeliifolius, Trachymene pilosa, Desmocladus flexuosus, Lyginia barbata* open herbland.

Ph 3: *Banksia attenuata* (*Banksia ilicifolia*) woodland over *Kunzea glabrescens* tall shrubland over *Dasypogon bromeliifolius* (*Xanthorrhoea brunonis subsp. brunonis*) low open shrubland.

Veg Condition Ph 1: Degraded. Ph 2: Good to Degraded. Ph 3: Good to Poor.

Fire Age No sign of recent fire.

Notes Very weedy layer of herbs in understorey; dead *Banksia attenuata* in quad; *Banksia* and *Kunzea* seedlings noted.

Species	Phase 1			Phase 2			Phase 3		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
**Acacia longifolia*	0.1	8 cm	ANK65-13=	0.1	8 cm	ANK65-13=			
**Aira caryophyllea*				0.1	25 cm	ANK69R-01			
**Aira cupaniana*	0.1	25 cm							
**Aira* sp.							0.5	10 cm	
Allocasuarina sp.				0.1	25 cm	ANK69R-12			
**Arctotheca calendula*	1	10 cm					0.1	10 cm	
**Avena barbata*	0.1	5 cm							
Banksia attenuata	15	1200 cm		15	1200 cm		15	1200 cm	
Banksia ilicifolia	8	1100 cm		8	1100 cm		4	1100 cm	
**Briza maxima*	4	25 cm		4	25 cm		4	20 cm	
**Briza minor*	0.1	30 cm		0.1	30 cm		0.1	20 cm	
**Bromus diandrus*				0.1	30 cm	ANK69R-03			
Burchardia congesta				0.1	30 cm		0.1	40 cm	
Caladenia flava subsp. *flava*	0.1	10 cm					0.1	15 cm	
Cerastium glomeratum							0.1	5 cm	
Conostylis juncea	0.1	15 cm	ANK70-07=	0.1	15 cm	ANK70R-07=			
Cotula turbinata							0.1	20 cm	ANK69-01
Dasypogon bromeliifolius	3	35 cm		3	35 cm		3	25 cm	

Species	Phase 1			Phase 2			Phase 3		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
Desmocladus flexuosus	1	65 cm	ANK69-08	1	65 cm	ANK69-08=	0.1	50 cm	
Drosera erythrorhiza	0.1	1 cm					0.1	1 cm	
Drosera menziesii	0.1	10 cm	ANK67-05=				0.1	10 cm	
**Ehrharta longiflora*				5	40 cm	ANK72-01=	2	30 cm	
**Euphorbia peplus*	0.1	5 cm		0.1	5 cm		0.1	15 cm	
Galium murale							0.1	5 cm	
Haemodorum sp.	0.1	50 cm	ANK69-10	0.1	50 cm	ANK69R-11			
Hibbertia subvaginata	0.1	25 cm	ANK69-05	0.5	20 cm	ANK69-05=	0.1	20 cm	
Hibbertia vaginata	0.1	15 cm	ANK65-11=						
Hovea trisperma var. *trisperma*	0.1	10 cm	ANK67-16=	0.1	10 cm	ANK67R-16=	0.1	5 cm	
Hypocalymma robustum				0.1	40 cm	ANK69R-13			
**Hypochaeris glabra*	3	5 cm		3	50 cm		6	5 cm	
**Hypochaeris radicata*	0.1	5 cm		0.1	5 cm		0.1	2 cm	
Isolepis marginata							0.1	5 cm	ANK69-02
Kunzea glabrescens	25	1200 cm	ANK65-01=	25	1200 cm	ANK65-01=	25	1200 cm	
Lagenophora huegelii	0.1	2 cm	ANK67-18=	0.1	2 cm	ANK67R-18=	0.1	25 cm	
Lepidosperma calcicola	0.1	35 cm	ANK69-11	0.1	35 cm	ANK69-11=	0.1	40 cm	
Lomandra caespitosa	0.1	45 cm	ANK69-02	0.1	45 cm	ANK69-02=	0.1	20 cm	
Lomandra nigricans	0.1	35 cm	ANK69-09	0.1	50 cm	ANK69R-09			
**Lotus subbiflorus*	0.1	15 cm		0.1	15 cm		0.1	5 cm	
Lyginia barbata	0.1	35 cm	ANK69-07	1	35 cm	ANK69-07=	0.1	45 cm	
**Lysimachia arvensis*	0.1	10 cm					0.1	15 cm	
Patersonia occidentalis var.	0.1	15 cm		0.1	40 cm	ANK69R-14			
**Pelargonium capitatum*	0.1	10 cm		0.1	10 cm				
**Petrorhagia dubia*	0.1	15 cm							
Podotheca gnaphalioides	0.1	30 cm	ANK73-02=						
Pterostylis ectypha							0.1	15 cm	ANK96-01
Pterostylis sp.	0.1	10 cm							
Pterostylis vittata				0.1	10 cm				
**Rumex acetosella*				0.1	5 cm	ANK69R-08			
Senecio condylus							0.1	30 cm	ANK69-03
**Solanum nigrum*	0.1	10 cm		0.1	10 cm		0.1	20 cm	
**Sonchus asper*							0.1	10 cm	
**Sonchus oleraceus*	0.1	15 cm		0.1	15 cm		0.1	10 cm	
**Stellaria media*	0.1	10 cm							
Stylidium schoenoides	0.1	25 cm							
Trachymene pilosa	1	15 cm	ANK70-02=	1	15 cm	ANK70R-02=	0.1	5 cm	
Tricoryne elatior				0.1	35 cm		0.1	20 cm	
**Trifolium campestre* var. *campestre*	0.1	15 cm							

Species	Phase 1			Phase 2			Phase 3		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
**Urospermum picroides*	0.1	25 cm	ANK69-06	0.1	25 cm		0.5	20 cm	
**Ursinia anthemoides* subsp.	6	20 cm		6	20 cm		1.5	20 cm	
**Vulpia bromoides*	1	10 cm	ANK69-01	0.1	25 cm	ANK69R-06=			
**Wahlenbergia capensis*	0.1	40 cm	ANK69-03	0.1	20 cm				
Xanthorrhoea brunonis subsp. *brunonis*	1	60 cm	ANK69-04	0.1	60 cm	ANK69R-02=	1	90 cm	
Xanthorrhoea preissii				0.5	70 cm		0.1	90 cm	
**Zantedeschia aethiopica*	0.1	5 cm		0.1	10 cm		0.1	5 cm	

ANK69	Phase 1	Phase 2	Phase 3
Understorey			
Overstorey			

Site ANK70

Ph 1: Described by	CEFMK	Date	06/10/2020	Type	Quadrat	10 x 10 m	
Ph 2: Described by	ABSMK	Date	16/11/2020	Type	Quadrat	10 x 10 m	
MGA Zone	50	397451	mE	6436055	mN	115.911880 E	-32.207411 S

Habitat Plain.

Soil 7.5YR 2.5/2 very dark brown. Sand.

Rock Type Nil.

Vegetation Ph 1: *Banksia ilicifolia* low open woodland over *Kunzea glabrescens* tall shrubland over *Xanthorrhoea preissii, X. brunonis* subsp. *brunonis* open grass trees over *Dasypogon bromeliifolius, Phlebocarya ciliata* herbland.

Ph 2: *Banksia ilicifolia* low open woodland over *Kunzea glabrescens* tall shrubland over *Xanthorrhoea preissii, X. brunonis* subsp. *brunonis* open grass trees over *Dasypogon bromeliifolius, Phlebocarya ciliata* herbland.

Veg Condition Ph 1: Excellent. Ph 2: Excellent.

Fire Age No sign of recent fire.

Notes *Allocasuarina fraseriana, Nuytsia floribunda, Banksia attenuata* and *B. menziesii* scattered in overstorey.

Species	Phase 1			Phase 2		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
Acacia lasiocarpa var. *lasiocarpa*				0.1	20 cm	ANK70R-02a
Acacia pulchella var. *pulchella*	0.1	5 cm	ANK70-14			
Austrostipa compressa	0.1	25 cm	ANK70-09	0.1	15 cm	ANK73R-02=
Banksia ilicifolia	3	450 cm		3	450 cm	
Bossiaea eriocarpa	0.1	15 cm		0.1	15 cm	
**Briza maxima*	0.1	20 cm		0.1	20 cm	
Burchardia congesta	0.1	45 cm		0.1	45 cm	
Caladenia flava subsp. *flava*	0.1	5 cm				
Chamaescilla corymbosa var. *corymbosa*	0.1	25 cm	ANK70-13			
Comesperma calymega				0.1	30 cm	ANK70R-03
Conostylis juncea	0.1	20 cm	ANK70-07	0.1	20 cm	ANK70R-07b
Crassula colorata var. *colorata*	0.1	5 cm	ANK70-06			
Dampiera linearis	0.1	10 cm				
Dasypogon bromeliifolius	35	25 cm		35	25 cm	
Desmocladus fasciculatus	0.1	20 cm	ANK70-12	0.1	20 cm	ANK70-12=
**Disa bracteata*	0.1	10 cm	ANK70-18	0.1	10 cm	ANK70R-18
**Gladiolus caryophyllaceus*	0.1	30 cm				
Gompholobium tomentosum	0.1	25 cm		0.1	25 cm	
Hovea trisperma var. *trisperma*	0.1	25 cm	ANK70-10	0.1	25 cm	ANK70R-10
Hypocalymma angustifolium subsp. Swan Coastal Plain (G.J. Keighery 16777)	0.1	20 cm	ANK70-04			
**Hypochaeris glabra*	0.1	5 cm	ANK70-19	0.1	5 cm	
**Hypochaeris radicata*	0.1	5 cm		0.1	5 cm	

Species	Phase 1			Phase 2		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
Kunzea glabrescens	22	550 cm	ANK70-02	22	550 cm	ANK70R-02
Lepidosperma calcicola				0.1	25 cm	ANK70R-07a
Lomandra caespitosa	0.1	25 cm	ANK70-03	0.1	25 cm	ANK70-03=
Lomandra sericea				0.1	30 cm	ANK70R-04
Lomandra suaveolens	0.1	15 cm	ANK70-16			
Microtis media subsp. *media*				0.1	20 cm	ANK70R-05
Patersonia occidentalis var. *occidentalis*	0.1	40 cm	ANK70-17	0.1	40 cm	ANK70-17=
Phlebocarya ciliata	5	30 cm		20	30 cm	
Phlebocarya filifolia				0.1	20 cm	ANK70R-06
Podotheca gnaphalioides	0.1	15 cm	ANK73-02=			
**Romulea rosea* var. *australis*	0.1	35 cm	ANK70-15	0.1	10 cm	
Stylidium piliferum	0.1	25 cm	ANK70-05			
Trachymene pilosa	0.1	10 cm	ANK70-02	0.1	10 cm	ANK70R-02
Tricoryne elatior				0.1	25 cm	ANK70R-08=
Tricoryne tenella	0.1	25 cm	ANK70-08			
**Ursinia anthemoides* subsp. *anthemoides*	0.1	20 cm		0.1	20 cm	
Xanthorrhoea brunonis subsp. *brunonis*	3	100 cm		3	100 cm	ANK70R-01
Xanthorrhoea preissii	8	190 cm		8	190 cm	

ANK70	Phase 1	Phase 2
Understorey		
Overstorey		

Site ANK71

Ph 1: Described by	NPMK	Date	09/10/2020	Type	Quadrat	10 x 10 m		
Ph 2: Described by	SW	Date	16/11/2020	Type	Quadrat	10 x 10 m		
Ph 3: Described by	JTRH	Date	16/09/2022	Type	Quadrat	10 x 10 m		
MGA Zone	50	397521	mE	6435870	mN	115.912609 E	-32.209090 S	

Habitat Flat plain.

Soil 2.5YR 2.5/1 black. Sand.

Rock Type Nil.

Vegetation Ph 1: *Banksia attenuata, B. menziesii, Eucalyptus todtiana, Melaleuca preissiana* low open woodland over *Adenanthos cygnorum* subsp. *cygnorum* tall shrubland over *Lechenaultia floribunda, Eremaea pauciflora* var. *pauciflora, Stirlingia latifolia* low open shrubland.

Ph 2: *Banksia attenuata, B. menziesii, Eucalyptus todtiana, Melaleuca preissiana* low open woodland over *Adenanthos cygnorum* subsp. *cygnorum* tall shrubland over *Lechenaultia floribunda, Eremaea pauciflora* var. *pauciflora, Scholtzia involucrata, Styphelia kingiana, Stirlingia latifolia* low shrubland over *Cassytha racemosa* forma *racemosa* scattered herbs.

Ph 3: *Banksia attenuata, Eucalyptus todtiana* low open woodland over *Adenanthos cygnorum subsp. cygnorum* (*Banksia menziesii, Melaleuca preissiana*) tall open scrub over *Jacksonia furcellata* scattered shrubs over *Lechenaultia floribunda, Styphelia conostephioides*, *Stirlingia latifolia* low shrubland over *Cassytha racemosa* forma *racemosa* scattered herbs.

Veg Condition Ph 1: Good. Ph 2: Excellent to Good. Ph 3: Excellent to Very Good.

Fire Age No sign of recent fire.

Notes Rehab, 8 years plus (DBCA) from Jandakot airport soil. Previously cleared and used for pasture.

Species	Phase 1			Phase 2			Phase 3		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
Acacia alata var. *alata*				0.1	75 cm	ANK71R-10	0.1	50 cm	
Acacia stenoptera	0.1	80 cm	ANK71-10				0.1	85 cm	
Adenanthos cygnorum subsp.	25	250 cm		23	260 cm		26	410 cm	
**Aira cupaniana*				0.1	10 cm				
Anigozanthos manglesii subsp.	0.1	100 cm		0.1	80 cm		0.1	80 cm	
Aotus procumbens	0.1	20 cm	ANK71-14	0.1	30 cm	ANK71-14=			
Arctotheca calendula							0.1	15 cm	
Austrostipa compressa	0.1	30 cm	ANK71-06						
**Avena barbata*	0.1	80 cm		0.1	80 cm				
Banksia attenuata	2	300 cm		3	300 cm		4	410 cm	
Banksia menziesii	2	250 cm		2	250 cm		4	370 cm	
**Briza maxima*	0.1	20 cm		0.1	10 cm		0.5	5 cm	
Burchardia congesta							0.1	40 cm	
Calandrinia granulifera							0.1		ANK71-08
Cassytha racemosa forma *racemosa*				4	5 cm		0.1	2 cm	
Chamaescilla corymbosa var.	0.1	8 cm		0.1	30 cm		0.1	8 cm	
Conostylis aculeata subsp. *aculeata*	0.1	30 cm		0.1	30 cm				

Species	Phase 1			Phase 2			Phase 3		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
Conostylis aculeata subsp. *preissii*							0.1	30 cm	WTP14-05=
Crassula colorata var. *colorata*	0.1	3 cm	ANK52-09=				0.1	2 cm	
Dasypogon bromeliifolius	0.1	30 cm		0.1	60 cm		0.1	45 cm	
Disa bracteata							0.1	10 cm	ANK71-03
Drosera glanduligera				0.1	5 cm				
Drosera micrantha							0.1	1 cm	ANK71-02
**Ehrharta calycina*	0.1	150 cm		0.1	150 cm		0.1		WTP50
**Ehrharta longiflora*				0.1	80 cm				
Eremaea pauciflora var. *pauciflora*	1	50 cm		3	55 cm				
Eucalyptus todtiana	2	250 cm		3	260 cm		3	250 cm	
**Euphorbia peplus*				0.1	10 cm				
Gastrolobium capitatum							0.1	20 cm	ANK71-07
**Gladiolus caryophyllaceus*	0.1	100 cm		0.1	85 cm				
Gompholobium tomentosum	0.1	60 cm		0.1	60 cm		0.1	25 cm	
Hemiandra pungens	0.1	5 cm							
Hibbertia subvaginata	0.1	10 cm	ANK71-01	0.5	45 cm	ANK71-01=	0.1	10 cm	
Homalosciadium homalocarpum							0.1	1 cm	
**Hypochaeris glabra*	0.1	3 cm					0.1	2 cm	
**Hypochaeris radicata*							0.1	2 cm	
Jacksonia furcellata							0.5	120 cm	ANK71-01
Jacksonia sternbergiana	0.1	3 cm							
Kunzea glabrescens							0.1	100 cm	
Laxmannia ramosa subsp. *ramosa*	0.1	15 cm	ANK71-04						
Laxmannia squarrosa	0.1	10 cm		0.1	10 cm		0.1	5 cm	ANK71-06
Lechenaultia floribunda	3	25 cm	ANK71-03	8	45 cm	ANK71-03=	8	30 cm	
Lechenaultia sp.	1	50 cm	ANK71-08	0.5	50 cm	ANK71-08=			
Levenhookia stipitata	0.1	4 cm	ANK71-12				0.1	3 cm	
Lyginia imberbis	0.1	30 cm	ANK71-05	0.1	40 cm	ANK71-05=	0.1	50 cm	
**Lysimachia arvensis*	0.1	5 cm					0.1	4 cm	
Macarthuria apetala	0.1	15 cm	ANK71-09B						
Melaleuca preissiana	1.5	220 cm		2	220 cm		2.5	220 cm	
Melaleuca seriata							2	45 cm	ANK71-05
Microtis media subsp. *media*	0.1	20 cm							
Orchidaceae sp.	0.1	6 cm							
**Oxalis purpurea*	0.1	1 cm	ANK71-02				0.1	2 cm	
Phyllangium paradoxum							0.1	3 cm	
Podotheca gnaphalioides	0.1	20 cm		0.1	20 cm		0.1	10 cm	
Quineti urvillei							0.1	10 cm	
**Romulea rosea* var. *australis*	0.1	10 cm		0.1	10 cm		0.1	10 cm	

Species	Phase 1			Phase 2			Phase 3		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
Scholtzia involucrata	0.1	50 cm	ANK71-13	2	65 cm	ANK71-13=	3	25 cm	
**Senecio vulgaris*				0.1	10 cm		0.1	10 cm	
Siloxerus humifusus	0.1	1 cm	ANK52-08=				0.1	1 cm	
Stirlingia latifolia	1	120 cm		1	110 cm		0.1	70 cm	
Stylidium repens	0.1	15 cm					0.1	2 cm	
Styphelia conostephioides	0.5	45 cm	ANK71-07						
Styphelia kingiana	0.1	70 cm	ANK71-11	2	70 cm	ANK71-11=			
Thysanotus patersonii							0.1	25 cm	ANK71-04
Thysanotus sp.	0.1	30 cm	ANK52-15						
Trachymene pilosa	0.1	3 cm					0.1	3 cm	
Urospermum picroides							0.1	5 cm	
**Ursinia anthemoides* subsp.	0.1	20 cm		0.1	15 cm		0.1	10 cm	
**Wahlenbergia capensis*	0.1	15 cm	ANK71-15	0.1	10 cm	ANK71-15=	0.1	8 cm	ANK71-09

ANK71	Phase 1	Phase 2	Phase 3
Understorey			
Overstorey			

Site ANK72

Ph 1: Described by	CEFMK	Date	06/10/2020	Type	Quadrat	10 x 10 m	
Ph 2: Described by	ABSMK	Date	16/11/2020	Type	Quadrat	10 x 10 m	
MGA Zone	50	397599	mE	6435986	mN	115.913443 E	-32.208049 S

Habitat Flat plain.

Soil 10YR 4/1 dark grey. Loamy sand.

Rock Type Nil.

Vegetation Ph 1: *Melaleuca preissiana* closed forest over **Acacia longifolia* tall open shrubland over **Ehrharta longiflora* closed grassland over *Trachymene pilosa, *Zantedeschia aethiopica* closed herbland.

Ph 2: *Melaleuca preissiana* closed forest over **Acacia longifolia* tall open shrubland over **Ehrharta longiflora* closed grassland over **Zantedeschia aethiopica, *Moraea flaccida* very open herbland.

Veg Condition Ph 1: Degraded. Ph 2: Degraded.

Fire Age No sign of recent fire.

Notes Appears to only be a small area of this veg type here.

Species	Phase 1			Phase 2		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
**Acacia longifolia*	8	650 cm	ANK72-04	8	650 cm	ANK72-04=
**Arctotheca calendula*	0.1	20 cm				
**Briza maxima*	0.1	35 cm		0.1	35 cm	
**Briza minor*	0.1	10 cm				
**Bromus diandrus*	0.1	45 cm		0.1	50 cm	
**Ehrharta calycina*				0.1	40 cm	
**Ehrharta longiflora*	85	70 cm	ANK72-01	88	35 cm	ANK72R-01
**Hypochaeris glabra*	0.1	25 cm		0.1	25 cm	
Juncus pallidus				0.1	100 cm	ANK72R-04
Lepidosperma longitudinale				0.1	50 cm	ANK72R-02
**Lotus subbiflorus*	0.1	6 cm	ANK72-02	0.1	5 cm	ANK72-02=
Melaleuca preissiana	95	1000 cm		95	1000 cm	
**Moraea flaccida*				1	50 cm	CEFOP01=
Patersonia occidentalis var. *occidentalis*				0.1	50 cm	ANK72R-03
Phlebocarya ciliata	0.1	45 cm		0.1	45 cm	
**Romulea rosea* var. *australis*	0.1	15 cm	ANK72-03	0.1	15 cm	
**Solanum nigrum*	0.1	10 cm		0.1	10 cm	
**Sonchus oleraceus*	0.1	30 cm		0.1	50 cm	
Trachymene pilosa	71	15 cm	ANK72-05			
**Ursinia anthemoides* subsp. *anthemoides*	0.1	30 cm		0.1	30 cm	
**Wahlenbergia capensis*	0.1	7 cm	ANK72-06			
**Zantedeschia aethiopica*	4	70 cm		4	80 cm	

ANK72	Phase 1	Phase 2
Understorey		
Overstorey		

Site ANK73

Ph 1: Described by	CEFMK	Date	06/10/2020	Type	Quadrat	10 x 10 m	
Ph 2: Described by	ABSMK	Date	16/11/2020	Type	Quadrat	10 x 10 m	
MGA Zone	50	397645	mE	6436005	mN	115.913932 E	-32.207878 S

Habitat Low lying plain.

Soil 10YR 5/1 grey. Sand.

Rock Type Nil.

Vegetation Ph 1: *Banksia ilicifolia* low open woodland over *Kunzea glabrescens* tall open shrubland over *Melaleuca seriata* low open shrubland over *Lepidosperma longitudinale, Hypolaena exsulca* very open sedgeland over **Briza maxima* scattered grasses over *Podotheca gnaphalioides* very open herbland.

Ph 2: *Banksia ilicifolia* low open woodland over *Kunzea glabrescens* tall open shrubland over *Melaleuca seriata* low open shrubland over *Lepidosperma longitudinale, Hypolaena exsulca* sedgeland over **Briza maxima, *Ehrharta calycina* scattered grasses over *Podotheca gnaphalioides, *Ursinia anthemoides* subsp. *anthemoides* very open herbland.

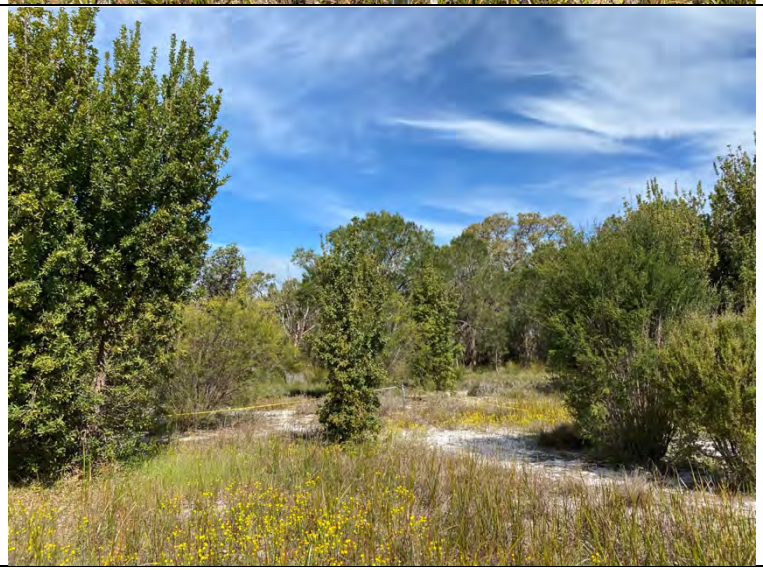
Veg Condition Ph 1: Very Good. Ph 2: Very Good.

Fire Age No sign of recent fire.

Notes Cleared power line track to the north, scattered overstorey of *Banksia illicifolia and Melaleuca preissiana. Kunzea glabrescens* shrubs patchy throughout.

Species	Phase 1			Phase 2		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
**Aira cupaniana*	0.1	10 cm				
**Arctotheca calendula*	0.1	10 cm				
Austrostipa compressa				0.1	15 cm	ANK73R-02
Austrostipa sp.	0.1	25 cm	ANK73-05			
Banksia ilicifolia	6	900 cm		6	900 cm	
**Briza maxima*	3	25 cm		3	5 cm	
**Carpobrotus edulis*	0.1	5 cm		0.1	5 cm	
Crassula colorata var. *colorata*	0.1	5 cm	ANK73-03A	0.1	5 cm	ANK73-03=
**Ehrharta calycina*				1	200 cm	ANK73R-07
**Ehrharta longiflora*	0.1	60 cm				
**Gladiolus caryophyllaceus*	0.1	35 cm		0.1	35 cm	
**Hypochaeris glabra*	0.1	10 cm		0.1	10 cm	
Hypolaena exsulca	3	30 cm	ANK73-06	3	30 cm	ANK73R-03
Isolepis marginata				0.1	3 cm	ANK73R-05
Kunzea glabrescens	5	300 cm	ANK73-01	5	300 cm	ANK73-01=
Lepidosperma longitudinale	6	85 cm	ANK73-04	40	50 cm	ANK73-04=
Lepidosperma sp.				0.1	30 cm	ANK73=
Lomandra suaveolens	0.1	30 cm	ANK73-08	0.1	20 cm	ANK73R-08
Melaleuca seriata	4	55 cm	ANK73-07	4	55 cm	ANK73R-06
Microtis media subsp. *media*	0.1	20 cm		0.1	20 cm	ANK73R-09
**Moraea flaccida*				0.1	30 cm	
**Orobanche minor*				0.1	15 cm	

Species	Phase 1			Phase 2		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
**Pentameris airoides*				0.1	15 cm	ANK73R-01
**Petrorhagia dubia*	0.1	15 cm		0.1	15 cm	
Podotheca gnaphalioides	4	40 cm	ANK73-02	4	40 cm	ANK73-02=
**Romulea rosea* var. *australis*	0.1	20 cm		0.1	20 cm	
**Ursinia anthemoides* subsp. *anthemoides*	2	20 cm		2	25 cm	
**Vulpia bromoides*	0.1	25 cm	ANK73-09			
**Vulpia myuros* forma *myuros*				0.1	25 cm	ANK73R -04

ANK73	Phase 1	Phase 2
Understorey		
Overstorey		

Site ANK74

Ph 1: Described by	SWJT	Date	14/10/2020	Type	Quadrat	10 x 10 m		
Ph 2: Described by	RMJT	Date	24/11/2020	Type	Quadrat	10 x 10 m		
Ph 3: Described by	ALPLdK	Date	12/09/2022	Type	Quadrat	10 x 10 m		
MGA Zone	50	385948	mE	6435846	mN	115.789826 E	-32.208190 S	

Habitat Low lying sandy plain in comparison to surroundings. Very minimally seasonally inundated.

Soil 7.5YR; 90% 3/2 dark brown; 10% 2.5/2 very dark brown. Sandy loam.

Rock Type Nil.

Vegetation Ph 1: *Banksia attenuata, Banksia menziesii, Eucalyptus marginata* low open forest over *Acacia pulchella, Acacia cyclops* tall open shrubland over *Macrozamia riedlei, Xanthorrhoea preissii, Xanthorrhoea brunonis* subsp. *brunonis* shrubland over **Ehrharta calycina* scattered tussock grasses over *Hibbertia hypericoides* subsp. *hypericoides, Sowerbaea laxiflora* (*Conostylis aculeata* subsp. *preissii*) low open shrubland over *Clematis linearifolia, Hardenbergia comptoniana* open climbing herbs over **Briza maxima, Loxocarya cinerea, *Lysimachia arvensis* (**Euphorbia peplus*) very open grassland/herbland over scattered herbland/grassland.

Ph 2: *Eucalyptus marginata* subsp. *marginata, Banksia menziesii, Banksia attenuata* low open forest over *Acacia pulchella, Acacia cyclops* tall open shrubland over *Macrozamia riedlei, Xanthorrhoea preissii, Xanthorrhoea brunonis* subsp. *brunonis* shrubland over *Hibbertia hypericoides* subsp. *hypericoides* (*Conostylis aculeata* subsp. *preissii*) low open shrubland over *Clematis linearifolia, Hardenbergia comptoniana* open climbing herbs over *Tetraria octandra* open sedgeland over *Loxocarya cinerea, Desmocladus flexuosus* very open grassland/herbland over scattered herbland/grassland.

Ph 3: Eucalyptus marginata subsp. marginata, *Banksia attenuata*, *Banksia menziesii* low open forest over *Acacia cyclops*, *Clematis linearifolia* tall open shrubland over *Xanthorrhoea preissii, Macrozamia riedlei* shrubland over *Xanthorrhoea brunonis* subsp. *brunonis* shrubland over *Hibbertia hypericoides* subsp. *hypericoides* (*Conostylis aculeata* subsp. *preissii*) low open shrubland over *Clematis linearifolia, Hardenbergia comptoniana* open climbing herbs over *Tetraria octandra* open sedgeland over *Loxocarya cinerea, Desmocladus flexuosus* very open grassland/herbland over scattered herbland/grassland.

Veg Condition Ph 1: Excellent to Very Good. Ph 2: Excellent to Very Good. Ph 3: Very Good.

Fire Age Very long unburnt.

Notes Burnt 30+ years based on the *Xanthorrhoea* and burnt stags.

Species	Phase 1			Phase 2			Phase 3		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
Acacia cyclops	1.5	310 cm	ANK74-1				2.5	350 cm	
Acacia pulchella	2	200 cm		2	200 cm		0.5	100 cm	
Allocasuarina fraseriana	0.1	160 cm	ANK76=	0.1	170 cm				
Allocasuarina humilis							0.1	100 cm	ANK74-04
**Asparagus asparagoides*	0.1	55 cm		0.1	55 cm		1.5	80 cm	
**Avena barbata*	0.1	170 cm		0.1	170 cm				
Banksia attenuata	17	850 cm		17	850 cm		17	850 cm	
Banksia dallanneyi subsp. *dallanneyi*	0.1	45 cm	ANK74-12	0.1	45 cm	ANK74-12=	0.1	40 cm	
Banksia menziesii	17	500 cm		20	500 cm		13	500 cm	
**Briza maxima*	7	40 cm		0.1	40 cm		1	30 cm	
**Briza minor*	0.1	15 cm		0.1	15 cm				
**Bromus diandrus*	0.1	45 cm	ANK74-11	0.1	45 cm	ANK74-11=			
Burchardia congesta	0.1	65 cm		0.1	65 cm				

Species	Phase 1			Phase 2			Phase 3		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
Caesia sp.							0.1	25 cm	NC
Caladenia flava subsp. *flava*	0.1	35 cm							
Caladenia latifolia							0.1	60 cm	
**Cerastium glomeratum*	0.1	10 cm	ANK74-7				0.1	8 cm	ANK100-03=
Chamaescilla corymboda var. *corymbosa*							0.1	25 cm	
Clematis linearifolia	2	170 cm	ANK74-6	0.5	170 cm	ANK74-6=	2	250 cm	
Conostephium preissii							0.1		ANK74-02
Conostylis aculeata subsp. *preissii*	0.5	45 cm	ANK74-3	0.5	45 cm	ANK74-3=	0.5	25 cm	
Crassula colorata var. *acuminata*							0.1	5 cm	ANK100-06=
**Crassula glomerata*	0.1	5 cm	ANK76-6=						
Desmocladus flexuosus	0.1	25 cm	ANK74-5a				0.5	30 cm	
**Ehrharta calycina*	1.5	85 cm	ANK74-9a	3	85 cm	ANK74-9a=	1.5	90 cm	
**Ehrharta longiflora*	0.1	40 cm		0.1	40 cm		3	40 cm	
Eucalyptus marginata subsp.	23	750 cm		23	750 cm		23	950 cm	
**Euphorbia peplus*	0.5	25 cm		0.1	25 cm		5	25 cm	
**Euphorbia* sp.	0.1	10 cm	ANK74-5b						
**Euphorbia terracina*	0.1	30 cm		0.1	30 cm				
**Freesia alba x leichtlinii*	0.1	45 cm							
**Fumaria capreolata*	0.1	45 cm					0.1	50 cm	
**Fumaria muralis*	0.1	40 cm					0.1	30 cm	
**Galium murale*	0.1	10 cm	ANK76-3=	0.1	5 cm	ANK74R-1	0.5	8 cm	
Hardenbergia comptoniana	0.5	70 cm	ANK74-14	0.5	50 cm		0.1	90 cm	
Hibbertia hypericoides subsp.	6	60 cm		6	60 cm		5	60 cm	
**Hypochaeris glabra*	0.1	10 cm		0.1	10 cm		0.1		
**Hypochaeris radicata*	0.1	20 cm		0.1	20 cm		0.1	25 cm	
Isolepis marginata							0.1	8 cm	
**Lagurus ovatus*	0.1	20 cm					0.1	25 cm	
Lepidosperma calcicola	0.1	60 cm	ANK74-10				0.1	50 cm	
Lomandra caespitosa				0.1	35 cm	ANK100R-04=			
Lomandra hermaphrodita	0.1	45 cm							
Lomandra suaveolens							0.1	25 cm	ANK100-10=
Loxocarya cinerea	2	40 cm	ANK74-2				2	40 cm	
**Lysimachia arvensis*	1	15 cm					0.1	20 cm	
Macrozamia riedlei	7	160 cm		7	160 cm		6	190 cm	
Mesomelaena pseudostygia	0.1	55 cm	ANK76-8=	0.1	60 cm	ANK76-8=	0.1	70 cm	
Microtis media subsp. *media*	0.1	20 cm							
Moraea flaccida							0.1	80 cm	
**Olea europaea* subsp. *europaea*	0.1	140 cm	ANK74-9b	0.1	140 cm	ANK74-9b=	0.1	120 cm	

Species	Phase 1			Phase 2			Phase 3		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
**Oxalis pes-caprae*	0.1	15 cm					0.1	30 cm	ANK74-01
**Pelargonium capitatum*	0.1	15 cm		0.1	15 cm				
**Petrorhagia dubia*	0.1	30 cm		0.1	30 cm		0.1	25 cm	
**Sonchus asper*	0.1	15 cm		0.1	15 cm				
**Sonchus oleraceus*	0.1	15 cm		0.1	15 cm		0.1	25 cm	
Sowerbaea laxiflora	2	45 cm					0.1	30 cm	
Stellaria pallida							0.1	8 cm	ANK100-04=
Stirlingia latifolia	0.1	100 cm		0.1	100 cm		0.1	25 cm	
Tetraria octandra							2	50 cm	
Thysanotus sp.	0.1	3 cm		0.1	3 cm				
Trachymene pilosa							0.1	8 cm	
**Trifolium arvense* var. *arvense*	0.1	20 cm	ANK60-01=						
**Trifolium campestre* var. *campestre*							0.1	10 cm	ANK74-03
**Urospermum picroides*	0.1	25 cm		0.1	25 cm		0.1	25 cm	
Xanthorrhoea brunonis subsp. *brunonis*	3	110 cm		6	110 cm		9	100 cm	
Xanthorrhoea preissii	4	160 cm		6	160 cm		7	160 cm	

ANK74	Phase 1	Phase 2	Phase 3
Understorey			
Overstorey			

Site ANK75a

Ph 1: Described by	SWJT	Date	14/10/2020	Type	Quadrat	10 x 10 m		
Ph 2: Described by	MKJT	Date	25/11/2020	Type	Quadrat	10 x 10 m		
Ph 3: Described by	ABSTH	Date	12/09/2022	Type	Quadrat	10 x 10 m		
MGA Zone	50	386257	mE	6435846	mN	115.793109 E	-32.208214 S	

Habitat Undulating sand plain sloping 10% to the west.

Soil 5YR: 90% 2.5/1 black, 10% 3/1 very dark grey. Loamy sand.

Rock Type Subsurface limestone.

Vegetation Ph 1: *Acacia rostellifera* tall open scrub over *Xanthorrhoea preissii* tall open shrubland over *Hibbertia hypericoides* subsp. *hypericoides* (**Ehrharta calycina*) low open shrubland over **Asparagus asparagoides* scattered climbing herbs over *Ly*simachia arvensis, *Euphorbia peplus, *Urospermum picroides* (**Avellinia michelii, *Galium murale*) open herbland.

Ph 2: *Acacia rostellifera* tall open scrub over *Xanthorrhoea preissii* tall open shrubland over *Hibbertia hypericoides* subsp. *hypericoides* low open shrubland over **Asparagus asparagoides* scattered climbing herbs over **Lysimachia arvensis, *Urospermum picroides* (**Galium murale*) open herbland.

Ph 3: *Acacia rostellifera* tall open scrub over *Xanthorrhoea preissii* scattered shrubs over *Hibbertia hypericoides subsp. hypericoides* low open shrubland over *Austrostipa elegantissima* scattered tussock grasses.

Veg Condition Ph 1: Very Good to Good. Ph 2: Very Good to Good. Ph 3: Very Good to Good.

Fire Age No sign of recent fire.

Notes **Asparagus* x100s in surrounding vegetation, scattered all throughout this land parcel.

Species	Phase 1			Phase 2			Phase 3		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
Acacia rostellifera	48	280 cm	ANK75a-1	48	280 cm	ANK75a-1=	42	220 cm	
**Arctotheca calendula*	0.1	25 cm							
**Asparagus asparagoides*	1.5	60 cm		1.5	60 cm		3	120 cm	
Austrostipa elegantissima	0.1	130 cm	ANK75a-5	0.1	150 cm	ANK75aR-1	1	60 cm	
**Avellinia michelii*	1	25 cm	ANK75a-4						
**Avena barbata*	0.1	150 cm		0.1	150 cm		0.1	30 cm	
**Brassica tournefortii*	0.1	50 cm		0.1	50 cm		0.1	25 cm	
**Briza maxima*	0.1	25 cm		0.1	25 cm		0.1	15 cm	
**Briza minor*	0.1	10 cm		0.1	10 cm				
Cenchrus setaceus							0.1	40 cm	
**Cerastium glomeratum*				0.1	5 cm		0.1	5 cm	
**Crassula colorata* var. *acuminata*							0.1		ANK75A-01
**Crassula glomerata*	0.1	5 cm	ANK76-6=	0.1	5 cm	ANK76-6=	0.1	2 cm	
**Ehrharta calycina*	0.5	60 cm		0.1	60 cm		0.1	50 cm	
**Ehrharta longiflora*	0.1	25 cm		0.1	25 cm		0.1	15 cm	
**Euphorbia peplus*	5	10 cm		0.1	10 cm		0.1	15 cm	
**Euphorbia terracina*	0.1	45 cm		0.1	45 cm		0.1	15 cm	
**Galium murale*	0.5	10 cm	ANK76-3=	0.5	10 cm	ANK76-3=	0.1	5 cm	
Hibbertia hypericoides subsp.	4	50 cm		4	50 cm		4	75 cm	

Species	Phase 1			Phase 2			Phase 3		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
**Hypochaeris glabra*	0.1	15 cm		0.1	15 cm		0.1	1 cm	
**Hypochaeris radicata*	0.1	5 cm		0.1	5 cm		0.1	1 cm	
Isolepis marginata							0.1	2 cm	
**Lagurus ovatus*	0.1	25 cm							
**Lysimachia arvensis*	7	10 cm		7	10 cm		0.5	10 cm	
**Oxalis corniculata*							0.1	25 cm	
**Oxalis pes-caprae*	0.1	10 cm		0.1	10 cm				
**Pelargonium capitatum*				0.1	8 cm				
**Petrorhagia dubia*	0.1	10 cm		0.1	10 cm				
**Polycarpon tetraphyllum*	0.1	10 cm	ANK76-07=				0.1	2 cm	
**Sagina apetala*	0.1	5 cm	ANK75a-3				0.1	2 cm	
**Sonchus asper*							0.1	2 cm	
**Sonchus oleraceus*	0.1	40 cm	ANK75a-2	0.1	40 cm	ANK75a-2=	0.1	5 cm	
Stellaria pallida							0.1	15 cm	ANK75A-02
**Urospermum picroides*	2	55 cm		2	55 cm		0.1	5 cm	
Vulpia bromoides							0.1		ANK75B-01=
Xanthorrhoea preissii	3	200 cm		3	200 cm		2	175 cm	

ANK75a	Phase 1	Phase 2	Phase 3
Understorey			
Overstorey			

Site ANK75b

Ph 1: Described by	NPAL	Date	15/10/2020	Type	Quadrat	10 x 10 m		
Ph 2: Described by	MKJT	Date	25/11/2020	Type	Quadrat	10 x 10 m		
Ph 3: Described by	ABSTH	Date	12/09/2022	Type	Quadrat	10 x 10 m		
MGA Zone	50	386188	mE	6435879	mN	115.792380 E	-32.207912 S	

Habitat Gently sloping southwest facing dune.

Soil 10YR 3/2 very dark grey brown. Sand.

Rock Type Subsurface limestone.

Vegetation Ph 1: *Acacia rostellifera* tall open scrub over *Xanthorrhoea preissii* very open grass trees over *Grevillea vestita* subsp. *vestita, Melaleuca systena* open shrubland over **Asparagus asparagoides, Clematis linearifolia* open climbing herbland over **Urospermum picroides, *Ehrharta longiflora, *Lysimachia arvensis, *Euphorbia peplus* open tussock grassland/herbland over scattered herbland/grassland.

Ph 2: *Acacia rostellifera* tall open scrub over *Xanthorrhoea preissii* very open grass trees over *Grevillea vestita* subsp. *vestita, Melaleuca systena* open shrubland over *Hibbertia hypericoides* subsp. *hypericoides* low scattered shrubs over **Asparagus asparagoides, Clematis linearifolia* open climbing herbland over **Urospermum picroides, *Lysimachia arvensis, *Euphorbia peplus* open tussock grassland/herbland over scattered herbland/grassland.

Ph 3: *Acacia rostellifera* (*Xanthorrhoea preissii, Clematis linearifolia*) tall open scrub over *Grevillea vestita subsp. vestita* open shrubland over *Hibbertia hypericoides subsp. hypericoides*, *Melaleuca systena* low open shrubland.

Veg Condition Ph 1: Good. Ph 2: Good. Ph 3: Good.

Fire Age Very long unburnt/No sign of recent fire.

Species	Phase 1			Phase 2			Phase 3		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
Acacia rostellifera	31	350 cm	ANK75b-01	31	350 cm	ANK75b-01=	31	350 cm	
**Asparagus asparagoides*	5	170 cm		5	170 cm		3	180 cm	
Austrostipa elegantissima	0.1	70 cm	ANK75b-06						
Banksia dallanneyi subsp. *dallanneyi*	0.1	20 cm	ANK75b-07	0.1	20 cm	ANK75b-07=	0.1	15 cm	
**Brassica tournefortii*	0.1	35 cm	ANK06-08=	0.1	35 cm	ANK06-08=	0.1	25 cm	
**Briza maxima*	0.1	30 cm		0.1	30 cm		0.1	20 cm	
**Briza minor*	0.1	25 cm		0.1	25 cm				
**Centaurea melitensis*	0.1	20 cm	ANK99-05=						
**Cerastium glomeratum*	0.1	15 cm	ANK100-09=	0.1	15 cm	ANK100-09=	0.1	20 cm	
Clematis linearifolia	1	270 cm		1	270 cm		1	210 cm	
Conostylis aculeata subsp. *preissii*	0.1	20 cm	ANK75-08b						
**Crassula glomerata*				0.1	3 cm	ANK75bR-2			
Desmocladus flexuosus				0.1	10 cm	ANK75bR-3			
Dianella revoluta var. *revoluta*	0.1	60 cm		0.1	60 cm		0.1	35 cm	
**Ehrharta calycina*	0.1	100 cm		0.1	100 cm		0.1	30 cm	
**Ehrharta longiflora*	5	60 cm		0.1	60 cm		0.5	25 cm	
**Euphorbia peplus*	0.5	20 cm		0.5	20 cm		0.5	15 cm	
**Galium divaricatum*	0.1	5 cm		0.1	5 cm		0.1	5 cm	
**Gladiolus caryophyllaceus*	0.1	60 cm					0.1	35 cm	

Species	Phase 1			Phase 2			Phase 3		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
Grevillea vestita subsp. *vestita*	2	190 cm	ANK75b-04	2	190 cm	ANK75b-04=	3	198 cm	
Hibbertia hypericoides subsp.	1	80 cm	ANK75b-03	1	80 cm	ANK75b-03=	3	80 cm	
**Hypochaeris glabra*	0.1	5 cm		0.1	5 cm		0.5	2 cm	
**Hypochaeris radicata*							0.1	2 cm	
Lomandra caespitosa	0.1	35 cm	ANK75b-05	0.1	35 cm	ANK75b-05=			
**Lysimachia arvensis*	1	15 cm		1	15 cm		0.1	10 cm	
Macrozamia riedlei	0.1	150 cm		0.1	150 cm		0.1	170 cm	
Melaleuca systena	2	120 cm	ANK75b-09	2	120 cm	ANK75b-09=	2	90 cm	
Mesomelaena stygia subsp. *stygia*				0.1	60 cm				
**Orobanche minor*				0.1	5 cm				
**Oxalis corniculata*	0.1	5 cm		0.1	5 cm		0.1	5 cm	
**Oxalis pes-caprae*				0.1	1 cm		0.1	20 cm	
**Petrorhagia dubia*	0.1	20 cm		0.1	20 cm		0.1	15 cm	
**Polycarpon tetraphyllum*				0.1	2 cm	ANK75bR-1=			
**Raphanus raphanistrum*				0.1	50 cm		0.1	15 cm	
**Sagina apetala*	0.1	10 cm	ANK75b-10				0.1	10 cm	
**Sonchus asper*				0.1	5 cm		0.1	15 cm	
**Sonchus oleraceus*	0.1	20 cm		0.1	20 cm		0.1	15 cm	
Thysanotus manglesianus	0.1	70 cm		0.1	70 cm				
**Trifolium campestre* var. *campestre*	0.1	5 cm		0.1	5 cm				
**Urospermum picroides*	15	35 cm		15	35 cm		0.5	10 cm	
Vulpia bromoides							0.1	15 cm	ANK75B-01
Xanthorrhoea preissii	2	200 cm		2	200 cm		2	250 cm	

ANK75b	Phase 1	Phase 2	Phase 3
Understorey			
Overstorey			

Site ANK76

Ph 1: Described by	SWJT	Date	14/10/2020	Type	Quadrat	10 x 10 m		
Ph 2: Described by	SW	Date	23/11/2020	Type	Quadrat	10 x 10 m		
Ph 3: Described by	ABSTH	Date	12/09/2022	Type	Quadrat	10 x 10 m		
MGA Zone	50	386404	mE	6435876	mN	115.794667 E	-32.207965 S	

Habitat Elevated, undulating sand dunes, sloping 10% west-northwest.

Soil 5YR 4/4 reddish brown. Loamy sand.

Rock Type Nil.

Vegetation Ph 1: *Banksia menziesii, Banksia attenuata* low woodland over *Allocasuarina humilis, Grevillea vestita* subsp. *vestita, Acacia pulchella* var. *pulchella, Calothamnus quadrifidus* subsp. *quadrifidus* shrubland over *Xanthorrhoea preissii* (*Macrozamia riedlei*) open grass trees over *Hibbertia hypericoides* subsp. *hypericoides* (**Ehrharta calycina*) low shrubland over *Desmocladus asper, Loxocarya cinerea, Mesomelaena pseudostygia* (**Asparagus asparagoides*, **Galium murale*) scattered herbs.

Ph 2: *Banksia menziesii, Banksia attenuata* low woodland over *Allocasuarina humilis, Grevillea vestita* subsp. *vestita, Acacia pulchella* var. *pulchella, Calothamnus quadrifidus* subsp. *quadrifidus* shrubland over *Xanthorrhoea preissii* (*Macrozamia riedlei*) open grass trees over *Hibbertia hypericoides subsp hypericoides* (**Ehrharta calycina*) low shrubland over *Desmocladus asper, Loxocarya cinerea, Mesomelaena pseudostygia* (**Asparagus asparagoides*) low to scattered herbland.

Ph 3: *Banksia menziesii, Banksia attenuata* low woodland over *Allocasuarina humilis, Grevillea vestita subsp. vestita* (*Calothamnus quadrifidus subsp. quadrifidus, Macrozamia riedlei*) shrubland over *Hibbertia hypericoides subsp. hypericoides* low shrubland.

Veg Condition Ph 1: Excellent to Very Good. Ph 2: Excellent to Very Good. Ph 3: Excellent to Very Good.

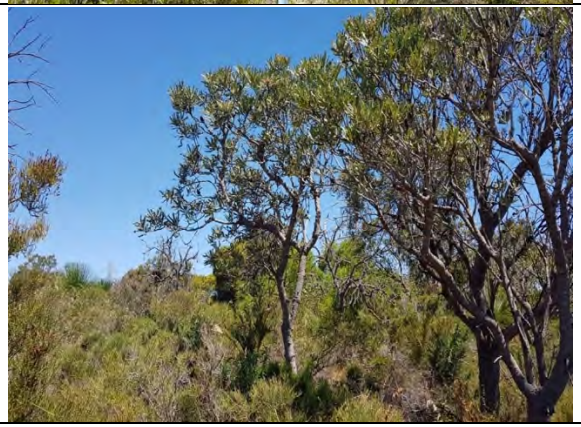
Fire Age No sign of recent fire.

Notes General veg unit should be classed Excellent. Few dead *Banksia* adults around.

Species	Phase 1			Phase 2			Phase 3		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
Acacia pulchella var. *pulchella*	2	165 cm		2	165 cm		0.1	140 cm	
Allocasuarina humilis	7	190 cm	ANK76-10	7	190 cm	ANK76-10=	9	110 cm	
**Asparagus asparagoides*	1.5	60 cm		1	60 cm		1.5	60 cm	
**Avena barbata*	0.1	40 cm		0.1	40 cm				
Banksia attenuata	6	800 cm		6	800 cm		7	800 cm	
Banksia dallanneyi subsp. *dallanneyi*	0.1	15 cm	ANK76-5	0.1	20 cm	ANK76-05=			
Banksia menziesii	8	550 cm		8	550 cm		9	550 cm	
Brassica tournefortii							0.1	20 cm	
**Briza maxima*	0.25	60 cm		0.1	60 cm		0.1	15 cm	
**Briza minor*	0.1	20 cm							
Burchardia congesta	0.1	45 cm		0.1	45 cm		0.1	30 cm	
Calothamnus quadrifidus subsp.	2	160 cm	ANK76-9	2	160 cm		2.5	160 cm	
Centrolepis drummondiana	0.1	10 cm	ANK76-14				0.1	2 cm	
**Cerastium glomeratum*	0.1	10 cm	ANK76-4	0.1	10 cm	ANK76-04=	0.1	5 cm	
Corynotheca micrantha var.	0.1	60 cm		0.1	60 cm		0.1	45 cm	

Species	Phase 1			Phase 2			Phase 3		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
Crassula colorata var. *acuminata*	0.1	8 cm	ANK66-02=						
Crassula decumbens var. *decumbens*							0.1	2 cm	ANK76-01
**Crassula glomerata*	0.1	10 cm	ANK76-6				0.1	5 cm	
Desmocladus asper	5	30 cm	ANK76-1	5	30 cm	ANK76-01=	4	25 cm	
Desmocladus flexuosus							0.1	20 cm	
Dianella revoluta var. *revoluta*	0.1	60 cm		0.1	60 cm		0.1	35 cm	
Drosera porrecta	0.1	35 cm	ANK76-17				0.1	10 cm	
**Ehrharta calycina*	3	70 cm		3	70 cm		4	90 cm	
**Ehrharta longiflora*	0.1	60 cm					0.1	20 cm	
Eryngium pinnatifidum	0.1	65 cm		0.1	60 cm				
**Euphorbia peplus*	0.1	10 cm					0.1	10 cm	
Fumaria capreolata subsp. *capreolata*							0.1	10 cm	
**Galium murale*	1	25 cm	ANK76-3				0.1	5 cm	
**Gladiolus caryophyllaceus*	0.1	80 cm		0.1	80 cm		0.1	30 cm	
Gompholobium tomentosum	0.1	65 cm		0.1	65 cm				
Grevillea vestita subsp. *vestita*	3	170 cm		4	170 cm		4	150 cm	
Hardenbergia comptoniana	0.1	75 cm		0.1	75 cm		0.1	50 cm	
Hibbertia hypericoides subsp.	13	70 cm		11	70 cm		11	70 cm	
Hovea trisperma var. *trisperma*	0.1	60 cm		0.1	60 cm		0.1	25 cm	
Isolepis cernua var. *cernua*	0.1	10 cm					0.1	2 cm	
Lomandra caespitosa	0.1	45 cm		0.1	45 cm		0.1	35 cm	
Lomandra hermaphrodita	0.1	40 cm		0.1	45 cm				
Loxocarya cinerea	3	40 cm	ANK76-2	3	40 cm	ANK76-02=	3	50 cm	
**Lysimachia arvensis*	0.1	10 cm		0.1	15 cm		0.1	10 cm	
Macrozamia riedlei	1	110 cm		1	110 cm		1.5	150 cm	
Mesomelaena pseudostygia	1	60 cm	ANK76-8	1.5	65 cm	ANK76-8=	1.5	60 cm	
**Petrorhagia dubia*	0.1	45 cm		0.1	30 cm		0.1	5 cm	
**Polycarpon tetraphyllum*	0.1	5 cm	ANK76-7				0.1	5 cm	
Poranthera microphylla	0.1	10 cm	ANK76-13				0.1	5 cm	
**Raphanus raphanistrum*	0.1	15 cm							
**Romulea rosea* var. *australis*	0.1	15 cm		0.1	15 cm				
**Sonchus oleraceus*	0.1	10 cm					0.1	5 cm	
Sowerbaea laxiflora	0.1	40 cm							
Styphelia propinqua	0.1	50 cm	ANK76-16	2	160 cm	ANK76-16=			
Thysanotus manglesianus	0.1	45 cm	ANK76-12				0.1	75 cm	
Trachymene pilosa	0.1	10 cm							
Trifolium campestre var. *campestre*							0.1	15 cm	
**Trifolium* sp.	0.1	5 cm							
**Urospermum picroides*	0.1	45 cm		0.1	40 cm		0.1	5 cm	

Species	Phase 1			Phase 2			Phase 3		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
Vulpia bromoides							0.1	10 cm	ANK75B-02=
**Vulpia myuros* forma *myuros*	0.1	10 cm	ANK76-15	0.1	10 cm	ANK76-15=			
**Wahlenbergia capensis*	0.1	40 cm	ANK76-11						
Xanthorrhoea preissii	4	100 cm		4	100 cm		0.1	4 cm	

ANK76	Phase 1	Phase 2	Phase 3
Understorey			
Overstorey			

Site ANK90

Ph 1: Described by	ALJT	Date	16/10/2020	Type	Quadrat	10 x 10 m	
Ph 2: Described by	SW	Date	18/11/2020	Type	Quadrat	10 x 10 m	
MGA Zone	50	393901	mE	6435961	mN	115.874217 E	-32.207930 S

Habitat Gently sloping northwest facing plain.

Soil 10YR; 90% 3/1 very dark grey, 10% 4/1 dark grey. Sand.

Rock Type Nil.

Vegetation Ph 1: *Jacksonia sternbergiana* tall shrubland over *Kunzea glabrescens* scattered shrubs over *Xanthorrhoea preissii, Adenanthos cygnorum* subsp. *cygnorum* open shrubland over *Styphelia conostephioides, Scholtzia involucrata* low open shrubland over *Lyginia imberbis* scattered sedges.

Ph 2: *Jacksonia sternbergiana* tall shrubland over *Kunzea glabrescens* tall open shrubland over *Xanthorrhoea preissii, Adenanthos cygnorum* subsp. *cygnorum* open shrubland over *Styphelia conostephioides, Scholtzia involucrata* low open shrubland over *Lyginia barbata, Lyginia imberbis* very open sedgeland.

Veg Condition Ph 1: Good. Ph 2: Good.

Fire Age No sign of recent fire.

Notes Revegetation area located under powerlines.

Species	Phase 1			Phase 2		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
Adenanthos cygnorum subsp. *cygnorum*	1	100 cm		1	110 cm	
Amphipogon turbinatus	0.1	30 cm	ANK90-08			
Austrostipa campylachne	0.1	60 cm	ANK90-12	0.1	65 cm	ANK90-12=
Austrostipa sp.	0.1	70 cm	ANK92-22=	0.1	70 cm	ANK92-22=
**Briza maxima*	0.1	35 cm		0.1	10 cm	
Burchardia congesta	0.1	60 cm				
Calandrinia corrigioloides	0.1	10 cm	ANK90-16			
**Carpobrotus* sp.	0.1	5 cm	ANK90-17			
Conostylis aculeata subsp. *aculeata*	0.1	40 cm	ANK90-07			
Crassula sp.	0.1	5 cm				
Dasypogon bromeliifolius	0.1	20 cm		0.1	30 cm	
**Ehrharta calycina*	0.1	60 cm		0.1	60 cm	
**Gladiolus caryophyllaceus*	0.1	60 cm		0.1	55 cm	
Gompholobium tomentosum	0.1	15 cm		0.1	20 cm	
Hemiandra pungens	0.1	10 cm	ANK92-02=	0.1	15 cm	ANK92-02=
**Hypochaeris glabra*	0.1	5 cm				
Jacksonia sternbergiana	12	320 cm		15	420 cm	
Kunzea glabrescens	1	190 cm	ANK90-03	2	210 cm	ANK90-03=
Laxmannia squarrosa	0.1	10 cm	ANK90-02	0.1	10 cm	ANK90-02=
Levenhookia stipitata	0.1	10 cm	ANK92-17=			
Lomandra caespitosa	0.1	30 cm	ANK90-13			
Lomandra suaveolens	0.1	5 cm	ANK90-15			

Species	Phase 1			Phase 2		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
Lyginia barbata	1	65 cm	ANK90-04	1.5	65 cm	ANK90-04=
Lyginia imberbis				0.5	65 cm	ANK90R-01b
Macarthuria australis	0.1	30 cm	ANK90-18	0.1	30 cm	ANK90-18=
Patersonia occidentalis var. *occidentalis*	0.1	60 cm		0.1	45 cm	
Petrophile linearis	0.1	50 cm	ANK90-09	0.1	65 cm	ANK90-09=
Phyllangium paradoxum	0.1	5 cm				
Podotheca angustifolia	0.1	5 cm	ANK45-11=			
Quinetia urvillei	0.1	5 cm	ANK90-			
Rhodanthe citrina	0.1	5 cm	ANK90-10			
Scholtzia involucrata	1.5	20 cm	ANK90-05	3	20 cm	ANK90-05=
Stylidium piliferum	0.1	20 cm	ANK90-11	0.1	5 cm	ANK90-11=
Stylidium repens	0.1	15 cm		0.1	10 cm	
Styphelia conostephioides	3.5	40 cm	ANK90-01	6	45 cm	ANK90-01=
Thysanotus sp. (*manglesianus/patersonii*)	0.1	40 cm	ANK90-06			
Trachymene pilosa	0.1	10 cm	ANK92-03=	0.1	5 cm	
**Ursinia anthemoides* subsp. *anthemoides*	0.1	25 cm		1	15 cm	
**Vulpia bromoides*	0.1	30 cm	ANK90-14	0.1	10 cm	ANK90-14=
**Wahlenbergia capensis*	0.1	25 cm				
Xanthorrhoea preissii	1	100 cm		1.5	110 cm	

ANK90	Phase 1	Phase 2
Understorey		
Overstorey		

Site ANK91

Ph 1: Described by	ALJT	Date	16/10/2020	Type	Quadrat	10 x 10 m	
Ph 2: Described by	SW	Date	19/11/2020	Type	Quadrat	10 x 10 m	
MGA Zone	50	393486	mE	6435963	mN	115.869810 E	-32.207873 S

Habitat Gently sloping east facing plain.

Soil 10YR; 90% 3/1 very dark grey, 10% 4/1 dark grey. Sand.

Rock Type Nil.

Vegetation Ph 1: *Jacksonia sternbergiana* tall open shrubland over *Adenanthos cygnorum* subsp. *cygnorum* scattered shrubs over *Lechenaultia floribunda, Scholtzia involucrata, Phlebocarya ciliata* low open shrubland.

Ph 2: *Jacksonia sternbergiana* tall open shrubland over *Adenanthos cygnorum* subsp. *cygnorum* open shrubland over *Hibbertia hypericoides* subsp. *hypericoides* low scattered shrubs over *Lechenaultia floribunda, Scholtzia involucrata, Dasypogon bromeliifolius* (*Hypolaena exsulca, Lyginia imberbis*) low open shrubland.

Veg Condition Ph 1: Very Good. Ph 2: Very Good.

Fire Age No sign of recent fire.

Notes Revegetation area located under powerlines.

Species	Phase 1			Phase 2		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
Acacia huegelii	0.1	15 cm	ANK92-19=	0.1	20 cm	ANK92-19=
Acacia stenoptera	0.1	50 cm	ANK91-05	0.1	55 cm	ANK91-05=
Adenanthos cygnorum subsp. *cygnorum*	1.5	130 cm		2	130 cm	
Amphipogon turbinatus	0.1	10 cm	ANK91-13			
Austrostipa sp.	0.1	60 cm	ANK92-22=	0.1	65 cm	ANK92-22=
Bossiaea eriocarpa	0.1	25 cm		0.1	25 cm	
**Briza maxima*	0.1	30 cm		0.1	30 cm	
Burchardia congesta	0.1	50 cm				
Caladenia flava subsp. *flava*	0.1	20 cm				
**Carpobrotus edulis*	0.1	15 cm		0.1	15 cm	
Chamaescilla corymbosa var. *corymbosa*	0.1	15 cm	ANK91-07	0.1	25 cm	ANK91-07=
Conostylis aculeata subsp. *aculeata*	0.1	25 cm	ANK91-08	0.1	35 cm	ANK91-08=
Conostylis juncea	0.1	10 cm	ANK91-19	0.1	10 cm	ANK91-19=
Crassula colorata var. *colorata*	0.1	5 cm	ANK91-21	0.1	5 cm	ANK91-21=
Dampiera linearis	0.1	10 cm	ANK91-12			
Dasypogon bromeliifolius	0.1	30 cm	ANK91-17	2	30 cm	ANK91-17=
Desmocladus asper	0.1	15 cm				
Drosera sp.	0.1	10 cm	ANK92-26=			
**Ehrharta calycina*	0.1	60 cm		0.1	60 cm	
**Gladiolus caryophyllaceus*	0.1	60 cm		0.1	45 cm	
Gompholobium tomentosum	0.1	60 cm	ANK91-03	0.1	60 cm	ANK91-03=

Species	Phase 1			Phase 2		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
Hemiandra pungens	0.1	17 cm	ANK91-14	0.1	15 cm	ANK91-14=
Hibbertia hypericoides subsp. *hypericoides*	0.1	60 cm		1.5	60 cm	
Hypocalymma robustum	0.1	70 cm	ANK91-02	0.1	70 cm	ANK91-02=
**Hypochaeris glabra*	0.1	10 cm				
Hypolaena exsulca	0.1	35 cm	ANK91-11	0.5	50 cm	ANK91-11=
Isolepis marginata	0.1	5 cm	ANK91-18			
Jacksonia sternbergiana	16	370 cm		16	370 cm	
Kunzea glabrescens	0.1	160 cm	ANK90-03=	0.1	175 cm	ANK90-03=
Laxmannia squarrosa	0.1	10 cm	ANK90-02=			
Lechenaultia floribunda	3	50 cm	ANK91-06	4	50 cm	ANK91-06=
Levenhookia stipitata	0.1	5 cm	ANK92-17=			
Lomandra hermaphrodita	0.1	20 cm	ANK91-09			
Lyginia barbata	0.1	60 cm	ANK91-15	0.5	45 cm	ANK91-15=
Lyginia imberbis	0.1	70 cm	ANK91-20	0.5	50 cm	ANK91-20=
Macarthuria australis	0.1	60 cm	ANK91-10	0.1	65 cm	ANK91-10=
Patersonia occidentalis var. *occidentalis*	0.1	60 cm		0.1	60 cm	
Phlebocarya ciliata	1	40 cm				
Phyllangium paradoxum	0.1	5 cm				
Podotheca angustifolia	0.1	10 cm	ANK91-13			
Poranthera microphylla	0.1	5 cm	ANK91-04			
Rhodanthe citrina	0.1	10 cm	ANK90-10=			
Scholtzia involucrata	3	20 cm	ANK90-05=	3	20 cm	ANK90-05=
Siloxerus humifusus	0.1	1 cm	ANK91-22			
Sowerbaea laxiflora	0.1	60 cm				
Stirlingia latifolia	0.1	90 cm		0.1	90 cm	
Stylidium repens	0.1	10 cm				
Styphelia conostephioides	0.1	50 cm	ANK90-01=	0.5	50 cm	ANK90-01=
Trachymene pilosa	0.1	5 cm	ANK92-03=			
**Ursinia anthemoides* subsp. *anthemoides*	0.1	30 cm		0.5	30 cm	
**Vulpia bromoides*	0.1	20 cm	ANK90-14=	0.1	20 cm	ANK90-14=
**Wahlenbergia capensis*	0.1	35 cm				
Xanthorrhoea brunonis subsp. *brunonis*	0.1	75 cm		0.1	90 cm	

ANK91	Phase 1	Phase 2
Understorey		
Overstorey		

Site ANK92

Ph 1: Described by	ALJT	Date	16/10/2020	Type	Quadrat	10 x 10 m		
Ph 2: Described by	SW	Date	18/11/2020	Type	Quadrat	10 x 10 m		
Ph 3: Described by	ALTH	Date	07/09/2022	Type	Quadrat	10 x 10 m		
MGA Zone	50	394232	mE	6435909	mN	115.877716 E	-32.208426 S	

Habitat Gently sloping north facing plain.

Soil 10YR; 90% 4/1 dark grey, 10% 3/1 very dark grey. Sand.

Rock Type Nil.

Vegetation Ph 1: *Eucalyptus marginata* subsp. *marginata* open woodland over *Banksia attenuata* low woodland over *Kunzea glabrescens* tall open shrubland over *Jacksonia sternbergiana* scattered tall shrubs over *Allocasuarina humilis* open shrubland over *Hibbertia hypericoides* subsp. *hypericoides* (*Stirlingia latifolia*) low open shrubland over *Desmocladus asper* (*Styphelia conostephioides*) very open shrubland/herbland.

Ph 2: *Eucalyptus marginata* subsp. *marginata* woodland over *Banksia attenuata* low woodland over *Kunzea glabrescens* (*Jacksonia sternbergiana*) tall open shrubland over *Allocasuarina humilis* open shrubland over *Hibbertia hypericoides* subsp. *hypericoides* (*Stirlingia latifolia, Daviesia triflora*) low open shrubland over *Desmocladus asper* (*Styphelia conostephioides*) very open shrubland/herbland.

Ph 3: *Eucalyptus marginata subsp. marginata* woodland over *Banksia attenuata* low woodland over *Kunzea glabrescens*, *Jacksonia sternbergiana* (*Jacksonia furcellata*) tall open shrubland over *Hibbertia hypericoides subsp. hypericoides* (*Stirlingia latifolia, Allocasuarina*) low open shrubland over *Desmocladus asper* (*Styphelia conostephioides*) very open shrubland/herbland.

Veg Condition Ph 1: Very Good. Ph 2: Very Good. Ph 3: Very Good.

Fire Age No sign of recent fire.

Notes *Banksia* and *Eucalyptus* recruitment present.

Species	Phase 1			Phase 2			Phase 3		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
Acacia alata var. *alata*	0.1	60 cm	ANK92-18	0.1	60 cm	ANK92-18=			
Acacia huegelii	0.1	20 cm	ANK92-19	0.1	25 cm	ANK91-19=	0.1	25 cm	
Adenanthos cygnorum subsp.	0.1	5 cm		0.1	10 cm				
Allocasuarina humilis	2	180 cm		2.5	180 cm		2.5	170 cm	
Anigozanthos manglesii subsp.	0.1	20 cm		0.1	35 cm		0.1	1 cm	
Arnocrinum preissii	0.1	35 cm	ANK92-25				0.1	35 cm	
Austrostipa sp.	0.1	70 cm	ANK92-22	0.1	15 cm	ANK92-22=			
Banksia attenuata	11	570 cm		11	680 cm		11	700 cm	
Bossiaea eriocarpa	0.1	30 cm	ANK92-23	0.1	40 cm	ANK92-23=	0.1	30 cm	
Brachyloma preissii	0.1	20 cm	ANK92-28				0.1	20 cm	
**Briza maxima*	0.1	25 cm		0.1	20 cm		0.1	15 cm	
Burchardia congesta	0.1	50 cm					0.1	20 cm	
Burchardia congesta							0.1	40 cm	ANK92-01
Caladenia discoidea							0.1	20 cm	
Caladenia flava subsp. *flava*	0.1	15 cm					0.1	10 cm	
Calytrix flavescens	0.1	10 cm	ANK92-29	0.1	15 cm	ANK92-29=	0.1	20 cm	
Carpobrotus edulis							0.1	3 cm	

Species	Phase 1			Phase 2			Phase 3		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
Conostephium pendulum	0.1	25 cm	ANK92-12	0.1	40 cm	ANK92-12=	0.1	40 cm	
Conostylis aculeata subsp. *preissii*	0.1	30 cm	ANK92-07	0.1	20 cm	ANK92-07=	0.1	20 cm	
Conostylis setigera subsp. *setigera*	0.1	15 cm	ANK92-14	0.1	25 cm	ANK92-14=	0.1	10 cm	
Dampiera linearis	0.1	20 cm		0.1	20 cm	ANK92R-01	0.1	10 cm	
Daviesia triflora	0.1	60 cm	ANK92-21	0.5	60 cm	ANK92-21=	0.5	70 cm	
Desmocladus asper	2	20 cm		2	20 cm		2	20 cm	
Desmocladus flexuosus	0.1	40 cm	ANK92-08						
**Disa bracteata*	0.1	25 cm	ANK92-11						
Drosera erythrorhiza	0.1	1 cm					0.1	1 cm	
Drosera sp.	0.1	10 cm	ANK92-26						
**Ehrharta calycina*	0.1	90 cm		0.1	80 cm		0.1	10 cm	
**Ehrharta longiflora*							0.1	75 cm	
Elythranthera brunonis							0.1	20 cm	
Eucalyptus marginata subsp.	9	1600 cm		18	1600 cm		20	1600 cm	
**Gladiolus caryophyllaceus*	0.1	60 cm		0.1	60 cm		0.1		
Gompholobium tomentosum							0.1	20 cm	
Gonocarpus pithyoides	0.1	30 cm	ANK92-06	0.1	35 cm	ANK92-06=	0.1	15 cm	
Hemiandra pungens	0.1	15 cm	ANK92-02	0.1	10 cm	ANK92-02=	0.1	10 cm	
Hibbertia hypericoides subsp.	4	80 cm		6	80 cm		6	110 cm	
Hibbertia racemosa	0.1	20 cm	ANK92-16B				0.1	20 cm	
Hibbertia subvaginata	0.1	20 cm	ANK92-16A	0.1	20 cm	ANK92-16A=			
Hovea trisperma var. *trisperma*	0.1	30 cm	ANK92-05	0.1	30 cm	ANK92-05=	0.1	15 cm	
**Hypochaeris glabra*	0.1	5 cm					0.1	1 cm	
Jacksonia furcellata	0.1	170 cm		0.1	170 cm		0.5	230 cm	
Jacksonia sternbergiana	1	320 cm		2	320 cm		2	400 cm	
Kennedia prostrata							0.1	2 cm	
Kunzea glabrescens	2	400 cm		3	400 cm		3	500 cm	
Lepidosperma calcicola	0.1	25 cm	ANK92-27	0.1	25 cm	ANK92-27=	1	25 cm	
Levenhookia stipitata	0.1	5 cm	ANK92-17						
Lomandra caespitosa	0.1	25 cm	ANK92-10	0.1	25 cm	ANK92-10=	0.1	25 cm	
Lomandra preissii	0.1	25 cm	ANK92-13	0.1	25 cm	ANK92-13=	0.1	20 cm	
Lyginia barbata	0.1	60 cm					0.1	60 cm	
Opercularia vaginata	0.1	20 cm	ANK92-15						
Patersonia occidentalis var.	0.1	50 cm		0.1	50 cm		0.1	50 cm	
Podolepis gracilis	0.1	15 cm	ANK45-12=				0.1	15 cm	ANK92-02
Podotheca chrysantha	0.1	10 cm	ANK92-30				0.1	20 cm	ANK92-03
Poranthera microphylla	0.1	3 cm					0.1	5 cm	
Scaevola canescens	0.1	15 cm		0.1	15 cm		0.1	10 cm	
Scholtzia involucrata	0.1	20 cm	ANK47-03=	0.1	30 cm	ANK47-03=	0.1	30 cm	

Species	Phase 1			Phase 2			Phase 3		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
Siloxerus humifusus				0.1	3 cm		0.1	1 cm	
Sowerbaea laxiflora	0.1	30 cm		0.1	30 cm		0.1	30 cm	
**Stellaria media*				0.1	5 cm				
Stirlingia latifolia	1	140 cm		3	140 cm		3	150 cm	
Stylidium neurophyllum	0.1	20 cm	ANK92-24						
Stylidium repens	0.1	10 cm		0.1	10 cm		0.1	7 cm	
Styphelia conostephioides	0.5	30 cm	ANK92-01	2.5	30 cm	ANK92-01=			
Synaphea spinulosa subsp. *spinulosa*	0.1	25 cm	ANK92-04	0.1	10 cm	ANK92-04=	0.1	25 cm	
Thelymitra graminea	0.1	30 cm	ANK92-20						
Thysanotus manglesianus	0.1	30 cm					0.1	25 cm	
Trachymene pilosa	0.1	10 cm	ANK92-03	0.1	10 cm		0.1	5 cm	
**Ursinia anthemoides* subsp.	0.1	20 cm		0.1	10 cm		0.1	20 cm	
**Wahlenbergia capensis*	0.1	15 cm					0.1	5 cm	
Xanthosia huegelii	0.1	10 cm	ANK92-09				0.1	10 cm	

ANK92	Phase 1	Phase 2	Phase 3
Understorey			
Overstorey			

Site ANK93

Ph 1: Described by	NPABS	Date	13/10/2020	Type	Quadrat	10 x 10 m		
Ph 2: Described by	ABS	Date	25/11/2020	Type	Quadrat	10 x 10 m		
Ph 3: Described by	ABSTH	Date	12/09/2022	Type	Quadrat	10 x 10 m		
MGA Zone	50	386484	mE	6435758	mN	115.795508 E	-32.209033 S	

Habitat Undulating plain.

Soil 10YR 3/2 very dark greyish brown. Sand.

Rock Type Nil.

Vegetation Ph 1: *Eucalyptus marginata* subsp. *marginata* (*Banksia attenuata*) low open forest over *Acacia cyclops* scattered tall shrubs over *Xanthorrhoea preissii*, *Macrozamia riedlei* open grass trees over *Hibbertia hypericoides* subsp. *hypericoides* scattered low shrubs over *Ehr*harta calycina* (**E. longiflora*, **Bromus diandrus*, **Cenchrus setaceus*) tussock grassland over *Banksia dallanneyi* subsp. *dallanneyi* var. *dallanneyi* (*Desmocladus asper*) very open herbland over **Carpobrotus edulis* (**Oxalis pes-caprae*) open herbland.

Ph 2: *Eucalyptus marginata* subsp. *marginata* (*Banksia attenuata*) low open forest over *Acacia cyclops* scattered tall shrubs over X*anthorrhoea preissii*, *Macrozamia riedlei* open grass trees over *Hibbertia hypericoides* subsp. *hypericoides* scattered low shrubs over **Ehrharta calycina* (**E. longiflora*, **Bromus diandrus*, **Cenchrus setaceus*) tussock grassland over *Banksia dallanneyi* subsp. *dallanneyi* var. *dallanneyi* (*Desmocladus asper*) very open herbland over **Carpobrotus edulis* open herbland.

Ph 3: *Eucalyptus marginata subsp. marginata* (*Banksia attenuata*) low woodland over *Acacia cyclops*, *Xanthorrhoea preissii* (*Macrozamia riedlei*) shrubland over *Banksia dallanneyi subsp. dallanneyi var. dallanneyi* (*Hibbertia hypericoides subsp. hypericoides*) low open shrubland.

Veg Condition Ph 1: Very Good to Good. Ph 2: Very Good to Good. Ph 3: Very Good to Good.

Fire Age No sign of recent fire.

Species	Phase 1			Phase 2			Phase 3		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
Acacia cyclops	2.5	200 cm		2.5	200 cm		7	200 cm	
**Arctotheca calendula*	0.1	20 cm					0.1	2 cm	
**Asparagus asparagoides*	1	30 cm		1	30 cm		2	170 cm	
**Avena barbata*	0.1	35 cm		0.1	35 cm				
Banksia attenuata	6	400 cm		6	400 cm		5	480 cm	
Banksia dallanneyi subsp. *dallanneyi*	4	20 cm	ANK93-01	4	20 cm	ANK93-01=	3	20 cm	
**Briza maxima*	0.5	20 cm		0.5	20 cm		0.1	30 cm	
**Briza minor*	0.1	15 cm		0.1	15 cm				
**Bromus diandrus*	1	50 cm		1	50 cm				
Burchardia congesta	0.1	40 cm		0.1	40 cm		0.1	40 cm	
**Carpobrotus edulis*	12	25 cm		12	25 cm		11	20 cm	
**Cenchrus setaceus*	1	80 cm		2	80 cm		4	70 cm	
**Cerastium glomeratum*	0.1	15 cm	ANK15-07=	0.1	15 cm	ANK15-07=	0.1	15 cm	
Chamaescilla corymbosa var.	0.1	5 cm		0.1	5 cm		0.1	20 cm	
Crassula colorata var. *acuminata*	0.1	10 cm	ANK93-02	0.1	10 cm	ANK93-02=	0.1	10 cm	
**Crassula glomerata*	0.1	5 cm	ANK17-07=	0.1	5 cm	ANK17-07=	0.1	3 cm	
Desmocladus asper	0.25	25 cm	ANK93-05	0.25	25 cm	ANK93-05=	0.1	20 cm	

Species	Phase 1			Phase 2			Phase 3		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
Dianella revoluta var. *revoluta*				0.1	45 cm				
**Ehrharta calycina*	35	110 cm		35	110 cm		35	80 cm	
**Ehrharta longiflora*	1	80 cm		1	80 cm		6	20 cm	
**Erodium botrys*	0.1	10 cm					0.1	2 cm	
Eucalyptus marginata subsp.	21	600 cm		21	600 cm		25	650 cm	
**Euphorbia peplus*	0.1	20 cm		0.1	20 cm		0.1	15 cm	
**Euphorbia terracina*	0.1	20 cm		0.1	20 cm		0.1	15 cm	
Fumaria capreolata							0.1	30 cm	
**Galium murale*	0.1	5 cm		0.1	5 cm		0.1	2 cm	
**Gladiolus caryophyllaceus*	0.5	110 cm		0.5	110 cm		0.1	40 cm	
Hardenbergia comptoniana	0.1	30 cm		0.1	30 cm		0.1	500 cm	
Hibbertia hypericoides subsp.	1	50 cm		1	50 cm		1.5	80 cm	
**Hypochaeris glabra*	0.1	20 cm					0.1	2 cm	
**Lagurus ovatus*	0.1	20 cm		0.1	20 cm		0.1	20 cm	
**Lysimachia arvensis*	0.1	10 cm					0.1	15 cm	
Macrozamia riedlei	2	120 cm		2	120 cm		2	160 cm	
Mesomelaena pseudostygia	0.1	50 cm		0.1	50 cm		0.1	35 cm	
Microtis media subsp. *media*	0.1	25 cm		0.1	25 cm	ANK93R-01			
**Oxalis pes-caprae*	2	25 cm					0.1	30 cm	
**Petrorhagia dubia*	0.1	25 cm		0.1	25 cm		0.1	5 cm	
**Polycarpon tetraphyllum*	0.1	5 cm	ANK93-03						
**Sonchus oleraceus*	0.1	15 cm		0.1	15 cm		0.1	5 cm	
Sowerbaea laxiflora	0.1	35 cm					0.1	45 cm	
**Trifolium arvense* var. *arvense*	0.1	15 cm	ANK93-04	0.1	15 cm	ANK93-04=			
**Trifolium campestre* var. *campestre*	0.1	5 cm		0.1	5 cm		0.1	20 cm	
Vulpia bromoides							0.1	5 cm	ANK75B-01=
Xanthorrhoea preissii	5	100 cm		5	100 cm		5	110 cm	

ANK93	Phase 1	Phase 2	Phase 3
Understorey			
Overstorey			

Site ANK94

Ph 1: Described by	ALJT	Date	13/10/2020	Type	Quadrat	10 x 10 m		
Ph 2: Described by	ABS	Date	25/11/2020	Type	Quadrat	10 x 10 m		
Ph 3: Described by	ALPLdK	Date	14/09/2022	Type	Quadrat	10 x 10 m		
MGA Zone	50	386709	mE	6435757	mN	115.797884 E	-32.209071 S	

Habitat Moderately steep, south facing road embankment.

Soil 5YR; 90% 3/4 dark reddish brown, 10% 3/3 dark reddish brown. Sand.

Rock Type Subsurface limestone.

Vegetation Ph 1: *Melaleuca lanceolata* low open forest over **Ehrharta longiflora, *Bromus diandrus* (**Euphorbia peplus*) open tussock grassland/herbland over **Asparagus asparagoides* scattered climbing herb over scattered herbland/grassland.

Ph 2: *Melaleuca lanceolata* low open forest over **Ehrharta longiflora, *E. calycina, *Bromus diandrus* (**Lagurus ovatus, *Euphorbia peplus*) open tussock grassland/herbland over *Clematis linearifolia,**Asparagus asparagoides* scattered climbing herb over scattered herbland/grassland.

Ph 3: Melaleuca lanceolata low open forest.

Veg Condition Ph 1: Good. Ph 2: Good to Degraded. Ph 3: Poor.

Fire Age No sign of recent fire.

Notes Revegetated site, tree guards at base of *M. Lanceolata*.

Species	Phase 1			Phase 2			Phase 3		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
Acacia sp.				0.1	1 cm				
**Asparagus asparagoides*	0.5	120 cm		0.5	120 cm		1	190 cm	
**Bromus diandrus*	4	35 cm		4	35 cm		3	30 cm	
Bromus madritensis							0.1	15 cm	ANK94-04
**Carpobrotus edulis*	0.1	15 cm		0.1	15 cm				
**Cenchrus setaceus*				0.1	25 cm	ANK94R-03	0.1	40 cm	
**Cerastium glomeratum*				0.1	20 cm				
Clematis linearifolia	0.1	100 cm		0.5	100 cm		0.1	90 cm	
**Crassula glomerata*	0.1	3 cm		0.1	3 cm		0.1	8 cm	
**Ehrharta calycina*	0.1	110 cm		3	110 cm		2	80 cm	
**Ehrharta longiflora*	12	35 cm		12	35 cm		14	40 cm	
**Euphorbia peplus*	1	20 cm		1	20 cm		4	25 cm	
**Euphorbia terracina*	0.1	10 cm							
Fumaria capreolata subsp. *capreolata*							0.1	25 cm	
**Galium murale*	0.1	5 cm	ANK10-02=	0.1	5 cm	ANK10-02=	0.1	8 cm	
Hakea lissocarpha	0.1	50 cm	ANK94-03	0.1	50 cm	ANK94-03=	0.1	120 cm	
Lachnagrostis sp.				0.1	5 cm	ANK94R-01			
**Lagurus ovatus*	0.1	35 cm		0.5	35 cm		0.1	25 cm	
**Lolium rigidum*	0.1	35 cm		0.1	35 cm				
**Lysimachia arvensis*	0.1	10 cm		0.1	10 cm		0.1	8 cm	

Species	Phase 1			Phase 2			Phase 3		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
Melaleuca lanceolata	55	650 cm		55	650 cm		55	650 cm	
Minuartia mediterranea							0.1	10 cm	ANK94-01
**Pelargonium capitatum*	0.1	20 cm		0.1	20 cm				
**Polycarpon tetraphyllum*	0.1	2 cm		0.1	2 cm				
**Romulea rosea* var. *australis*				0.1	25 cm				
**Rostraria cristata*	0.1	15 cm	ANK94-02						
**Sagina apetala*	0.1	5 cm	ANK94-01	0.1	5 cm	ANK94R-02			
**Sonchus oleraceus*				0.1	5 cm		0.1	15 cm	
**Trifolium arvense* var. *arvense*	0.1	15 cm							
**Trifolium campestre* var. *campestre*							0.1		ANK94-03
Vulpia sp.							0.1	8 cm	ANK94-02
Zantedeschia aethiopica							0.1	10 cm	

ANK94	Phase 1	Phase 2	Phase 3
Understorey			
Overstorey			

Site ANK95

Ph 1: Described by	NPAL	Date	14/10/2020	Type	Quadrat	10 x 10 m	
Ph 2: Described by	SW	Date	23/11/2020	Type	Quadrat	10 x 10 m	
MGA Zone	50	387330	mE	6435506	mN	115.804451 E	-32.211397 S

Habitat Gently sloping northeast facing plain.

Soil 10YR 2/2 very dark brown. Loamy sand.

Rock Type Subsurface limestone.

Vegetation Ph 1: **Ehrharta calycina* (**Bromus diandrus, *Lolium rigidum, *Cenchrus setaceus, *Avena barbata*) tussock grassland over **Euphorbia terracina, *Lupinus cosentinii, *Foeniculum vulgare* open herbland over scattered herbs and grasses.

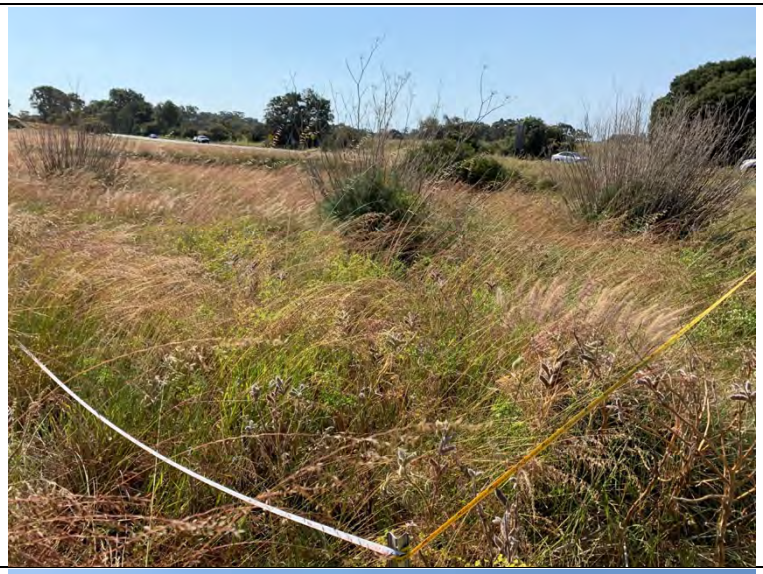
Ph 2: **Ehrharta calycina* (**Bromus diandrus, *Cenchrus setaceus, *Avena barbata*) closed tussock grassland over **Euphorbia terracina, *Lupinus cosentinii, *Foeniculum vulgare* open herbland over scattered herbs and grasses.

Veg Condition Ph 1: Degraded. Ph 2: Completely Degraded.

Fire Age Very long unburnt.

Notes Two large empty ponds/ditches adjacent to site.

Species	Phase 1			Phase 2		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
**Avena barbata*	1	130 cm		1	130 cm	
**Bromus diandrus*	5	60 cm		6	60 cm	
**Bromus hordeaceus*	0.1	90 cm		0.1	90 cm	
**Cenchrus setaceus*	2	100 cm		3	100 cm	
**Ehrharta calycina*	60	120 cm		60	120 cm	
**Euphorbia terracina*	10	80 cm		4	80 cm	
**Foeniculum vulgare*	2	100 cm		3	130 cm	
**Lagurus ovatus*	0.1	30 cm		0.1	30 cm	
**Lolium rigidum*	3	60 cm		0.1	40 cm	
**Lupinus angustifolius*	5	90 cm		4	90 cm	
**Senecio vulgaris*	0.1	50 cm				
**Sonchus oleraceus*	0.1	60 cm		0.1	30 cm	

ANK95	Phase 1	Phase 2
Understorey		
Overstorey		N/A

Site ANK96

Ph 1: Described by	CEFMK	Date	14/10/2020	Type	Quadrat	10 x 10 m		
Ph 2: Described by	SW	Date	16/11/2020	Type	Quadrat	10 x 10 m		
Ph 3: Described by	ABSJT	Date	05/09/2022	Type	Quadrat	10 x 10 m		
MGA Zone	50	397901	mE	6435963	mN	115.916653 E	-32.208279 S	

Habitat Roadside remnant in depressed area.

Soil 2.5Y 4/1 dark grey. Sand; high humic matter.

Rock Type Nil.

Vegetation Ph 1: *Banksia menziesii* low open forest over *Kunzea glabrescens* tall open scrub over **Ehrharta calycina, *E. longiflora* very open tussock grassland over *Phlebocarya ciliata, Dasypogon bromeliifolius* low open shrubland over scattered herbland/grassland.

Ph 2: *Banksia menziesii* low open forest over *Kunzea glabrescens* tall open scrub over **Ehrharta calycina, *E. longiflora* very open tussock grassland over *Phlebocarya ciliata, Dasypogon bromeliifolius* low open shrubland over scattered herbland/grassland.

Ph 3: *Banksia menziesii* low woodland over *Kunzea glabrescens* tall open scrub over *Dasypogon bromeliifolius* low open shrubland over *Phlebocarya ciliate* very open herbland.

Veg Condition Ph 1: Good. Ph 2: Good. Ph 3: Good.

Fire Age No sign of recent fire.

Notes Dead, partially fallen *Banksia* in quad, other dead *Banksias* around also (?dieback). Lots of leaf litter. *Banksia attenuata* outside quadrat.

Species	Phase 1			Phase 2			Phase 3		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
**Acacia longifolia*	0.1	5 cm							
**Avena barbata*	0.1	30 cm	ANK96-10	0.1	25 cm				
Banksia menziesii	35	450 cm		31	650 cm		27	600 cm	
**Briza maxima*	0.1	15 cm		0.1	15 cm		0.1	20 cm	
**Bromus diandrus*	0.1	40 cm		0.1	45 cm				
Burchardia congesta	0.1	40 cm		0.1	40 cm		0.1	40 cm	
Caladenia flava subsp. *flava*							0.1	20 cm	
Caladenia latifolia							0.1	40 cm	
Caladenia sp.	0.1	8 cm							
Conostylis aculeata subsp. *preissii*	0.1	25 cm	ANK96-04	0.1	50 cm	ANK96-04=	0.1	20 cm	
**Conyza bonariensis*				0.1	30 cm				
Corynotheca micrantha var.	0.1	20 cm	ANK96-05	0.1	45 cm	ANK96R-01	0.1	25 cm	
Dasypogon bromeliifolius	3	30 cm		3	40 cm		4	45 cm	
Desmocladus flexuosus	0.1	25 cm	ANK96-03	0.1	20 cm	ANK96-03=	0.1	8 cm	
Drosera erythrorhiza							0.1	2 cm	
**Ehrharta calycina*	1	130 cm		1	110 cm		1	30 cm	
**Ehrharta longiflora*	3	50 cm		3	60 cm		4	35 cm	
**Euphorbia peplus*	0.1	10 cm		0.1	8 cm		0.1	15 cm	
Galium murale							0.1	3 cm	

Species	Phase 1			Phase 2			Phase 3		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
Geranium molle							0.1	5 cm	
Gompholobium tomentosum	0.1	25 cm		0.1	25 cm		0.1	30 cm	
Hovea trisperma var. *trisperma*	0.1	25 cm	ANK96-02	0.1	20 cm	ANK96-02=	0.1	35 cm	
**Hypochaeris glabra*	0.1	2 cm		0.1	5 cm		0.5	3 cm	
Hypolaena exsulca	0.1	30 cm	ANK96-07				0.1	30 cm	
Isolepis marginata	0.1	10 cm	ANK52-17=						
Kennedia prostrata				0.1	10 cm				
Kunzea glabrescens	40	500 cm	ANK96-01	40	650 cm	ANK96-01=	40	600 cm	
Laxmannia squarrosa				0.1	10 cm				
Leontodon rhagadioloides							0.1	20 cm	ANK96-03
**Lolium rigidum*	0.1	35 cm	ANK96-09						
Lomandra caespitosa	0.1	30 cm	ANK96-12				0.1	25 cm	
Lomandra preissii							0.1	45 cm	ANK96-02
Lomandra preissii							0.1	50 cm	ANK96-04
**Petrorhagia dubia*	0.1	15 cm		0.1	10 cm		0.1	5 cm	ANK96-05
Phlebocarya ciliata	4	35 cm		4	35 cm		4	25 cm	
Pterostylis ectypha							0.1	18 cm	ANK96-01
Pterostylis sp.	0.1	10 cm							
**Solanum nigrum*	0.1	5 cm		0.1	5 cm				
**Sonchus asper*				0.1	45 cm				
**Sonchus oleraceus*	0.1	25 cm		0.5	60 cm		0.1	5 cm	
**Stellaria media*	0.1	10 cm							
Trachymene pilosa	0.1	10 cm	ANK96-06	0.1	5 cm	ANK96-06=	0.1	5 cm	
Tricoryne elatior				0.1	45 cm		0.1	30 cm	
**Trifolium campestre* var. *campestre*	0.1	25 cm		0.1	10 cm		0.1	25 cm	
**Ursinia anthemoides* subsp.	0.1	25 cm		0.1	15 cm		0.1	5 cm	
**Wahlenbergia capensis*	0.1	15 cm					0.1	5 cm	ANK96-07
**Zantedeschia aethiopica*	0.1	5 cm					0.1	15 cm	

ANK96	Phase 1	Phase 2	Phase 3
Understorey			
Overstorey			

Site ANK98

Ph 1: Described by	SWABS	Date	16/10/2020	Type	Relevé	10 x 10 m		
Ph 2: Described by	Not resampled.							
MGA Zone	50	391564	mE	6435785	mN	115.849401 E	-32.209293 S	

Habitat Man made drainage sump next to freeway.

Soil 10YR 2/1 black. Sand

Rock Type Nil.

Vegetation *Eucalyptus rudis, Corymbia calophylla* woodland over **Callistemon citrinus* tall shrubland over *Calothamnus rupestris, Calothamnus quadrifidus* subsp. *quadrifidus* shrubland over **Avena barbata, *Bromus diandrus, *Eragrostis curvula* (**Ehrharta calycina, *E. longiflora*) tussock grassland over **Lupinus cosentinii, *Cynodon dactylon, *Trifolium campestre, *Lotus subbiflorus* scattered herbs and grasses.

Veg Condition Good.

Fire Age Very long unburnt.

Species	Phase 1		
	Cover (%)	Height (cm)	Specimen
Acacia cochlearis	0.1	220 cm	ANK98-13
Acacia lasiocarpa var. *lasiocarpa*	0.1	80 cm	ANK98-14
Acacia saligna	0.5	120 cm	ANK98-08
**Avena barbata*	5	85 cm	
**Bromus diandrus*	5	40 cm	
**Callistemon citrinus*	15	210 cm	ANK98-03
Calothamnus quadrifidus subsp. *angustifolius*	4	160 cm	ANK98-01
Calothamnus rupestris	5	170 cm	ANK98-02
Corymbia calophylla	6	600 cm	ANK98-05
**Cynodon dactylon*	1	15 cm	
**Ehrharta calycina*	1	100 cm	
**Ehrharta longiflora*	1	30 cm	
**Eragrostis curvula*	4	80 cm	
Eucalyptus rudis subsp. *rudis*	8	900 cm	
**Euphorbia peplus*	0.1	20 cm	
**Euphorbia terracina*	0.1	50 cm	
**Geranium molle*	0.1	20 cm	ANK98-07
**Gladiolus caryophyllaceus*	0.1	60 cm	ANK98-10
Hakea prostrata	0.1	60 cm	
Kunzea glabrescens	0.1	250 cm	
**Lagurus ovatus*	0.1	25 cm	
**Leontodon rhagadioloides*	0.1	20 cm	ANK98-09
**Lotus subbiflorus*	1	15 cm	
**Lupinus angustifolius*	0.1	35 cm	
**Lupinus cosentinii*	2	35 cm	

Species	Phase 1		
	Cover (%)	Height (cm)	Specimen
**Oenothera stricta* subsp. *stricta*	0.1	50 cm	ANK98-04
Rhagodia baccata subsp. *baccata*	0.1	40 cm	ANK98-06
Senecio condylus	0.1	20 cm	REL98-13
**Sonchus oleraceus*	0.1	20 cm	
**Trifolium arvense* var. *arvense*	0.1	15 cm	ANK98-12
**Trifolium campestre* var. *campestre*	1	25 cm	
**Vicia sativa*	0.1	20 cm	
**Wahlenbergia capensis*	0.1	40 cm	

ANK98	Phase 1
Understorey	
Overstorey	

Site ANK99

Ph 1: Described by	NPAL	Date	15/10/2020	Type	Quadrat	10 x 10 m		
Ph 2: Described by	RMJT	Date	23/11/2020	Type	Quadrat	10 x 10 m		
Ph 3: Described by	ALPLdK	Date	12/09/2022	Type	Quadrat	10 x 10 m		
MGA Zone	50	385770	mE	6435916	mN	115.787946 E	-32.207536 S	

Habitat: Coastal swale.

Soil: 10YR; 95% 2/2 very dark brown, 5% 8/2 very pale brown. Sand.

Rock Type: Subsurface limestone.

Vegetation: Ph 1: *Eucalyptus gomphocephala* open forest over *Acacia rostellifera* (**Schinus terebinthifolius*) scattered tall shrubs over *Xanthorrhoea preissii* open grasstrees over *Rhagodia baccata* scattered low shrubs over **Ehrharta longiflora* low tussock grassland over **Asparagus asparagoides, *Euphorbia peplus* very open herbland over scattered herbland/grassland.

Ph 2: *Eucalyptus gomphocephala* open forest over *Acacia rostellifera* scattered tall shrubs over *Xanthorrhoea preissii* open grasstrees over **Schinus terebinthifolia* (*Acacia saligna, Spyridium globulosum*) Tall open shrubland over *Rhagodia baccata, *Ehrharta longiflora* low open shrubland/tussock grassland over **Asparagus asparagoides* climbing herb.

Ph 3: *Eucalyptus gomphocephala* closed forest over *Acacia rostellifera* (*Spyridium globulosum*) tall open shrubland over *Xanthorrhoea preissii* open shrubland over Rhagodia baccata subsp. baccata low open shrubland over *Caladenia latifolia* scattered herbs.

Veg Condition: Ph 1: Good. Ph 2: Good. Ph 3: Poor.

Fire Age: No sign of recent fire.

Notes: Some tree guards scattered around site. Sterile *Caladenia flava* likely in site.

Species	Phase 1			Phase 2			Phase 3		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
Acacia rostellifera	1	350 cm	ANK99-01	1	350 cm	ANK99R-1a	3	420 cm	
Acacia saligna	0.1	200 cm		0.5	200 cm		0.1	130 cm	
**Asparagus asparagoides*	4	100 cm		4	100 cm		17	190 cm	
Austrostipa mollis	0.1	80 cm	ANK99-04						
**Avena barbata*	0.1	70 cm		0.1	70 cm				
Briza maxima							0.1	25 cm	
**Bromus diandrus*	0.1	60 cm		0.1	60 cm		0.1	25 cm	
Caladenia flava subsp. *flava*	0.1	30 cm							
Caladenia latifolia							0.5	70 cm	
**Carpobrotus edulis*	0.1	15 cm		0.1	15 cm		0.5	30 cm	
***Centaurea melitensis*	0.1	25 cm	ANK99-05						
Clematis linearifolia	0.1	60 cm		0.1	60 cm		0.1	190 cm	
**Conyza bonariensis*	0.1	150 cm		0.1	150 cm				
**Erharta calycina*							0.1	90 cm	
**Ehrharta longiflora*	10	60 cm		3	60 cm		13	40 cm	
Erigeron sumatrensis				0.1	60 cm	ANK99R-2			
Eucalyptus gomphocephala	40	1200 cm		65	1300 cm		78	2300 cm	
**Euphorbia peplus*	2	15 cm		0.1	15 cm		0.1	25 cm	

Species	Phase 1			Phase 2			Phase 3		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
**Euphorbia terracina*	0.1	80 cm		0.1	80 cm		0.1	60 cm	
Fumaria capreolata subsp. *capreolata*							0.1	40 cm	
Hardenbergia comptoniana	0.1	70 cm		0.1	70 cm		0.1	80 cm	
**Lactuca serriola* forma *serriola*	0.1	20 cm							
Lepidosperma calcicola	0.1	60 cm	ANK99-03	0.1	55 cm	ANK99R-1b	0.1	70 cm	
**Lysimachia arvensis*	0.1	15 cm		0.1	15 cm		0.1	15 cm	
Macrozamia riedlei	0.1	60 cm		0.1	60 cm		0.1	80 cm	
Microtis media subsp. *media*	0.1	15 cm		0.1	15 cm				
**Moraea flaccida*	0.1	120 cm	ANK99-02				0.1	100 cm	
Rhagodia baccata subsp. *baccata*	1	70 cm		4	70 cm		3.5	80 cm	
**Schinus terebinthifolia*	1	170 cm		2.5	170 cm		19	400 cm	
**Solanum nigrum*	0.1	70 cm		0.1	70 cm		0.1	70 cm	
**Sonchus asper*				0.1	20 cm	ANK02R-01=			
**Sonchus oleraceus*	0.1	65 cm		0.1	65 cm		0.1	30 cm	
Spyridium globulosum	0.1	100 cm		0.5	160 cm		1	250 cm	
Thysanotus sp.				0.1	45 cm				
**Urospermum picroides*	0.1	35 cm		0.1	60 cm				
Xanthorrhoea preissii							6.5	190 cm	

ANK99	Phase 1	Phase 2	Phase 3
Understorey			
Overstorey			

Site ANK100

Ph 1: Described by	NPAL	Date	15/10/2020	Type	Quadrat	10 x 10 m		
Ph 2: Described by	RMJT	Date	24/11/2020	Type	Quadrat	10 x 10 m		
Ph 3: Described by	ALPLdK	Date	12/09/2022	Type	Quadrat	10 x 10 m		
MGA Zone	50	385859	mE	6435862	mN	115.788881 E	-32.208030 S	

Habitat Coastal swale.

Soil 10YR; 80% 2/2 very dark brown, 20% 8/2 very pale brown. Sand.

Rock Type Subsurface limestone.

Vegetation Ph 1: *Banksia menziesii* woodland over *Eucalyptus marginata* subsp. *marginata* low open woodland over *Xanthorrhoea preissii* open grass trees over *Macrozamia riedlei* scattered cycads over *Hibbertia hypericoides* subsp. *hypericoides, Acacia pulchella* var. *glaberrima* low open shrubland over **Ehrharta calycina, *E. longiflora* very open grassland over **Urospermum picroides, *Ixia maculata* scattered herbs.

Ph 2: Banksia *attenuata, B. menziesii* low open forest over *Eucalyptus marginata* subsp. *marginata* low open woodland over *Xanthorrhoea preissii, X. brunonis* subsp. *brunonis* open grass trees over *Macrozamia riedlei* scattered cycads over *Hibbertia hypericoides* subsp. *hypericoides, Acacia pulchella* var. *glaberrima* scattered low shrubs over **Ehrharta calycina* scattered grass.

Ph 3: *Banksia menziesii* woodland over *Eucalyptus marginata subsp. marginata* low woodland over *Xanthorrhoea preissii* tall shrubland over *Acacia pulchella var. glaberrima* scattered shrubs over *Xanthorrhoea brunonis subsp. brunonis*, *Hibbertia hypericoides subsp. Hypericoides* scattered low shrubs over **Ehrharta calycina* scattered grass.

Veg Condition Ph 1: Very Good. Ph 2: Very Good. Ph 3: Very Good.

Fire Age No sign of recent fire.

Species	Phase 1			Phase 2			Phase 3		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
Acacia pulchella var. *glaberrima*	1	170 cm	ANK100-03	1.5	170 cm	ANK100-03=	2	160 cm	
**Arctotheca calendula*	0.1	10 cm					0.1	8 cm	ANK100-01
**Asparagus asparagoides*	0.1	160 cm		0.1	160 cm		0.1	100 cm	
**Avena barbata*	0.1	70 cm		0.1	70 cm				
Banksia attenuata	0.1	15 cm		25	950 cm				
Banksia menziesii	20	550 cm		11	450 cm		25	1100 cm	
**Briza maxima*	0.1	40 cm		0.1	40 cm		0.5	30 cm	
**Briza minor*	0.1	15 cm		0.1	15 cm		0.1	15 cm	
Burchardia congesta	0.1	60 cm		0.1	60 cm		0.1	50 cm	
Caesia micrantha							0.1	10 cm	NC
Caesia sp.				0.1	90 cm	ANK100R-2	0.1	30 cm	NC
Caladenia flava subsp. *flava*	0.1	10 cm							
Campanulaceae sp.	0.1	5 cm	ANK100-14						
**Carpobrotus edulis*	0.1	15 cm		0.1	15 cm				
Centrolepis drummondiana							0.1	6 cm	ANK100-02
**Cerastium glomeratum*	0.1	15 cm	ANK100-09				0.1	8 cm	ANK100-03
Chamaescilla corymbosa var.	0.1	10 cm					0.1	25 cm	
Conostylis aculeata subsp. *preissii*	0.1	20 cm	ANK100-04	0.1	20 cm	ANK100-04=	0.1	30 cm	

Species	Phase 1			Phase 2			Phase 3		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
**Conyza bonariensis*	0.1	10 cm							
Cotula australis							0.1	5 cm	ANK100-08
Crassula colorata var. *acuminata*							0.1	5 cm	ANK100-06
**Crassula glomerata*	0.1	4 cm					0.1	5 cm	
Dianella revoluta var. *revoluta*	0.1	20 cm		0.1	20 cm		0.1	60 cm	
Drosera porrecta	0.1	25 cm	ANK08-07=				0.1	20 cm	
**Ehrharta calycina*	2	100 cm		2	100 cm		2	100 cm	
**Ehrharta longiflora*	1	35 cm		0.1	35 cm		0.5	30 cm	
Eucalyptus marginata subsp.	7	650 cm		11	800 cm		13	900 cm	
**Euphorbia peplus*	0.1	15 cm		0.1	15 cm		5	25 cm	
**Euphorbia terracina*	0.1	20 cm		0.1	20 cm				
**Fumaria capreolata*				0.1	5 cm				
**Galium divaricatum*	0.1	10 cm					0.5	8 cm	
**Geranium molle*	0.1	15 cm	ANK100-12						
**Gladiolus caryophyllaceus*	0.1	100 cm		0.1	100 cm		0.1	15 cm	
Hardenbergia comptoniana	0.1	120 cm		0.1	120 cm		0.1	200 cm	
Hibbertia hypericoides subsp.	2	70 cm	ANK100-08	2	70 cm	ANK100-08=	3	80 cm	
Homalosciadium homalocarpum	0.1	5 cm	ANK100-05				0.1		ANK100-07
**Hypochaeris glabra*	0.1	5 cm		0.1	5 cm		0.1	20 cm	
Iridaceae sp.	0.1	65 cm	ANK100-15						
Isolepis marginata	0.1	4 cm	ANK10-05=				0.1	6 cm	
Isotoma sp.				0.1	5 cm	ANK100R-3			
**Ixia maculata*	1	50 cm	ANK100-01						
Lepidosperma calcicola	0.1	30 cm	ANK100-10	0.1	25 cm	ANK99R-1b=	0.5	40 cm	
Lobelia tenuior				0.1	10 cm				
Lomandra caespitosa	0.1	35 cm	ANK100-13	0.1	30 cm	ANK100R-1			
Lomandra suaveolens	0.1	25 cm	ANK100-07				0.1	25 cm	ANK100-10
**Lysimachia arvensis*	0.1	15 cm		0.1	15 cm		0.1	10 cm	
Macrozamia riedlei	1	150 cm		4	170 cm		3	100 cm	
**Pelargonium capitatum*	0.1	35 cm		0.1	35 cm		0.1	40 cm	
Pentameris airoides subsp. *airoides*							0.1		ANK100-05
**Petrorhagia dubia*	0.1	35 cm		0.1	35 cm		0.1	15 cm	
**Polycarpon tetraphyllum*				0.1	2 cm	ANK100R-5			
**Raphanus raphanistrum*	0.1	40 cm	ANK100-02						
Rhagodia baccata subsp. *baccata*	0.1	60 cm		0.1	60 cm		0.1	80 cm	
**Sonchus oleraceus*	0.1	30 cm		0.1	30 cm		0.1	15 cm	
Sowerbaea laxiflora	0.1	35 cm					0.1	40 cm	
Stellaria pallida							0.1	10 cm	ANK100-04
Thysanotus manglesianus							0.1	60 cm	ANK100-12

Species	Phase 1			Phase 2			Phase 3		
	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen	Cover (%)	Height (cm)	Specimen
Thysanotus sp.	0.1	40 cm	ANK100-06						
**Trifolium campestre* var. *campestre*	0.1	20 cm		0.1	20 cm		0.1	8 cm	ANK74-03=
Triglochin sp.							0.1	15 cm	ANK100-09
**Urospermum picroides*	2	50 cm		0.1	50 cm		0.1	50 cm	
Vulpia myuros var. *myuros*							0.1	15 cm	ANK100-11
**Wahlenbergia capensis*	0.1	20 cm		0.1	20 cm		0.1	15 cm	
Xanthorrhoea brunonis subsp. *brunonis*				4	100 cm		4	100 cm	
Xanthorrhoea preissii	17	300 cm		22	300 cm		21	350 cm	

ANK100	Phase 1	Phase 2	Phase 3
Understorey			
Overstorey			

WLMA Site WLM07

Described by CEFPLDK Date 5/09/2023 Type Q 10x10m

MGA Zone 50 385307 mE 6436060 mN 115.783055 E -32.206191 S

Habitat Plian

Soil 10 yr 3/2 very dark greyish brown Loamy sand

Rock Type Limestone

Vegetation *Santalum acuminatum, Acacia rostellifera, Melaleuca huegelii* subsp. *huegelii* tall open scrub over *Spyridium globulosum* shrubland over **Ehrharta longiflora* open bunch grassland over **Oxalis pes-caprae, *Euphorbia peplus, Phyllanthus calycinus, *Asparagus asparagoides* herbland.

Veg Condition Good

Fire Age No sign of recent fire.

SPECIES LIST:

Name	Cover	C Class	Height	Specimen
Acacia rostellifera	10	5-10%	350	
Asparagus asparagoides	1	<1 %	120	
Bromus diandrus	0.1	<1 %	15	
Dianella revoluta var. revoluta	0.1	<1 %	55	WLM07-02
Ehrharta longiflora	30	25-33.3%	10	
Erigeron sp.	0.1	<1 %	10	
Euphorbia peplus	2	1-5%	10	
Euphorbia terracina	0.1	<1 %	25	
Fumaria capreolata	0.1	<1 %	10	
Lagurus ovatus	0.1	<1 %	10	
Lepidosperma calcicola	0.1	<1 %	35	WLM07-04
Leucopogon parviflorus	0.1	<1 %	35	WLM07-03
Lysiandra calycina	2	1-5%	25	
Melaleuca huegelii subsp. huegelii	10	5-10%	230	
Melaleuca systena	0.1	<1 %	70	WLM07-01
Oxalis pes-caprae	40	33.3-50%	10	
Rhamnus alaternus	0.1	<1 %	10	
Santalum acuminatum	15	10-25%	230	
Sonchus oleraceus	0.1	<1 %	25	
Spyridium globulosum	20	10-25%	170	

WLMA Site WLM07R

Described by CEFABS Date 9/11/2023 Type Q 10x10m

MGA Zone 50 385307 mE 6436060 mN 115.783055 E -32.206191 S

Habitat Plain

Soil 10 YR 3/2 very dark greyish brown loamy sand

Rock Type Limestone

Vegetation *Acacia rostellifera, Melaleuca huegelii* subsp. *huegelii, Santalum acuminatum* tall open scrub over *Spyridium globulosum* shrubland over **Asparagus asparagoides, *Euphorbia peplus, Phyllanthus calycinus* very open herbland.

Veg Condition Good

Fire Age No sign of recent fire.

SPECIES LIST:

Name	Cover	C Class	Height	Specimen
Acacia rostellifera	10	5-10%	350	
Asparagus asparagoides	1	<1 %	120	
Avena barbata	0.1	<1 %	35	
Bromus diandrus	0.1	<1 %	15	
Dianella revoluta var. revoluta	0.1	<1 %	55	WLM07-02
Ehrharta longiflora	0.1	<1 %	10	
Euphorbia peplus	0.5	<1 %	10	
Euphorbia terracina	0.1	<1 %	25	
Hordeum leporinum	5	5-10%	25	WLM09R-01=
Lagurus ovatus	0.1	<1 %	10	
Lepidosperma calcicola	0.1	<1 %	35	WLM07-04
Leucopogon parviflorus	0.1	<1 %	35	WLM07-03
Lysiandra calycina	2	1-5%	25	
Melaleuca huegelii subsp. huegelii	10	5-10%	230	
Melaleuca systena	0.1	<1 %	70	WLM07-01
Oxalis corniculata	0.1	<1 %	5	
Oxalis pes-caprae	0.1	<1 %	10	
Reichardia tingitana	0.1	<1 %	30	
Rhamnus alaternus	0.1	<1 %	10	
Romulea rosea	0.1	<1 %	10	
Santalum acuminatum	15	10-25%	230	
Sonchus oleraceus	0.1	<1 %	25	
Spyridium globulosum	20	10-25%	170	

WLMA Site WLM09

Described by CEFPLDK Date 6/09/2023 Type Q 10x10m

MGA Zone 50 385332 mE 6435932 mN 115.783299 E -32.207351 S

Habitat rocky limestone ridge (slight slope to the west)

Soil 10 yr 3/6 dark yellowish brown Loamy sand

Rock Type Limestone;

Vegetation *Acacia truncata, Eremophila glabra* subsp. *albicans, Melaleuca huegelii* subsp. *huegelii, Xanthorrhoea brunonis* subsp. *brunonis* shrubland over *Grevillea preissii, Hibbertia aurea, Melaleuca systena, Acacia lasiocarpa* var. *lasiocarpa, Hakea trifurcata* low open heath over **Lagurus ovatus* very open bunch grassland over *Lepidosperma calcicola* very open sedgeland over **Oxalis corniculata, Lomandra maritima, *Asparagus asparagoides, Cassytha flava, Hardenbergia comptoniana* very open herbland.

Veg Condition Excellent

Fire Age No sign of recent fire.

SPECIES LIST:

Name	Cover	C Class	Height	Specimen
Acacia cyclops	0.1	<1 %	100	WLM09-24
Acacia lasiocarpa var. lasiocarpa	5	5-10%	40	WLM09-13
Acacia rostellifera	0.1	<1 %	75	
Acacia truncata	8	<1 %	110	WLM09-07
Asparagus asparagoides	1	<1 %	25	;
Banksia dallanneyi subsp. dallanneyi var. dallanneyi	0.5	<1 %	25	WLM09-28
Brassica tournefortii	0.1	<1 %	10	WLM09-27
Briza maxima	0.1	<1 %	5	WLM09-10
Bromus diandrus	0.1	<1 %	25	
Caladenia latifolia	0.1	<1 %	15	WLM09-29
Caladenia latifolia	0.1	<1 %		
Cassytha flava	1	<1 %	25	WLM09-15
Cenchrus setaceus	0.1	<1 %	60	
Centranthus macrosiphon	0.1	<1 %	10	WLM09-11
Cerastium glomeratum	0.1	<1 %	5	WLM09-25
Clematis linearifolia	0.1	<1 %	40	
Daucus glochidiatus	0.1	<1 %	5	WLM09-20
Desmocladus asper	0.5	<1 %	10	WLM09-05
Dianella revoluta var. revoluta	0.1	<1 %	65	WLM07-02=
Drosera pallida	0.1	<1 %		
Ehrharta calycina	0.1	<1 %	70	
Ehrharta longiflora	0.1	<1 %	15	WLM15-01=
Eremophila glabra subsp. albicans	1	<1 %	150	WLM09-21
Euphorbia peplus	0.1	<1 %	5	
Euphorbia terracina	0.1	<1 %	25	
Galium murale	0.1	<1 %	2	
Grevillea preissii	15	10-25%	30	WLM09-02
Hakea trifurcata	4	1-5%	100	WLM09-18
Hardenbergia comptoniana	1	<1 %	25	
Hibbertia leptotheca	9	<1 %	35	WLM09-09
Hypochaeris glabra	0.1	<1 %	2	
Lagurus ovatus	3	1-5%	10	
Leontodon sp.	0.1	<1 %	10	WLM09-28
Lepidosperma calcicola	10	5-10%	40	WLM09-03
Leucopogon parviflorus	1	<1 %	40	WLM09-12
Lomandra maritima	2	1-5%	25	WLM09-16
Lysiandra calycina	0.1	<1 %	40	
Lysimachia arvensis	0.1	<1 %	15	WLM09-26
Lysimachia arvensis	0.1	<1 %	10	
Melaleuca huegelii subsp. huegelii	1	<1 %	120	
Melaleuca systena	8	<1 %	50	WLM09-01
Moraea flaccida	0.1	<1 %		
Olea europaea	0.1	<1 %	10	;
Oxalis corniculata	3	1-5%	10	WLM09-04
Petrorhagia dubia	0.1	<1 %	2	
Philotheca spicata	0.1	<1 %	25	WLM09-22
Romulea rosea	0.1	<1 %	10	
Scaevola thesioides subsp. thesioides	0.1	<1 %	50	WLM09-08
Sonchus oleraceus	0.1	<1 %	1	
Spyridium globulosum	2	1-5%	100	
Thysanotus patersonii	0.1	<1 %	20	WLM09-29

Trachyandra divaricata	0.1	<1 %	20	
Tricoryne elatior	0.1	<1 %	70	WLM09-17
Trifolium campestre var. campestre	0.1	<1 %	5	WLM09-08
Trymalium ledifolium var. ledifolium	0.1	<1 %	110	WLM09-19
Xanthorrhoea brunonis subsp. brunonis	0.5	<1 %	110	WLM09-14

WLMA Site WLM09R

Described by CEFABS Date 9/11/2023 Type Q 10x10m

MGA Zone 50 385332 mE 6435932 mN 115.783299 E -32.207351 S

Habitat Rocky limestone ridge

Soil 10 YR 3/6 dark yellowish brown loamy sand

Rock Type Limestone

Vegetation Acacia truncata, Eremophila glabra subsp. albicans, Hakea trifurcata, Melaleuca huegelii subsp. huegelii, Spyridium globulosum shrubland over Acacia lasiocarpa var. lasiocarpa, Grevillea preissii, Hibbertia aurea, Leucopogon parviflorus, Melaleuca systena low open heath over *Lagurus ovatus scattered bunch grasses over Lepidosperma calcicola very open sedgeland over Cassytha flava, Hardenbergia comptoniana, Lomandra maritima very open herbland.

Veg Condition Excellent

Fire Age No sign of recent fire.

SPECIES LIST:

Name	Cover	C Class	Height	Specimen
Acacia cyclops	0.1	<1 %	90	WLM09-24
Acacia lasiocarpa var. lasiocarpa	3	1-5%	40	WLM09-13
Acacia rostellifera	0.1	<1 %	75	
Acacia truncata	5	5-10%	110	WLM09-07
Asparagus asparagoides	0.1	<1 %	25	
Austrostipa flavescens	0.1	<1 %	90	WLM19R-02
Avena barbata	0.1	<1 %	40	
Banksia dallanneyi subsp. dallanneyi var. dallanneyi	0.1	<1 %	25	WLM09-28
Briza maxima	0.1	<1 %	5	
Briza minor	0.1	<1 %	15	
Bromus diandrus	0.1	<1 %	25	
Cassytha flava	4	1-5%	25	WLM09-15
Cenchrus setaceus	0.1	<1 %	60	
Cerastium glomeratum	0.1	<1 %	5	WLM09-25
Clematis linearifolia	0.1	<1 %	40	
Desmocladus asper	0.1	<1 %	10	WLM09-05
Dianella revoluta var. revoluta	0.1	<1 %	65	WLM07-02=
Ehrharta calycina	0.1	<1 %	70	
Eremophila glabra subsp. albicans	1	<1 %	150	WLM09-21
Euphorbia peplus	0.1	<1 %	5	
Euphorbia terracina	0.1	<1 %	25	
Galium murale	0.1	<1 %	2	
Grevillea preissii	15	10-25%	30	WLM09-02
Hakea trifurcata	4	1-5%	110	WLM09-18
Hardenbergia comptoniana	1	<1 %	25	
Hibbertia leptotheca	9	<1 %	35	WLM09-09
Hordeum leporinum	0.1	<1 %	20	WLMR09-01
Lagurus ovatus	1	<1 %	10	
Leontodon sp.	0.1	<1 %	10	WLM09-28
Lepidosperma calcicola	7	5-10%	40	
Leucopogon parviflorus	1	<1 %	40	WLM09-12
Lomandra maritima	2	1-5%	25	WLM09-16
Lysiandra calycina	0.1	<1 %	40	
Lysimachia arvensis	0.1	<1 %	10	
Melaleuca huegelii subsp. huegelii	1	<1 %	120	
Melaleuca systena	8	<1 %	50	WLM09-01
Olea europaea	0.1	<1 %	30	
Oxalis corniculata	0.1	<1 %	10	WLM09-04
Petrorhagia dubia	0.1	<1 %	2	
Philotheca spicata	0.1	<1 %	25	WLM09-22
Pterostylis sp.	0.1	<1 %	20	
Romulea rosea	0.1	<1 %	10	
Scaevola thesioides subsp. thesioides	0.1	<1 %	50	WLM09-08
Sonchus oleraceus	0.1	<1 %	1	
Spyridium globulosum	2	1-5%	170	
Thysanotus patersonii	0.1	<1 %	20	WLM09-29
Tricoryne elatior	0.1	<1 %	70	WLM09-17
Trifolium campestre var. campestre	0.1	<1 %	5	WLM09-08
Trymalium ledifolium var. ledifolium	0.1	<1 %	110	WLM09-19
Xanthorrhoea brunonis subsp. brunonis	0.1	<1 %	110	WLM09-14

WLMA Site WLM13

Described by ABSTH Date 6/09/2023 Type Q 10x10m

MGA Zone 50 385092 mE 6435870 mN 115.780753 E -32.207879 S

Habitat Flat plain

Soil 5yr 4/6 yellowish red Loamy sand

Rock Type Nil.

Vegetation *Gaudium laevigatum tall open scrub over Acacia cyclops open shrubland over *Cenchrus setaceus scattered tussock grasses.

Veg Condition Good to Degraded

Fire Age Very long unburnt.

SPECIES LIST:

Name	Cover	C Class	Height	Specimen
Acacia cyclops	3	1-5%	180	WLM13-01
Acacia saligna	0.1	<1 %	160	
Caladenia latifolia	0.1	<1 %	5	
Cenchrus setaceus	1	<1 %	50	
Crassula glomerata	0.1	<1 %	3	WLM05-05=
Ehrharta longiflora	0.1	<1 %	25	
Euphorbia peplus	0.1	<1 %	5	
Gaudium laevigatum	48	<1 %	420	
Hypochaeris radicata	0.1	<1 %	2	
Lagurus ovatus	0.1	<1 %	20	
Lolium sp.	0.1	<1 %	35	WLM05-06=
Lysimachia arvensis	0.1	<1 %	15	
Medicago polymorpha	0.1	<1 %	5	
Pelargonium capitatum	0.1	<1 %	5	
Rostraria cristata	0.1	<1 %	5	WLM13-02
Sonchus oleraceus	0.1	<1 %	3	
Urospermum picroides	0.1	<1 %	20	

WLMA Site WLM13R

Described by ABSTH Date 9/11/2023 Type Q 10x10m

MGA Zone 50 385092 mE 6435870 mN 115.780753 E -32.207879 S

Habitat Flat plain

Soil 5YR 4/6 yellowish red loamy sand

Rock Type Nil

Vegetation *Gaudium laevigatum tall open scrub over Acacia cyclops, Acacia saligna open shrubland over *Cenchrus setaceus scattered tussock grasses.

Veg Condition Good to Degraded

Fire Age Very long unburnt.

SPECIES LIST:

Name	Cover	C Class	Height	Specimen
Acacia cyclops	3	1-5%	180	WLM13-01
Acacia saligna	0.5	<1 %	160	
Asparagus asparagoides	0.1	<1 %	5	
Avena barbata	0.1	<1 %	40	
Bromus diandrus	0.1	<1 %	20	
Cenchrus setaceus	1	<1 %	50	
Crassula glomerata	0.1	<1 %	3	WLM05-05=
Euphorbia peplus	0.1	<1 %	5	
Galium murale	0.1	<1 %	2	
Gaudium laevigatum	38	<1 %	420	
Hypochaeris radicata	0.1	<1 %	2	
Lagurus ovatus	0.1	<1 %	20	
Leontodon rhagadioloides	0.1	<1 %	20	
Lolium sp.	0.1	<1 %	35	WLM05-06=
Lysimachia arvensis	0.1	<1 %	15	
Pelargonium capitatum	0.1	<1 %	5	
Romulea rosea	0.1	<1 %	25	
Rostraria cristata	0.1	<1 %	5	WLM13-02
Schinus terebinthifolia	0.1	<1 %	3	
Sonchus oleraceus	0.1	<1 %	3	
Spyridium globulosum	0.1	<1 %	20	
Urospermum picroides	0.1	<1 %	20	

WLMA Site WLM14

Described by CEFPLDK Date 7/09/2023 Type Q 10x10m

MGA Zone 50 385340 mE 6435839 mN 115.783375 E -32.208189 S

Habitat Limestone ridge.

Soil 10 yr 3/6 dark yellowish brown Loamy sand

Rock Type Limestone;

Vegetation Melaleuca huegelii subsp. huegelii, Acacia cyclops tall open shrubland over Banksia sessilis var. cygnorum, Santalum acuminatum, Spyridium globulosum, Templetonia retusa open shrubland over Melaleuca systena, Grevillea preissii, Xanthorrhoea preissii, Xanthorrhoea brunonis subsp. brunonis, Acacia rostellifera low shrubland over *Cenchrus setaceus, *Hypochaeris glabra scattered tussock grasses over *Bromus diandrus, *Lagurus ovatus, *Lolium sp. very open bunch grassland over Lepidosperma calcicola scattered sedges over *Asparagus asparagoides, Hardenbergia comptoniana, Opercularia vaginata very open herbland.

Veg Condition Very Good

Fire Age Very long unburnt.

SPECIES LIST:

Name	Cover	C Class	Height	Specimen
Acacia cyclops	2	1-5%	210	
Acacia lasiocarpa var. lasiocarpa	0.5	<1 %	100	WLM09-13=
Acacia rostellifera	1	<1 %	90	
Acacia truncata	0.1	<1 %	90	WLM09-07=
Acanthocarpus preissii	0.1	<1 %	25	WLM14-06
Asparagus asparagoides	1	<1 %	50	
Avena barbata	0.1	<1 %	70	WLM14-03
Banksia dallanneyi subsp. dallanneyi var. dallanneyi	0.1	<1 %	25	WLM14-08
Banksia sessilis var. cygnorum	3	1-5%	190	WLM14-01
Brassica tournefortii	0.1	<1 %	40	WLM14-10
Bromus diandrus	2	1-5%	30	
Caladenia latifolia	0.1	<1 %		WLM09-30=
Caladenia latifolia	0.1	<1 %	30	WLM09-29
Cenchrus setaceus	1	<1 %	60	
Centaurea melitensis	0.1	<1 %	50	WLM14-11
Cerastium glomeratum	0.1	<1 %	10	WLM09-25=
Clematis linearifolia	0.1	<1 %	15	
Desmocladus asper	0.1	<1 %	30	WLM09-05=
Dianella revoluta var. revoluta	0.1	<1 %	50	WLM07-02=
Drosera pallida	0.1	<1 %	30	WLM09-06
Ehrharta calycina	0.1	<1 %	50	
Eremophila glabra subsp. albicans	0.1	<1 %	50	WLM09-21=
Erigeron sp.	0.1	<1 %	30	
Euphorbia peplus	0.1	<1 %	10	
Euphorbia terracina	0.1	<1 %	25	
Fumaria capreolata	0.1	<1 %	40	WLM08-08=
Galium murale	0.1	<1 %	5	
Grevillea preissii	6	<1 %		WLM09-02=
Hardenbergia comptoniana	1	<1 %	70	
Hibbertia leptotheca	0.1	<1 %	40	WLM09-09=
Hypochaeris glabra	1	<1 %	3	
Lagurus ovatus	2	1-5%	15	
Leontodon sp.	0.1	<1 %	10	WLM09-28=
Lepidosperma calcicola	1	<1 %	25	WLM09-03=
Leucopogon parviflorus	0.1	<1 %		WLM09-12=
Lolium sp.	1	<1 %	25	
Lomandra maritima	0.1	<1 %	30	WLM09-16=
Lysiandra calycina	0.1	<1 %	50	
Lysimachia arvensis	0.1	<1 %	10	
Melaleuca huegelii subsp. huegelii	8	<1 %	250	
Melaleuca systena	7	5-10%	80	
Opercularia vaginata	1	<1 %	50	WLM14-02
Oxalis corniculata	0.1	<1 %	10	WLM09-04=
Pelargonium capitatum	0.1	<1 %	10	
Pseudognaphalium luteoalbum	0.1	<1 %	10	WLM14-07
Romulea rosea	0.1	<1 %	30	
Santalum acuminatum	2	1-5%	110	
Schinus terebinthifolia	0.1	<1 %	20	
Sonchus oleraceus	0.1	<1 %	25	WLM14-04

Sonchus oleraceus	0.1	<1 %	25	
Spyridium globulosum	1	<1 %	140	
Templetonia retusa	0.5	<1 %	130	
Thysanotus patersonii	0.1	<1 %	30	WLM09-29=
Tricoryne elatior	0.1	<1 %		WLM09-17=
Tricoryne elatior	0.1	<1 %	30	WLM14-09
Trifolium campestre var. campestre	0.1	<1 %		WLM09-08=
Xanthorrhoea brunonis subsp. brunonis	2	1-5%	100	WLM09-14=
Xanthorrhoea preissii	3	1-5%	90	WLM14-05

WLMA Site WLM14R

Described by CEFTH Date 15/11/2023 Type Q 10x10m

MGA Zone 50 385340 mE 6435839 mN 115.783375 E -32.208189 S

Habitat Limestone ridge.

Soil 10YR 3/6 dark yellowish brown loamy sand

Rock Type Limestone

Vegetation Acacia cyclops, Melaleuca huegelii subsp. huegelii tall open shrubland over Banksia sessilis var. cygnorum, Santalum acuminatum, Spyridium globulosum, Templetonia retusa open shrubland over
Acacia rostellifera, Grevillea preissii, Melaleuca systena, Xanthorrhoea brunonis subsp. brunonis, Xanthorrhoea preissii low shrubland over *Cenchrus setaceus scattered tussock grasses
over *Avena barbata, *Ehrharta calycina, *Lagurus ovatus scattered bunch grasses over Lepidosperma calcicola scattered sedges over *Asparagus asparagoides, Hardenbergia comptoniana, Opercularia vaginata, Tricoryne elatior very open herbland.

Veg Condition Very Good

Fire Age Very long unburnt.

SPECIES LIST:

Name	Cover	C Class	Height	Specimen
Acacia cyclops	2	1-5%	210	
Acacia lasiocarpa var. lasiocarpa	0.1	<1 %	100	WLM09-13=
Acacia rostellifera	1	<1 %	90	
Acacia truncata	0.1	<1 %	90	WLM09-07=
Acanthocarpus preissii	0.1	<1 %	25	WLM14-06=
Asparagus asparagoides	1	<1 %	50	
Austrostipa flavescens	0.1	<1 %	120	WLM14R-01
Avena barbata	0.5	<1 %	70	WLM14-03=
Banksia dallanneyi subsp. dallanneyi var. dallanneyi	0.1	<1 %	25	WLM14-08=
Banksia sessilis var. cygnorum	3	1-5%	190	WLM14-01=
Briza maxima	0.1	<1 %	20	
Bromus diandrus	0.1	<1 %	30	
Cenchrus setaceus	1	<1 %	60	
Clematis linearifolia	0.1	<1 %	15	
Desmocladus asper	0.1	<1 %		WLM14R-04
Dianella revoluta var. revoluta	0.1	<1 %	50	WLM07-02=
Ehrharta calycina	0.5	<1 %	50	
Eragrostis curvula	0.1	<1 %	110	WLM14R-05
Eremophila glabra subsp. albicans	0.1	<1 %	50	WLM09-21=
Erigeron sp.	0.1	<1 %	30	
Euphorbia peplus	0.1	<1 %	10	
Euphorbia terracina	0.1	<1 %	25	
Grevillea preissii	6	<1 %		WLM09-02=
Hardenbergia comptoniana	1	<1 %	70	
Hibbertia leptotheca	0.1	<1 %	40	WLM09-09=
Lagurus ovatus	0.5	<1 %	15	
Leontodon rhagadioloides	0.1	<1 %	25	WLM14R-03
Lepidosperma calcicola	2	1-5%	25	WLM09-03=
Leucopogon parviflorus	0.1	<1 %	25	WLM09-12=
Lomandra maritima	0.1	<1 %	30	WLM09-16=
Lysiandra calycina	0.1	<1 %	50	
Lysimachia arvensis	0.1	<1 %	10	
Melaleuca huegelii subsp. huegelii	8	<1 %	250	
Melaleuca systena	8	<1 %	80	
Opercularia vaginata	1	<1 %	50	WLM14-02=
Oxalis corniculata	0.1	<1 %	10	WLM09-04=
Pelargonium capitatum	0.1	<1 %	10	
Petrorhagia dubia	0.1	<1 %	15	
Romulea rosea	0.1	<1 %	30	
Santalum acuminatum	2	1-5%	110	
Sonchus oleraceus	0.1	<1 %	25	
Spyridium globulosum	1	<1 %	140	
Templetonia retusa	0.5	<1 %	130	
Thysanotus patersonii	0.1	<1 %	30	WLM09-29=
Tricoryne elatior	0.1	<1 %	30	WLM14-09
Tricoryne elatior	1	<1 %		WLM09-17=
Trifolium campestre var. campestre	0.1	<1 %	10	WLM09-08=
Urospermum picroides	0.1	<1 %		WLM40R-02

Xanthorrhoea brunonis subsp. brunonis	2	1-5%	100	WLM09-14=
Xanthorrhoea preissii	3	1-5%	90	WLM14-05=

WLMA Site WLM16

Described by ABSTH Date 5/09/2023 Type Q 10x10m

MGA Zone 50 385089 mE 6435772 mN 115.780706 E -32.208767 S

Habitat Flat plain very disturbed

Soil 10yr 6/2 light browny grey loamy sand

Rock Type Nil.

Vegetation *Gaudium laevigatum, Acacia saligna tall open scrub over *Cenchrus setaceus scattered tussock grasses.

Veg Condition Degraded to Completely Degraded.

Fire Age Very long unburnt.

SPECIES LIST:

Name	Cover	C Class	Height	Specimen
Acacia saligna	0.5	<1 %	280	
Asparagus asparagoides	0.1	<1 %	15	
Caladenia latifolia	0.1	<1 %	35	
Cenchrus setaceus	1	<1 %	35	
Euphorbia peplus	0.1	<1 %	10	
Euphorbia terracina	0.1	<1 %	20	
Galium murale	0.1	<1 %	2	WLM06=
Gaudium laevigatum	61	<1 %	510	
Hypochaeris glabra	0.1	<1 %	10	
Lagurus ovatus	0.1	<1 %	20	
Lysimachia arvensis	0.1	<1 %	10	
Medicago polymorpha	0.1	<1 %	15	
Minuartia mediterranea	0.1	<1 %	2	WLM16-01
Pelargonium capitatum	0.1	<1 %	35	
Rhamnus alaternus	0.1	<1 %	15	WLM16-02
Sixalix atropurpurea	0.1	<1 %	15	WLM10-02=
Sonchus oleraceus	0.1	<1 %	5	
Urospermum picroides	0.1	<1 %	5	

WLMA Site WLM16R

Described by CEFABS Date 9/11/2023 Type Q 10x10m

MGA Zone 50 385089 mE 6435772 mN 115.780706 E -32.208767 S

Habitat Flat plain very disturbed

Soil 10YR 6/2 light brown grey loamy sand

Rock Type Nil

Vegetation Acacia saligna, *Gaudium laevigatum tall open scrub over Spyridium globulosum scattered shrubs over *Cenchrus setaceus scattered tussock grasses over *Lagurus ovatus scattered bunch grasses.

Veg Condition Degraded to Completely Degraded

Fire Age Very long unburnt.

SPECIES LIST:

Name	Cover	C Class	Height	Specimen
Acacia saligna	0.5	<1 %	280	
Asparagus asparagoides	0.1	<1 %	15	
Avena barbata	0.1	<1 %	80	
Bromus diandrus	0.1	<1 %	15	
Cenchrus setaceus	1	<1 %	35	
Crassula glomerata	0.1	<1 %	5	
Euphorbia peplus	0.1	<1 %	10	
Euphorbia terracina	0.1	<1 %	20	
Galium murale	0.1	<1 %	2	WLM06=
Gaudium laevigatum	61	<1 %	510	
Hypochaeris glabra	0.1	<1 %	10	
Lagurus ovatus	0.5	<1 %	20	
Leontodon rhagadioloides	0.1	<1 %	20	
Lysimachia arvensis	0.1	<1 %	10	
Pelargonium capitatum	0.1	<1 %	35	
Petrorhagia dubia	0.1	<1 %	30	
Rhamnus alaternus	0.1	<1 %	15	WLM16-02
Romulea rosea	0.1	<1 %	15	
Sonchus oleraceus	0.1	<1 %	5	
Spyridium globulosum	0.5	<1 %	150	

WLMA Site WLM18

Described by ABSTH Date 7/09/2023 Type Q 10x10m

MGA Zone 50 385232 mE 6435808 mN 115.782225 E -32.208458 S

Habitat Previously cleared area

Soil 10YR 3/2 Very dark greyish brown Loamy sand

Rock Type Nil

Vegetation *Schinus terebinthifolia tall open shrubland over Xanthorrhoea preissii, Spyridium globulosum open shrubland over Acacia saligna, Adriana quadripartita, Xanthorrhoea brunonis subsp. brunonis low open shrubland over *Hyparrhenia hirta tussock grassland over *Eragrostis curvula, *Lolium sp., *Avena barbata very open bunch grassland over Sixalix atropurpurea, *Lysimachia arvensis very open herbland.

Veg Condition Degraded

Fire Age Very long unburnt.

SPECIES LIST:

Name	Cover	C Class	Height	Specimen
Acacia saligna	6	<1 %	30	
Adriana quadripartita	1.5	1-5%	80	WLM18-01
Asparagus asparagoides	0.1	<1 %		
Avena barbata	0.5	<1 %	90	
Brachypodium distachyon	0.1	<1 %	25	WLM18-02
Crassula glomerata	0.1	<1 %	2	WLM05-05
Eragrostis curvula	1	<1 %	100	
Euphorbia peplus	0.1	<1 %	10	
Euphorbia terracina	0.1	<1 %	40	
Fumaria capreolata	0.1	<1 %	30	
Galium murale	0.1	<1 %	2	
Hyparrhenia hirta	31	<1 %	110	WLM30-02=
Hypochaeris glabra	0.1	<1 %	2	
Hypochaeris radicata	0.1	<1 %	2	
Lagurus ovatus	0.1	<1 %	10	WLM18-04
Lolium sp.	1	<1 %	25	WLM05-06=
Lysimachia arvensis	1	<1 %	10	
Medicago polymorpha	0.1	<1 %	10	
Schinus terebinthifolia	5	5-10%	210	
Sixalix atropurpurea	2	1-5%	20	WLM19-01=
Sonchus oleraceus	0.1	<1 %	10	
Spyridium globulosum	1	<1 %	190	
Verbascum virgatum	0.1	<1 %	15	WLM30-03=
Xanthorrhoea brunonis subsp. brunonis	1	<1 %	60	
Xanthorrhoea preissii	4	1-5%	110	

WLMA Site WLM30

Described by ABSTH Date 7/09/2023 Type Q 10x10m

MGA Zone 50 385236 mE 6435739 mN 115.782261 E -32.209075 S

Habitat Previously cleared area with history of earthworks; plain

Soil 10YR 3/2 Very dark greyish brown Loamy sand

Rock Type Nil

Vegetation Acacia saligna, Xanthorrhoea preissii tall shrubland over *Hyparrhenia hirta open tussock grassland over *Eragrostis curvula, *Lagurus ovatus open bunch grassland over *Oxalis pes-caprae, Sixalix atropurpurea open herbland.

Veg Condition Degraded

Fire Age Very long unburnt.

SPECIES LIST:

Name	Cover	C Class	Height	Specimen
Acacia saligna	7	5-10%	220	
Asparagus asparagoides	0.1	<1 %	80	
Avena barbata	0.1	<1 %	60	
Eragrostis curvula	11	<1 %	110	
Euphorbia peplus	0.1	<1 %	10	
Euphorbia terracina	0.1	<1 %	45	
Fumaria capreolata	0.1	<1 %	25	
Galium murale	0.1	<1 %	2	
Hyparrhenia hirta	13	<1 %	100	WLM30-02
Hypochaeris glabra	0.1	<1 %	2	
Hypochaeris radicata	0.1	<1 %	2	
Lagurus ovatus	8	<1 %	30	
Lagurus ovatus	0.1	<1 %	20	
Lysimachia arvensis	0.1	<1 %	10	
Medicago polymorpha	0.1	<1 %	15	
Oxalis pes-caprae	5	5-10%	30	
Schinus terebinthifolia	0.1	<1 %	20	
Sixalix atropurpurea	0.1	<1 %	40	WLM30-01
Sixalix atropurpurea	6	<1 %	40	WLM19-01=
Sonchus asper	0.1	<1 %	80	
Sonchus oleraceus	0.1	<1 %	30	
Urospermum picroides	0.1	<1 %	10	
Verbascum virgatum	0.1	<1 %	220	
Verbascum virgatum	0.1	<1 %	15	WLM30-03
Xanthorrhoea brunonis subsp. brunonis	0.1	<1 %	110	
Xanthorrhoea preissii	4	1-5%	250	

WLMA Site WLM38

Described by CEFPLDK Date 7/09/2023 Type Q 10x10m

MGA Zone 50 385411 mE 6435805 mN 115.784129 E -32.208503 S

Habitat Sloping sandy plain.

Soil 7YR 3/4 dark brown. Loamy sand

Rock Type Limestone;

Vegetation Melaleuca lanceolata tall shrubland over Acacia pulchella var. glaberrima, Xanthorrhoea preissii open shrubland over Banksia sessilis var. sessilis, Hibbertia aurea low open shrubland over *Cenchrus setaceus very open tussock grassland over *Avena barbata, *Ehrharta longiflora, *Lagurus ovatus, *Vulpia myuros forma myuros very open bunch grassland over Lepidosperma calcicola scattered sedges over Desmocladus asper, *Oxalis pes-caprae, Phyllanthus calycinus, *Trifolium campestre var. campestre very open herbland.

Veg Condition Good

Fire Age Very long unburnt.

SPECIES LIST:

Name	Cover	C Class	Height	Specimen
Acacia pulchella var. glaberrima	1.5	1-5%	110	WLM38-02
Acacia truncata	0.1	<1 %	25	WLM09-07=
Avena barbata	3	1-5%	40	
Banksia sessilis var. sessilis	2.5	1-5%	60	WLM38-14
Brassica tournefortii	0.1	<1 %	10	WLM09-27=
Briza maxima	0.1	<1 %	25	
Briza minor	0.1	<1 %	10	
Bromus diandrus	0.1	<1 %	25	
Caladenia latifolia	0.1	<1 %		
Cenchrus setaceus	3	1-5%	50	
Cerastium glomeratum	0.1	<1 %	10	WLM09-25=
Conostylis aculeata subsp. aculeata	0.1	<1 %	30	WLM38-01
Crassula colorata var. acuminata	0.1	<1 %	5	WLM38-04
Crassula glomerata	0.1	<1 %	8	WLM38-06
Crassula glomerata	0.1	<1 %	5	
Desmocladus asper	0.5	<1 %	25	WLM09-05=
Dianella revoluta var. revoluta	0.1	<1 %	40	
Ehrharta calycina	0.1	<1 %	90	
Ehrharta longiflora	1	<1 %	50	
Ehrharta longiflora	0.1	<1 %	50	
Euphorbia peplus	0.1	<1 %	25	
Fumaria capreolata	0.1	<1 %	40	
Galium murale	0.1	<1 %	5	
Grevillea preissii	0.1	<1 %	15	WLM09=
Hardenbergia comptoniana	0.1	<1 %	50	
Hibbertia aurea	0.5	<1 %		
Hypochaeris glabra	0.1	<1 %	10	
Lagurus ovatus	1	<1 %	25	
Lepidosperma calcicola	1	<1 %	30	WLM09-03=
Lomandra maritima	0.1	<1 %	40	WLM38-08
Lysiandra calycina	0.5	<1 %	80	
Lysimachia arvensis	0.1	<1 %	10	
Melaleuca lanceolata	13	<1 %	800	
Melaleuca systena	0.1	<1 %	50	
Mesomelaena pseudostygia	0.1	<1 %	50	WLM38-03
Microtis media	0.1	<1 %	25	
Oxalis pes-caprae	3	1-5%	10	
Petrorhagia dubia	0.1	<1 %	15	
Rostraria cristata	0.1	<1 %	10	WLM38-05
Sonchus oleraceus	0.1	<1 %	10	
Spyridium globulosum	0.1	<1 %	30	
Trifolium campestre var. campestre	2	1-5%	10	WLM38-09
Vulpia myuros forma myuros	1	<1 %	10	WLM38-07
Xanthorrhoea preissii	5	5-10%	120	

WLMA Site WLM38R

Described by SWTH Date 9/11/2023 Type Q 10x10m

MGA Zone As previous

Habitat As previous.

Soil As previous.

Rock Type As previous.

Vegetation Banksia sessilis var. sessilis, Melaleuca lanceolata tall shrubland over Acacia pulchella var. glaberrima, Xanthorrhoea preissii open shrubland over Hibbertia aurea, Xanthorrhoea brunonis subsp. brunonis scattered low shrubs over *Cenchrus setaceus very open tussock grassland over *Avena barbata, *Briza maxima, *Ehrharta calycina, *Lagurus ovatus very open bunch grassland over Lepidosperma calcicola scattered sedges over Desmocladus asper, Phyllanthus calycinus scattered herbs.

Veg Condition Very Good

Fire Age No sign of recent fire.

SPECIES LIST:

Name	Cover	C Class	Height	Specimen
Acacia pulchella var. glaberrima	2	1-5%	120	
Acacia truncata	0.1	<1 %	80	
Avena barbata	1	<1 %	160	
Banksia sessilis var. sessilis	2.5	1-5%	310	
Briza maxima	0.5	<1 %	20	
Bromus diandrus	0.1	<1 %	30	
Cenchrus setaceus	3	1-5%	70	
Conostylis aculeata subsp. aculeata	0.1	<1 %		WLM38-01=
Desmocladus asper	0.5	<1 %		WLM09-05=
Ehrharta calycina	2	1-5%	150	
Ehrharta longiflora	0.1	<1 %	30	
Hardenbergia comptoniana	0.1	<1 %	20	
Hibbertia leptotheca	1	<1 %		WLM09-09=
Lagurus ovatus	2	1-5%	20	
Lepidosperma calcicola	1	<1 %	80	
Leucopogon parviflorus	0.1	<1 %	100	WLM38R-01
Lomandra maritima	0.1	<1 %		WLM38-08=
Lysiandra calycina	0.5	<1 %	20	
Melaleuca lanceolata	23	<1 %	520	
Melaleuca systena	0.1	<1 %	100	
Mesomelaena pseudostygia	0.1	<1 %	50	
Spyridium globulosum	0.1	<1 %	50	
Trifolium campestre var. campestre	0.1	<1 %	10	
Xanthorrhoea brunonis subsp. brunonis	0.5	<1 %	45	
Xanthorrhoea preissii	5	5-10%	150	

WLMA Site WLM40

Described by CEFPLDK Date 16/10/2023 Type Q 10x10m

MGA Zone 50 385373 mE 6435636 mN 115.783704 E -32.210026 S

Habitat low limestone ridge

Soil dark brown/ grey Loamy sand

Rock Type Limestone;

Vegetation Melaleuca huegelii subsp. huegelii tall open scrub over Santalum acuminatum scattered shrubs over Spyridium globulosum low shrubland over *Avena barbata, *Bromus diandrus bunch grassland over *Asparagus asparagoides scattered herbs.

Veg Condition Good

Fire Age No sign of recent fire.

SPECIES LIST:

Name	Cover	C Class	Height	Specimen
Asparagus asparagoides	1	<1 %	250	
Avena barbata	25	25-33.3%	75	
Bromus diandrus	13	<1 %	25	
Cenchrus setaceus	0.1	<1 %	25	
Clematis linearifolia	0.1	<1 %	230	
Dianella revoluta var. revoluta	0.1	<1 %	25	
Ehrharta longiflora	0.1	<1 %	25	
Euphorbia peplus	0.1	<1 %	15	
Euphorbia terracina	0.1	<1 %	35	
Fumaria capreolata	0.1	<1 %	25	
Galium murale	0.1	<1 %	5	
Hypochaeris glabra	0.1	<1 %	5	
Hypochaeris radicata	0.1	<1 %	5	
Lagurus ovatus	0.1	<1 %	20	
Lolium perenne x rigidum	13	<1 %	50	WLM40-01
Lysiandra calycina	0.1	<1 %	25	
Lysimachia arvensis	0.1	<1 %	10	
Melaleuca huegelii subsp. huegelii	40	33.3-50%	210	
Melaleuca systena	0.1	<1 %	45	
Petrorhagia dubia	0.1	<1 %	5	
Romulea rosea	0.1	<1 %	25	WLM40-03
Santalum acuminatum	1	<1 %	150	
Sonchus oleraceus	0.1	<1 %	25	WLM40-08
Spyridium globulosum	12	<1 %	75	
Templetonia retusa	6	<1 %	170	WLM40-06
Templetonia retusa	0.1	<1 %	25	
Trifolium campestre var. campestre	0.1	<1 %	5	WLM40-10

WLMA Site WLM40R

Described by CEFTH Date 15/11/2023 Type Q 10x10m

MGA Zone 50 385373 mE 6435636 mN 115.783704 E -32.210026 S

Habitat Low limestone ridge

Soil Dark brown/ grey loamy sand

Rock Type Limestone

Vegetation Melaleuca huegelii subsp. huegelii tall open scrub over Santalum acuminatum scattered shrubs over Spyridium globulosum, Templetonia retusa low shrubland over *Avena barbata, *Bromus diandrus, *Lagurus ovatus bunch grassland over *Asparagus asparagoides scattered herbs.

Veg Condition Good

Fire Age No sign of recent fire.

SPECIES LIST:

Name	Cover	C Class	Height	Specimen
Asparagus asparagoides	1	<1 %	250	
Avena barbata	20	10-25%	75	
Bromus diandrus	12	<1 %	25	
Cenchrus setaceus	0.1	<1 %	25	
Clematis linearifolia	0.1	<1 %	230	
Dianella revoluta var. revoluta	0.1	<1 %	25	
Ehrharta longiflora	0.1	<1 %	25	
Euphorbia peplus	0.1	<1 %	15	
Euphorbia terracina	0.1	<1 %	35	
Fumaria capreolata	0.1	<1 %	25	
Hypochaeris glabra	0.1	<1 %	5	
Hypochaeris radicata	0.1	<1 %	5	
Lagurus ovatus	2	1-5%	20	
Lolium perenne x rigidum	12	<1 %	50	WLM40-01=
Lysiandra calycina	0.1	<1 %	25	
Melaleuca huegelii subsp. huegelii	35	33.3-50%	210	
Melaleuca systena	0.1	<1 %	45	
Petrorhagia dubia	0.1	<1 %	5	
Romulea rosea	0.1	<1 %	25	WLM40-03=
Santalum acuminatum	0.5	<1 %	150	
Sonchus oleraceus	0.1	<1 %	25	WLM40-08=
Spyridium globulosum	15	10-25%	75	
Templetonia retusa	4	1-5%	25	
Trifolium campestre var. campestre	0.1	<1 %	5	WLM40-10=
Urospermum picroides	0.1	<1 %	15	WLM40R-02

WLMA Site WLM41

Described by CEFRH Date 16/10/2023 Type Q 10x10m

MGA Zone 50 385280 mE 6435981 mN 115.782754 E -32.206897 S

Habitat low limestone ridge

Soil brown/grey Loamy sand

Rock Type Limestone;

Vegetation Melaleuca huegelii subsp. huegelii tall open scrub over Acacia rostellifera shrubland over Templetonia retusa scattered low shrubs over *Avena barbata, *Avena barbata, *Bromus diandrus, *Ehrharta longiflora open bunch grassland over *Asparagus asparagoides, *Euphorbia terracina, Fumaria capreolata, *Sonchus oleraceus open herbland.

Veg Condition Good

Fire Age No sign of recent fire.

SPECIES LIST:

Name	Cover	C Class	Height	Specimen
Acacia rostellifera	15	10-25%	150	
Asparagus asparagoides	2	1-5%	110	
Avena barbata	5	5-10%	45	
Avena barbata	4	1-5%	25	
Bromus diandrus	1	<1 %	10	
Cenchrus setaceus	0.1	<1 %	45	
Ehrharta longiflora	2	1-5%	10	
Euphorbia peplus	0.1	<1 %	25	
Euphorbia terracina	4	1-5%	25	
Fumaria capreolata	8	<1 %	25	
Gomphocarpus fruticosus	0.1	<1 %	120	
Hardenbergia comptoniana	0.1	<1 %	200	
Lagurus ovatus	0.1	<1 %	25	
Lysiandra calycina	0.1	<1 %	45	
Melaleuca huegelii subsp. huegelii	35	33.3-50%	220	
Melaleuca systena	0.1	<1 %	90	
Oxalis pes-caprae	0.1	<1 %	30	
Pelargonium capitatum	0.1	<1 %	25	
Sonchus oleraceus	1	<1 %	10	
Templetonia retusa	15	10-25%	220	WLM40-06=
Templetonia retusa	1	<1 %	75	
Trifolium campestre var. campestre	0.1	<1 %	5	WLM40-10=

WLMA Site WLM42

Described by CEFRH Date 16/10/2023 Type Q 10x10m

MGA Zone 50 385453 mE 6435739 mN 115.784564 E -32.209097 S

Habitat west facing slope

Soil Loamy sand

Rock Type Limestone;

Vegetation Banksia attenuata low woodland over Xanthorrhoea preissii tall shrubland over Allocasuarina humilis, Spyridium globulosum shrubland over Hibbertia hypericoides subsp. hypericoides, Melaleuca systena low open shrubland over *Cenchrus setaceus scattered tussock grasses over *Avena barbata, *Briza maxima, *Ehrharta calycina, *Lagurus ovatus open bunch grassland over *Asparagus asparagoides scattered herbs.

Veg Condition Good

Fire Age Very long unburnt.

SPECIES LIST:

Name	Cover	C Class	Height	Specimen
Acacia saligna	0.1	<1 %	160	
Allocasuarina humilis	12	<1 %	200	
Asparagus asparagoides	1	<1 %	25	
Asphodelus fistulosus	0.1	<1 %	35	WLM42-06
Avena barbata	5	5-10%	80	
Banksia attenuata	20	10-25%	450	
Banksia dallanneyi subsp. dallanneyi var. dallanneyi	0.1	<1 %	25	
Briza maxima	0.5	<1 %	25	
Bromus diandrus	0.1	<1 %	15	
Burchardia congesta	0.1	<1 %	25	
Burchardia congesta	0.1	<1 %	35	
Cenchrus setaceus	2	1-5%	55	
Desmocladus fasciculatus	0.1	<1 %	25	WLM42-03
Dianella revoluta var. revoluta	0.1	<1 %	35	
Ehrharta calycina	15	10-25%	170	
Ehrharta longiflora	0.1	<1 %	15	
Euphorbia peplus	0.1	<1 %	5	
Euphorbia terracina	0.1	<1 %	15	
Fumaria capreolata	0.1	<1 %	25	
Gladiolus caryophyllaceus	0.1	<1 %	55	
Hibbertia hypericoides subsp. hypericoides	3	1-5%	25	WLM42-01
Lagurus ovatus	0.5	<1 %	25	
Lysimachia arvensis	0.1	<1 %	25	
Macrozamia riedlei	0.1	<1 %	150	
Melaleuca systena	4	1-5%	25	
Sonchus oleraceus	0.1	<1 %	10	
Spyridium globulosum	1	<1 %	170	
Trachyandra divaricata	0.1	<1 %	35	
Urospermum picroides	0.1	<1 %	35	
Vulpia bromoides	0.1	<1 %	25	WLM42-05
Xanthorrhoea brunonis subsp. brunonis	0.1	<1 %	25	
Xanthorrhoea preissii	12	<1 %	250	

WLMA Site WLM42R
Described by ABSTH Date 9/11/2023 Type Q 10x10m
MGA Zone As previous.
Habitat As previous.
Soil As previous.
Rock Type As previous.
Vegetation Banksia attenuata low woodland over Allocasuarina humilis, Melaleuca systena, Spyridium globulosum, Xanthorrhoea preissii shrubland over Hibbertia hypericoides subsp. hypericoides low open shrubland over *Cenchrus setaceus scattered tussock grasses over *Ehrharta calycina open bunch grassland.
Veg Condition Very Good
Fire Age No sign of recent fire.
SPECIES LIST:

Name	Cover	C Class	Height	Specimen
Acacia saligna	0.1	<1 %	180	
Allocasuarina humilis	11	<1 %	140	
Asparagus asparagoides	0.1	<1 %	30	
Asphodelus fistulosus	0.1	<1 %	25	
Avena barbata	0.1	<1 %	30	
Banksia attenuata	27	<1 %	480	
Banksia dallanneyi subsp. dallanneyi var. dallanneyi	0.1	<1 %	20	
Briza maxima	0.1	<1 %	20	
Bromus diandrus	0.1	<1 %	15	
Cenchrus setaceus	2	1-5%	60	
Desmocladus fasciculatus	0.1	<1 %	15	WLM42-03=
Dianella revoluta var. revoluta	0.1	<1 %	60	
Ehrharta calycina	16	<1 %	120	
Ehrharta longiflora	0.1	<1 %	20	
Gladiolus caryophyllaceus	0.1	<1 %	65	
Grevillea vestita	0.1	<1 %	35	WLM42R-01
Hibbertia hypericoides subsp. hypericoides	8	<1 %	42	WLM42-01=
Lagurus ovatus	0.1	<1 %	40	
Macrozamia riedlei	0.1	<1 %	130	
Melaleuca systena	4	1-5%	120	
Reichardia tingitana	0.1	<1 %	45	
Sonchus oleraceus	0.1	<1 %	15	
Spyridium globulosum	0.5	<1 %	170	
Trachyandra divaricata	0.1	<1 %	50	
Trifolium campestre var. campestre	0.1	<1 %	10	
Xanthorrhoea preissii	9	<1 %	150	

WLMA Site WLMR43
Described by CEFRH Date 16/10/2023 Type R 50x2m
MGA Zone 50 385496 mE 6435971 mN 115.785045 E -32.207016 S
Habitat steep embankment next to rail line
Soil orangey brown Loamy sand
Rock Type Limestone;
Vegetation As previous
Veg Condition Degraded I
Fire Age No sign of recent fire.
SPECIES LIST:

Name	Cover	C Class	Height	Specimen
Acacia pulchella var. pulchella	0.1	<1 %	25	
Acacia rostellifera	10	5-10%	50	
Allocasuarina huegeliana	0.1	<1 %	60	
Asparagus asparagoides	1	<1 %	25	
Avena barbata	3	1-5%	125	
Brassica tournefortii	0.1	<1 %	25	
Briza maxima	0.1	<1 %	15	
Bromus diandrus	2	1-5%	35	
Calothamnus quadrifidus subsp. quadrifidus	0.1	<1 %	120	
Carpobrotus edulis	1	<1 %	5	
Cenchrus setaceus	0.1	<1 %	25	
Chamelaucium uncinatum	0.1	<1 %	150	
Clematis linearifolia	0.1	<1 %	35	
Cynodon dactylon	0.1	<1 %	25	
Desmocladus flexuosus	0.1	<1 %	10	WLMR43-03
Ehrharta calycina	20	10-25%	45	
Euphorbia terracina	0.1	<1 %	25	
Foeniculum vulgare	0.1	<1 %	250	
Fumaria capreolata	0.1	<1 %	15	
Gaudium laevigatum	5	5-10%	450	
Grevillea preissii	4	1-5%	45	WLMR43-02
Jacksonia furcellata	0.1	<1 %	200	
Lagurus ovatus	2	1-5%	25	
Lupinus cosentinii	0.1	<1 %	25	
Melaleuca systena	0.1	<1 %	45	
Schinus terebinthifolia	5	5-10%	45	
Sonchus oleraceus	0.1	<1 %	25	
Spyridium globulosum	0.1	<1 %	55	
Trifolium campestre var. campestre	0.1	<1 %	10	
Urospermum picroides	0.1	<1 %	35	

Rockingham Road Biological Site ROC01
Described by SWABS Date 14/09/2023 Type
MGA Zone 50 385277 mE 6436437 mN 115.782778 E -32.202791 S
Habitat
Soil
Rock Type
Vegetation Melaleuca systena, *Schinus terebinthifolia tall shrubland over *Rhamnus alaternus, Spyridium globulosum, Banksia sessilis var. sessilis, *Gaudium laevigatum shrubland over Acacia lasiocarpa var. lasiocarpa, Melaleuca systena, Trymalium ledifolium var. ledifolium, Hardenbergia comptoniana low open shrubland over *Lolium perenne, *Avena barbata, *Bromus diandrus, *Lagurus ovatus, *Ehrharta longiflora bunch grassland over *Fumaria capreolata, *Romulea rosea var. australis, *Euphorbia peplus, Lomandra maritima, *Trifolium campestre var. campestre very open herbland.
Veg Condition Good
Fire Age Very long unburnt.
SPECIES LIST:

Name	Cover	C Class	Height	Specimen
Acacia alata var. alata	0.1	<1 %	45	
Acacia lasiocarpa var. lasiocarpa	2.5	1-5%	40	ROC01-02
Acacia saligna	0.1	<1 %	35	
Avena barbata	11	<1 %	50	
Banksia dallanneyi subsp. dallanneyi var. dallanneyi	0.1	<1 %	25	ROC01-08
Banksia sessilis var. sessilis	1	<1 %	120	
Brachypodium distachyon	2	1-5%	20	ROC01-14
Bromus diandrus	11	<1 %	25	
Caladenia latifolia	0.1	<1 %	10	
Desmocladus asper	0.1	<1 %	25	ROC01-04
Drosera sp.	0.1	<1 %	10	ROC01-10
Ehrharta longiflora	8	<1 %	25	
Euphorbia peplus	1	<1 %	5	
Euphorbia terracina	0.1	<1 %	10	
Fumaria capreolata	2	1-5%	25	
Galium murale	0.1	<1 %	5	
Gaudium laevigatum	1	<1 %	180	
Grevillea preissii	0.1	<1 %	45	ROC01-11
Hardenbergia comptoniana	0.5	<1 %	10	
Hypochaeris radicata	0.1	<1 %	5	
Lagurus ovatus	11	<1 %	20	
Leontodon rhagadioloides	0.1	<1 %	10	ROC01-06
Lepidosperma calcicola	0.1	<1 %	45	ROC01-09
Lolium perenne	13	<1 %	20	
Lomandra maritima	1	<1 %	42	ROC01-05
Lysiandra calycina	0.1	<1 %	45	
Lysimachia arvensis	0.1	<1 %	10	
Melaleuca systena	1	<1 %	65	
Melaleuca systena	16	<1 %	220	ROC01-01
Oenothera drummondii subsp. drummondii	0.1	<1 %	15	WLM21-02=
Opercularia vaginata	0.1	<1 %	15	
Oxalis pes-caprae	0.1	<1 %	25	
Rhamnus alaternus	5	5-10%	200	
Ricinus communis	0.1	<1 %	30	
Romulea rosea var. australis	2	1-5%	20	
Scaevola canescens	0.1	<1 %	25	ROC01-13
Schinus terebinthifolia	5	5-10%	320	
Sixalix atropurpurea	0.1	<1 %	5	ROC01-03
Sonchus asper	0.1	<1 %	20	
Sonchus oleraceus	0.1	<1 %	10	
Spyridium globulosum	5	5-10%	200	
Tricoryne elatior	0.1	<1 %	45	
Trifolium angustifolium var. angustifolium	0.1	<1 %	45	ROC01-15

Trifolium campestre var. campestre	1	<1 %	10	
Trifolium scabrum	0.1	<1 %	2	ROC01-07
Trymalium ledifolium var. ledifolium	1	<1 %	100	ROC01-12
Urospermum picroides	0.1	<1 %	5	
Vicia sativa	0.1	<1 %	10	
Xanthorrhoea preissii	0.1	<1 %	45	

Rockingham Road Biological Site ROC01R
Described by SWTH Date 7/11/2023 Type
MGA Zone mE mN E S
Habitat
Soil
Rock Type
Vegetation
Veg Condition
Fire Age No sign of recent fire.
SPECIES LIST:

Name	Cover	C Class	Height	Specimen
Acacia lasiocarpa var. lasiocarpa	2.5	1-5%	40	
Acacia saligna	0.1	<1 %	50	
Avena barbata	1	<1 %	40	
Banksia dallanneyi subsp. dallanneyi var. dallanneyi	0.1	<1 %	25	
Banksia sessilis var. sessilis	1	<1 %	200	
Bromus diandrus	1	<1 %	40	
Desmocladus flexuosus	0.1	<1 %	30	
Ehrharta calycina	0.1	<1 %	50	
Euphorbia peplus	0.1	<1 %	10	
Euphorbia terracina	0.1	<1 %	10	
Gaudium laevigatum	1	<1 %	200	
Grevillea preissii	0.1	<1 %	40	ROC01-11=
Hardenbergia comptoniana	0.1	<1 %	160	
Lagurus ovatus	1	<1 %	30	
Lepidosperma calcicola	0.1	<1 %	30	
Lolium perenne	12	<1 %	30	
Lomandra maritima	1	<1 %	40	ROC01-05=
Lysiandra calycina	0.1	<1 %	30	
Melaleuca systena	16	<1 %	110	ROC01-01=
Opercularia vaginata	0.1	<1 %	15	
Reichardia tingitana	0.1	<1 %	30	
Rhamnus alaternus	5	5-10%	400	
Schinus terebinthifolia	8	<1 %	280	
Sixalix atropurpurea	0.1	<1 %	15	
Sonchus oleraceus	0.1	<1 %	10	
Spyridium globulosum	5	5-10%	210	
Tricoryne elatior	0.1	<1 %	20	
Trifolium campestre var. campestre	1	<1 %	5	
Trymalium ledifolium var. ledifolium	1	<1 %	200	ROC01-12=
Trymalium ledifolium var. ledifolium	0.1	<1 %	110	ROC01R-01
Vicia sativa subsp. sativa	0.1	<1 %	20	ROC01R-02
Xanthorrhoea preissii	0.1	<1 %	80	

Rockingham Road Biological Site ROC02
Described by SWABS Date 14/09/2023 Type
MGA Zone 50 385258 mE 6436257 mN 115.782552 E -32.204405 S
Habitat
Soil
Rock Type
Vegetation Melaleuca systena, Acacia saligna tall shrubland over Templetonia retusa open shrubland over Grevillea obtusifolia, Acacia lasiocarpa var. lasiocarpa low open shrubland over *Cenchrus setaceus very open tussock grassland over *Avena barbata, *Lagurus ovatus very open bunch grassland over *Romulea rosea var. australis very open herbland.
Veg Condition Good to Degraded.
Fire Age Very long unburnt.
SPECIES LIST:

Name	Cover	C Class	Height	Specimen
Acacia lasiocarpa var. lasiocarpa	1	<1 %	30	ROC01=
Acacia saligna	2	1-5%	400	
Avena barbata	2	1-5%	25	
Bromus diandrus	0.1	<1 %	15	
Caladenia latifolia	0.1	<1 %	10	
Calothamnus sp.	0.1	<1 %	15	
Cenchrus setaceus	8	<1 %	45	
Centranthus macrosiphon	0.1	<1 %	25	
Euphorbia terracina	0.1	<1 %	10	
Galium murale	0.1	<1 %	5	
Grevillea obtusifolia	3	1-5%	40	ROC02-01
Hypochaeris radicata	0.1	<1 %	20	
Lagurus ovatus	2	1-5%	15	
Lysimachia arvensis	0.1	<1 %	5	
Medicago polymorpha	0.1	<1 %	10	
Melaleuca systena	22	<1 %	210	
Rhamnus alaternus	0.1	<1 %	25	
Romulea rosea var. australis	3	1-5%	10	
Sonchus asper	0.1	<1 %	10	
Sonchus oleraceus	0.1	<1 %	10	
Templetonia retusa	3	1-5%	180	
Trifolium angustifolium var. angustifolium	0.1	<1 %	10	ROC01=
Trifolium campestre var. campestre	0.1	<1 %	5	
Urospermum picroides	0.1	<1 %	15	

Rockingham Road Biological Site ROC02R
Described by SWTH Date 8/11/2023 Type
MGA Zone mE mN E S
Habitat
Soil
Rock Type
Vegetation
Veg Condition Good to Degraded
Fire Age No sign of recent fire.
SPECIES LIST:

Name	Cover	C Class	Height	Specimen
Acacia lasiocarpa var. lasiocarpa	1	<1 %	65	
Acacia saligna	2	1-5%	350	
Avena barbata	3	1-5%	60	
Bromus diandrus	2	1-5%	30	
Cenchrus setaceus	8	<1 %	60	
Euphorbia terracina	0.1	<1 %	20	
Grevillea obtusifolia	4	1-5%	45	ROC02-01=
Lagurus ovatus	0.5	<1 %	25	
Melaleuca systena	21	<1 %	160	
Reichardia tingitana	0.1	<1 %	20	
Rhamnus alaternus	0.1	<1 %	45	
Sixalix atropurpurea	0.1	<1 %	20	
Sonchus oleraceus	0.1	<1 %	20	
Templetonia retusa	3	1-5%	220	
Trifolium campestre var. campestre	0.1	<1 %	10	

Rockingham Road Biological Site ROC03
Described by SWABS Date 14/09/2023 Type
MGA Zone 50 385362 mE 6436184 mN 115.783650 E -32.205079 S
Habitat
Soil
Rock Type
Vegetation Acacia rostellifera, Hardenbergia comptoniana tall open scrub over Xanthorrhoea preissii scattered low shrubs over *Bromus diandrus, *Ehrharta calycina, *Ehrharta longiflora bunch grassland over *Oxalis pes-caprae, *Fumaria capreolata, *Euphorbia terracina herbland.
Veg Condition NA;5 - Degraded I
Fire Age Very long unburnt.
SPECIES LIST:

Name	Cover	C Class	Height	Specimen
Acacia rostellifera	35	33.3-50%	210	
Avena barbata	0.1	<1 %	40	
Bromus diandrus	28	<1 %	45	
Ehrharta calycina	2	1-5%	25	
Ehrharta longiflora	2	1-5%	25	
Euphorbia terracina	1	<1 %	25	
Fumaria capreolata	2	1-5%	25	
Hardenbergia comptoniana	2	1-5%	240	
Melaleuca systena	0.1	<1 %	50	
Oxalis pes-caprae	32	<1 %	10	
Sonchus oleraceus	0.1	<1 %	20	
Xanthorrhoea preissii	2	1-5%	70	

Rockingham Road Biological Site ROC03R
Described by SWTH Date 7/11/2023 Type
MGA Zone mE mN E S
Habitat
Soil
Rock Type
Vegetation
Veg Condition Degraded
Fire Age No sign of recent fire.
SPECIES LIST:

Name	Cover	C Class	Height	Specimen
Acacia rostellifera	35	33.3-50%	250	
Avena barbata	2	1-5%	70	
Bromus diandrus	25	25-33.3%	60	
Cynodon dactylon	0.1	<1 %	30	ROC03R-01
Ehrharta longiflora	0.1	<1 %	30	
Euphorbia terracina	1	<1 %	25	
Fumaria capreolata	0.1	<1 %	20	
Hardenbergia comptoniana	2	1-5%	180	
Melaleuca systena	0.1	<1 %	110	
Sonchus oleraceus	0.1	<1 %	110	
Xanthorrhoea brunonis subsp. brunonis	1	<1 %	20	
Xanthorrhoea preissii	1	<1 %	120	

Rockingham Road Biological Site ROC04
Described by SWABS Date 15/09/2023 Type
MGA Zone 50 385630 mE 6436000 mN 115.786467 E -32.206763 S
Habitat
Soil
Rock Type
Vegetation Acacia rostellifera tall open scrub over Xanthorrhoea preissii open shrubland over *Ehrharta longiflora scattered bunch grasses over *Oxalis pes-caprae, *Fumaria capreolata, *Euphorbia terracina closed herbland.
Veg Condition Degraded
Fire Age No sign of recent fire.
SPECIES LIST:

Name	Cover	C Class	Height	Specimen
Acacia rostellifera	60	50-75%	450	ROC04-01
Asparagus asparagoides	0.1	<1 %	60	
Ehrharta longiflora	1	<1 %	45	
Euphorbia terracina	0.5	<1 %	22	
Fumaria capreolata	20	10-25%	50	
Macrozamia riedlei	0.1	<1 %	50	
Oxalis pes-caprae	70	50-75%	25	
Schinus terebinthifolia	0.1	<1 %	250	
Xanthorrhoea preissii	3	1-5%	150	

Rockingham Road Biological Site ROC04R
Described by SWTH Date 7/11/2023 Type
MGA Zone mE mN E S
Habitat
Soil
Rock Type
Vegetation
Veg Condition Degraded
Fire Age No sign of recent fire.
SPECIES LIST:

Name	Cover	C Class	Height	Specimen
Acacia rostellifera	60	50-75%	450	
Asparagus asparagoides	0.1	<1 %	160	
Ehrharta longiflora	1	<1 %	40	
Euphorbia terracina	0.5	<1 %	30	
Fumaria capreolata	1	<1 %	25	
Macrozamia riedlei	0.1	<1 %	50	
Schinus terebinthifolia	0.5	<1 %	350	
Sonchus oleraceus	0.1	<1 %	10	
Xanthorrhoea preissii	4	1-5%	210	

Rockingham Road Biological Site ROC05
Described by ALPLDK Date 12/09/2023 Type
MGA Zone 50 385464 mE 6435478 mN 115.784646 E -32.211457 S
Habitat
Soil
Rock Type
Vegetation Templetonia retusa, Melaleuca huegelii subsp. huegelii, Banksia sessilis var. cygnorum tall shrubland over Spyridium globulosum scattered shrubs over Acacia lasiocarpa var. lasiocarpa, Melaleuca systena low open shrubland over *Avena barbata, *Ehrharta longiflora, *Lagurus ovatus very open bunch grassland over Lepidosperma calcicola scattered sedges over *Euphorbia peplus, *Galium murale, *Hypochaeris glabra, *Asparagus asparagoides, Clematis linearifolia very open herbland.
Veg Condition Very Good
Fire Age Very long unburnt.
SPECIES LIST:

Name	Cover	C Class	Height	Specimen
Acacia lasiocarpa var. lasiocarpa	3	1-5%	95	ROC05-03a
Acacia saligna	0.1	<1 %	140	
Arctotheca calendula	0.1	<1 %	9	
Asparagus asparagoides	1	<1 %	120	
Austrostipa sp.	0.1	<1 %	25	ROC05-13
Avena barbata	1	<1 %	70	
Banksia dallanneyi subsp. dallanneyi var. dallanneyi	0.1	<1 %	20	ROC05-10
Banksia sessilis var. cygnorum	1	<1 %	210	ROC05-04
Brassica tournefortii	0.1	<1 %	50	ROC05-01
Bromus diandrus	0.1	<1 %	35	
Carduus pycnocephalus	0.1	<1 %	10	ROC05-20
Cassytha flava	0.1	<1 %	50	ROC05-07
Clematis linearifolia	1	<1 %	150	
Crassula glomerata	0.1	<1 %	5	
Desmocladus flexuosus	0.5	<1 %	20	
Dianella revoluta var. revoluta	0.1	<1 %	75	
Drosera pallida	0.1	<1 %	5	ROC05-16
Ehrharta longiflora	1	<1 %	50	WLM15-01=
Erodium cicutarium	0.1	<1 %	10	ROC05-15
Euphorbia peplus	2	1-5%	15	
Euphorbia terracina	0.1	<1 %	10	
Galium murale	1.5	1-5%	5	
Grevillea preissii	0.1	<1 %	30	ROC05-14
Hibbertia aurea	0.1	<1 %	65	ROC05-12
Hyparrhenia hirta	0.1	<1 %	90	ROC05-09
Hypochaeris glabra	1.5	1-5%	2	
Lagurus ovatus	1	<1 %	15	
Leontodon rhagadioloides	0.1	<1 %	20	ROC05-18
Lepidosperma calcicola	1	<1 %	30	WLM09-03=
Leucopogon parviflorus	0.1	<1 %	80	ROC05-17
Lysiandra calycina	0.5	<1 %	55	
Lysimachia arvensis	0.1	<1 %	10	
Melaleuca huegelii subsp. huegelii	3	1-5%	220	
Melaleuca systena	1.5	1-5%	80	ROC05-02
Minuartia mediterranea	0.1	<1 %	7	ROC05-19
Poranthera microphylla	0.1	<1 %	5	ROC05-21
Pseudognaphalium luteoalbum	0.1	<1 %	10	ROC05-08
Reichardia tingitana	0.1	<1 %	20	ROC05-05
Romulea rosea var. australis	0.1	<1 %	20	
Sonchus oleraceus	0.1	<1 %	10	
Spyridium globulosum	2	1-5%	130	
Templetonia retusa	20	10-25%	230	
Trachyandra divaricata	0.1	<1 %	20	
Tricoryne elatior	0.5	<1 %	20	ROC05-06

Trifolium campestre var. campestre	0.1	<1 %	10	ROC05-22
Trifolium scabrum	0.1	<1 %	7	ROC05-11

Rockingham Road Biological Site ROC05R
Described by SWTH Date 7/11/2023 Type
MGA Zone mE mN E S
Habitat
Soil
Rock Type
Vegetation
Veg Condition Very Good
Fire Age No sign of recent fire.
SPECIES LIST:

Name	Cover	C Class	Height	Specimen
Acacia lasiocarpa var. lasiocarpa	5	5-10%	90	
Acacia saligna	0.1	<1 %	160	
Asparagus asparagoides	0.1	<1 %	40	
Austrostipa sp.	0.1	<1 %	20	ROC05-13=
Avena barbata	0.1	<1 %	60	
Banksia dallanneyi subsp. dallanneyi var. dallanneyi	0.1	<1 %	15	ROC05-10=
Banksia sessilis var. sessilis	1	<1 %	160	
Brassica tournefortii	0.1	<1 %	45	ROC05-01=
Bromus diandrus	0.1	<1 %	45	
Carduus pycnocephalus	0.1	<1 %	20	ROC05-20=
Cassytha flava	0.1	<1 %	60	ROC05-07=
Clematis linearifolia	1	<1 %	120	
Desmocladus flexuosus	0.5	<1 %	20	
Dianella revoluta var. revoluta	0.1	<1 %	40	
Eragrostis curvula	0.1	<1 %	130	ROC05R-01
Euphorbia terracina	0.1	<1 %	30	
Grevillea preissii	1	<1 %	30	ROC05-14
Hibbertia aurea	0.1	<1 %	30	ROC05-12=
Lagurus ovatus	1	<1 %	15	
Lepidosperma calcicola	1	<1 %	30	ROC09-03=
Leucopogon parviflorus	0.1	<1 %	80	ROC05-17=
Lysiandra calycina	0.5	<1 %	60	
Melaleuca huegelii subsp. huegelii	4	1-5%	220	
Melaleuca systena	3	1-5%	80	ROC05-02=
Reichardia tingitana	0.1	<1 %	20	
Spyridium globulosum	3	1-5%	150	
Templetonia retusa	28	<1 %	230	
Tricoryne elatior	0.5	<1 %	30	ROC05-06=
Trifolium campestre var. campestre	0.1	<1 %	10	
Urospermum picroides	0.1	<1 %	10	

Rockingham Road Biological Site ROC06
Described by ALPLDK Date 12/09/2023 Type
MGA Zone 50 385600 mE 6435469 mN 115.786091 E -32.211550 S
Habitat
Soil
Rock Type
Vegetation Eucalyptus gomphocephala open forest over Callitris preissii low woodland over Acacia rostellifera, *Rhamnus alaternus tall open shrubland over *Ehrharta longiflora, *Bromus hordeaceus, *Ehrharta calycina bunch grassland over *Oxalis pes-caprae, *Euphorbia peplus very
Veg Condition Good
Fire Age Very long unburnt.
SPECIES LIST:

Name	Cover	C Class	Height	Specimen
Acacia rostellifera	4	1-5%	470	
Arctotheca calendula	0.1	<1 %	15	
Asparagus asparagoides	0.1	<1 %	110	
Bromus diandrus	0.1	<1 %	30	
Bromus hordeaceus	10	5-10%	15	ROC05-03b
Bromus hordeaceus	0.1	<1 %	15	
Caladenia sp.	0.1	<1 %	2	
Callitris preissii	13	<1 %	600	
Clematis linearifolia	0.1	<1 %	50	
Ehrharta calycina	2	1-5%	50	
Ehrharta longiflora	31	<1 %	20	
Erigeron sp.	0.1	<1 %	5	
Eucalyptus gomphocephala	55	50-75%	2200	
Euphorbia peplus	4	1-5%	10	
Euphorbia terracina	0.1	<1 %	15	
Fumaria capreolata	0.1	<1 %	10	
Galium murale	0.1	<1 %	5	
Lagurus ovatus	0.1	<1 %	15	
Leontodon rhagadioloides	0.1	<1 %	15	ROC06-08
Lolium perenne x rigidum	0.1	<1 %	25	ROC06-05
Lysimachia arvensis	0.1	<1 %	10	
Oxalis pes-caprae	5	5-10%	15	
Poa annua	0.1	<1 %	10	ROC06-01
Rhamnus alaternus	2	1-5%	250	
Solanum nigrum	0.1	<1 %	3	
Sonchus oleraceus	0.1	<1 %	20	ROC06-04
Sonchus oleraceus	0.1	<1 %	20	
Trifolium campestre var. campestre	0.1	<1 %	10	ROC06-02
Trifolium glomeratum	0.1	<1 %	7	ROC06-06
Trifolium tomentosum var. tomentosum	0.1	<1 %	5	ROC06-07

Rockingham Road Biological Site ROC06R
Described by CEFABS Date 7/11/2023 Type
MGA Zone 50 385600 mE 6435469 mN 115.786091 E -32.211550 S
Habitat
Soil
Rock Type
Vegetation
Veg Condition Good
Fire Age Very long unburnt.
SPECIES LIST:

Name	Cover	C Class	Height	Specimen
Acacia rostellifera	7	5-10%	470	
Asparagus asparagoides	0.1	<1 %	110	
Avena barbata	0.1	<1 %	20	
Bromus diandrus	10	5-10%	30	
Callitris preissii	28	<1 %	600	
Ehrharta calycina	2	1-5%	50	
Ehrharta longiflora	11	<1 %	20	
Eucalyptus gomphocephala	65	50-75%	2200	
Euphorbia peplus	0.1	<1 %	10	
Euphorbia terracina	0.1	<1 %	15	
Lagurus ovatus	0.1	<1 %	15	
Lolium perenne x rigidum	0.1	<1 %	ROC06-05	
Lysimachia arvensis	0.1	<1 %	10	
Oxalis pes-caprae	0.1	<1 %	15	
Rhamnus alaternus	2	1-5%	250	
Sonchus oleraceus	0.1	<1 %	20	
Trifolium campestre var. campestre	0.1	<1 %	10	ROC06-02
Trifolium glomeratum	0.1	<1 %	7	ROC06-06
Trifolium tomentosum var. tomentosum	0.1	<1 %	5	ROC06-07

Rockingham Road Biological Site ROC07
Described by ALPLDK Date 12/09/2023 Type
MGA Zone 50 385505 mE 6435296 mN 115.785063 E -32.213102 S
Habitat
Soil
Rock Type
Vegetation Spyridium globulosum, Acacia rostellifera tall open scrub over *Ehrharta longiflora scattered bunch grasses over *Euphorbia peplus, *Asparagus asparagoides, *Galium murale, Clematis linearifolia, *Lysimachia arvensis open herbland.
Veg Condition Very Good
Fire Age No sign of recent fire.
SPECIES LIST:

Name	Cover	C Class	Height	Specimen
Acacia rostellifera	3	1-5%	310	
Asparagus asparagoides	2.5	1-5%	50	
Austrostipa elegantissima	0.1	<1 %	120	
Brassica tournefortii	0.1	<1 %	25	ROC05=
Bromus hordeaceus	0.1	<1 %	20	ROC06=
Centaurea melitensis	0.1	<1 %	15	ROC08=
Cerastium glomeratum	0.1	<1 %	10	ROC08=
Clematis linearifolia	1	<1 %	150	
Daucus glochidiatus	0.1	<1 %	5	ROC07-02
Drosera pallida	0.1	<1 %	20	ROC07-05
Ehrharta longiflora	1	<1 %	20	
Euphorbia peplus	6	<1 %	10	
Galium murale	2	1-5%	5	
Hibbertia hypericoides subsp. hypericoides	0.1	<1 %	50	
Hydrocotyle callicarpa	0.1	<1 %	5	ROC07-03
Lysiandra calycina	0.1	<1 %	50	
Lysimachia arvensis	0.1	<1 %	5	ROC08=
Lysimachia arvensis	1	<1 %	10	
Melaleuca systena	0.1	<1 %	95	ROC07-04
Moraea flaccida	0.1	<1 %	60	
Oxalis corniculata	0.1	<1 %	10	ROC07-01
Pseudognaphalium luteoalbum	0.1	<1 %	10	ROC05=
Sonchus oleraceus	0.1	<1 %	15	
Spyridium globulosum	55	50-75%	320	
Urospermum picroides	1	<1 %	20	ROC08=

Rockingham Road Biological Site ROC07R
Described by CEFABS Date 8/11/2023 Type
MGA Zone 50 385505 mE 6435296 mN 115.785063 E -32.213102 S
Habitat
Soil
Rock Type
Vegetation
Veg Condition Very Good
Fire Age No sign of recent fire.
SPECIES LIST:

Name	Cover	C Class	Height	Specimen
Acacia rostellifera	5	5-10%	310	
Asparagus asparagoides	1	<1 %	50	
Austrostipa elegantissima	2	1-5%	120	
Avena barbata	0.1	<1 %	55	
Brassica tournefortii	0.1	<1 %	25	ROC05=
Bromus hordeaceus	0.1	<1 %	20	ROC06=
Centaurea melitensis	0.1	<1 %	15	ROC08=
Clematis linearifolia	1	<1 %	150	
Ehrharta longiflora	0.1	<1 %	20	
Euphorbia peplus	0.1	<1 %	10	
Galium murale	0.1	<1 %	5	
Hibbertia hypericoides subsp. hypericoides	2	1-5%	50	
Lysiandra calycina	0.1	<1 %	50	
Lysimachia arvensis	0.1	<1 %	10	
Melaleuca systena	0.1	<1 %	60	
Melaleuca systena	0.1	<1 %	95	ROC07-04=
Oxalis corniculata	0.1	<1 %	10	ROC07-01=
Sonchus oleraceus	0.1	<1 %	15	
Spyridium globulosum	60	50-75%	320	
Urospermum picroides	0.1	<1 %	20	ROC08=

Rockingham Road Biological Site ROC08
Described by ALPLDK Date 12/09/2023 Type
MGA Zone 50 385527 mE 6435187 mN 115.785285 E -32.214089 S
Habitat
Soil
Rock Type
Vegetation Eucalyptus foecunda subsp. foecunda low open forest over Spyridium globulosum tall shrubland over *Ehrharta longiflora scattered bunch grasses over *Galium murale, *Asparagus asparagoides, *Euphorbia peplus very open herbland.
Veg Condition Very Good
Fire Age No sign of recent fire.
SPECIES LIST:

Name	Cover	C Class	Height	Specimen
Acacia cyclops	0.1	<1 %	250	ROC08-11
Acacia truncata	0.1	<1 %	80	
Asparagus asparagoides	1	<1 %	160	;
Avena barbata	0.1	<1 %	70	
Banksia sessilis var. sessilis	0.1	<1 %	85	
Briza maxima	0.1	<1 %	20	
Briza minor	0.1	<1 %	10	
Bromus diandrus	0.1	<1 %	20	
Caladenia flava	0.1	<1 %	2	
Carduus pycnocephalus	0.1	<1 %	5	ROC05=
Centaurea melitensis	0.1	<1 %	20	ROC08-08
Cerastium glomeratum	0.1	<1 %	8	ROC08-03
Clematis linearifolia	0.1	<1 %	150	
Crassula glomerata	0.1	<1 %	5	
Desmocladus flexuosus	0.1	<1 %	15	
Dianella revoluta var. revoluta	0.1	<1 %	70	
Ehrharta longiflora	0.5	<1 %	25	
Erigeron sp.	0.1	<1 %	10	
Eucalyptus foecunda subsp. foecunda	31	<1 %	600	ROC08-01
Euphorbia peplus	1	<1 %	10	
Ficinia marginata	0.1	<1 %	5	ROC08-05
Galium murale	1.5	1-5%	5	
Gomphocarpus fruticosus	0.1	<1 %	180	
Hibbertia aurea	0.1	<1 %	25	ROC05=
Hydrocotyle callicarpa	0.1	<1 %	5	ROC08-09
Hypochaeris glabra	0.1	<1 %	2	
Lagurus ovatus	0.1	<1 %	20	
Leucopogon parviflorus	0.1	<1 %	85	ROC05=
Lysiandra calycina	0.1	<1 %	60	
Lysimachia arvensis	0.1	<1 %	5	
Melaleuca systena	0.1	<1 %	20	ROC05=
Oxalis corniculata	0.1	<1 %	10	ROC08-06
Pelargonium capitatum	0.1	<1 %	15	
Pelargonium capitatum	0.1	<1 %	5	ROC08-04
Poranthera microphylla	0.1	<1 %	2	ROC05=
Pseudognaphalium luteoalbum	0.1	<1 %	5	ROC05=
Rhamnus alaternus	0.1	<1 %	20	
Schinus terebinthifolia	0.1	<1 %	10	
Sonchus oleraceus	0.1	<1 %	20	
Spyridium globulosum	20	10-25%	250	
Stellaria pallida	0.1	<1 %	7	ROC08-07
Templetonia retusa	0.1	<1 %	190	
Thysanotus patersonii	0.1	<1 %	80	ROC08-12
Tricoryne elatior	0.1	<1 %	20	ROC05=
Urospermum picroides	0.1	<1 %	5	ROC08-10
Vulpia bromoides	0.1	<1 %	10	ROC08-02

Rockingham Road Biological Site ROC08R
Described by CEFABS Date 8/11/2023 Type
MGA Zone 50 385527 mE 6435187 mN 115.785285 E -32.214089 S
Habitat
Soil
Rock Type
Vegetation
Veg Condition Very Good
Fire Age No sign of recent fire.
SPECIES LIST:

Name	Cover	C Class	Height	Specimen
Acacia cyclops	0.1	<1 %	250	ROC08-11=
Acacia truncata	0.1	<1 %	80	
Asparagus asparagoides	1	<1 %	160	
Avena barbata	0.1	<1 %	70	
Banksia sessilis var. sessilis	0.1	<1 %	85	
Briza maxima	0.1	<1 %	20	
Briza minor	0.1	<1 %	10	
Bromus diandrus	0.1	<1 %	20	
Carduus pycnocephalus	0.1	<1 %	5	ROC05=
Clematis linearifolia	0.1	<1 %	150	
Crassula glomerata	0.1	<1 %	5	
Dianella revoluta var. revoluta	0.1	<1 %	70	
Ehrharta longiflora	0.1	<1 %	25	
Erigeron sp.	0.1	<1 %	10	
Eucalyptus foecunda subsp. foecunda	31	<1 %	600	ROC08-01=
Euphorbia peplus	0.1	<1 %	10	
Galium murale	0.1	<1 %	5	
Gomphocarpus fruticosus	0.1	<1 %	180	
Hibbertia aurea	0.1	<1 %	25	ROC05=
Lagurus ovatus	0.1	<1 %	20	
Leucopogon parviflorus	0.1	<1 %	85	ROC05=
Lysiandra calycina	0.1	<1 %	60	
Lysimachia arvensis	0.1	<1 %	5	
Melaleuca systena	0.1	<1 %	20	ROC05=
Pelargonium capitatum	0.1	<1 %	5	ROC08-04=
Pelargonium capitatum	0.1	<1 %	15	
Poranthera microphylla	0.1	<1 %	2	ROC05=
Rhamnus alaternus	0.1	<1 %	20	
Schinus terebinthifolia	0.1	<1 %	10	
Sonchus oleraceus	0.1	<1 %	20	
Spyridium globulosum	20	10-25%	250	
Templetonia retusa	0.1	<1 %	190	
Tricoryne elatior	0.1	<1 %	20	ROC05=
Urospermum picroides	0.1	<1 %	5	ROC08-10=
Vulpia bromoides	0.1	<1 %	10	ROC08-02=

Rockingham Road Biological Site ROC10
Described by CEFABS Date 12/09/2023 Type
MGA Zone 50 385673 mE 6434795 mN 115.786780 E -32.217640 S
Habitat
Soil
Rock Type
Vegetation Eucalyptus decipiens low woodland over Acacia pulchella var. glaberrima, Xanthorrhoea preissii, Acacia cyclops open shrubland over *Cenchrus setaceus very open tussock grassland over *Bromus diandrus, *Lagurus ovatus, *Avena barbata, *Ehrharta longiflora, *Ehrharta calycina bunch grassland over *Euphorbia terracina, *Carpobrotus edulis, *Nicotiana glauca, *Reichardia tingitana, *Oxalis pes-caprae open herbland.
Veg Condition Good to Degraded
Fire Age No sign of recent fire.
SPECIES LIST:

Name	Cover	C Class	Height	Specimen
Acacia cyclops	0.5	<1 %	110	ROC21-06=
Acacia pulchella var. glaberrima	2	1-5%	160	ROC10-05
Agonis flexuosa var. flexuosa	0.1	<1 %	50	
Asparagus asparagoides	0.1	<1 %	45	
Avena barbata	6	<1 %	40	ROC10-01
Bromus diandrus	15	10-25%	60	
Carpobrotus edulis	4	1-5%	15	
Cenchrus setaceus	5	5-10%	60	
Ehrharta calycina	1	<1 %	70	
Ehrharta longiflora	5	5-10%	45	
Erigeron bonariensis	0.1	<1 %	25	
Eucalyptus decipiens	29	<1 %	950	ROC10-06
Euphorbia peplus	0.1	<1 %	15	
Euphorbia terracina	5	5-10%	50	
Fumaria capreolata	0.1	<1 %	60	
Galium murale	0.1	<1 %	2	
Gaudium laevigatum	0.1	<1 %	60	
Hardenbergia comptoniana	0.1	<1 %	70	
Hypochaeris glabra	0.1	<1 %	5	
Lagurus ovatus	9	<1 %	25	
Lysimachia linum-stellatum	0.1	<1 %	15	
Melaleuca huegelii subsp. huegelii	0.1	<1 %	150	
Nicotiana glauca	3	1-5%	310	
Oxalis pes-caprae	2.5	1-5%	30	
Raphanus raphanistrum	0.1	<1 %	80	
Reichardia tingitana	0.1	<1 %	40	ROC10-02
Reichardia tingitana	3	1-5%	25	ROC10-03
Senecio condylus	0.1	<1 %	30	ROC21-02=
Sonchus oleraceus	0.1	<1 %	15	
Spyridium globulosum	0.1	<1 %	40	
Urospermum picroides	0.1	<1 %	25	
Vulpia myuros forma myuros	0.1	<1 %	20	ROC10-04
Xanthorrhoea preissii	1	<1 %	190	

Rockingham Road Biological Site ROC10R
Described by SWTH Date 7/11/2023 Type
MGA Zone mE mN E S
Habitat
Soil
Rock Type
Vegetation
Veg Condition Good
Fire Age Burnt 3-5 years ago.
SPECIES LIST:

Name	Cover	C Class	Height	Specimen
Acacia cyclops	0.5	<1 %	120	
Acacia pulchella var. glaberrima	2	1-5%	180	
Asparagus asparagoides	0.1	<1 %	40	
Avena barbata	6	<1 %	60	
Bromus diandrus	15	10-25%	20	
Carpobrotus edulis	0.1	<1 %	20	
Cenchrus setaceus	5	5-10%	70	
Ehrharta calycina	5	5-10%	110	
Erigeron bonariensis	0.1	<1 %	100	
Eucalyptus decipiens	29	<1 %	950	
Euphorbia peplus	0.1	<1 %	10	
Euphorbia terracina	5	5-10%	40	
Gaudium laevigatum	0.1	<1 %	70	
Lagurus ovatus	0.1	<1 %	15	
Melaleuca systena	3	1-5%	110	
Nicotiana glauca	3	1-5%	280	
Reichardia tingitana	0.1	<1 %	25	ROC10-03=
Reichardia tingitana	0.1	<1 %	40	
Sonchus oleraceus	0.1	<1 %	15	
Urospermum picroides	0.1	<1 %	25	
Xanthorrhoea preissii	1	<1 %	200	

Rockingham Road Biological Site ROC11
Described by ALPLDK Date 14/09/2023 Type
MGA Zone 50 385490 mE 6434691 mN 115.784826 E -32.218556 S
Habitat
Soil
Rock Type
Vegetation Acacia rostellifera tall shrubland over *Ehrharta longiflora, *Bromus diandrus, *Brachypodium distachyon open bunch grassland over *Nicotiana glauca, *Euphorbia terracina, *Oxalis pes-caprae, Clematis linearifolia, *Sonchus oleraceus open herbland.
Veg Condition Degraded I
Fire Age Very long unburnt.
SPECIES LIST:

Name	Cover	C Class	Height	Specimen
Acacia rostellifera	16	<1 %	400	
Asparagus asparagoides	0.1	<1 %	100	
Avena barbata	0.1	<1 %	110	
Brachypodium distachyon	1	<1 %	50	ROC11-01
Bromus diandrus	5	5-10%	40	
Cenchrus setaceus	0.1	<1 %	40	
Clematis linearifolia	2	1-5%	150	
Ehrharta longiflora	6	<1 %	40	
Euphorbia peplus	0.1	<1 %	30	
Euphorbia terracina	8	<1 %	50	
Lysimachia arvensis	0.1	<1 %	10	
Medicago polymorpha	0.1	<1 %	40	ROC11-02
Melaleuca lanceolata	0.1	<1 %	110	
Nicotiana glauca	9	<1 %	400	
Oxalis pes-caprae	5	5-10%	30	
Sonchus oleraceus	1	<1 %	30	

Rockingham Road Biological Site ROC11R
Described by SWTH Date 8/11/2023 Type
MGA Zone mE mN E S
Habitat
Soil
Rock Type
Vegetation
Veg Condition Degraded
Fire Age No sign of recent fire.
SPECIES LIST:

Name	Cover	C Class	Height	Specimen
Acacia rostellifera	16	<1 %	400	
Asparagus asparagoides	0.1	<1 %	25	
Avena barbata	0.1	<1 %	150	
Bromus diandrus	0.1	<1 %	45	
Bromus hordeaceus	1	<1 %	100	
Clematis linearifolia	2	1-5%	160	
Ehrharta longiflora	0.1	<1 %	50	
Euphorbia terracina	8	<1 %	45	
Melaleuca lanceolata	0.1	<1 %	50	
Nicotiana glauca	9	<1 %	380	
Reichardia tingitana	0.1	<1 %	25	
Sonchus oleraceus	0.5	<1 %	45	

Rockingham Road Biological Site ROC12
Described by SWABS Date 14/09/2023 Type
MGA Zone 50 385705 mE 6434337 mN 115.787070 E -32.221771 S
Habitat
Soil
Rock Type
Vegetation Santalum acuminatum, Eucalyptus sp. low open woodland over Spyridium globulosum, Melaleuca huegelii subsp. huegelii, *Olea europaea subsp. europaea, Acacia rostellifera, Templetonia retusa tall shrubland over *Brachypodium distachyon open bunch grassland over *Oxalis pes-caprae, *Gladiolus sp., *Asparagus asparagoides open herbland.
Veg Condition Degraded I
Fire Age Very long unburnt.
SPECIES LIST:

Name	Cover	C Class	Height	Specimen
Acacia rostellifera	2	1-5%	250	
Asparagus asparagoides	2	1-5%	80	
Asphodelus fistulosus	0.1	<1 %	45	
Brachypodium distachyon	26	<1 %	15	ROC12-04
Bromus diandrus	0.1	<1 %	25	
Cenchrus setaceus	0.1	<1 %	50	
Ehrharta longiflora	0.1	<1 %	25	
Eucalyptus sp.	3	1-5%	480	ROC12-07
Euphorbia peplus	0.1	<1 %	10	
Euphorbia terracina	0.1	<1 %	50	
Fumaria capreolata	0.1	<1 %	25	
Galium murale	0.1	<1 %	1	
Gladiolus sp.	3	1-5%	45	ROC12-06
Hardenbergia comptoniana	0.1	<1 %	25	
Hypochaeris glabra	0.1	<1 %	5	
Lagurus ovatus	0.1	<1 %	10	
Lysimachia arvensis	0.1	<1 %	5	
Melaleuca huegelii subsp. huegelii	4	1-5%	380	ROC12-01
Olea europaea subsp. europaea	4	1-5%	380	
Oxalis pes-caprae	0.1	<1 %	10	ROC12-03
Oxalis pes-caprae	14	<1 %	25	
Santalum acuminatum	6	<1 %	200	ROC12-05
Santalum acuminatum	0.1	<1 %	45	ROC12-02
Sonchus asper	0.1	<1 %	25	
Sonchus oleraceus	0.1	<1 %	10	
Spyridium globulosum	12	<1 %	210	
Templetonia retusa	2	1-5%	250	
Trifolium angustifolium var. angustifolium	0.1	<1 %	10	ROC01=
Trifolium campestre var. campestre	0.1	<1 %	5	
Urospermum picroides	0.1	<1 %	10	

Rockingham Road Biological Site ROC12R
Described by CEFABS Date 7/11/2023 Type
MGA Zone 50 385705 mE 6434337 mN 115.787070 E -32.221771 S
Habitat
Soil
Rock Type
Vegetation
Veg Condition Degraded
Fire Age Very long unburnt.
SPECIES LIST:

Name	Cover	C Class	Height	Specimen
Acacia rostellifera	2	1-5%	250	
Asparagus asparagoides	2	1-5%	80	
Avena barbata	0.1	<1 %	80	
Brachypodium distachyon	19	<1 %	15	ROC12-04
Bromus diandrus	0.1	<1 %	25	
Cenchrus setaceus	0.1	<1 %	50	
Ehrharta longiflora	0.1	<1 %	25	
Eucalyptus sp.	3	1-5%	480	ROC12-07
Euphorbia peplus	0.1	<1 %	10	
Euphorbia terracina	0.1	<1 %	50	
Gaudium laevigatum	0.1	<1 %	20	
Gladiolus sp.	3	1-5%	45	ROC12-06
Lagurus ovatus	0.1	<1 %	10	
Melaleuca huegelii subsp. huegelii	6	<1 %	380	ROC12-01
Olea europaea subsp. europaea	4	1-5%	380	
Oxalis pes-caprae	5	5-10%	25	
Santalum acuminatum	0.1	<1 %	45	ROC12-02
Santalum acuminatum	6	<1 %	200	ROC12-05
Sonchus oleraceus	0.1	<1 %	10	
Spyridium globulosum	12	<1 %	210	
Templetonia retusa	2	1-5%	250	
Trifolium campestre var. campestre	0.1	<1 %	5	
Urospermum picroides	0.1	<1 %	10	

Rockingham Road Biological Site ROC13
Described by ALPLDK Date 14/09/2023 Type
MGA Zone 50 385499 mE 6434517 mN 115.784901 E -32.220128 S
Habitat
Soil
Rock Type
Vegetation Eucalyptus gomphocephala open forest over Acacia rostellifera, Xanthorrhoea preissii scattered shrubs over *Ehrharta longiflora, *Bromus diandrus, *Avena barbata open bunch grassland over *Euphorbia terracina, *Oxalis pes-caprae, *Sonchus oleraceus, *Nicotiana glauca open herbland.
Veg Condition Degraded
Fire Age Burnt 3-5 years ago.
SPECIES LIST:

Name	Cover	C Class	Height	Specimen
Acacia rostellifera	1	<1 %	110	
Asphodelus fistulosus	0.1	<1 %	40	
Avena barbata	1	<1 %	80	
Bromus diandrus	3	1-5%	40	
Carduus pycnocephalus	0.1	<1 %	60	
Cenchrus setaceus	0.1	<1 %	40	
Ehrharta longiflora	25	25-33.3%	50	
Eucalyptus gomphocephala	40	33.3-50%	2700	
Euphorbia terracina	7	5-10%	50	
Galium murale	0.1	<1 %	5	
Gomphocarpus fruticosus	0.1	<1 %	25	
Hardenbergia comptoniana	0.1	<1 %	100	
Lactuca sp.	0.1	<1 %	40	ROC13-04
Lolium perenne x rigidum	0.1	<1 %	40	ROC13-07
Lysimachia arvensis	0.1	<1 %	10	
Medicago polymorpha	0.1	<1 %	25	ROC13-05
Nicotiana glauca	1	<1 %	210	
Oxalis pes-caprae	6	<1 %	30	
Reichardia tingitana	0.1	<1 %	40	ROC13-03
Sixalix atropurpurea	0.1	<1 %	40	
Solanum nigrum	0.1	<1 %	8	
Sonchus oleraceus	0.1	<1 %	40	ROC24-03=
Sonchus oleraceus	4	1-5%	80	
Spyridium globulosum	0.1	<1 %	90	
Symphyotrichum squamatum	0.1	<1 %	30	ROC13-01
Taraxacum sp.	0.1	<1 %	10	ROC13-02
Trifolium campestre var. campestre	0.1	<1 %	10	
Trifolium scabrum	0.1	<1 %	10	ROC13-06
Xanthorrhoea preissii	1	<1 %	150	

Rockingham Road Biological Site ROC13R
Described by SWTH Date 8/11/2023 Type
MGA Zone mE mN E S
Habitat
Soil
Rock Type
Vegetation
Veg Condition Degraded
Fire Age No sign of recent fire.
SPECIES LIST:

Name	Cover	C Class	Height	Specimen
Acacia rostellifera	0.5	<1 %	110	
Asparagus asparagoides	0.1	<1 %	25	
Asphodelus fistulosus	0.1	<1 %	45	
Avena barbata	1	<1 %	120	
Bromus diandrus	0.1	<1 %	25	
Carduus pycnocephalus	0.1	<1 %	15	
Cenchrus setaceus	0.1	<1 %	50	
Clematis linearifolia	0.1	<1 %	50	
Dianella revoluta var. revoluta	0.1	<1 %	45	
Ehrharta longiflora	5	5-10%	60	
Erigeron bonariensis	0.1	<1 %	15	
Eucalyptus gomphocephala	50	50-75%	2700	
Euphorbia terracina	7	5-10%	60	
Hardenbergia comptoniana	0.1	<1 %	100	
Nicotiana glauca	1	<1 %	250	
Pelargonium capitatum	0.1	<1 %	25	
Reichardia tingitana	1	<1 %	40	
Sixalix atropurpurea	0.1	<1 %	25	
Solanum nigrum	0.1	<1 %	25	
Sonchus oleraceus	4	1-5%	60	
Sonchus oleraceus	0.1	<1 %	ROC13R-02	
Spyridium globulosum	0.1	<1 %	100	
Taraxacum khatoonae	0.1	<1 %	15	ROC13R-01
Trifolium campestre var. campestre	0.1	<1 %	15	
Trifolium scabrum	0.5	<1 %	ROC13-06=	
Xanthorrhoea preissii	1	<1 %	200	

Rockingham Road Biological Site ROC15
Described by CEFABS Date 12/09/2023 Type
MGA Zone 50 385759 mE 6434387 mN 115.787648 E -32.221326 S
Habitat
Soil
Rock Type
Vegetation Melaleuca huegelii subsp. huegelii tall open scrub over Acacia rostellifera scattered shrubs over Melaleuca systena scattered low shrubs over Austrostipa elegantissima scattered tussock grasses over *Bromus diandrus scattered bunch grasses over *Asparagus asparagoides, *Euphorbia peplus, *Oxalis pes-caprae, Clematis linearifolia, *Euphorbia terracina open herbland.
Veg Condition Good
Fire Age Burnt 3-5 years ago.

SPECIES LIST:

Name	Cover	C Class	Height	Specimen
Acacia rostellifera	2	1-5%	130	
Asparagus asparagoides	6	<1 %	50	
Austrostipa elegantissima	2	1-5%	25	ROC15-02
Banksia sessilis var. sessilis	0.1	<1 %	120	ROC15-01
Bromus diandrus	0.1	<1 %	120	ROC15-03
Bromus diandrus	0.5	<1 %	15	
Clematis linearifolia	1	<1 %	250	
Crassula glomerata	0.1	<1 %	3	
Ehrharta calycina	0.1	<1 %	100	
Ehrharta longiflora	0.1	<1 %	15	
Erigeron bonariensis	0.1	<1 %	5	
Euphorbia peplus	3	1-5%	20	
Euphorbia terracina	1	<1 %	35	
Fumaria capreolata	0.1	<1 %	20	
Galium murale	0.5	<1 %	5	
Gaudium laevigatum	0.1	<1 %	25	
Gomphocarpus fruticosus	0.1	<1 %	50	
Hypochaeris glabra	0.1	<1 %	2	
Hypochaeris radicata	0.1	<1 %	2	
Lactuca serriola	0.1	<1 %	5	
Lagurus ovatus	0.1	<1 %	20	
Lolium sp.	0.1	<1 %	25	ROC15-04
Lysiandra calycina	0.1	<1 %	50	
Lysimachia arvensis	0.1	<1 %	10	
Melaleuca huegelii subsp. huegelii	38	<1 %	420	
Melaleuca systena	0.1	<1 %	30	ROC15-07
Melaleuca systena	0.5	<1 %	55	
Minuartia mediterranea	0.1	<1 %	2	ROC15-08
Oxalis pes-caprae	1.5	1-5%	25	
Sonchus oleraceus	0.1	<1 %	5	ROC15-09
Sonchus oleraceus	0.1	<1 %	15	ROC15-10
Sonchus oleraceus	0.1	<1 %	5	
Sonchus oleraceus	0.1	<1 %	5	ROC15-06
Spyridium globulosum	0.1	<1 %	150	
Urospermum picroides	0.1	<1 %	3	

Rockingham Road Biological Site ROC15R
Described by SWTH Date 7/11/2023 Type
MGA Zone mE mN E S
Habitat
Soil
Rock Type
Vegetation
Veg Condition Good
Fire Age Burnt 3-5 years ago.
SPECIES LIST:

Name	Cover	C Class	Height	Specimen
Acacia rostellifera	4	1-5%	190	
Asparagus asparagoides	6	<1 %	130	
Austrostipa elegantissima	2	1-5%	120	
Avena barbata	0.1	<1 %	160	
Banksia sessilis var. sessilis	0.1	<1 %	120	
Bromus diandrus	0.5	<1 %	20	
Clematis linearifolia	1	<1 %	150	
Ehrharta calycina	0.1	<1 %	90	
Euphorbia terracina	1	<1 %	40	
Gomphocarpus fruticosus	0.1	<1 %	50	
Lagurus ovatus	0.1	<1 %	25	
Melaleuca huegelii subsp. huegelii	42	33.3-50%	420	
Melaleuca systena	0.1	<1 %	200	
Melaleuca systena	3	1-5%	180	ROC15R-02
Sonchus oleraceus	0.1	<1 %	ROC15R-01	
Sonchus oleraceus	0.1	<1 %	10	
Spyridium globulosum	2	1-5%	170	

Rockingham Road Biological Site ROC16
Described by ALPLDK Date 15/09/2023 Type
MGA Zone 50 385662 mE 6434137 mN 115.786583 E -32.223576 S
Habitat
Soil
Rock Type
Vegetation Eucalyptus gomphocephala open forest over Acacia rostellifera, Hardenbergia comptoniana, Spyridium globulosum tall shrubland over Acacia saligna scattered shrubs over *Ehrharta longiflora, *Ehrharta calycina, *Lagurus ovatus bunch grassland over *Euphorbia terracina, *Asparagus asparagoides, *Pelargonium capitatum open herbland.
Veg Condition Very Good
Fire Age No sign of recent fire.
SPECIES LIST:

Name	Cover	C Class	Height	Specimen
Acacia rostellifera	12	<1 %	230	
Acacia saligna	1	<1 %	110	
Arctotheca calendula x populifolia	0.1	<1 %	20	ROC18=
Asparagus asparagoides	3	1-5%	120	
Bromus diandrus	0.1	<1 %	25	
Callitris preissii	0.1	<1 %	75	
Cenchrus setaceus	0.1	<1 %	70	
Ehrharta calycina	9	<1 %	95	
Ehrharta longiflora	25	25-33.3%	35	
Ehrharta longiflora	0.1	<1 %	50	
Eremophila glabra subsp. glabra	0.1	<1 %	35	ROC16-03
Erodium botrys	0.1	<1 %	10	ROC16-01
Eucalyptus gomphocephala	55	50-75%	2200	
Euphorbia peplus	0.1	<1 %	15	
Euphorbia terracina	7	5-10%	95	
Fumaria capreolata	0.1	<1 %	50	
Hardenbergia comptoniana	5	5-10%	220	
Hypochaeris glabra	0.1	<1 %	2	
Hypochaeris radicata	0.1	<1 %	5	
Lagurus ovatus	2	1-5%	25	
Lysiandra calycina	0.1	<1 %	50	
Lysimachia arvensis	0.1	<1 %	10	
Melaleuca systena	0.1	<1 %	60	
Pelargonium capitatum	1	<1 %	95	
Polycarpon tetraphyllum	0.1	<1 %	5	ROC16-04
Reichardia tingitana	0.1	<1 %	25	ROC16-02
Schinus terebinthifolia	0.1	<1 %	50	
Solanum nigrum	0.1	<1 %	5	
Sonchus oleraceus	0.1	<1 %	25	
Spyridium globulosum	2	1-5%	220	
Stenotaphrum secundatum	0.1	<1 %	20	
Tricoryne elatior	0.1	<1 %	35	
Trifolium campestre var. campestre	0.1	<1 %	10	

Rockingham Road Biological Site ROC16R
Described by CEFABS Date 7/11/2023 Type
MGA Zone 50 385662 mE 6434137 mN 115.786583 E -32.223576 S
Habitat
Soil
Rock Type
Vegetation
Veg Condition Very Good
Fire Age No sign of recent fire.
SPECIES LIST:

Name	Cover	C Class	Height	Specimen
Acacia rostellifera	12	<1 %	230	
Acacia rostellifera	2.5	1-5%	230	ROC16R-03
Acacia saligna	1	<1 %	110	
Asparagus asparagoides	3	1-5%	120	
Avena barbata	1.5	1-5%	90	ROC19R=
Bromus diandrus	0.1	<1 %	25	
Callitris preissii	0.1	<1 %	75	
Cenchrus setaceus	0.1	<1 %	70	
Ehrharta calycina	9	<1 %	95	
Ehrharta longiflora	5	5-10%	35	
Eremophila glabra subsp. glabra	0.1	<1 %	60	ROC16R-05
Eucalyptus decipiens	5	5-10%	250	ROC16R-01
Eucalyptus gomphocephala	50	50-75%	2200	
Euphorbia peplus	0.1	<1 %	15	
Euphorbia terracina	7	5-10%	95	
Hardenbergia comptoniana	7	5-10%	220	
Hypochaeris glabra	0.1	<1 %	2	
Hypochaeris radicata	0.1	<1 %	5	
Lagurus ovatus	2	1-5%	25	
Lolium sp.	0.1	<1 %	30	ROC19=
Lysiandra calycina	0.1	<1 %	50	
Lysimachia arvensis	0.1	<1 %	10	
Melaleuca systena	0.1	<1 %	60	
Pelargonium capitatum	1	<1 %	95	
Petrorhagia dubia	0.1	<1 %	20	
Reichardia tingitana	0.1	<1 %	25	ROC16-02
Schinus terebinthifolia	0.1	<1 %	50	
Sonchus oleraceus	0.1	<1 %	25	
Spyridium globulosum	2	1-5%	220	
Stenotaphrum secundatum	2	1-5%	20	ROC16R-02
Tricoryne elatior	0.1	<1 %	35	

Rockingham Road Biological Site ROC18
Described by ALPLDK Date 15/09/2023 Type
MGA Zone 50 385645 mE 6434075 mN 115.786401 E -32.224133 S
Habitat
Soil
Rock Type
Vegetation Melaleuca huegelii subsp. huegelii, Hardenbergia comptoniana, Xanthorrhoea preissii tall shrubland over Melaleuca systena, Acacia pulchella var. glaberrima, Acacia truncata, Acacia rostellifera open shrubland over Acacia lasiocarpa var. lasiocarpa, Hibbertia hypericoides subsp. hypericoides low open shrubland over *Ehrharta longiflora, *Bromus diandrus open bunch grassland over *Oxalis pes-caprae, *Oxalis corniculata very open herbland.
Veg Condition Very Good
Fire Age Burnt 3-5 years ago.
SPECIES LIST:

Name	Cover	C Class	Height	Specimen
Acacia lasiocarpa var. lasiocarpa	4	1-5%	95	ROC18-07
Acacia pulchella var. glaberrima	3	1-5%	110	ROC18-01
Acacia rostellifera	1	<1 %	110	ROC18-02
Acacia truncata	2	1-5%	110	
Allocasuarina humilis	0.1	<1 %	50	ROC18-08
Arctotheca calendula x populifolia	0.1	<1 %	20	ROC18-04
Asparagus asparagoides	0.1	<1 %	90	
Asparagus asparagoides	0.1	<1 %	110	
Austrostipa flavescens	0.1	<1 %	80	ROC19=
Bromus diandrus	4	1-5%	25	
Carpobrotus edulis	0.1	<1 %	10	
Cenchrus setaceus	0.1	<1 %	90	
Clematis linearifolia	0.1	<1 %	120	
Corybas sp.	0.1	<1 %	5	
Desmocladus flexuosus	0.1	<1 %	20	
Dianella revoluta var. revoluta	0.1	<1 %	75	
Ehrharta calycina	0.1	<1 %	95	
Ehrharta longiflora	10	5-10%	20	
Euphorbia peplus	0.1	<1 %	10	
Euphorbia terracina	0.1	<1 %	20	
Galium murale	0.1	<1 %	5	
Gomphocarpus fruticosus	0.1	<1 %	140	
Grevillea preissii	0.1	<1 %	60	ROC19=
Hardenbergia comptoniana	4	1-5%	220	
Hibbertia hypericoides subsp. hypericoides	3	1-5%	90	ROC19=
Hypochaeris glabra	0.1	<1 %	2	
Lagurus ovatus	0.1	<1 %	20	
Leucopogon parviflorus	0.1	<1 %	80	
Lomandra maritima	0.1	<1 %	35	ROC19=
Lysiandra calycina	0.1	<1 %	55	
Lysimachia arvensis	0.1	<1 %	10	
Melaleuca huegelii subsp. huegelii	8	<1 %	220	
Melaleuca systena	3.5	<1 %	110	
Oxalis corniculata	0.5	<1 %	15	ROC18-10
Oxalis pes-caprae	7	5-10%	15	
Petrorhagia dubia	0.1	<1 %	20	
Pimelea rosea subsp. rosea	0.1	<1 %	50	ROC18-06
Pseudognaphalium luteoalbum	0.1	<1 %	20	ROC18-05
Sonchus oleraceus	0.1	<1 %	20	
Sonchus sp.	0.1	<1 %	25	ROC18-03
Templetonia retusa	0.1	<1 %	150	
Tricoryne elatior	0.1	<1 %	35	
Trifolium campestre var. campestre	0.1	<1 %	15	
Trymalium ledifolium var. ledifolium	0.1	<1 %	60	ROC19=

Verbascum virgatum	0.1	<1 %	5	ROC18-09
Xanthorrhoea preissii	4	1-5%	220	

Rockingham Road Biological Site ROC18R
Described by CEFABS Date 7/11/2023 Type
MGA Zone 50 385645 mE 6434075 mN 115.786401 E -32.224133 S
Habitat
Soil
Rock Type
Vegetation
Veg Condition Very Good
Fire Age Burnt 3-5 years ago.
SPECIES LIST:

Name	Cover	C Class	Height	Specimen
Acacia lasiocarpa var. lasiocarpa	4	1-5%	95	ROC18-07
Acacia pulchella var. glaberrima	3	1-5%	110	ROC18-01
Acacia rostellifera	1	<1 %	110	
Acacia truncata	2	1-5%	110	
Allocasuarina humilis	0.1	<1 %	50	ROC18-08
Asparagus asparagoides	0.1	<1 %	110	
Austrostipa flavescens	0.1	<1 %	80	ROC19=
Avena barbata	5	5-10%	60	ROC19-01=
Briza maxima	0.1	<1 %	40	
Briza minor	0.1	<1 %	20	
Bromus diandrus	4	1-5%	25	
Cenchrus setaceus	0.1	<1 %	90	
Clematis linearifolia	0.1	<1 %	120	
Desmocladus flexuosus	0.1	<1 %	20	
Dianella revoluta var. revoluta	0.1	<1 %	75	
Ehrharta calycina	0.1	<1 %	95	
Erigeron sp.	0.1	<1 %	25	
Euphorbia peplus	0.1	<1 %	10	
Euphorbia terracina	0.1	<1 %	20	
Galium murale	0.1	<1 %	5	
Gomphocarpus fruticosus	0.1	<1 %	140	
Gompholobium tomentosum	0.1	<1 %	20	
Grevillea preissii	0.5	<1 %	60	ROC19=
Hardenbergia comptoniana	4	1-5%	220	
Hibbertia hypericoides subsp. hypericoides	3	1-5%	90	ROC19=
Lagurus ovatus	0.1	<1 %	20	
Leucopogon parviflorus	0.1	<1 %	80	
Lomandra maritima	0.1	<1 %	35	ROC19=
Lysiandra calycina	0.1	<1 %	55	
Lysimachia arvensis	0.1	<1 %	10	
Melaleuca huegelii subsp. huegelii	8	<1 %	220	
Melaleuca systena	3.5	<1 %	110	
Oxalis corniculata	0.1	<1 %	15	ROC18-10
Petrorhagia dubia	0.1	<1 %	20	
Pimelea calcicola	0.1	<1 %	20	ROC19-=
Polycarpon tetraphyllum	0.1	<1 %	5	
Romulea rosea var. australis	0.1	<1 %	15	
Sonchus oleraceus	0.1	<1 %	20	
Sonchus sp.	0.1	<1 %	25	ROC18-03
Spyridium globulosum	0.1	<1 %	25	
Templetonia retusa	0.1	<1 %	150	
Tricoryne elatior	0.1	<1 %	35	
Trifolium campestre var. campestre	0.1	<1 %	15	
Trymalium ledifolium var. ledifolium	0.1	<1 %	60	ROC19=
Xanthorrhoea preissii	4	1-5%	220	

Rockingham Road Biological Site ROC19
Described by ALPLDK Date 15/09/2023 Type
MGA Zone 50 385721 mE 6434011 mN 115.787201 E -32.224714 S
Habitat
Soil
Rock Type
Vegetation Hardenbergia comptoniana, Melaleuca systena, Xanthorrhoea preissii, Melaleuca huegelii subsp. huegelii, Acacia truncata shrubland over Hibbertia hypericoides subsp. hypericoides, Trymalium ledifolium var. ledifolium, Grevillea preissii, Spyridium globulosum low open shrubland over Austrostipa flavescens scattered tussock grasses over *Bromus diandrus, *Ehrharta calycina open bunch grassland over Lepidosperma calcicola scattered sedges over *Asparagus asparagoides, Phyllanthus calycinus, *Trifolium campestre var. campestre very open herbland.
Veg Condition Very Good
Fire Age Burnt 3-5 years ago.
SPECIES LIST:

Name	Cover	C Class	Height	Specimen
Acacia truncata	1.5	1-5%	120	
Asparagus asparagoides	1.5	1-5%	80	
Asteraceae sp.	0.1	<1 %	35	ROC19-15
Austrostipa flavescens	2	1-5%	75	ROC19-05
Banksia dallanneyi subsp. dallanneyi var. dallanneyi	0.1	<1 %	20	ROC19-07
Banksia sessilis var. sessilis	1	<1 %	180	
Briza minor	0.1	<1 %	10	
Bromus diandrus	25	25-33.3%	60	
Calothamnus quadrifidus	0.1	<1 %	25	
Cerastium pumilum	0.1	<1 %	10	ROC19-16
Clematis linearifolia	0.1	<1 %	90	
Crassula glomerata	0.1	<1 %	3	
Desmocladus flexuosus	0.1	<1 %	20	
Desmocladus flexuosus	0.1	<1 %	20	ROC19-11
Ehrharta calycina	1	<1 %	90	
Ehrharta longiflora	0.1	<1 %	20	
Erigeron sp.	0.1	<1 %	30	
Euphorbia peplus	0.1	<1 %	10	
Euphorbia terracina	0.1	<1 %	20	
Galium murale	0.1	<1 %	5	
Gompholobium tomentosum	0.1	<1 %	35	ROC19-12
Grevillea preissii	1	<1 %	65	ROC19-02
Hardenbergia comptoniana	5	5-10%	150	
Hibbertia hypericoides subsp. hypericoides	2.5	1-5%	90	ROC19-03
Hypochaeris glabra	0.1	<1 %	2	
Lagurus ovatus	0.1	<1 %	10	
Lepidosperma calcicola	1	<1 %	25	ROC19-09
Leucopogon parviflorus	0.1	<1 %	80	ROC19-06
Lolium multiflorum	0.1	<1 %	50	ROC19-10
Lomandra maritima	0.1	<1 %	35	
Lysiandra calycina	1.5	1-5%	55	
Lysimachia arvensis	0.1	<1 %	10	
Melaleuca huegelii subsp. huegelii	2.5	1-5%	190	
Melaleuca systena	4	1-5%	120	
Oxalis pes-caprae	0.1	<1 %	15	
Pelargonium capitatum	0.1	<1 %	50	
Petrorhagia dubia	0.1	<1 %	20	
Pimelea calcicola	0.1	<1 %	60	ROC19-04
Scaevola thesioides subsp. thesioides	0.1	<1 %	25	ROC19-13
Sonchus oleraceus	0.1	<1 %	20	
Spyridium globulosum	0.5	<1 %	50	
Templetonia retusa	1	<1 %	110	
Trachyandra divaricata	0.1	<1 %	30	

Tricoryne elatior	0.1	<1 %	35	
Trifolium campestre var. campestre	0.5	<1 %	10	ROC19-08
Trymalium ledifolium var. ledifolium	2	1-5%	95	ROC19-01
Xanthorrhoea preissii	4	1-5%	150	

Rockingham Road Biological Site ROC19R
Described by CEFABS Date 7/11/2023 Type
MGA Zone 50 385721 mE 6434011 mN 115.787201 E -32.224714 S
Habitat
Soil
Rock Type
Vegetation
Veg Condition Very Good
Fire Age Burnt 3-5 years ago.
SPECIES LIST:

Name	Cover	C Class	Height	Specimen
Acacia truncata	4	1-5%	120	
Asparagus asparagoides	1.5	1-5%	80	
Austrostipa flavescens	2	1-5%	75	ROC19-05
Avena barbata	0.1	<1 %	75	ROC19-01
Banksia dallanneyi subsp. dallanneyi var. dallanneyi	0.1	<1 %	20	ROC19-07
Banksia sessilis var. sessilis	1.5	1-5%	180	
Briza minor	0.1	<1 %	10	
Bromus diandrus	18	<1 %	60	
Calothamnus quadrifidus	0.1	<1 %	25	
Clematis linearifolia	0.1	<1 %	90	
Desmocladus flexuosus	0.1	<1 %	20	
Ehrharta calycina	1	<1 %	90	
Erigeron sp.	0.1	<1 %	30	
Euphorbia peplus	0.1	<1 %	10	
Gompholobium tomentosum	0.1	<1 %	35	ROC19-12
Grevillea preissii	0.4	<1 %	40	ROC19-02
Grevillea preissii	1	<1 %	65	ROC19-02
Hardenbergia comptoniana	5	5-10%	150	
Hibbertia hypericoides subsp. hypericoides	2.5	1-5%	90	ROC19-03
Hypochaeris radicata	0.1	<1 %	15	
Lagurus ovatus	0.1	<1 %	10	
Lepidosperma calcicola	1	<1 %	25	ROC19-09
Leucopogon parviflorus	1	<1 %	90	ROC19-06
Lolium multiflorum	0.5	<1 %	50	ROC19-10
Lomandra maritima	0.1	<1 %	35	
Lysiandra calycina	1.5	1-5%	55	
Lysimachia arvensis	0.1	<1 %	10	
Melaleuca huegelii subsp. huegelii	2.5	1-5%	190	
Melaleuca systena	4	1-5%	120	
Oxalis pes-caprae	0.1	<1 %	15	
Pelargonium capitatum	0.1	<1 %	50	
Petrorhagia dubia	0.1	<1 %	20	
Pimelea calcicola	0.1	<1 %	60	ROC19-04
Polycarpon tetraphyllum	0.1	<1 %	3	
Scaevola thesioides subsp. thesioides	0.1	<1 %	25	ROC19-13
Sonchus oleraceus	0.1	<1 %	20	
Spyridium globulosum	0.5	<1 %	50	
Templetonia retusa	1	<1 %	110	
Trachyandra divaricata	0.1	<1 %	30	
Tricoryne elatior	0.1	<1 %	35	
Trifolium campestre var. campestre	0.1	<1 %	10	ROC19-08
Trymalium ledifolium var. ledifolium	2	1-5%	95	ROC19-01
Xanthorrhoea preissii	4	1-5%	150	

Rockingham Road Biological Site ROC20
Described by SWABS Date 15/09/2023 Type
MGA Zone 50 385778 mE 6434275 mN 115.787831 E -32.222338 S
Habitat
Soil
Rock Type
Vegetation Eucalyptus decipiens low open forest over Hardenbergia comptoniana tall open shrubland over Banksia sessilis var. sessilis, Acacia pulchella var. glaberrima shrubland over Spyridium globulosum scattered low shrubs over *Cenchrus setaceus scattered tussock grasses over *Bromus diandrus, *Ehrharta calycina, *Lolium perenne x rigidum open bunch grassland over *Euphorbia terracina scattered herbs.
Veg Condition Good
Fire Age No sign of recent fire.
SPECIES LIST:

Name	Cover	C Class	Height	Specimen
Acacia longifolia	0.1	<1 %	60	ROC20-04
Acacia pulchella var. glaberrima	3	1-5%	110	ROC20-02
Acacia rostellifera	0.1	<1 %	60	
Asparagus asparagoides	0.1	<1 %	65	
Banksia sessilis var. sessilis	9	<1 %	180	
Bromus diandrus	5	5-10%	60	
Cenchrus setaceus	0.5	<1 %	60	
Dianella revoluta var. revoluta	0.1	<1 %	60	
Ehrharta calycina	4	1-5%	50	
Eucalyptus decipiens	0.1	<1 %	10	ROC20-03
Eucalyptus decipiens	49	<1 %	800	ROC20-01
Euphorbia peplus	0.1	<1 %	5	
Euphorbia terracina	1	<1 %	25	
Galium murale	0.1	<1 %	5	
Hardenbergia comptoniana	3	1-5%	210	
Hibbertia hypericoides subsp. hypericoides	0.1	<1 %	25	
Lagurus ovatus	0.1	<1 %	25	
Lolium perenne x rigidum	2	1-5%	60	
Lysiandra calycina	0.1	<1 %	15	
Melaleuca huegelii subsp. huegelii	0.1	<1 %	50	ROC12=
Melaleuca systena	0.1	<1 %	80	
Olearia axillaris	0.1	<1 %	40	
Oxalis pes-caprae	0.1	<1 %	10	
Pelargonium capitatum	0.1	<1 %	10	
Solanum nigrum	0.1	<1 %	10	
Sonchus oleraceus	0.1	<1 %	15	
Spyridium globulosum	0.5	<1 %	60	
Tricoryne elatior	0.1	<1 %	45	

Rockingham Road Biological Site ROC21
Described by CEFABS Date 12/09/2023 Type
MGA Zone 50 385736 mE 6434496 mN 115.787412 E -32.220341 S
Habitat
Soil
Rock Type
Vegetation Eucalyptus decipiens low open woodland over Banksia sessilis var. sessilis tall open shrubland over Melaleuca huegelii subsp. huegelii, Hardenbergia comptoniana, Acacia cyclops, Acacia truncata, *Gaudium laevigatum shrubland over *Ehrharta calycina, *Ehrharta longiflora, *Bromus diandrus, *Lagurus ovatus, *Lolium perenne x rigidum very open bunch grassland over *Euphorbia terracina, *Euphorbia peplus very open herbland.
Veg Condition Good
Fire Age 1-2 years ago.
SPECIES LIST:

Name	Cover	C Class	Height	Specimen
Acacia cyclops	1	<1 %	150	ROC21-06
Acacia rostellifera	0.1	<1 %	165	
Acacia truncata	0.5	<1 %	150	ROC21-10
Asparagus asparagoides	0.1	<1 %	50	
Austrostipa flavescens	0.1	<1 %	80	ROC21-09
Avena barbata	0.1	<1 %	65	ROC21-05
Banksia sessilis var. sessilis	3	1-5%	210	ROC15=
Briza maxima	0.1	<1 %	50	
Bromus diandrus	0.5	<1 %	25	
Cenchrus setaceus	0.1	<1 %	50	
Crassula glomerata	0.1	<1 %	5	
Ehrharta calycina	2	1-5%	70	
Ehrharta longiflora	1	<1 %	20	
Eucalyptus decipiens	9	<1 %	950	ROC21-01
Euphorbia peplus	0.5	<1 %	10	
Euphorbia terracina	5	5-10%	60	
Fumaria capreolata	0.1	<1 %	30	
Galium murale	0.1	<1 %	5	
Gaudium laevigatum	0.5	<1 %	130	
Hardenbergia comptoniana	4	1-5%	150	
Hypochaeris glabra	0.1	<1 %	2	
Lagurus ovatus	0.5	<1 %	20	
Lolium perenne x rigidum	0.5	<1 %	20	
Lysimachia arvensis	0.1	<1 %	5	
Melaleuca huegelii subsp. huegelii	17	<1 %	180	
Melaleuca systena	0.1	<1 %	80	
Mirbelia sp.	0.1	<1 %	40	ROC21-08
Pelargonium capitatum	0.1	<1 %	5	
Pseudognaphalium luteoalbum	0.1	<1 %	10	ROC21-07
Raphanus raphanistrum	0.1	<1 %	10	
Romulea rosea var. australis	0.1	<1 %	20	
Rostraria cristata	0.1	<1 %	5	ROC21-04
Senecio condylus	0.1	<1 %	20	ROC21-02
Sixalix atropurpurea	0.1	<1 %	60	ROC21-11
Solanum nigrum	0.1	<1 %	10	
Sonchus oleraceus	0.1	<1 %	5	
Spyridium globulosum	0.5	<1 %	110	
Urospermum picroides	0.1	<1 %	20	
Vulpia myuros forma myuros	0.1	<1 %	30	ROC21-03

Rockingham Road Biological Site ROC21R
Described by SWTH Date 7/11/2023 Type
MGA Zone mE mN E S
Habitat
Soil
Rock Type
Vegetation
Veg Condition Good
Fire Age Burnt 3-5 years ago.
SPECIES LIST:

Name	Cover	C Class	Height	Specimen
Acacia cyclops	1	<1 %	170	
Acacia rostellifera	0.1	<1 %	160	
Acacia truncata	0.5	<1 %	150	
Asparagus asparagoides	0.1	<1 %	45	
Avena barbata	0.1	<1 %	45	
Banksia sessilis var. sessilis	3	1-5%	220	
Bromus diandrus	0.5	<1 %	30	
Cenchrus setaceus	0.1	<1 %	80	
Ehrharta calycina	3	1-5%	70	
Eucalyptus decipiens	9	<1 %	950	
Euphorbia terracina	2	1-5%	30	
Gaudium laevigatum	0.5	<1 %	110	
Hardenbergia comptoniana	2	1-5%	200	
Lagurus ovatus	0.5	<1 %	30	
Lolium perenne x rigidum	0.5	<1 %	40	
Melaleuca systena	0.1	<1 %	220	ROC21R-01
Melaleuca systena	17	<1 %	190	
Reichardia tingitana	0.1	<1 %	40	
Sixalix atropurpurea	0.1	<1 %	5	
Sonchus oleraceus	0.1	<1 %	10	
Spyridium globulosum	1	<1 %	120	

Rockingham Road Biological Site ROC22
Described by ALPLDK Date 14/09/2023 Type
MGA Zone 50 385482 mE 6435250 mN 115.784806 E -32.213516 S
Habitat
Soil
Rock Type
Vegetation Eucalyptus foecunda subsp. foecunda low woodland over Spyridium globulosum, Acacia rostellifera tall shrubland over Banksia sessilis var. sessilis scattered shrubs over Hibbertia hypericoides subsp. hypericoides scattered low shrubs over *Ehrharta longiflora, *Briza maxima very open bunch grassland over *Oxalis corniculata, *Euphorbia peplus, *Asparagus asparagoides very open herbland.
Veg Condition Very Good
Fire Age Very long unburnt.
SPECIES LIST:

Name	Cover	C Class	Height	Specimen
Acacia cyclops	0.1	<1 %	100	
Acacia rostellifera	1	<1 %	240	
Asparagus asparagoides	1	<1 %	80	
Austrostipa elegantissima	0.1	<1 %	100	
Austrostipa flavescens	0.1	<1 %	35	ROC22-05
Avena barbata	0.1	<1 %	40	
Banksia sessilis var. sessilis	1.5	1-5%	200	
Briza maxima	1	<1 %	15	
Bromus diandrus	0.1	<1 %	15	
Caesia micrantha	0.1	<1 %	35	ROC22-14
Caladenia sp.	0.1	<1 %	5	
Carduus pycnocephalus	0.1	<1 %	10	
Cenchrus setaceus	0.1	<1 %	50	
Cerastium glomeratum	0.1	<1 %	10	ROC22-06
Clematis linearifolia	0.1	<1 %	270	
Crassula glomerata	0.1	<1 %	5	
Desmocladus flexuosus	0.1	<1 %	15	
Dianella revoluta var. revoluta	0.1	<1 %	50	
Drosera pallida	0.1	<1 %	50	ROC05-16=
Ehrharta calycina	0.1	<1 %	50	
Ehrharta longiflora	7	5-10%	30	
Erigeron sp.	0.1	<1 %	5	
Erodium cicutarium	0.1	<1 %	8	ROC22-04
Eucalyptus foecunda subsp. foecunda	28	<1 %	500	ROC22-01
Euphorbia peplus	2	1-5%	15	
Euphorbia terracina	0.1	<1 %	10	
Galium murale	0.1	<1 %		
Gomphocarpus fruticosus	0.1	<1 %	100	
Hibbertia hypericoides subsp. hypericoides	2	1-5%	30	
Hydrocotyle callicarpa	0.1	<1 %	8	ROC22-12
Lagurus ovatus	0.1	<1 %	25	
Leucopogon parviflorus	0.1	<1 %	40	ROC05-17=
Lysimachia arvensis	0.1	<1 %		
Melaleuca systena	0.1	<1 %	40	ROC22-07
Minuartia mediterranea	0.1	<1 %	5	ROC05-19=
Oxalis corniculata	5	5-10%	10	ROC22-02
Oxalis pes-caprae	0.1	<1 %	15	
Pelargonium capitatum	0.1	<1 %	10	
Poranthera microphylla	0.1	<1 %	5	ROC05-21=
Pseudognaphalium luteoalbum	0.1	<1 %	10	ROC=
Pterostylis ectypha	0.1	<1 %	10	ROC22-09
Rostraria cristata	0.1	<1 %	10	ROC22-03
Sonchus oleraceus	0.1	<1 %		
Spyridium globulosum	29	<1 %	320	
Thysanotus sp. (manglesianus/patersonii)	0.1	<1 %	40	

Trachyandra divaricata	0.1	<1 %		ROC22-13
Trifolium campestre var. campestre	0.1	<1 %	8	ROC22-11
Urospermum picroides	0.1	<1 %	10	ROC22-08
Vulpia myuros forma myuros	0.1	<1 %	10	ROC22-10

Rockingham Road Biological Site ROC22R
Described by CEFABS Date 8/11/2023 Type
MGA Zone 50 385482 mE 6435250 mN 115.784806 E -32.213516 S
Habitat
Soil
Rock Type
Vegetation
Veg Condition Very Good
Fire Age Very long unburnt.
SPECIES LIST:

Name	Cover	C Class	Height	Specimen
Acacia cyclops	0.1	<1 %	100	
Acacia rostellifera	1	<1 %	240	
Asparagus asparagoides	1	<1 %	80	
Asphodelus fistulosus	0.1	<1 %	25	
Austrostipa elegantissima	0.1	<1 %	100	
Austrostipa flavescens	0.1	<1 %	35	ROC22-05=
Avena barbata	0.1	<1 %	40	
Banksia sessilis var. sessilis	1.5	1-5%	200	
Briza maxima	0.1	<1 %	15	
Bromus diandrus	0.1	<1 %	15	
Caladenia sp.	0.1	<1 %	5	
Carduus pycnocephalus	0.1	<1 %	10	
Cenchrus setaceus	0.1	<1 %	50	
Clematis linearifolia	0.1	<1 %	270	
Desmocladus flexuosus	0.1	<1 %	15	
Dianella revoluta var. revoluta	0.1	<1 %	50	
Ehrharta calycina	0.1	<1 %	50	
Ehrharta longiflora	1	<1 %	30	
Eucalyptus foecunda subsp. foecunda	28	<1 %	500	ROC22-01=
Euphorbia peplus	0.1	<1 %	15	
Euphorbia terracina	0.1	<1 %	10	
Galium murale	0.1	<1 %	2	
Gomphocarpus fruticosus	0.1	<1 %	100	
Hibbertia hypericoides subsp. hypericoides	3	1-5%	30	
Hypochaeris glabra	0.1	<1 %	5	
Lagurus ovatus	0.1	<1 %	25	
Leucopogon parviflorus	0.1	<1 %	40	ROC05-17=
Lysimachia arvensis	0.1	<1 %	5	
Melaleuca systena	0.1	<1 %	40	ROC22-07=
Minuartia mediterranea	0.1	<1 %	5	ROC05-19=
Olea europaea subsp. europaea	1.5	1-5%	220	
Oxalis corniculata	0.1	<1 %	10	ROC22-02=
Pelargonium capitatum	0.1	<1 %	10	
Sonchus oleraceus	0.1	<1 %	5	
Spyridium globulosum	29	<1 %	320	
Templetonia retusa	0.1	<1 %	60	
Trifolium campestre var. campestre	0.1	<1 %	8	ROC22-11=
Urospermum picroides	0.1	<1 %	10	ROC22-08=
Vulpia myuros forma myuros	0.1	<1 %	10	ROC22-10=

Rockingham Road Biological Site ROC23
Described by CEFABS Date 12/09/2023 Type
MGA Zone 50 385650 mE 6434903 mN 115.786556 E -32.216663 S
Habitat
Soil
Rock Type
Vegetation Banksia sessilis var. sessilis, Acacia cyclops shrubland over Melaleuca systena, Acacia truncata low open shrubland over *Cenchrus setaceus, Austrostipa flavescens very open tussock grassland over *Bromus diandrus very open bunch grassland over *Carpobrotus edulis, *Euphorbia terracina, *Pelargonium capitatum, *Asparagus asparagoides open herbland.
Veg Condition Good
Fire Age Burnt 3-5 years ago.
SPECIES LIST:

Name	Cover	C Class	Height	Specimen
Acacia cyclops	5	5-10%	160	ROC21-06=
Acacia truncata	1.5	1-5%	60	ROC21-10=
Asparagus asparagoides	2	1-5%	10	;n=25
Asphodelus fistulosus	0.1	<1 %	55	
Austrostipa elegantissima	0.1	<1 %		ROC15-02
Austrostipa flavescens	2	1-5%	35	ROC21-09=
Banksia sessilis var. sessilis	8	<1 %	150	ROC23-14
Bromus diandrus	9	<1 %	35	
Carpobrotus edulis	11	<1 %	10	
Cenchrus setaceus	7	5-10%	35	
Clematis linearifolia	0.1	<1 %	25	
Erigeron bonariensis	0.1	<1 %	35	
Euphorbia peplus	0.1	<1 %	10	
Euphorbia terracina	4	1-5%	35	
Galium murale	0.1	<1 %	3	
Geranium molle	0.1	<1 %	5	ROC23-01
Gomphocarpus fruticosus	0.1	<1 %	140	
Hibbertia hypericoides subsp. hypericoides	0.1	<1 %	25	ROC23-02
Hypochaeris radicata	0.1	<1 %	2	
Lagurus ovatus	0.1	<1 %	20	
Lysimachia arvensis	0.1	<1 %	5	
Melaleuca huegelii subsp. huegelii	0.1	<1 %	15	
Melaleuca systena	2	1-5%	45	
Pelargonium capitatum	4	1-5%	25	
Sixalix atropurpurea	0.1	<1 %	15	ROC21-11=
Sonchus oleraceus	0.1	<1 %	10	
Spyridium globulosum	0.1	<1 %	45	
Templetonia retusa	0.1	<1 %	70	
Tricoryne elatior	0.1	<1 %	25	ROC23-03

Rockingham Road Biological Site ROC23R
Described by SWTH Date 7/11/2023 Type
MGA Zone mE mN E S
Habitat
Soil
Rock Type
Vegetation
Veg Condition Good
Fire Age Burnt 3-5 years ago.
SPECIES LIST:

Name	Cover	C Class	Height	Specimen
Acacia cyclops	5	5-10%	210	
Acacia truncata	2	1-5%	110	
Asparagus asparagoides	0.1	<1 %	40	
Asphodelus fistulosus	0.1	<1 %	70	
Austrostipa elegantissima	0.1	<1 %	30	ROC15-02=
Austrostipa flavescens	2	1-5%	60	
Avena barbata	0.1	<1 %	40	
Banksia sessilis var. sessilis	29	<1 %	150	
Bromus diandrus	9	<1 %	25	
Carpobrotus edulis	7	5-10%	20	
Cenchrus setaceus	7	5-10%	120	
Clematis linearifolia	0.1	<1 %	80	
Erigeron bonariensis	0.1	<1 %	20	
Euphorbia peplus	0.1	<1 %	15	
Euphorbia terracina	2	1-5%	60	
Gomphocarpus fruticosus	0.1	<1 %	140	
Lagurus ovatus	0.1	<1 %	25	
Melaleuca systena	2	1-5%	130	
Pelargonium capitatum	8	<1 %	50	
Sixalix atropurpurea	0.1	<1 %	45	
Sonchus oleraceus	0.1	<1 %	30	
Spyridium globulosum	0.1	<1 %	90	

Rockingham Road Biological Site ROC24
Described by ALPLDK Date 14/09/2023 Type
MGA Zone 50 385494 mE 6435134 mN 115.784930 E -32.214563 S
Habitat
Soil
Rock Type
Vegetation Acacia rostellifera, Spyridium globulosum tall open scrub over *Cenchrus setaceus scattered tussock grasses over *Bromus diandrus, *Ehrharta longiflora bunch grassland over *Euphorbia peplus, *Asparagus asparagoides, *Euphorbia terracina, Solanum simile, *Sonchus oleraceus open herbland.
Veg Condition Good
Fire Age Burnt 3-5 years ago.
SPECIES LIST:

Name	Cover	C Class	Height	Specimen
Acacia rostellifera	25	25-33.3%	350	
Asparagus asparagoides	4	1-5%	110	
Asphodelus fistulosus	0.1	<1 %	30	
Austrostipa elegantissima	0.1	<1 %	60	
Austrostipa flavescens	0.1	<1 %	30	ROC24-01
Avena barbata	0.1	<1 %	40	
Banksia sessilis var. sessilis	0.1	<1 %	120	
Bromus diandrus	25	25-33.3%	40	
Cenchrus setaceus	2	1-5%		
Clematis linearifolia	0.1	<1 %	150	
Ehrharta longiflora	25	25-33.3%	25	
Euphorbia peplus	5	5-10%	15	
Euphorbia terracina	1	<1 %	50	
Ficinia marginata	0.1	<1 %	5	ROC08-05=
Fumaria capreolata	0.1	<1 %	50	
Galium murale	0.1	<1 %	5	
Gomphocarpus fruticosus	0.1	<1 %	120	
Hypochaeris glabra	0.1	<1 %	8	
Lagurus ovatus	0.1	<1 %	30	
Nicotiana glauca	0.1	<1 %	100	
Oxalis corniculata	0.1	<1 %	10	ROC24-05
Pelargonium capitatum	0.1	<1 %		ROC08-04=
Reichardia tingitana	0.1	<1 %	40	ROC24-04
Solanum simile	1	<1 %	110	ROC24-02
Sonchus oleraceus	1	<1 %	40	
Sonchus oleraceus	0.1	<1 %	40	ROC24-03
Spyridium globulosum	15	10-25%	300	
Urospermum picroides	1	<1 %	15	ROC08-10=
Vulpia myuros forma myuros	0.1	<1 %	10	ROC24-06

Rockingham Road Biological Site ROC24R
Described by CEFABS Date 8/11/2023 Type
MGA Zone 50 385494 mE 6435134 mN 115.784930 E -32.214563 S
Habitat
Soil
Rock Type
Vegetation
Veg Condition Good
Fire Age Burnt 3-5 years ago.
SPECIES LIST:

Name	Cover	C Class	Height	Specimen
Acacia rostellifera	25	25-33.3%	350	
Asparagus asparagoides	2	1-5%	110	
Austrostipa elegantissima	0.1	<1 %	60	
Austrostipa flavescens	0.1	<1 %	30	ROC24-01=
Avena barbata	0.1	<1 %	40	
Banksia sessilis var. sessilis	0.1	<1 %	120	
Bromus diandrus	25	25-33.3%	40	
Cenchrus setaceus	2	1-5%		
Clematis linearifolia	0.1	<1 %	150	
Ehrharta longiflora	10	5-10%	25	
Eragrostis curvula	0.1	<1 %	28	ROC24R-01
Erigeron sp.	0.1	<1 %	20	
Euphorbia peplus	1	<1 %	15	
Euphorbia terracina	1	<1 %	50	
Fumaria capreolata	0.1	<1 %	50	
Galium murale	0.1	<1 %	5	
Gomphocarpus fruticosus	0.1	<1 %	120	
Hypochaeris radicata	0.1	<1 %	5	
Lagurus ovatus	0.1	<1 %	30	
Nicotiana glauca	0.1	<1 %	100	
Oxalis corniculata	0.1	<1 %	10	ROC24-05=
Reichardia tingitana	0.1	<1 %	40	
Schinus terebinthifolia	10	5-10%	10	
Solanum simile	1	<1 %	110	ROC24-02=
Sonchus oleraceus	0.1	<1 %	40	ROC24-03=
Sonchus oleraceus	0.1	<1 %	40	
Spyridium globulosum	15	10-25%	300	
Urospermum picroides	0.1	<1 %	15	ROC08-10=

Rockingham Road Biological Site ROC25
Described by SWABS Date 14/09/2023 Type
MGA Zone 50 385281 mE 6436212 mN 115.782796 E -32.204813 S
Habitat
Soil
Rock Type
Vegetation Templetonia retusa, Acacia saligna tall open shrubland over Melaleuca systena shrubland over Acacia lasiocarpa var. lasiocarpa, Grevillea preissii, Spyridium globulosum low shrubland over *Lolium perenne x rigidum, *Bromus diandrus, *Avena barbata, *Lagurus ovatus open bunch grassland over *Fumaria capreolata, Tricoryne elatior very open herbland.
Veg Condition Good to Degradedl
Fire Age Very long unburnt.
SPECIES LIST:

Name	Cover	C Class	Height	Specimen
Acacia lasiocarpa var. lasiocarpa	8	<1 %	60	ROC25-01
Acacia saligna	0.5	<1 %	350	
Asparagus asparagoides	0.1	<1 %	60	
Avena barbata	4	1-5%	40	
Bromus diandrus	5	5-10%	25	
Cenchrus setaceus	0.1	<1 %	50	
Euphorbia peplus	0.1	<1 %	5	
Euphorbia terracina	0.1	<1 %	20	
Fumaria capreolata	6	<1 %	10	
Galium murale	0.1	<1 %	2	
Gomphocarpus fruticosus	0.1	<1 %	80	;1
Grevillea preissii	1.5	1-5%	40	ROC25-03
Hypochaeris glabra	0.1	<1 %	10	
Lagurus ovatus	2	1-5%	25	
Lolium perenne x rigidum	7	5-10%	15	
Lysiandra calycina	0.1	<1 %	65	
Lysimachia arvensis	0.1	<1 %	10	
Melaleuca systena	12	<1 %	200	
Rhamnus alaternus	0.1	<1 %	20	
Romulea rosea var. australis	0.1	<1 %	10	
Sixalix atropurpurea	0.1	<1 %	20	ROC02=
Spyridium globulosum	1	<1 %	90	
Templetonia retusa	9	<1 %	220	
Trachyandra divaricata	0.1	<1 %	45	
Tricoryne elatior	0.5	<1 %	30	ROC25-02
Trifolium arvense var. arvense	0.1	<1 %	10	
Urospermum picroides	0.1	<1 %	10	

Rockingham Road Biological Site ROC25R
Described by SWTH Date 8/11/2023 Type
MGA Zone mE mN E S
Habitat
Soil
Rock Type
Vegetation
Veg Condition Good to Degraded
Fire Age No sign of recent fire.
SPECIES LIST:

Name	Cover	C Class	Height	Specimen
Acacia lasiocarpa var. lasiocarpa	8	<1 %	60	
Acacia saligna	0.5	<1 %	350	
Asparagus asparagoides	0.1	<1 %	60	
Avena barbata	1	<1 %	60	
Bromus diandrus	5	5-10%	50	
Cenchrus setaceus	0.1	<1 %	50	
Euphorbia terracina	0.1	<1 %	25	
Fumaria capreolata	0.1	<1 %	45	
Gomphocarpus fruticosus	0.1	<1 %	110	
Grevillea preissii	1.5	1-5%	40	
Lagurus ovatus	2	1-5%	20	
Lysiandra calycina	0.1	<1 %	40	
Melaleuca systena	12	<1 %	210	
Rhamnus alaternus	0.1	<1 %	40	
Sixalix atropurpurea	0.1	<1 %	45	
Sonchus oleraceus	0.1	<1 %	60	
Spyridium globulosum	1	<1 %	150	
Templetonia retusa	9	<1 %	260	
Trachyandra divaricata	0.1	<1 %	50	
Tricoryne elatior	1	<1 %	50	

Rockingham Road Biological Site ROC27
Described by SWABS Date 15/09/2023 Type
MGA Zone 50 385602 mE 6434872 mN 115.786041 E -32.216933 S
Habitat
Soil
Rock Type
Vegetation Eucalyptus decipiens scattered low trees over Acacia saligna tall open scrub over Melaleuca lanceolata, Thomasia cognata, Scaevola thesioides subsp. thesioides, Templetonia retusa, Chamelaucium uncinatum low open shrubland over *Bromus diandrus, *Lagurus ovatus scattered bunch grasses over *Oxalis pes-caprae, *Euphorbia terracina, Phyllanthus calycinus very open herbland.
Veg Condition Good
Fire Age Burnt 3-5 years ago.
SPECIES LIST:

Name	Cover	C Class	Height	Specimen
Acacia cyclops	0.1	<1 %		ROC27-04
Acacia saligna	35	33.3-50%	300	
Acacia truncata	0.1	<1 %	60	
Asparagus asparagoides	0.1	<1 %	45	
Asphodelus fistulosus	0.1	<1 %	45	
Austrostipa elegantissima	0.1	<1 %	80	
Briza minor	0.1	<1 %	10	
Bromus diandrus	1	<1 %	20	
Callitris preissii	0.1	<1 %	100	
Chamelaucium uncinatum	0.5	<1 %	80	
Clematis linearifolia	0.1	<1 %	55	
Dianella revoluta var. revoluta	0.1	<1 %	45	
Erigeron bonariensis	0.1	<1 %	60	
Eucalyptus decipiens	1.5	1-5%	450	
Euphorbia peplus	0.1	<1 %	5	
Euphorbia terracina	2	1-5%	10	
Galium murale	0.1	<1 %	5	
Gomphocarpus fruticosus	0.1	<1 %	210	;1
Hypochaeris glabra	0.1	<1 %	10	
Lagurus ovatus	1	<1 %	15	
Leucopogon parviflorus	0.1	<1 %	45	ROC27-05
Lysiandra calycina	1	<1 %	45	
Lysimachia arvensis	0.1	<1 %	10	
Medicago polymorpha	0.1	<1 %	10	
Melaleuca lanceolata	3	1-5%	80	ROC27-03
Moraea flaccida	0.1	<1 %	25	;1
Oxalis pes-caprae	3	1-5%	10	
Scaevola thesioides subsp. thesioides	1	<1 %	60	ROC27-02
Sonchus oleraceus	0.1	<1 %	10	
Spyridium globulosum	0.1	<1 %	70	
Spyridium globulosum	0.1	<1 %	40	
Templetonia retusa	1	<1 %	45	
Thomasia cognata	1.5	1-5%	50	ROC27-01

Rockingham Road Biological Site ROC27R
Described by SWTH Date 7/11/2023 Type
MGA Zone mE mN E S
Habitat
Soil
Rock Type
Vegetation
Veg Condition Good
Fire Age No sign of recent fire.
SPECIES LIST:

Name	Cover	C Class	Height	Specimen
Acacia cyclops	0.1	<1 %	150	
Acacia saligna	35	33.3-50%	300	
Austrostipa elegantissima	0.1	<1 %	80	
Bromus diandrus	1	<1 %	30	
Callitris preissii	0.1	<1 %	120	
Chamelaucium uncinatum	0.1	<1 %	120	
Dianella revoluta var. revoluta	0.1	<1 %	80	
Eucalyptus decipiens	3	1-5%	450	
Euphorbia terracina	2	1-5%	40	
Gomphocarpus fruticosus	0.1	<1 %	190	
Lagurus ovatus	0.1	<1 %	40	
Lysiandra calycina	1	<1 %	40	
Melaleuca huegelii subsp. huegelii	3	1-5%	190	
Melaleuca lanceolata	1	<1 %	120	ROC27R-01
Scaevola thesioides subsp. thesioides	1	<1 %	30	ROC27-02=
Spyridium globulosum	0.1	<1 %	80	
Templetonia retusa	1	<1 %	50	
Thomasia cognata	0.1	<1 %	25	ROC27-01=
Tricoryne elatior	0.1	<1 %	50	

Rockingham Road Biological Site ROC29R
Described by SWTH Date 7/11/2023 Type
MGA Zone mE mN E S
Habitat
Soil
Rock Type
Vegetation
Veg Condition Very Good to Good
Fire Age Burnt 3-5 years ago.
SPECIES LIST:

Name	Cover	C Class	Height	Specimen
Acacia pulchella var. glaberrima	6	<1 %	120	
Acacia rostellifera	0.1	<1 %	70	
Asparagus asparagoides	0.1	<1 %	80	
Avena barbata	0.1	<1 %	60	
Banksia sessilis var. sessilis	11	<1 %	190	
Bromus diandrus	5	5-10%	110	
Cenchrus setaceus	1	<1 %	50	
Ehrharta calycina	4	1-5%	100	
Eucalyptus decipiens	49	<1 %	950	
Euphorbia peplus	0.1	<1 %	20	
Euphorbia terracina	1	<1 %	60	
Hardenbergia comptoniana	6	<1 %	150	
Melaleuca systena	0.1	<1 %	80	
Pelargonium capitatum	0.1	<1 %	100	
Santalum acuminatum	0.1	<1 %	180	
Sonchus oleraceus	0.1	<1 %	25	
Spyridium globulosum	0.5	<1 %	80	

Rockingham Road Biological Site ROC30
Described by CEFRH Date 17/10/2023 Type
MGA Zone 50 385591 mE 6434043 mN 115.785822 E -32.224408 S
Habitat
Soil
Rock Type
Vegetation Acacia rostellifera tall shrubland over *Ricinus communis open shrubland over *Cenchrus setaceus very open tussock grassland over *Lolium perenne x rigidum, *Bromus diandrus, *Avena barbata open bunch grassland.
Veg Condition Degraded I
Fire Age No sign of recent fire.
SPECIES LIST:

Name	Cover	C Class	Height	Specimen
Acacia rostellifera	25	25-33.3%	220	
Asparagus asparagoides	0.1	<1 %	5	
Avena barbata	3	1-5%	95	
Bromus diandrus	4	1-5%	25	
Cenchrus setaceus	6	<1 %	35	
Dianella revoluta var. revoluta	0.1	<1 %	35	
Ehrharta longiflora	0.1	<1 %	25	
Euphorbia peplus	0.1	<1 %	25	
Euphorbia terracina	0.1	<1 %	25	
Lolium perenne x rigidum	5	5-10%	25	
Medicago polymorpha	0.1	<1 %	5	
Oxalis pes-caprae	0.1	<1 %	5	
Ricinus communis	6	<1 %	200	
Sonchus oleraceus	0.1	<1 %	50	ROC30-01

Rockingham Road Biological Site ROC30R
Described by CEFJT Date 15/11/2023 Type
MGA Zone 50 385591 mE 6434043 mN 115.785822 E -32.224408 S
Habitat
Soil
Rock Type
Vegetation
Veg Condition Degraded
Fire Age No sign of recent fire.

SPECIES LIST:

Name	Cover	C Class	Height	Specimen
Acacia rostellifera	25	25-33.3%	220	
Asparagus asparagoides	0.1	<1 %	5	
Avena barbata	3	1-5%	95	
Bromus diandrus	4	1-5%	25	
Cenchrus setaceus	5	5-10%	35	
Dianella revoluta var. revoluta	0.1	<1 %	35	
Ehrharta longiflora	0.1	<1 %	25	
Euphorbia peplus	0.1	<1 %	25	
Euphorbia terracina	0.1	<1 %	25	
Lolium perenne x rigidum	5	5-10%	25	
Medicago polymorpha	0.1	<1 %	5	
Oxalis pes-caprae	0.1	<1 %	5	
Ricinus communis	6	<1 %	200	
Sonchus oleraceus	0.1	<1 %	45	
Sonchus oleraceus	0.1	<1 %	50	ROC30-01=

Rockingham Road Biological Site ROC31
Described by CEFRH Date 17/10/2023 Type
MGA Zone 50 385591 mE 6434412 mN 115.785866 E -32.221083 S
Habitat
Soil
Rock Type
Vegetation Eucalyptus sp. low open woodland over Banksia sessilis var. sessilis scattered tall shrubs over Acacia rostellifera open heath over *Cenchrus setaceus, Austrostipa flavescens very open tussock grassland over *Bromus diandrus, *Bromus diandrus, *Lagurus ovatus, *Avena barbata, *Lolium perenne x rigidum open bunch grassland over *Pelargonium capitatum scattered herbs.
Veg Condition Good
Fire Age Burnt 3-5 years ago.
SPECIES LIST:

Name	Cover	C Class	Height	Specimen
Acacia cyclops	0.1	<1 %	170	
Acacia rostellifera	35	33.3-50%	180	
Asparagus asparagoides	0.1	<1 %	15	
Austrostipa flavescens	1	<1 %	180	ROC31-02
Avena barbata	3	1-5%	70	
Banksia sessilis var. sessilis	2	1-5%	250	
Bromus diandrus	10	5-10%	35	ROC31-04
Bromus diandrus	10	5-10%	30	
Cenchrus setaceus	7	5-10%	60	
Clematis linearifolia	0.1	<1 %	40	
Dianella revoluta var. revoluta	0.1	<1 %	25	
Eucalyptus sp.	8	<1 %	200	ROC31-03
Eucalyptus utilis	0.1	<1 %	220	ROC31-11
Euphorbia peplus	0.1	<1 %	15	
Euphorbia terracina	0.1	<1 %	20	
Fumaria capreolata	0.1	<1 %	10	
Gaudium laevigatum	0.1	<1 %	25	juvenile;
Hardenbergia comptoniana	0.1	<1 %	60	
Lagurus ovatus	4	1-5%	15	
Leucopogon parviflorus	0.1	<1 %	15	ROC31-09
Lolium perenne x rigidum	3	1-5%	25	
Melaleuca systena	0.1	<1 %	50	
Melaleuca systena	0.1	<1 %	70	ROC31-05
Oxalis pes-caprae	0.1	<1 %	5	
Pelargonium capitatum	0.5	<1 %	60	
Sonchus oleraceus	0.1	<1 %	75	ROC30-01=
Spyridium globulosum	0.1	<1 %	100	
Thysanotus patersonii	0.1	<1 %	25	ROC31-06
Trachyandra divaricata	0.1	<1 %	70	ROC31-07
Tricoryne elatior	0.1	<1 %	25	ROC31-08

Rockingham Road Biological Site ROC31R
Described by CEFABS Date 7/11/2023 Type
MGA Zone 50 385591 mE 6434412 mN 115.785866 E -32.221083 S
Habitat
Soil
Rock Type
Vegetation
Veg Condition Good
Fire Age Burnt 3-5 years ago.
SPECIES LIST:

Name	Cover	C Class	Height	Specimen
Acacia cyclops	0.1	<1 %	170	
Acacia rostellifera	35	33.3-50%	180	
Asparagus asparagoides	0.1	<1 %	15	
Asphodelus fistulosus	0.1	<1 %	70	
Austrostipa flavescens	1	<1 %	180	ROC31-02
Avena barbata	0.5	<1 %	70	
Banksia sessilis var. sessilis	3	1-5%	250	
Bromus diandrus	10	5-10%	30	
Bromus diandrus	6	<1 %	35	ROC31-04
Cenchrus setaceus	5	5-10%	60	
Cirsium vulgare	0.1	<1 %	60	ROC31R-01
Clematis linearifolia	0.1	<1 %	40	
Dianella revoluta var. revoluta	0.1	<1 %	25	
Ehrharta longiflora	0.1	<1 %	30	
Eucalyptus utilis	8	<1 %	200	ROC31R-01
Euphorbia peplus	0.1	<1 %	15	
Euphorbia terracina	0.1	<1 %	40	
Gaudium laevigatum	0.1	<1 %	25	
Hardenbergia comptoniana	0.1	<1 %	60	
Lagurus ovatus	4	1-5%	15	
Leucopogon parviflorus	0.1	<1 %	15	ROC31-09
Lysiandra calycina	0.1	<1 %	30	
Melaleuca systena	0.1	<1 %	50	
Melaleuca systena	0.1	<1 %	70	ROC31-05
Pelargonium capitatum	0.1	<1 %	60	
Spyridium globulosum	0.1	<1 %	100	
Tricoryne elatior	0.1	<1 %	25	ROC31-08
Urospermum picroides	0.1	<1 %	30	

Rockingham Road Biological Site ROC32
Described by CEFRH Date 17/10/2023 Type
MGA Zone 50 385541 mE 6434789 mN 115.785386 E -32.217675 S
Habitat
Soil
Rock Type
Vegetation Eucalyptus utilis low woodland over Acacia saligna tall open shrubland over Banksia sessilis var. sessilis scattered shrubs over Acacia cyclops scattered low shrubs over *Cenchrus setaceus open tussock grassland over *Bromus diandrus, *Lagurus ovatus very open bunch grassland over *Centranthus macrosiphon, *Pelargonium capitatum, *Asphodelus fistulosus very open herbland.
Veg Condition Good
Fire Age Burnt 3-5 years ago.
SPECIES LIST:

Name	Cover	C Class	Height	Specimen
Acacia cyclops	1	<1 %	50	ROC32-04
Acacia saligna	9	<1 %	250	
Acacia saligna	0.1	<1 %	50	ROC32-02
Asphodelus fistulosus	1	<1 %	25	ROC32-03
Austrostipa flavescens	0.1	<1 %		ROC32-02
Avena barbata	0.1	<1 %	55	
Banksia sessilis var. sessilis	1	<1 %	150	
Brachypodium distachyon	0.1	<1 %	15	
Bromus diandrus	5	5-10%	15	
Cenchrus setaceus	11	<1 %	55	
Centranthus macrosiphon	4	1-5%	20	ROC32-05
Desmocladus flexuosus	0.1	<1 %	10	ROC32-07
Erigeron bonariensis	0.1	<1 %	25	;
Eucalyptus utilis	22	<1 %	220	ROC32-01
Euphorbia peplus	0.1	<1 %	10	
Euphorbia terracina	0.1	<1 %	10	
Gaudium laevigatum	0.1	<1 %	50	
Lagurus ovatus	2	1-5%	15	
Lysiandra calycina	0.1	<1 %	10	
Lysimachia arvensis	0.1	<1 %		
Melaleuca huegelii	0.1	<1 %	35	ROC32-09
Melaleuca lanceolata	0.1	<1 %	100	ROC32-05
Melaleuca systena	0.1	<1 %	25	
Pelargonium capitatum	3	1-5%	50	
Petrorhagia dubia	0.1	<1 %	50	ROC32-08
Reichardia tingitana	0.1	<1 %	20	ROC32-06
Schinus terebinthifolia	0.1	<1 %	25	
Spyridium globulosum	0.1	<1 %	50	
Templetonia retusa	0.1	<1 %	15	
Tricoryne elatior	0.1	<1 %	20	ROC32-08
Trifolium campestre var. campestre	0.1	<1 %	5	

Rockingham Road Biological Site ROC32R
Described by CEFJT Date 15/11/2023 Type
MGA Zone 50 385541 mE 6434789 mN 115.785386 E -32.217675 S
Habitat
Soil
Rock Type
Vegetation
Veg Condition Good
Fire Age Burnt 3-5 years ago.

SPECIES LIST:

Name	Cover	C Class	Height	Specimen
Acacia cyclops	1	<1 %	50	ROC32-04=
Acacia saligna	9	<1 %	250	
Asphodelus fistulosus	0.5	<1 %	25	ROC32-03=
Austrostipa flavescens	0.1	<1 %	120	ROC31-02=
Avena barbata	0.1	<1 %	55	
Banksia sessilis var. sessilis	1.5	1-5%	150	
Bromus diandrus	5	5-10%	15	
Cenchrus setaceus	11	<1 %	55	
Centranthus macrosiphon	4	1-5%	150	
Desmocladus flexuosus	0.1	<1 %	10	ROC32-07=
Dianella revoluta var. revoluta	0.1	<1 %	35	
Eucalyptus utilis	22	<1 %	220	ROC32-01
Euphorbia peplus	0.1	<1 %	10	
Euphorbia terracina	0.1	<1 %	10	
Gaudium laevigatum	0.1	<1 %	50	
Lagurus ovatus	2	1-5%	15	
Lysiandra calycina	0.1	<1 %	10	
Lysimachia arvensis	0.1	<1 %		
Melaleuca huegelii	0.1	<1 %	35	ROC32-09
Melaleuca lanceolata	0.1	<1 %	25	ROC32R-02
Melaleuca lanceolata	0.1	<1 %	150	ROC32R-01
Melaleuca systena	0.1	<1 %	25	
Pelargonium capitatum	2	1-5%	50	
Petrorhagia dubia	0.1	<1 %	15	
Santalum acuminatum	0.1	<1 %	45	
Schinus terebinthifolia	0.1	<1 %	25	
Spyridium globulosum	0.1	<1 %	50	
Templetonia retusa	0.1	<1 %	15	
Tricoryne elatior	0.1	<1 %	20	
Trifolium campestre var. campestre	0.1	<1 %	5	
Urospermum picroides	0.1	<1 %	20	ROC32-06=

Rockingham Road Biological Site ROC33
Described by CEFRH Date 17/10/2023 Type
MGA Zone 50 385446 mE 6435307 mN 115.784435 E -32.212992 S
Habitat
Soil
Rock Type
Vegetation Acacia rostellifera tall open scrub over Clematis linearifolia, *Euphorbia peplus, *Urospermum picroides, *Asparagus asparagoides, *Lysimachia arvensis herbland.
Veg Condition Degraded I
Fire Age No sign of recent fire.
SPECIES LIST:

Name	Cover	C Class	Height	Specimen
Acacia rostellifera	60	50-75%	250	
Asparagus asparagoides	3	1-5%	180	
Avena barbata	0.1	<1 %	100	
Clematis linearifolia	50	50-75%	200	
Ehrharta longiflora	0.1	<1 %	15	
Euphorbia peplus	5	5-10%	10	ROC33-10
Euphorbia terracina	0.1	<1 %	25	
Galium murale	0.1	<1 %	5	
Gomphocarpus fruticosus	0.1	<1 %	100	
Lysimachia arvensis	1	<1 %	5	
Orobanche minor	0.1	<1 %	50	ROC33-01
Sonchus oleraceus	0.1	<1 %	25	
Spyridium globulosum	0.1	<1 %	150	
Urospermum picroides	5	5-10%	10	

Rockingham Road Biological Site ROC33R
Described by CEFJT Date 15/11/2023 Type
MGA Zone 50 385446 mE 6435307 mN 115.784435 E -32.212992 S
Habitat
Soil
Rock Type
Vegetation
Veg Condition Degraded
Fire Age No sign of recent fire.
SPECIES LIST:

Name	Cover	C Class	Height	Specimen
Acacia rostellifera	60	50-75%	250	
Asparagus asparagoides	5	5-10%	180	
Avena barbata	0.1	<1 %	100	
Clematis linearifolia	50	50-75%	200	
Ehrharta longiflora	0.1	<1 %	15	
Euphorbia peplus	0.5	<1 %	10	ROC10
Euphorbia terracina	0.1	<1 %	25	
Gomphocarpus fruticosus	0.1	<1 %	100	
Lysimachia arvensis	0.1	<1 %	5	
Sonchus oleraceus	0.1	<1 %	25	
Spyridium globulosum	0.1	<1 %	150	
Urospermum picroides	1	<1 %	10	ROC32=
Urospermum picroides	0.1	<1 %	5	

Rockingham Road Biological Site ROCR34
Described by CEFRH Date 17/10/2023 Type
MGA Zone 50 385432 mE 6435092 mN 115.784262 E -32.214935 S
Habitat
Soil
Rock Type
Vegetation Melaleuca huegelii subsp. huegelii, Acacia rostellifera tall open scrub over Spyridium globulosum open shrubland over Austrostipa flavescens scattered tussock grasses over *Bromus diandrus, *Lagurus ovatus, *Brachypodium distachyon open bunch grassland over *Asparagus asparagoides, *Fumaria capreolata, Clematis linearifolia, *Euphorbia peplus very open herbland.
Veg Condition Good
Fire Age No sign of recent fire.
SPECIES LIST:

Name	Cover	C Class	Height	Specimen
Acacia rostellifera	15	10-25%	220	ROC34R-01
Acacia rostellifera	0.1	<1 %	45	
Asparagus asparagoides	2	1-5%	100	
Austrostipa flavescens	2	1-5%	120	ROC34R-02
Avena barbata	0.1	<1 %	95	
Brachypodium distachyon	1	<1 %	35	
Bromus diandrus	5	5-10%	10	
Cenchrus setaceus	0.1	<1 %	45	
Clematis linearifolia	1	<1 %	220	
Dianella revoluta var. revoluta	0.1	<1 %	50	
Ehrharta calycina	0.1	<1 %	130	
Eremophila glabra subsp. glabra	0.1	<1 %	75	ROC34R-03
Erigeron bonariensis	0.1	<1 %	25	ROC34R-02
Euphorbia peplus	1	<1 %	10	
Euphorbia terracina	0.1	<1 %	10	
Fumaria capreolata	2	1-5%	20	
Galium murale	0.1	<1 %	5	
Lagurus ovatus	5	5-10%	20	
Melaleuca huegelii subsp. huegelii	29	<1 %	450	
Olearia axillaris	0.1	<1 %	300	ROC34R-04
Oxalis pes-caprae	0.1	<1 %	10	
Sonchus oleraceus	0.1	<1 %	50	
Spyridium globulosum	3	1-5%	120	
Templetonia retusa	0.1	<1 %	120	
Urospermum picroides	0.1	<1 %	10	

Rockingham Road Biological Site ROCR38
Described by SW Date 17/10/2023 Type
MGA Zone 50 385076 mE 6436110 mN 115.780609 E -32.205717 S
Habitat
Soil
Rock Type
Vegetation Eucalyptus gomphocephala open woodland over Agonis flexuosa var. flexuosa low open forest over Acacia saligna, *Ricinus communis, *Rhamnus alaternus tall shrubland over Acacia rostellifera, Spyridium globulosum scattered shrubs over *Bromus diandrus, *Avena barbata, *Ehrharta longiflora closed bunch grassland over *Euphorbia terracina scattered herbs.
Veg Condition Degraded
Fire Age No sign of recent fire.
SPECIES LIST:

Name	Cover	C Class	Height	Specimen
Acacia rostellifera	0.1	<1 %	80	
Acacia saligna	0.1	<1 %	500	
Acanthocarpus preissii	0.1	<1 %	50	
Agonis flexuosa var. flexuosa	0.1	<1 %	650	
Asparagus asparagoides	0.1	<1 %	140	
Avena barbata	0.1	<1 %	65	
Bromus diandrus	0.1	<1 %	40	
Cenchrus setaceus	0.1	<1 %	50	
Ehrharta longiflora	0.1	<1 %	45	
Eucalyptus gomphocephala	0.1	<1 %	1100	
Euphorbia peplus	0.1	<1 %	10	
Euphorbia terracina	0.1	<1 %	25	
Fumaria capreolata	0.1	<1 %	30	
Hardenbergia comptoniana	0.1	<1 %	140	
Olea europaea subsp. europaea	0.1	<1 %	120	
Pelargonium capitatum	0.1	<1 %	40	
Rhamnus alaternus	0.1	<1 %	110	
Ricinus communis	0.1	<1 %	240	
Scaevola anchusifolia	0.1	<1 %	45	
Schinus terebinthifolia	0.1	<1 %	112	
Solanum nigrum	0.1	<1 %	20	
Sonchus oleraceus	0.1	<1 %	25	
Spyridium globulosum	0.1	<1 %	120	

Rockingham Road Biological Site ROCR38R
Described by SWTH Date 8/11/2023 Type
MGA Zone mE mN E S
Habitat
Soil
Rock Type
Vegetation
Veg Condition Degraded
Fire Age No sign of recent fire.
SPECIES LIST:

Name	Cover	C Class	Height	Specimen
Acacia rostellifera	1	<1 %	150	
Acacia saligna	20	10-25%	500	
Acanthocarpus preissii	0.1	<1 %	25	
Agonis flexuosa var. flexuosa	35	33.3-50%	650	
Asparagus asparagoides	0.1	<1 %	85	
Avena barbata	20	10-25%	15	
Bromus diandrus	50	50-75%	45	
Cenchrus setaceus	0.1	<1 %	45	
Dianella revoluta var. revoluta	0.1	<1 %	50	
Ehrharta longiflora	4	1-5%	45	
Eucalyptus gomphocephala	8	<1 %	1600	
Euphorbia peplus	0.1	<1 %	10	
Euphorbia terracina	2	1-5%	10	
Fumaria capreolata	0.1	<1 %	15	
Hardenbergia comptoniana	0.1	<1 %	120	
Lagurus ovatus	0.1	<1 %	15	
Olea europaea subsp. europaea	0.1	<1 %	150	
Pelargonium capitatum	0.1	<1 %	15	
Reichardia tingitana	0.1	<1 %	15	
Rhamnus alaternus	1	<1 %	350	
Ricinus communis	3	1-5%	220	
Schinus terebinthifolia	0.1	<1 %	120	
Sixalix atropurpurea	0.1	<1 %	15	
Sonchus oleraceus	0.1	<1 %	10	
Spyridium globulosum	1	<1 %	120	
Tetragonia decumbens	2	1-5%	45	

Appendix 9

Vegetation Mapping

Anketell Road Upgrade (Leith Road to Kwinana Freeway) Vegetation Mapping Descriptions

Vegetation Units

A1	*Acacia rostellifera* over *Xanthorrhoea* and *Hibbertia* on limestone.
A2	*Acacia rostellifera* with isolated *Banksia* and *Eucalyptus marginata* over *Xanthorrhoea* with *Hibbertia* on limestone.
A3	*Acacia rostellifera* shrublands shallow pale sands.
A4	*Acacia saligna* tall shrubland.
A5	*Acacia rostellifera* and *Alyxia buxifolia* over *Acanthocarpus preissii*.
B1	*Banksia attenuata* (*B. menziesii*) over *Adenanthos*, *Jacksonia*, *Kunzea* with mixed low shrubland over mixed perennial herbland.
B2	*Banksia menziesii* (*B. attenuata*) over *Xanthorrhoea* spp. with *Hibbertia* and *Conostylis*.
B3	*Banksia menziesii*, *B. illicifolia* (*B. attenuata*) over *Kunzea* with occasional *Xanthorrhoea* spp. and *Scholtzia*.
B4	*Banksia attenuata* over *Hibbertia* and *Allocasuarina humilis* on limestone.
B5	*Banksia sessilis* over *Melaleuca huegelii - M. systena* shrublands on limestone.
B6	*Banksia sessilis* with mixed *Acacia*.
DU1	Spinifex and **Ammophila* with occasional *Scaevola* and *Olearia*.
DU2	*Eucalyptus utilis* and *Callitris preissii* over *Melaleuca lanceolata* with *Rhagodia*, *Olearia*, and *Scaevola* over Spinifex.
E1	*Eucalyptus gomphocephala* with occasional *E. marginata*, *Banksia* spp. over *Acacia rostellifera* over *Xanthorrhoea*.
E5	*Eucalyptus decipiens* over *Banksia sessilis* with *Melaleuca systena* and mixed *Acacia* spp. over *Hardenbergia comptoniana*.
E6	*Eucalyptus gomphocephala* over *Acacia rostellifera* over occasional *Xanthorrhoea*.
E7	*Eucalyptus foecunda* over *Spyridium globulosum* and *Acacia rostellifera* with *Hibbertia*.
EB1	*Eucalyptus marginata* (*Banksia* spp.) over *Kunzea* and *Acacia* with *Xanthorrhoea* spp. over *Hibbertia*.

Vegetation Descriptions for
Anketell Road Upgrade
(Leith Road to Kwinana Freeway) Vegetation Maps

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Anketell Road Upgrade (Leith Road to Kwinana Freeway) Vegetation Mapping Descriptions

Vegetation Units

K1	*Kunzea* tall shrubland to tall open scrub.
M1	*Melaleuca preissiana* low woodland over *Astartea*.
M2	*Melaleuca lanceolata* low woodland.
M4	Mixed *Melaleuca* (*Melaleuca systena*) over *Xanthorrhoea* with mixed *Fabaceae/Proteaceae/Rhamnaceae* and *Hibbertia*.
M5	*Melaleuca huegelii* over *Spyridium globulosum* and *Acacia rostellifera* on limestone.
M6	*Melaleuca systena* and *Acacia saligna* over *Templetonia retusa*, *Spyridium globulosum* and *Acacia lasiocarpa*.
T1	*Gaudium* over mixed *Acacia* open shrubland.

Other Units

B	Beach.
O	Open water (ocean).

Modified Areas

D	Mosaic of highly modified degraded areas.
IP	Isolated trees over previously cleared or pasture.
ML	Commercial/residential mixed land use.
R2	Modified/planted *Callistemon* and *Calothamnus* on roadsides.
R3	Modified/revegetation/planted mosaic of B1 and B2 vegetation.

Cleared Areas

CL	Cleared.
RR	Roads and rail.

Vegetation Descriptions for
Anketell Road Upgrade
(Leith Road to Kwinana Freeway) Vegetation Maps

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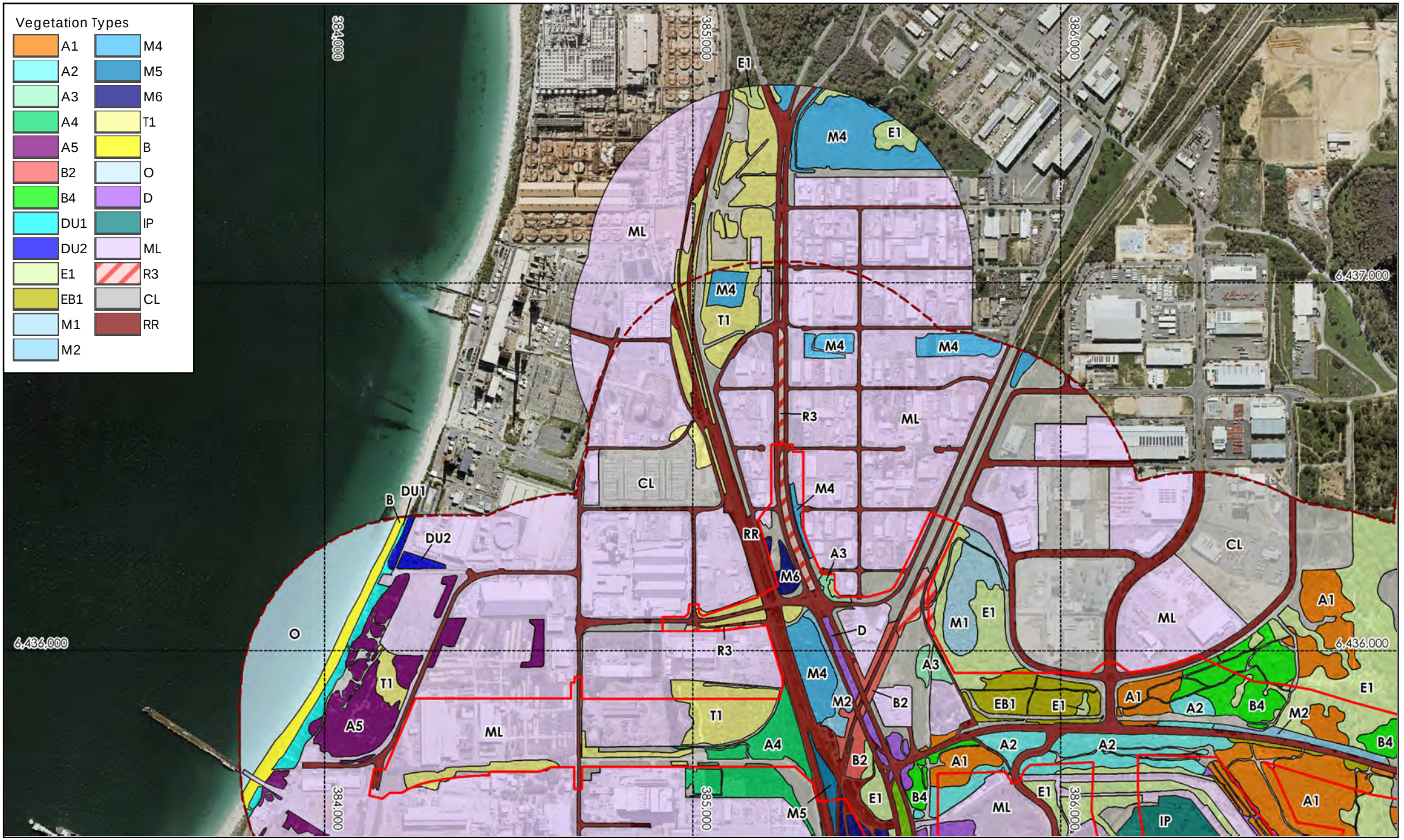
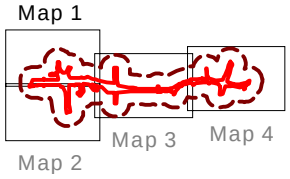


Location Map

Map Index



Survey area

Contextual area

N

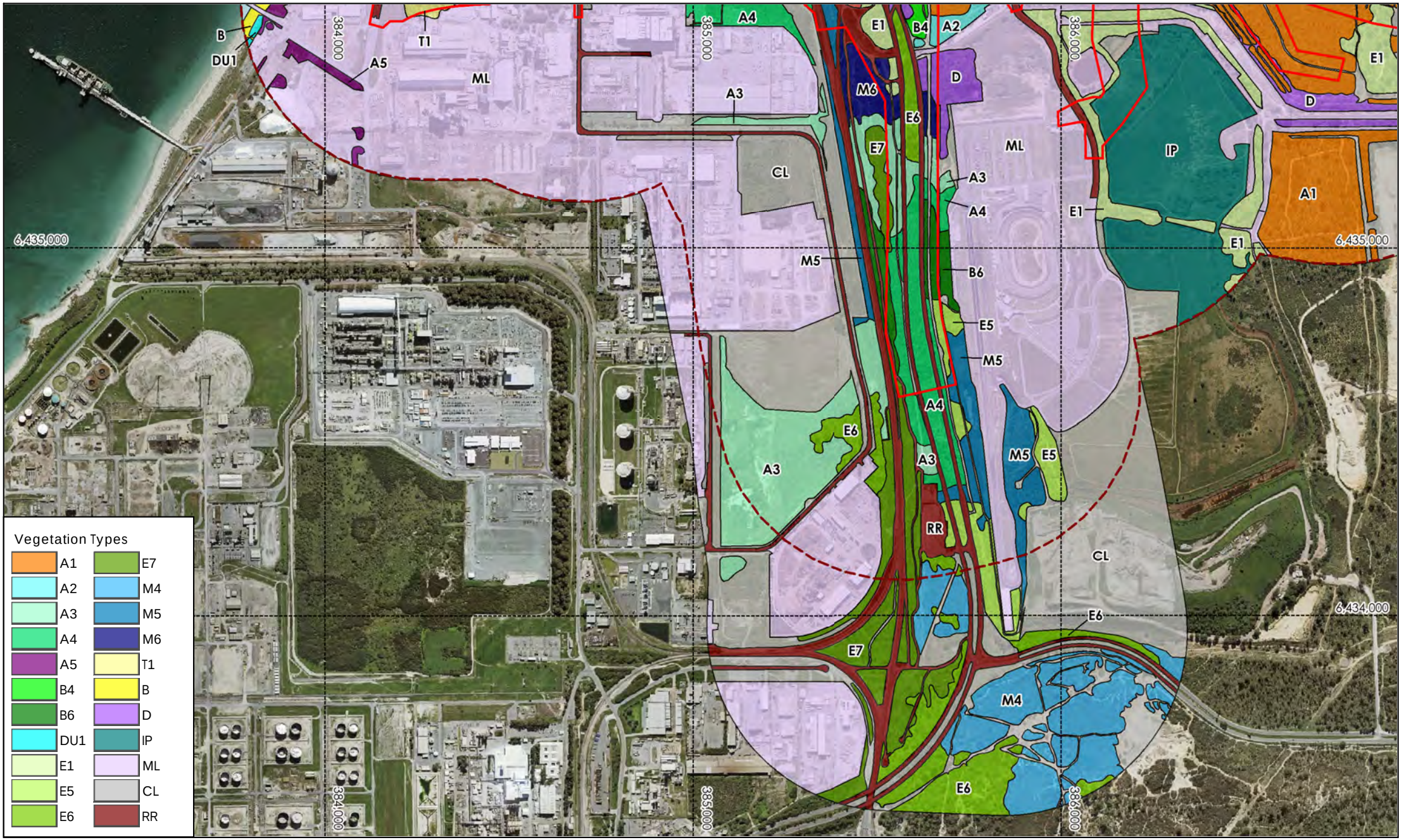
0 600

metres

Anketell Road Upgrade (Leith Road to Kwinana Freeway) Vegetation Map 1

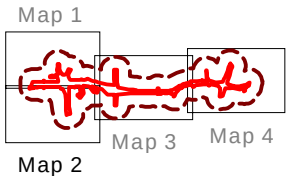
Biota Environmental Sciences

Author: S Werner | Drawn: M Robinson | Job No.: 1808 | Date: 11 Feb 2024 | **Revised: 19 Feb** 2025 | Projection: MGA Z50 (GDA2020) | Scale: 1:14,000



Location Map

Map Index



Survey area

Contextual area

N

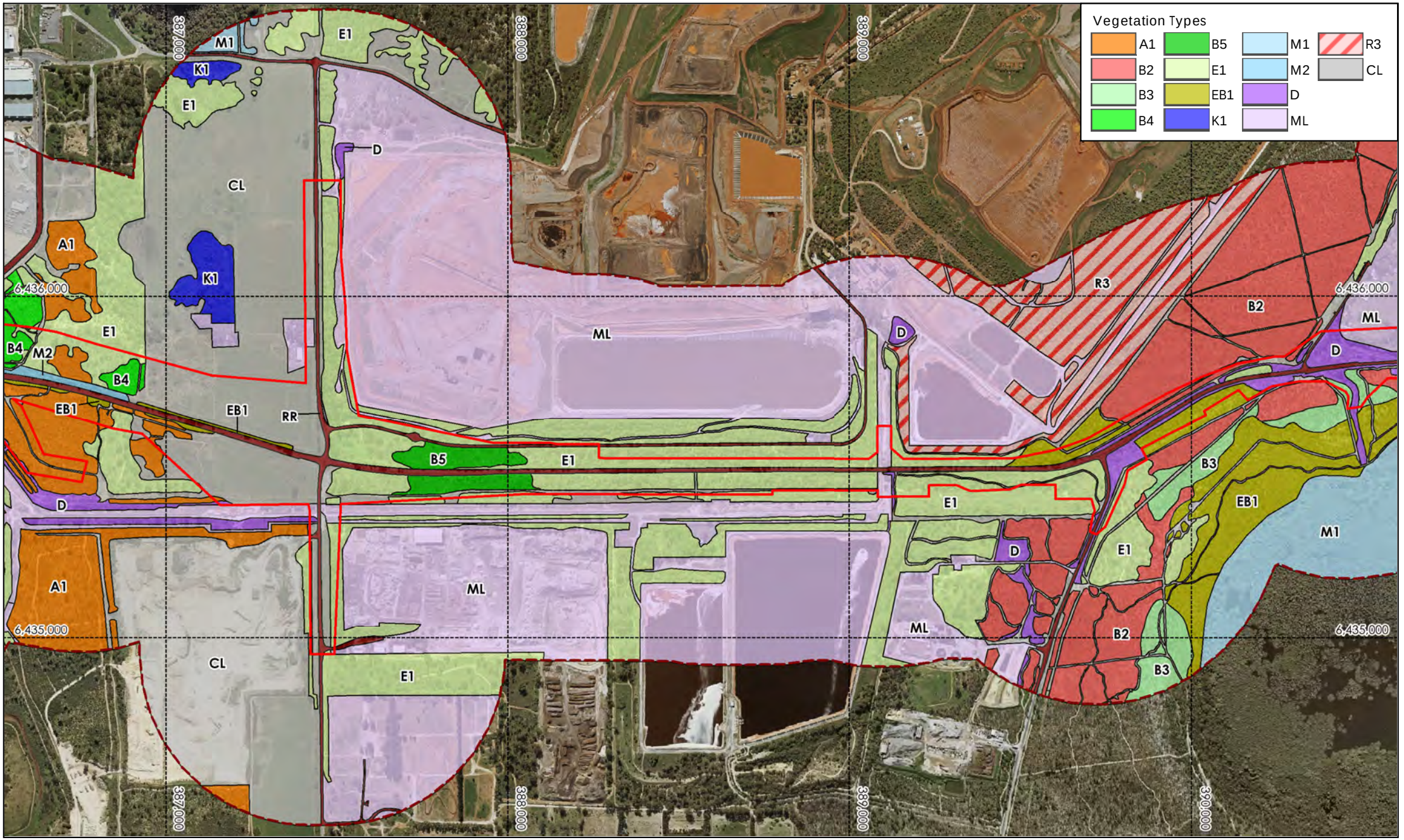
0 600

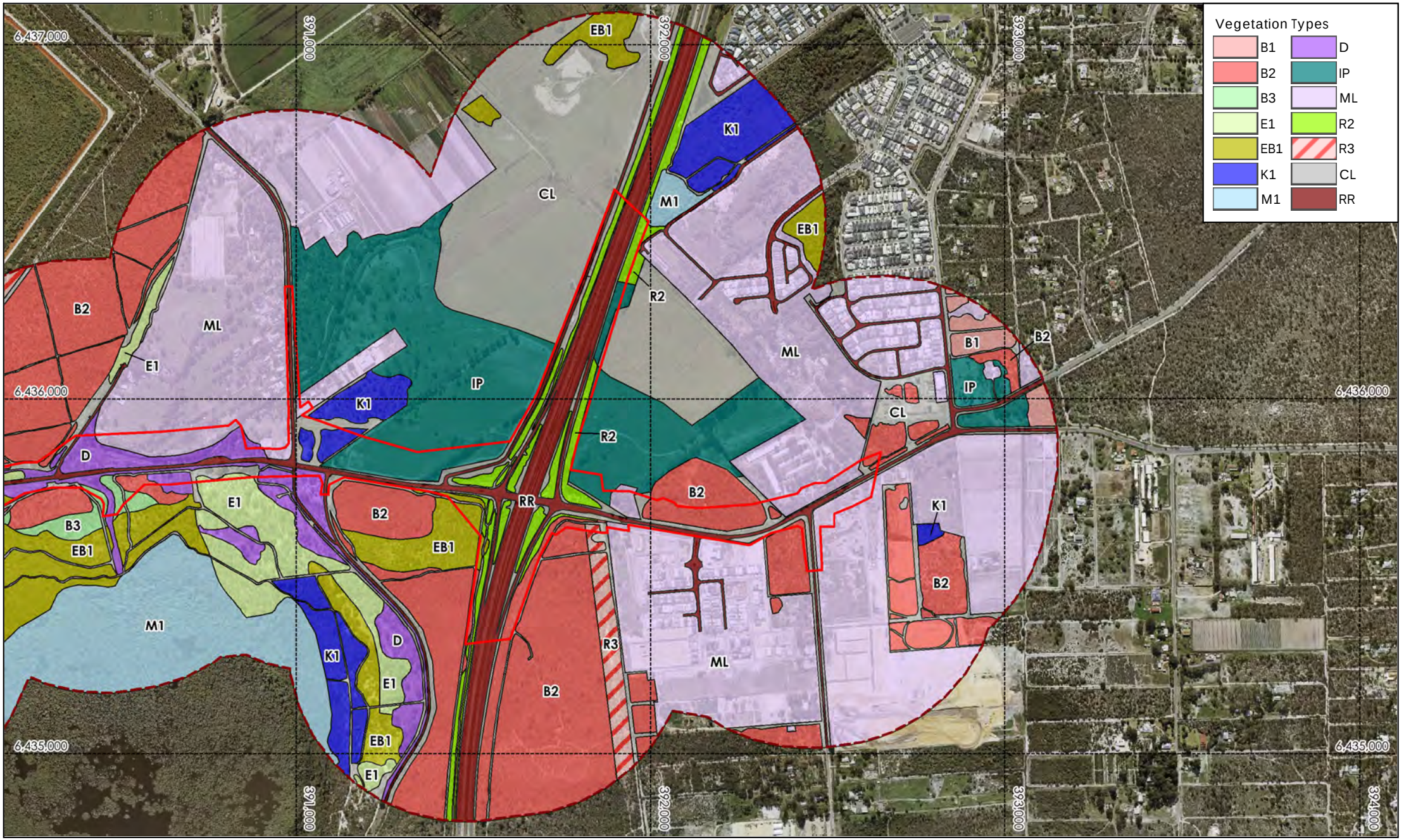
metres

Anketell Road Upgrade (Leith Road to Kwinana Freeway) Vegetation Map 2

Biota Environmental Sciences

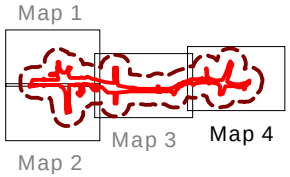
Author: S Werner | Drawn: M Robinson | Job No.: 1808 | Date: 11 Feb 2024 | Revised: **19 Feb** 2025 | Projection: MGA Z50 (GDA2020) | Scale: 1:14,000


Vegetation Types
A1
B2
B3
B4
B5
E1
EB1
K1
M1
M2
D
ML
R3
CL
388,000
389,000
390,000
6,436,000
6,435,000
Location Map
KARRATHA
KALGOORLIE
PERTH
Map Area
Map Index
Map 1
Map 2
Map 3
Map 4
Survey area
Contextual area
N
0
600
metres
Anketell Road Upgrade
(Leith Road to Kwinana Freeway)
Vegetation Map 3
Biota Environmental Sciences
Author: S Werner
Drawn: M Robinson
Job No.: 1808
Date: 11 Feb 2024
Revised: 19 Feb 2025
Projection: MGA Z50 (GDA2020)
Scale: 1:14,000



Location Map

Map Index



Survey area

Contextual area

N

0 600

metres

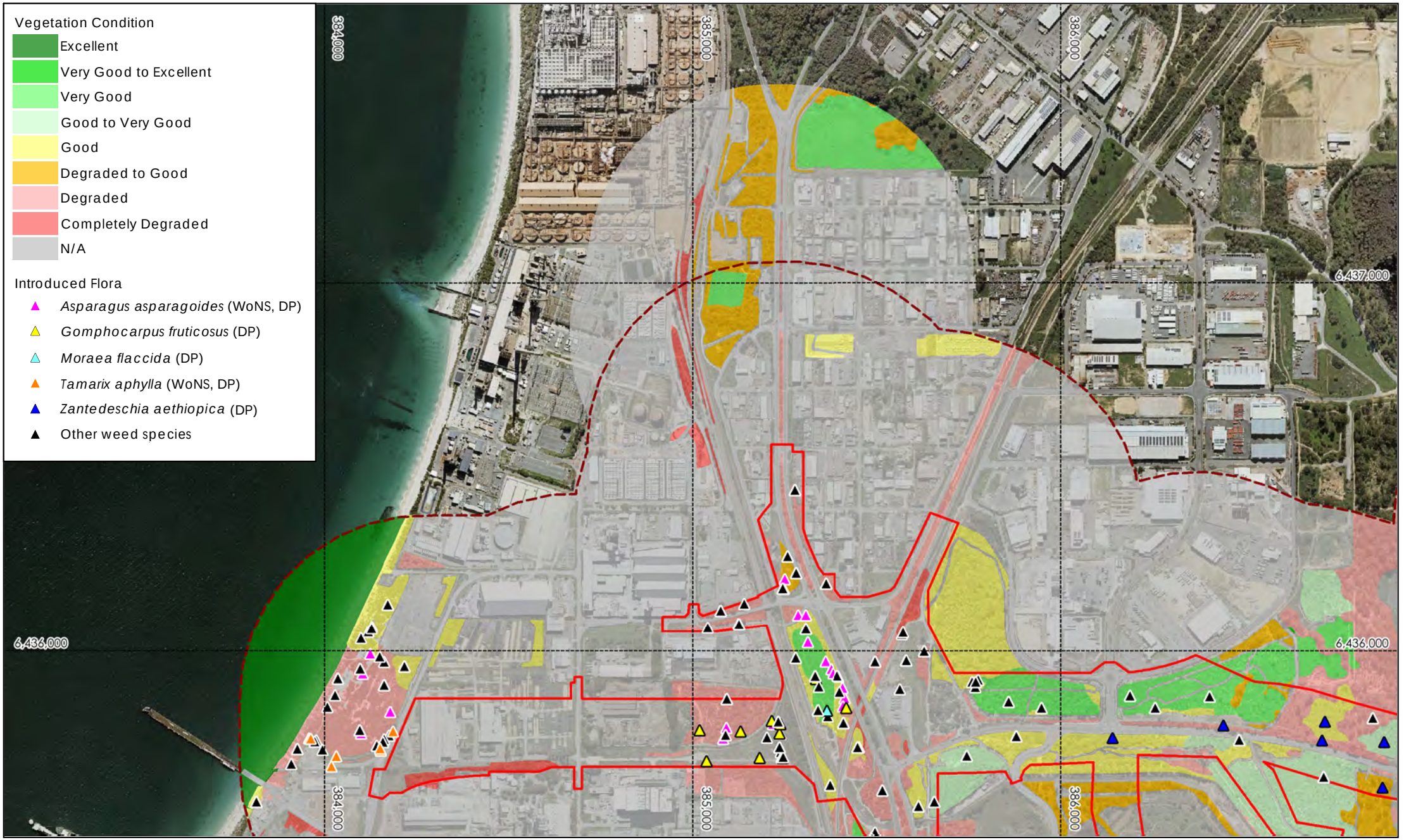
Anketell Road Upgrade (Leith Road to Kwinana Freeway) Vegetation Map 4

Biota Environmental Sciences

Author: S Werner | Drawn: M Robinson | Job No.: 1808 | Date: 11 Feb 2024 | Revised: **19 Feb** 2025 | Projection: MGA Z50 (GDA2020) | Scale: 1:14,000

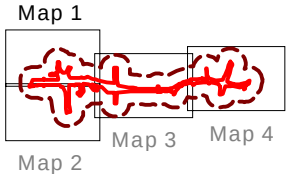
Appendix 10

Vegetation Condition Mapping



Location Map

Map Index



Survey area

Contextual area

N

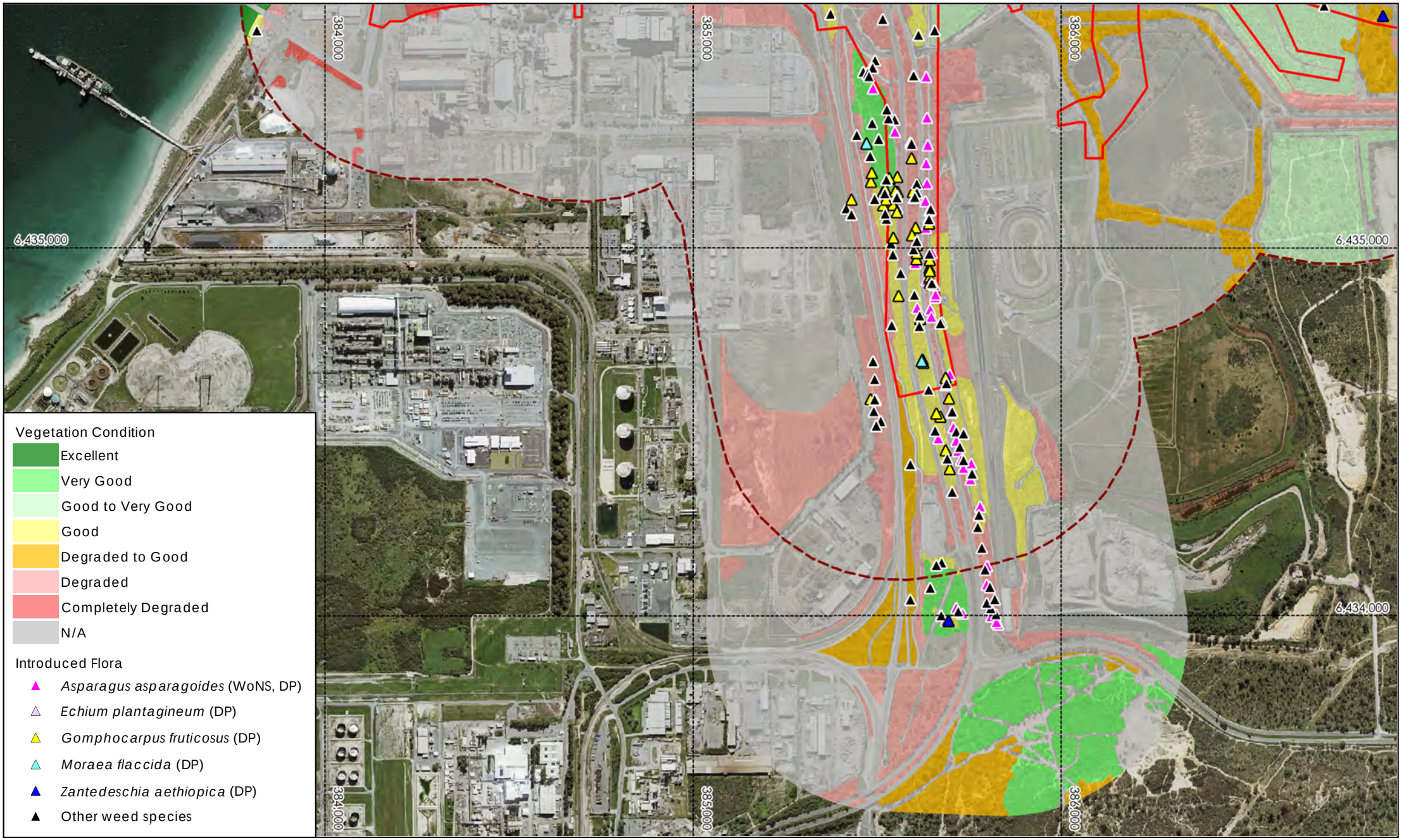
0 600

metres

Anketell Road Upgrade (Leith Road to Kwinana Freeway) Vegetation Condition Map 1

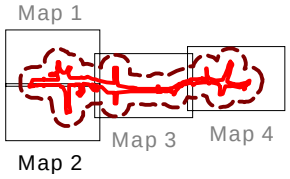
Biota Environmental Sciences

Author: S Werner | Drawn: M Robinson | Job No.: 1808 | Date: 12 Feb 2024 | Revised: **19 Feb** 2025 | Projection: MGA Z50 (GDA2020) | Scale: 1:14,000



Location Map

Map Index



Survey area

Contextual area

N

0 600

metres

Anketell Road Upgrade (Leith Road to Kwinana Freeway) Vegetation Condition Map 2

Biota Environmental Sciences

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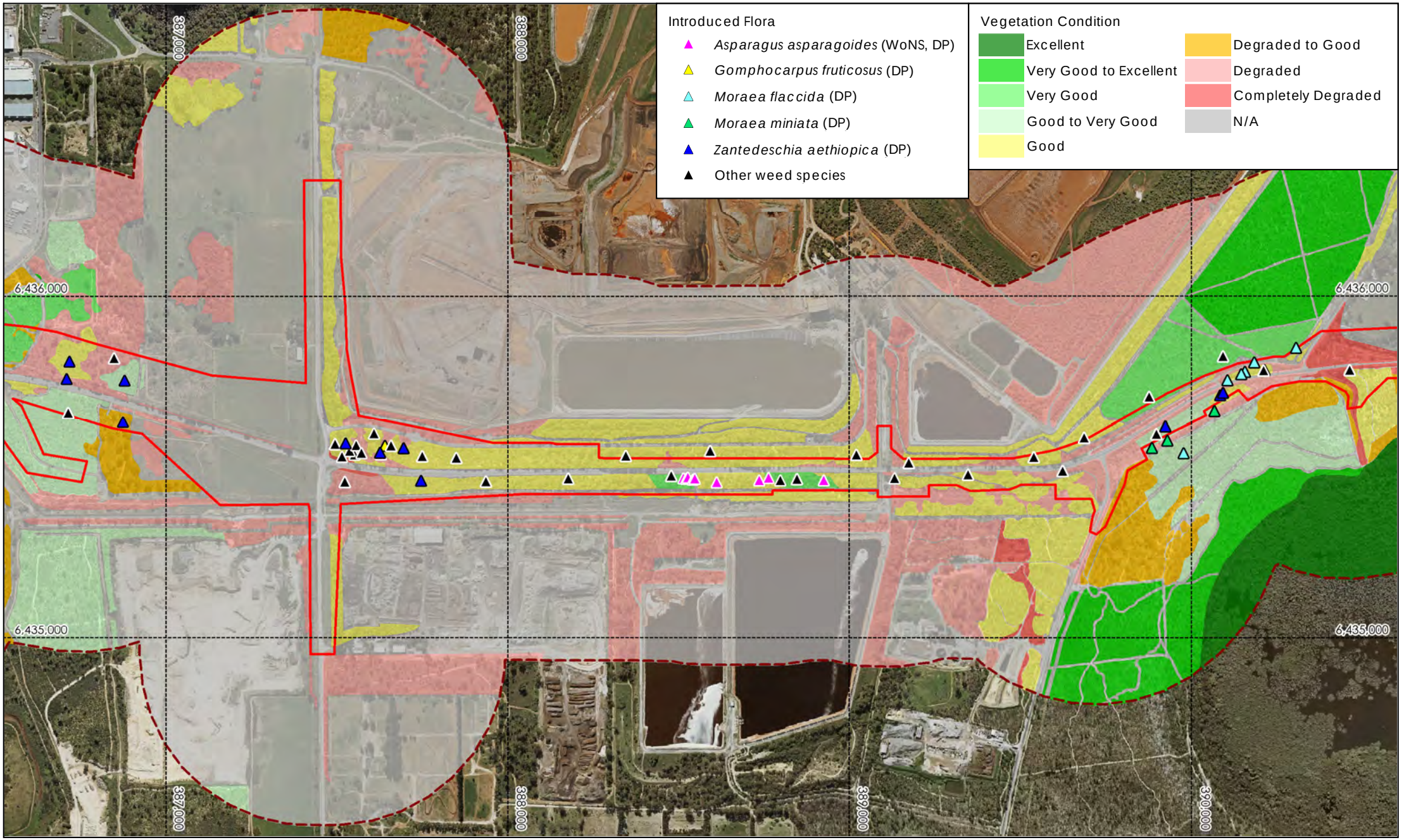
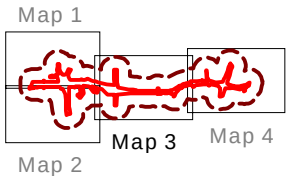


Location Map

Map Index



Survey area

Contextual area

N

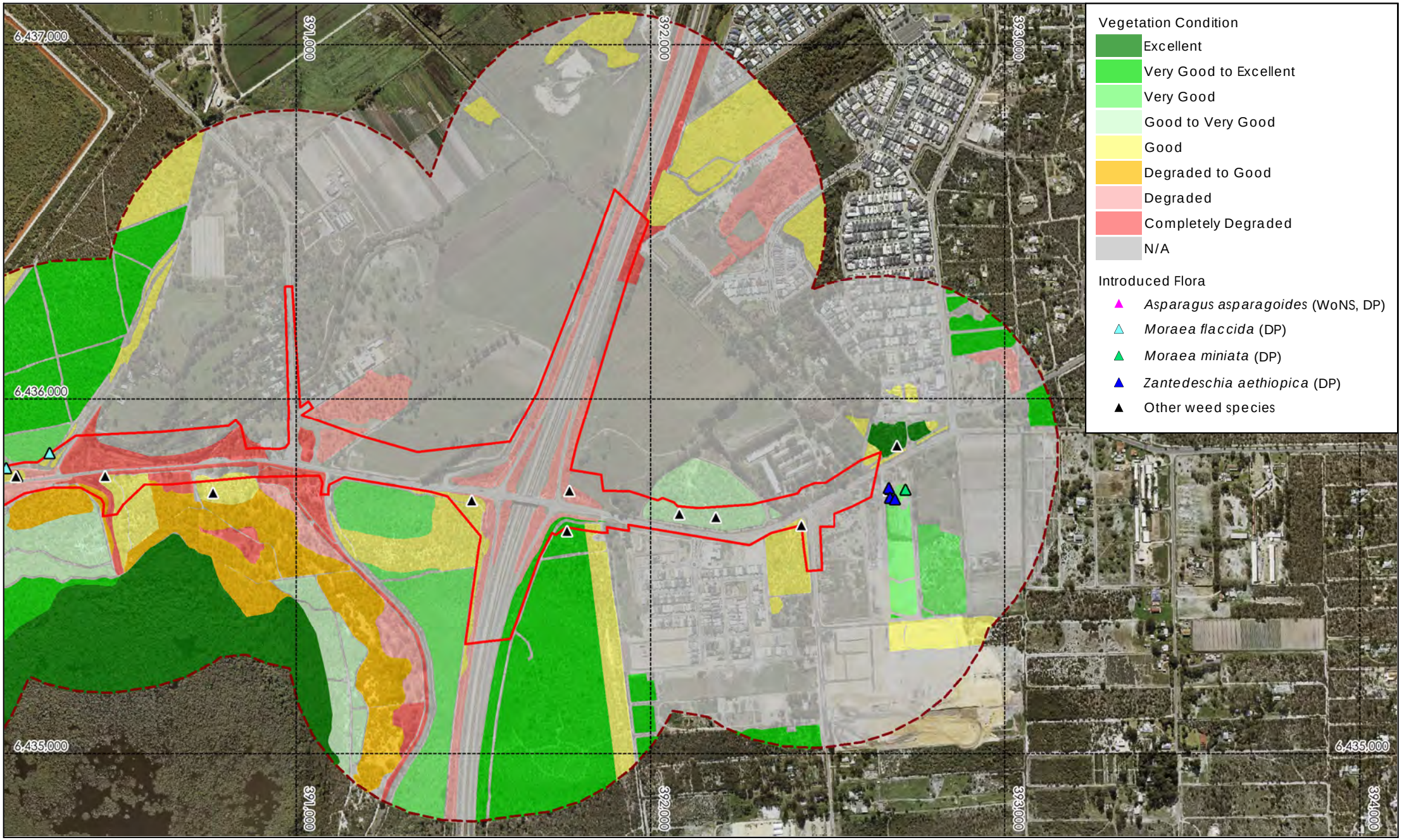
0 600

metres

Anketell Road Upgrade (Leith Road to Kwinana Freeway) Vegetation Condition Map 3

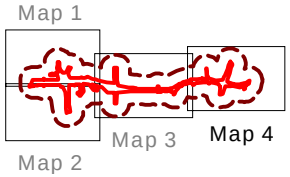
Biota Environmental Sciences

Author: S Werner | Drawn: M Robinson | Job No.: 1808 | Date: 12 Feb 2024 | Revised: **19 Feb** 2025 | Projection: MGA Z50 (GDA2020) | Scale: 1:14,000



Location Map

Map Index



Survey area

Contextual area

N

0 600

metres

Anketell Road Upgrade
(Leith Road to Kwinana Freeway)
Vegetation Condition Map 4

Biota Environmental Sciences

Author: S Werner | Drawn: M Robinson | Job No.: 1808 | Date: 12 Feb 2024 | Revised: **19 Feb** 2025 | Projection: MGA Z50 (GDA2020) | Scale: 1:14,000

Appendix 11

Selected PRIMER Inputs

Taxon	Name Referred to for Analysis
Acacia alata var. alata	omitted; singleton
Acacia cochlearis	omitted; singleton
Acacia huegelii	omitted; singleton
Acacia iteaphylla	omitted; weed; singleton
Acacia longifolia	omitted; weed; singleton
Acacia pulchella var. glaberrima	combined: Acacia pulchella
Acacia pulchella var. pulchella	combined: Acacia pulchella
Acacia sp.	omitted; genera
Acacia willdenowiana	omitted; singleton
Adenanthos cygnorum subsp. cygnorum	omitted; singleton
Aira cupaniana	omitted; weed
Aira praecox	omitted; weed
Allocasuarina huegeliana	omitted; singleton
Arctotheca calendula	omitted; weed
Arctotheca calendula x populifolia	omitted; weed
Asparagus asparagoides	omitted; weed
Asphodelus fistulosus	omitted; weed
Asteraceae sp.	omitted; genera
Austrostipa sp.	omitted; genera
Avena barbata	omitted; weed
Brachypodium distachyon	omitted; weed
Brassica tournefortii	omitted; weed
Briza maxima	omitted; weed
Briza minor	omitted; weed
Bromus diandrus	omitted; weed
Bromus hordeaceus	omitted; weed
Bromus madritensis	omitted; weed; singleton
Caesia sp.	omitted; genera
Caladenia discoidea	omitted; singleton
Caladenia flava	combined: Caladenia flava subsp. flava
Caladenia longicauda subsp. longicauda	omitted; singleton
Caladenia reptans subsp. reptans	omitted; singleton
Caladenia sp.	omitted; genera
Calandrinia corrigioloides	omitted; singleton
Calandrinia granulifera	omitted; singleton
Callistemon citrinus	omitted; weed
Calothamnus quadrifidus subsp. angustifolius	combined: Calothamnus quadrifidus
Calothamnus quadrifidus subsp. quadrifidus	combined: Calothamnus quadrifidus
Calothamnus quadrifidus subsp. teretifolius	combined: Calothamnus quadrifidus
Calothamnus sp.	omitted; genera; singleton
Carduus pycnocephalus	omitted; weed
Carpobrotus edulis	omitted; weed
Cartonema philydroides	omitted; singleton
Cassytha flava/pomiformis	omitted; genera; singleton
Cassytha sp.	omitted; genera; singleton
Cenchrus setaceus	omitted; weed

Taxon	Name Referred to for Analysis
Centaurea melitensis	omitted; weed
Centranthus macrosiphon	omitted; weed
Centrolepis polygyna	omitted; singleton
Cerastium glomeratum	omitted; weed
Cerastium pumilum	omitted; weed; singleton
Conostephium pendulum	omitted; singleton
Conostephium preissii	omitted; singleton
Conostylis juncea	omitted; singleton
Conostylis setigera subsp. setigera	omitted; singleton
Corybas sp.	omitted; genera; singleton
Corymbia calophylla	omitted; singleton
Corymbia citriodora	omitted; weed; singleton
Cotula australis	omitted; singleton
Crassula colorata var. acuminata	combined: Crassula colorata
Crassula colorata var. colorata	combined: Crassula colorata
Crassula glomerata	omitted; weed
Cynodon dactylon	omitted; weed
Dasypogon bromeliifolius	omitted; singleton
Desmocladus fasciculatus	omitted; singleton
Dianella revoluta var. divaricata	combined: Dianella revoluta
Dianella revoluta var. revoluta	combined: Dianella revoluta
Disa bracteata	omitted; weed
Dischisma arenarium	omitted; weed; singleton
Diuris corymbosa	omitted; singleton
Drosera geniculata	omitted; singleton
Drosera glanduligera	omitted; singleton
Drosera macrantha	omitted; singleton
Drosera sp.	omitted; genera
Drosera zonaria	omitted; singleton
Ehrharta calycina	omitted; weed
Ehrharta longiflora	omitted; weed
Eragrostis curvula	omitted; weed
Eremophila glabra subsp. albicans	combined: Eremophila glabra
Eremophila glabra subsp. glabra	combined: Eremophila glabra
Erigeron bonariensis	omitted; weed
Erigeron sp.	omitted; genera
Erigeron sumatrensis	omitted; weed
Erodium botrys	omitted; weed
Erodium cicutarium	omitted; weed
Eryngium pinnatifidum subsp. Palustre (G.J. Keighery 13459)	omitted; singleton
Eucalyptus sp.	omitted; genera
Eucalyptus todtiana	omitted; singleton
Euphorbia peplus	omitted; weed
Euphorbia terracina	omitted; weed
Exocarpos sparteus	omitted; singleton
Ficinia marginata	omitted; weed
Foeniculum vulgare	omitted; weed

Taxon	Name Referred to for Analysis
Freesia alba x leichtlinii	omitted; weed
Fumaria bastardii	omitted; weed; singleton
Fumaria capreolata	omitted; weed
Fumaria muralis	omitted; weed
Galium divaricatum	omitted; weed
Galium murale	omitted; weed
Gaudium laevigatum	omitted; weed
Geranium molle	omitted; weed
Geranium solanderi	omitted; singleton
Gladiolus caryophyllaceus	omitted; weed
Gladiolus sp.	omitted; weed; genera; singleton
Gnephosis angianthoides	omitted; singleton
Gomphocarpus fruticosus	omitted; weed
Gonocarpus pithyoides	omitted; singleton
Grevillea obtusifolia	omitted; singleton
Haemodorum paniculatum	omitted; singleton
Haemodorum sp.	omitted; genera
Hakea prostrata	omitted; singleton
Hakea trifurcata	omitted; singleton
Heliophila pusilla	omitted; weed
Hibbertia cuneiformis	omitted; singleton
Hibbertia racemosa	omitted; singleton
Hovea pungens	omitted; singleton
Hyparrhenia hirta	omitted; weed
Hypochaeris glabra	omitted; weed
Hypochaeris radicata	omitted; weed
Isolepis cernua var. cernua	omitted; singleton
Isotropis cuneifolia subsp. cuneifolia	omitted; singleton
Jacksonia sp.	omitted; genera; singleton
Lactuca serriola	omitted; weed; singleton
Lactuca serriola forma serriola	omitted; weed
Lactuca sp.	omitted; weed; genera; singleton
Lagenophora huegelii	omitted; singleton
Lagurus ovatus	omitted; weed
Lechenaultia sp.	omitted; genera; singleton
Leontodon rhagadioloides	omitted; weed
Leontodon sp.	omitted; weed; genera
Lepidosperma sp.	omitted; genera; singleton
Lolium multiflorum	omitted; weed; singleton
Lolium perenne	omitted; weed
Lolium perenne x rigidum	omitted; weed
Lolium rigidum	omitted; weed
Lolium sp.	omitted; weed; genera
Lotus subbiflorus	omitted; weed
Lupinus angustifolius	omitted; weed
Lupinus cosentinii	omitted; weed
Luzula meridionalis	omitted; singleton

Taxon	Name Referred to for Analysis
Lyginia barbata	omitted; singleton
Lyginia imberbis	omitted; singleton
Lysimachia arvensis	omitted; weed
Lysimachia linum-stellatum	omitted; weed; singleton
Macrozamia sp.	combined: Macrozamia riedlei
Medicago polymorpha	omitted; weed
Melaleuca huegelii	combined: Melaleuca huegelii subsp. huegelii
Melaleuca preissiana	omitted; singleton
Melaleuca thymoides	omitted; singleton
Microtis media	combined: Microtis media subsp. media
Minuartia mediterranea	omitted; weed
Mirbelia sp.	omitted; genera; singleton
Moraea flaccida	omitted; weed
Nicotiana glauca	omitted; weed
Oenothera drummondii subsp. drummondii	omitted; weed; singleton
Oenothera stricta subsp. stricta	omitted; weed; singleton
Olea europaea	omitted; weed; singleton
Olea europaea subsp. europaea	omitted; weed
Ornithogalum arabicum	omitted; weed; singleton
Orobanche minor	omitted; weed
Oxalis corniculata	omitted; weed
Oxalis pes-caprae	omitted; weed
Oxalis purpurea	omitted; weed; singleton
Pelargonium capitatum	omitted; weed
Pentameris airoides	omitted; weed; singleton
Pentameris airoides subsp. airoides	omitted; weed; singleton
Petrorhagia dubia	omitted; weed
Phlebocarya ciliata	omitted; singleton
Phyllangium paradoxum	omitted; singleton
Phyllopodium cordatum	omitted; weed; singleton
Pimelea calcicola	omitted; singleton
Poa annua	omitted; weed; singleton
Polycarpon tetraphyllum	omitted; weed
Polygonum sp.	omitted; genera; singleton
Pteridium esculentum subsp. esculentum	omitted; singleton
Ptilotus polystachyus	omitted; singleton
Raphanus raphanistrum	omitted; weed
Reichardia tingitana	omitted; weed
Retama raetam	omitted; weed; singleton
Rhamnus alaternus	omitted; weed
Rhodanthe citrina	omitted; singleton
Ricinus communis	omitted; weed
Romulea rosea	omitted; weed
Romulea rosea var. australis	omitted; weed
Rostraria cristata	omitted; weed
Sagina apetala	omitted; weed
Scaevola anchusifolia	omitted; singleton

Taxon	Name Referred to for Analysis
Schinus terebinthifolia	omitted; weed
Schoenus andrewsii	omitted; singleton
Schoenus clandestinus	omitted; singleton
Senecio vulgaris	omitted; weed; singleton
Silene gallica var. gallica	omitted; weed
Silene nocturna	omitted; weed; singleton
Siloxerus humifusus	omitted; singleton
Sixalix atropurpurea	omitted; weed
Solanum nigrum	omitted; weed
Solanum simile	omitted; singleton
Sonchus asper	omitted; weed
Sonchus hydrophilus	omitted; singleton
Sonchus oleraceus	omitted; weed
Sonchus sp.	omitted; genera; singleton
Stellaria pallida	omitted; weed
Stenotaphrum secundatum	omitted; weed; singleton
Stylidium neurophyllum	omitted; singleton
Stylidium schoenoides	omitted; singleton
Styphelia pendula	omitted; singleton
Symphyotrichum squamatum	omitted; weed; singleton
Synaphea spinulosa subsp. spinulosa	omitted; singleton
Taraxacum khatoonae	omitted; weed; singleton
Taraxacum sp.	omitted; genera; singleton
Thomasia cognata	omitted; singleton
Thysanotus manglesianus	combined: Thysanotus sp. (manglesianus/patersonii)
Thysanotus patersonii	combined: Thysanotus sp. (manglesianus/patersonii)
Trachyandra divaricata	omitted; weed
Tricoryne tenella	omitted; singleton
Trifolium angustifolium var. angustifolium	omitted; weed
Trifolium arvense var. arvense	omitted; weed
Trifolium campestre var. campestre	omitted; weed
Trifolium glomeratum	omitted; weed; singleton
Trifolium hirtum	omitted; weed; singleton
Trifolium scabrum	omitted; weed
Trifolium tomentosum var. tomentosum	omitted; weed; singleton
Urospermum picroides	omitted; weed
Ursinia anthemoides subsp. anthemoides	omitted; weed
Verbascum virgatum	omitted; weed
Vicia sativa	omitted; weed
Vicia sativa subsp. sativa	omitted; weed; singleton
Vulpia bromoides	omitted; weed
Vulpia myuros forma megalura	omitted; weed
Vulpia myuros forma myuros	omitted; weed
Vulpia sp.	omitted; weed; genera; singleton
Wahlenbergia capensis	omitted; weed
Wahlenbergia sp.	omitted; genera
Xanthorrhoea brunonis	combined: Xanthorrhoea brunonis subsp. brunonis

Taxon	Name Referred to for Analysis
Xanthosia huegelii	omitted; singleton
Xylomelum occidentale	omitted; singleton
Zantedeschia aethiopica	omitted; weed

Appendix 12

Selected PATN Inputs and Outputs

Table 2: **Nearest Neigbour Boundary results (NNB; 20 nearest sites) and UPGMA clustering dendrgram summary.**

Site	Result	Notes	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
ANK01	Inconclusive FCT 30a/30b/29a	Paired with FCT 30a site WOODP-1 (modified/disturbed quadrat on road reserve) NNB shows an affinity to FCT 29a	CHIDPT-1 0.0724 FCT 24	NAVB-2 0.0727 FCT 29a	low10b 0.0749 FCT 11	TRIG-2 0.0763 FCT 29a	PEPB-1 0.0796 FCT 30b	Possum3 0.0837 FCT 30b	BOLD-3 0.0851 FCT 24	Possum5 0.0859 FCT 17	PRES-1 0.086 FCT 29a	PB-1 0.0865 FCT 19	PB-6 0.0869 FCT 19	cool 04 0.0873 FCT 17	WOODP-1 0.0873 FCT 30a	Possum2 0.0891 FCT 16	PEPGRV-2 0.0908 FCT 30a	GARDEN-4 0.0917 FCT 30a	SEAB-8 0.094 FCT 29a	SEAB-1 0.0954 FCT 30c	LESCH-1 0.0957 FCT 30b	MINN-1 0.0957 FCT 25
ANK02	FCT 24	NNB suggests an affinity to FCT 28	WARI-1 0.0577 FCT 28	BOLD-2 0.061 FCT 24	TRIG-5 0.0664 FCT 24	TRIG-6 0.0666 FCT 24	TRIG-3 0.0667 FCT 28	KING-1 0.0671 FCT 28	PAGA-8 0.0702 FCT 25	NEER-11 0.0731 FCT 24	MYALUP-2 0.0744 FCT 25	KEME-1 0.0748 FCT 25	PTWALT-1 0.0756 FCT 24	MTB-3 0.0759 FCT 24	MINN-2 0.0763 FCT 25	NEER-1 0.077 FCT 24	WOODV-1 0.0783 FCT 28	NEER-7 0.0783 FCT 24	YAN-1 0.0787 FCT 26b	PAGA-7 0.079 FCT 21a	low10a 0.0798 FCT 21a	SHE-3 0.0805 FCT 26b
ANK05	FCT 24	Affinity 25	NEER-1 0.0598 FCT 24	TRIG-6 0.063 FCT 24	NAVB-4 0.0644 FCT 24	C71-4 0.0656 FCT 25	MINN-2 0.0701 FCT 25	BOLD-4 0.0734 FCT 24	MINN-1 0.0741 FCT 25	PTWALT-1 0.0747 FCT 24	PAGA-8 0.0758 FCT 25	BOLD-1 0.0778 FCT 24	cool 03 0.078 FCT 24	WHILL-5 0.0784 FCT 26b	cool 02 0.0787 FCT 24	YALG-1 0.0788 FCT 26b	NAVB-3 0.0791 FCT 24	NEER-11 0.0798 FCT 24	MTB-4 0.0801 FCT 24	SVH-1 0.082 FCT 26a	MEAL-2 0.0825 FCT 26b	BOLD-2 0.0831 FCT 24
ANK06	FCT 24	Affinity 25	NAVB-4 0.0566 FCT 24	TRIG-6 0.0572 FCT 24	PTWALT-1 0.058 FCT 24	NEER-1 0.0662 FCT 24	BOLD-1 0.0666 FCT 24	C71-4 0.0667 FCT 25	cool 08 0.0688 FCT 24	cool 03 0.0701 FCT 24	WHILL-5 0.0732 FCT 26b	BOLD-2 0.0733 FCT 24	PAGA-8 0.0738 FCT 25	MINN-1 0.0743 FCT 25	BOLD-4 0.0754 FCT 24	MEAL-2 0.0767 FCT 26b	SVH-1 0.0773 FCT 26a	TRIG-5 0.0774 FCT 24	cool 02 0.0775 FCT 24	NEER-10 0.0775 FCT 24	NEER-11 0.0778 FCT 24	MINN-2 0.078 FCT 25
ANK07	FCT 24	Affinity 25	BOLD-1 0.0646 FCT 24	PTWALT-1 0.0746 FCT 24	MINN-1 0.0759 FCT 25	NAVB-4 0.0765 FCT 24	C71-4 0.0776 FCT 25	MINN-2 0.0788 FCT 25	TRIG-6 0.0793 FCT 24	MTB-4 0.0801 FCT 24	PAGA-8 0.0806 FCT 25	BOLD-2 0.0813 FCT 24	NEER-1 0.0838 FCT 24	NAVB-3 0.0844 FCT 24	SVH-1 0.0853 FCT 26a	WHILL-5 0.0859 FCT 26b	YALG-1 0.0869 FCT 26b	BOLD-4 0.0872 FCT 24	KEME-1 0.088 FCT 25	cool 03 0.0893 FCT 24	MTB-2 0.0914 FCT 24	BOLD-3 0.0915 FCT 24
ANK08	FCT 28	NNB suggests an affinity with FCT 25	WARI-1 0.0533 FCT 28	TRIG-3 0.059 FCT 28	TRIG-5 0.0627 FCT 24	WOODV-2 0.0627 FCT 28	WOODV-1 0.0634 FCT 28	PAGA-8 0.0646 FCT 25	low10a 0.0654 FCT 21a	KERO-2 0.0656 FCT 24	KING-1 0.0662 FCT 28	MTB-1 0.0666 FCT 24	PAGA-7 0.0671 FCT 21a	MYALUP-2 0.0684 FCT 25	BOLD-2 0.0686 FCT 24	NEER-11 0.0688 FCT 24	NEER-1 0.07 FCT 24	MINN-3 0.0709 FCT 25	MINN-2 0.0714 FCT 25	MEAL-1 0.0722 FCT 25	CORON-2 0.0727 FCT 25	KEME-1 0.0733 FCT 25
ANK09	Inconclusive (FCT 24)	initially paired with FCT 11 (low10b) a moderate level similarity and then grouped with FCT 19 sites at low level similarity NNB suggests affinity to FCT 24	CHIDPT-1 0.0801 FCT 24	low10b 0.0816 FCT 11	PEPB-1 0.0871 FCT 30b	BOLD-3 0.0874 FCT 24	NAVB-3 0.0877 FCT 24	MINN-1 0.0885 FCT 25	C71-4 0.0908 FCT 25	NAVB-2 0.0933 FCT 29a	TRIG-2 0.0936 FCT 29a	Possum3 0.094 FCT 30b	NAVB-4 0.0944 FCT 24	MTB-4 0.0969 FCT 24	TRIG-6 0.0974 FCT 24	Possum5 0.0996 FCT 17	BURN-1 0.102 FCT 29a	BOLD-1 0.1038 FCT 24	NEER-1 0.1041 FCT 24	PB-6 0.1046 FCT 19	PTWALT-1 0.1053 FCT 24	PEPGRV-1 0.1056 FCT 30a
ANK10	FCT 24	Affinity FCT 25	NEER-1 0.0585 FCT 24	TRIG-6 0.0666 FCT 24	NEER-11 0.067 FCT 24	NAVB-4 0.0716 FCT 24	C71-4 0.0736 FCT 25	MINN-2 0.0767 FCT 25	PTWALT-1 0.077 FCT 24	PAGA-8 0.079 FCT 25	TRIG-5 0.0794 FCT 24	WHILL-5 0.0795 FCT 26b	cool 03 0.0799 FCT 24	BOLD-1 0.0801 FCT 24	BOLD-4 0.0801 FCT 24	MINN-1 0.0807 FCT 25	cool 02 0.0816 FCT 24	YAN-1 0.0838 FCT 26b	MTB-3 0.0844 FCT 24	MEAL-2 0.0845 FCT 26b	WARI-1 0.0845 FCT 28	BOLD-2 0.0847 FCT 24
ANK11	FCT 24	NNB suggests an affinity to FCT 25	PAGA-8 0.0753 FCT 25	PTWALT-1 0.0758 FCT 24	WHILL-5 0.0768 FCT 26b	cool 03 0.0768 FCT 24	NEER-1 0.077 FCT 24	TRIG-6 0.078 FCT 24	NAVB-4 0.0793 FCT 24	MINN-1 0.0802 FCT 25	MEAL-2 0.081 FCT 26b	C71-4 0.0813 FCT 25	MINN-2 0.0815 FCT 25	MTB-4 0.083 FCT 24	YALG-1 0.0835 FCT 26b	YAN-10 0.0839 FCT 26b	NEER-11 0.0854 FCT 24	KEME-1 0.0856 FCT 25	MTB-3 0.0864 FCT 24	cool 02 0.0872 FCT 24	YALG-7 0.0873 FCT 26b	BOLD-1 0.0876 FCT 24
ANK12	FCT 24	Affinity 25	NEER-1 0.0692 FCT 24	TRIG-6 0.0726 FCT 24	C71-4 0.0756 FCT 25	MINN-1 0.0796 FCT 25	NAVB-4 0.0823 FCT 24	NEER-11 0.0833 FCT 24	cool 03 0.0881 FCT 24	PTWALT-1 0.0912 FCT 24	MINN-2 0.0916 FCT 25	WHILL-5 0.0939 FCT 26b	BOLD-4 0.0944 FCT 24	BOLD-1 0.0951 FCT 24	BOLD-3 0.0953 FCT 24	MTB-4 0.0964 FCT 24	cool 08 0.098 FCT 24	cool 02 0.0982 FCT 24	PAGA-8 0.0985 FCT 25	MEAL-2 0.1016 FCT 26b	TRIG-5 0.1019 FCT 24	SVH-1 0.1021 FCT 26a
ANK14	Inconclusive FCT 24	Initially grouped with FCT 11 sites (low10b) at low level similarity NNB suggests an affinity to FCT 24, FCT 25	MINN-1 0.076 FCT 25	TRIG-6 0.0787 FCT 24	C71-4 0.0799 FCT 25	MTB-4 0.0808 FCT 24	BOLD-3 0.0826 FCT 24	PEPB-1 0.0845 FCT 30b	NAVB-4 0.0872 FCT 24	NAVB-3 0.0885 FCT 24	CHIDPT-1 0.0885 FCT 24	NEER-1 0.0887 FCT 24	cool 03 0.0895 FCT 24	TRIG-2 0.0903 FCT 29a	Possum3 0.092 FCT 30b	BOLD-1 0.0984 FCT 24	low10b 0.0984 FCT 11	NAVB-2 0.0985 FCT 29a	PB-6 0.0987 FCT 19	PTWALT-1 0.1003 FCT 24	cool 08 0.1003 FCT 24	BURN-1 0.1013 FCT 29a
ANK15	FCT 24	Affinity to FCT 29a/30b	CHIDPT-1 0.0579 FCT 24	BOLD-3 0.0592 FCT 24	MINN-1 0.0632 FCT 25	Possum3 0.0703 FCT 30b	MTB-4 0.0715 FCT 24	NAVB-3 0.0723 FCT 24	NAVB-2 0.0743 FCT 29a	PEPB-1 0.0745 FCT 30b	C71-4 0.0749 FCT 25	BURN-1 0.0756 FCT 29a	SEAB-5 0.0756 FCT 29a	WOODP-2 0.0757 FCT 30a	TRIG-2 0.0758 FCT 29a	NAVB-4 0.0772 FCT 24	LESCH-2 0.0799 FCT 30b	BOLD-1 0.081 FCT 24	PTWALT-1 0.0832 FCT 24	PEPGRV-1 0.0834 FCT 30a	SEAB-8 0.0838 FCT 29a	TRIG-6 0.0839 FCT 24
ANK16	FCT 24	Affinity to FCT 25	NEER-1 0.0713 FCT 24	TRIG-6 0.072 FCT 24	NAVB-4 0.0741 FCT 24	C71-4 0.0757 FCT 25	cool 03 0.0776 FCT 24	MINN-1 0.0785 FCT 25	MTB-4 0.0803 FCT 24	PTWALT-1 0.083 FCT 24	WHILL-5 0.0843 FCT 26b	BOLD-4 0.0886 FCT 24	NEER-11 0.0891 FCT 24	BOLD-1 0.0892 FCT 24	MEAL-2 0.0901 FCT 26b	NAVB-3 0.091 FCT 24	MINN-2 0.0912 FCT 25	cool 08 0.0913 FCT 24	cool 02 0.0914 FCT 24	BOLD-3 0.0917 FCT 24	YALG-1 0.0928 FCT 26b	MTB-2 0.0936 FCT 24
ANK17	Inconclusive FCT 24/25	initially paired with FCT 11 site CARAB-3 FCT 24 and FCT 25 (NNB)	NEER-1 0.0654 FCT 24	NAVB-4 0.068 FCT 24	C71-4 0.0694 FCT 25	TRIG-6 0.0753 FCT 24	MINN-1 0.0769 FCT 25	NAVB-3 0.0773 FCT 24	MTB-4 0.0776 FCT 24	BOLD-4 0.0795 FCT 24	CARAB-3 0.0815 FCT 11	SVH-1 0.082 FCT 26a	MINN-2 0.0829 FCT 25	BOLD-3 0.0857 FCT 24	BOLD-1 0.0859 FCT 24	cool 03 0.086 FCT 24	ELLIS-2 0.0885 FCT 18	PTWALT-1 0.0887 FCT 24	WHILL-5 0.0893 FCT 26b	MTB-2 0.0897 FCT 24	YALG-1 0.0904 FCT 26b	PEPB-1 0.0904 FCT 30b
ANK18	Inconclusive FCT 24/25	initially paired with three FCT 11 sites then 19, 18 and 17 at low level of similarity NNB suggests FCT 24 and FCT 25	NEER-1 0.0794 FCT 24	TRIG-6 0.0844 FCT 24	C71-4 0.0898 FCT 25	MINN-1 0.0933 FCT 25	NEER-11 0.0935 FCT 24	MINN-2 0.0948 FCT 25	PAGA-8 0.0993 FCT 25	CORON-2 0.1017 FCT 25	NAVB-4 0.1038 FCT 24	YALG-7 0.1045 FCT 26b	KEME-1 0.1089 FCT 25	cool 03 0.109 FCT 24	TRIG-5 0.11 FCT 24	WARI-1 0.11 FCT 28	MYALUP-2 0.1102 FCT 25	WHILL-5 0.1105 FCT 26b	PEPB-1 0.1109 FCT 30b	MEAL-1 0.1117 FCT 25	PTWALT-1 0.1123 FCT 24	KERO-2 0.1131 FCT 24
ANK19	FCT 28/21a	Dendro affinity to FCT 24	MTB-1 0.0685 FCT 24	KERO-2 0.0747 FCT 24	TRIG-3 0.0748 FCT 28	WOODV-2 0.0762 FCT 28	KING-2 0.0772 FCT 28	DEPOT-1 0.0777 FCT 28	MINN-3 0.0782 FCT 25	CRAMPT-1 0.0784 FCT 21a	MYALUP-2 0.0791 FCT 25	WOODV-1 0.0816 FCT 28	C71-3 0.082 FCT 21a	PAGA-7 0.0821 FCT 21a	SHENT-1 0.0827 FCT 28	low10a 0.0828 FCT 21a	NEER-3 0.0834 FCT 28	DRAIN-1 0.0836 FCT 21a	KING-1 0.0837 FCT 28	NEER-4 0.0841 FCT 28	GUTHR-3 0.0846 FCT 21a	WARI-2 0.0848 FCT 28
ANK20	FCT 24	Affinity to FCT 25	NEER-1 0.0715 FCT 24	MINN-2 0.0773 FCT 25	C71-4 0.0785 FCT 25	TRIG-6 0.0799 FCT 24	NAVB-4 0.0846 FCT 24	CARAB-3 0.0847 FCT 11	PAGA-8 0.0851 FCT 25	MINN-1 0.0888 FCT 25	BOLD-4 0.0893 FCT 24	BOLD-2 0.0896 FCT 24	NAVB-3 0.09 FCT 24	TRIG-5 0.0904 FCT 24	PTWALT-1 0.0913 FCT 24	NEER-11 0.0914 FCT 24	BOLD-1 0.0923 FCT 24	WARI-1 0.0938 FCT 28	KEME-1 0.0938 FCT 25	low10a 0.0944 FCT 21a	SVH-1 0.0946 FCT 26a	WHILL-5 0.0963 FCT 26b
ANK21	FCT 24	Affinity to FCT 25	PTWALT-1 0.0701 FCT 24	MINN-1 0.0753 FCT 25	TRIG-6 0.0756 FCT 24	BOLD-1 0.077 FCT 24	C71-4 0.0788 FCT 25	TRIG-1 0.0852 FCT 29b	YALG-1 0.0854 FCT 26b	BOLD-3 0.0859 FCT 24	SEAB-7 0.0867 FCT 29b	WHILL-5 0.0869 FCT 26b	SEAB-5 0.0895 FCT 29a	PB-2 0.0898 FCT 29b	NAVB-4 0.0899 FCT 24	WOODP-2 0.0902 FCT 30a	NEER-10 0.0907 FCT 24	BOLD-2 0.0909 FCT 24	cool 08 0.091 FCT 24	NAVB-3 0.0911 FCT 24	Possum3 0.0911 FCT 30b	MINN-2 0.0922 FCT 25

ANK22	FCT 28	NNB suggests an affinity to FCT 21a at a high similarity	**ANK22**	TAM-1	SHENT-1	WARI-2	DEPOT-1	HARRY-2	KING-2	WELL-2	DRAIN-1	NEER-3	WOODV-2	**ANK22**	WELL-1	C71-3	NEER-21	NEER-6	GUTHR-3	HARRY-1	THOM-2	YAN-3	NEER-2	NEER-8
				0.052	0.0521	0.053	0.0542	0.0548	0.0551	0.0551	0.0559	0.0568	0.0574		0.0574	0.0582	0.0583	0.0594	0.0604	0.0606	0.0612	0.062	0.0627	0.0632
				FCT 21a	FCT 28	FCT 28	FCT 28	FCT 28	FCT 28	FCT 21a	FCT 21a	FCT 28	FCT 28		FCT 21a	FCT 21a	FCT 28	FCT 28	FCT 21a	FCT 28	FCT 24	FCT 28	FCT 28	FCT 28
ANK23	FCT 28	Affinity FCT 21a	**ANK23**	DEPOT-1	WARI-2	NEER-3	SHENT-1	KING-2	TAM-1	WOODV-2	NEER-6	NEER-21	WELL-1	**ANK23**	TRIG-3	YAN-3	WELL-2	DRAIN-1	NEER-2	THOM-2	HARRY-2	YAN-4	KERO-2	WOODV-1
				0.0535	0.0554	0.0555	0.0566	0.0566	0.0582	0.0591	0.0609	0.0625	0.0627		0.0631	0.0642	0.0657	0.0659	0.0663	0.0679	0.0681	0.0689	0.0695	0.0701
				FCT 28	FCT 28	FCT 28	FCT 28	FCT 28	FCT 21a	FCT 28	FCT 28	FCT 28	FCT 21a		FCT 28	FCT 28	FCT 21a	FCT 21a	FCT 28	FCT 24	FCT 28	FCT 28	FCT 24	FCT 28
ANK25	FCT 28 (FCT24)	Grouped with FCT 28 sites WOODV-1 and WOODV-2 at high similarity NNB suggests an affinity to FCT 24 at a moderate similarity	**ANK25**	WARI-1	NEER-11	TRIG-3	WOODV-1	WOODV-2	KERO-2	TRIG-5	low10a	MYALUP-2	KING-1	**ANK25**	TRIG-6	PAGA-8	NEER-1	MTB-1	PAGA-7	MINN-2	BOLD-2	KING-2	KEME-1	MINN-3
				0.0681	0.0682	0.0689	0.0715	0.0721	0.0736	0.0738	0.0767	0.0772	0.0781		0.08	0.0801	0.0806	0.0809	0.0813	0.0822	0.0827	0.0833	0.0833	0.0834
				FCT 28	FCT 24	FCT 28	FCT 28	FCT 28	FCT 24	FCT 24	FCT 21a	FCT 25	FCT 28		FCT 24	FCT 25	FCT 24	FCT 24	FCT 21a	FCT 25	FCT 24	FCT 28	FCT 25	FCT 25
ANK26	FCT 28	with a strong affinity to FCT 24 (Dendro and NNB)	**ANK26**	WOODV-1	WOODV-2	KERO-2	WARI-1	NEER-6	low10a	TRIG-3	MTB-1	PAGA-7	WELL-1	**ANK26**	NEER-5	NEER-20	DEPOT-1	MINN-3	YALG-6	MEAL-1	KING-2	NEER-22	NEER-21	TRIG-5
				0.0479	0.049	0.0519	0.052	0.0528	0.0538	0.0548	0.0554	0.0563	0.0569		0.0572	0.0581	0.0623	0.0635	0.0652	0.0658	0.0663	0.0669	0.0676	0.0684
				FCT 28	FCT 28	FCT 24	FCT 28	FCT 28	FCT 21a	FCT 28	FCT 24	FCT 21a	FCT 21a		FCT 28	FCT 28	FCT 28	FCT 25	FCT 26b	FCT 25	FCT 28	FCT 28	FCT 28	FCT 24
ANK27	FCT 21a/28	initially grouped with FCT 21a sites in dendrogram With an affinity to FCT 21c site (FL-6) - Dendro/NNB NNB suggests an affinity to FCT 28	**ANK27**	FL-6	HARRY-2	WOODV-2	TAM-1	HARRY-1	KING-2	NEER-8	SHENT-1	THOM-2	card11	**ANK27**	WELL-1	NEER-20	NEER-2	DEPOT-1	YAN-4	NEER-6	WARI-2	WELL-2	WOODV-1	KERO-2
				0.0809	0.0813	0.0831	0.085	0.0867	0.0871	0.0874	0.0878	0.0901	0.0921		0.0933	0.0935	0.0935	0.0949	0.0951	0.0952	0.0955	0.0956	0.0971	0.0975
				FCT 21c	FCT 28	FCT 28	FCT 21a	FCT 28	FCT 28	FCT 28	FCT 28	FCT 24	FCT 6		FCT 21a	FCT 28	FCT 28	FCT 28	FCT 28	FCT 28	FCT 28	FCT 21a	FCT 28	FCT 24
ANK28	FCT 6	grouped with FCT 6 site in the dendrogram at relatively low similarity NNB suggests an affinity to FCT 28	**ANK28**	CARAB-3	TWIN-3	AUSTB-6	low08	card10	low10a	GUTHR-4	ELLEN-6	WARI-1	WOODV-1	**ANK28**	WOODV-2	TRIG-5	TWIN-4	MEAL-1	MHENRY-2	NEER-5	TWIN-1	NEER-22	BOLD-2	MTB-1
				0.0816	0.0851	0.0907	0.0908	0.0963	0.0978	0.0982	0.1008	0.1019	0.1037		0.1039	0.1049	0.1053	0.1062	0.1069	0.1072	0.1075	0.1087	0.1092	0.1097
				FCT 11	FCT 6	FCT 5	FCT 5	FCT 6	FCT 21a	FCT 5	FCT 3c	FCT 28	FCT 28		FCT 28	FCT 24	FCT 6	FCT 25	FCT 30c	FCT 28	FCT 6	FCT 28	FCT 24	FCT 24
ANK32	Inconclusive FCT 6 (FCT 3c)	initially grouped with FCT 6 sites NNB shows affinity to FCT 3c	**ANK32**	PAGA-8	ELLEN-6	TRIG-5	WARI-1	talb13	talb12	NEER-1	WATER-3	CARAB-3	KING-1	**ANK32**	card10	NEER-11	MINN-2	CORON-2	WOODV-1	YAN-21	DUCK-2	NAVB-4	MTB-1	MEAL-1
				0.0923	0.0935	0.0942	0.0967	0.0971	0.0975	0.0976	0.0988	0.1002	0.1005		0.1015	0.1017	0.1019	0.1021	0.1024	0.1026	0.1028	0.1029	0.1036	0.1042
				FCT 25	FCT 3c	FCT 24	FCT 28	FCT 3c	FCT 3c	FCT 24	FCT 3c	FCT 11	FCT 28		FCT 6	FCT 24	FCT 25	FCT 25	FCT 28	FCT 14	FCT 3c	FCT 24	FCT 24	FCT 25
ANK33	FCT 28	Affinity FCT 21a	**ANK33**	WOODV-2	KING-2	DEPOT-1	NEER-6	WELL-1	HARRY-2	SHENT-1	WOODV-1	KERO-2	WARI-2	**ANK33**	MTB-1	NEER-21	NEER-3	TRIG-3	low12b	NEER-20	NEER-8	WELL-2	TAM-1	PAGA-7
				0.0506	0.0516	0.0537	0.0565	0.0566	0.057	0.0579	0.0591	0.0605	0.0605		0.0614	0.0614	0.0618	0.0626	0.0631	0.0633	0.0636	0.0639	0.0651	0.0656
				FCT 28	FCT 28	FCT 28	FCT 28	FCT 21a	FCT 28	FCT 28	FCT 28	FCT 24	FCT 28		FCT 24	FCT 28	FCT 28	FCT 28	FCT 21a	FCT 28	FCT 28	FCT 21a	FCT 21a	FCT 21a
ANK34	FCT 24	NNB suggests an affinity to FCT 28 at a high level of similaritty	**ANK34**	WARI-1	WOODV-2	WOODV-1	TRIG-3	low10a	KERO-2	TRIG-5	MTB-1	PAGA-7	NEER-6	**ANK34**	YAN-5	NEER-5	KING-1	KEME-1	PAGA-8	MEAL-1	YALG-6	CORON-2	DEPOT-1	MYALUP-2
				0.0504	0.0548	0.055	0.0555	0.0569	0.0593	0.0615	0.0619	0.0623	0.0649		0.0651	0.066	0.0661	0.0665	0.0665	0.0667	0.0672	0.068	0.0681	0.0684
				FCT 28	FCT 28	FCT 28	FCT 28	FCT 21a	FCT 24	FCT 24	FCT 24	FCT 21a	FCT 28		FCT 26b	FCT 28	FCT 28	FCT 25	FCT 25	FCT 25	FCT 26b	FCT 25	FCT 28	FCT 25
ANK35 **Reveg**	Inconclusive FCT 24	initially paired with FCT 17 site Possum 5 Dendro - affinity to FCT 17 Callistemon/Calothamnus revegetation site adj. FWY on ramp	**ANK35**	BOLD-1	NAVB-3	CHIDPT-1	MTB-4	BOLD-3	PTWALT-1	NAVB-4	MINN-1	Possum5	SVH-1	**ANK35**	BURN-1	TRIG-6	SEAB-5	MTB-2	NAVB-2	Possum3	C71-4	YALG-1	TRIG-2	CLIF-3
				0.08	0.0802	0.0867	0.0887	0.0896	0.0899	0.0904	0.093	0.0936	0.0944		0.0947	0.0952	0.0971	0.0984	0.0984	0.0988	0.0992	0.0999	0.1002	0.1011
				FCT 24	FCT 24	FCT 24	FCT 24	FCT 24	FCT 24	FCT 24	FCT 25	FCT 17	FCT 26a		FCT 29a	FCT 24	FCT 29a	FCT 24	FCT 29a	FCT 30b	FCT 25	FCT 26b	FCT 29a	FCT 26a
ANK36	FCT 28/21a	with a strong affinity to FCT 21a (Dendro and NNB)	**ANK36**	HARRY-2	TAM-1	HARRY-1	WELL-2	NEER-2	WELL-1	WOODV-2	SHENT-1	WARI-2	NEER-8	**ANK36**	DEPOT-1	NEER-3	KING-2	NEER-21	C71-3	PAGA-4	low04	GUTHR-3	DRAIN-1	NEER-6
				0.0502	0.0608	0.0609	0.0639	0.0639	0.064	0.0646	0.0648	0.0649	0.0653		0.0667	0.0669	0.0678	0.0692	0.0703	0.0705	0.0706	0.0714	0.0716	0.0721
				FCT 28	FCT 21a	FCT 28	FCT 21a	FCT 28	FCT 21a	FCT 28	FCT 28	FCT 28	FCT 28		FCT 28	FCT 28	FCT 28	FCT 28	FCT 21a	FCT 21a	FCT 21a	FCT 21a	FCT 21a	FCT 28
ANK38 **Roadside**	FCT28/24	No relationship with any Gibson site or FCT from Dendrogram	**ANK38**	WOODV-2	KERO-2	WARI-1	WOODV-1	TRIG-5	MTB-1	NEER-20	KING-2	low10a	TRIG-3	**ANK38**	DEPOT-1	NEER-5	NEER-6	PAGA-7	WELL-1	NEER-22	MHENRY-2	NEER-7	TAM-1	NEER-8
				0.0625	0.0662	0.0662	0.0666	0.0689	0.0703	0.0728	0.0736	0.074	0.0748		0.0752	0.0762	0.078	0.078	0.079	0.0797	0.0817	0.0822	0.0824	0.0826
				FCT 28	FCT 24	FCT 28	FCT 28	FCT 24	FCT 24	FCT 28	FCT 28	FCT 21a	FCT 28		FCT 28	FCT 28	FCT 28	FCT 21a	FCT 21a	FCT 28	FCT 30c	FCT 24	FCT 21a	FCT 28
ANK39	FCT 23a	Affinity FCT 28	**ANK39**	hurst01	YULE-1	FL-6	NEER-8	hurst02	HARRY-2	WIRR-2	hurst04	KING-2	BANK-2	**ANK39**	WELL-2	low13b	dard02	GOLF-1	YULE-2	YAN-4	hurst03	WHITE-1	WATERRD1	SHE-2
				0.0509	0.0516	0.0518	0.0532	0.0534	0.0544	0.0557	0.0558	0.0571	0.0574		0.0575	0.0579	0.0601	0.0607	0.0612	0.0623	0.0626	0.0626	0.0628	0.0629
				FCT 23a	FCT 23a	FCT 21c	FCT 28	FCT 23a	FCT 28	FCT 23a	FCT 23a	FCT 28	FCT 23a		FCT 21a	FCT 23a	FCT 21b	FCT 20a	FCT 23a	FCT 28	FCT 23a	FCT 23a	FCT 28	FCT 28
ANK74	FCT 24	Affinity to FCT 28 & FCT 25	**ANK74**	WARI-1	PAGA-8	TRIG-3	MINN-2	MYALUP-2	KING-1	KEME-1	low10a	PAGA-7	MINN-3	**ANK74**	BOLD-2	MTB-1	WOODV-1	CORON-2	NEER-1	NEER-11	TRIG-5	WOODV-2	MEAL-1	YAN-10
				0.0551	0.0584	0.0596	0.061	0.0615	0.0643	0.0652	0.0666	0.0674	0.0674		0.0684	0.0689	0.069	0.0692	0.0694	0.0711	0.0714	0.0717	0.0725	0.0741
				FCT 28	FCT 25	FCT 28	FCT 25	FCT 25	FCT 28	FCT 25	FCT 21a	FCT 21a	FCT 25		FCT 24	FCT 24	FCT 28	FCT 25	FCT 24	FCT 24	FCT 24	FCT 28	FCT 25	FCT 26b
ANK75a	FCT 24	Slight affinity to FCT 25	**ANK75a**	NAVB-4	NEER-1	TRIG-6	C71-4	cool 03	MTB-4	MINN-2	NAVB-3	MINN-1	BOLD-4	**ANK75a**	PTWALT-1	NEER-11	PAGA-8	cool 02	CARAB-3	ELLEN-6	SVH-1	BOLD-1	WHILL-5	MEAL-2
				0.0699	0.07	0.0748	0.0799	0.082	0.0828	0.0865	0.0865	0.0871	0.0877		0.0896	0.0903	0.0914	0.0914	0.0928	0.0928	0.0931	0.0939	0.094	0.0942
				FCT 24	FCT 24	FCT 24	FCT 25	FCT 24	FCT 24	FCT 25	FCT 24	FCT 25	FCT 24		FCT 24	FCT 24	FCT 25	FCT 24	FCT 11	FCT 3c	FCT 26a	FCT 24	FCT 26b	FCT 26b
ANK75b	FCT 24		**ANK75b**	NEER-1	TRIG-5	PAGA-8	NEER-11	TRIG-6	WARI-1	MINN-2	BOLD-2	BOLD-4	YAN-1	**ANK75b**	NAVB-4	CORON-2	KEME-1	MHENRY-2	C71-4	MEAL-1	MTB-3	cool 02	WOODV-1	low10a
				0.0502	0.0593	0.0636	0.0641	0.0681	0.0682	0.0687	0.0689	0.0691	0.0705		0.0714	0.0718	0.0737	0.0747	0.0748	0.0751	0.076	0.0762	0.0772	0.0776
				FCT 24	FCT 24	FCT 25	FCT 24	FCT 24	FCT 28	FCT 25	FCT 24	FCT 24	FCT 26b		FCT 24	FCT 25	FCT 25	FCT 30c	FCT 25	FCT 25	FCT 24	FCT 24	FCT 28	FCT 21a
ANK76	FCT 24	Affinity to FCT 28	**ANK76**	WARI-1	WOODV-1	WOODV-2	TRIG-3	KERO-2	MTB-1	PAGA-7	NEER-5	NEER-6	low10a	**ANK76**	KING-1	DEPOT-1	MYALUP-2	NEER-22	MEAL-1	MINN-3	WELL-1	YAN-5	TRIG-5	NEER-20
				0.0468	0.0502	0.0523	0.0534	0.0547	0.0552	0.0607	0.0624	0.0633	0.0636		0.0639	0.0653	0.0668	0.067	0.0672	0.068	0.068	0.0682	0.0691	0.0696
				FCT 28	FCT 28	FCT 28	FCT 28	FCT 24	FCT 24	FCT 21a	FCT 28	FCT 28	FCT 21a		FCT 28	FCT 28	FCT 25	FCT 28	FCT 25	FCT 25	FCT 21a	FCT 26b	FCT 24	FCT 28
ANK93	FCT 24	Dendro & NNB suggest FCT 24 Affinity to FCT 25 and FCT 28	**ANK93**	NEER-1	NEER-11	PAGA-8	WOODV-1	MINN-2	WARI-1	CORON-2	MTB-1	low10a	MEAL-1	**ANK93**	KERO-2	TRIG-5	TRIG-6	WOODV-2	TRIG-3	KEME-1	MTB-3	MYALUP-2	MINN-3	YAN-5
				0.0622	0.0649	0.066	0.0689	0.0699	0.0701	0.0719	0.0727	0.0732	0.0736		0.0744	0.0756	0.0767	0.0776	0.0781	0.0781	0.0783	0.0784	0.0795	0.0802
				FCT 24	FCT 24	FCT 25	FCT 28	FCT 25	FCT 28	FCT 25	FCT 24	FCT 21a	FCT 25		FCT 24	FCT 24	FCT 24	FCT 28	FCT 28	FCT 25	FCT 24	FCT 25	FCT 25	FCT 26b
ANK94	(FCT 19)	Dendro & NNB suggest FCT 19 Affinity to FCT 29a & FCT 30a	**ANK94**	PB-1	Possum2	PRES-1	WOODP-1	NAVB-2	PB-6	CHIDPT-1	PEPGRV-2	TRIG-2	GARDEN-4	**ANK94**	SEAB-8	cool 04	low10b	BURN-1	PEPGRV-1	LESCH-1	SEAB-1	BOLD-3	Possum5	Possum3
				0.0562	0.0673	0.0703	0.0706	0.0715	0.0828	0.085	0.0902	0.0906	0.0914		0.095	0.0972	0.0989	0.0995	0.0996	0.1	0.1015	0.1021	0.1021	0.1039
				FCT 19	FCT 16	FCT 29a	FCT 30a	FCT 29a	FCT 19	FCT 24	FCT 30a	FCT 29a	FCT 30a		FCT 29a	FCT 17	FCT 11	FCT 29a	FCT 30a	FCT 30b	FCT 30c	FCT 24	FCT 17	FCT 30b

ANK98	Inconclusive	Dendro & NNB suggest FCT 29a
Reveg		Slight affinity to FCT 30a

ANK98	PRES-1	WOODP-1	Possum2	NAVB-2	PB-1	low10b	PB-6	SEAB-8	Possum5	LESCH-6
	0.076	0.0784	0.0796	0.0817	0.0868	0.0892	0.0907	0.0913	0.0936	0.0954
	FCT 29a	FCT 30a	FCT 16	FCT 29a	FCT 19	FCT 11	FCT 19	FCT 29a	FCT 17	FCT 17

ANK98	GARDEN-4	cool 04	CHIDPT-1	Possum3	LESCH-1	PEPB-1	PEPGRV-2	SEAB-1	TRIG-2	Possum4
	0.096	0.0971	0.0973	0.0983	0.0985	0.0989	0.0993	0.1007	0.102	0.103
	FCT 30a	FCT 17	FCT 24	FCT 30b	FCT 30b	FCT 30b	FCT 30a	FCT 30c	FCT 29a	FCT 30b

ANK99		Initially paired with FCT 19 site COOL-09
	(FCT24/30b)	Slight affinity to FCT 24, FCT 30b and FCT 29a

ANK99	MTB-4	MINN-1	Possum3	PEPB-1	BOLD-3	CHIDPT-1	TRIG-2	WOODP-2	NAVB-2	TRIG-6
	0.069	0.0697	0.0738	0.0741	0.0756	0.0769	0.081	0.0814	0.0846	0.0848
	FCT 24	FCT 25	FCT 30b	FCT 30b	FCT 24	FCT 24	FCT 29a	FCT 30a	FCT 29a	FCT 24

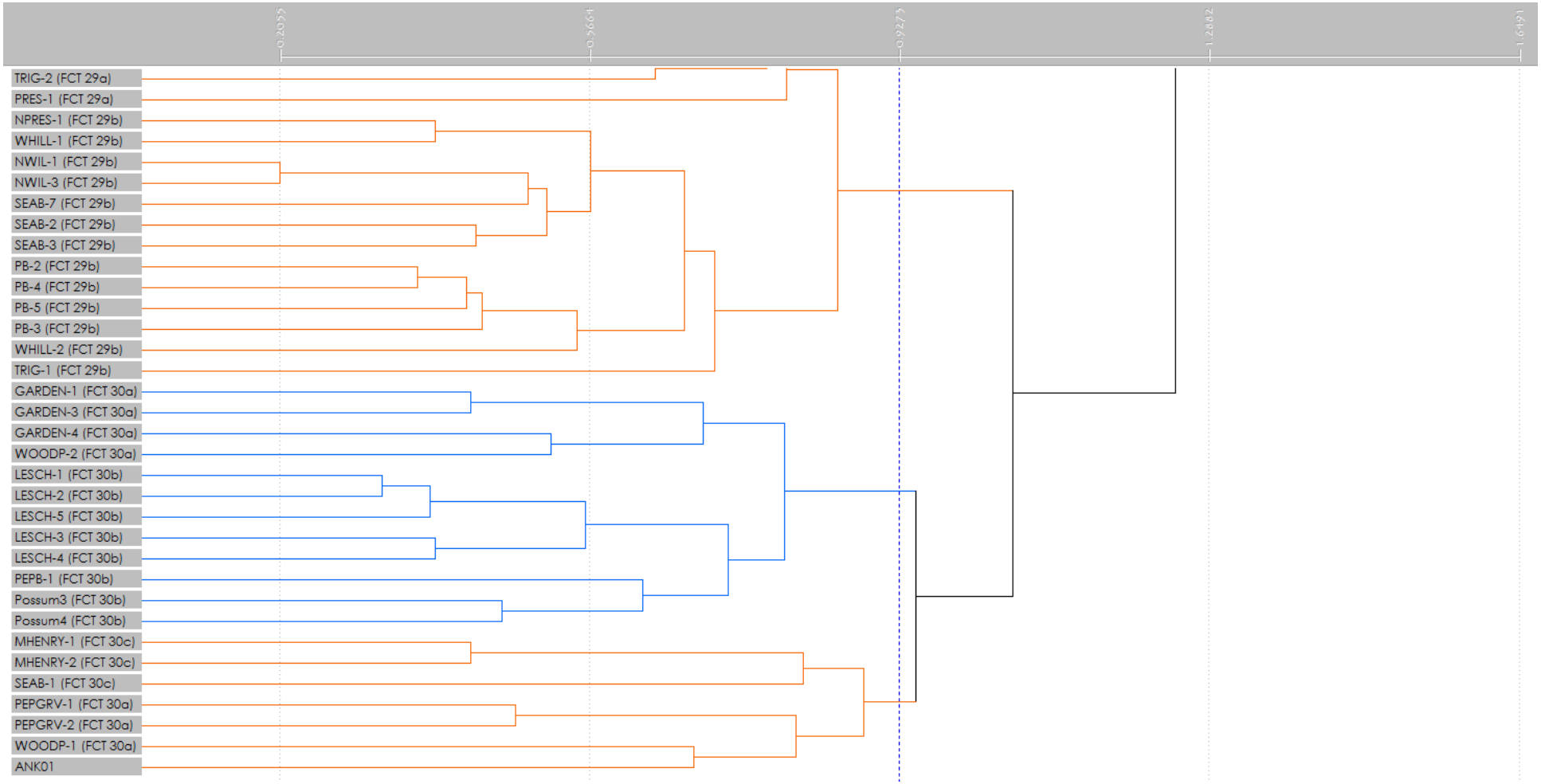
ANK99	PEPGRV-1	SEAB-5	LESCH-2	cool 03	PB-6	BURN-1	NAVB-3	SEAB-8	C71-4	SEAB-1
	0.0849	0.0851	0.0851	0.0856	0.0862	0.0866	0.0867	0.0871	0.0876	0.0877
	FCT 30a	FCT 29a	FCT 30b	FCT 24	FCT 19	FCT 29a	FCT 24	FCT 29a	FCT 25	FCT 30c

ANK100		Dendro & NNB suggest FCT 24
	(FCT 24/30b)	Affinity to FCT 28 & FCT 25

ANK100	WARI-1	low10a	MTB-1	WOODV-2	MINN-3	PAGA-8	WOODV-1	MEAL-1	KERO-2	TRIG-3
	0.0545	0.0565	0.0577	0.0585	0.059	0.0597	0.0605	0.0607	0.0617	0.0627
	FCT 28	FCT 21a	FCT 24	FCT 28	FCT 25	FCT 25	FCT 28	FCT 25	FCT 24	FCT 28

ANK100	PAGA-7	MINN-2	KEME-1	MYALUP-2	CORON-2	KING-1	TRIG-5	NEER-5	NEER-1	YALG-6
	0.063	0.0634	0.0634	0.0634	0.0647	0.0671	0.0672	0.0705	0.0707	0.0715
	FCT 21a	FCT 25	FCT 25	FCT 25	FCT 25	FCT 28	FCT 24	FCT 28	FCT 24	FCT 26b

ANK01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NWIL-1 (FCT 29b)
NWIL-3 (FCT 29b)
SEAB-7 (FCT 29b)
SEAB-2 (FCT 29b)
SEAB-3 (FCT 29b)
PB-2 (FCT 29b)
PB-4 (FCT 29b)
PB-5 (FCT 29b)
PB-3 (FCT 29b)
WHILL-2 (FCT 29b)
TRIG-1 (FCT 29b)
GARDEN-1 (FCT 30a)
GARDEN-3 (FCT 30a)
GARDEN-4 (FCT 30a)
WOODP-2 (FCT 30a)
LESCH-1 (FCT 30b)
LESCH-2 (FCT 30b)
LESCH-5 (FCT 30b)
LESCH-3 (FCT 30b)
LESCH-4 (FCT 30b)
PEPB-1 (FCT 30b)
Possum3 (FCT 30b)
Possum4 (FCT 30b)
MHENRY-1 (FCT 30c)
MHENRY-2 (FCT 30c)
SEAB-1 (FCT 30c)
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WOODP-1 (FCT 30a)
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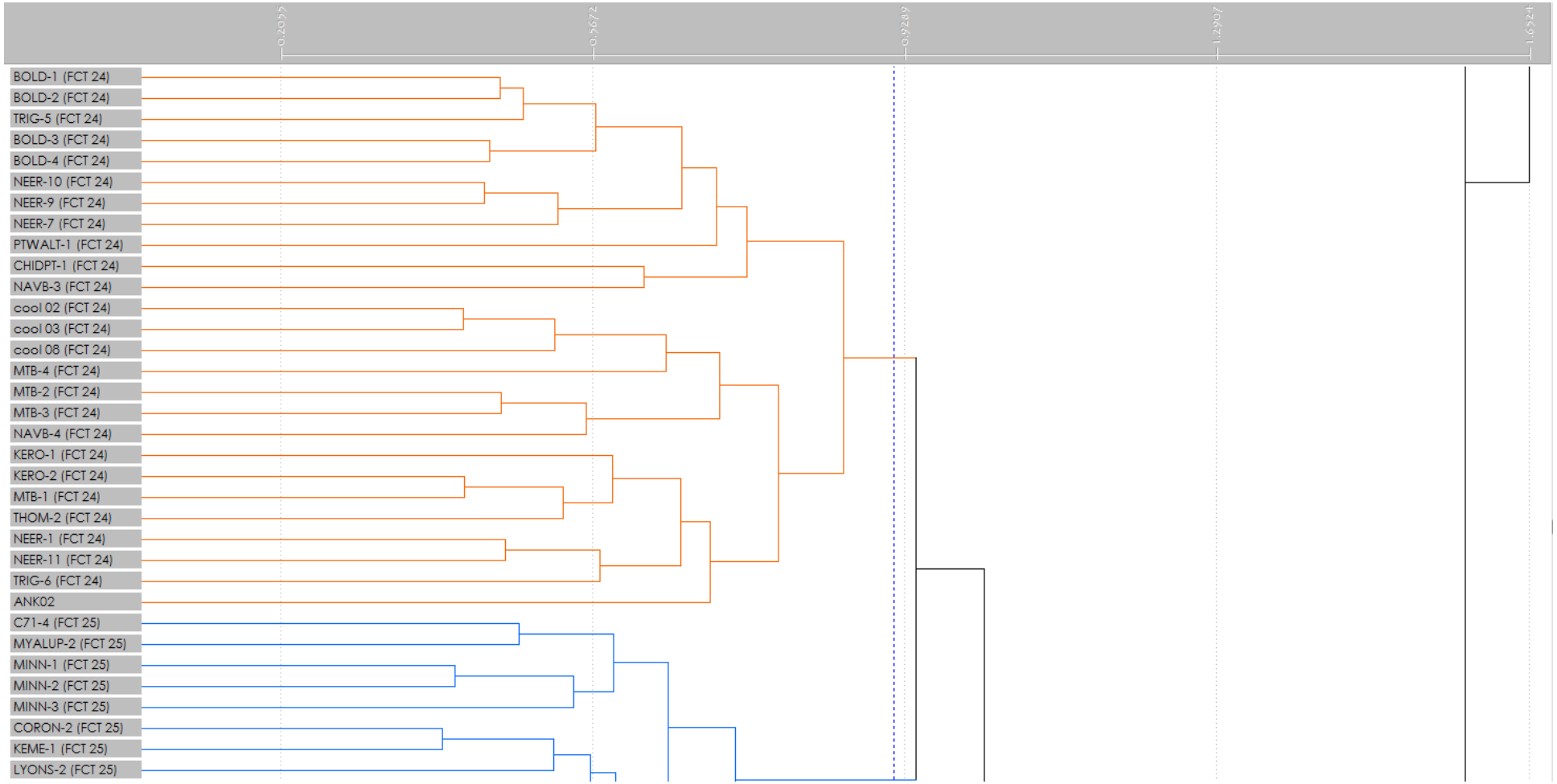
ANK02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MTB-1 (FCT 24)
THOM-2 (FCT 24)
NEER-1 (FCT 24)
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TRIG-6 (FCT 24)
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C71-4 (FCT 25)
MYALUP-2 (FCT 25)
MINN-1 (FCT 25)
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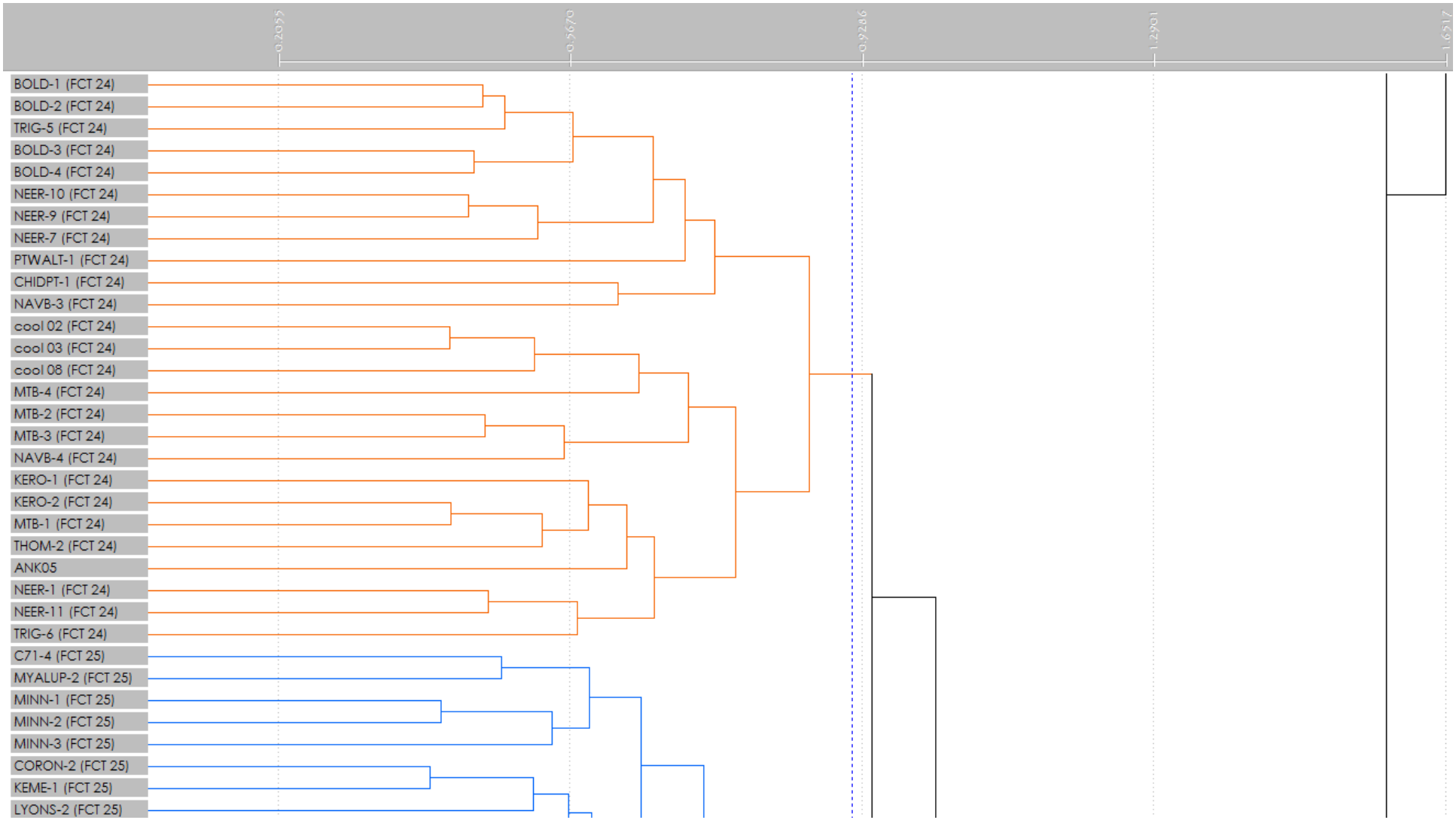
ANK05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NEER-9 (FCT 24)
NEER-7 (FCT 24)
PTWALT-1 (FCT 24)
CHIDPT-1 (FCT 24)
NAVB-3 (FCT 24)
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cool 08 (FCT 24)
MTB-4 (FCT 24)
MTB-2 (FCT 24)
MTB-3 (FCT 24)
NAVB-4 (FCT 24)
KERO-1 (FCT 24)
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THOM-2 (FCT 24)
ANK05
NEER-1 (FCT 24)
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TRIG-6 (FCT 24)
C71-4 (FCT 25)
MYALUP-2 (FCT 25)
MINN-1 (FCT 25)
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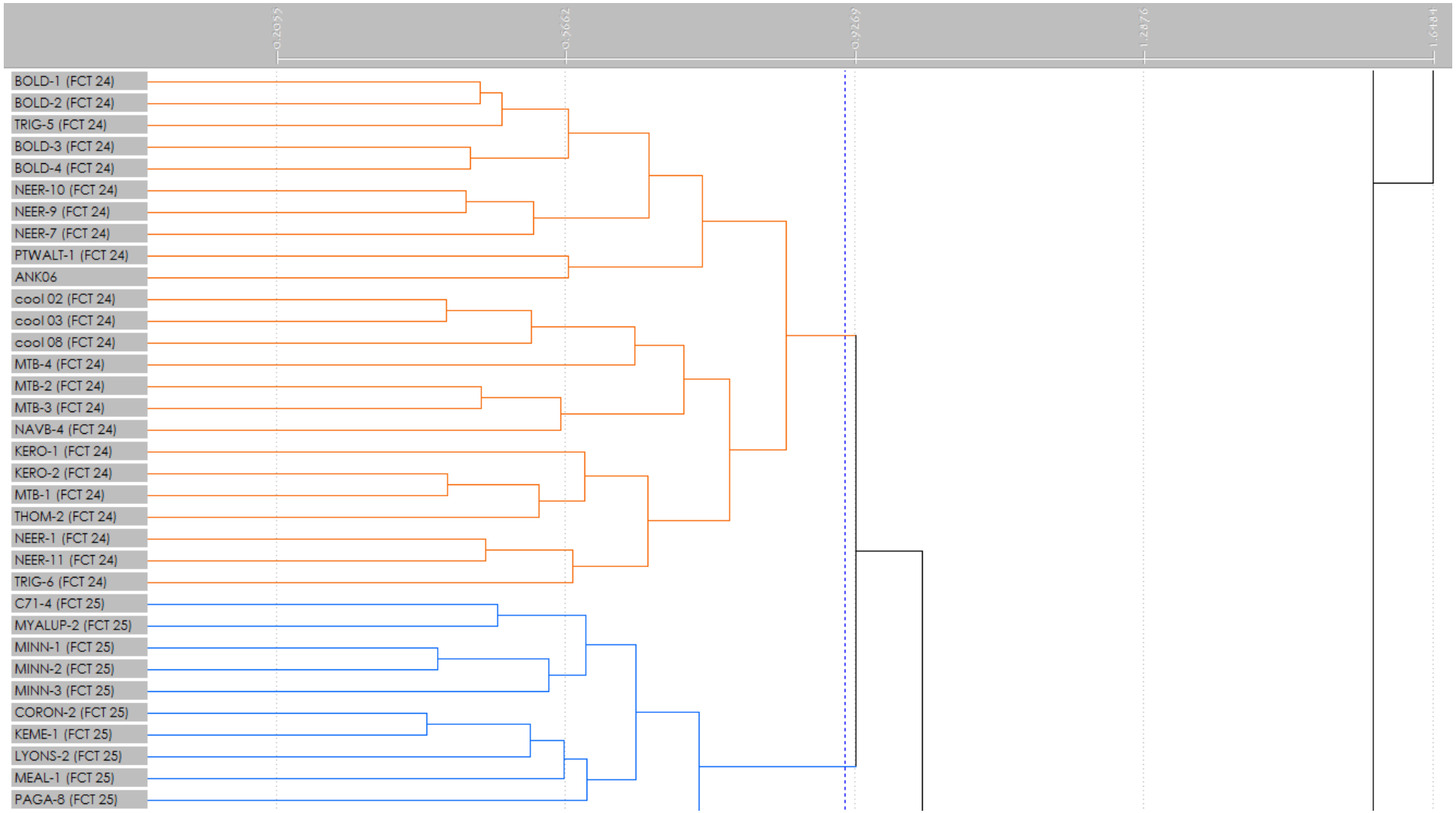
ANK06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MTB-3 (FCT 24)
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TRIG-6 (FCT 24)
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MINN-1 (FCT 25)
MINN-2 (FCT 25)
MINN-3 (FCT 25)
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KEME-1 (FCT 25)
LYONS-2 (FCT 25)
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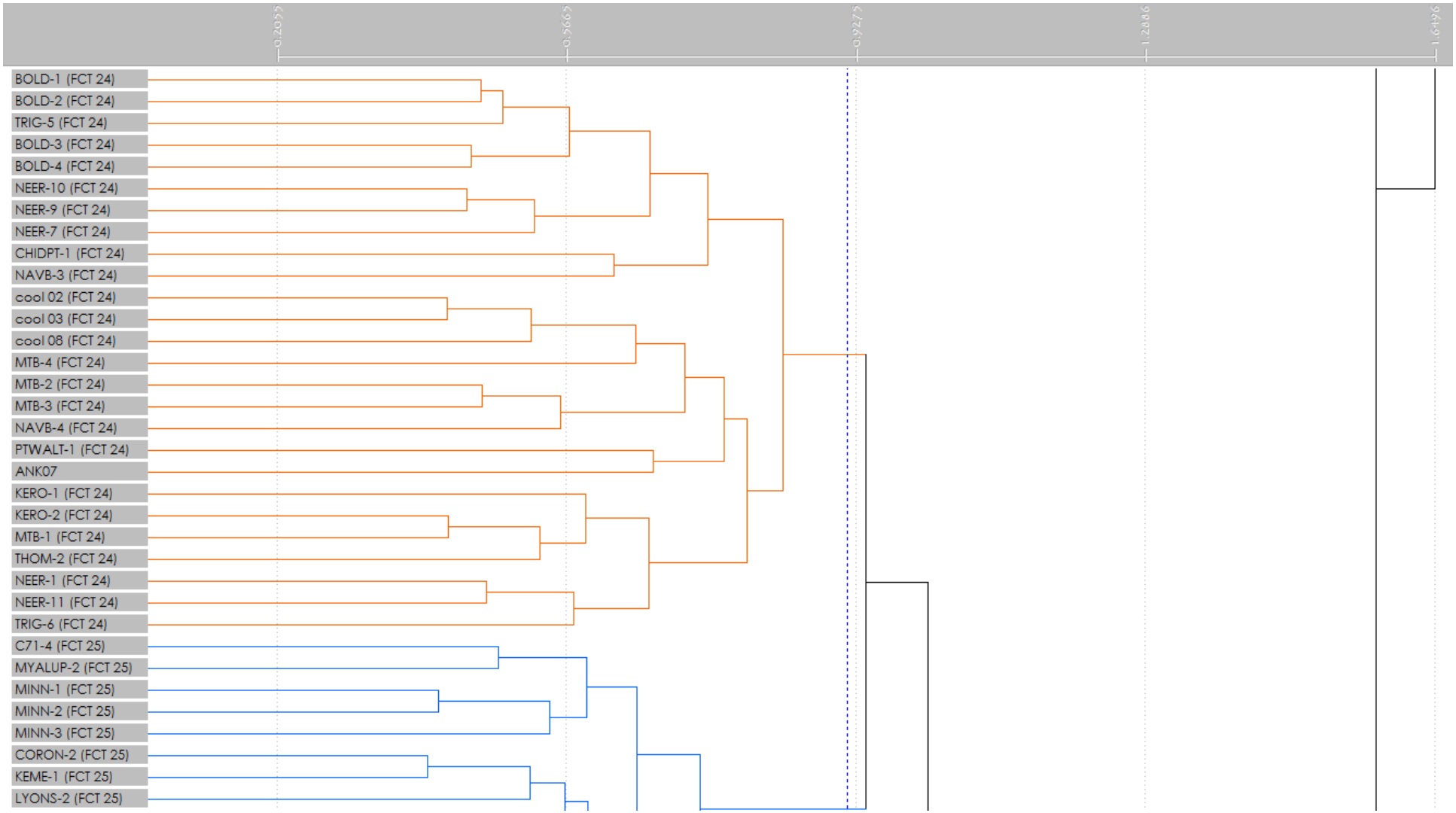
ANK07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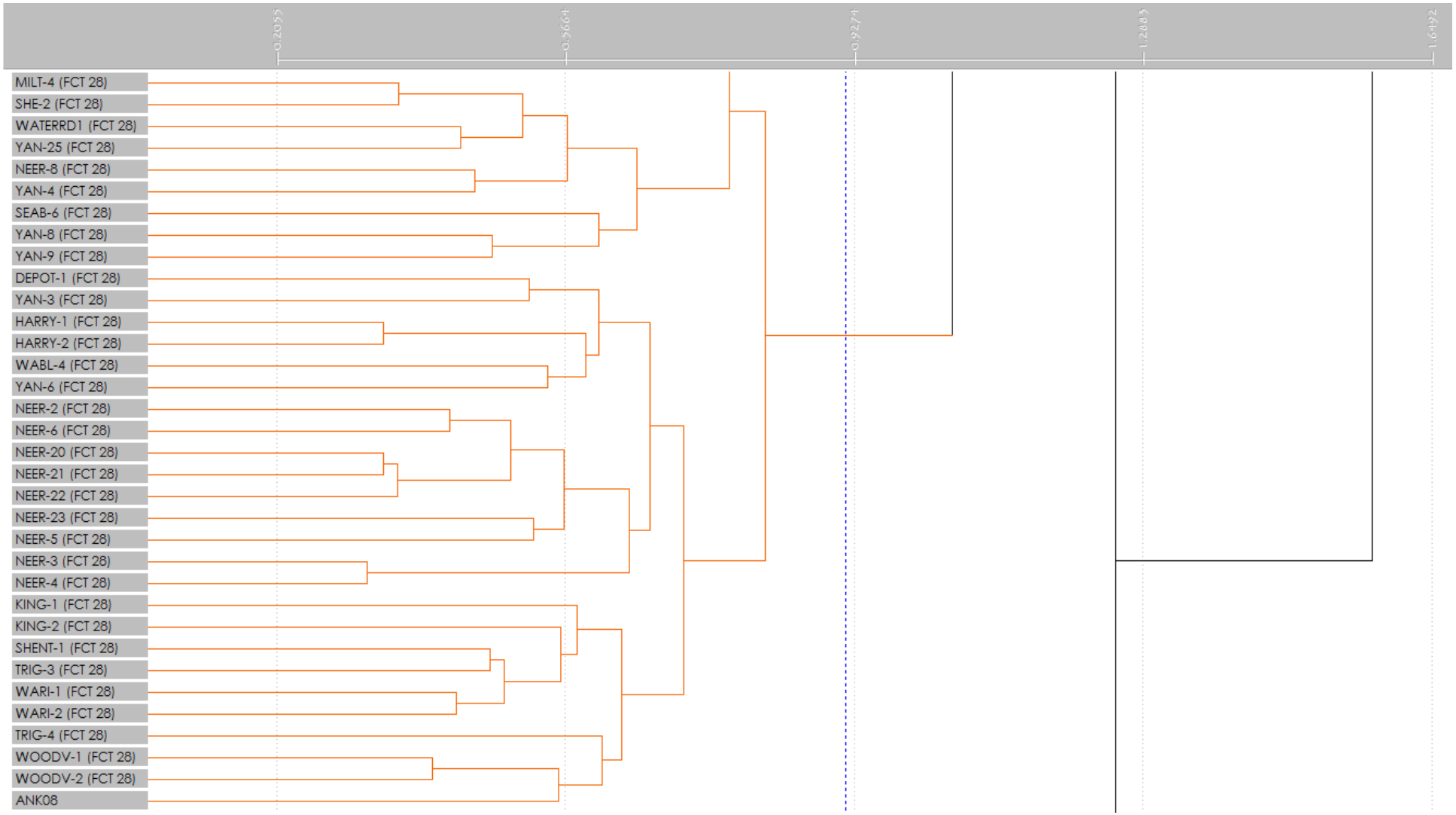
ANK08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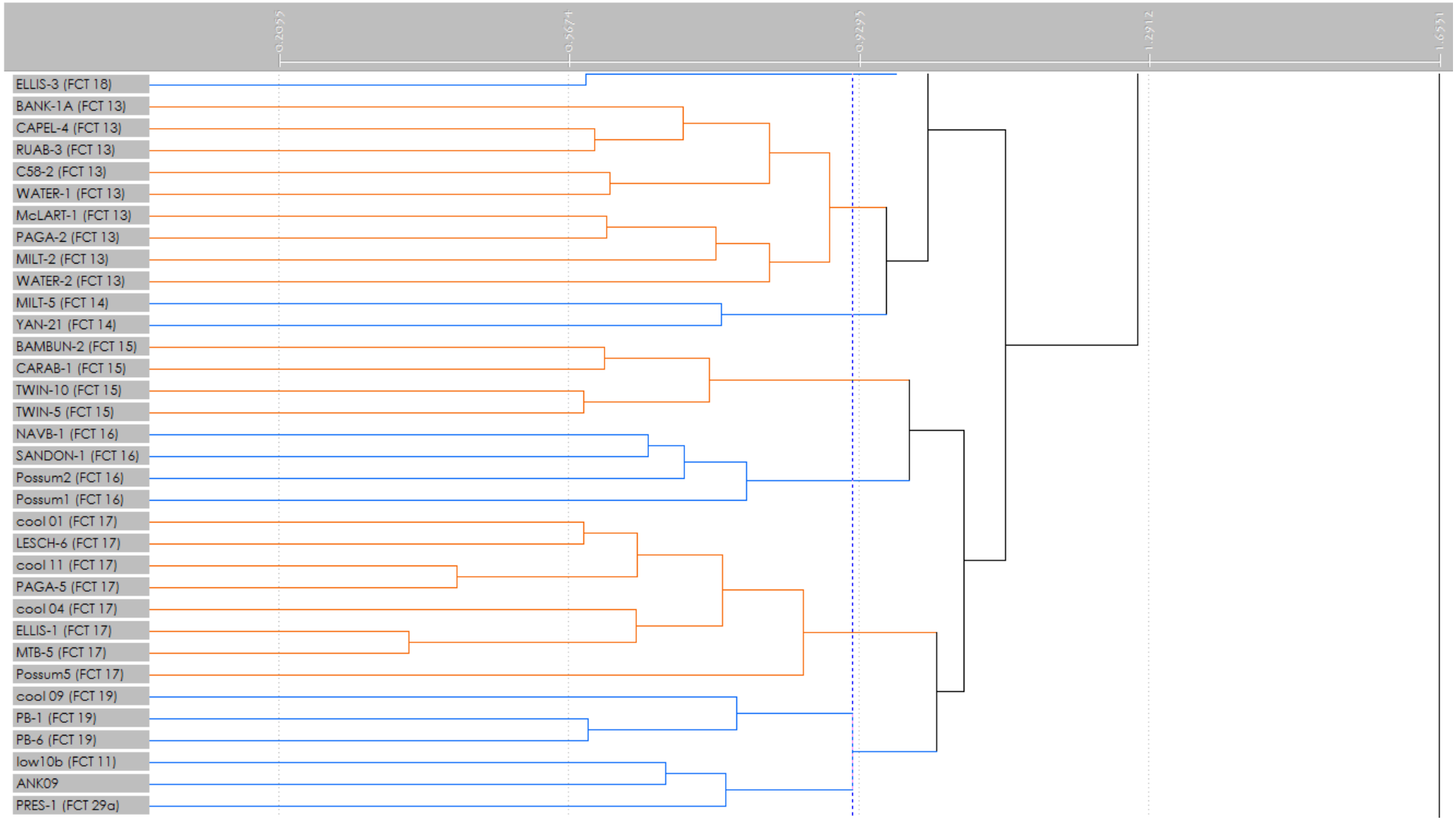
ANK09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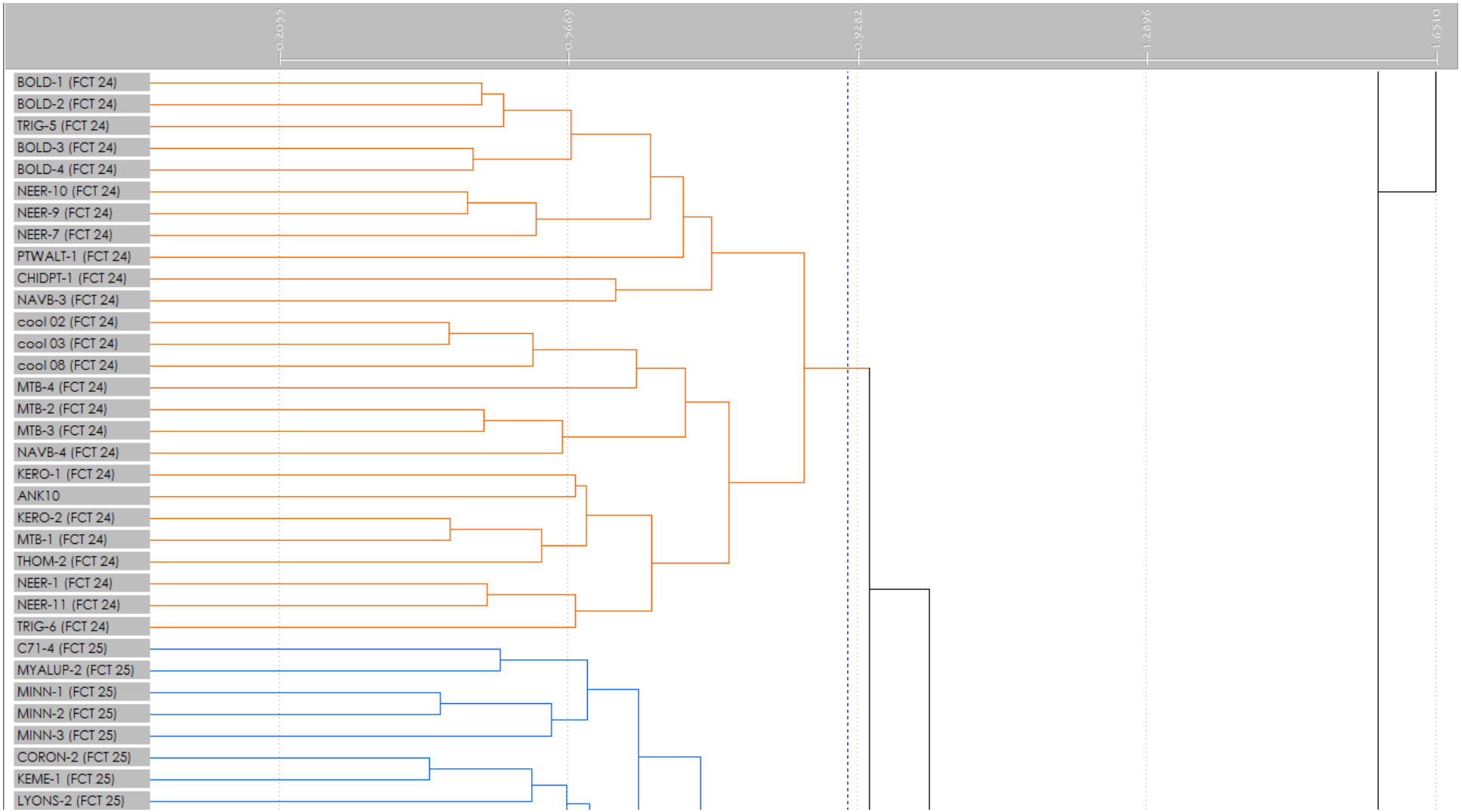
ANK10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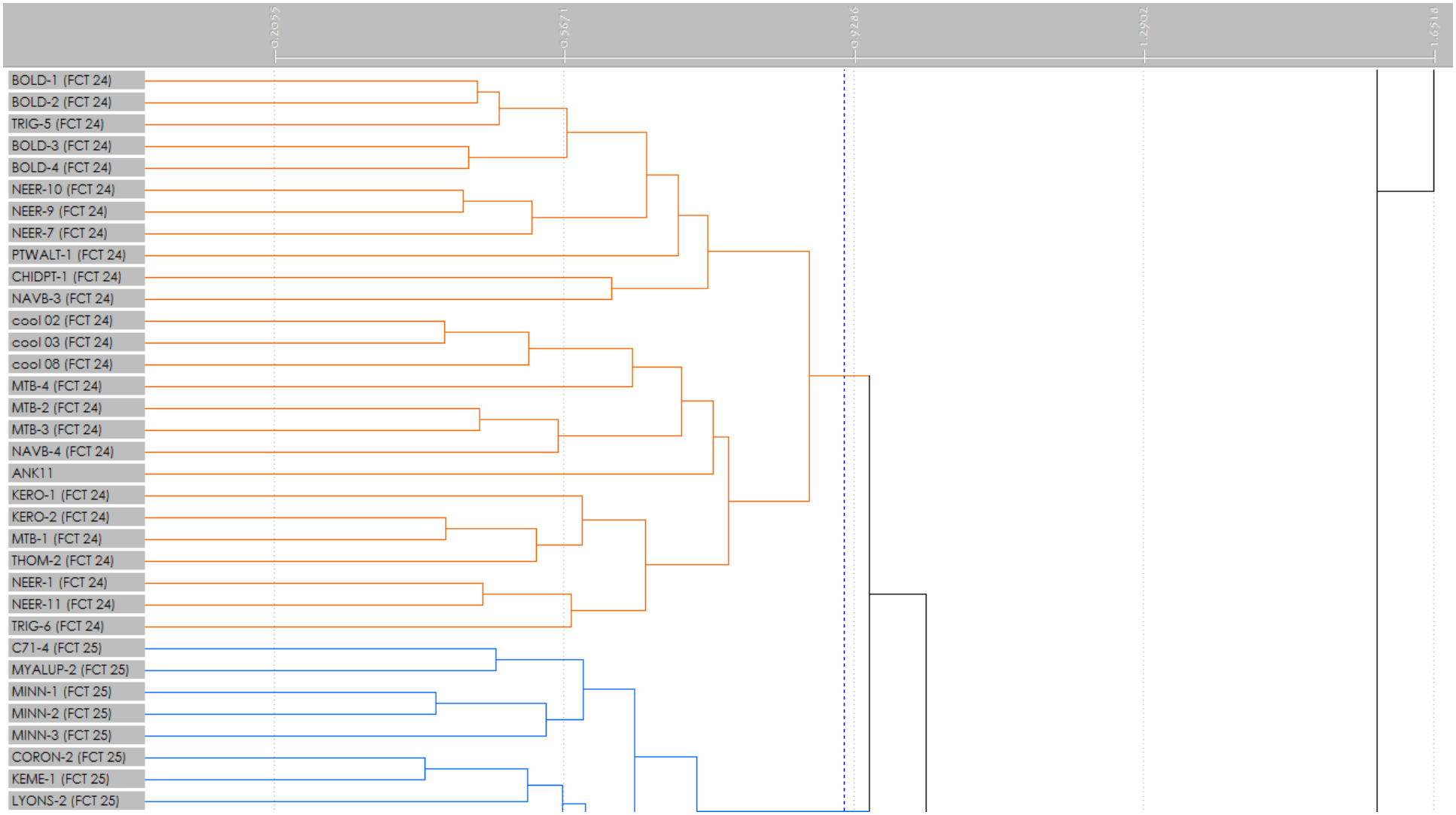
ANK11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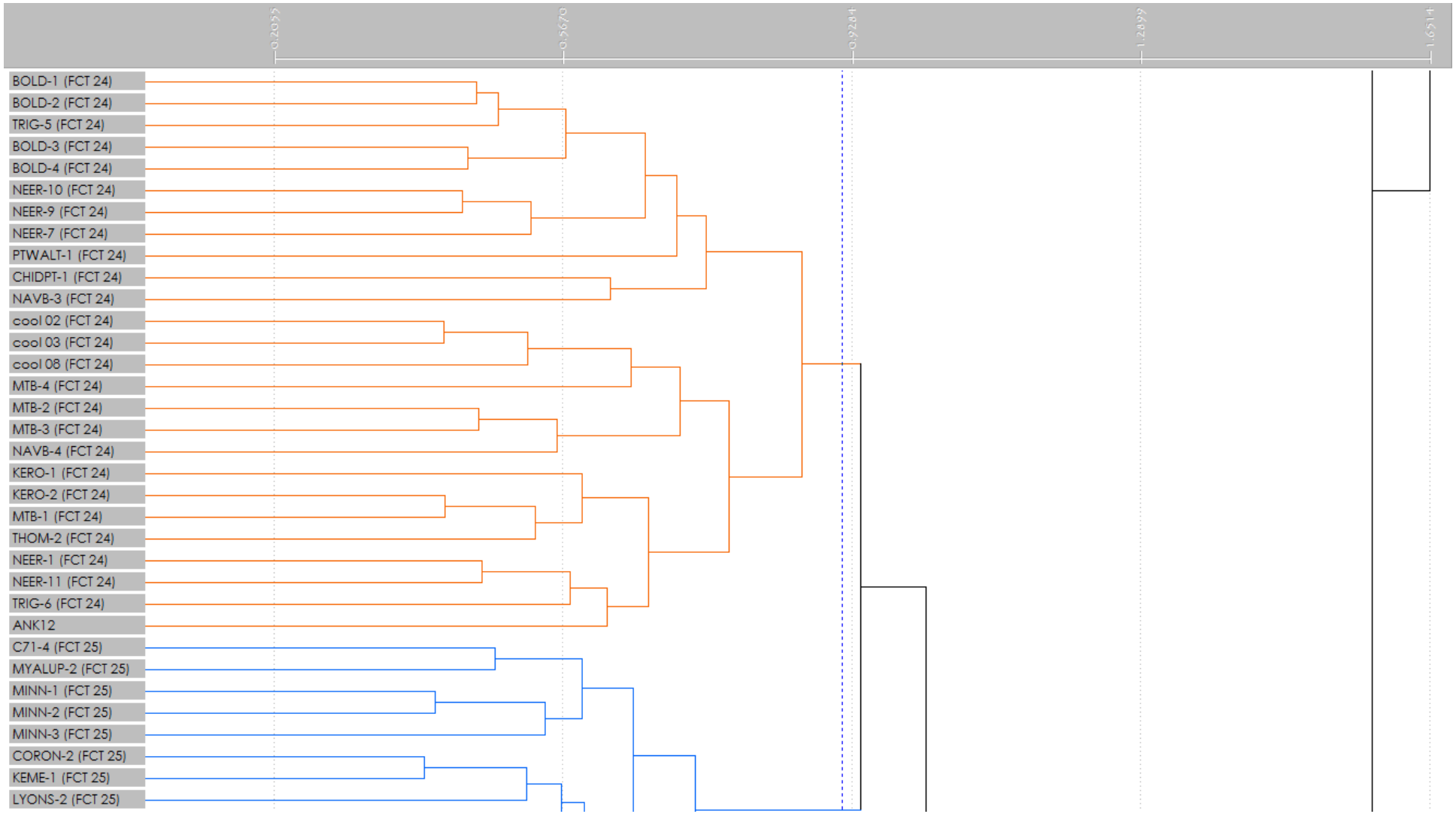
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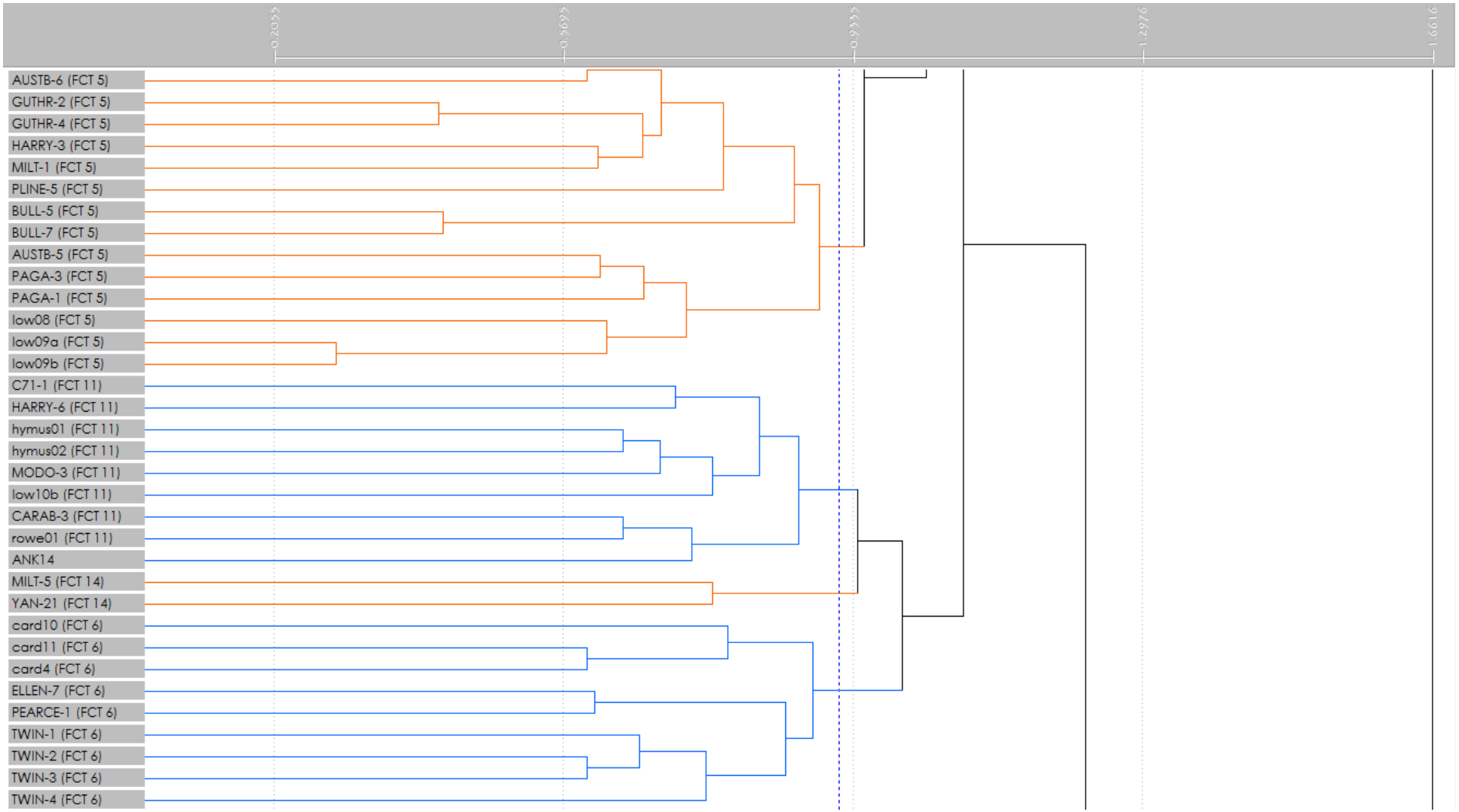
ANK14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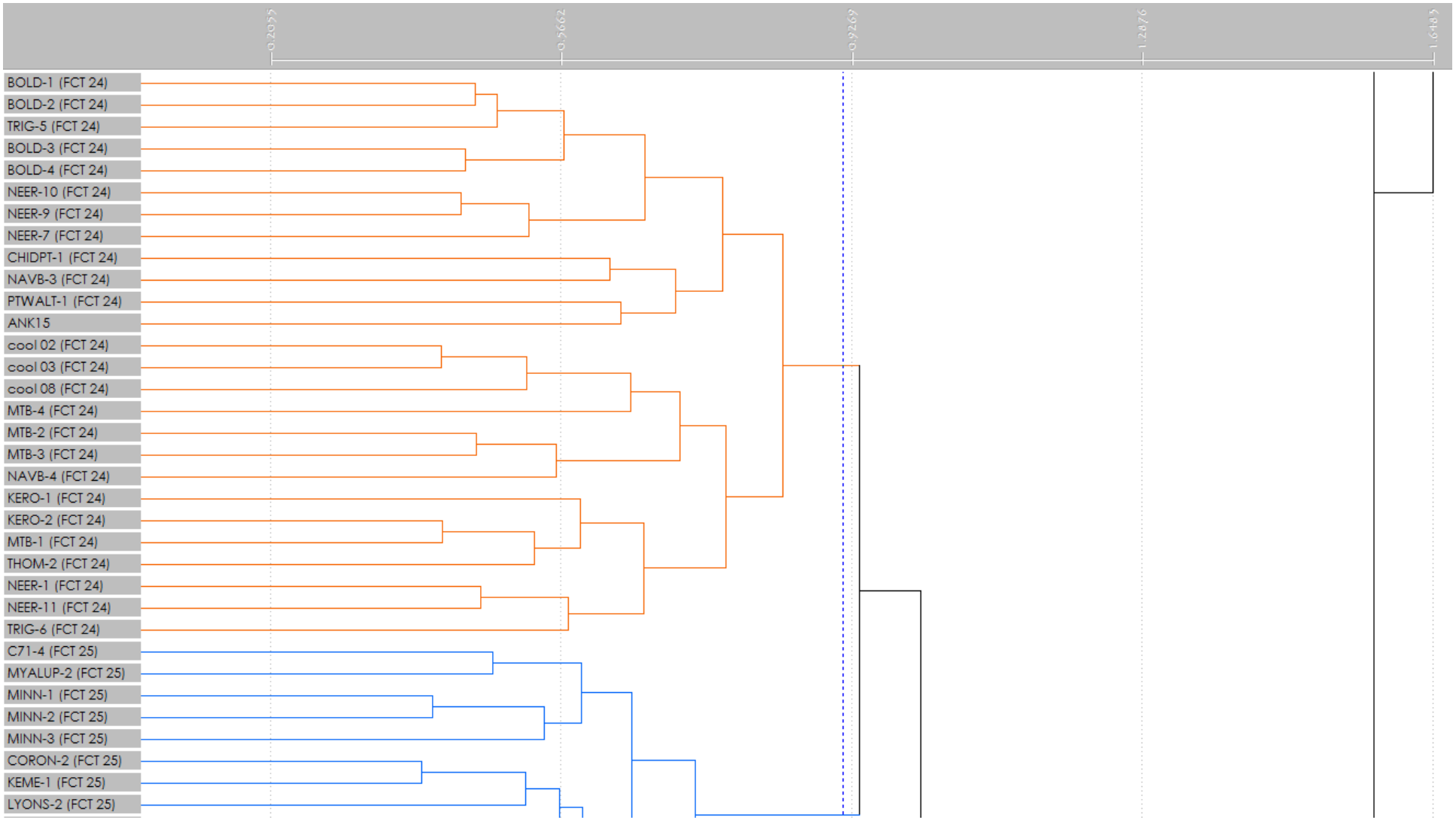
ANK15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NEER-1 (FCT 24)
NEER-11 (FCT 24)
TRIG-6 (FCT 24)
C71-4 (FCT 25)
MYALUP-2 (FCT 25)
MINN-1 (FCT 25)
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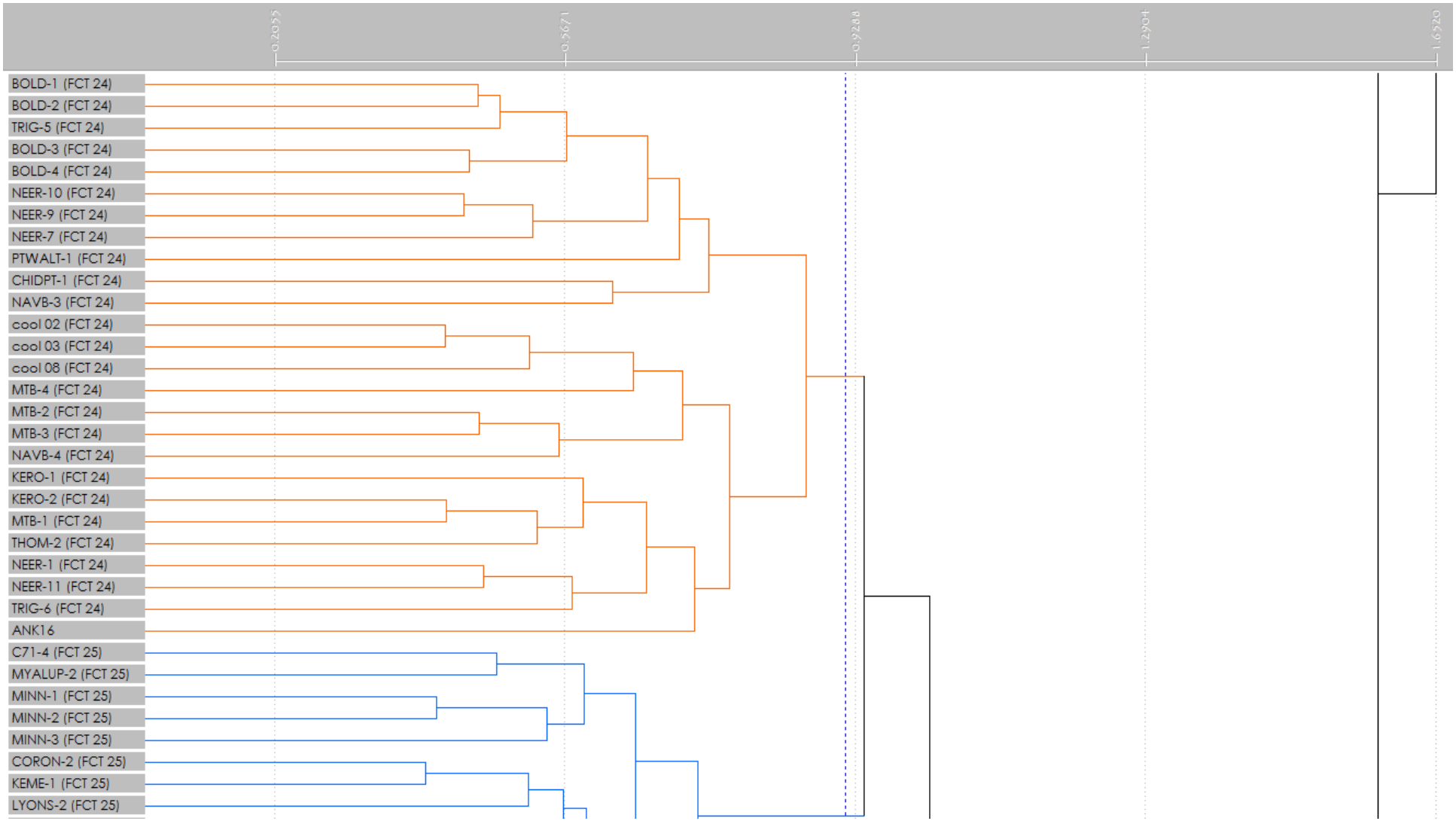
MINN-3 (FCT 25)
CORON-2 (FCT 25)
KEME-1 (FCT 25)
LYONS-2 (FCT 25)

ANK16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BOLD-4 (FCT 24)
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NEER-9 (FCT 24)
NEER-7 (FCT 24)
PTWALT-1 (FCT 24)
CHIDPT-1 (FCT 24)
NAVB-3 (FCT 24)
cool 02 (FCT 24)
cool 03 (FCT 24)
cool 08 (FCT 24)
MTB-4 (FCT 24)
MTB-2 (FCT 24)
MTB-3 (FCT 24)
NAVB-4 (FCT 24)
KERO-1 (FCT 24)
KERO-2 (FCT 24)
MTB-1 (FCT 24)
THOM-2 (FCT 24)
NEER-1 (FCT 24)
NEER-11 (FCT 24)
TRIG-6 (FCT 24)
ANK16
C71-4 (FCT 25)
MYALUP-2 (FCT 25)
MINN-1 (FCT 25)
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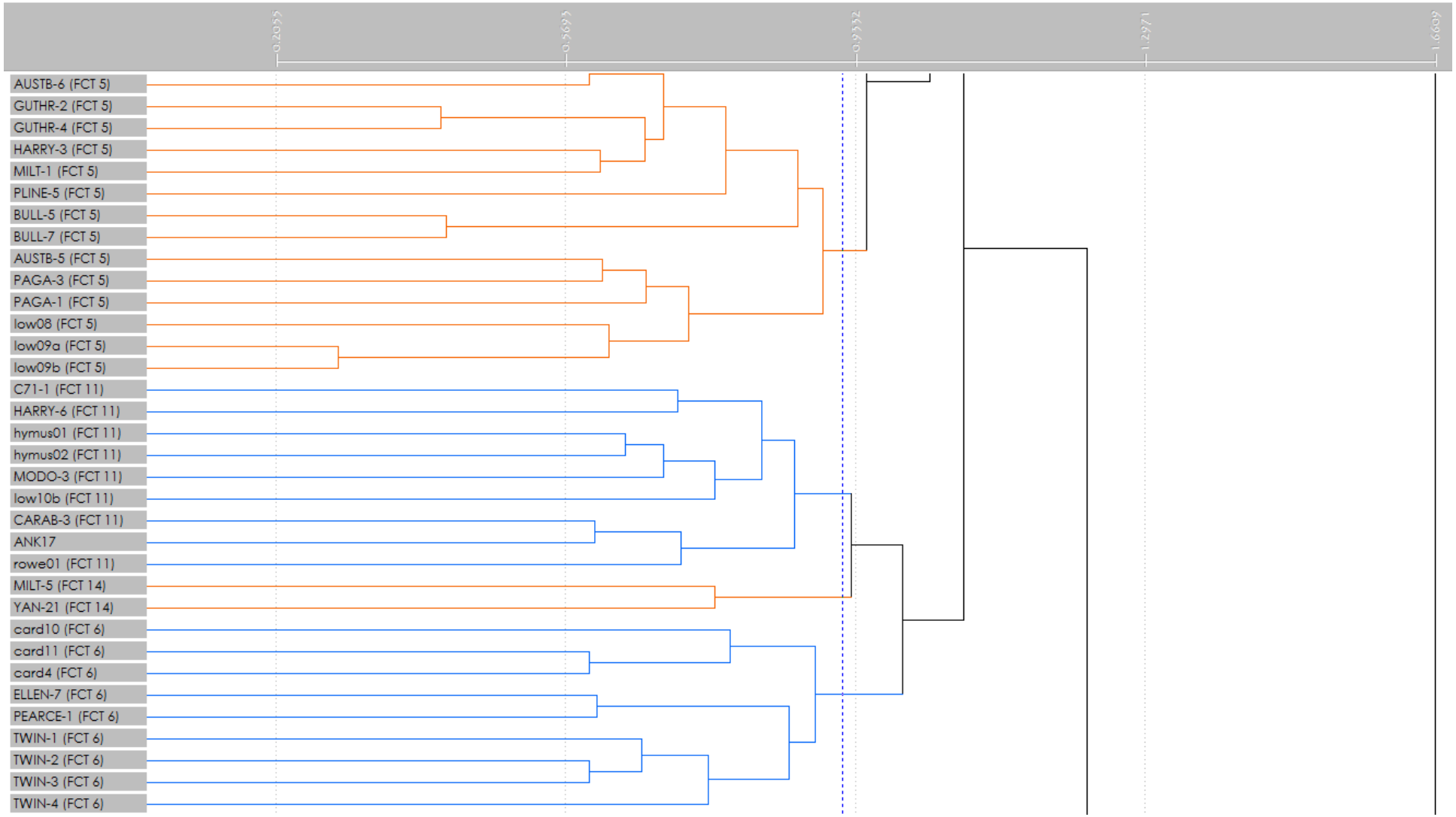
CORON-2 (FCT 25)
KEME-1 (FCT 25)
LYONS-2 (FCT 25)

ANK17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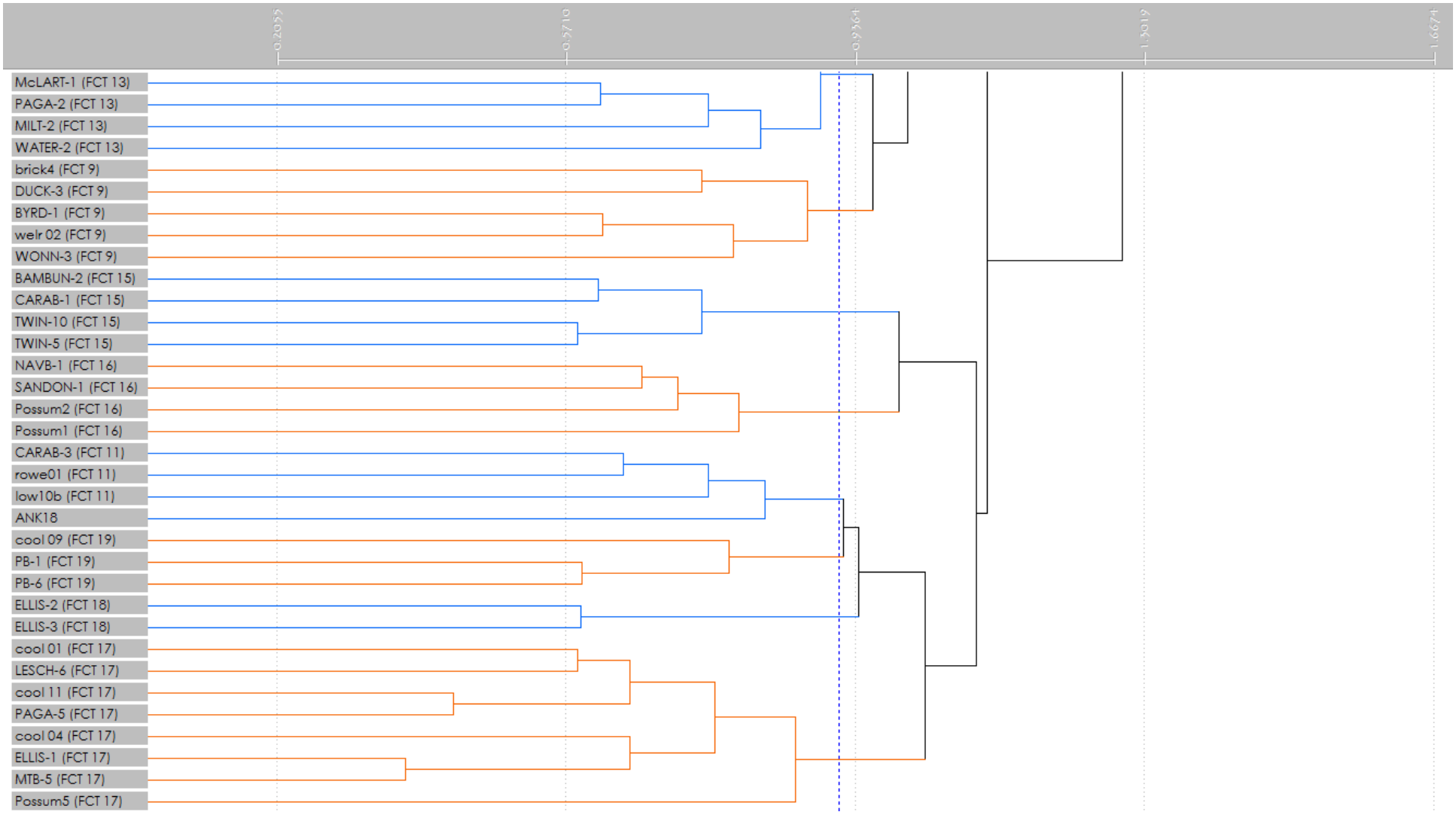
HARRY-3 (FCT 5)
MILT-1 (FCT 5)
PLINE-5 (FCT 5)
BULL-5 (FCT 5)
BULL-7 (FCT 5)
AUSTB-5 (FCT 5)
PAGA-3 (FCT 5)
PAGA-1 (FCT 5)
low08 (FCT 5)
low09a (FCT 5)
low09b (FCT 5)
C71-1 (FCT 11)
HARRY-6 (FCT 11)
hymus01 (FCT 11)
hymus02 (FCT 11)
MODO-3 (FCT 11)
low10b (FCT 11)
CARAB-3 (FCT 11)
ANK17
rowe01 (FCT 11)
MILT-5 (FCT 14)
YAN-21 (FCT 14)
card10 (FCT 6)
card11 (FCT 6)
card4 (FCT 6)
ELLEN-7 (FCT 6)
PEARCE-1 (FCT 6)
TWIN-1 (FCT 6)
TWIN-2 (FCT 6)
TWIN-3 (FCT 6)
TWIN-4 (FCT 6)

ANK18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brick4 (FCT 9)
DUCK-3 (FCT 9)
BYRD-1 (FCT 9)
welr 02 (FCT 9)
WONN-3 (FCT 9)
BAMBUN-2 (FCT 15)
CARAB-1 (FCT 15)
TWIN-10 (FCT 15)
TWIN-5 (FCT 15)
NAVB-1 (FCT 16)
SANDON-1 (FCT 16)
Possum2 (FCT 16)
Possum1 (FCT 16)
CARAB-3 (FCT 11)
rowe01 (FCT 11)
low10b (FCT 11)
ANK18
cool 09 (FCT 19)
PB-1 (FCT 19)
PB-6 (FCT 19)
ELLIS-2 (FCT 18)
ELLIS-3 (FCT 18)
cool 01 (FCT 17)
LESCH-6 (FCT 17)
cool 11 (FCT 17)
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cool 04 (FCT 17)
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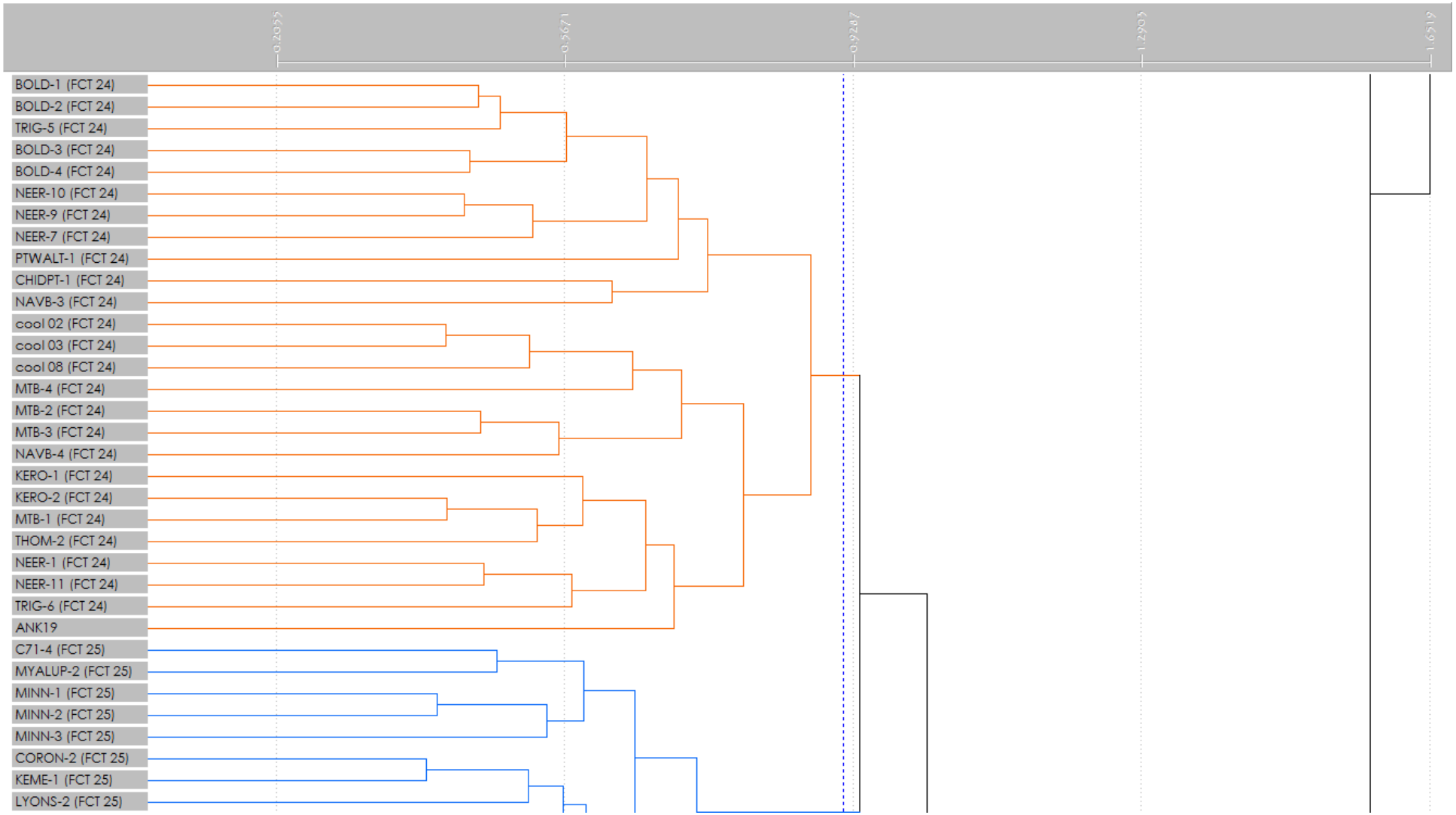
ANK19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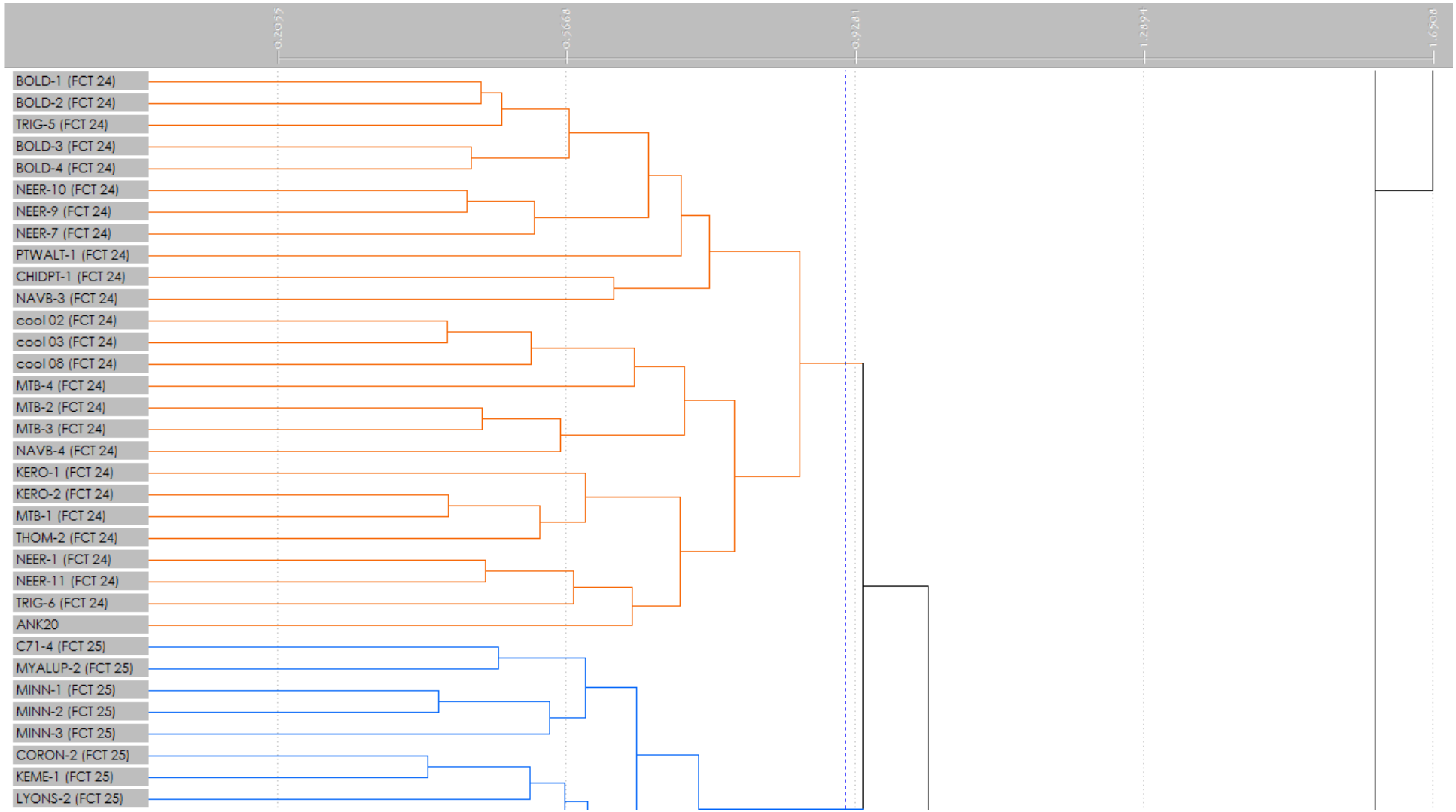
NEER-7 (FCT 24)
PTWALT-1 (FCT 24)
CHIDPT-1 (FCT 24)
NAVB-3 (FCT 24)
cool 02 (FCT 24)
cool 03 (FCT 24)
cool 08 (FCT 24)
MTB-4 (FCT 24)
MTB-2 (FCT 24)
MTB-3 (FCT 24)
NAVB-4 (FCT 24)
KERO-1 (FCT 24)
KERO-2 (FCT 24)
MTB-1 (FCT 24)
THOM-2 (FCT 24)
NEER-1 (FCT 24)
NEER-11 (FCT 24)
TRIG-6 (FCT 24)
ANK19
C71-4 (FCT 25)
MYALUP-2 (FCT 25)
MINN-1 (FCT 25)
MINN-2 (FCT 25)
MINN-3 (FCT 25)
CORON-2 (FCT 25)
KEME-1 (FCT 25)
LYONS-2 (FCT 25)

ANK20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NEER-9 (FCT 24)
NEER-7 (FCT 24)
PTWALT-1 (FCT 24)
CHIDPT-1 (FCT 24)
NAVB-3 (FCT 24)
cool 02 (FCT 24)
cool 03 (FCT 24)
cool 08 (FCT 24)
MTB-4 (FCT 24)
MTB-2 (FCT 24)
MTB-3 (FCT 24)
NAVB-4 (FCT 24)
KERO-1 (FCT 24)
KERO-2 (FCT 24)
MTB-1 (FCT 24)
THOM-2 (FCT 24)
NEER-1 (FCT 24)
NEER-11 (FCT 24)
TRIG-6 (FCT 24)
ANK20
C71-4 (FCT 25)
MYALUP-2 (FCT 25)
MINN-1 (FCT 25)
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CORON-2 (FCT 25)
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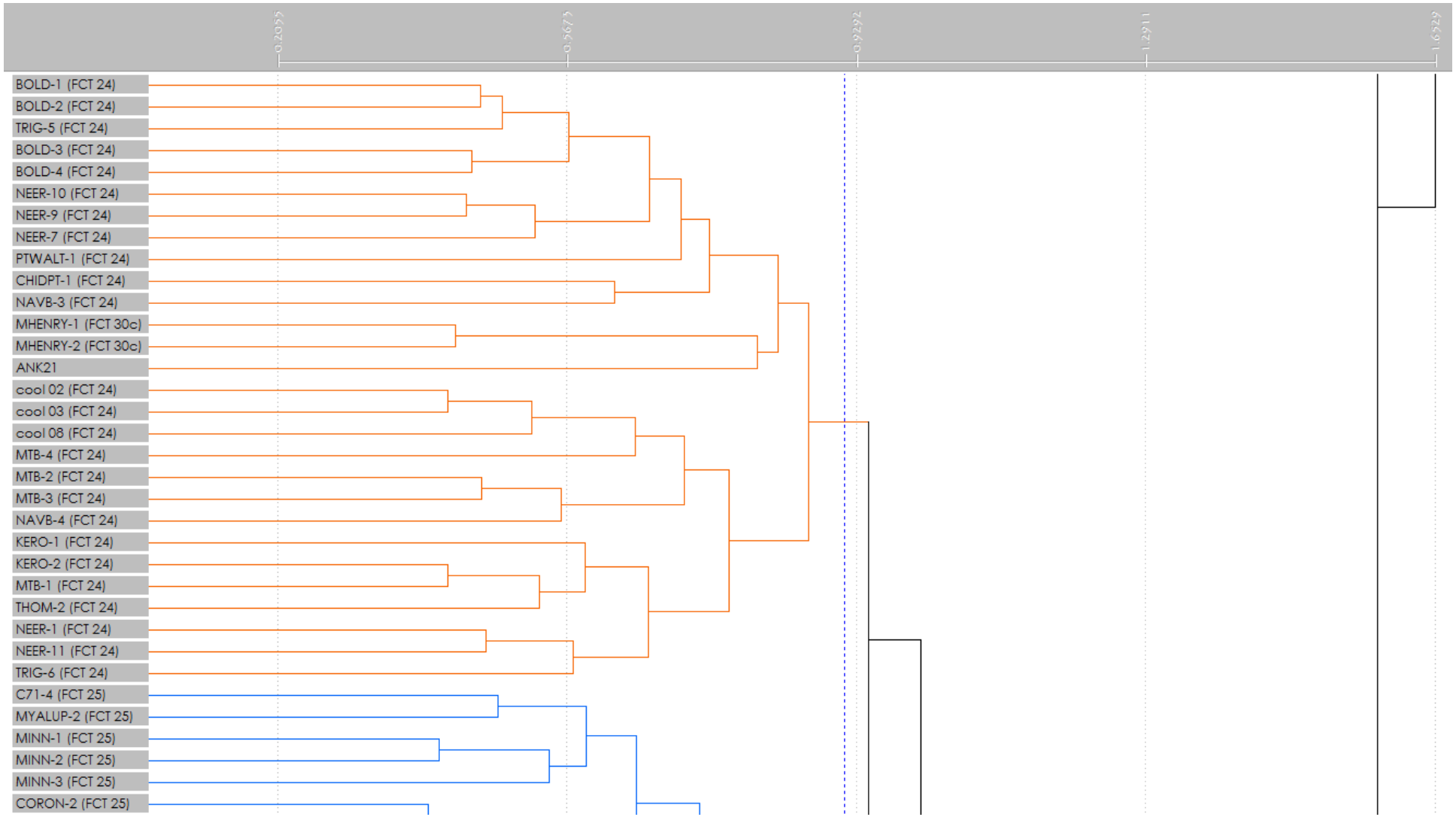
LYONS-2 (FCT 25)

ANK21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BOLD-4 (FCT 24)
NEER-10 (FCT 24)
NEER-9 (FCT 24)
NEER-7 (FCT 24)
PTWALT-1 (FCT 24)
CHIDPT-1 (FCT 24)
NAVB-3 (FCT 24)
MHENRY-1 (FCT 30c)
MHENRY-2 (FCT 30c)
ANK21
cool 02 (FCT 24)
cool 03 (FCT 24)
cool 08 (FCT 24)
MTB-4 (FCT 24)
MTB-2 (FCT 24)
MTB-3 (FCT 24)
NAVB-4 (FCT 24)
KERO-1 (FCT 24)
KERO-2 (FCT 24)
MTB-1 (FCT 24)
THOM-2 (FCT 24)
NEER-1 (FCT 24)
NEER-11 (FCT 24)
TRIG-6 (FCT 24)
C71-4 (FCT 25)
MYALUP-2 (FCT 25)
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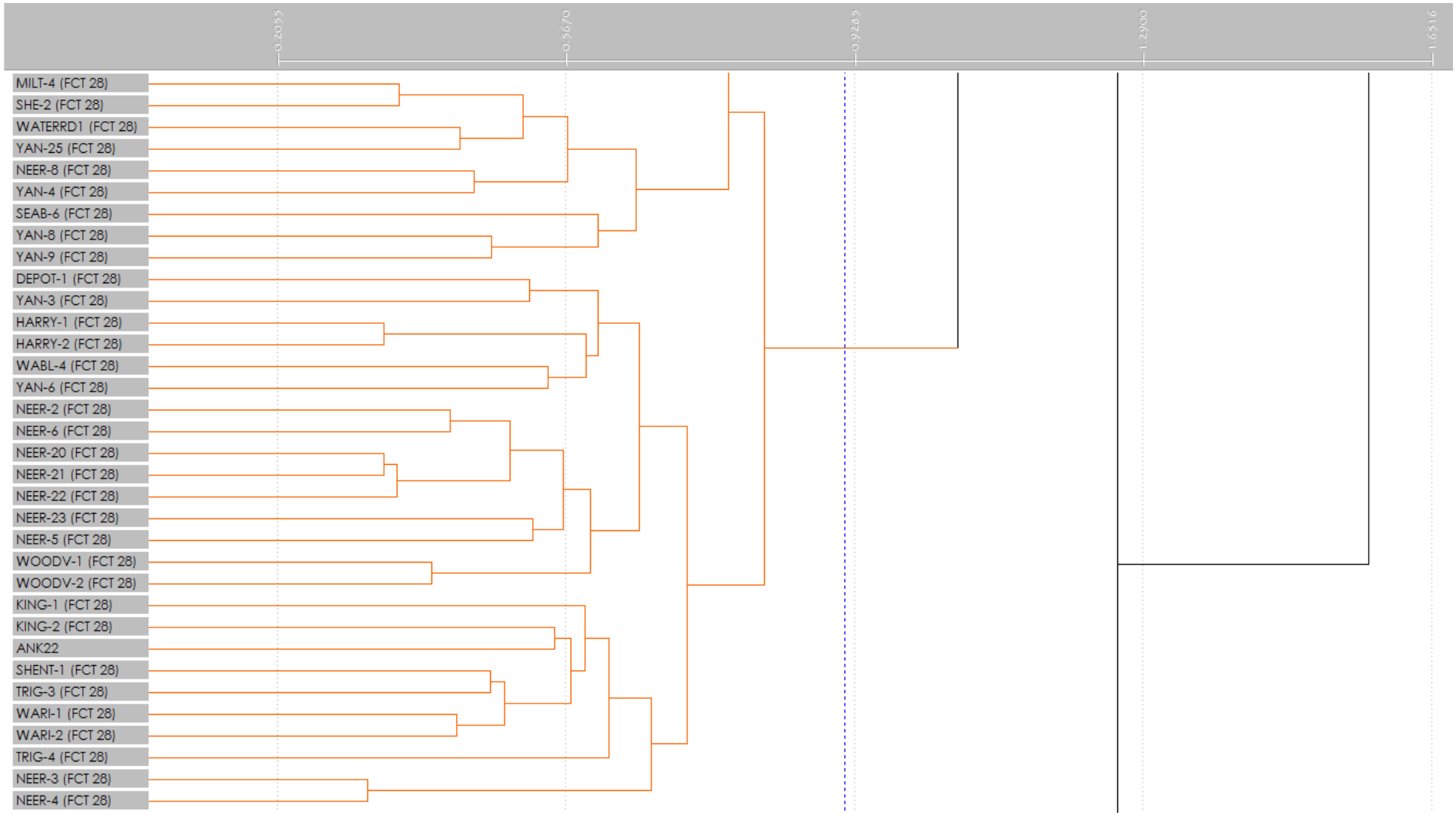
MINN-2 (FCT 25)
MINN-3 (FCT 25)
CORON-2 (FCT 25)

ANK22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NEER-8 (FCT 28)
YAN-4 (FCT 28)
SEAB-6 (FCT 28)
YAN-8 (FCT 28)
YAN-9 (FCT 28)
DEPOT-1 (FCT 28)
YAN-3 (FCT 28)
HARRY-1 (FCT 28)
HARRY-2 (FCT 28)
WABL-4 (FCT 28)
YAN-6 (FCT 28)
NEER-2 (FCT 28)
NEER-6 (FCT 28)
NEER-20 (FCT 28)
NEER-21 (FCT 28)
NEER-22 (FCT 28)
NEER-23 (FCT 28)
NEER-5 (FCT 28)
WOODV-1 (FCT 28)
WOODV-2 (FCT 28)
KING-1 (FCT 28)
KING-2 (FCT 28)
ANK22
SHENT-1 (FCT 28)
TRIG-3 (FCT 28)
WARI-1 (FCT 28)
WARI-2 (FCT 28)
TRIG-4 (FCT 28)
NEER-3 (FCT 28)
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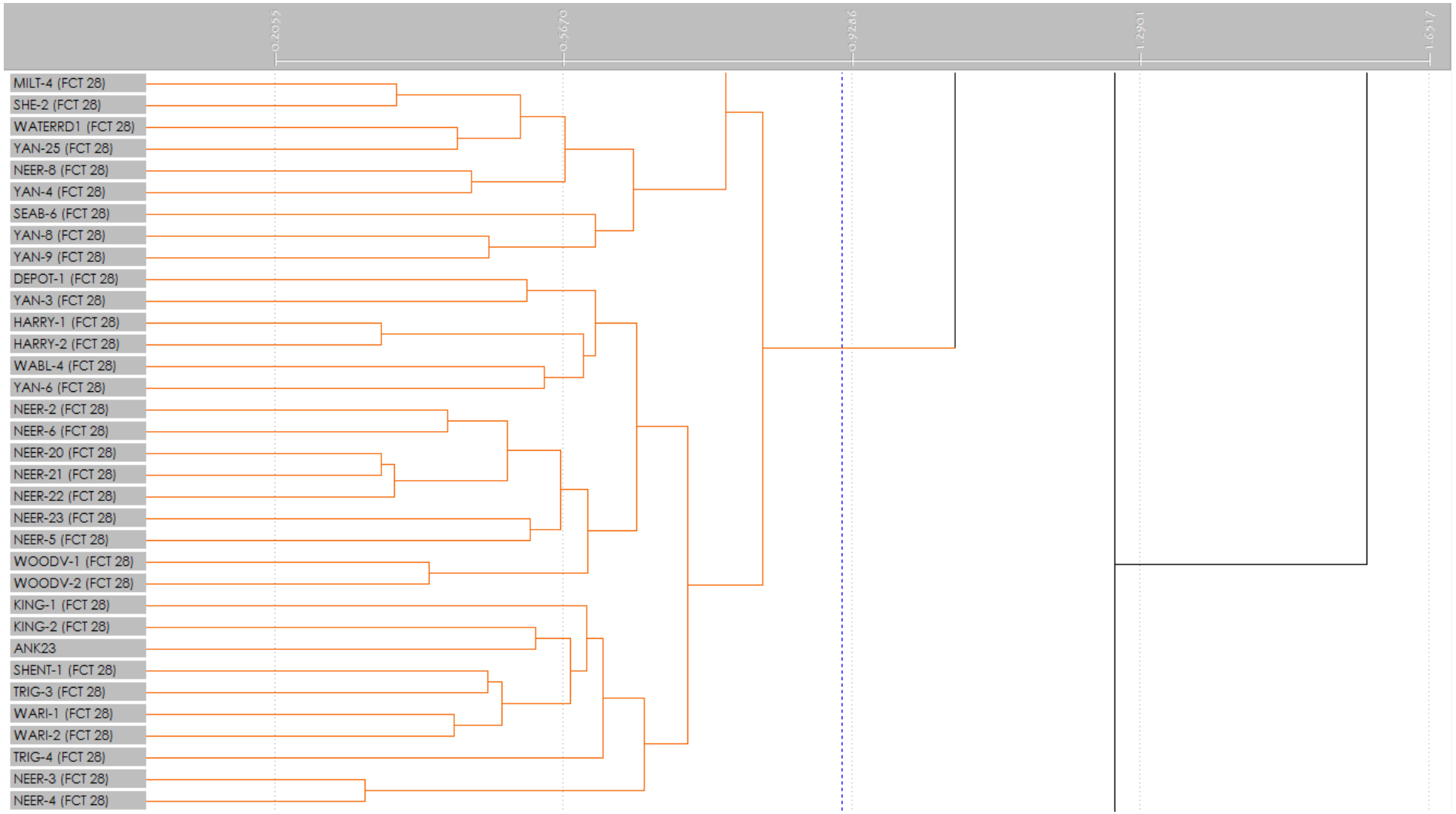
ANK23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YAN-4 (FCT 28)
SEAB-6 (FCT 28)
YAN-8 (FCT 28)
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DEPOT-1 (FCT 28)
YAN-3 (FCT 28)
HARRY-1 (FCT 28)
HARRY-2 (FCT 28)
WABL-4 (FCT 28)
YAN-6 (FCT 28)
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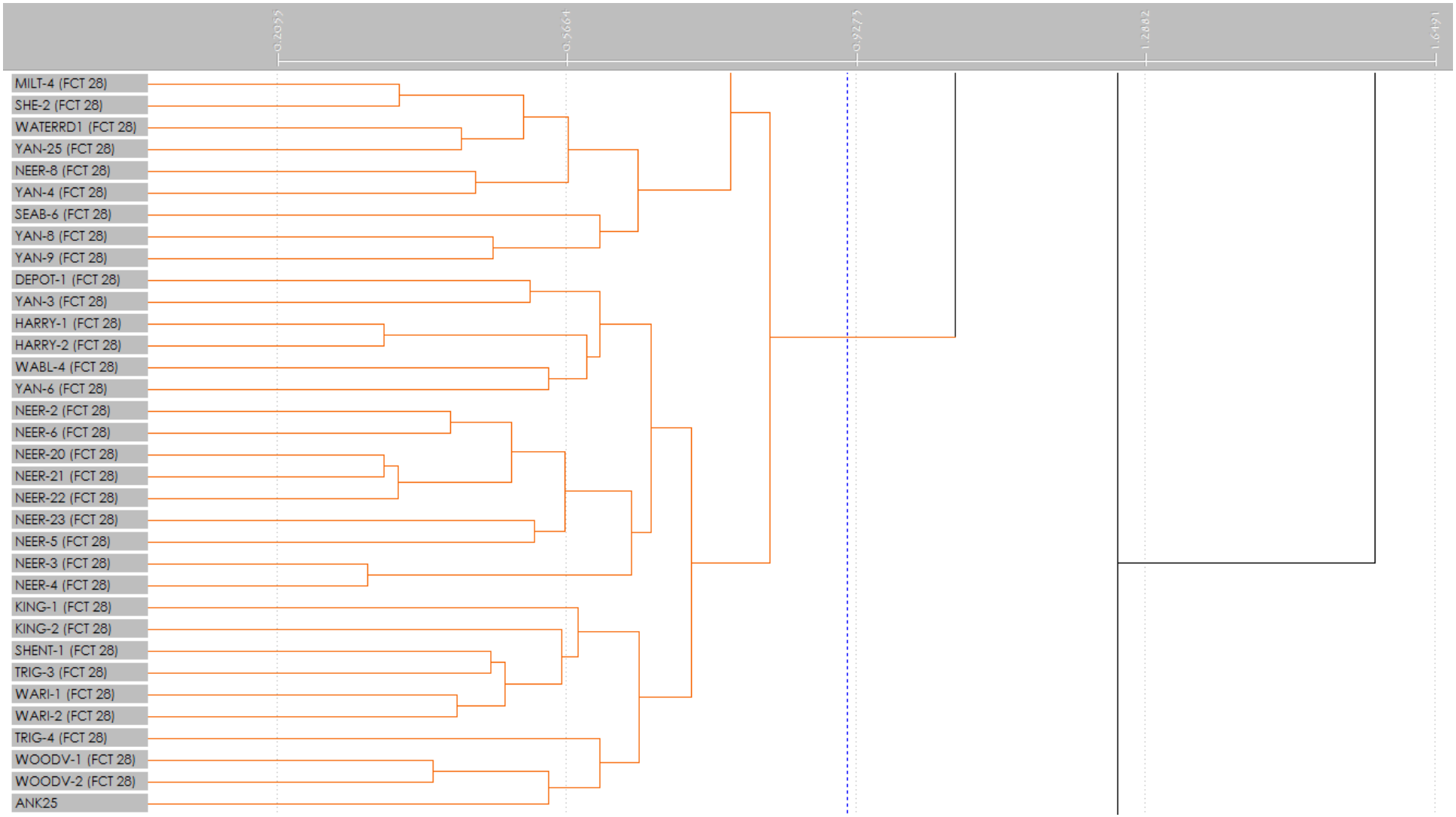
NEER-5 (FCT 28)
WOODV-1 (FCT 28)
WOODV-2 (FCT 28)
KING-1 (FCT 28)
KING-2 (FCT 28)
ANK23
SHENT-1 (FCT 28)
TRIG-3 (FCT 28)
WARI-1 (FCT 28)
WARI-2 (FCT 28)
TRIG-4 (FCT 28)
NEER-3 (FCT 28)
NEER-4 (FCT 28)

ANK25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YAN-4 (FCT 28)
SEAB-6 (FCT 28)
YAN-8 (FCT 28)
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DEPOT-1 (FCT 28)
YAN-3 (FCT 28)
HARRY-1 (FCT 28)
HARRY-2 (FCT 28)
WABL-4 (FCT 28)
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NEER-3 (FCT 28)
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KING-2 (FCT 28)
SHENT-1 (FCT 28)
TRIG-3 (FCT 28)
WARI-1 (FCT 28)
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TRIG-4 (FCT 28)
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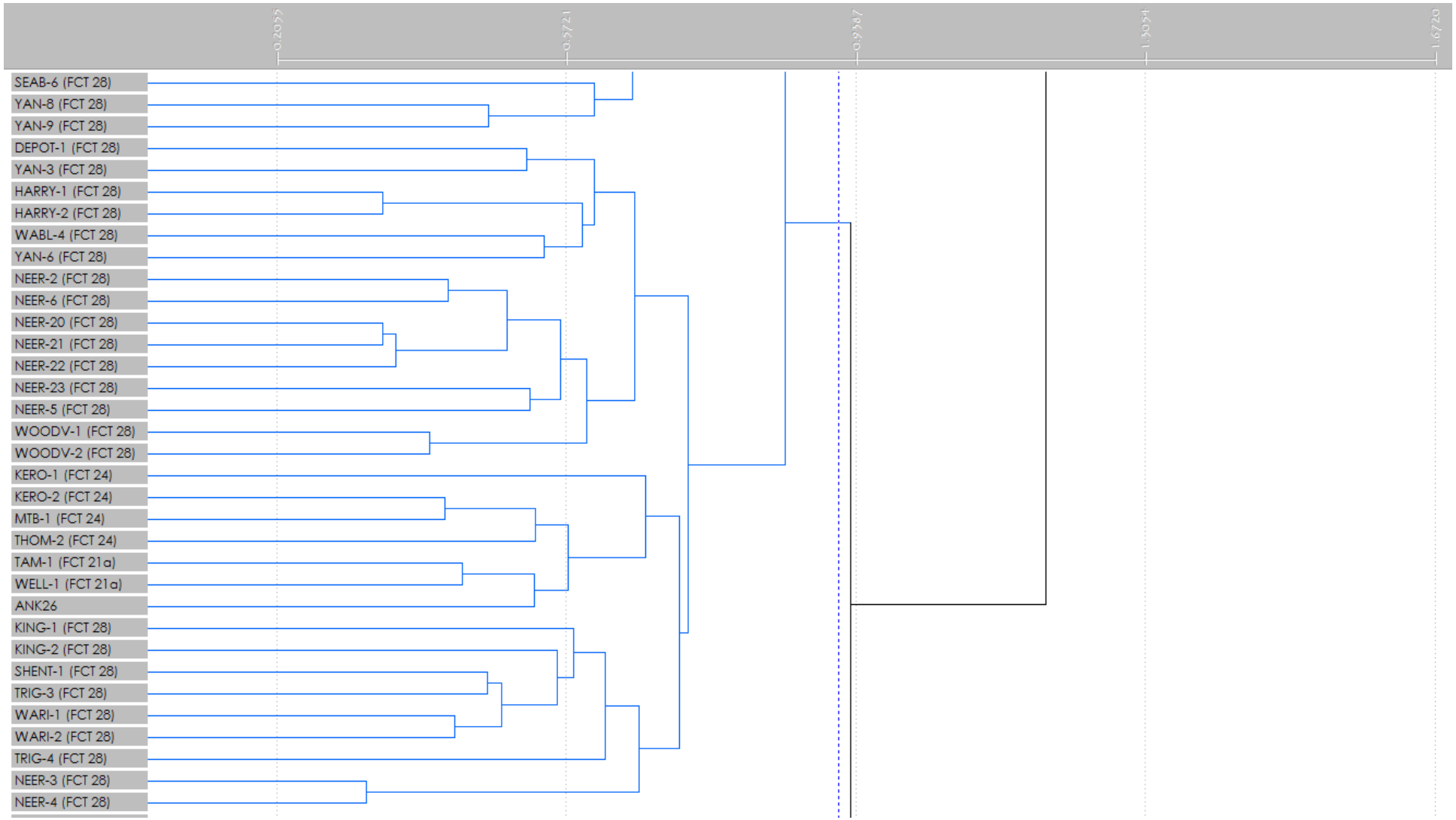
WOODV-2 (FCT 28)
ANK25

ANK26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HARRY-1 (FCT 28)
HARRY-2 (FCT 28)
WABL-4 (FCT 28)
YAN-6 (FCT 28)
NEER-2 (FCT 28)
NEER-6 (FCT 28)
NEER-20 (FCT 28)
NEER-21 (FCT 28)
NEER-22 (FCT 28)
NEER-23 (FCT 28)
NEER-5 (FCT 28)
WOODV-1 (FCT 28)
WOODV-2 (FCT 28)
KERO-1 (FCT 24)
KERO-2 (FCT 24)
MTB-1 (FCT 24)
THOM-2 (FCT 24)
TAM-1 (FCT 21a)
WELL-1 (FCT 21a)
ANK26
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KING-2 (FCT 28)
SHENT-1 (FCT 28)
TRIG-3 (FCT 28)
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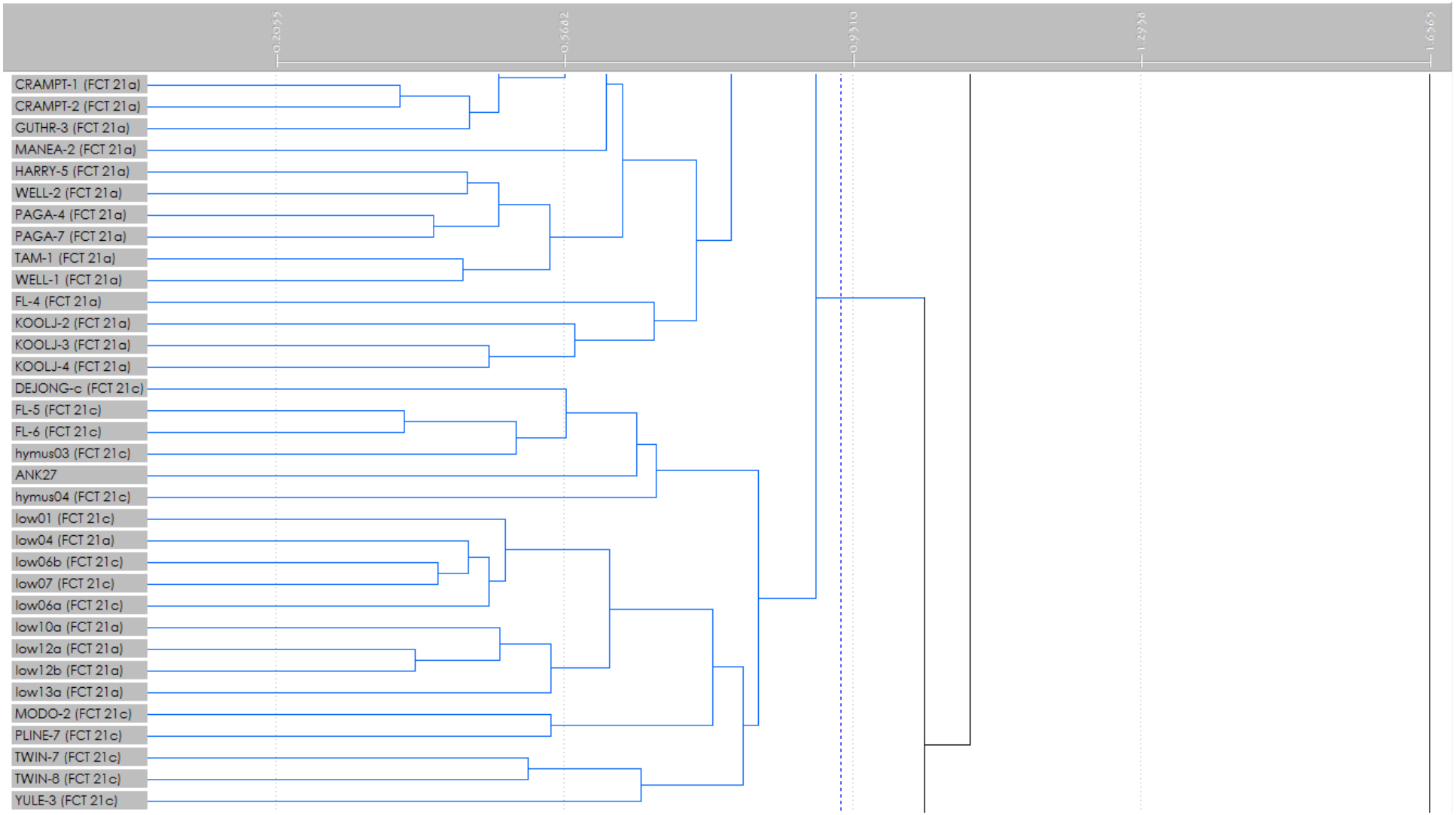
TRIG-4 (FCT 28)
NEER-3 (FCT 28)
NEER-4 (FCT 28)

ANK27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HARRY-5 (FCT 21a)
WELL-2 (FCT 21a)
PAGA-4 (FCT 21a)
PAGA-7 (FCT 21a)
TAM-1 (FCT 21a)
WELL-1 (FCT 21a)
FL-4 (FCT 21a)
KOOLJ-2 (FCT 21a)
KOOLJ-3 (FCT 21a)
KOOLJ-4 (FCT 21a)
DEJONG-c (FCT 21c)
FL-5 (FCT 21c)
FL-6 (FCT 21c)
hymus03 (FCT 21c)
ANK27
hymus04 (FCT 21c)
low01 (FCT 21c)
low04 (FCT 21a)
low06b (FCT 21c)
low07 (FCT 21c)
low06a (FCT 21c)
low10a (FCT 21a)
low12a (FCT 21a)
low12b (FCT 21a)
low13a (FCT 21a)
MODO-2 (FCT 21c)
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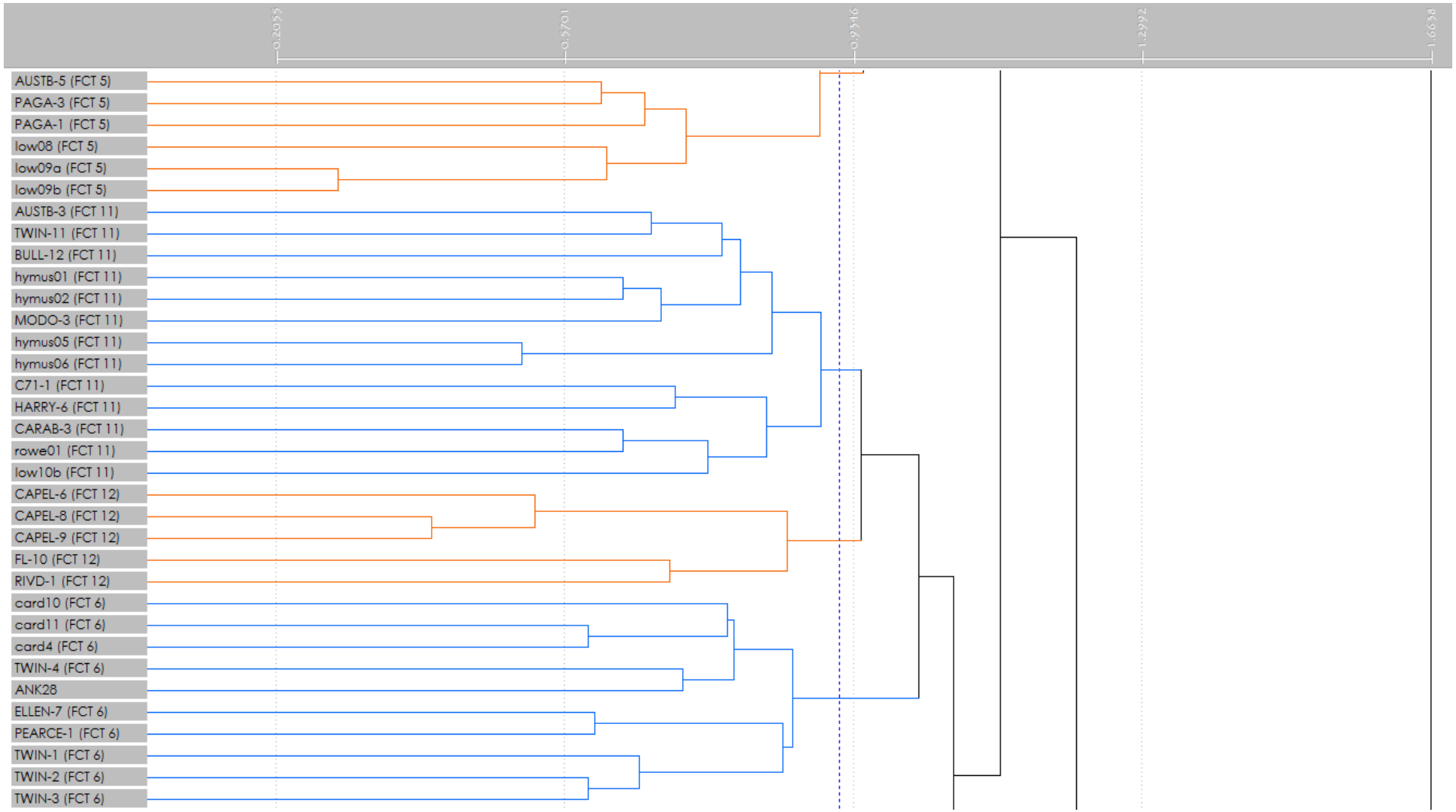
ANK28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low09b (FCT 5)
AUSTB-3 (FCT 11)
TWIN-11 (FCT 11)
BULL-12 (FCT 11)
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hymus02 (FCT 11)
MODO-3 (FCT 11)
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C71-1 (FCT 11)
HARRY-6 (FCT 11)
CARAB-3 (FCT 11)
rowe01 (FCT 11)
low10b (FCT 11)
CAPEL-6 (FCT 12)
CAPEL-8 (FCT 12)
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FL-10 (FCT 12)
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card10 (FCT 6)
card11 (FCT 6)
card4 (FCT 6)
TWIN-4 (FCT 6)
ANK28
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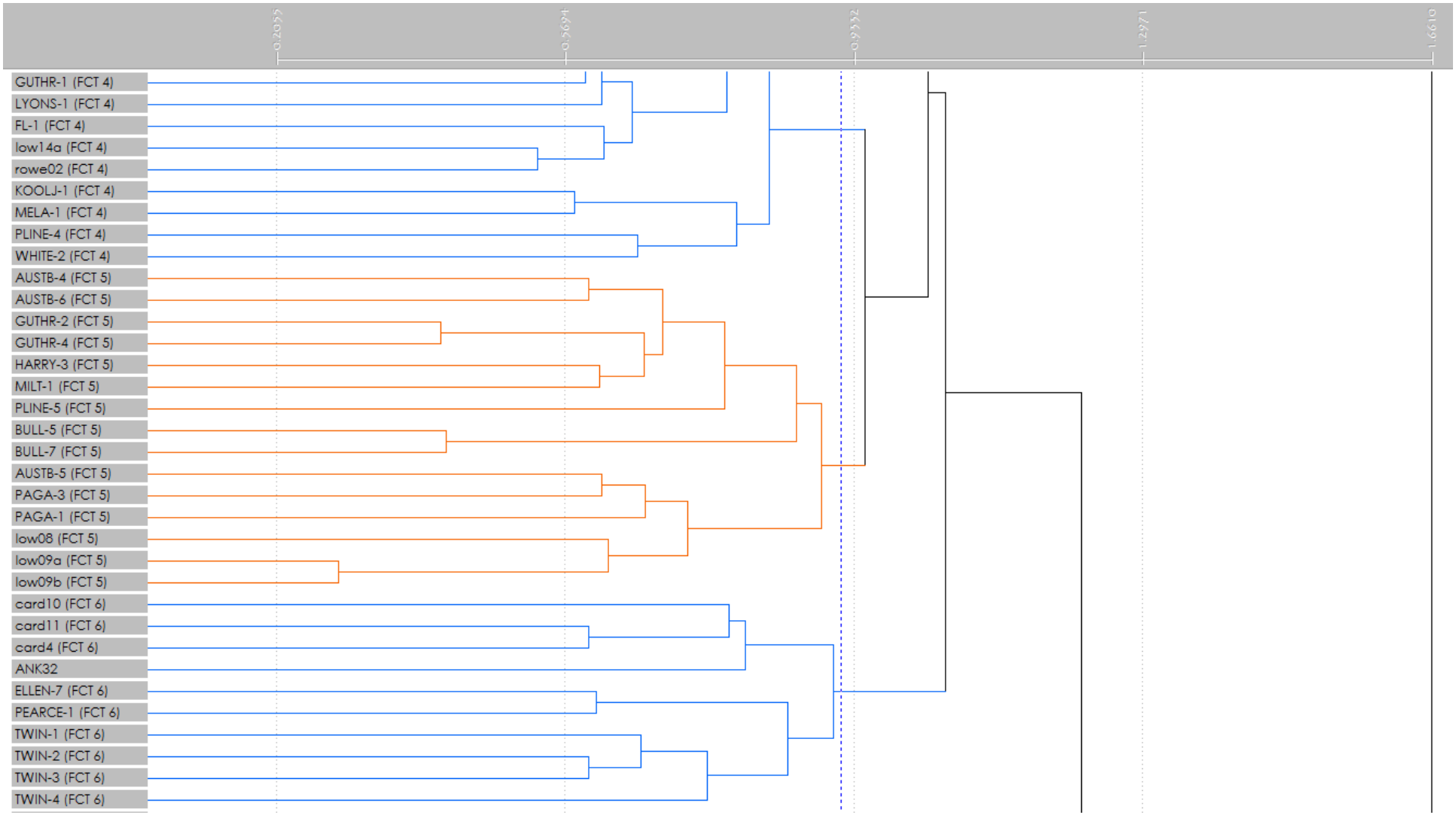
ANK32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PLINE-4 (FCT 4)
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AUSTB-6 (FCT 5)
GUTHR-2 (FCT 5)
GUTHR-4 (FCT 5)
HARRY-3 (FCT 5)
MILT-1 (FCT 5)
PLINE-5 (FCT 5)
BULL-5 (FCT 5)
BULL-7 (FCT 5)
AUSTB-5 (FCT 5)
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PAGA-1 (FCT 5)
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low09a (FCT 5)
low09b (FCT 5)
card10 (FCT 6)
card11 (FCT 6)
card4 (FCT 6)
ANK32
ELLEN-7 (FCT 6)
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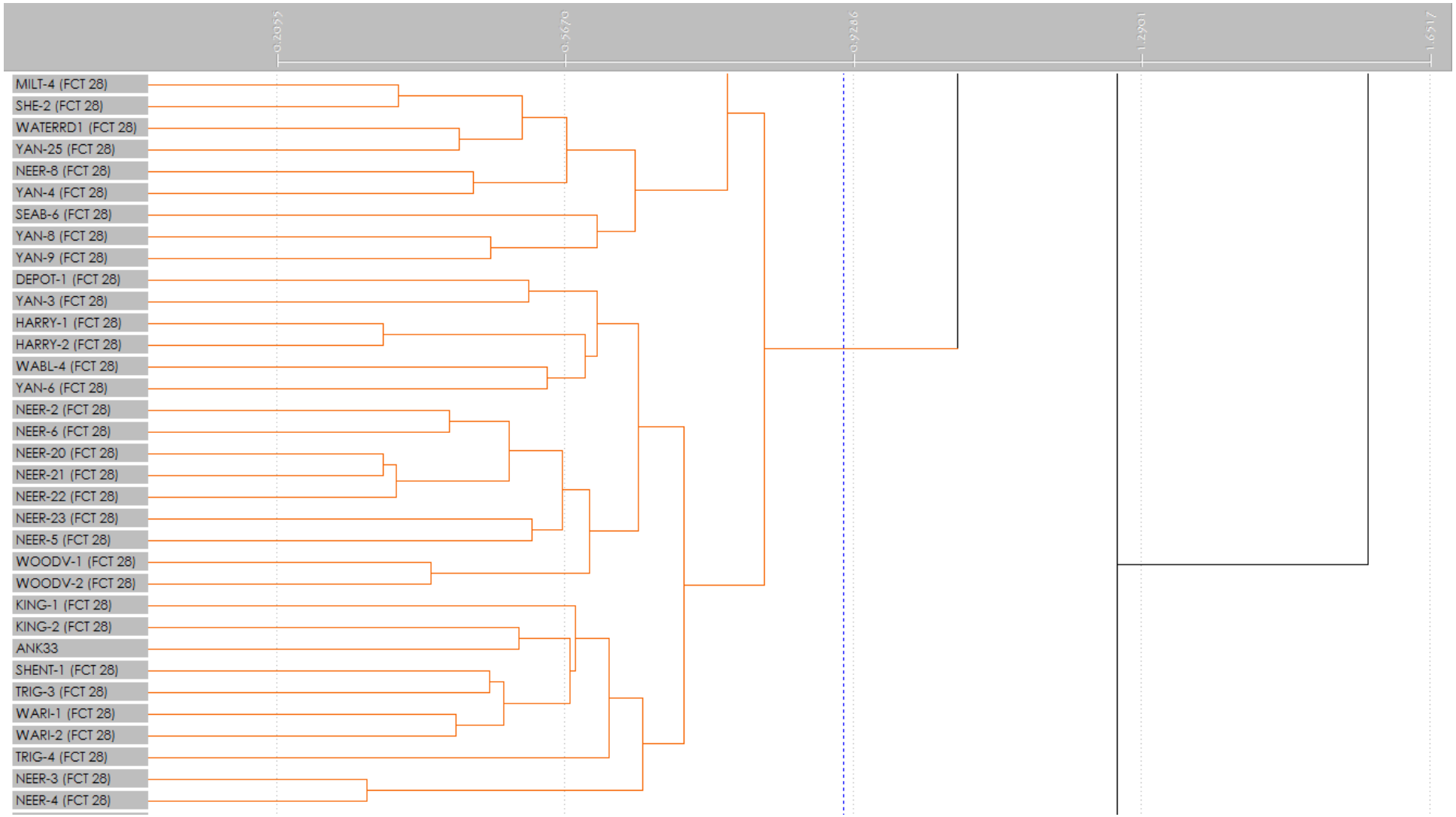
TWIN-3 (FCT 6)
TWIN-4 (FCT 6)

ANK33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YAN-8 (FCT 28)
YAN-9 (FCT 28)
DEPOT-1 (FCT 28)
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NEER-5 (FCT 28)
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WOODV-2 (FCT 28)
KING-1 (FCT 28)
KING-2 (FCT 28)
ANK33
SHENT-1 (FCT 28)
TRIG-3 (FCT 28)
WARI-1 (FCT 28)
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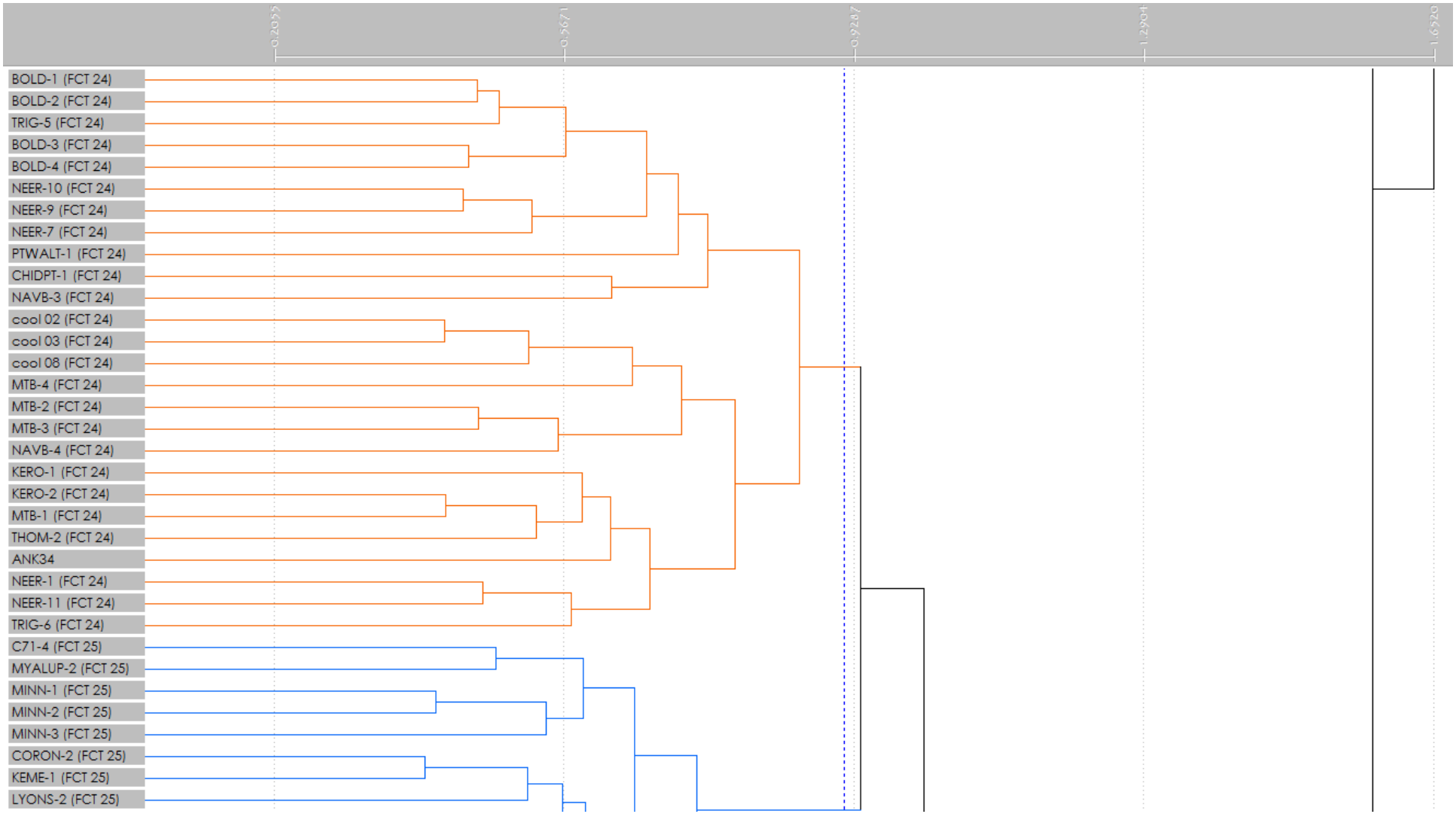
TRIG-4 (FCT 28)
NEER-3 (FCT 28)
NEER-4 (FCT 28)

ANK34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BOLD-4 (FCT 24)
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NEER-9 (FCT 24)
NEER-7 (FCT 24)
PTWALT-1 (FCT 24)
CHIDPT-1 (FCT 24)
NAVB-3 (FCT 24)
cool 02 (FCT 24)
cool 03 (FCT 24)
cool 08 (FCT 24)
MTB-4 (FCT 24)
MTB-2 (FCT 24)
MTB-3 (FCT 24)
NAVB-4 (FCT 24)
KERO-1 (FCT 24)
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MTB-1 (FCT 24)
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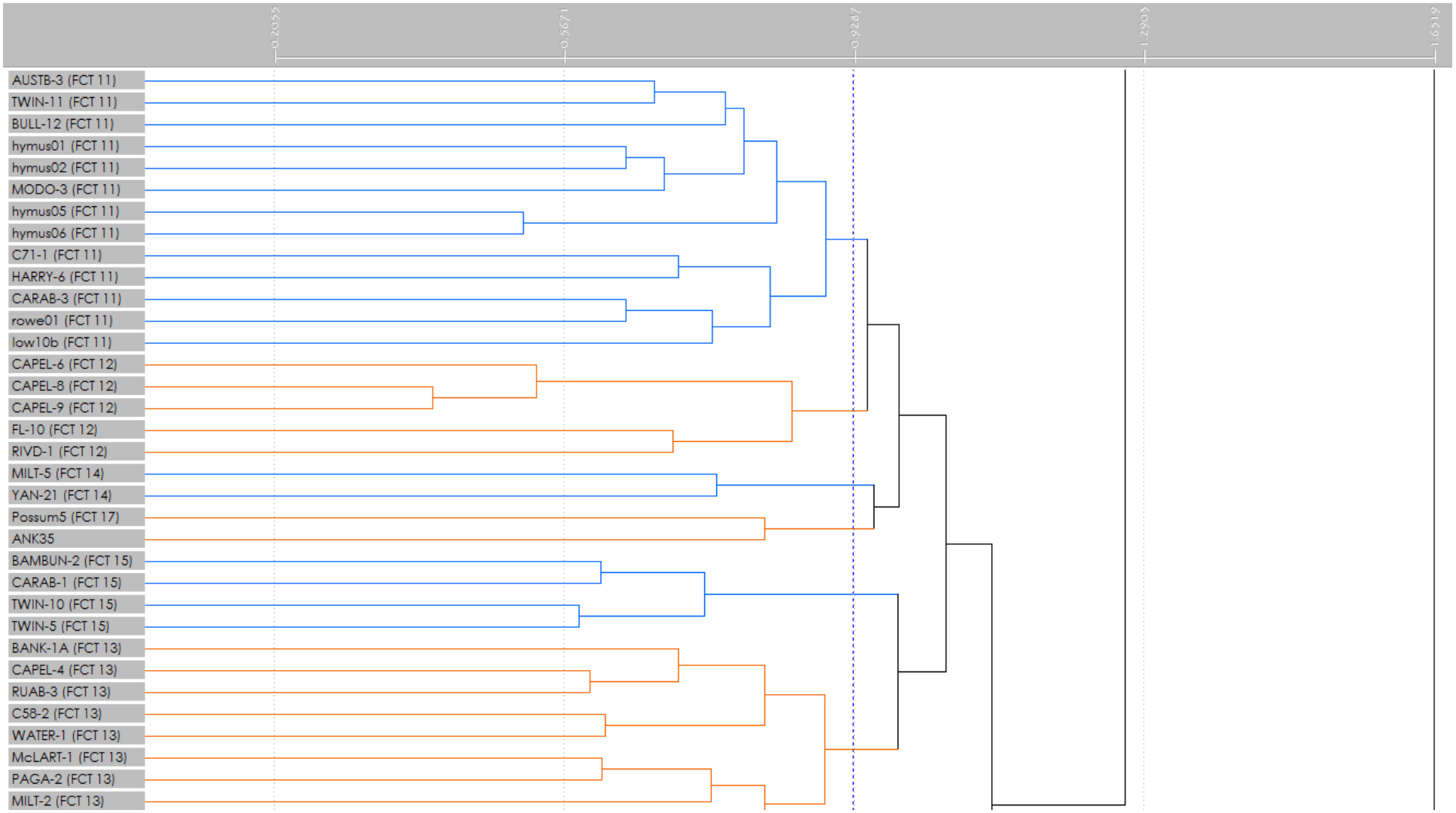
ANK34
NEER-1 (FCT 24)
NEER-11 (FCT 24)
TRIG-6 (FCT 24)
C71-4 (FCT 25)
MYALUP-2 (FCT 25)
MINN-1 (FCT 25)
MINN-2 (FCT 25)
MINN-3 (FCT 25)
CORON-2 (FCT 25)
KEME-1 (FCT 25)
LYONS-2 (FCT 25)

ANK35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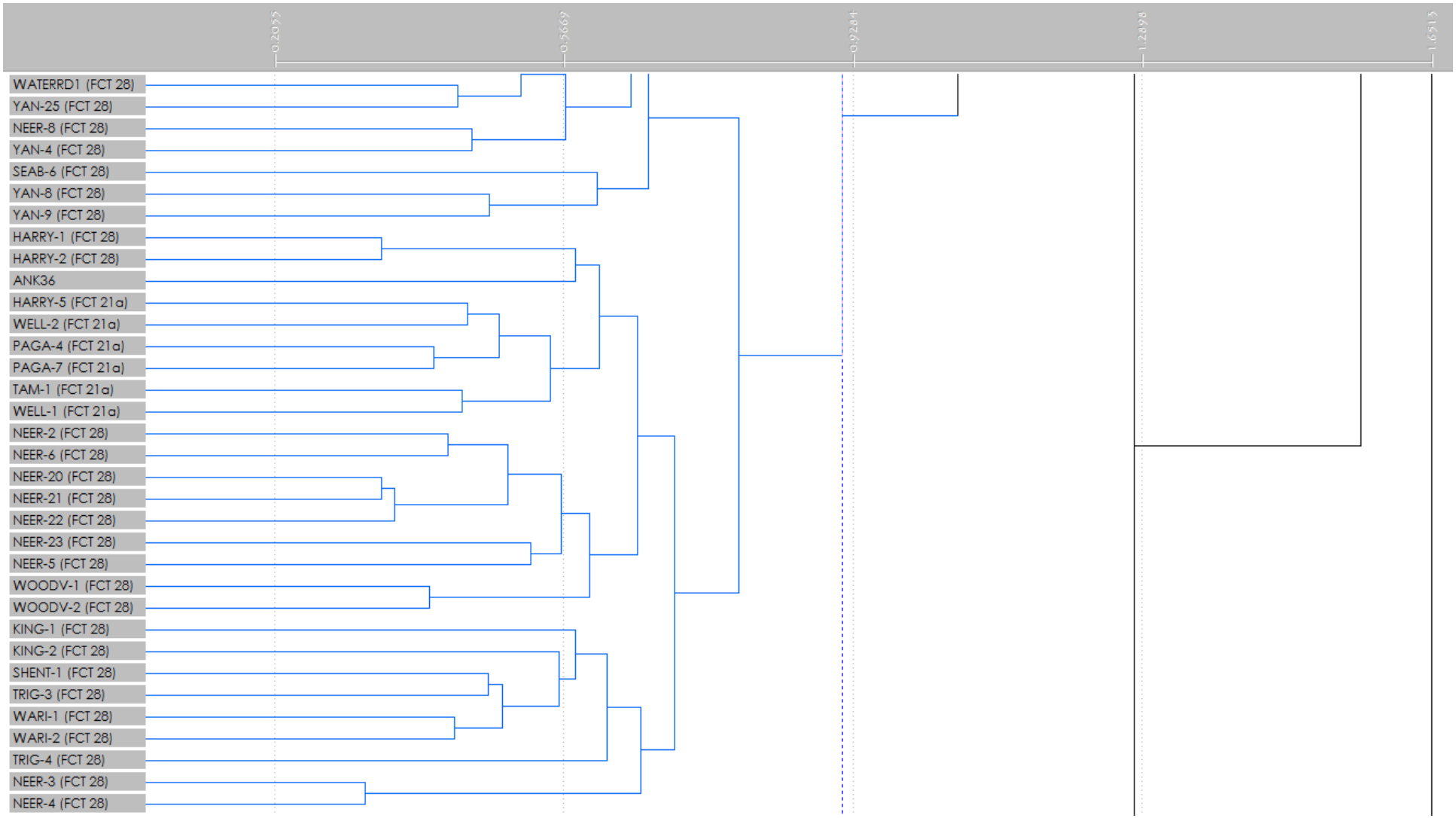
TWIN-11 (FCT 11)
BULL-12 (FCT 11)
hymus01 (FCT 11)
hymus02 (FCT 11)
MODO-3 (FCT 11)
hymus05 (FCT 11)
hymus06 (FCT 11)
C71-1 (FCT 11)
HARRY-6 (FCT 11)
CARAB-3 (FCT 11)
rowe01 (FCT 11)
low10b (FCT 11)
CAPEL-6 (FCT 12)
CAPEL-8 (FCT 12)
CAPEL-9 (FCT 12)
FL-10 (FCT 12)
RIVD-1 (FCT 12)
MILT-5 (FCT 14)
YAN-21 (FCT 14)
Possum5 (FCT 17)
ANK35
BAMBUN-2 (FCT 15)
CARAB-1 (FCT 15)
TWIN-10 (FCT 15)
TWIN-5 (FCT 15)
BANK-1A (FCT 13)
CAPEL-4 (FCT 13)
RUAB-3 (FCT 13)
C58-2 (FCT 13)
WATER-1 (FCT 13)
McLART-1 (FCT 13)
PAGA-2 (FCT 13)
MILT-2 (FCT 13)

ANK36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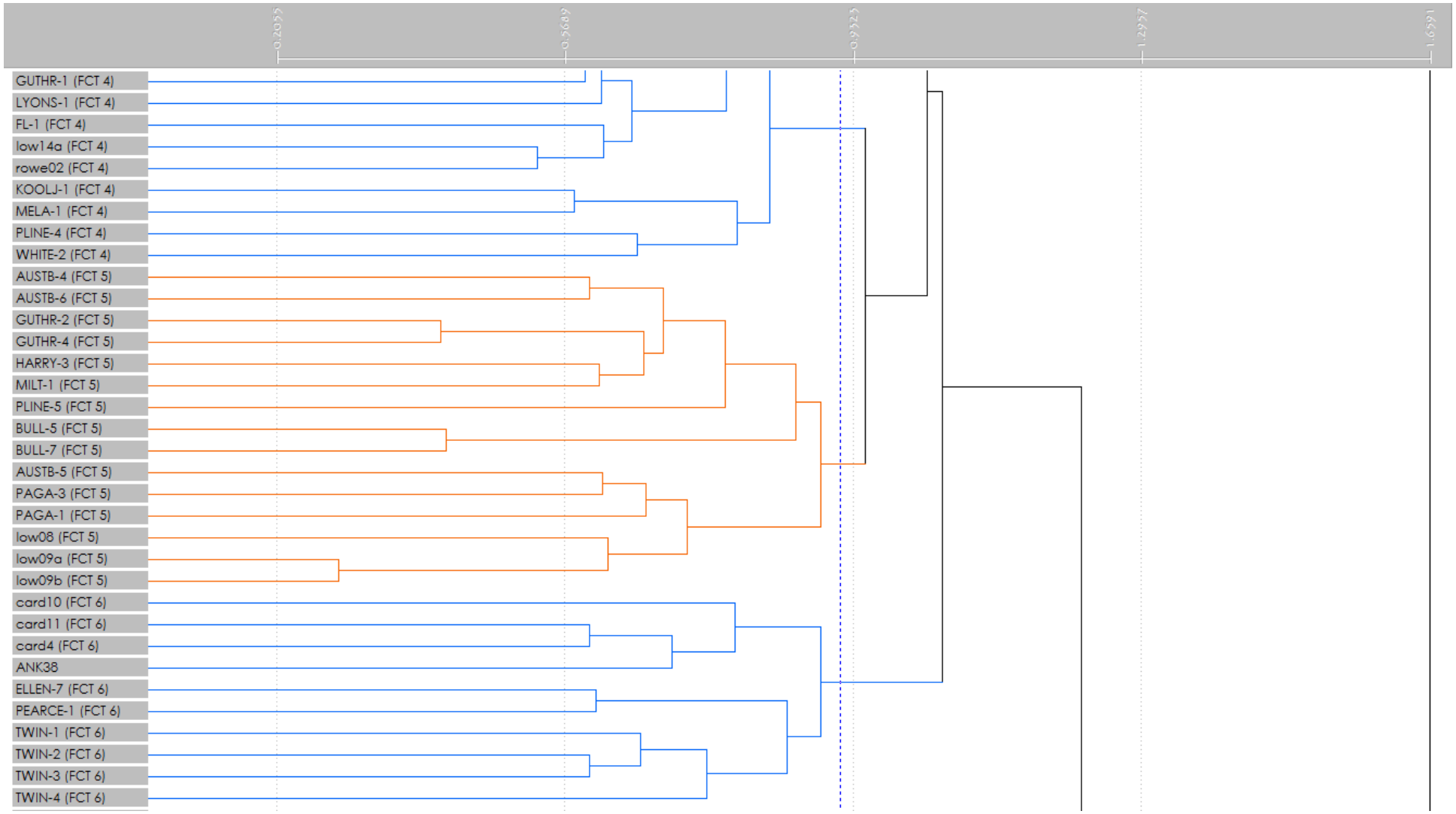
YAN-25 (FCT 28)
NEER-8 (FCT 28)
YAN-4 (FCT 28)
SEAB-6 (FCT 28)
YAN-8 (FCT 28)
YAN-9 (FCT 28)
HARRY-1 (FCT 28)
HARRY-2 (FCT 28)
ANK36
HARRY-5 (FCT 21a)
WELL-2 (FCT 21a)
PAGA-4 (FCT 21a)
PAGA-7 (FCT 21a)
TAM-1 (FCT 21a)
WELL-1 (FCT 21a)
NEER-2 (FCT 28)
NEER-6 (FCT 28)
NEER-20 (FCT 28)
NEER-21 (FCT 28)
NEER-22 (FCT 28)
NEER-23 (FCT 28)
NEER-5 (FCT 28)
WOODV-1 (FCT 28)
WOODV-2 (FCT 28)
KING-1 (FCT 28)
KING-2 (FCT 28)
SHENT-1 (FCT 28)
TRIG-3 (FCT 28)
WARI-1 (FCT 28)
WARI-2 (FCT 28)
TRIG-4 (FCT 28)
NEER-3 (FCT 28)
NEER-4 (FCT 28)

ANK38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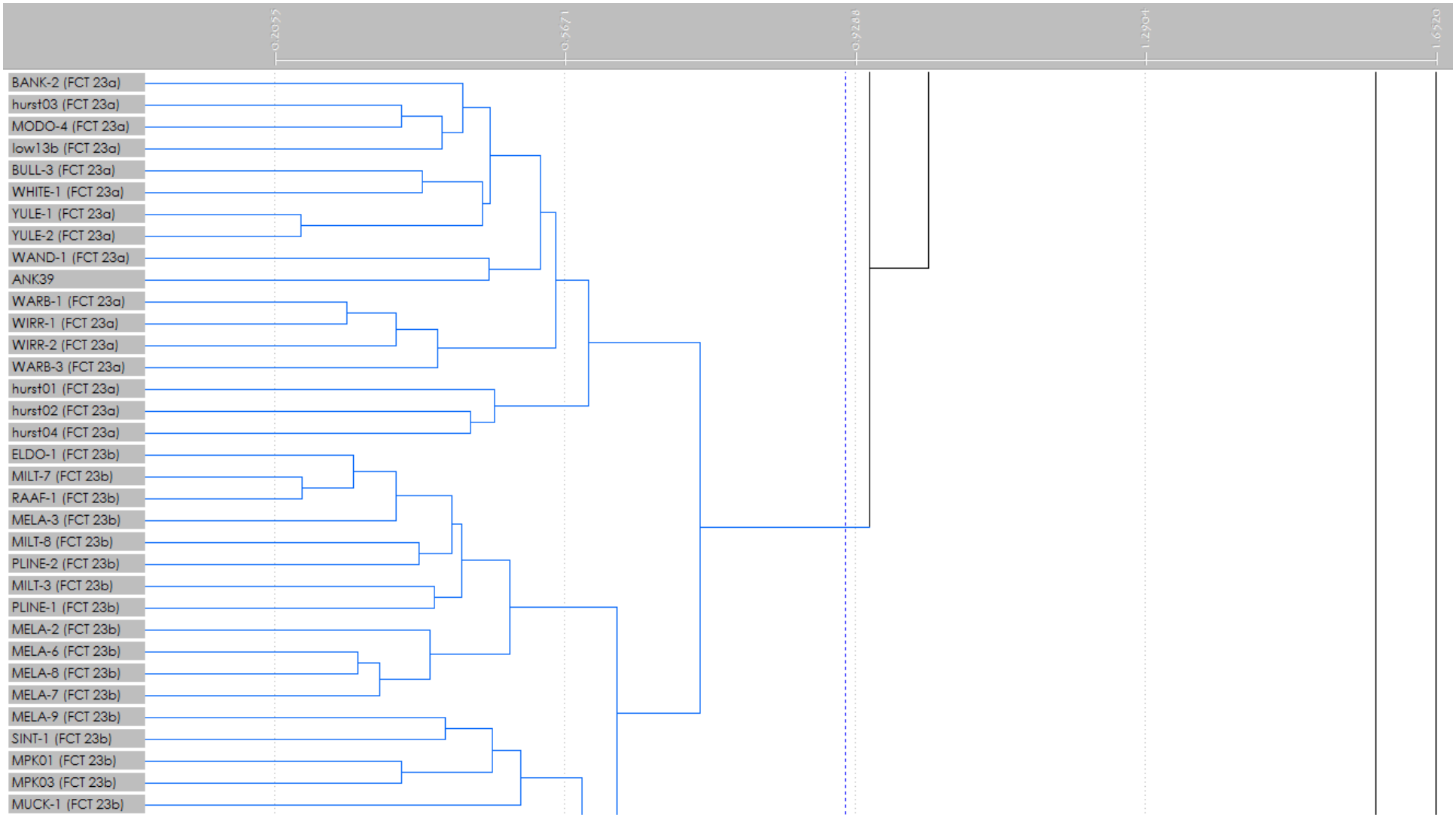
GUTHR-1 (FCT 4)
LYONS-1 (FCT 4)
FL-1 (FCT 4)
low14a (FCT 4)
rowe02 (FCT 4)
KOOLJ-1 (FCT 4)
MELA-1 (FCT 4)
PLINE-4 (FCT 4)
WHITE-2 (FCT 4)
AUSTB-4 (FCT 5)
AUSTB-6 (FCT 5)
GUTHR-2 (FCT 5)
GUTHR-4 (FCT 5)
HARRY-3 (FCT 5)
MILT-1 (FCT 5)
PLINE-5 (FCT 5)
BULL-5 (FCT 5)
BULL-7 (FCT 5)
AUSTB-5 (FCT 5)
PAGA-3 (FCT 5)
PAGA-1 (FCT 5)
low08 (FCT 5)
low09a (FCT 5)
low09b (FCT 5)
card10 (FCT 6)
card11 (FCT 6)
card4 (FCT 6)
ANK38
ELLEN-7 (FCT 6)
PEARCE-1 (FCT 6)
TWIN-1 (FCT 6)
TWIN-2 (FCT 6)
TWIN-3 (FCT 6)
TWIN-4 (FCT 6)

ANK39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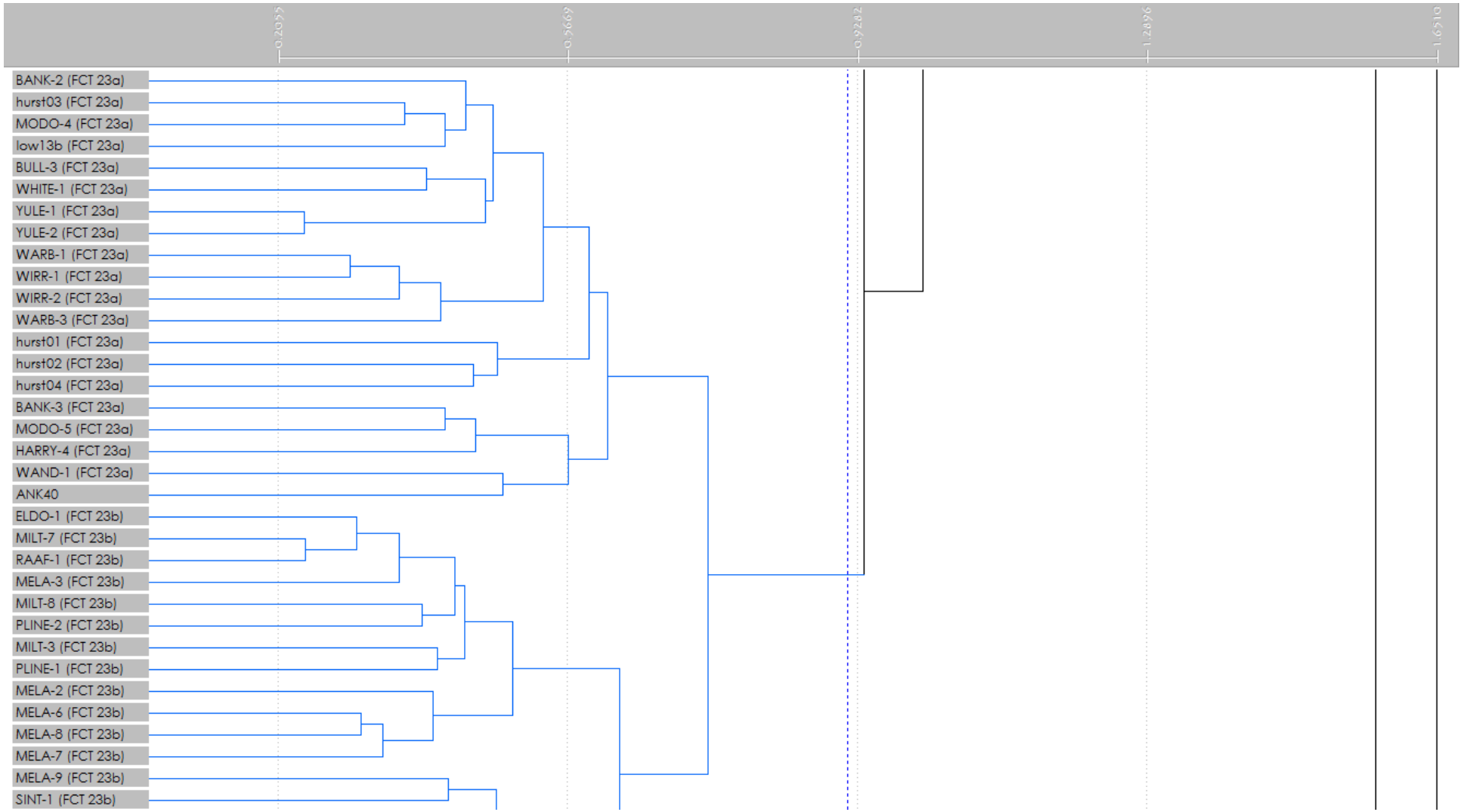
hurst03 (FCT 23a)
MODO-4 (FCT 23a)
low13b (FCT 23a)
BULL-3 (FCT 23a)
WHITE-1 (FCT 23a)
YULE-1 (FCT 23a)
YULE-2 (FCT 23a)
WAND-1 (FCT 23a)
ANK39
WARB-1 (FCT 23a)
WIRR-1 (FCT 23a)
WIRR-2 (FCT 23a)
WARB-3 (FCT 23a)
hurst01 (FCT 23a)
hurst02 (FCT 23a)
hurst04 (FCT 23a)
ELDO-1 (FCT 23b)
MILT-7 (FCT 23b)
RAAF-1 (FCT 23b)
MELA-3 (FCT 23b)
MILT-8 (FCT 23b)
PLINE-2 (FCT 23b)
MILT-3 (FCT 23b)
PLINE-1 (FCT 23b)
MELA-2 (FCT 23b)
MELA-6 (FCT 23b)
MELA-8 (FCT 23b)
MELA-7 (FCT 23b)
MELA-9 (FCT 23b)
SINT-1 (FCT 23b)
MPK01 (FCT 23b)
MPK03 (FCT 23b)
MUCK-1 (FCT 23b)

ANK40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1.6510
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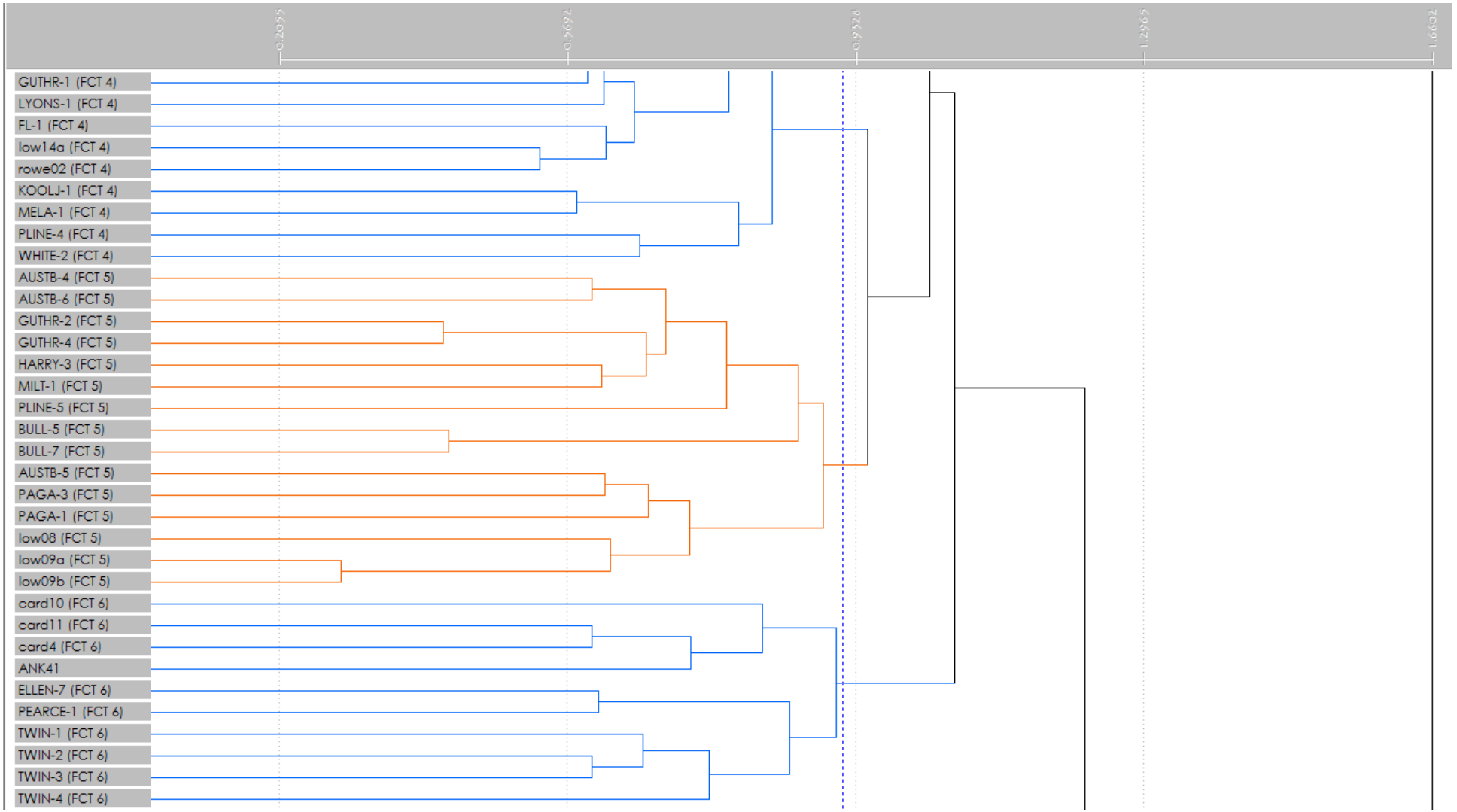
hurst03 (FCT 23a)
MODO-4 (FCT 23a)
low13b (FCT 23a)
BULL-3 (FCT 23a)
WHITE-1 (FCT 23a)
YULE-1 (FCT 23a)
YULE-2 (FCT 23a)
WARB-1 (FCT 23a)
WIRR-1 (FCT 23a)
WIRR-2 (FCT 23a)
WARB-3 (FCT 23a)
hurst01 (FCT 23a)
hurst02 (FCT 23a)
hurst04 (FCT 23a)
BANK-3 (FCT 23a)
MODO-5 (FCT 23a)
HARRY-4 (FCT 23a)
WAND-1 (FCT 23a)
ANK40
ELDO-1 (FCT 23b)
MILT-7 (FCT 23b)
RAAF-1 (FCT 23b)
MELA-3 (FCT 23b)
MILT-8 (FCT 23b)
PLINE-2 (FCT 23b)
MILT-3 (FCT 23b)
PLINE-1 (FCT 23b)
MELA-2 (FCT 23b)
MELA-6 (FCT 23b)
MELA-8 (FCT 23b)
MELA-7 (FCT 23b)
MELA-9 (FCT 23b)
SINT-1 (FCT 23b)

ANK41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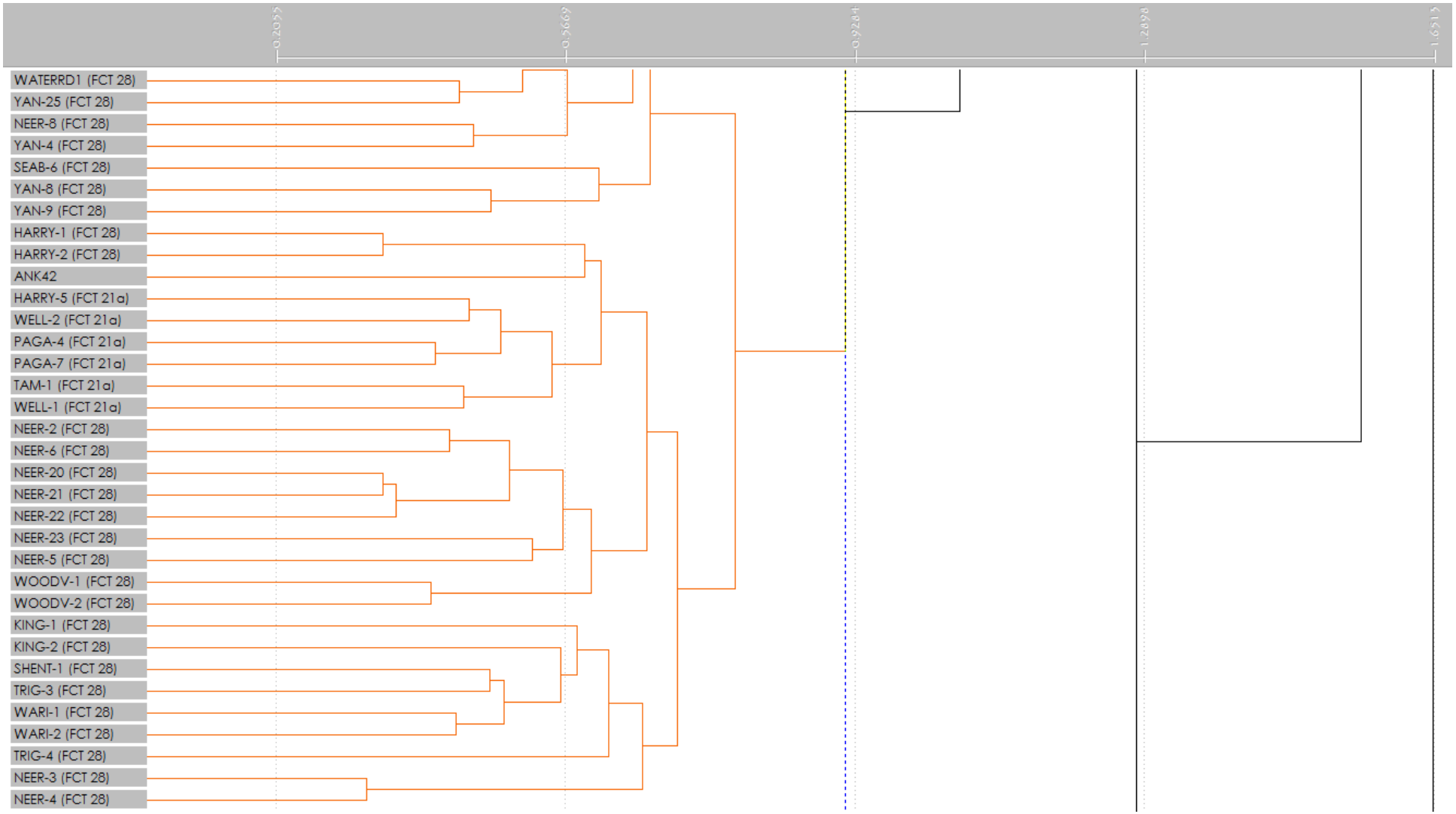
GUTHR-1 (FCT 4)
LYONS-1 (FCT 4)
FL-1 (FCT 4)
low14a (FCT 4)
rowe02 (FCT 4)
KOOLJ-1 (FCT 4)
MELA-1 (FCT 4)
PLINE-4 (FCT 4)
WHITE-2 (FCT 4)
AUSTB-4 (FCT 5)
AUSTB-6 (FCT 5)
GUTHR-2 (FCT 5)
GUTHR-4 (FCT 5)
HARRY-3 (FCT 5)
MILT-1 (FCT 5)
PLINE-5 (FCT 5)
BULL-5 (FCT 5)
BULL-7 (FCT 5)
AUSTB-5 (FCT 5)
PAGA-3 (FCT 5)
PAGA-1 (FCT 5)
low08 (FCT 5)
low09a (FCT 5)
low09b (FCT 5)
card10 (FCT 6)
card11 (FCT 6)
card4 (FCT 6)
ANK41
ELLEN-7 (FCT 6)
PEARCE-1 (FCT 6)
TWIN-1 (FCT 6)
TWIN-2 (FCT 6)
TWIN-3 (FCT 6)
TWIN-4 (FCT 6)

ANK42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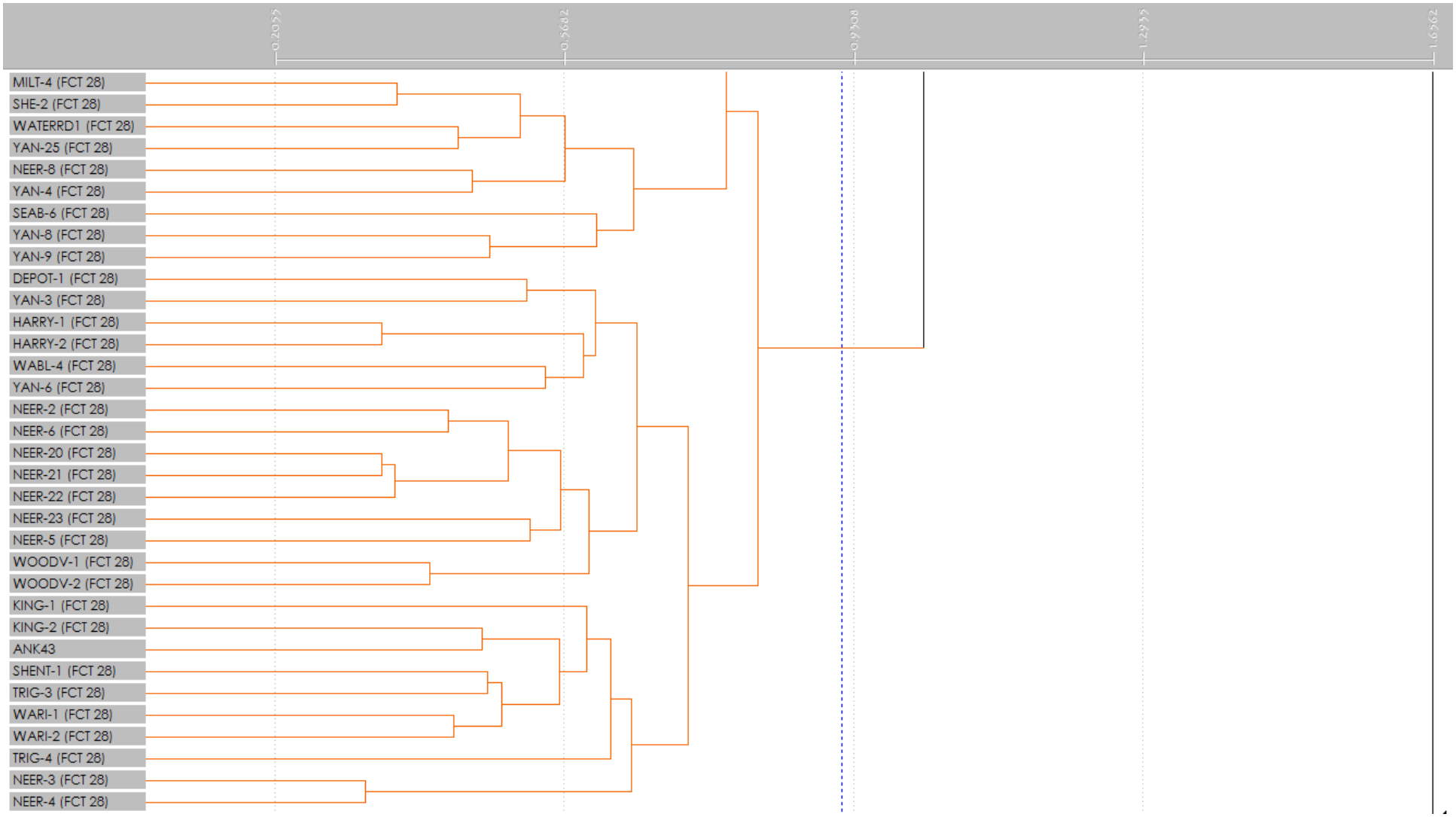
YAN-25 (FCT 28)
NEER-8 (FCT 28)
YAN-4 (FCT 28)
SEAB-6 (FCT 28)
YAN-8 (FCT 28)
YAN-9 (FCT 28)
HARRY-1 (FCT 28)
HARRY-2 (FCT 28)
ANK42
HARRY-5 (FCT 21a)
WELL-2 (FCT 21a)
PAGA-4 (FCT 21a)
PAGA-7 (FCT 21a)
TAM-1 (FCT 21a)
WELL-1 (FCT 21a)
NEER-2 (FCT 28)
NEER-6 (FCT 28)
NEER-20 (FCT 28)
NEER-21 (FCT 28)
NEER-22 (FCT 28)
NEER-23 (FCT 28)
NEER-5 (FCT 28)
WOODV-1 (FCT 28)
WOODV-2 (FCT 28)
KING-1 (FCT 28)
KING-2 (FCT 28)
SHENT-1 (FCT 28)
TRIG-3 (FCT 28)
WARI-1 (FCT 28)
WARI-2 (FCT 28)
TRIG-4 (FCT 28)
NEER-3 (FCT 28)
NEER-4 (FCT 28)

ANK43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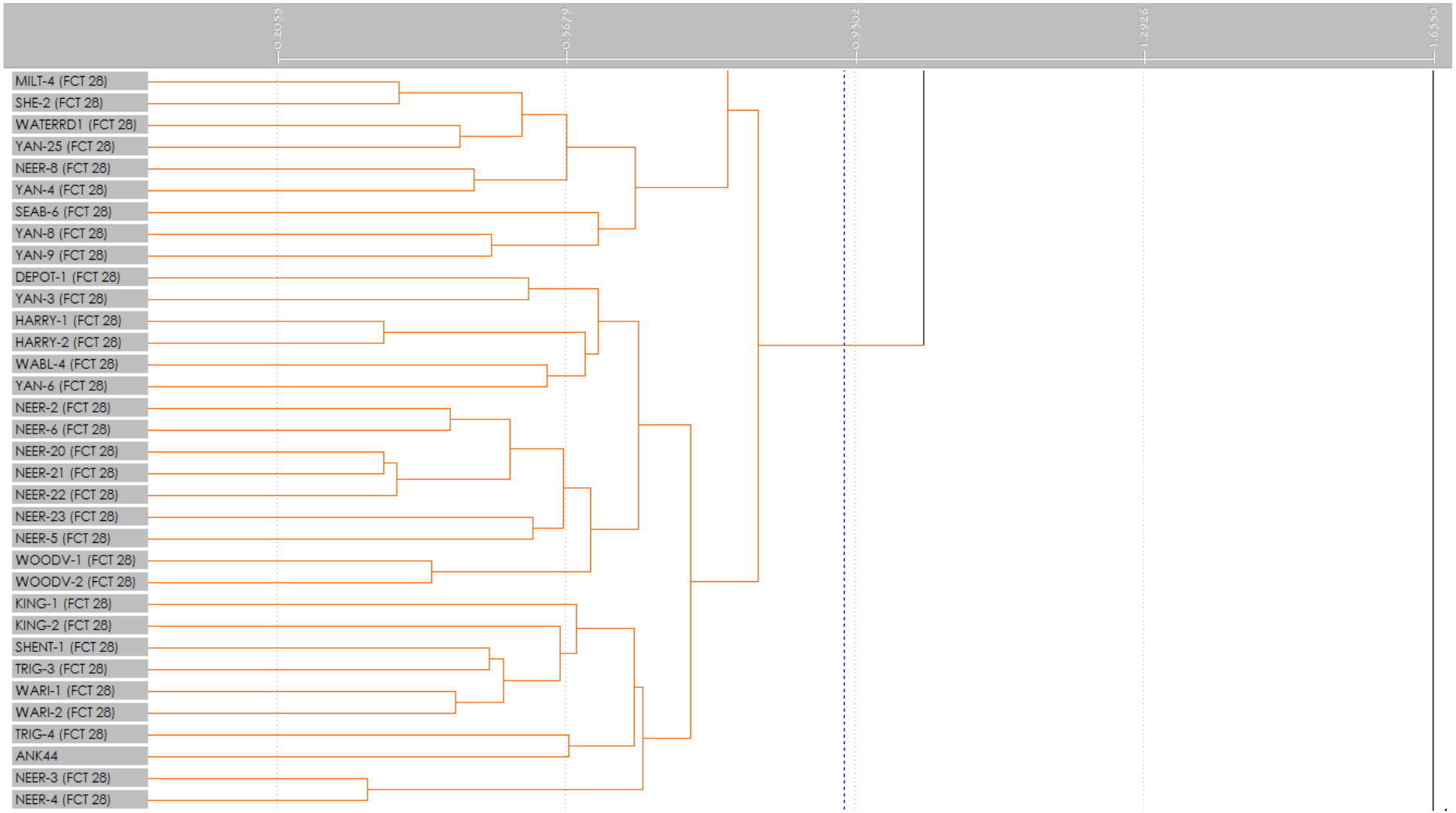
SHE-2 (FCT 28)
WATERRD1 (FCT 28)
YAN-25 (FCT 28)
NEER-8 (FCT 28)
YAN-4 (FCT 28)
SEAB-6 (FCT 28)
YAN-8 (FCT 28)
YAN-9 (FCT 28)
DEPOT-1 (FCT 28)
YAN-3 (FCT 28)
HARRY-1 (FCT 28)
HARRY-2 (FCT 28)
WABL-4 (FCT 28)
YAN-6 (FCT 28)
NEER-2 (FCT 28)
NEER-6 (FCT 28)
NEER-20 (FCT 28)
NEER-21 (FCT 28)
NEER-22 (FCT 28)
NEER-23 (FCT 28)
NEER-5 (FCT 28)
WOODV-1 (FCT 28)
WOODV-2 (FCT 28)
KING-1 (FCT 28)
KING-2 (FCT 28)
ANK43
SHENT-1 (FCT 28)
TRIG-3 (FCT 28)
WARI-1 (FCT 28)
WARI-2 (FCT 28)
TRIG-4 (FCT 28)
NEER-3 (FCT 28)
NEER-4 (FCT 28)

ANK44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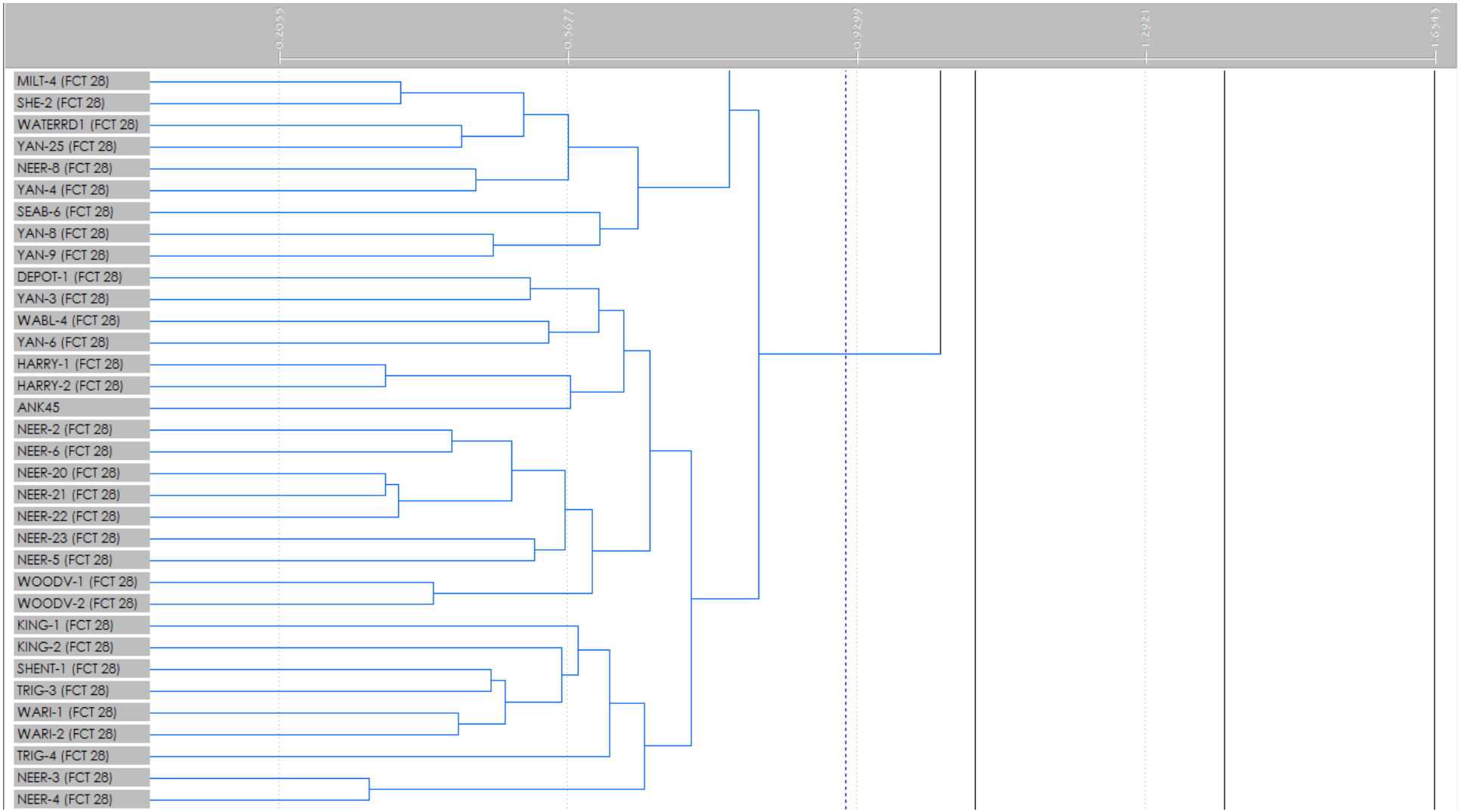
WATERRD1 (FCT 28)
YAN-25 (FCT 28)
NEER-8 (FCT 28)
YAN-4 (FCT 28)
SEAB-6 (FCT 28)
YAN-8 (FCT 28)
YAN-9 (FCT 28)
DEPOT-1 (FCT 28)
YAN-3 (FCT 28)
HARRY-1 (FCT 28)
HARRY-2 (FCT 28)
WABL-4 (FCT 28)
YAN-6 (FCT 28)
NEER-2 (FCT 28)
NEER-6 (FCT 28)
NEER-20 (FCT 28)
NEER-21 (FCT 28)
NEER-22 (FCT 28)
NEER-23 (FCT 28)
NEER-5 (FCT 28)
WOODV-1 (FCT 28)
WOODV-2 (FCT 28)
KING-1 (FCT 28)
KING-2 (FCT 28)
SHENT-1 (FCT 28)
TRIG-3 (FCT 28)
WARI-1 (FCT 28)
WARI-2 (FCT 28)
TRIG-4 (FCT 28)
ANK44
NEER-3 (FCT 28)
NEER-4 (FCT 28)

ANK45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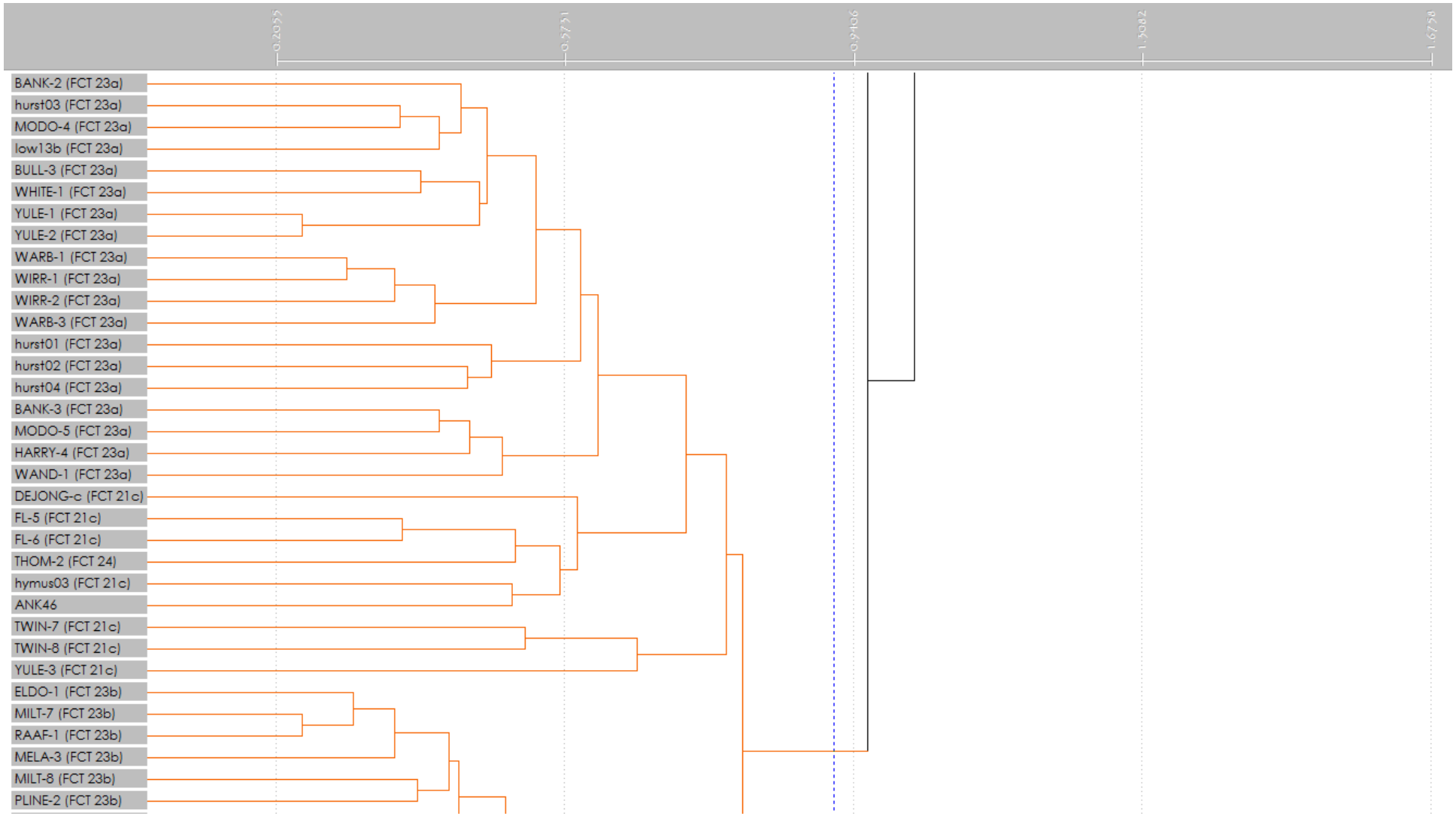
WATERRD1 (FCT 28)
YAN-25 (FCT 28)
NEER-8 (FCT 28)
YAN-4 (FCT 28)
SEAB-6 (FCT 28)
YAN-8 (FCT 28)
YAN-9 (FCT 28)
DEPOT-1 (FCT 28)
YAN-3 (FCT 28)
WABL-4 (FCT 28)
YAN-6 (FCT 28)
HARRY-1 (FCT 28)
HARRY-2 (FCT 28)
ANK45
NEER-2 (FCT 28)
NEER-6 (FCT 28)
NEER-20 (FCT 28)
NEER-21 (FCT 28)
NEER-22 (FCT 28)
NEER-23 (FCT 28)
NEER-5 (FCT 28)
WOODV-1 (FCT 28)
WOODV-2 (FCT 28)
KING-1 (FCT 28)
KING-2 (FCT 28)
SHENT-1 (FCT 28)
TRIG-3 (FCT 28)
WARI-1 (FCT 28)
WARI-2 (FCT 28)
TRIG-4 (FCT 28)
NEER-3 (FCT 28)
NEER-4 (FCT 28)

ANK46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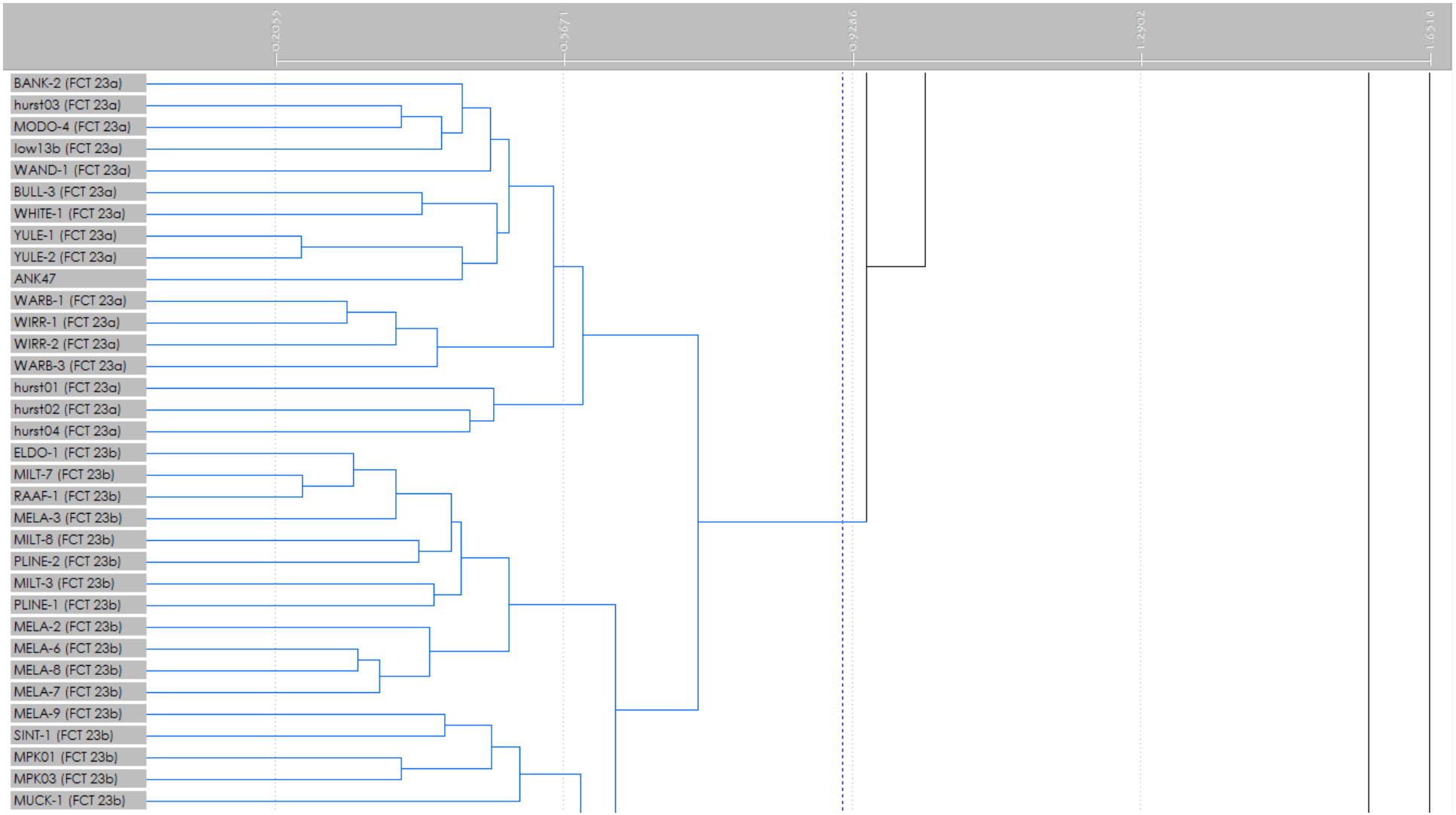
hurst03 (FCT 23a)
MODO-4 (FCT 23a)
low13b (FCT 23a)
BULL-3 (FCT 23a)
WHITE-1 (FCT 23a)
YULE-1 (FCT 23a)
YULE-2 (FCT 23a)
WARB-1 (FCT 23a)
WIRR-1 (FCT 23a)
WIRR-2 (FCT 23a)
WARB-3 (FCT 23a)
hurst01 (FCT 23a)
hurst02 (FCT 23a)
hurst04 (FCT 23a)
BANK-3 (FCT 23a)
MODO-5 (FCT 23a)
HARRY-4 (FCT 23a)
WAND-1 (FCT 23a)
DEJONG-c (FCT 21c)
FL-5 (FCT 21c)
FL-6 (FCT 21c)
THOM-2 (FCT 24)
hymus03 (FCT 21c)
ANK46
TWIN-7 (FCT 21c)
TWIN-8 (FCT 21c)
YULE-3 (FCT 21c)
ELDO-1 (FCT 23b)
MILT-7 (FCT 23b)
RAAF-1 (FCT 23b)
MELA-3 (FCT 23b)
MILT-8 (FCT 23b)
PLINE-2 (FCT 23b)

ANK47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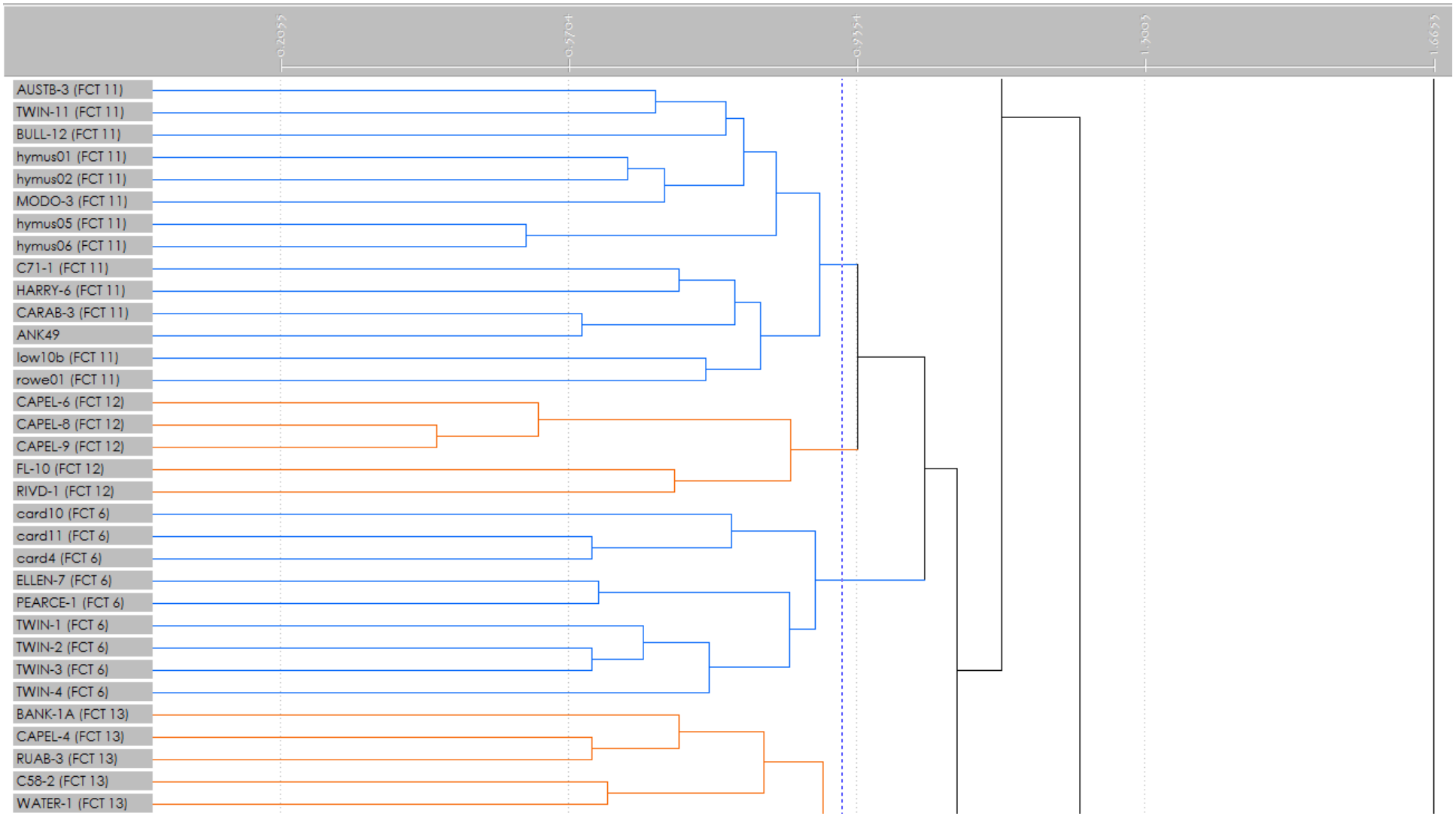
hurst03 (FCT 23a)
MODO-4 (FCT 23a)
low13b (FCT 23a)
WAND-1 (FCT 23a)
BULL-3 (FCT 23a)
WHITE-1 (FCT 23a)
YULE-1 (FCT 23a)
YULE-2 (FCT 23a)
ANK47
WARB-1 (FCT 23a)
WIRR-1 (FCT 23a)
WIRR-2 (FCT 23a)
WARB-3 (FCT 23a)
hurst01 (FCT 23a)
hurst02 (FCT 23a)
hurst04 (FCT 23a)
ELDO-1 (FCT 23b)
MILT-7 (FCT 23b)
RAAF-1 (FCT 23b)
MELA-3 (FCT 23b)
MILT-8 (FCT 23b)
PLINE-2 (FCT 23b)
MILT-3 (FCT 23b)
PLINE-1 (FCT 23b)
MELA-2 (FCT 23b)
MELA-6 (FCT 23b)
MELA-8 (FCT 23b)
MELA-7 (FCT 23b)
MELA-9 (FCT 23b)
SINT-1 (FCT 23b)
MPK01 (FCT 23b)
MPK03 (FCT 23b)
MUCK-1 (FCT 23b)

ANK49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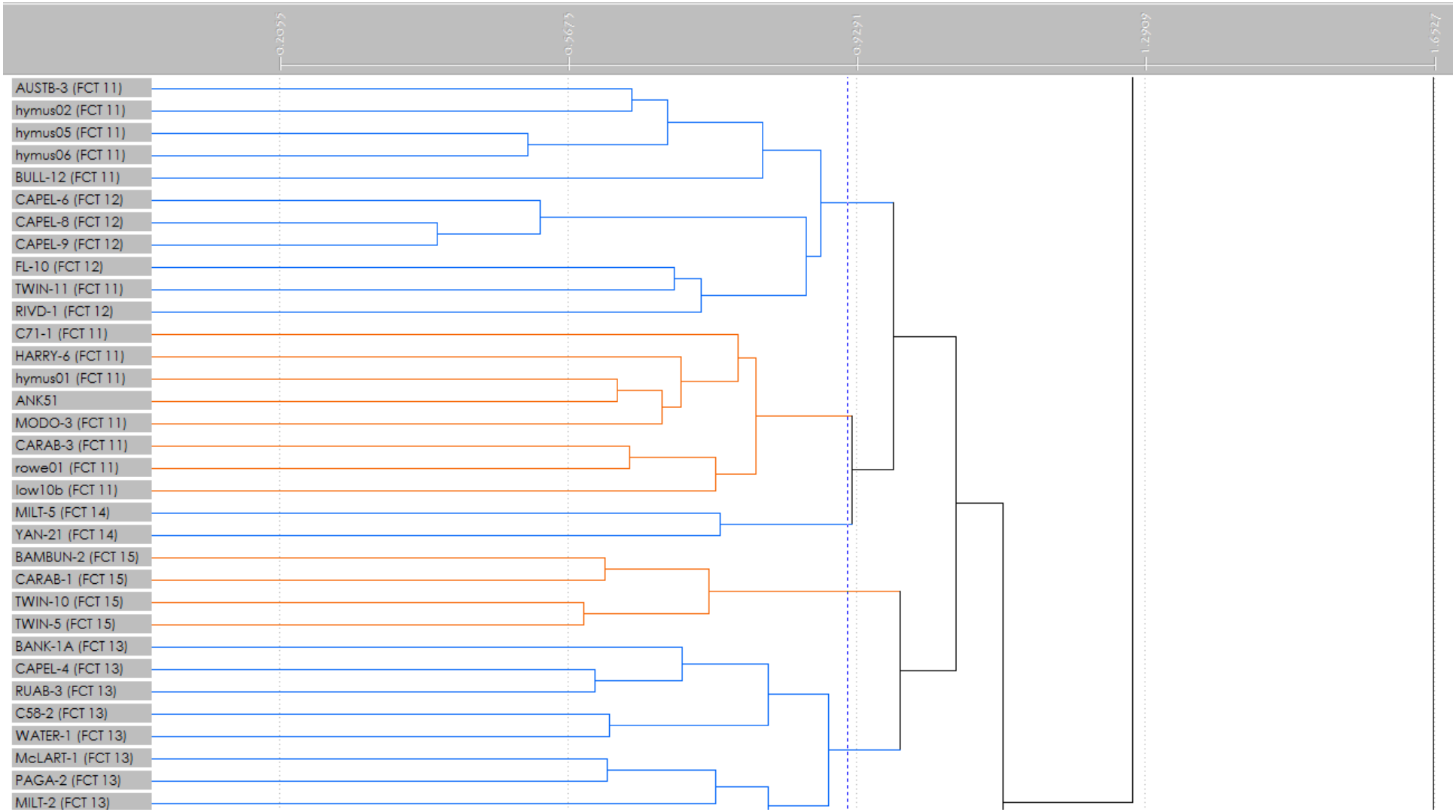
TWIN-11 (FCT 11)
BULL-12 (FCT 11)
hymus01 (FCT 11)
hymus02 (FCT 11)
MODO-3 (FCT 11)
hymus05 (FCT 11)
hymus06 (FCT 11)
C71-1 (FCT 11)
HARRY-6 (FCT 11)
CARAB-3 (FCT 11)
ANK49
low10b (FCT 11)
rowe01 (FCT 11)
CAPEL-6 (FCT 12)
CAPEL-8 (FCT 12)
CAPEL-9 (FCT 12)
FL-10 (FCT 12)
RIVD-1 (FCT 12)
card10 (FCT 6)
card11 (FCT 6)
card4 (FCT 6)
ELLEN-7 (FCT 6)
PEARCE-1 (FCT 6)
TWIN-1 (FCT 6)
TWIN-2 (FCT 6)
TWIN-3 (FCT 6)
TWIN-4 (FCT 6)
BANK-1A (FCT 13)
CAPEL-4 (FCT 13)
RUAB-3 (FCT 13)
C58-2 (FCT 13)
WATER-1 (FCT 13)

ANK51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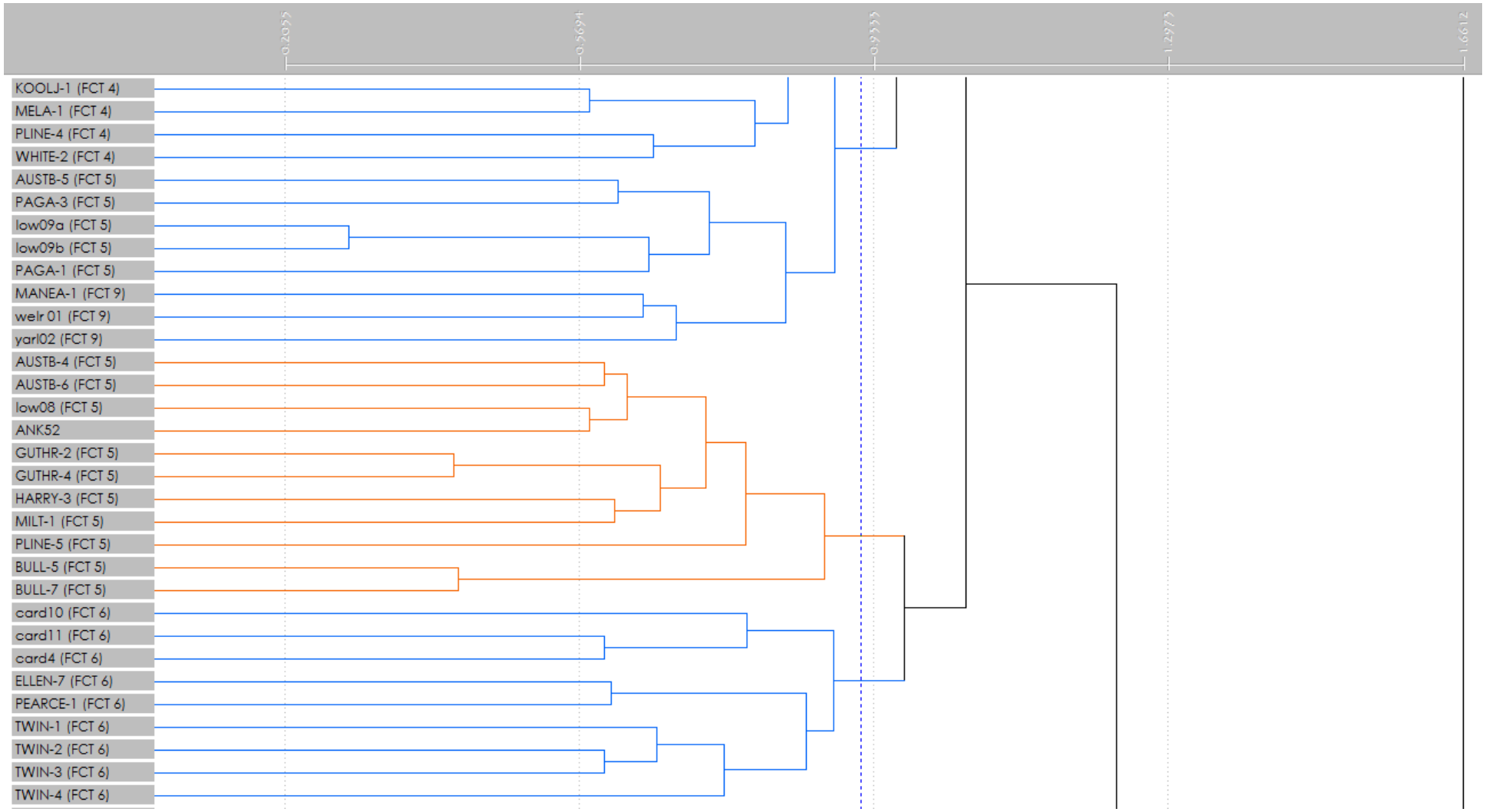
hymus05 (FCT 11)
hymus06 (FCT 11)
BULL-12 (FCT 11)
CAPEL-6 (FCT 12)
CAPEL-8 (FCT 12)
CAPEL-9 (FCT 12)
FL-10 (FCT 12)
TWIN-11 (FCT 11)
RIVD-1 (FCT 12)
C71-1 (FCT 11)
HARRY-6 (FCT 11)
hymus01 (FCT 11)
ANK51
MODO-3 (FCT 11)
CARAB-3 (FCT 11)
rowe01 (FCT 11)
low10b (FCT 11)
MILT-5 (FCT 14)
YAN-21 (FCT 14)
BAMBUN-2 (FCT 15)
CARAB-1 (FCT 15)
TWIN-10 (FCT 15)
TWIN-5 (FCT 15)
BANK-1A (FCT 13)
CAPEL-4 (FCT 13)
RUAB-3 (FCT 13)
C58-2 (FCT 13)
WATER-1 (FCT 13)
McLART-1 (FCT 13)
PAGA-2 (FCT 13)
MILT-2 (FCT 13)

ANK52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0.9333
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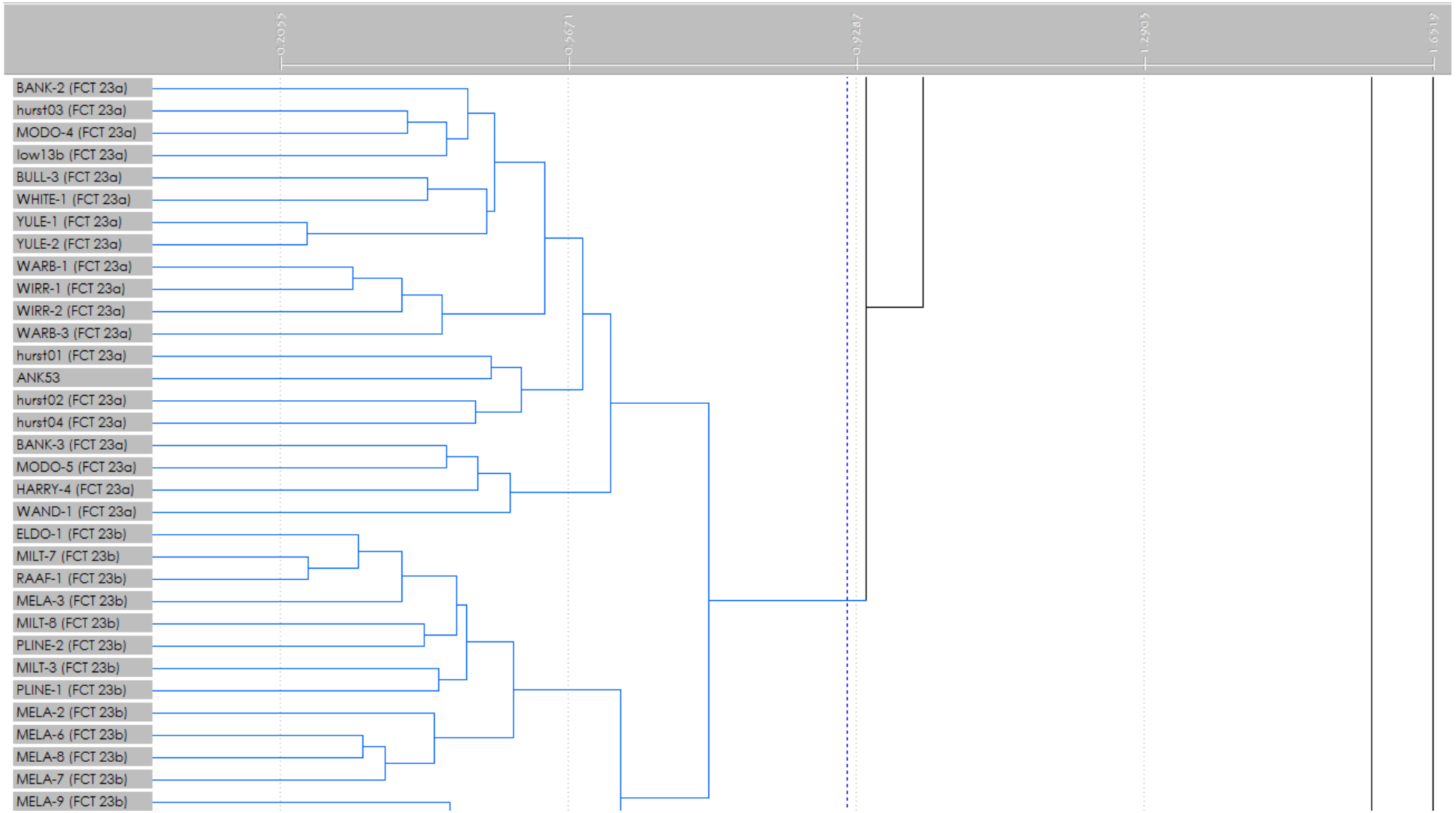
1.6612
KOOLJ-1 (FCT 4)
MELA-1 (FCT 4)
PLINE-4 (FCT 4)
WHITE-2 (FCT 4)
AUSTB-5 (FCT 5)
PAGA-3 (FCT 5)
low09a (FCT 5)
low09b (FCT 5)
PAGA-1 (FCT 5)
MANEA-1 (FCT 9)
welr 01 (FCT 9)
yarl02 (FCT 9)
AUSTB-4 (FCT 5)
AUSTB-6 (FCT 5)
low08 (FCT 5)
ANK52
GUTHR-2 (FCT 5)
GUTHR-4 (FCT 5)
HARRY-3 (FCT 5)
MILT-1 (FCT 5)
PLINE-5 (FCT 5)
BULL-5 (FCT 5)
BULL-7 (FCT 5)
card10 (FCT 6)
card11 (FCT 6)
card4 (FCT 6)
ELLEN-7 (FCT 6)
PEARCE-1 (FCT 6)
TWIN-1 (FCT 6)
TWIN-2 (FCT 6)
TWIN-3 (FCT 6)
TWIN-4 (FCT 6)

ANK53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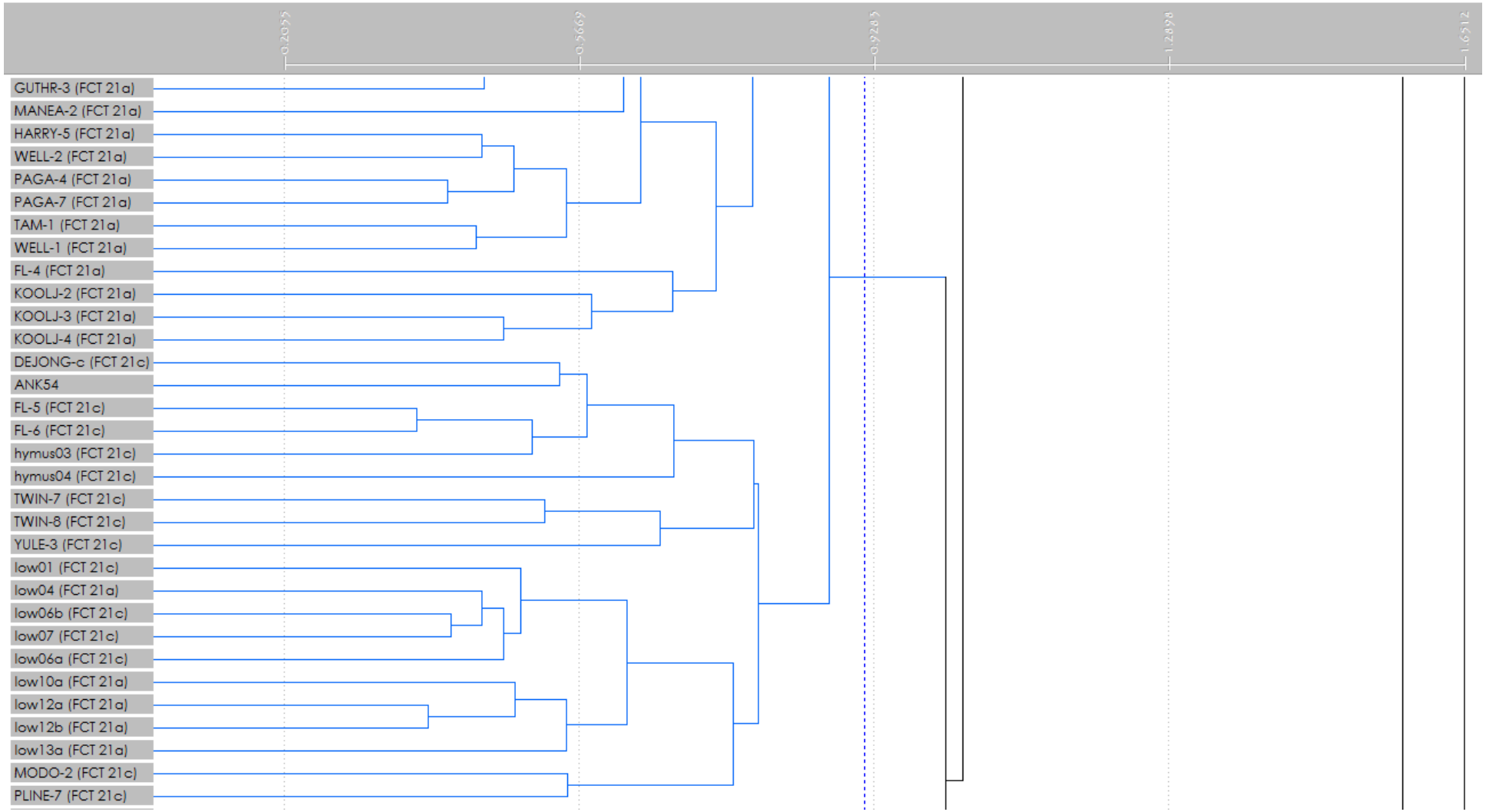
hurst03 (FCT 23a)
MODO-4 (FCT 23a)
low13b (FCT 23a)
BULL-3 (FCT 23a)
WHITE-1 (FCT 23a)
YULE-1 (FCT 23a)
YULE-2 (FCT 23a)
WARB-1 (FCT 23a)
WIRR-1 (FCT 23a)
WIRR-2 (FCT 23a)
WARB-3 (FCT 23a)
hurst01 (FCT 23a)
ANK53
hurst02 (FCT 23a)
hurst04 (FCT 23a)
BANK-3 (FCT 23a)
MODO-5 (FCT 23a)
HARRY-4 (FCT 23a)
WAND-1 (FCT 23a)
ELDO-1 (FCT 23b)
MILT-7 (FCT 23b)
RAAF-1 (FCT 23b)
MELA-3 (FCT 23b)
MILT-8 (FCT 23b)
PLINE-2 (FCT 23b)
MILT-3 (FCT 23b)
PLINE-1 (FCT 23b)
MELA-2 (FCT 23b)
MELA-6 (FCT 23b)
MELA-8 (FCT 23b)
MELA-7 (FCT 23b)
MELA-9 (FCT 23b)

ANK54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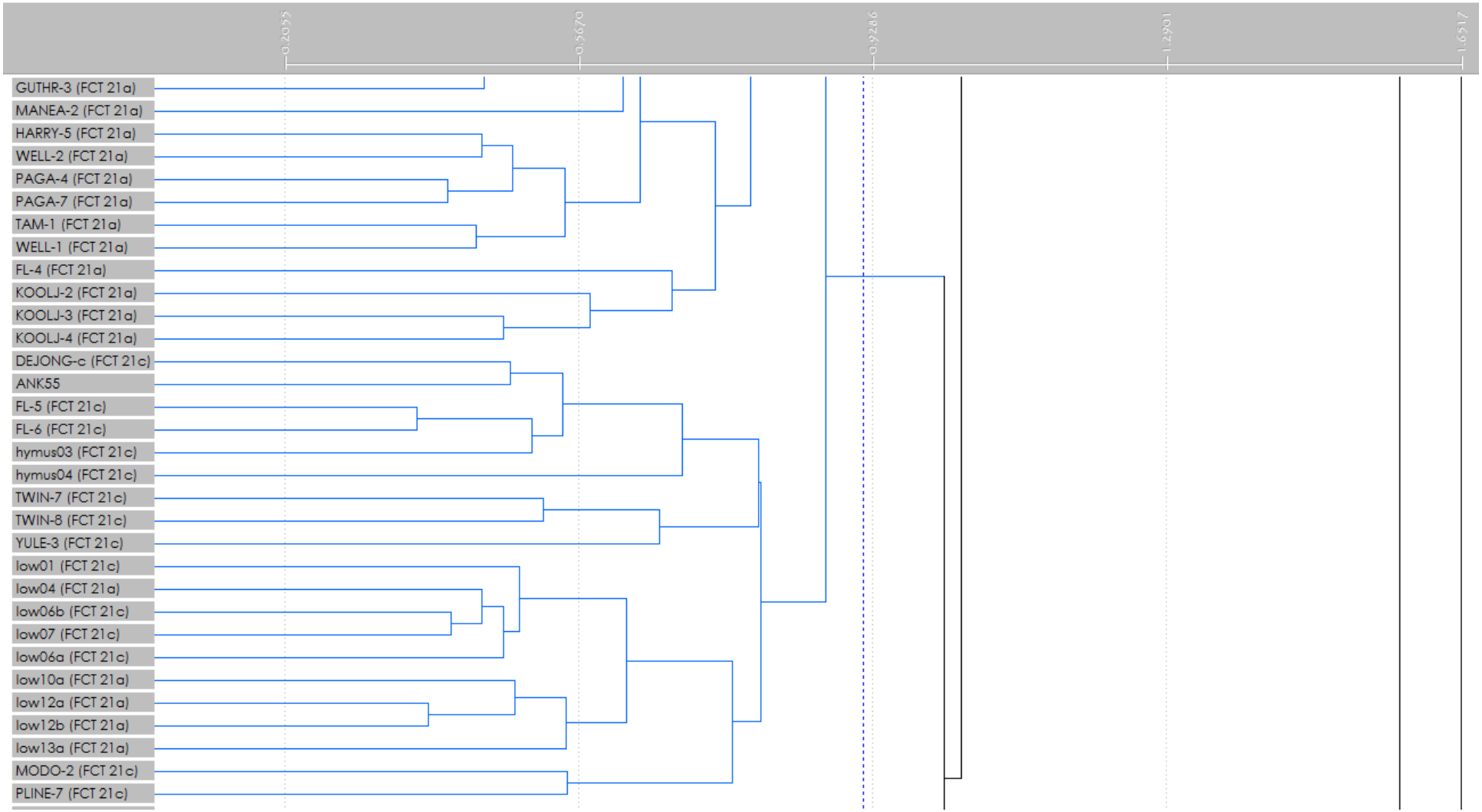
1.6512
GUTHR-3 (FCT 21a)
MANEA-2 (FCT 21a)
HARRY-5 (FCT 21a)
WELL-2 (FCT 21a)
PAGA-4 (FCT 21a)
PAGA-7 (FCT 21a)
TAM-1 (FCT 21a)
WELL-1 (FCT 21a)
FL-4 (FCT 21a)
KOOLJ-2 (FCT 21a)
KOOLJ-3 (FCT 21a)
KOOLJ-4 (FCT 21a)
DEJONG-c (FCT 21c)
ANK54
FL-5 (FCT 21c)
FL-6 (FCT 21c)
hymus03 (FCT 21c)
hymus04 (FCT 21c)
TWIN-7 (FCT 21c)
TWIN-8 (FCT 21c)
YULE-3 (FCT 21c)
low01 (FCT 21c)
low04 (FCT 21a)
low06b (FCT 21c)
low07 (FCT 21c)
low06a (FCT 21c)
low10a (FCT 21a)
low12a (FCT 21a)
low12b (FCT 21a)
low13a (FCT 21a)
MODO-2 (FCT 21c)
PLINE-7 (FCT 21c)

ANK55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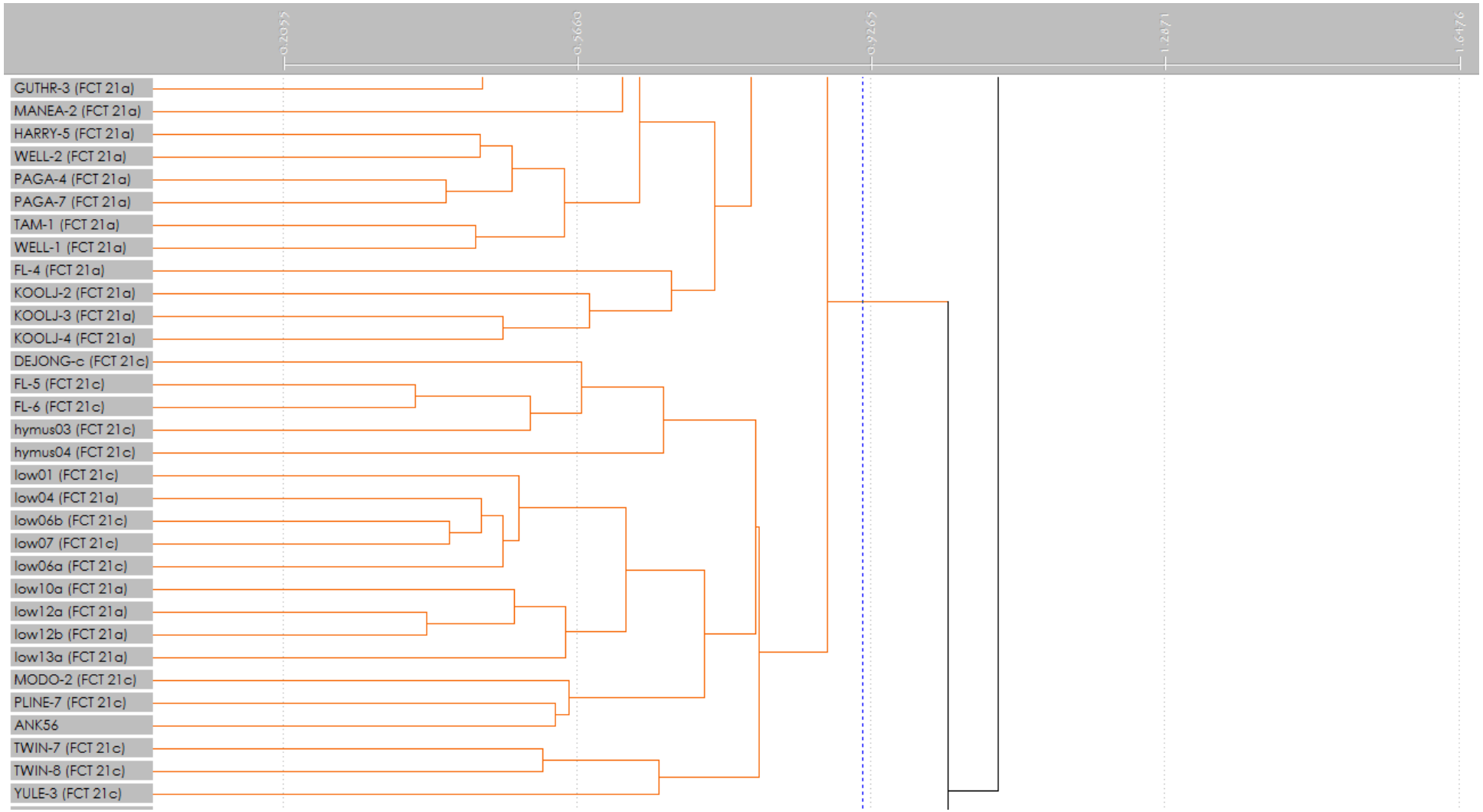
GUTHR-3 (FCT 21a)
MANEA-2 (FCT 21a)
HARRY-5 (FCT 21a)
WELL-2 (FCT 21a)
PAGA-4 (FCT 21a)
PAGA-7 (FCT 21a)
TAM-1 (FCT 21a)
WELL-1 (FCT 21a)
FL-4 (FCT 21a)
KOOLJ-2 (FCT 21a)
KOOLJ-3 (FCT 21a)
KOOLJ-4 (FCT 21a)
DEJONG-c (FCT 21c)
ANK55
FL-5 (FCT 21c)
FL-6 (FCT 21c)
hymus03 (FCT 21c)
hymus04 (FCT 21c)
TWIN-7 (FCT 21c)
TWIN-8 (FCT 21c)
YULE-3 (FCT 21c)
low01 (FCT 21c)
low04 (FCT 21a)
low06b (FCT 21c)
low07 (FCT 21c)
low06a (FCT 21c)
low10a (FCT 21a)
low12a (FCT 21a)
low12b (FCT 21a)
low13a (FCT 21a)
MODO-2 (FCT 21c)
PLINE-7 (FCT 21c)

ANK56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1.6476
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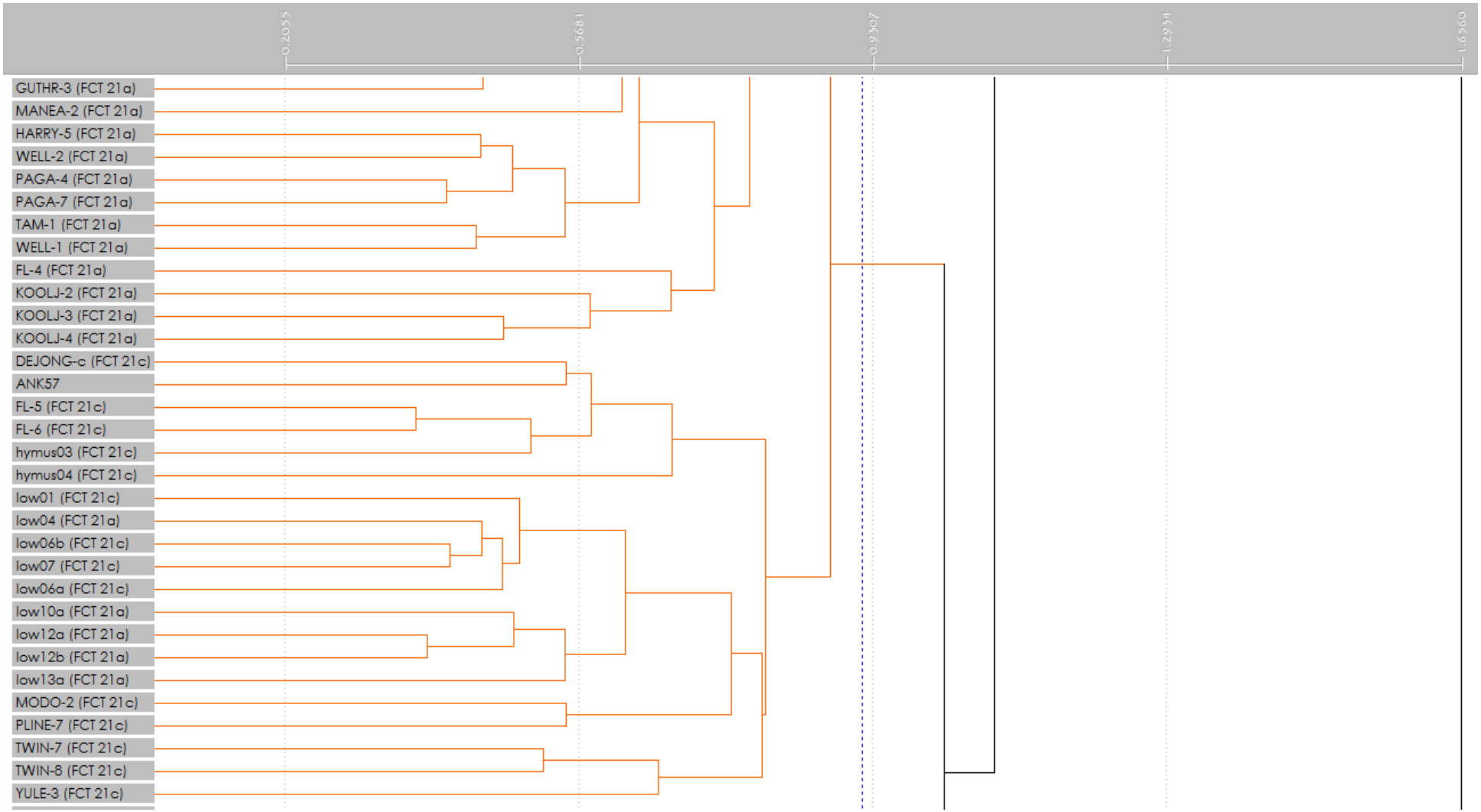
MANEA-2 (FCT 21a)
HARRY-5 (FCT 21a)
WELL-2 (FCT 21a)
PAGA-4 (FCT 21a)
PAGA-7 (FCT 21a)
TAM-1 (FCT 21a)
WELL-1 (FCT 21a)
FL-4 (FCT 21a)
KOOLJ-2 (FCT 21a)
KOOLJ-3 (FCT 21a)
KOOLJ-4 (FCT 21a)
DEJONG-c (FCT 21c)
FL-5 (FCT 21c)
FL-6 (FCT 21c)
hymus03 (FCT 21c)
hymus04 (FCT 21c)
low01 (FCT 21c)
low04 (FCT 21a)
low06b (FCT 21c)
low07 (FCT 21c)
low06a (FCT 21c)
low10a (FCT 21a)
low12a (FCT 21a)
low12b (FCT 21a)
low13a (FCT 21a)
MODO-2 (FCT 21c)
PLINE-7 (FCT 21c)
ANK56
TWIN-7 (FCT 21c)
TWIN-8 (FCT 21c)
YULE-3 (FCT 21c)

ANK57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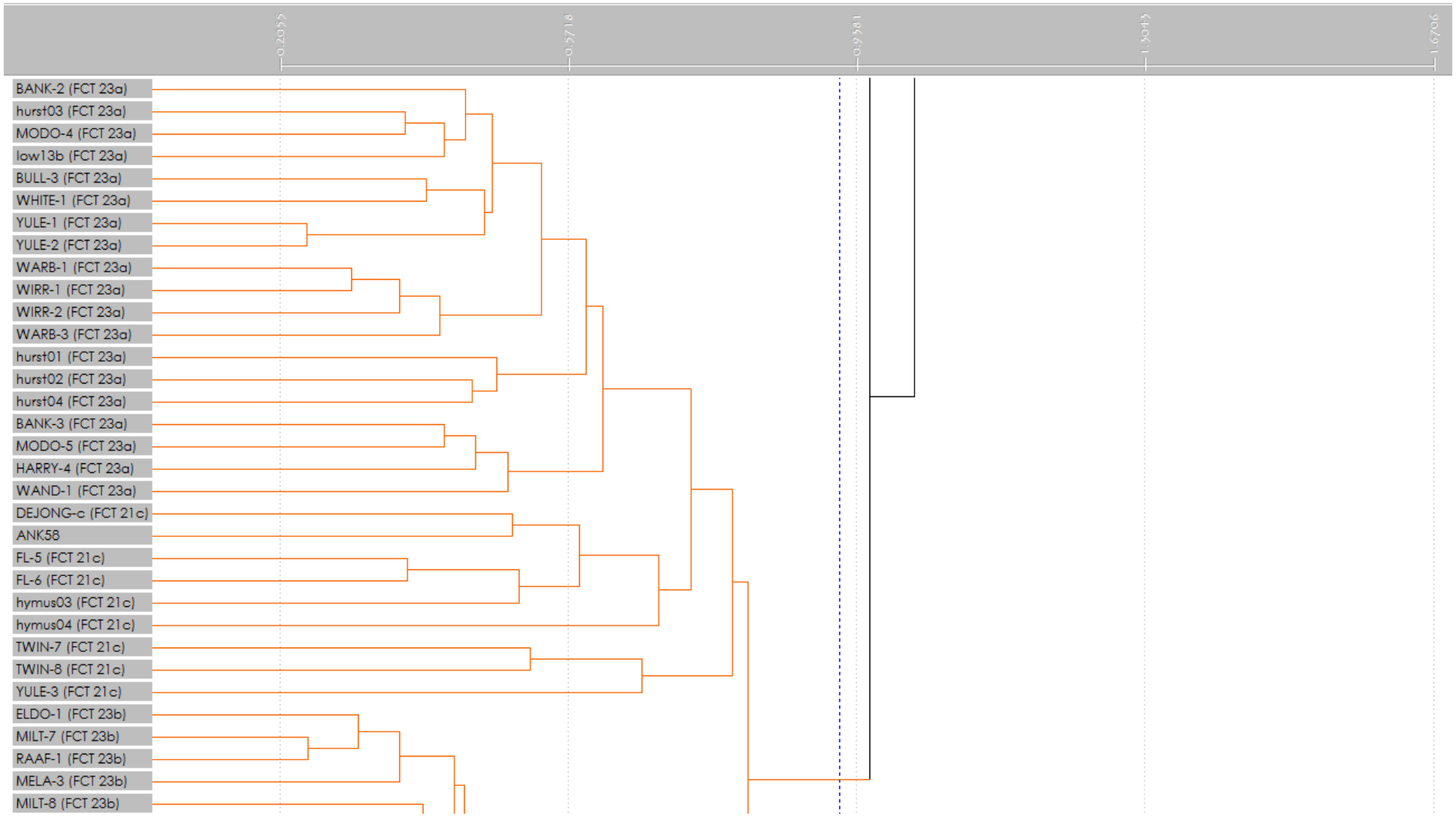
1.6560
GUTHR-3 (FCT 21a)
MANEA-2 (FCT 21a)
HARRY-5 (FCT 21a)
WELL-2 (FCT 21a)
PAGA-4 (FCT 21a)
PAGA-7 (FCT 21a)
TAM-1 (FCT 21a)
WELL-1 (FCT 21a)
FL-4 (FCT 21a)
KOOLJ-2 (FCT 21a)
KOOLJ-3 (FCT 21a)
KOOLJ-4 (FCT 21a)
DEJONG-c (FCT 21c)
ANK57
FL-5 (FCT 21c)
FL-6 (FCT 21c)
hymus03 (FCT 21c)
hymus04 (FCT 21c)
low01 (FCT 21c)
low04 (FCT 21a)
low06b (FCT 21c)
low07 (FCT 21c)
low06a (FCT 21c)
low10a (FCT 21a)
low12a (FCT 21a)
low12b (FCT 21a)
low13a (FCT 21a)
MODO-2 (FCT 21c)
PLINE-7 (FCT 21c)
TWIN-7 (FCT 21c)
TWIN-8 (FCT 21c)
YULE-3 (FCT 21c)

ANK58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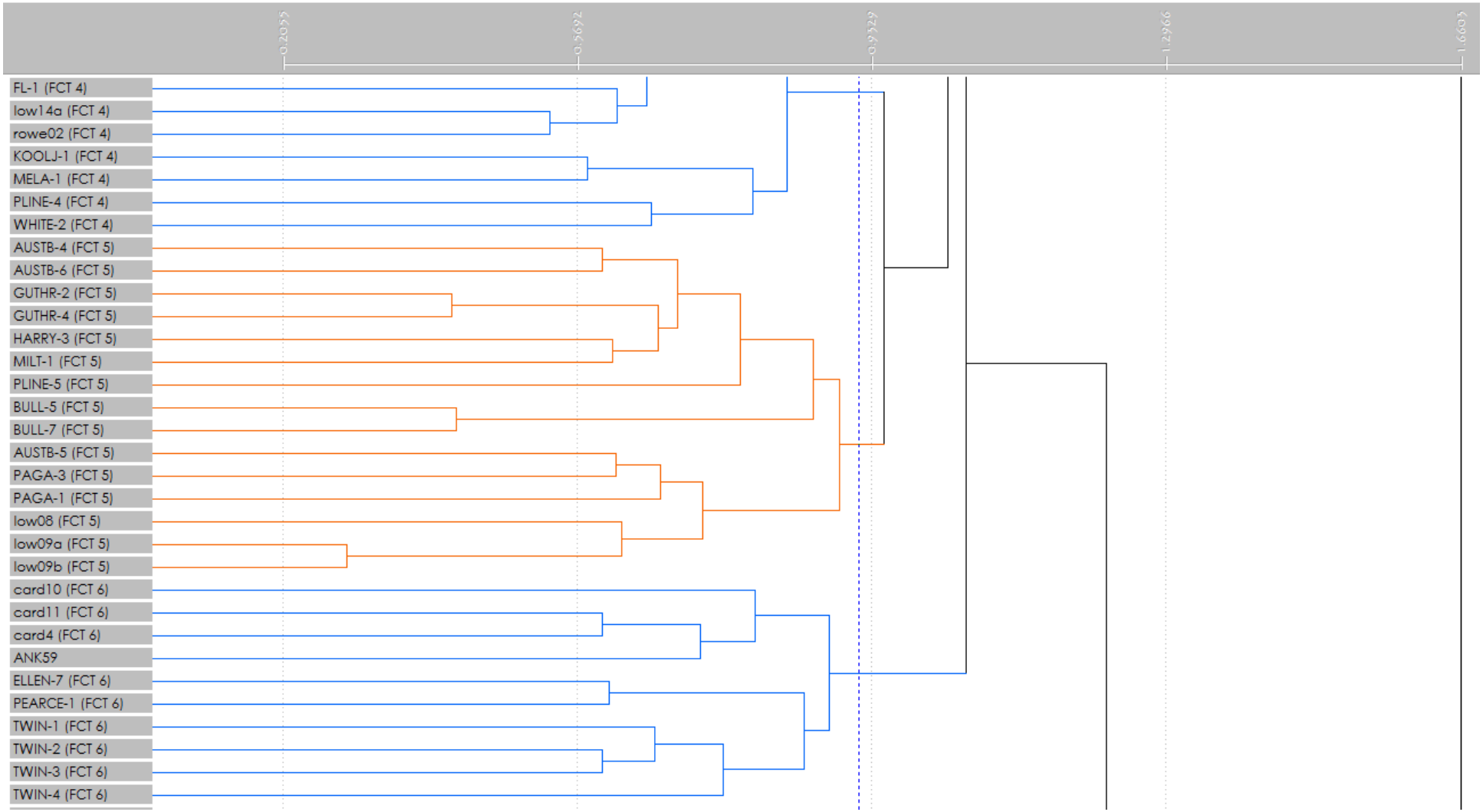
0.9381
1.3045
1.6706
BANK-2 (FCT 23a)
hurst03 (FCT 23a)
MODO-4 (FCT 23a)
low13b (FCT 23a)
BULL-3 (FCT 23a)
WHITE-1 (FCT 23a)
YULE-1 (FCT 23a)
YULE-2 (FCT 23a)
WARB-1 (FCT 23a)
WIRR-1 (FCT 23a)
WIRR-2 (FCT 23a)
WARB-3 (FCT 23a)
hurst01 (FCT 23a)
hurst02 (FCT 23a)
hurst04 (FCT 23a)
BANK-3 (FCT 23a)
MODO-5 (FCT 23a)
HARRY-4 (FCT 23a)
WAND-1 (FCT 23a)
DEJONG-c (FCT 21c)
ANK58
FL-5 (FCT 21c)
FL-6 (FCT 21c)
hymus03 (FCT 21c)
hymus04 (FCT 21c)
TWIN-7 (FCT 21c)
TWIN-8 (FCT 21c)
YULE-3 (FCT 21c)
ELDO-1 (FCT 23b)
MILT-7 (FCT 23b)
RAAF-1 (FCT 23b)
MELA-3 (FCT 23b)
MILT-8 (FCT 23b)

ANK59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0.9329
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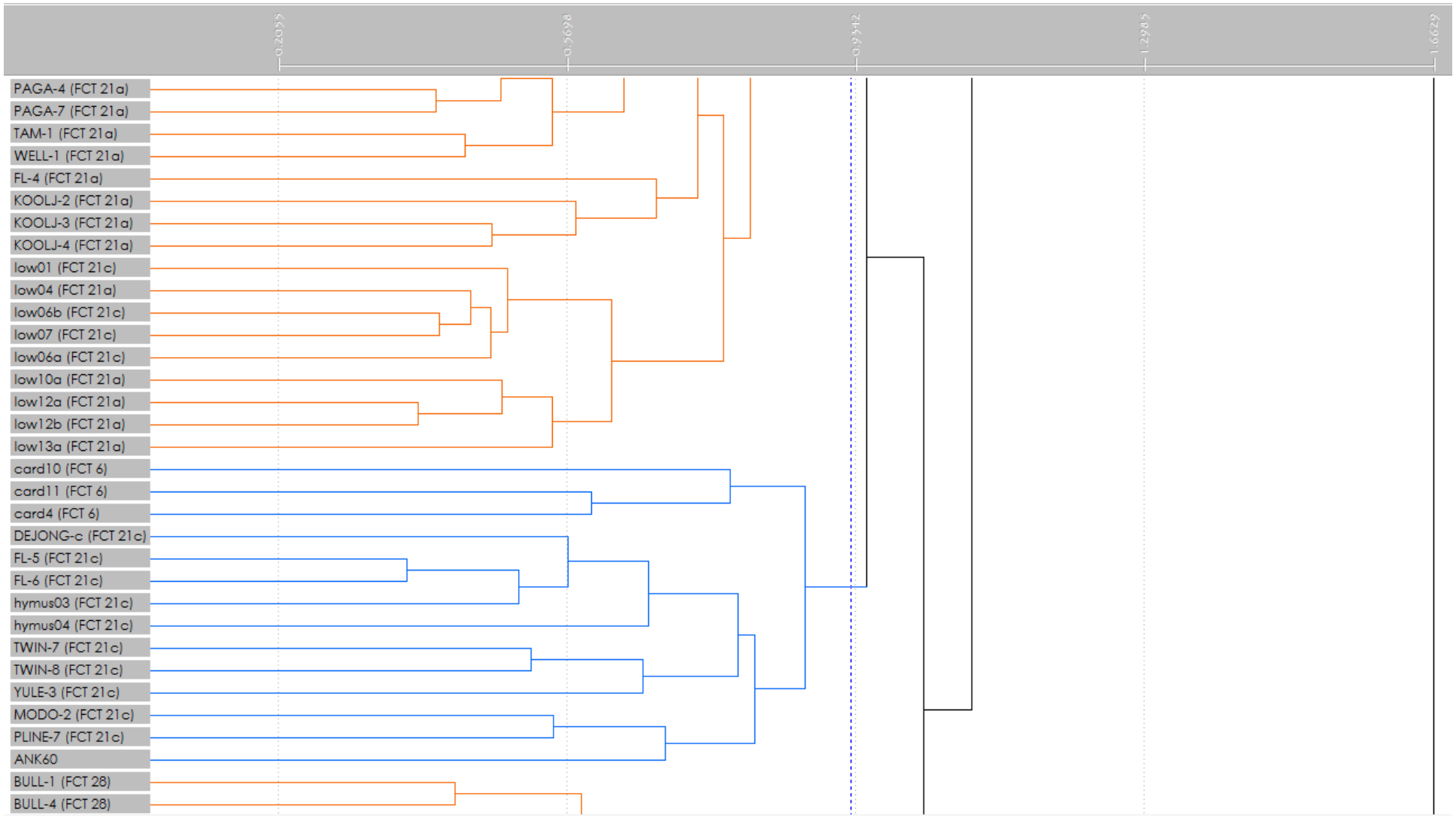
1.6603
FL-1 (FCT 4)
low14a (FCT 4)
rowe02 (FCT 4)
KOOLJ-1 (FCT 4)
MELA-1 (FCT 4)
PLINE-4 (FCT 4)
WHITE-2 (FCT 4)
AUSTB-4 (FCT 5)
AUSTB-6 (FCT 5)
GUTHR-2 (FCT 5)
GUTHR-4 (FCT 5)
HARRY-3 (FCT 5)
MILT-1 (FCT 5)
PLINE-5 (FCT 5)
BULL-5 (FCT 5)
BULL-7 (FCT 5)
AUSTB-5 (FCT 5)
PAGA-3 (FCT 5)
PAGA-1 (FCT 5)
low08 (FCT 5)
low09a (FCT 5)
low09b (FCT 5)
card10 (FCT 6)
card11 (FCT 6)
card4 (FCT 6)
ANK59
ELLEN-7 (FCT 6)
PEARCE-1 (FCT 6)
TWIN-1 (FCT 6)
TWIN-2 (FCT 6)
TWIN-3 (FCT 6)
TWIN-4 (FCT 6)

ANK60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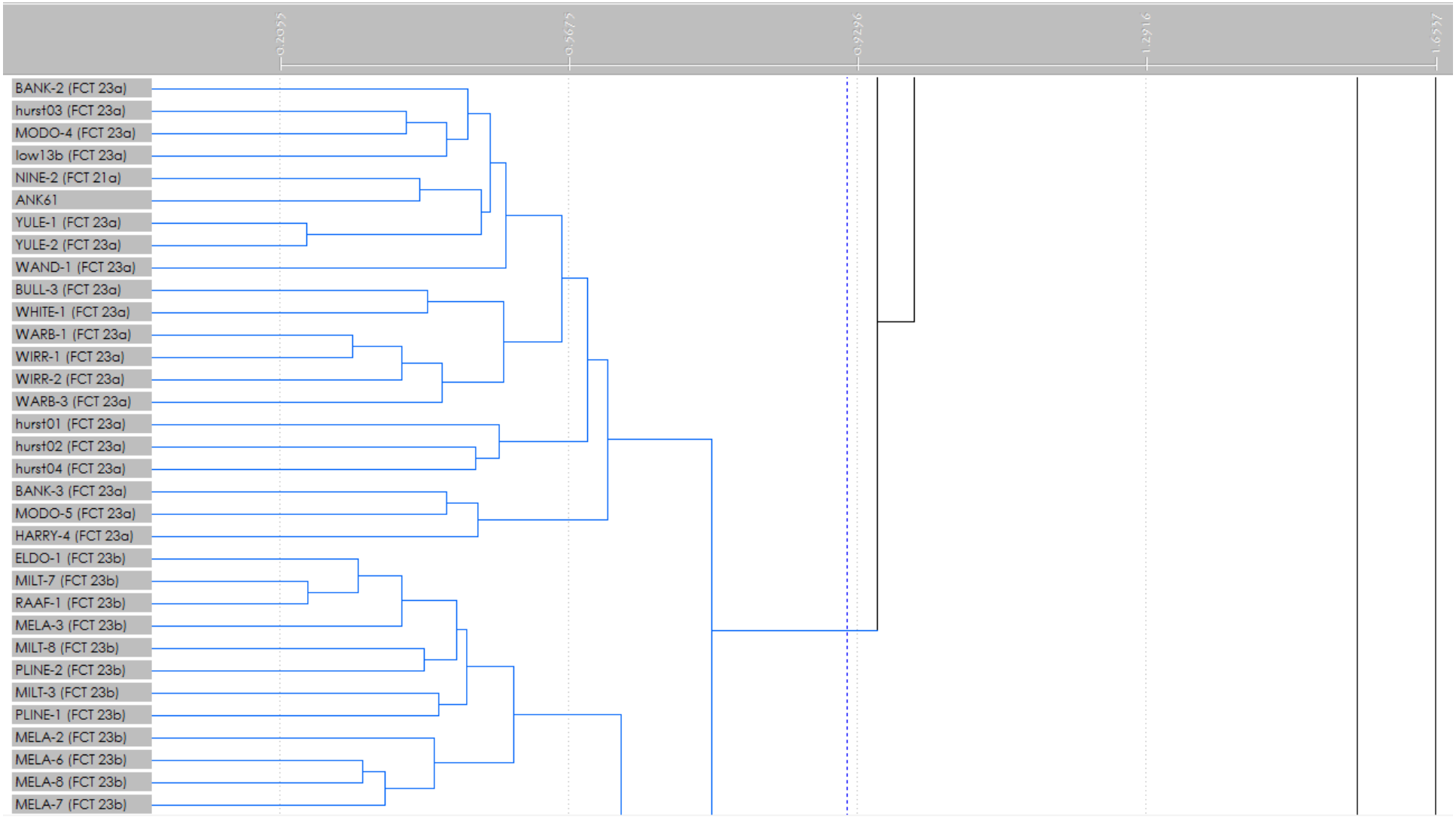
1.6629
PAGA-4 (FCT 21a)
PAGA-7 (FCT 21a)
TAM-1 (FCT 21a)
WELL-1 (FCT 21a)
FL-4 (FCT 21a)
KOOLJ-2 (FCT 21a)
KOOLJ-3 (FCT 21a)
KOOLJ-4 (FCT 21a)
low01 (FCT 21c)
low04 (FCT 21a)
low06b (FCT 21c)
low07 (FCT 21c)
low06a (FCT 21c)
low10a (FCT 21a)
low12a (FCT 21a)
low12b (FCT 21a)
low13a (FCT 21a)
card10 (FCT 6)
card11 (FCT 6)
card4 (FCT 6)
DEJONG-c (FCT 21c)
FL-5 (FCT 21c)
FL-6 (FCT 21c)
hymus03 (FCT 21c)
hymus04 (FCT 21c)
TWIN-7 (FCT 21c)
TWIN-8 (FCT 21c)
YULE-3 (FCT 21c)
MODO-2 (FCT 21c)
PLINE-7 (FCT 21c)
ANK60
BULL-1 (FCT 28)
BULL-4 (FCT 28)

ANK61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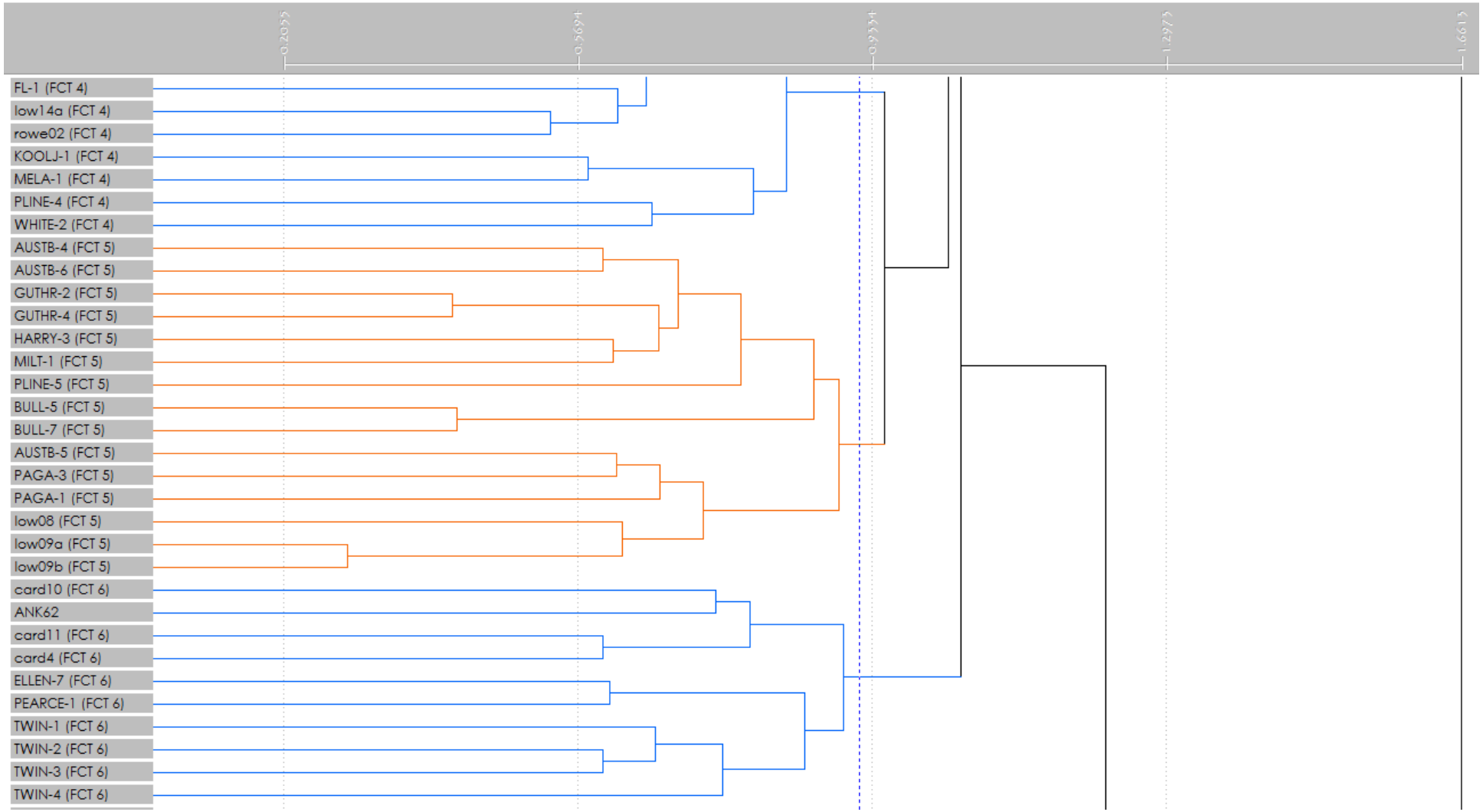
0.9296
1.2916
1.6537
BANK-2 (FCT 23a)
hurst03 (FCT 23a)
MODO-4 (FCT 23a)
low13b (FCT 23a)
NINE-2 (FCT 21a)
ANK61
YULE-1 (FCT 23a)
YULE-2 (FCT 23a)
WAND-1 (FCT 23a)
BULL-3 (FCT 23a)
WHITE-1 (FCT 23a)
WARB-1 (FCT 23a)
WIRR-1 (FCT 23a)
WIRR-2 (FCT 23a)
WARB-3 (FCT 23a)
hurst01 (FCT 23a)
hurst02 (FCT 23a)
hurst04 (FCT 23a)
BANK-3 (FCT 23a)
MODO-5 (FCT 23a)
HARRY-4 (FCT 23a)
ELDO-1 (FCT 23b)
MILT-7 (FCT 23b)
RAAF-1 (FCT 23b)
MELA-3 (FCT 23b)
MILT-8 (FCT 23b)
PLINE-2 (FCT 23b)
MILT-3 (FCT 23b)
PLINE-1 (FCT 23b)
MELA-2 (FCT 23b)
MELA-6 (FCT 23b)
MELA-8 (FCT 23b)
MELA-7 (FCT 23b)

ANK62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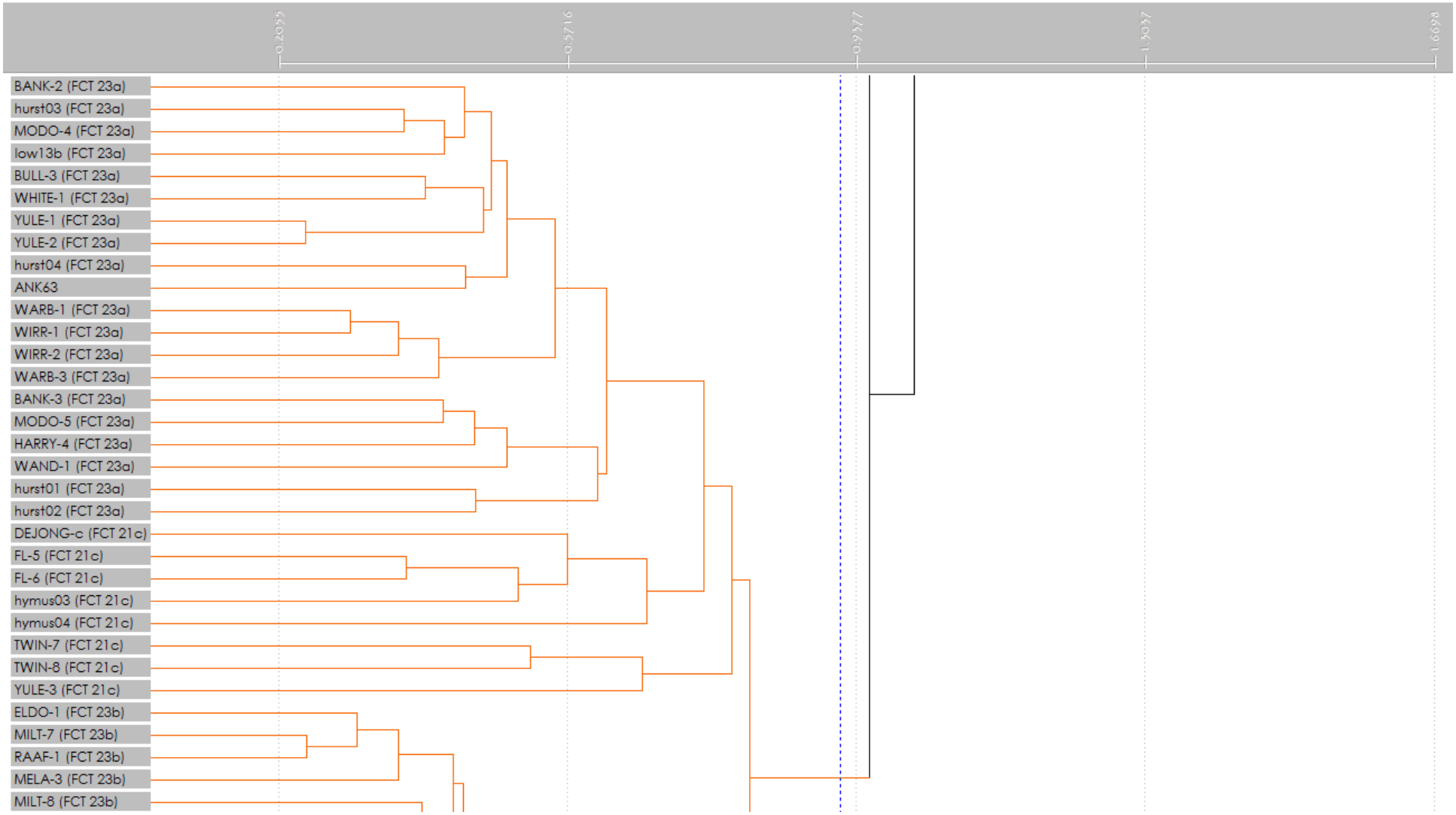
FL-1 (FCT 4)
low14a (FCT 4)
rowe02 (FCT 4)
KOOLJ-1 (FCT 4)
MELA-1 (FCT 4)
PLINE-4 (FCT 4)
WHITE-2 (FCT 4)
AUSTB-4 (FCT 5)
AUSTB-6 (FCT 5)
GUTHR-2 (FCT 5)
GUTHR-4 (FCT 5)
HARRY-3 (FCT 5)
MILT-1 (FCT 5)
PLINE-5 (FCT 5)
BULL-5 (FCT 5)
BULL-7 (FCT 5)
AUSTB-5 (FCT 5)
PAGA-3 (FCT 5)
PAGA-1 (FCT 5)
low08 (FCT 5)
low09a (FCT 5)
low09b (FCT 5)
card10 (FCT 6)
ANK62
card11 (FCT 6)
card4 (FCT 6)
ELLEN-7 (FCT 6)
PEARCE-1 (FCT 6)
TWIN-1 (FCT 6)
TWIN-2 (FCT 6)
TWIN-3 (FCT 6)
TWIN-4 (FCT 6)

ANK63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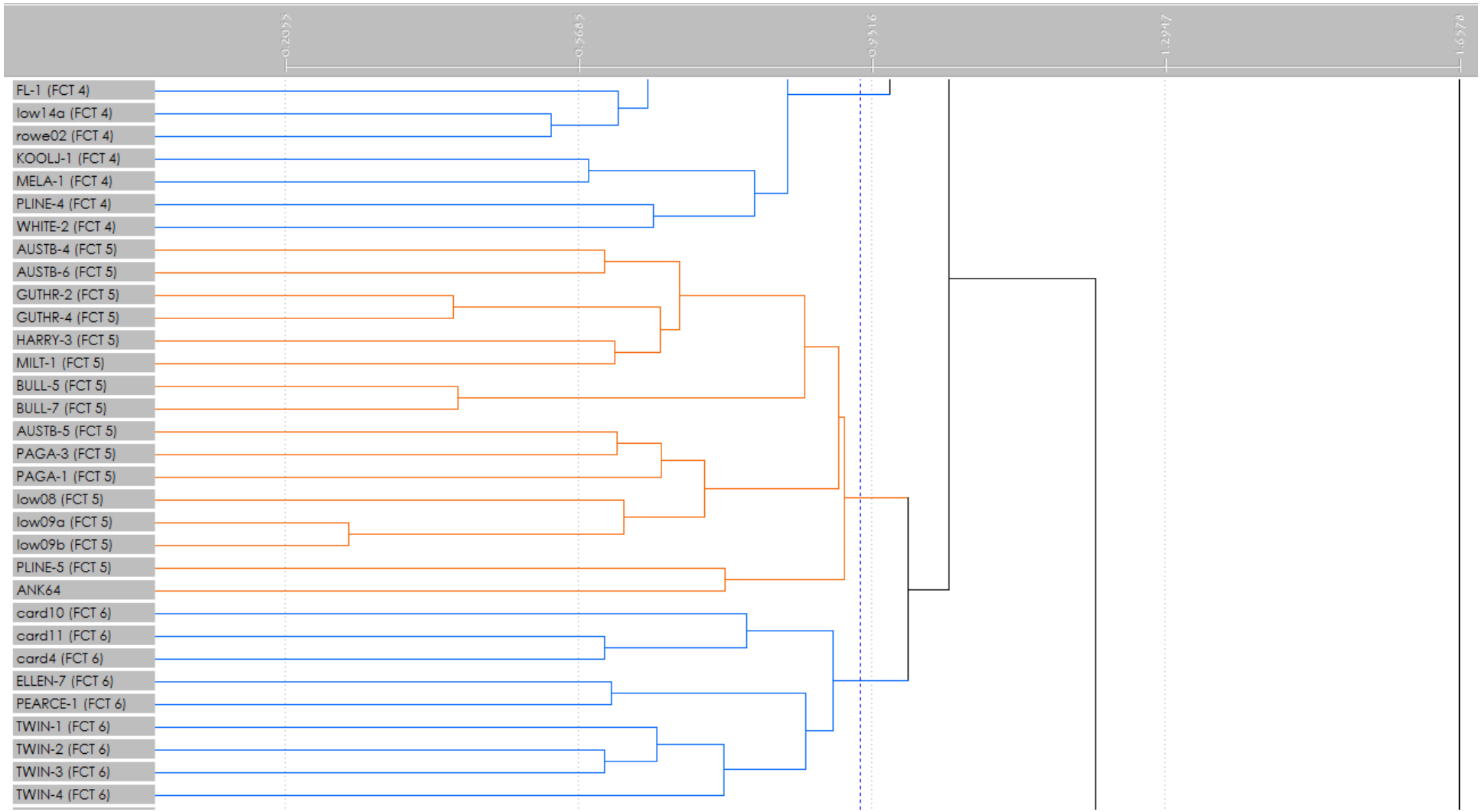
BANK-2 (FCT 23a)
hurst03 (FCT 23a)
MODO-4 (FCT 23a)
low13b (FCT 23a)
BULL-3 (FCT 23a)
WHITE-1 (FCT 23a)
YULE-1 (FCT 23a)
YULE-2 (FCT 23a)
hurst04 (FCT 23a)
ANK63
WARB-1 (FCT 23a)
WIRR-1 (FCT 23a)
WIRR-2 (FCT 23a)
WARB-3 (FCT 23a)
BANK-3 (FCT 23a)
MODO-5 (FCT 23a)
HARRY-4 (FCT 23a)
WAND-1 (FCT 23a)
hurst01 (FCT 23a)
hurst02 (FCT 23a)
DEJONG-c (FCT 21c)
FL-5 (FCT 21c)
FL-6 (FCT 21c)
hymus03 (FCT 21c)
hymus04 (FCT 21c)
TWIN-7 (FCT 21c)
TWIN-8 (FCT 21c)
YULE-3 (FCT 21c)
ELDO-1 (FCT 23b)
MILT-7 (FCT 23b)
RAAF-1 (FCT 23b)
MELA-3 (FCT 23b)
MILT-8 (FCT 23b)

ANK64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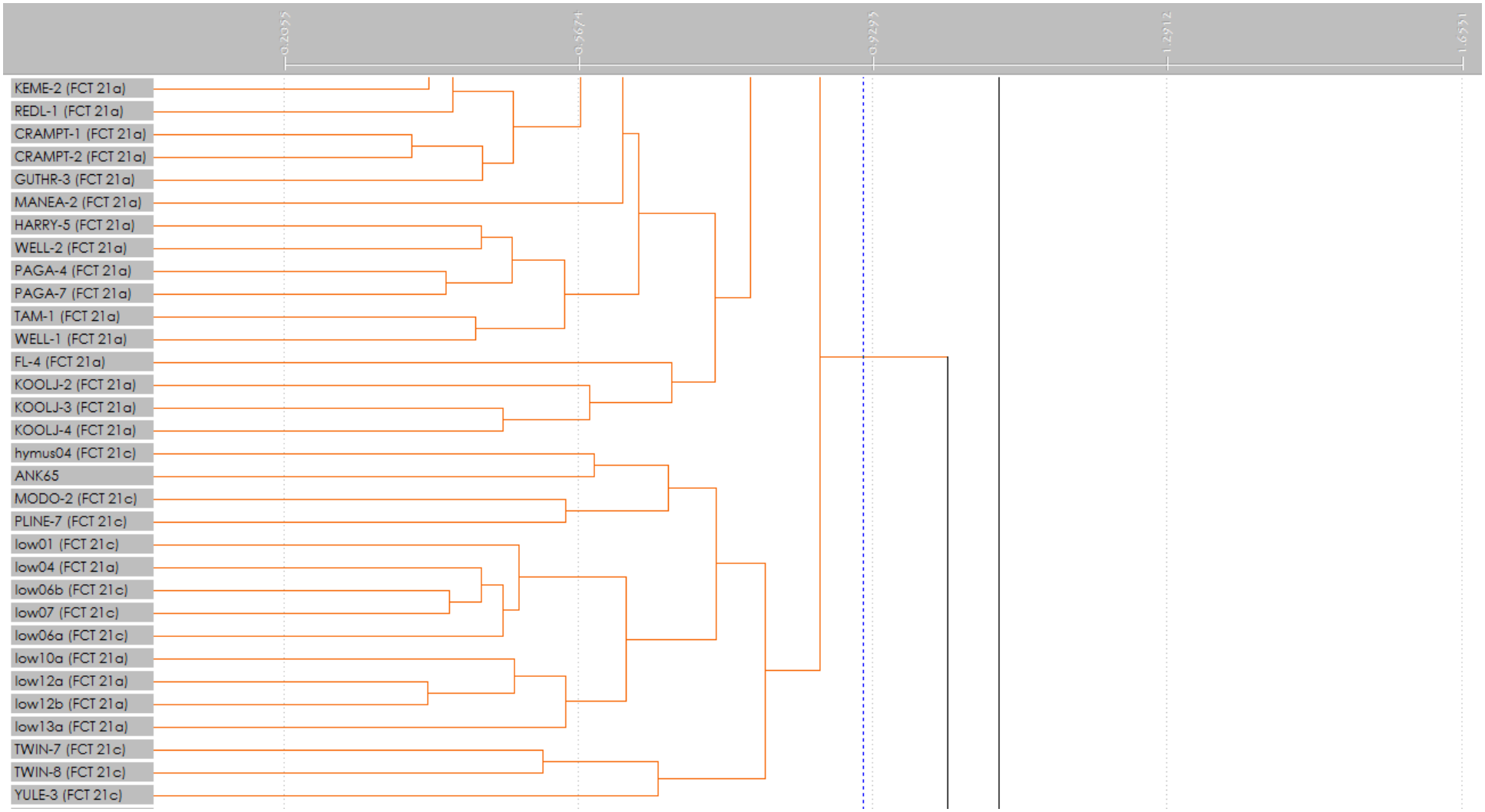
1.2947
1.6578
FL-1 (FCT 4)
low14a (FCT 4)
rowe02 (FCT 4)
KOOLJ-1 (FCT 4)
MELA-1 (FCT 4)
PLINE-4 (FCT 4)
WHITE-2 (FCT 4)
AUSTB-4 (FCT 5)
AUSTB-6 (FCT 5)
GUTHR-2 (FCT 5)
GUTHR-4 (FCT 5)
HARRY-3 (FCT 5)
MILT-1 (FCT 5)
BULL-5 (FCT 5)
BULL-7 (FCT 5)
AUSTB-5 (FCT 5)
PAGA-3 (FCT 5)
PAGA-1 (FCT 5)
low08 (FCT 5)
low09a (FCT 5)
low09b (FCT 5)
PLINE-5 (FCT 5)
ANK64
card10 (FCT 6)
card11 (FCT 6)
card4 (FCT 6)
ELLEN-7 (FCT 6)
PEARCE-1 (FCT 6)
TWIN-1 (FCT 6)
TWIN-2 (FCT 6)
TWIN-3 (FCT 6)
TWIN-4 (FCT 6)

ANK65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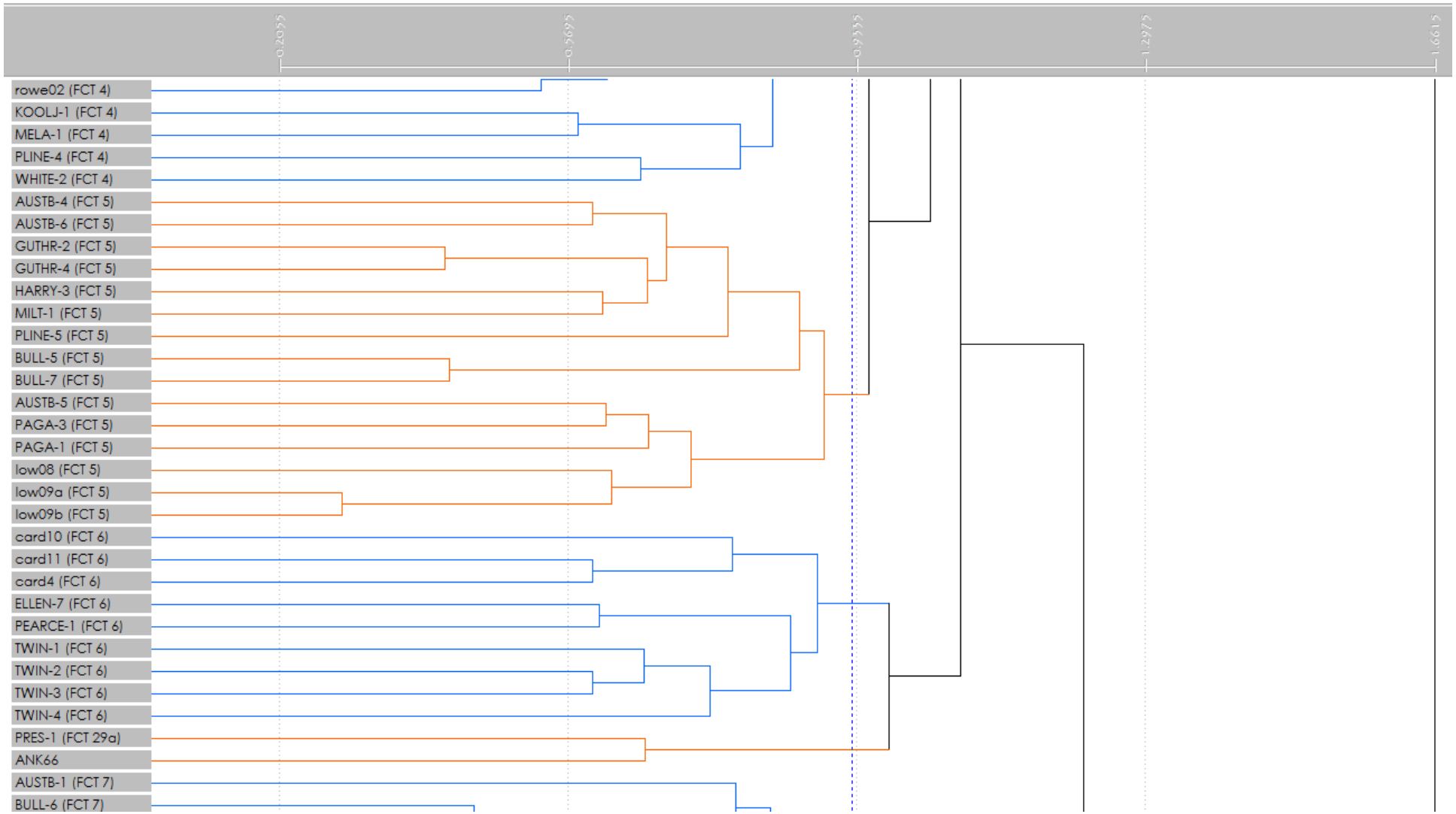
REDL-1 (FCT 21a)
CRAMPT-1 (FCT 21a)
CRAMPT-2 (FCT 21a)
GUTHR-3 (FCT 21a)
MANEA-2 (FCT 21a)
HARRY-5 (FCT 21a)
WELL-2 (FCT 21a)
PAGA-4 (FCT 21a)
PAGA-7 (FCT 21a)
TAM-1 (FCT 21a)
WELL-1 (FCT 21a)
FL-4 (FCT 21a)
KOOLJ-2 (FCT 21a)
KOOLJ-3 (FCT 21a)
KOOLJ-4 (FCT 21a)
hymus04 (FCT 21c)
ANK65
MODO-2 (FCT 21c)
PLINE-7 (FCT 21c)
low01 (FCT 21c)
low04 (FCT 21a)
low06b (FCT 21c)
low07 (FCT 21c)
low06a (FCT 21c)
low10a (FCT 21a)
low12a (FCT 21a)
low12b (FCT 21a)
low13a (FCT 21a)
TWIN-7 (FCT 21c)
TWIN-8 (FCT 21c)
YULE-3 (FCT 21c)

ANK66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0.9295
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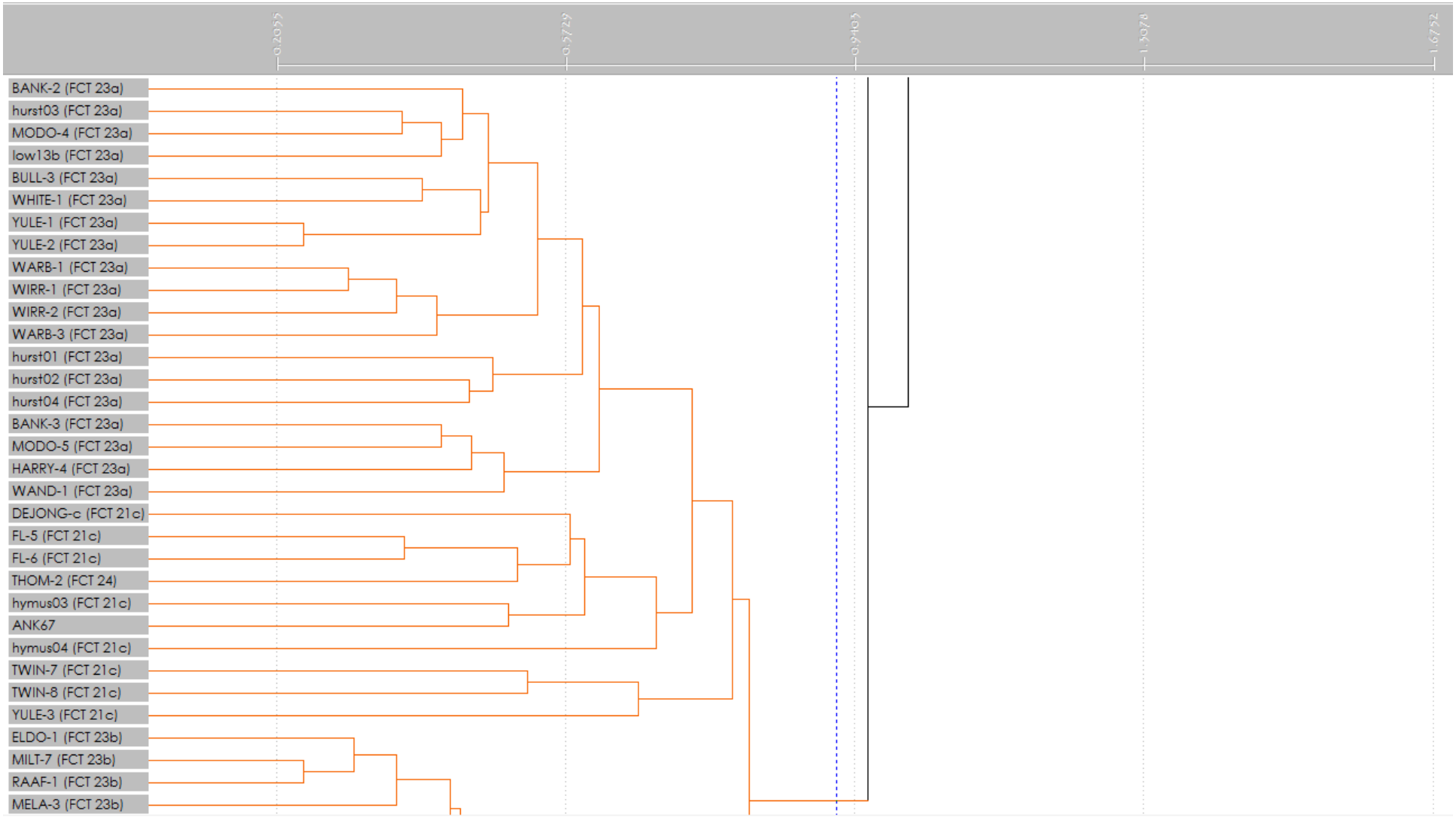
1.6615
rowe02 (FCT 4)
KOOLJ-1 (FCT 4)
MELA-1 (FCT 4)
PLINE-4 (FCT 4)
WHITE-2 (FCT 4)
AUSTB-4 (FCT 5)
AUSTB-6 (FCT 5)
GUTHR-2 (FCT 5)
GUTHR-4 (FCT 5)
HARRY-3 (FCT 5)
MILT-1 (FCT 5)
PLINE-5 (FCT 5)
BULL-5 (FCT 5)
BULL-7 (FCT 5)
AUSTB-5 (FCT 5)
PAGA-3 (FCT 5)
PAGA-1 (FCT 5)
low08 (FCT 5)
low09a (FCT 5)
low09b (FCT 5)
card10 (FCT 6)
card11 (FCT 6)
card4 (FCT 6)
ELLEN-7 (FCT 6)
PEARCE-1 (FCT 6)
TWIN-1 (FCT 6)
TWIN-2 (FCT 6)
TWIN-3 (FCT 6)
TWIN-4 (FCT 6)
PRES-1 (FCT 29a)
ANK66
AUSTB-1 (FCT 7)
BULL-6 (FCT 7)

ANK67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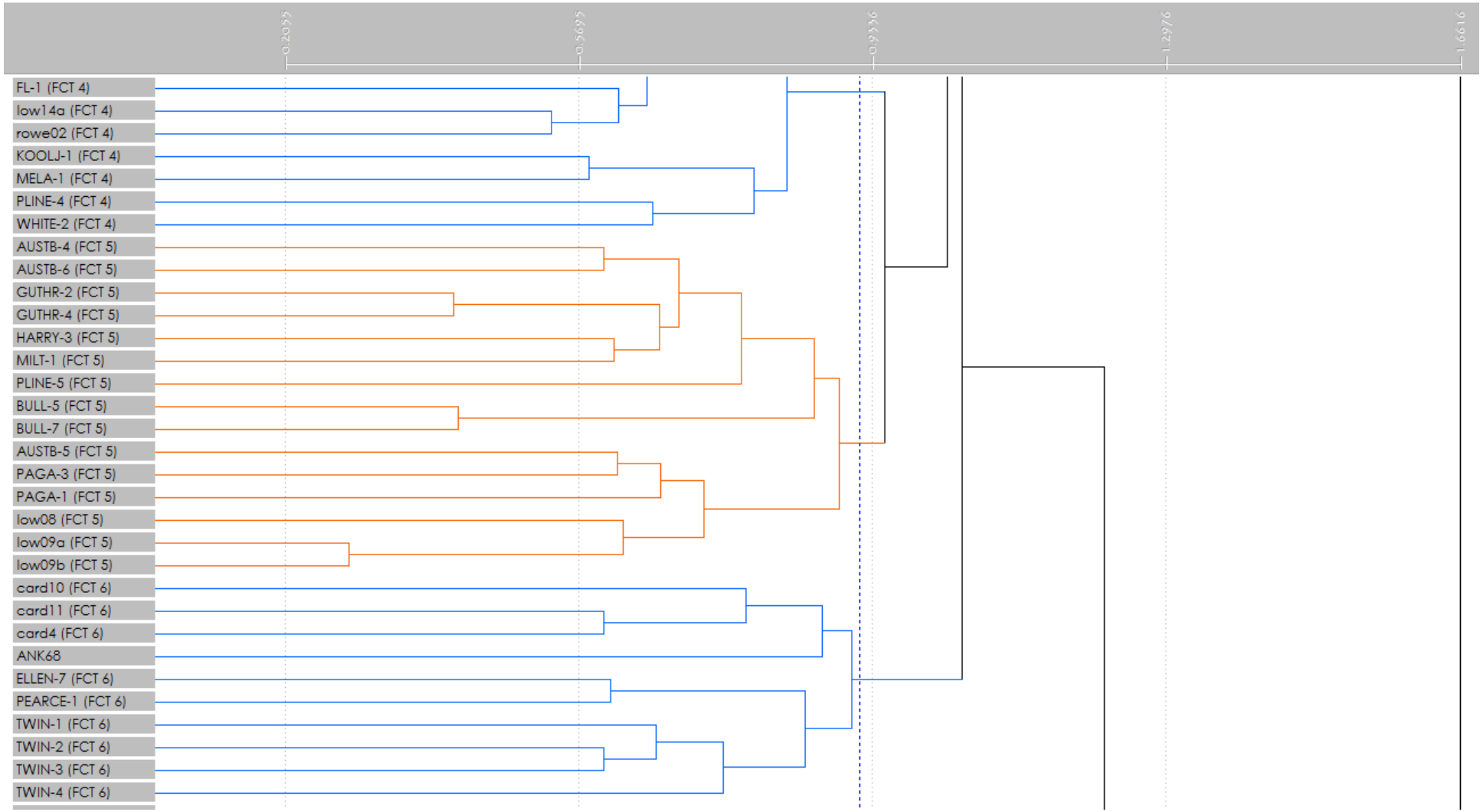
0.9403
1.3078
1.6752
BANK-2 (FCT 23a)
hurst03 (FCT 23a)
MODO-4 (FCT 23a)
low13b (FCT 23a)
BULL-3 (FCT 23a)
WHITE-1 (FCT 23a)
YULE-1 (FCT 23a)
YULE-2 (FCT 23a)
WARB-1 (FCT 23a)
WIRR-1 (FCT 23a)
WIRR-2 (FCT 23a)
WARB-3 (FCT 23a)
hurst01 (FCT 23a)
hurst02 (FCT 23a)
hurst04 (FCT 23a)
BANK-3 (FCT 23a)
MODO-5 (FCT 23a)
HARRY-4 (FCT 23a)
WAND-1 (FCT 23a)
DEJONG-c (FCT 21c)
FL-5 (FCT 21c)
FL-6 (FCT 21c)
THOM-2 (FCT 24)
hymus03 (FCT 21c)
ANK67
hymus04 (FCT 21c)
TWIN-7 (FCT 21c)
TWIN-8 (FCT 21c)
YULE-3 (FCT 21c)
ELDO-1 (FCT 23b)
MILT-7 (FCT 23b)
RAAF-1 (FCT 23b)
MELA-3 (FCT 23b)

ANK68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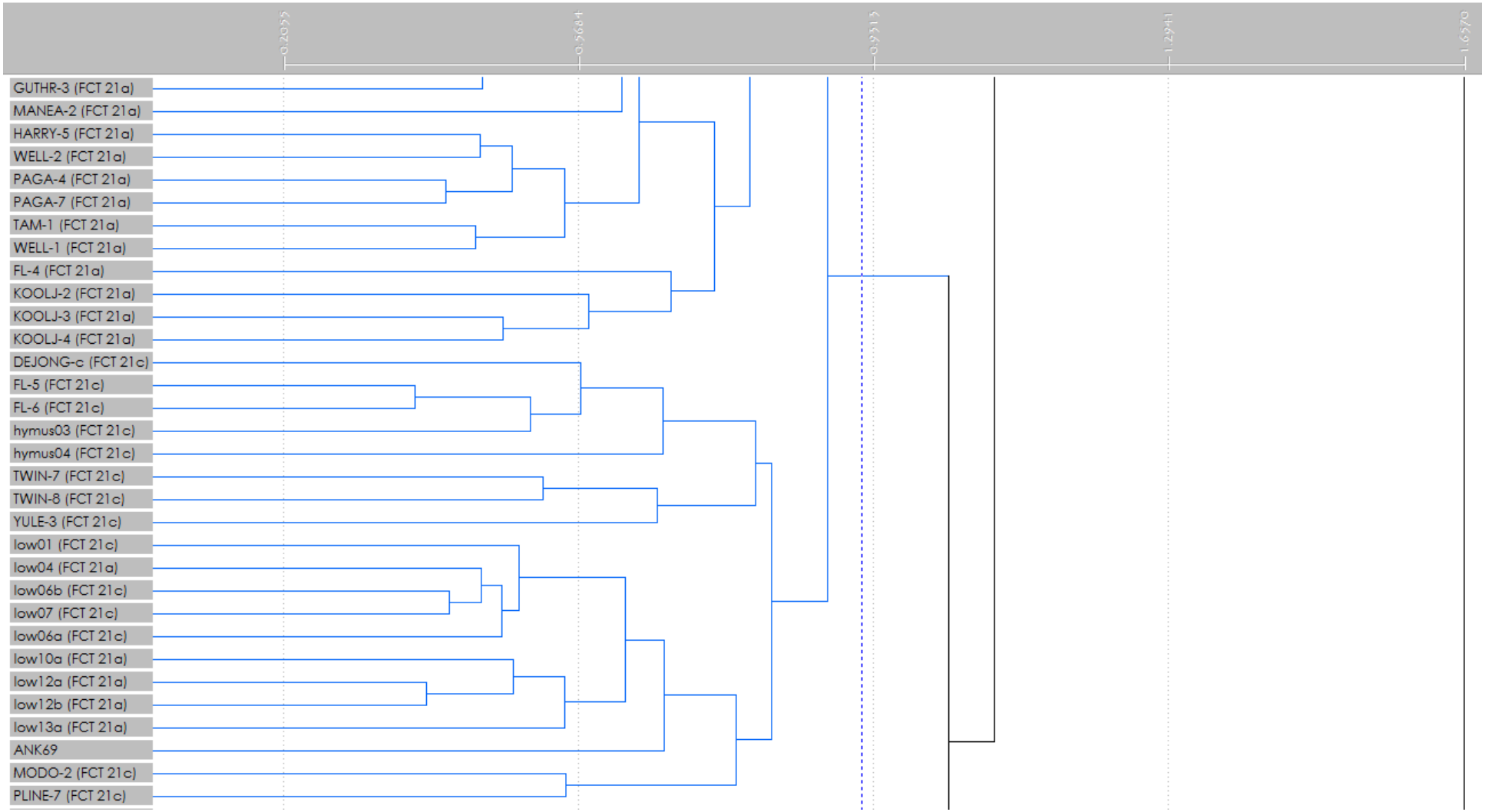
low14a (FCT 4)
rowe02 (FCT 4)
KOOLJ-1 (FCT 4)
MELA-1 (FCT 4)
PLINE-4 (FCT 4)
WHITE-2 (FCT 4)
AUSTB-4 (FCT 5)
AUSTB-6 (FCT 5)
GUTHR-2 (FCT 5)
GUTHR-4 (FCT 5)
HARRY-3 (FCT 5)
MILT-1 (FCT 5)
PLINE-5 (FCT 5)
BULL-5 (FCT 5)
BULL-7 (FCT 5)
AUSTB-5 (FCT 5)
PAGA-3 (FCT 5)
PAGA-1 (FCT 5)
low08 (FCT 5)
low09a (FCT 5)
low09b (FCT 5)
card10 (FCT 6)
card11 (FCT 6)
card4 (FCT 6)
ANK68
ELLEN-7 (FCT 6)
PEARCE-1 (FCT 6)
TWIN-1 (FCT 6)
TWIN-2 (FCT 6)
TWIN-3 (FCT 6)
TWIN-4 (FCT 6)

ANK69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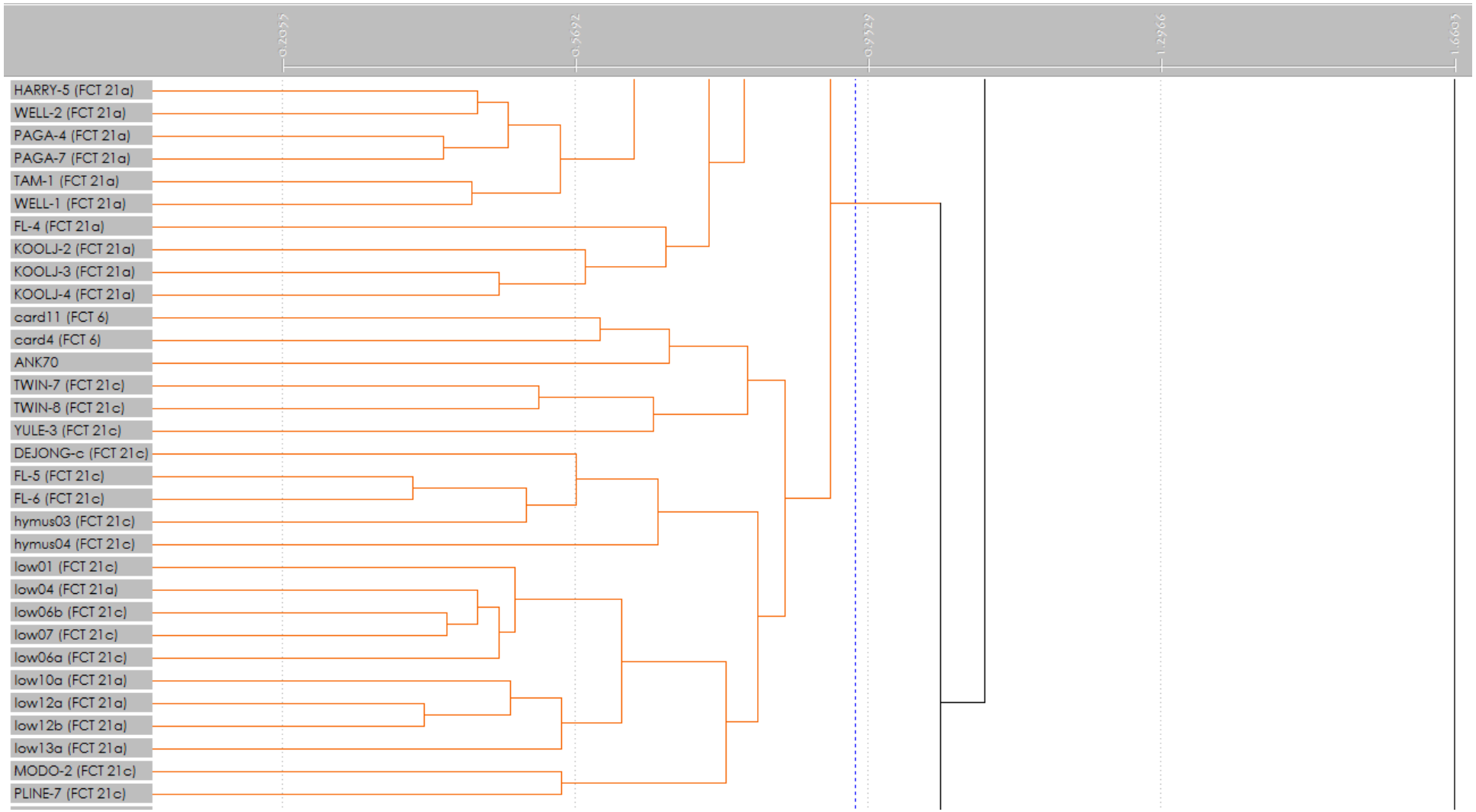
MANEA-2 (FCT 21a)
HARRY-5 (FCT 21a)
WELL-2 (FCT 21a)
PAGA-4 (FCT 21a)
PAGA-7 (FCT 21a)
TAM-1 (FCT 21a)
WELL-1 (FCT 21a)
FL-4 (FCT 21a)
KOOLJ-2 (FCT 21a)
KOOLJ-3 (FCT 21a)
KOOLJ-4 (FCT 21a)
DEJONG-c (FCT 21c)
FL-5 (FCT 21c)
FL-6 (FCT 21c)
hymus03 (FCT 21c)
hymus04 (FCT 21c)
TWIN-7 (FCT 21c)
TWIN-8 (FCT 21c)
YULE-3 (FCT 21c)
low01 (FCT 21c)
low04 (FCT 21a)
low06b (FCT 21c)
low07 (FCT 21c)
low06a (FCT 21c)
low10a (FCT 21a)
low12a (FCT 21a)
low12b (FCT 21a)
low13a (FCT 21a)
ANK69
MODO-2 (FCT 21c)
PLINE-7 (FCT 21c)

ANK70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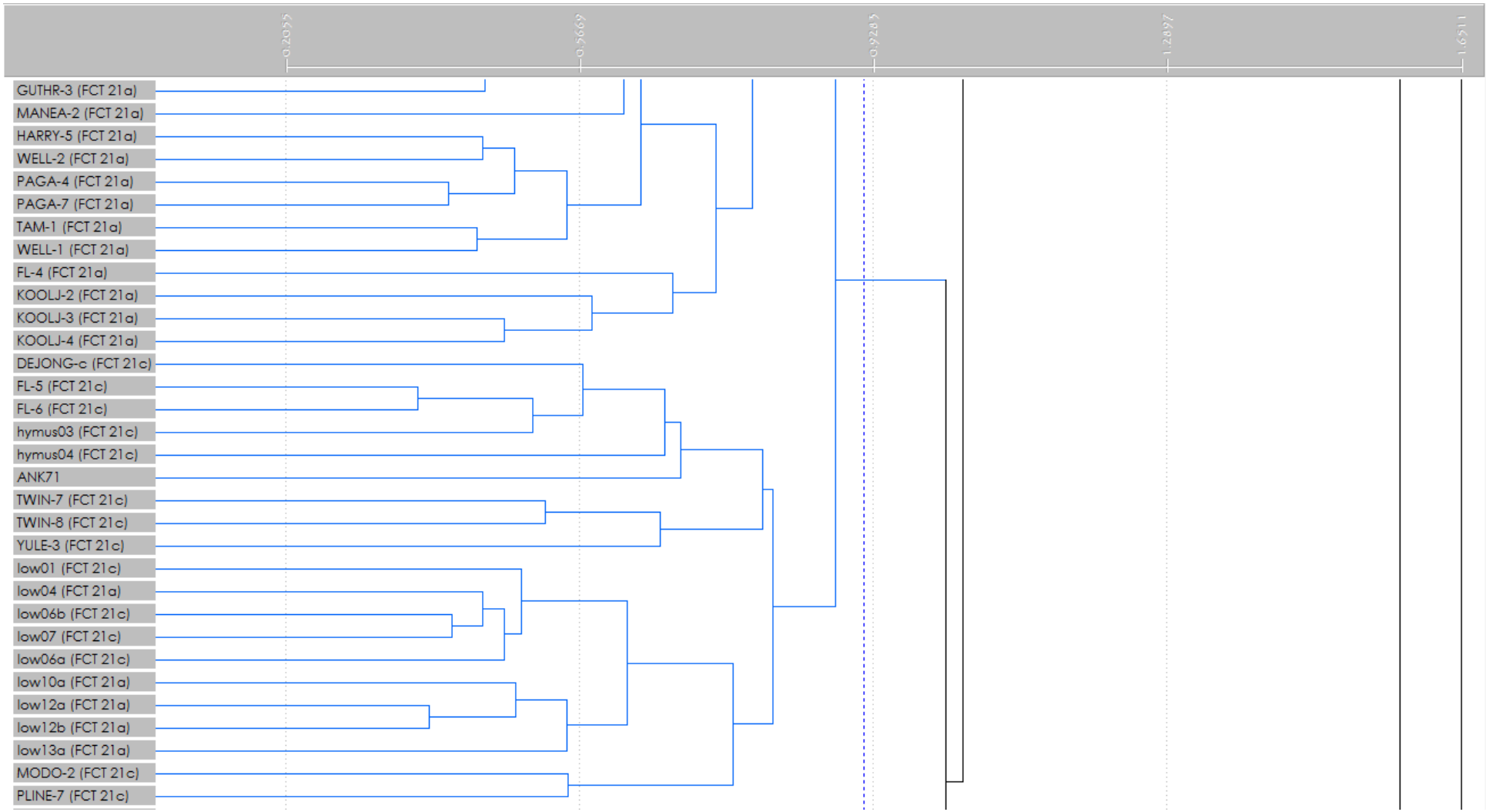
1.6603
HARRY-5 (FCT 21a)
WELL-2 (FCT 21a)
PAGA-4 (FCT 21a)
PAGA-7 (FCT 21a)
TAM-1 (FCT 21a)
WELL-1 (FCT 21a)
FL-4 (FCT 21a)
KOOLJ-2 (FCT 21a)
KOOLJ-3 (FCT 21a)
KOOLJ-4 (FCT 21a)
card11 (FCT 6)
card4 (FCT 6)
ANK70
TWIN-7 (FCT 21c)
TWIN-8 (FCT 21c)
YULE-3 (FCT 21c)
DEJONG-c (FCT 21c)
FL-5 (FCT 21c)
FL-6 (FCT 21c)
hymus03 (FCT 21c)
hymus04 (FCT 21c)
low01 (FCT 21c)
low04 (FCT 21a)
low06b (FCT 21c)
low07 (FCT 21c)
low06a (FCT 21c)
low10a (FCT 21a)
low12a (FCT 21a)
low12b (FCT 21a)
low13a (FCT 21a)
MODO-2 (FCT 21c)
PLINE-7 (FCT 21c)

ANK71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1.6511
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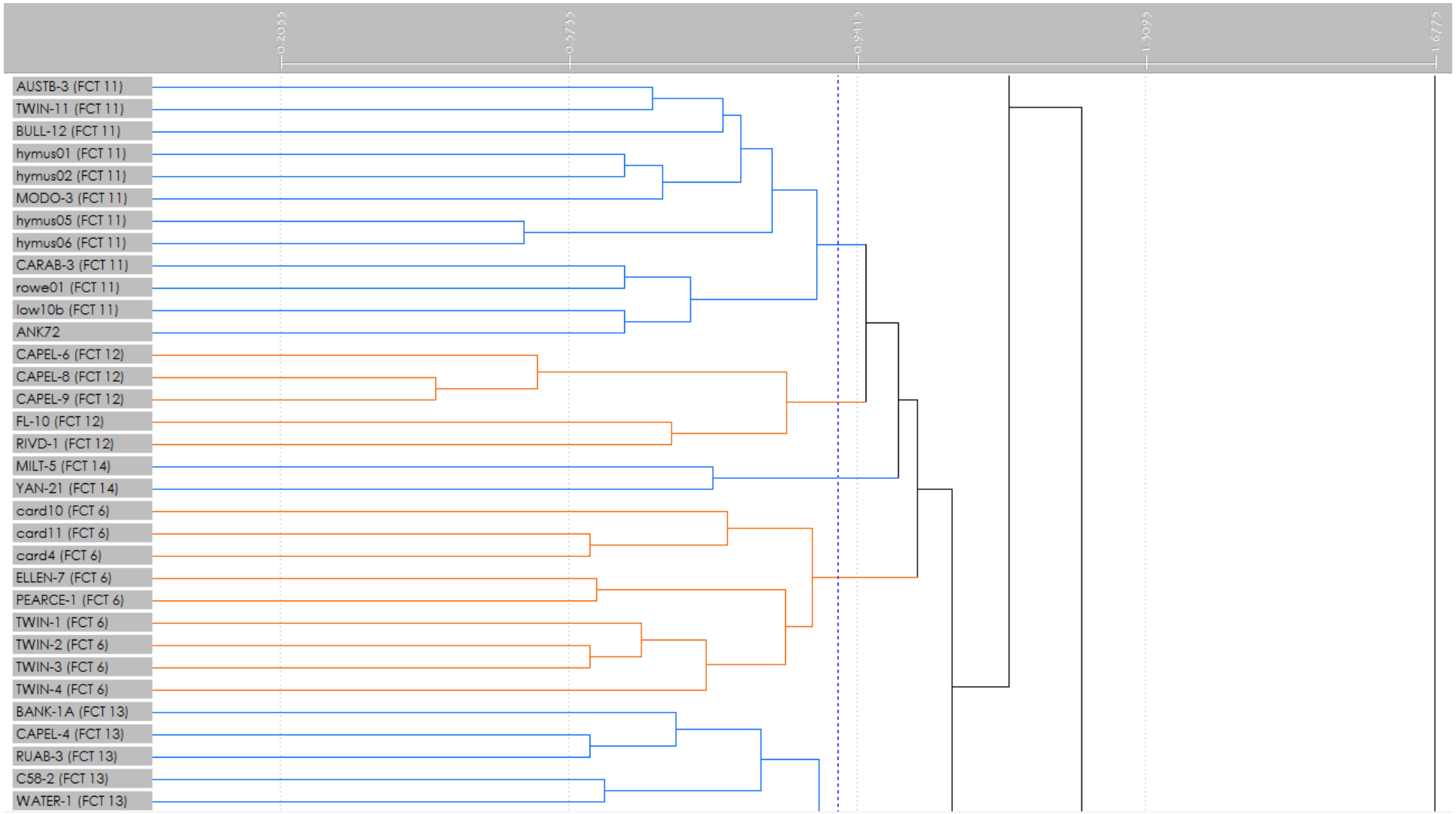
MANEA-2 (FCT 21a)
HARRY-5 (FCT 21a)
WELL-2 (FCT 21a)
PAGA-4 (FCT 21a)
PAGA-7 (FCT 21a)
TAM-1 (FCT 21a)
WELL-1 (FCT 21a)
FL-4 (FCT 21a)
KOOLJ-2 (FCT 21a)
KOOLJ-3 (FCT 21a)
KOOLJ-4 (FCT 21a)
DEJONG-c (FCT 21c)
FL-5 (FCT 21c)
FL-6 (FCT 21c)
hymus03 (FCT 21c)
hymus04 (FCT 21c)
ANK71
TWIN-7 (FCT 21c)
TWIN-8 (FCT 21c)
YULE-3 (FCT 21c)
low01 (FCT 21c)
low04 (FCT 21a)
low06b (FCT 21c)
low07 (FCT 21c)
low06a (FCT 21c)
low10a (FCT 21a)
low12a (FCT 21a)
low12b (FCT 21a)
low13a (FCT 21a)
MODO-2 (FCT 21c)
PLINE-7 (FCT 21c)

ANK72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0.9415
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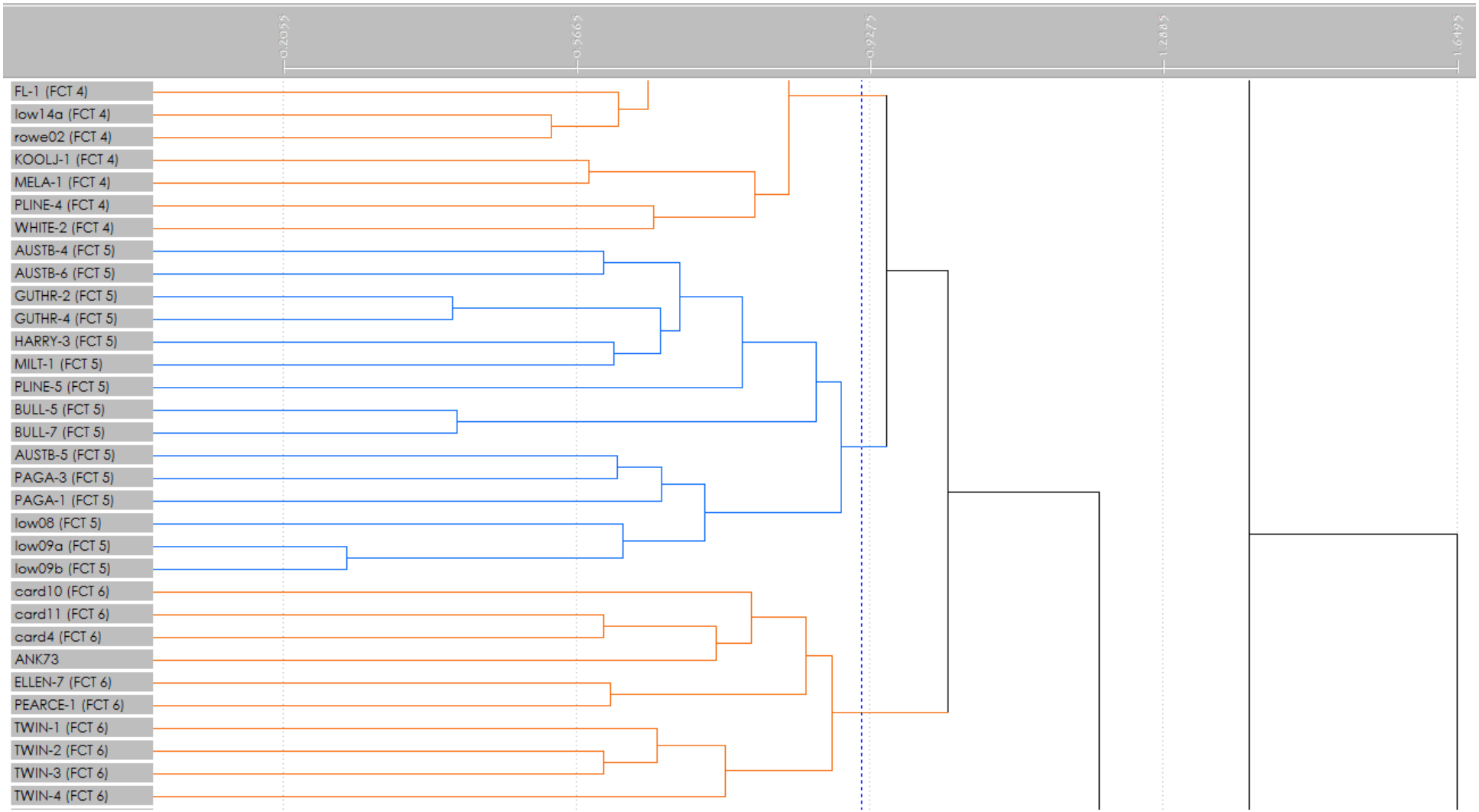
1.6775
AUSTB-3 (FCT 11)
TWIN-11 (FCT 11)
BULL-12 (FCT 11)
hymus01 (FCT 11)
hymus02 (FCT 11)
MODO-3 (FCT 11)
hymus05 (FCT 11)
hymus06 (FCT 11)
CARAB-3 (FCT 11)
rowe01 (FCT 11)
low10b (FCT 11)
ANK72
CAPEL-6 (FCT 12)
CAPEL-8 (FCT 12)
CAPEL-9 (FCT 12)
FL-10 (FCT 12)
RIVD-1 (FCT 12)
MILT-5 (FCT 14)
YAN-21 (FCT 14)
card10 (FCT 6)
card11 (FCT 6)
card4 (FCT 6)
ELLEN-7 (FCT 6)
PEARCE-1 (FCT 6)
TWIN-1 (FCT 6)
TWIN-2 (FCT 6)
TWIN-3 (FCT 6)
TWIN-4 (FCT 6)
BANK-1A (FCT 13)
CAPEL-4 (FCT 13)
RUAB-3 (FCT 13)
C58-2 (FCT 13)
WATER-1 (FCT 13)

ANK73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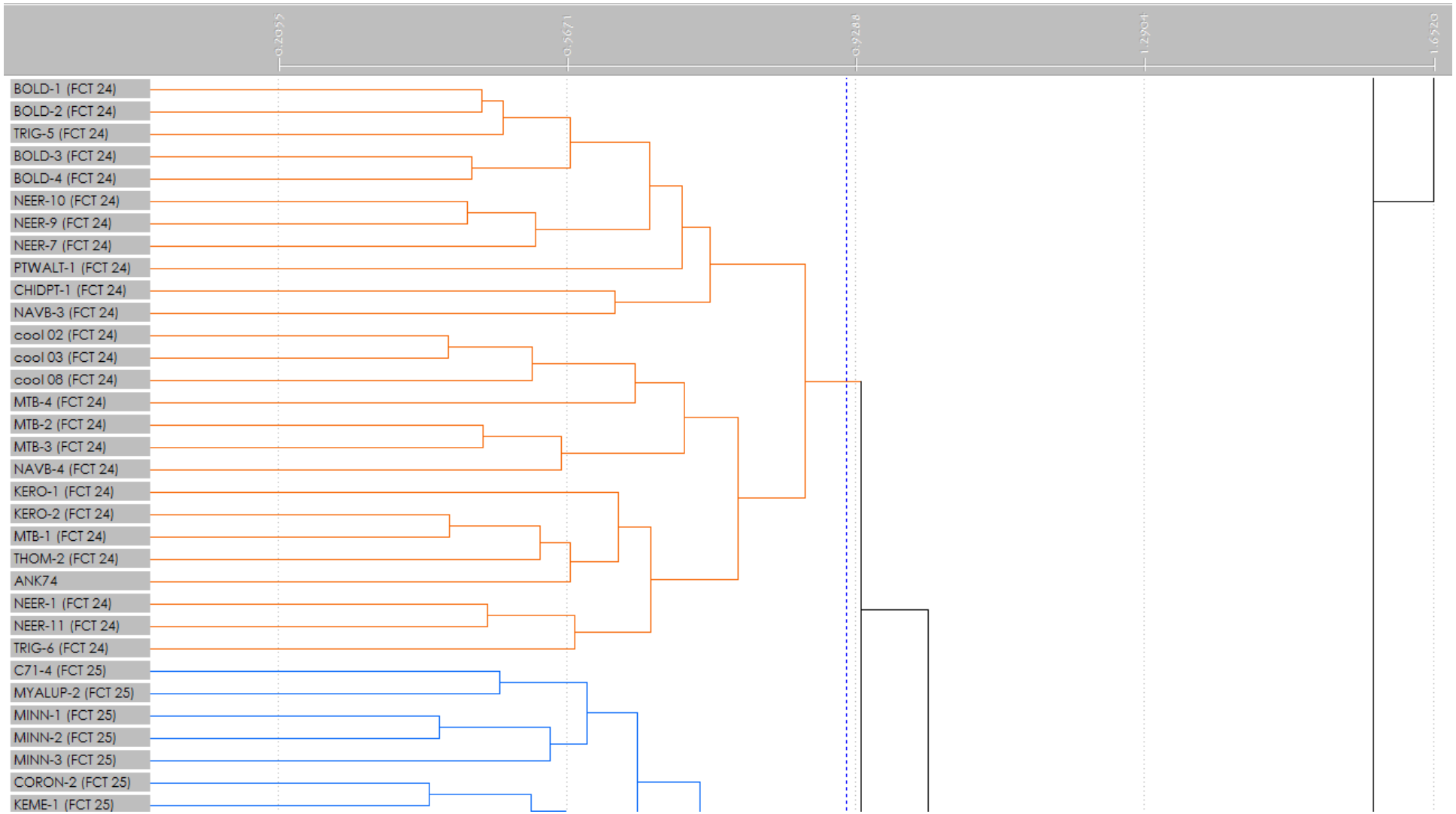
1.2885
1.6495
FL-1 (FCT 4)
low14a (FCT 4)
rowe02 (FCT 4)
KOOLJ-1 (FCT 4)
MELA-1 (FCT 4)
PLINE-4 (FCT 4)
WHITE-2 (FCT 4)
AUSTB-4 (FCT 5)
AUSTB-6 (FCT 5)
GUTHR-2 (FCT 5)
GUTHR-4 (FCT 5)
HARRY-3 (FCT 5)
MILT-1 (FCT 5)
PLINE-5 (FCT 5)
BULL-5 (FCT 5)
BULL-7 (FCT 5)
AUSTB-5 (FCT 5)
PAGA-3 (FCT 5)
PAGA-1 (FCT 5)
low08 (FCT 5)
low09a (FCT 5)
low09b (FCT 5)
card10 (FCT 6)
card11 (FCT 6)
card4 (FCT 6)
ANK73
ELLEN-7 (FCT 6)
PEARCE-1 (FCT 6)
TWIN-1 (FCT 6)
TWIN-2 (FCT 6)
TWIN-3 (FCT 6)
TWIN-4 (FCT 6)

ANK74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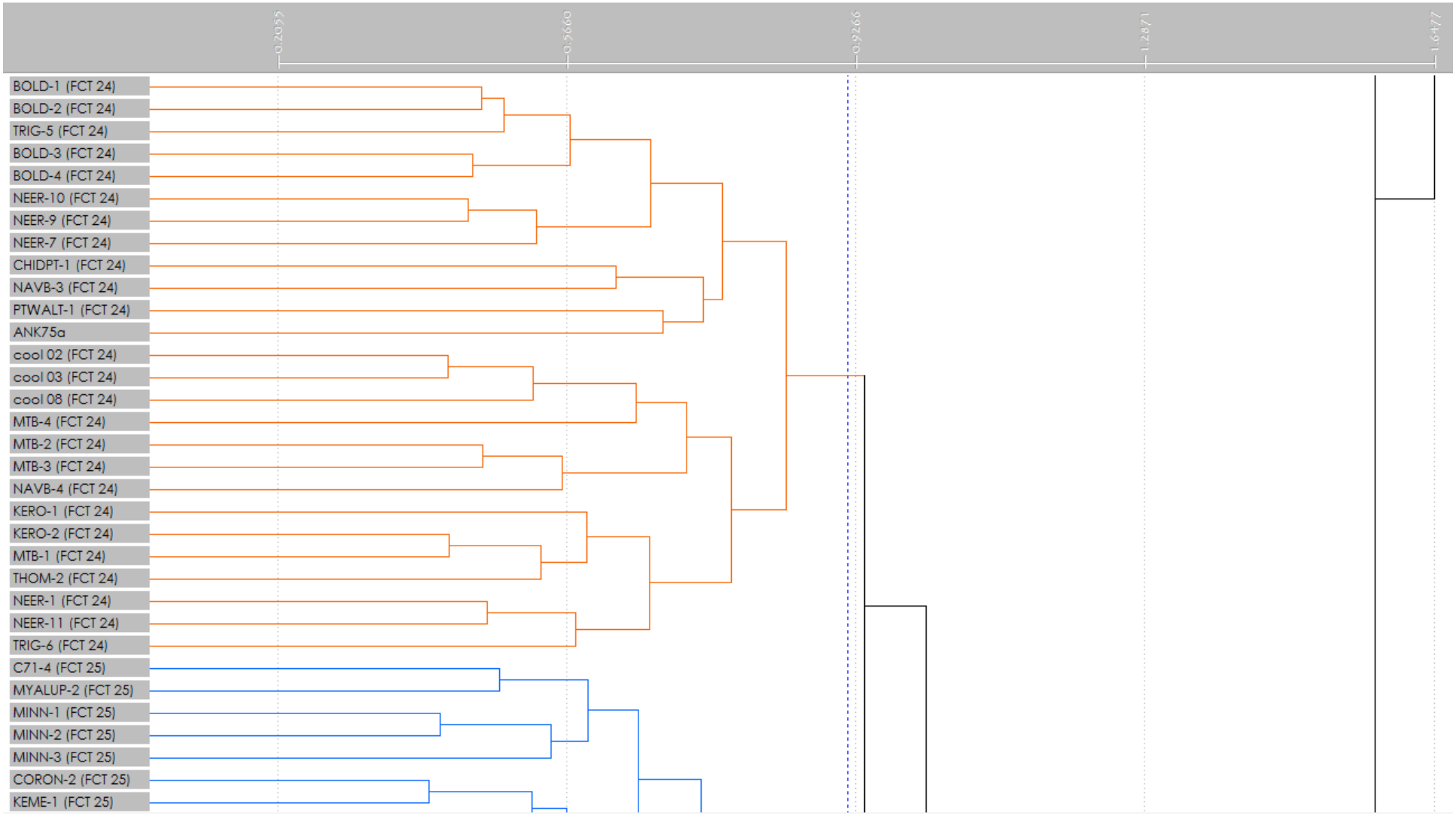
BOLD-1 (FCT 24)
BOLD-2 (FCT 24)
TRIG-5 (FCT 24)
BOLD-3 (FCT 24)
BOLD-4 (FCT 24)
NEER-10 (FCT 24)
NEER-9 (FCT 24)
NEER-7 (FCT 24)
PTWALT-1 (FCT 24)
CHIDPT-1 (FCT 24)
NAVB-3 (FCT 24)
cool 02 (FCT 24)
cool 03 (FCT 24)
cool 08 (FCT 24)
MTB-4 (FCT 24)
MTB-2 (FCT 24)
MTB-3 (FCT 24)
NAVB-4 (FCT 24)
KERO-1 (FCT 24)
KERO-2 (FCT 24)
MTB-1 (FCT 24)
THOM-2 (FCT 24)
ANK74
NEER-1 (FCT 24)
NEER-11 (FCT 24)
TRIG-6 (FCT 24)
C71-4 (FCT 25)
MYALUP-2 (FCT 25)
MINN-1 (FCT 25)
MINN-2 (FCT 25)
MINN-3 (FCT 25)
CORON-2 (FCT 25)
KEME-1 (FCT 25)

ANK75a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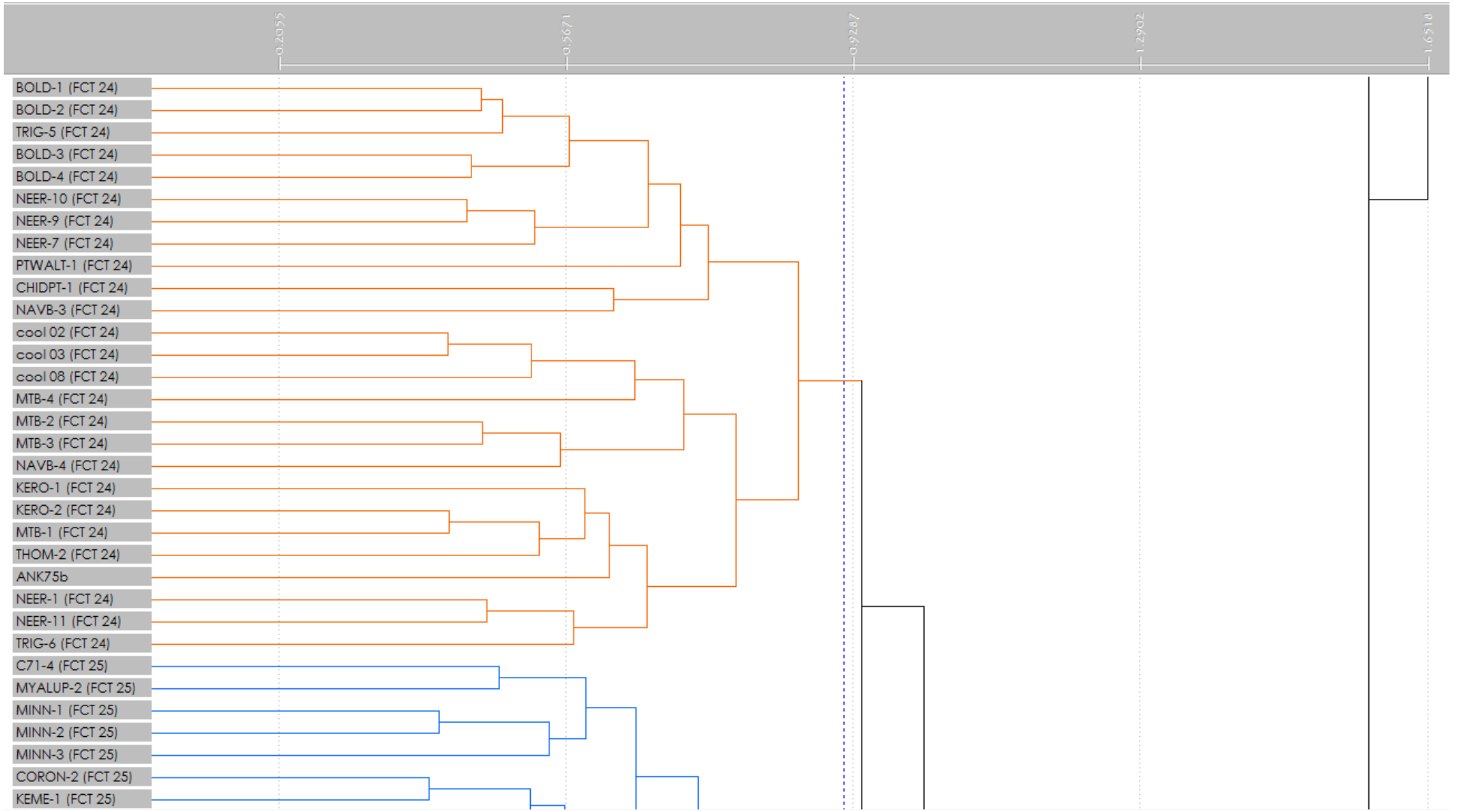
TRIG-5 (FCT 24)
BOLD-3 (FCT 24)
BOLD-4 (FCT 24)
NEER-10 (FCT 24)
NEER-9 (FCT 24)
NEER-7 (FCT 24)
CHIDPT-1 (FCT 24)
NAVB-3 (FCT 24)
PTWALT-1 (FCT 24)
ANK75a
cool 02 (FCT 24)
cool 03 (FCT 24)
cool 08 (FCT 24)
MTB-4 (FCT 24)
MTB-2 (FCT 24)
MTB-3 (FCT 24)
NAVB-4 (FCT 24)
KERO-1 (FCT 24)
KERO-2 (FCT 24)
MTB-1 (FCT 24)
THOM-2 (FCT 24)
NEER-1 (FCT 24)
NEER-11 (FCT 24)
TRIG-6 (FCT 24)
C71-4 (FCT 25)
MYALUP-2 (FCT 25)
MINN-1 (FCT 25)
MINN-2 (FCT 25)
MINN-3 (FCT 25)
CORON-2 (FCT 25)
KEME-1 (FCT 25)

ANK75b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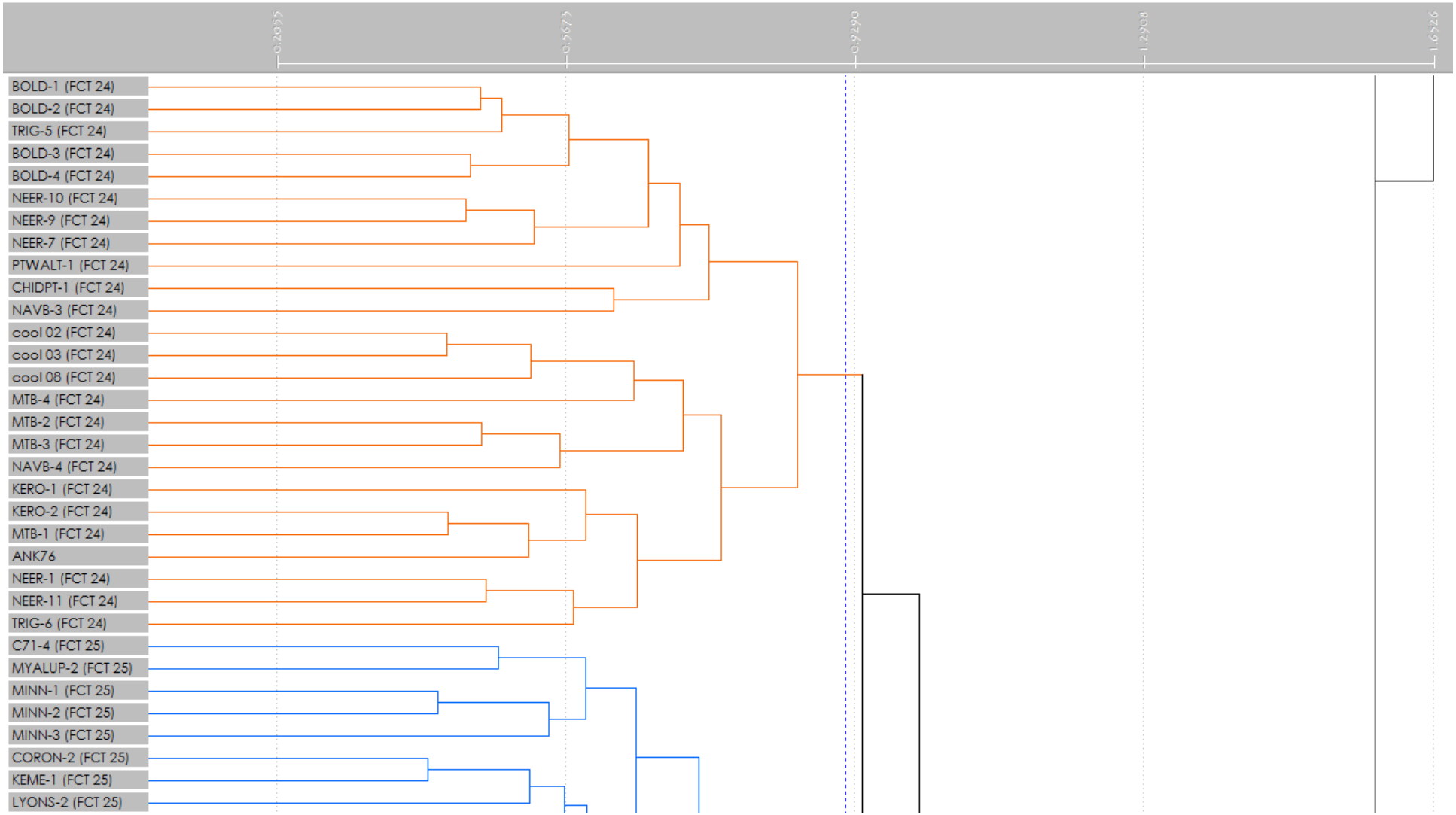
BOLD-2 (FCT 24)
TRIG-5 (FCT 24)
BOLD-3 (FCT 24)
BOLD-4 (FCT 24)
NEER-10 (FCT 24)
NEER-9 (FCT 24)
NEER-7 (FCT 24)
PTWALT-1 (FCT 24)
CHIDPT-1 (FCT 24)
NAVB-3 (FCT 24)
cool 02 (FCT 24)
cool 03 (FCT 24)
cool 08 (FCT 24)
MTB-4 (FCT 24)
MTB-2 (FCT 24)
MTB-3 (FCT 24)
NAVB-4 (FCT 24)
KERO-1 (FCT 24)
KERO-2 (FCT 24)
MTB-1 (FCT 24)
THOM-2 (FCT 24)
ANK75b
NEER-1 (FCT 24)
NEER-11 (FCT 24)
TRIG-6 (FCT 24)
C71-4 (FCT 25)
MYALUP-2 (FCT 25)
MINN-1 (FCT 25)
MINN-2 (FCT 25)
MINN-3 (FCT 25)
CORON-2 (FCT 25)
KEME-1 (FCT 25)

ANK76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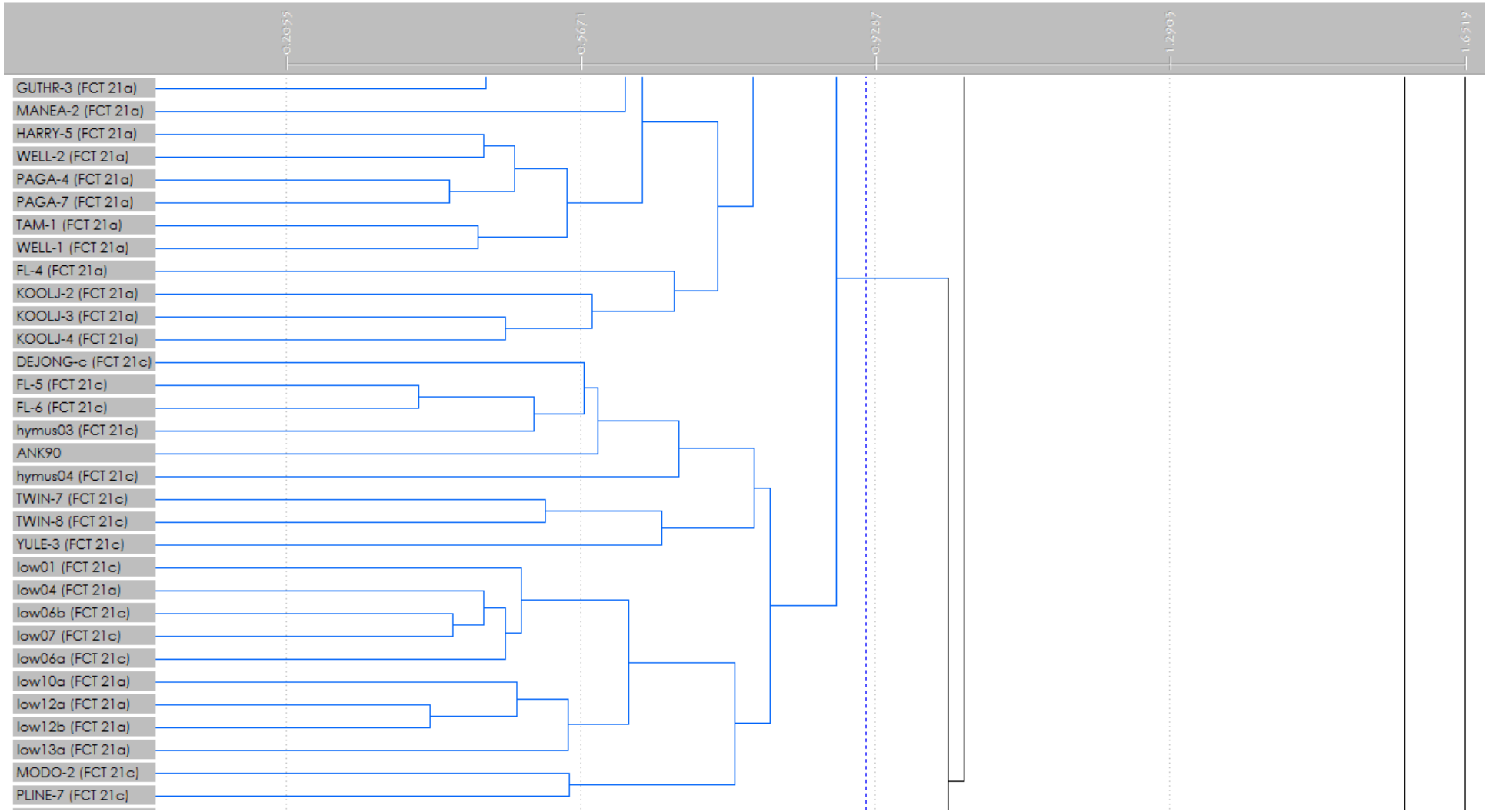
TRIG-5 (FCT 24)
BOLD-3 (FCT 24)
BOLD-4 (FCT 24)
NEER-10 (FCT 24)
NEER-9 (FCT 24)
NEER-7 (FCT 24)
PTWALT-1 (FCT 24)
CHIDPT-1 (FCT 24)
NAVB-3 (FCT 24)
cool 02 (FCT 24)
cool 03 (FCT 24)
cool 08 (FCT 24)
MTB-4 (FCT 24)
MTB-2 (FCT 24)
MTB-3 (FCT 24)
NAVB-4 (FCT 24)
KERO-1 (FCT 24)
KERO-2 (FCT 24)
MTB-1 (FCT 24)
ANK76
NEER-1 (FCT 24)
NEER-11 (FCT 24)
TRIG-6 (FCT 24)
C71-4 (FCT 25)
MYALUP-2 (FCT 25)
MINN-1 (FCT 25)
MINN-2 (FCT 25)
MINN-3 (FCT 25)
CORON-2 (FCT 25)
KEME-1 (FCT 25)
LYONS-2 (FCT 25)

ANK90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1.6519
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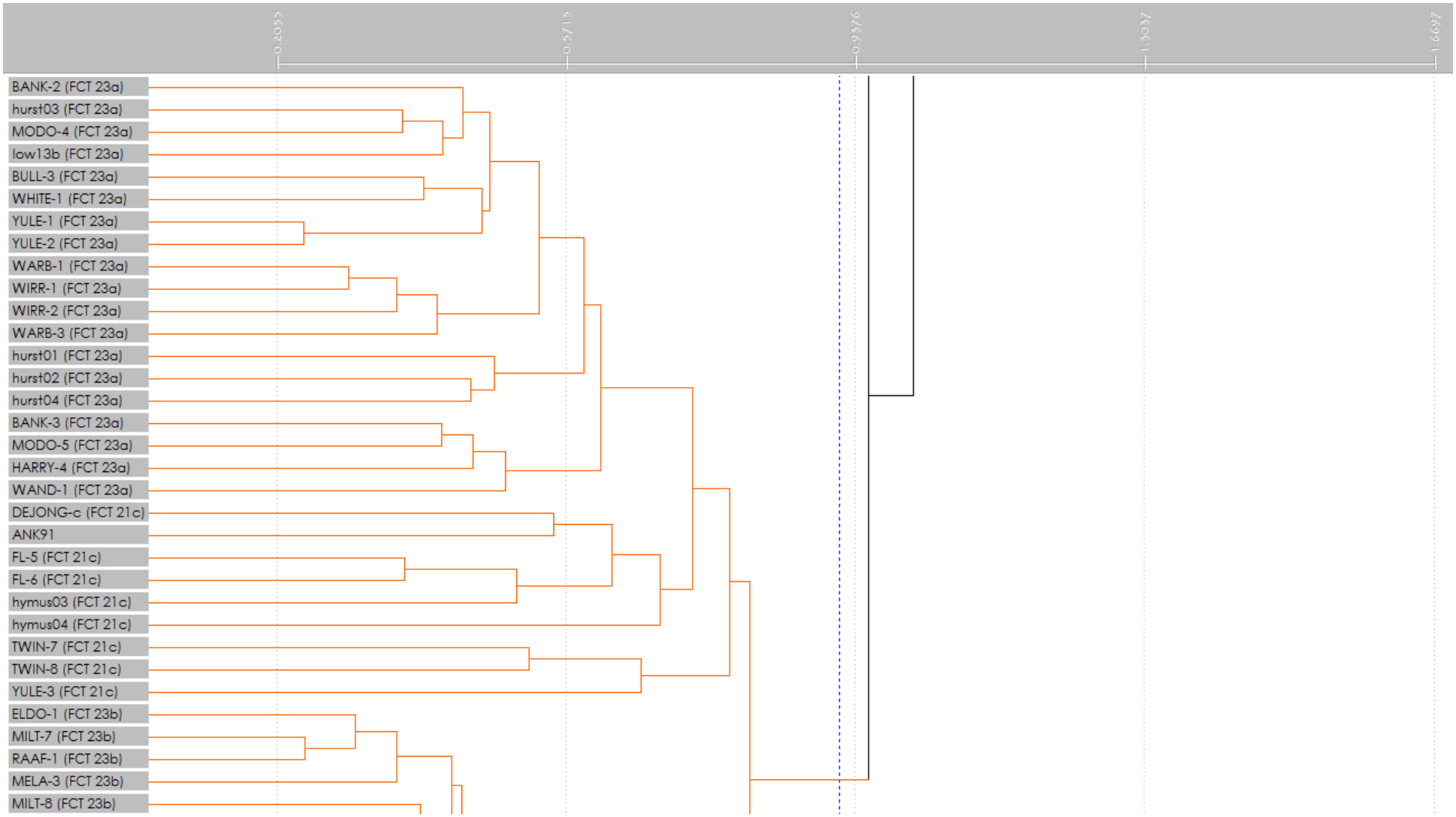
MANEA-2 (FCT 21a)
HARRY-5 (FCT 21a)
WELL-2 (FCT 21a)
PAGA-4 (FCT 21a)
PAGA-7 (FCT 21a)
TAM-1 (FCT 21a)
WELL-1 (FCT 21a)
FL-4 (FCT 21a)
KOOLJ-2 (FCT 21a)
KOOLJ-3 (FCT 21a)
KOOLJ-4 (FCT 21a)
DEJONG-c (FCT 21c)
FL-5 (FCT 21c)
FL-6 (FCT 21c)
hymus03 (FCT 21c)
ANK90
hymus04 (FCT 21c)
TWIN-7 (FCT 21c)
TWIN-8 (FCT 21c)
YULE-3 (FCT 21c)
low01 (FCT 21c)
low04 (FCT 21a)
low06b (FCT 21c)
low07 (FCT 21c)
low06a (FCT 21c)
low10a (FCT 21a)
low12a (FCT 21a)
low12b (FCT 21a)
low13a (FCT 21a)
MODO-2 (FCT 21c)
PLINE-7 (FCT 21c)

ANK91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1.6697
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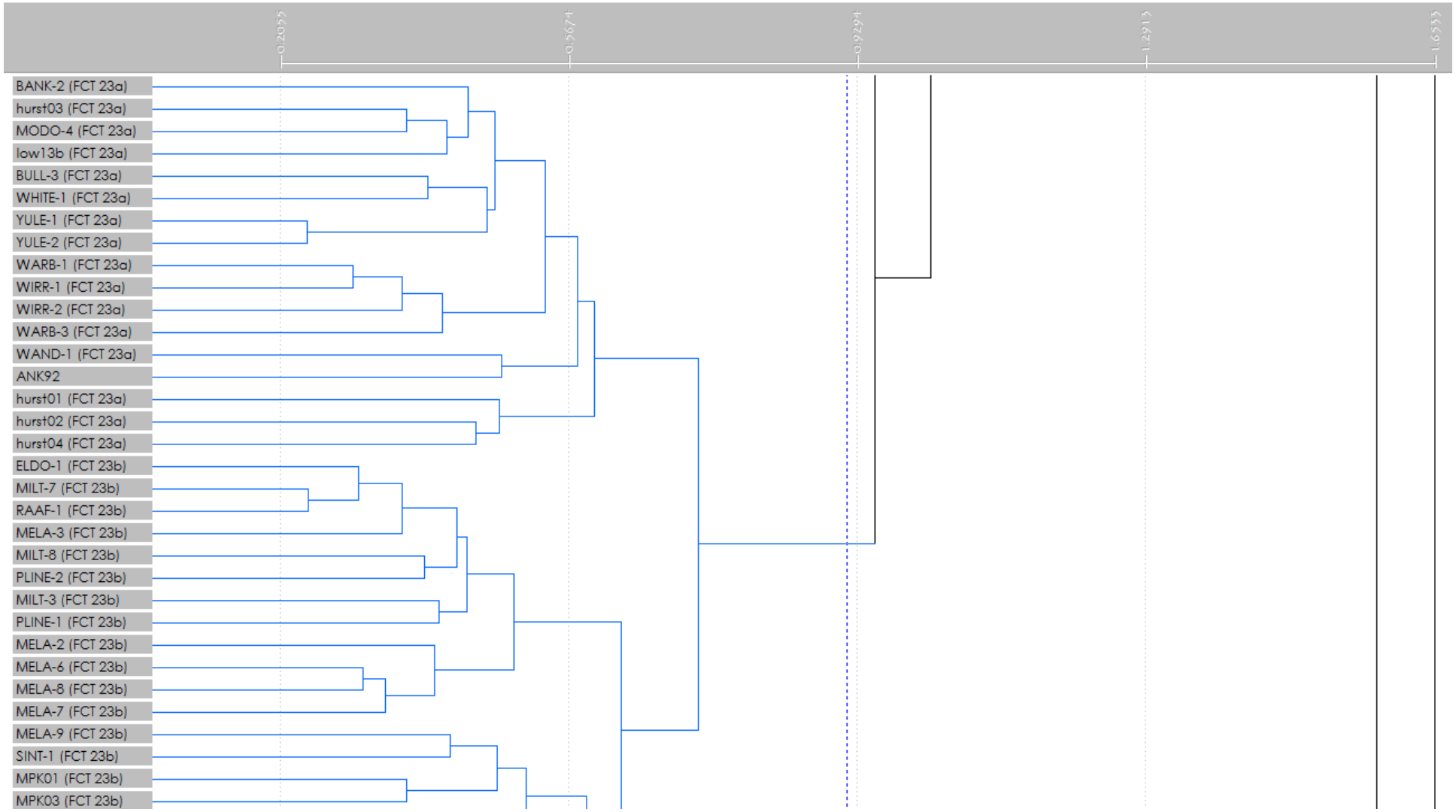
hurst03 (FCT 23a)
MODO-4 (FCT 23a)
low13b (FCT 23a)
BULL-3 (FCT 23a)
WHITE-1 (FCT 23a)
YULE-1 (FCT 23a)
YULE-2 (FCT 23a)
WARB-1 (FCT 23a)
WIRR-1 (FCT 23a)
WIRR-2 (FCT 23a)
WARB-3 (FCT 23a)
hurst01 (FCT 23a)
hurst02 (FCT 23a)
hurst04 (FCT 23a)
BANK-3 (FCT 23a)
MODO-5 (FCT 23a)
HARRY-4 (FCT 23a)
WAND-1 (FCT 23a)
DEJONG-c (FCT 21c)
ANK91
FL-5 (FCT 21c)
FL-6 (FCT 21c)
hymus03 (FCT 21c)
hymus04 (FCT 21c)
TWIN-7 (FCT 21c)
TWIN-8 (FCT 21c)
YULE-3 (FCT 21c)
ELDO-1 (FCT 23b)
MILT-7 (FCT 23b)
RAAF-1 (FCT 23b)
MELA-3 (FCT 23b)
MILT-8 (FCT 23b)

ANK92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hurst03 (FCT 23a)
MODO-4 (FCT 23a)
low13b (FCT 23a)
BULL-3 (FCT 23a)
WHITE-1 (FCT 23a)
YULE-1 (FCT 23a)
YULE-2 (FCT 23a)
WARB-1 (FCT 23a)
WIRR-1 (FCT 23a)
WIRR-2 (FCT 23a)
WARB-3 (FCT 23a)
WAND-1 (FCT 23a)
ANK92
hurst01 (FCT 23a)
hurst02 (FCT 23a)
hurst04 (FCT 23a)
ELDO-1 (FCT 23b)
MILT-7 (FCT 23b)
RAAF-1 (FCT 23b)
MELA-3 (FCT 23b)
MILT-8 (FCT 23b)
PLINE-2 (FCT 23b)
MILT-3 (FCT 23b)
PLINE-1 (FCT 23b)
MELA-2 (FCT 23b)
MELA-6 (FCT 23b)
MELA-8 (FCT 23b)
MELA-7 (FCT 23b)
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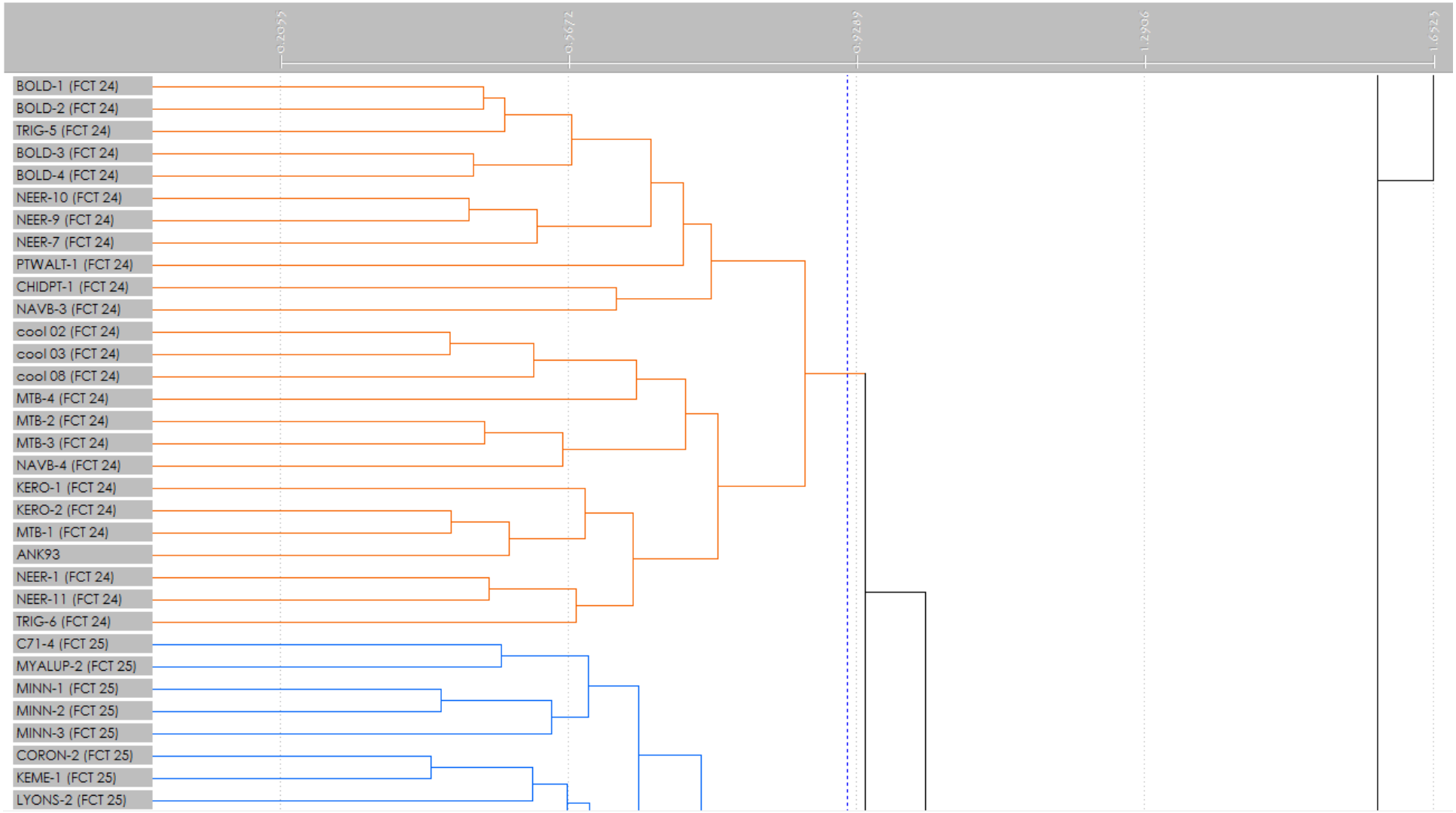
SINT-1 (FCT 23b)
MPK01 (FCT 23b)
MPK03 (FCT 23b)

ANK93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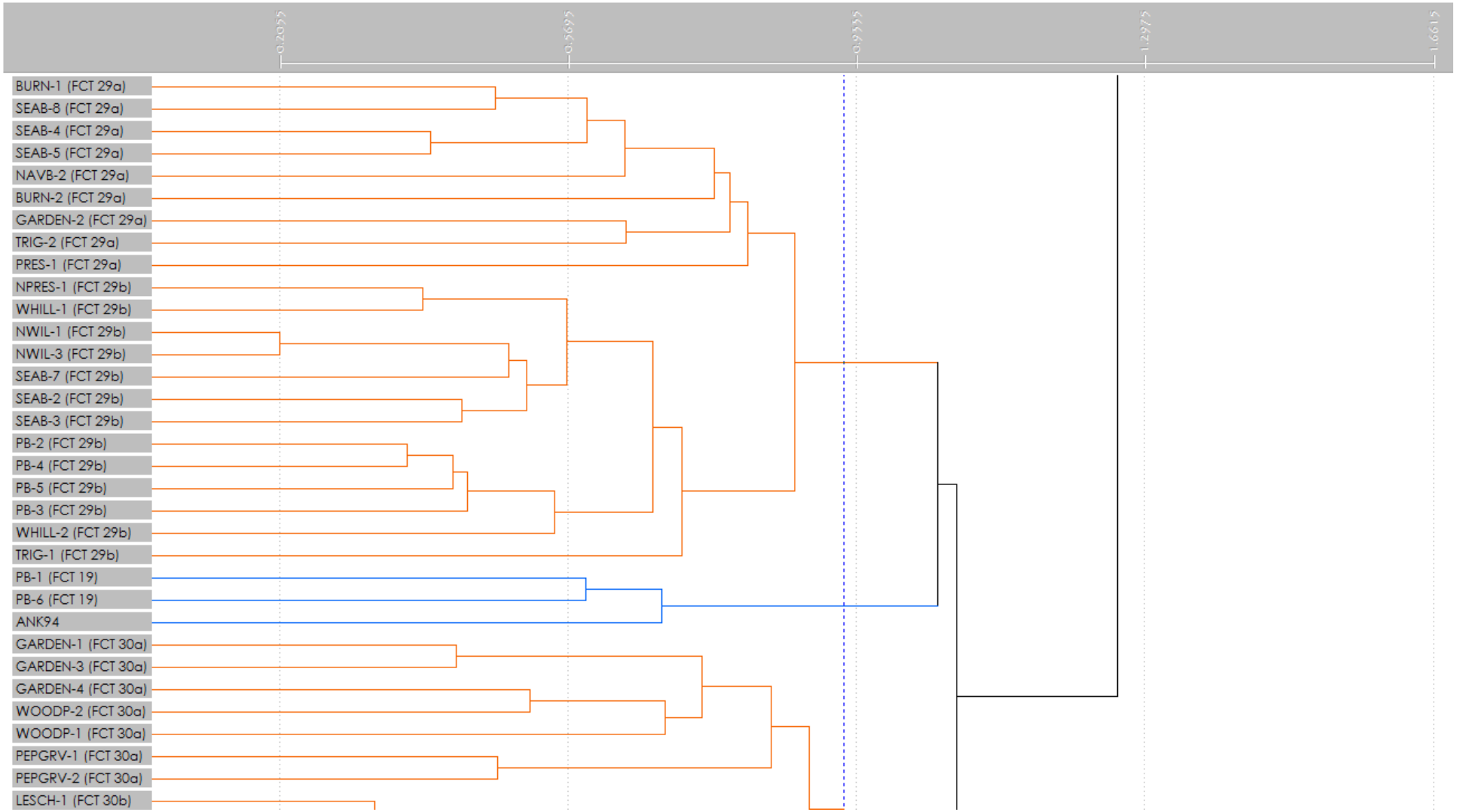
BOLD-2 (FCT 24)
TRIG-5 (FCT 24)
BOLD-3 (FCT 24)
BOLD-4 (FCT 24)
NEER-10 (FCT 24)
NEER-9 (FCT 24)
NEER-7 (FCT 24)
PTWALT-1 (FCT 24)
CHIDPT-1 (FCT 24)
NAVB-3 (FCT 24)
cool 02 (FCT 24)
cool 03 (FCT 24)
cool 08 (FCT 24)
MTB-4 (FCT 24)
MTB-2 (FCT 24)
MTB-3 (FCT 24)
NAVB-4 (FCT 24)
KERO-1 (FCT 24)
KERO-2 (FCT 24)
MTB-1 (FCT 24)
ANK93
NEER-1 (FCT 24)
NEER-11 (FCT 24)
TRIG-6 (FCT 24)
C71-4 (FCT 25)
MYALUP-2 (FCT 25)
MINN-1 (FCT 25)
MINN-2 (FCT 25)
MINN-3 (FCT 25)
CORON-2 (FCT 25)
KEME-1 (FCT 25)
LYONS-2 (FCT 25)

ANK94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SEAB-8 (FCT 29a)
SEAB-4 (FCT 29a)
SEAB-5 (FCT 29a)
NAVB-2 (FCT 29a)
BURN-2 (FCT 29a)
GARDEN-2 (FCT 29a)
TRIG-2 (FCT 29a)
PRES-1 (FCT 29a)
NPRES-1 (FCT 29b)
WHILL-1 (FCT 29b)
NWIL-1 (FCT 29b)
NWIL-3 (FCT 29b)
SEAB-7 (FCT 29b)
SEAB-2 (FCT 29b)
SEAB-3 (FCT 29b)
PB-2 (FCT 29b)
PB-4 (FCT 29b)
PB-5 (FCT 29b)
PB-3 (FCT 29b)
WHILL-2 (FCT 29b)
TRIG-1 (FCT 29b)
PB-1 (FCT 19)
PB-6 (FCT 19)
ANK94
GARDEN-1 (FCT 30a)
GARDEN-3 (FCT 30a)
GARDEN-4 (FCT 30a)
WOODP-2 (FCT 30a)
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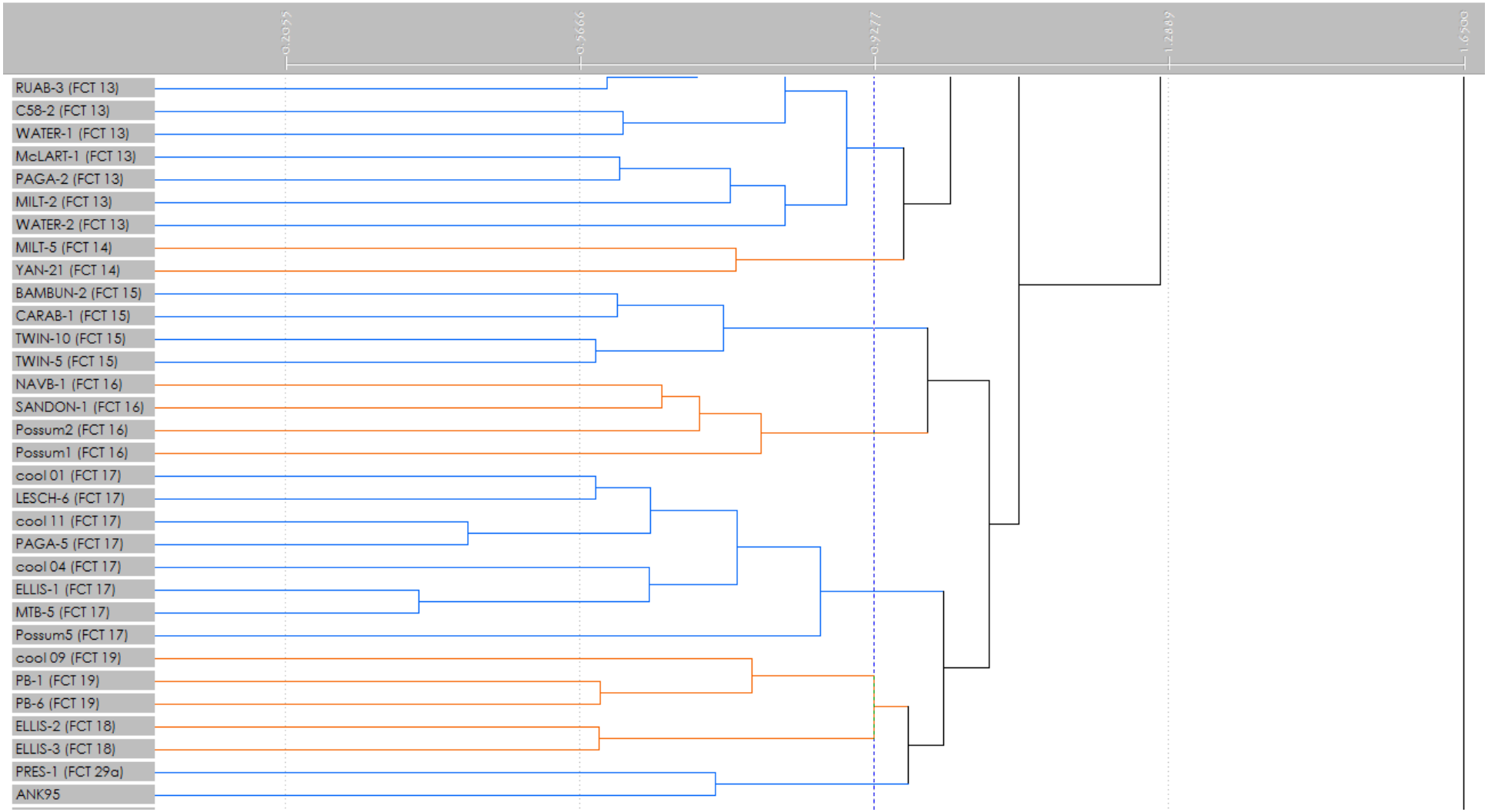
PEPGRV-1 (FCT 30a)
PEPGRV-2 (FCT 30a)
LESCH-1 (FCT 30b)

ANK95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MILT-2 (FCT 13)
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MILT-5 (FCT 14)
YAN-21 (FCT 14)
BAMBUN-2 (FCT 15)
CARAB-1 (FCT 15)
TWIN-10 (FCT 15)
TWIN-5 (FCT 15)
NAVB-1 (FCT 16)
SANDON-1 (FCT 16)
Possum2 (FCT 16)
Possum1 (FCT 16)
cool 01 (FCT 17)
LESCH-6 (FCT 17)
cool 11 (FCT 17)
PAGA-5 (FCT 17)
cool 04 (FCT 17)
ELLIS-1 (FCT 17)
MTB-5 (FCT 17)
Possum5 (FCT 17)
cool 09 (FCT 19)
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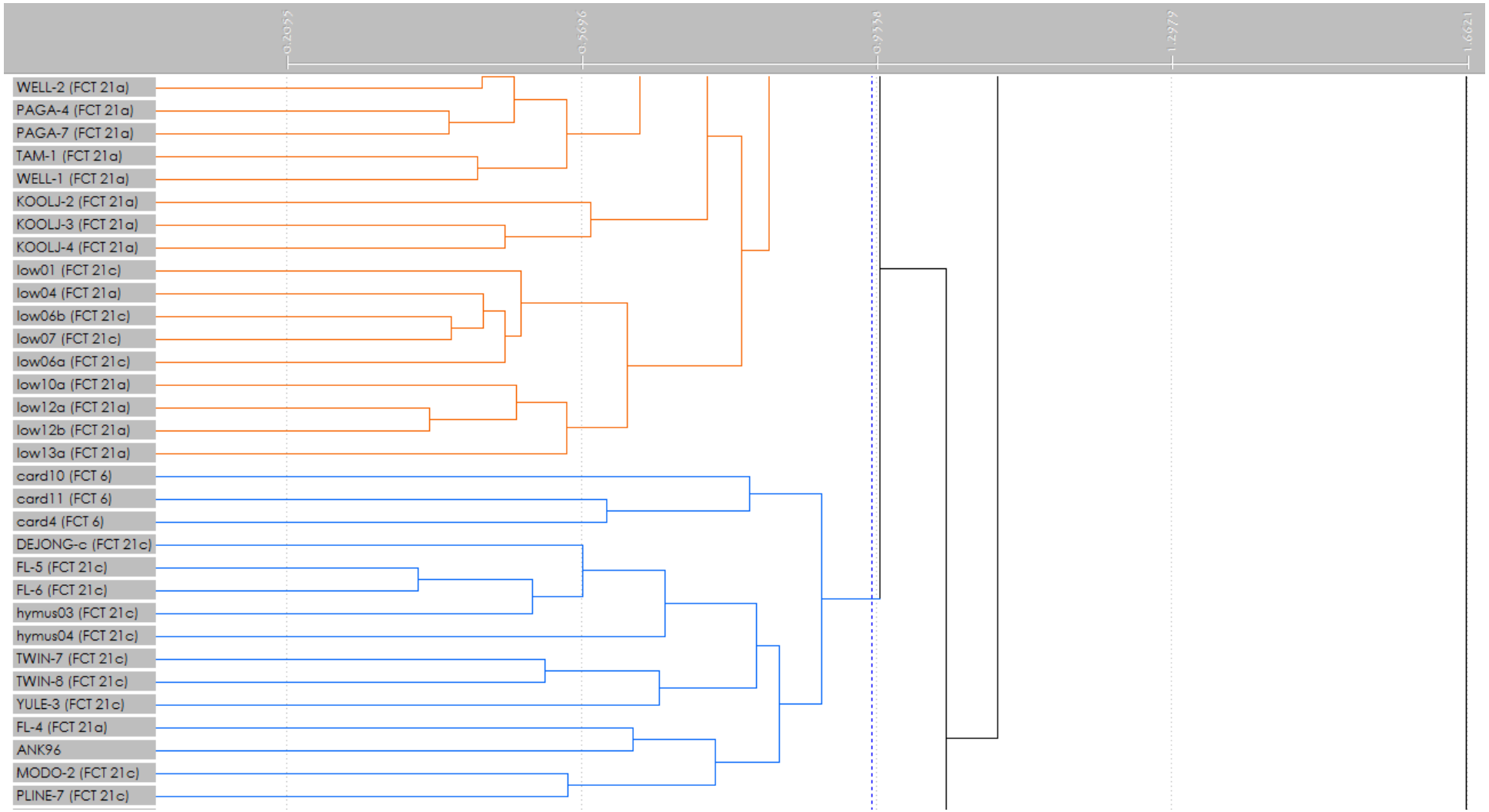
PRES-1 (FCT 29a)
ANK95

ANK96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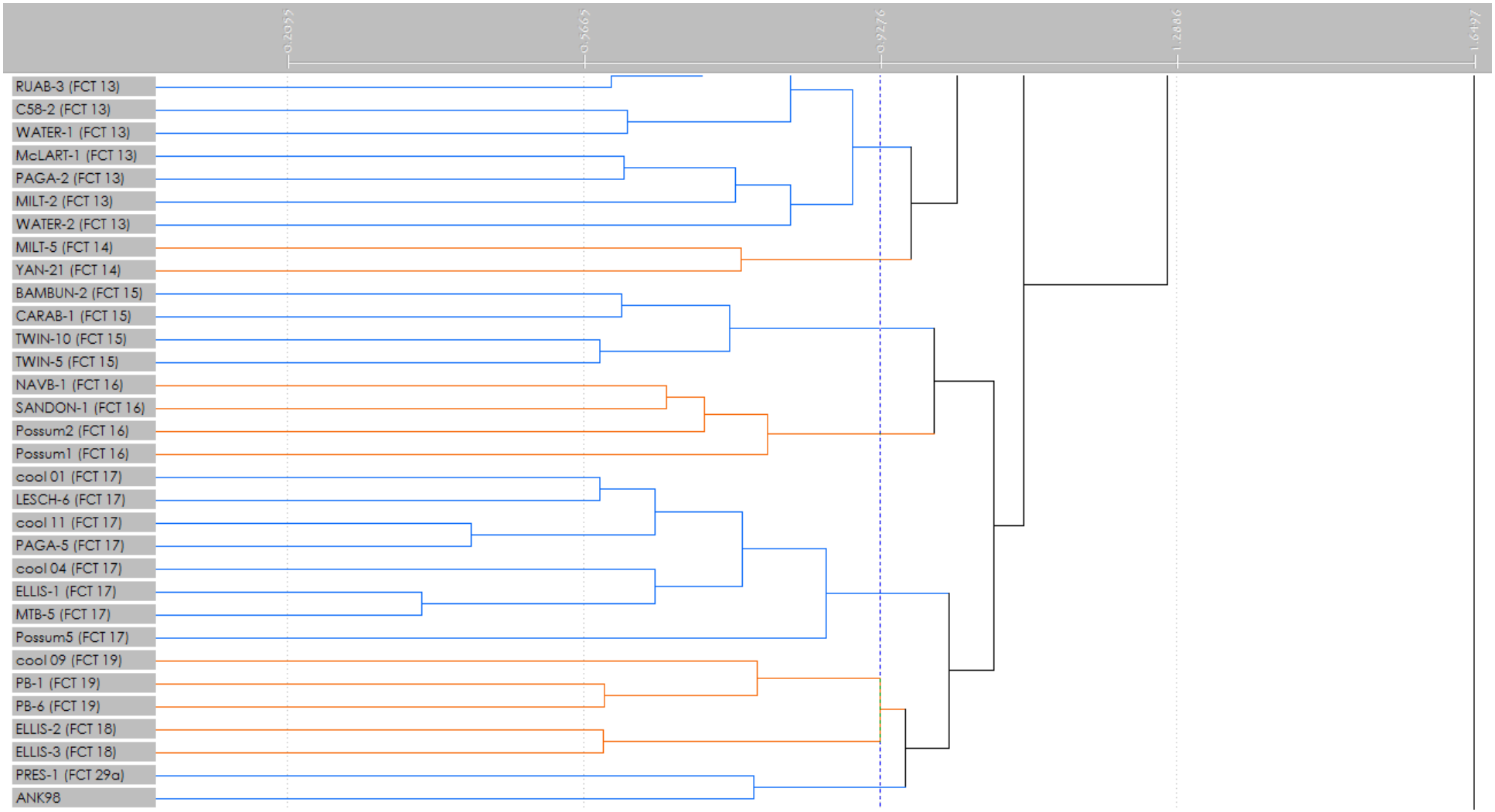
KOOLJ-2 (FCT 21a)
KOOLJ-3 (FCT 21a)
KOOLJ-4 (FCT 21a)
low01 (FCT 21c)
low04 (FCT 21a)
low06b (FCT 21c)
low07 (FCT 21c)
low06a (FCT 21c)
low10a (FCT 21a)
low12a (FCT 21a)
low12b (FCT 21a)
low13a (FCT 21a)
card10 (FCT 6)
card11 (FCT 6)
card4 (FCT 6)
DEJONG-c (FCT 21c)
FL-5 (FCT 21c)
FL-6 (FCT 21c)
hymus03 (FCT 21c)
hymus04 (FCT 21c)
TWIN-7 (FCT 21c)
TWIN-8 (FCT 21c)
YULE-3 (FCT 21c)
FL-4 (FCT 21a)
ANK96
MODO-2 (FCT 21c)
PLINE-7 (FCT 21c)

ANK98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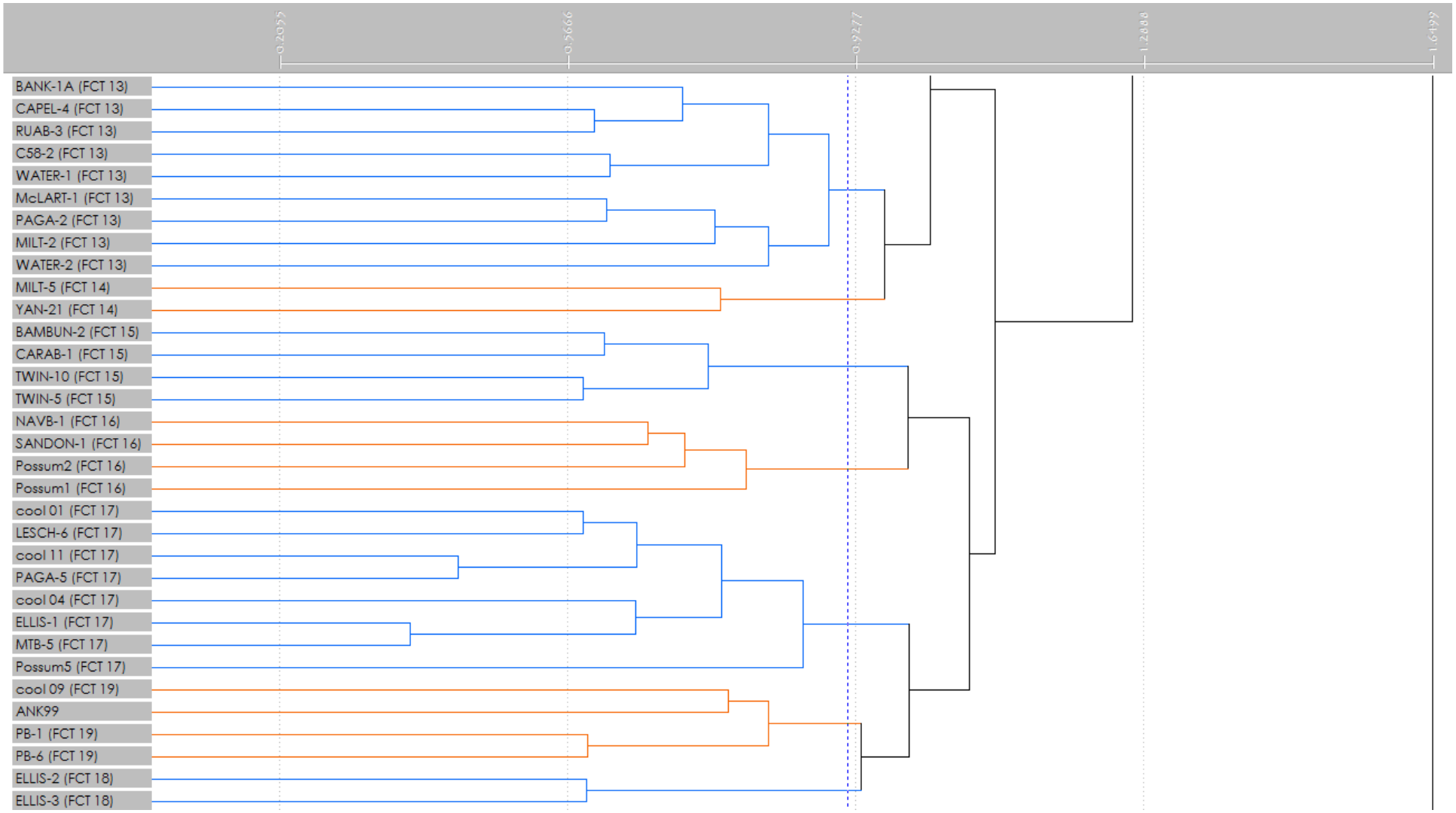
WATER-2 (FCT 13)
MILT-5 (FCT 14)
YAN-21 (FCT 14)
BAMBUN-2 (FCT 15)
CARAB-1 (FCT 15)
TWIN-10 (FCT 15)
TWIN-5 (FCT 15)
NAVB-1 (FCT 16)
SANDON-1 (FCT 16)
Possum2 (FCT 16)
Possum1 (FCT 16)
cool 01 (FCT 17)
LESCH-6 (FCT 17)
cool 11 (FCT 17)
PAGA-5 (FCT 17)
cool 04 (FCT 17)
ELLIS-1 (FCT 17)
MTB-5 (FCT 17)
Possum5 (FCT 17)
cool 09 (FCT 19)
PB-1 (FCT 19)
PB-6 (FCT 19)
ELLIS-2 (FCT 18)
ELLIS-3 (FCT 18)
PRES-1 (FCT 29a)
ANK98

ANK99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WATER-1 (FCT 13)
McLART-1 (FCT 13)
PAGA-2 (FCT 13)
MILT-2 (FCT 13)
WATER-2 (FCT 13)
MILT-5 (FCT 14)
YAN-21 (FCT 14)
BAMBUN-2 (FCT 15)
CARAB-1 (FCT 15)
TWIN-10 (FCT 15)
TWIN-5 (FCT 15)
NAVB-1 (FCT 16)
SANDON-1 (FCT 16)
Possum2 (FCT 16)
Possum1 (FCT 16)
cool 01 (FCT 17)
LESCH-6 (FCT 17)
cool 11 (FCT 17)
PAGA-5 (FCT 17)
cool 04 (FCT 17)
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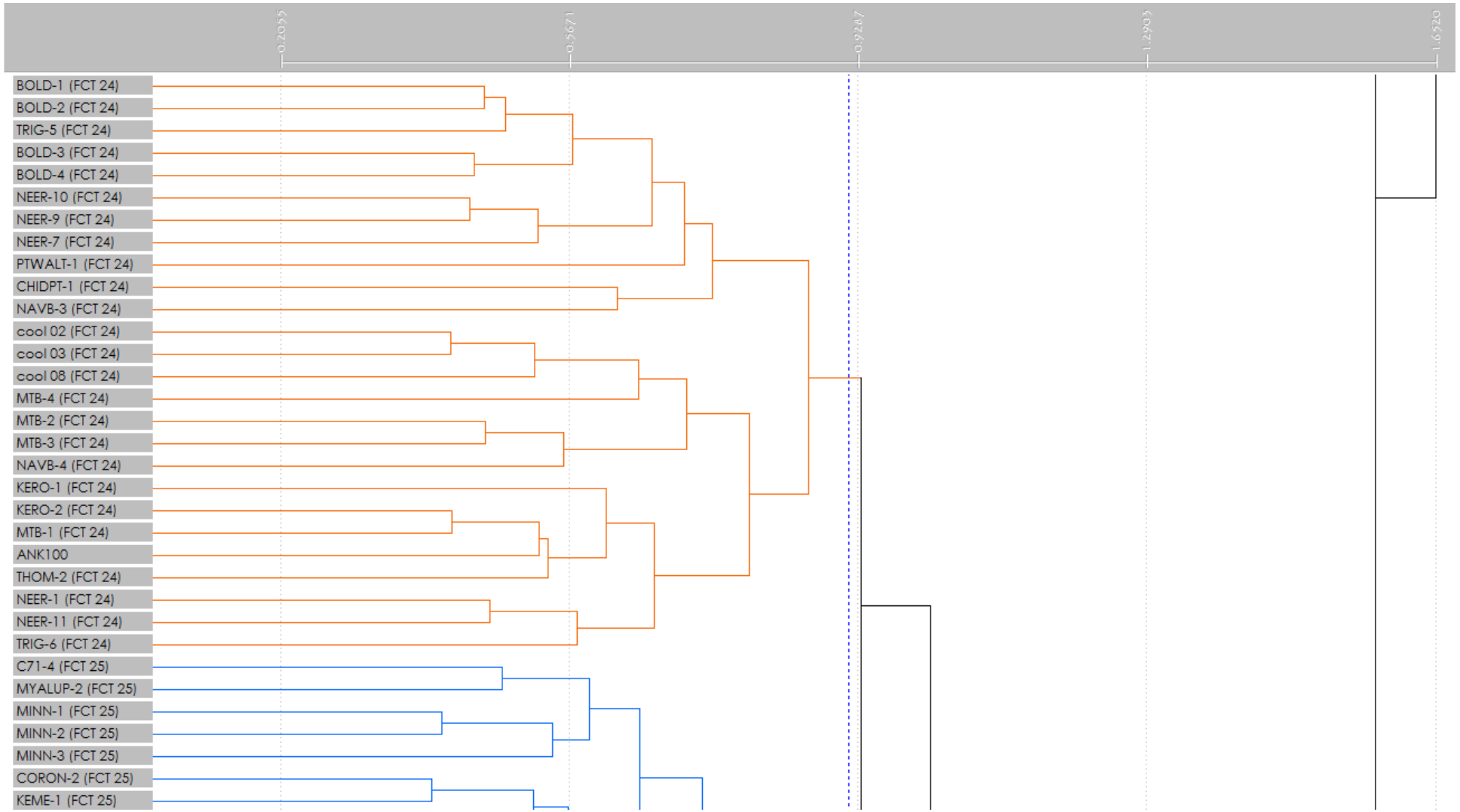
MTB-5 (FCT 17)
Possum5 (FCT 17)
cool 09 (FCT 19)
ANK99
PB-1 (FCT 19)
PB-6 (FCT 19)
ELLIS-2 (FCT 18)
ELLIS-3 (FCT 18)

ANK100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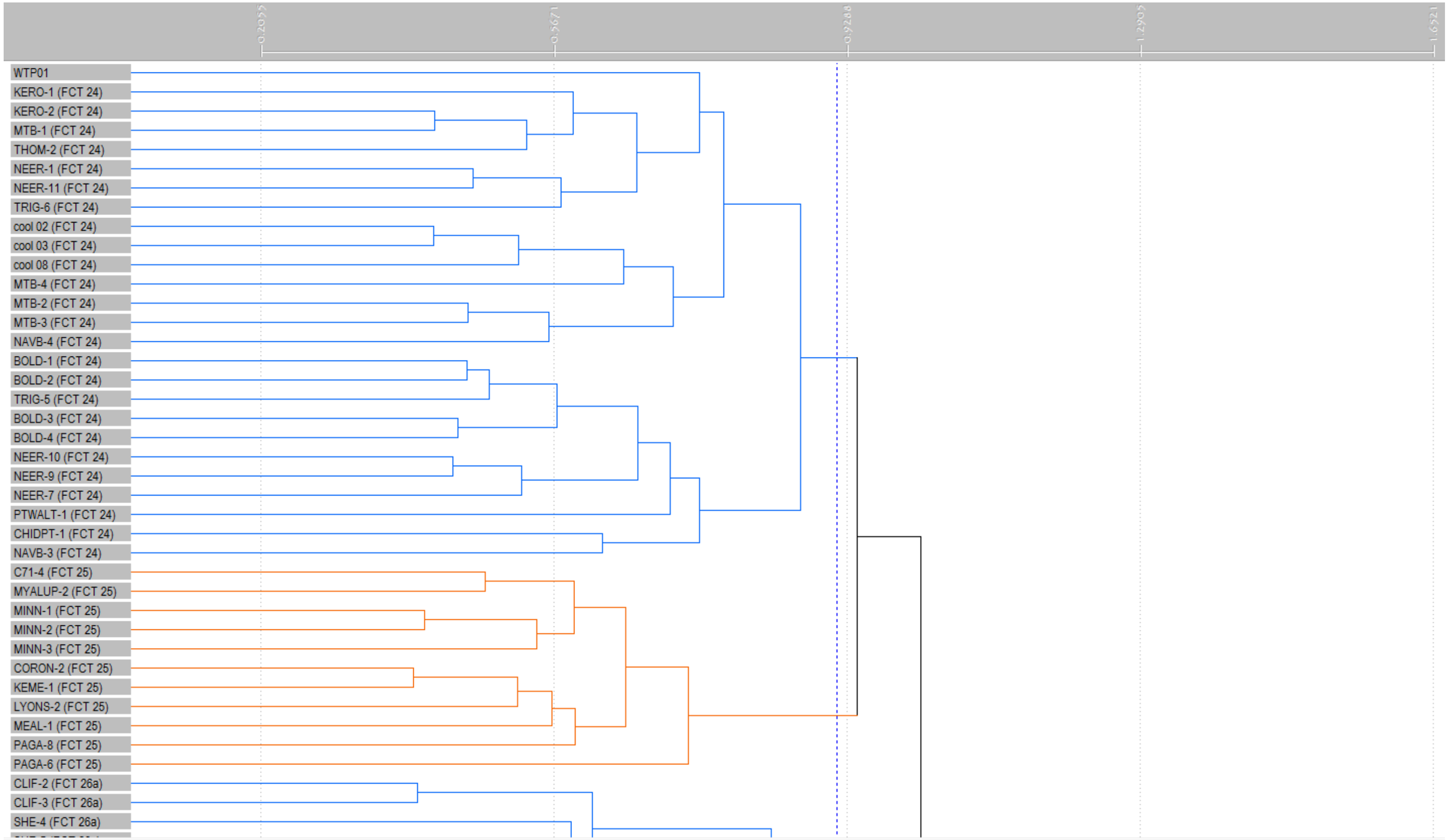
TRIG-5 (FCT 24)
BOLD-3 (FCT 24)
BOLD-4 (FCT 24)
NEER-10 (FCT 24)
NEER-9 (FCT 24)
NEER-7 (FCT 24)
PTWALT-1 (FCT 24)
CHIDPT-1 (FCT 24)
NAVB-3 (FCT 24)
cool 02 (FCT 24)
cool 03 (FCT 24)
cool 08 (FCT 24)
MTB-4 (FCT 24)
MTB-2 (FCT 24)
MTB-3 (FCT 24)
NAVB-4 (FCT 24)
KERO-1 (FCT 24)
KERO-2 (FCT 24)
MTB-1 (FCT 24)
ANK100
THOM-2 (FCT 24)
NEER-1 (FCT 24)
NEER-11 (FCT 24)
TRIG-6 (FCT 24)
C71-4 (FCT 25)
MYALUP-2 (FCT 25)
MINN-1 (FCT 25)
MINN-2 (FCT 25)
MINN-3 (FCT 25)
CORON-2 (FCT 25)
KEME-1 (FCT 25)

Table 1: Nearest Neigbour Boundary results (NNB; 20 nearest sites) and UPGMA clustering dendrgram summary.

Site	Result	Notes	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
WTP01	FCT 24	Affinity to FCT 25	FCT 24	FCT 24	FCT 24	FCT 26b	FCT 25	FCT 24	FCT 24	FCT 24	FCT 25	FCT 24	FCT 25	FCT 24	FCT 25	FCT 24	FCT 26b	FCT 24	FCT 26b	FCT 26b	FCT 28	FCT 25
			TRIG-6	NEER-1	NAVB-4	WHILL-5	MINN-1	NEER-11	MTB-4	cool 03	PAGA-8	cool 08	C71-4	PTWALT-1	MINN-2	cool 02	YAN-1	BOLD-1	MEAL-2	YALG-1	WARI-1	KEME-1
			0.0776	0.0823	0.0864	0.0913	0.0918	0.0918	0.0928	0.0935	0.0935	0.0937	0.0942	0.0945	0.0961	0.0962	0.0964	0.0965	0.0986	0.0987	0.0989	0.0996
WTP02	FCT 24	Affinities to FCT 28 and 25	FCT 28	FCT 24	FCT 28	FCT 28	FCT 28	FCT 24	FCT 24	FCT 24	FCT 26b	FCT 24	FCT 26b	FCT 30c	FCT 28	FCT 26b	FCT 26b	FCT 25	FCT 25	FCT 25	FCT 24	FCT 25
			WARI-1	TRIG-5	WOODV-1	NEER-22	NEER-5	KERO-2	MTB-3	MTB-1	YAN-5	NEER-7	YAN-1	MHENRY-2	WOODV-2	YALG-6	YAN-10	MEAL-1	PAGA-8	CORON-2	BOLD-2	KEME-1
			0.0547	0.0552	0.0605	0.0613	0.0617	0.0622	0.0633	0.0633	0.0634	0.0634	0.0644	0.065	0.0662	0.0666	0.0673	0.0673	0.0677	0.0683	0.069	0.0695
WTP05	FCT 24	Known to be FCT26a (DBCA) Degraded Condiiton	FCT 24	FCT 24	FCT 24	FCT 29a	FCT 17	FCT 24	FCT 30a	FCT 29a	FCT 25	FCT 29a	FCT 30b	FCT 30b	FCT 17	FCT 30b	FCT 30a	FCT 30c	FCT 30b	FCT 29a	FCT 29a	FCT 24
			CHIDPT-1	BOLD-3	MTB-4	TRIG-2	Possum5	NAVB-3	WOODP-2	BURN-1	MINN-1	NAVB-2	Possum3	LESCH-2	cool 04	PEPB-1	GARDEN-4	MHENRY-1	LESCH-1	SEAB-5	PRES-1	BOLD-1
			0.075	0.08	0.0811	0.0815	0.0822	0.0859	0.0877	0.088	0.088	0.0887	0.0899	0.0938	0.0946	0.0947	0.0956	0.0962	0.0972	0.0972	0.0973	0.0984
WTP06	FCT 25	Affinity to FCT 24	FCT 24	FCT 24	FCT 24	FCT 25	FCT 25	FCT 25	FCT 25	FCT 28	FCT 24	FCT 24	FCT 28	FCT 28	FCT 25	FCT 24	FCT 25	FCT 25	FCT 24	FCT 26b	FCT 26b	FCT 24
			TRIG-6	NEER-1	NEER-11	MINN-2	PAGA-8	C71-4	MINN-1	WARI-1	BOLD-2	PTWALT-1	KING-1	TRIG-3	CORON-2	TRIG-5	MYALUP-2	KEME-1	NAVB-4	YAN-10	YALG-7	MTB-3
			0.0724	0.0744	0.078	0.0833	0.085	0.086	0.0861	0.0869	0.0901	0.0903	0.0912	0.0919	0.092	0.0926	0.0926	0.0936	0.0954	0.0959	0.0959	0.0965
WTP08	FCT 25	Affinity to FCT 24	FCT 25	FCT 24	FCT 25	FCT 28	FCT 24	FCT 25	FCT 25	FCT 24	FCT 24	FCT 25	FCT 21a	FCT 25	FCT 24	FCT 28	FCT 25	FCT 11	FCT 28	FCT 26b	FCT 25	FCT 24
			MINN-2	NEER-1	PAGA-8	WARI-1	NEER-11	C71-4	KEME-1	BOLD-2	TRIG-6	MINN-1	low10a	MYALUP-2	PTWALT-1	KING-1	MEAL-1	CARAB-3	TRIG-3	YAN-10	CORON-2	TRIG-5
			0.0774	0.08	0.0838	0.0854	0.086	0.0865	0.0882	0.0891	0.0894	0.0896	0.0903	0.0919	0.0923	0.0932	0.0932	0.0938	0.094	0.0952	0.0962	0.0965
WTP09	FCT 25	Affinity to FCT 28	FCT 28	FCT 21a	FCT 28	FCT 25	FCT 25	FCT 21a	FCT 24	FCT 28	FCT 25	FCT 28	FCT 25	FCT 25	FCT 26b	FCT 24	FCT 25	FCT 25	FCT 21a	FCT 28	FCT 26b	FCT 28
			WARI-1	low10a	TRIG-3	KEME-1	PAGA-8	PAGA-7	KERO-2	WOODV-2	MINN-2	WOODV-1	MEAL-1	MINN-3	YAN-5	MTB-1	CORON-2	MYALUP-2	low12b	NEER-6	YAN-10	KING-1
			0.0656	0.066	0.0691	0.0702	0.0715	0.0722	0.0734	0.0735	0.0755	0.0755	0.0758	0.0764	0.0775	0.078	0.0782	0.0788	0.0791	0.0796	0.0803	0.0804
WTP10	FCT 24	Affinities to FCT 28 and 25	FCT 24	FCT 24	FCT 24	FCT 28	FCT 21a	FCT 25	FCT 28	FCT 28	FCT 25	FCT 25	FCT 24	FCT 28	FCT 24	FCT 25	FCT 30c	FCT 24	FCT 25	FCT 26b	FCT 28	FCT 24
			TRIG-5	NEER-1	NEER-11	WARI-1	low10a	MINN-2	WOODV-1	WOODV-2	PAGA-8	KEME-1	KERO-2	TRIG-3	BOLD-2	CORON-2	MHENRY-2	TRIG-6	MEAL-1	YAN-1	NEER-5	MTB-1
			0.0604	0.0641	0.0644	0.0659	0.0714	0.0724	0.073	0.0735	0.0748	0.075	0.075	0.0763	0.0766	0.0774	0.0786	0.0794	0.0797	0.0802	0.0817	0.0818
WTP11	FCT 28	Affinity to FCT 25	FCT 21a	FCT 28	FCT 24	FCT 28	FCT 28	FCT 28	FCT 24	FCT 21a	FCT 25	FCT 25	FCT 24	FCT 25	FCT 25	FCT 21a	FCT 28	FCT 28	FCT 25	FCT 28	FCT 25	FCT 28
			low10a	WOODV-2	KERO-2	TRIG-3	WARI-1	WOODV-1	TRIG-5	PAGA-7	MEAL-1	MINN-3	MTB-1	PAGA-8	KEME-1	low12b	KING-2	NEER-5	MYALUP-2	DEPOT-1	CORON-2	NEER-6
			0.0648	0.067	0.0701	0.0718	0.0723	0.0747	0.0754	0.0778	0.078	0.0783	0.0797	0.0801	0.0805	0.081	0.0812	0.0815	0.0819	0.0824	0.083	0.0836
WTP12	FCT 25	Strong affinity to FCT 24	FCT 25	FCT 24	FCT 25	FCT 25	FCT 25	FCT 24	FCT 25	FCT 24	FCT 25	FCT 26b	FCT 24	FCT 24	FCT 26b	FCT 11	FCT 25	FCT 21a	FCT 24	FCT 28	FCT 24	FCT 24
			MINN-2	NEER-1	C71-4	MINN-1	PAGA-8	BOLD-4	KEME-1	TRIG-6	MEAL-1	WHILL-5	NAVB-4	cool 02	YALG-1	CARAB-3	CORON-2	low10a	MTB-3	WARI-1	NEER-11	BOLD-2
			0.0618	0.0661	0.068	0.0731	0.0759	0.0784	0.0829	0.0844	0.0848	0.0855	0.086	0.0862	0.0871	0.0875	0.0878	0.0885	0.0894	0.0896	0.0899	0.0901
WTP13	FCT 21a	UPGMA suggests FCT 21a Strong affinity to FCT 28	FCT 28	FCT 28	FCT 28	FCT 21a	FCT 28	FCT 28	FCT 21a	FCT 28	FCT 21a	FCT 28	FCT 28	FCT 21a	FCT 28	FCT 21a	FCT 28	FCT 21a	FCT 21a	FCT 21a	FCT 21a	FCT 28
			WARI-2	HARRY-2	KING-2	WELL-2	WOODV-2	DEPOT-1	WELL-1	NEER-21	PAGA-4	NEER-3	NEER-4	DRAIN-1	YAN-3	low13a	SHENT-1	PAGA-7	C71-3	GUTHR-3	low04	HARRY-1
			0.0508	0.0522	0.0548	0.0556	0.0571	0.0575	0.0577	0.058	0.0587	0.0589	0.0591	0.0599	0.0604	0.0609	0.061	0.0619	0.0622	0.0628	0.063	0.0633
WTP14	FCT 28	Affinity to FCT 21a	FCT 28	FCT 21a	FCT 28	FCT 21a	FCT 21a	FCT 28	FCT 21a	FCT 28	FCT 28	FCT 28	FCT 28	FCT 21a	FCT 21a	FCT 28	FCT 28	FCT 21a	FCT 28	FCT 21a	FCT 21a	FCT 24
			NEER-3	TAM-1	WARI-2	DRAIN-1	WELL-1	DEPOT-1	C71-3	NEER-21	YAN-3	NEER-6	NEER-2	GUTHR-3	PAGA-4	WOODV-2	SHENT-1	CRAMPT-1	KING-2	WELL-2	HARRY-5	THOM-2
			0.0552	0.0564	0.0611	0.0633	0.0636	0.0641	0.0652	0.0655	0.0655	0.0658	0.0659	0.0662	0.0667	0.0676	0.0678	0.0683	0.0684	0.0712	0.072	0.0722
WTP15	N/A	Highly modified drainage	FCT 25	FCT 17	FCT 30b	FCT 24	FCT 24	FCT 30b	FCT 24	FCT 29a	FCT 24	FCT 24	FCT 25	FCT 29a	FCT 29a	FCT 24	FCT 29a	FCT 29a	FCT 24	FCT 11	FCT 19	FCT 30b
			MINN-1	Possum5	PEPB-1	MTB-4	BOLD-3	Possum3	CHIDPT-1	NAVB-2	BOLD-1	NAVB-3	C71-4	BURN-1	TRIG-2	PTWALT-1	BURN-2	SEAB-5	NAVB-4	low10b	PB-6	LESCH-2
			0.0794	0.0826	0.0855	0.0856	0.0856	0.087	0.088	0.0898	0.0901	0.0906	0.091	0.0914	0.0939	0.0949	0.0951	0.0963	0.0972	0.0973	0.0974	0.0976
WTP16	FCT 24	Affinity to FCT 28	FCT 28	FCT 28	FCT 24	FCT 28	FCT 25	FCT 26b	FCT 21a	FCT 28	FCT 21c	FCT 26b	FCT 28	FCT 28	FCT 28	FCT 28	FCT 21c	FCT 28	FCT 28	FCT 21a	FCT 25	FCT 21a
			NEER-5	NEER-6	KERO-2	NEER-20	LYONS-2	YALG-6	low10a	NEER-2	PLINE-7	YAN-5	YAN-6	DEPOT-1	HARRY-2	WARI-1	FL-6	HARRY-1	WOODV-1	low12b	MEAL-1	WELL-1
			0.106	0.1074	0.1122	0.114	0.1147	0.1151	0.1178	0.1182	0.1182	0.119	0.1197	0.12	0.1203	0.1203	0.1204	0.1207	0.1211	0.1212	0.122	0.1227
WTP17	FCT 21a	Affinity to FCT 21c	FCT 24	FCT 21a	FCT 21a	FCT 21a	FCT 21a	FCT 21a	FCT 21a	FCT 28	FCT 23a	FCT 21a	FCT 21c	FCT 21a	FCT 21c	FCT 21a	FCT 21c	FCT 21c	FCT 21a	FCT 21a	FCT 21c	FCT 21a
			THOM-2	HARRY-5	MILT-6	low04	NINE-1	card7	TAM-1	TRIG-4	hurst03	PAGA-4	low01	CAPEL-7	low07	NINE-2	hymus03	FL-5	RIVD-2	WELL-2	TWIN-8	CRAMPT-1
			0.0962	0.1023	0.1049	0.1107	0.1108	0.1108	0.1138	0.1147	0.1154	0.1157	0.1161	0.1165	0.1171	0.1173	0.1174	0.1174	0.1175	0.1177	0.1183	0.1186
WTP18	FCT 21a	Strong affinity ot FCT 28	FCT 28	FCT 28	FCT 21a	FCT 28	FCT 28	FCT 21c	FCT 28	FCT 28	FCT 23a	FCT 21a	FCT 28	FCT 21a	FCT 21a	FCT 21c	FCT 28	FCT 21a	FCT 23a	FCT 28	FCT 20a	FCT 23a
			KING-2	SHENT-1	WELL-2	YAN-4	HARRY-2	FL-6	NEER-8	WARI-2	low13b	low13a	WOODV-2	GUTHR-3	DRAIN-1	FL-5	NEER-3	low12a	BANK-2	SHE-2	GOLF-1	WIRR-2
			0.051	0.0605	0.0607	0.0616	0.0635	0.0643	0.0648	0.0652	0.0695	0.0697	0.0705	0.0708	0.0712	0.0714	0.0719	0.072	0.0721	0.0725	0.0726	0.073
WTP19	FCT 21a	Affinities to FCT 21c and FCT 28	FCT 21c	FCT 21a	FCT 28	FCT 28	FCT 21a	FCT 21a	FCT 28	FCT 24	FCT 23a	FCT 24	FCT 21a	FCT 21c	FCT 28	FCT 28	FCT 28	FCT 21c	FCT 21c	FCT 21c	FCT 21a	FCT 28
			FL-6	HARRY-5	NEER-6	WOODV-1	TAM-1	low12a	WOODV-2	THOM-2	low13b	KERO-2	PAGA-4	PLINE-7	NEER-21	NEER-2	HARRY-2	low07	hymus03	FL-5	WELL-1	NEER-20
			0.114	0.1164	0.1167	0.1172	0.1173	0.1194	0.1195	0.1199	0.12	0.1202	0.1204	0.1214	0.1227	0.1227	0.1238	0.1241	0.1243	0.1248	0.1248	0.1249
WTP20	FCT 23a	Affinity to FCT 28	FCT 23a	FCT 23a	FCT 23a	FCT 23a	FCT 21a	FCT 21c	FCT 28	FCT 28	FCT 23a	FCT 21a	FCT 23a	FCT 21a	FCT 21b	FCT 28	FCT 21a	FCT 21c	FCT 23a	FCT 21a	FCT 21b	FCT 21c
			hurst01	hurst02	hurst04	WIRR-2	WELL-2	FL-6	NEER-8	HARRY-2	YULE-1	low13a	low13b	REDL-1	dard02	KING-2	GUTHR-3	BULLER-3	BANK-2	GUTHR-5	RUAB-1	FL-5
			0.0512	0.0568	0.0573	0.0586	0.0592	0.0594	0.0603	0.061	0.0632	0.0633	0.0634	0.0636	0.0636	0.0637	0.0639	0.0643	0.0646	0.0646	0.0646	0.0653
WTP21	FCT 21c	Strong affinity to FCT 21a	FCT 21c	FCT 23a	FCT 24	FCT 21c	FCT 21a	FCT 21a	FCT 23a	FCT 21c	FCT 21a	FCT 21c	FCT 21a	FCT 21a	FCT 6	FCT 21c	FCT 21a	FCT 21a	FCT 23a	FCT 21c	FCT 21a	FCT 21a
			TWIN-8	HARRY-4	THOM-2	low07	NINE-2	HARRY-5	hurst03	low01	card7	FL-5	AUSTRA-1	low04	card11	low06b	CORON-1	REDL-1	hurst04	hymus04	WELL-2	CAPEL-7
			0.0585	0.0603	0.0613	0.0621	0.0659	0.0675	0.0688	0.0697	0.07	0.0706	0.0716	0.0717	0.0719	0.0724	0.0738	0.0743	0.0744	0.0745	0.0753	0.0753

WTP38	FCT 30b	Affinities to FCT 25 and FCT 24	**WTP38**	FCT 25	FCT 30b	FCT 24	FCT 24	FCT 25	FCT 30b	FCT 30a	FCT 24	FCT 24	FCT 29a	**WTP38**	FCT 19	FCT 19	FCT 17	FCT 29a	FCT 17	FCT 24	FCT 29a	FCT 30a	FCT 30b	FCT 30b
				MINN-1	PEPB-1	MTB-4	BOLD-3	C71-4	Possum3	WOODP-2	CHIDPT-1	TRIG-6	TRIG-2		PB-6	cool 09	cool 04	NAVB-2	Possum5	cool 03	BURN-1	GARDEN-4	LESCH-5	LESCH-2
				0.0837	0.0848	0.0885	0.093	0.094	0.0957	0.0957	0.0958	0.0962	0.097		0.0983	0.0991	0.1	0.1019	0.1035	0.1043	0.1044	0.1047	0.1052	0.107
WTP38	FCT 30b	Affinities to FCT 25 and FCT 24	**WTP38**	FCT 25	FCT 30b	FCT 24	FCT 24	FCT 25	FCT 30b	FCT 30a	FCT 24	FCT 24	FCT 29a	**WTP38**	FCT 19	FCT 19	FCT 17	FCT 29a	FCT 17	FCT 24	FCT 29a	FCT 30a	FCT 30b	FCT 30b
				MINN-1	PEPB-1	MTB-4	BOLD-3	C71-4	Possum3	WOODP-2	CHIDPT-1	TRIG-6	TRIG-2		PB-6	cool 09	cool 04	NAVB-2	Possum5	cool 03	BURN-1	GARDEN-4	LESCH-5	LESCH-2
				0.0837	0.0848	0.0885	0.093	0.094	0.0957	0.0957	0.0958	0.0962	0.097		0.0983	0.0991	0.1	0.1019	0.1035	0.1043	0.1044	0.1047	0.1052	0.107
WTP39	FCT 24	Affinities ot FCT 25 and FCT 30b	**WTP39**	FCT 25	FCT 25	FCT 30b	FCT 24	FCT 24	FCT 24	FCT 25	FCT 24	FCT 24	FCT 26b	**WTP39**	FCT 30b	FCT 26b	FCT 24	FCT 25	FCT 26b	FCT 24	FCT 24	FCT 24	FCT 30c	FCT 11
				MINN-1	C71-4	PEPB-1	MTB-4	TRIG-6	NEER-1	MINN-2	cool 03	PTWALT-1	YALG-1		Possum3	WHILL-5	NAVB-4	PAGA-8	MEAL-2	NAVB-3	BOLD-3	BOLD-1	MHENRY-1	HARRY-6
				0.0678	0.079	0.08	0.0806	0.0847	0.0871	0.0874	0.0901	0.0906	0.0915		0.0923	0.0932	0.0939	0.0959	0.0969	0.0983	0.0994	0.1001	0.1008	0.1018
WTP40	Inconclusive	Questionable quadrat placement	**WTP40**	FCT 30a	FCT 29a	FCT 19	FCT 16	FCT 24	FCT 29a	FCT 30a	FCT 30a	FCT 17	FCT 30a	**WTP40**	FCT 30b	FCT 29a	FCT 19	FCT 30b	FCT 24	FCT 29a	FCT 30b	FCT 11	FCT 30c	FCT 29b
				WOODP-1	PRES-1	PB-1	Possum2	CHIDPT-1	NAVB-2	WOODP-2	GARDEN-4	cool 04	PEPGRV-2		LESCH-1	TRIG-2	PB-6	PEPB-1	BOLD-3	SEAB-8	LESCH-5	low10b	SEAB-1	TRIG-1
				0.0635	0.0776	0.0832	0.0885	0.0897	0.0925	0.0927	0.0942	0.0967	0.0981		0.0989	0.0992	0.1005	0.1041	0.1045	0.1064	0.1065	0.1075	0.109	0.109
WTP41	FCT 24	Affinity to FCT 29a Known to be FCT26a (DBCA)	**WTP41**	FCT 24	FCT 24	FCT 24	FCT 24	FCT 29a	FCT 29a	FCT 29a	FCT 30a	FCT 25	FCT 30b	**WTP41**	FCT 24	FCT 24	FCT 17	FCT 29a	FCT 19	FCT 30b	FCT 29a	FCT 24	FCT 29a	FCT 25
				CHIDPT-1	BOLD-3	MTB-4	NAVB-3	TRIG-2	BURN-1	NAVB-2	WOODP-2	MINN-1	Possum3		BOLD-1	NAVB-4	Possum5	SEAB-5	PB-6	LESCH-2	PRES-1	MTB-2	BURN-2	C71-4
				0.0702	0.0718	0.0785	0.0798	0.0801	0.0812	0.0813	0.0821	0.0846	0.0866		0.087	0.088	0.0889	0.0906	0.0913	0.0916	0.0917	0.0924	0.0934	0.0934
WTP43	FCT24	Affinity to FCT 26b and FCT 25 based on location	**WTP43**	FCT 24	FCT 24	FCT 25	FCT 24	FCT 24	FCT 25	FCT 25	FCT 24	FCT 26b	FCT 24	**WTP43**	FCT 25	FCT 24	FCT 28	FCT 26b	FCT 26b	FCT 25	FCT 26b	FCT 26b	FCT 24	FCT 26b
				TRIG-6	PTWALT-1	C71-4	NEER-1	NEER-11	MINN-2	MINN-1	NAVB-4	WHILL-5	BOLD-2		PAGA-8	BOLD-1	WARI-1	YALG-1	YAN-1	KEME-1	MEAL-2	SHE-3	NEER-10	YAN-10
				0.0621	0.0677	0.0697	0.0715	0.0723	0.0747	0.0759	0.0777	0.078	0.0781		0.0793	0.0801	0.0814	0.0828	0.0849	0.0859	0.0863	0.0866	0.0867	0.0868

WTP01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TRIG-5 (FCT 24)
BOLD-3 (FCT 24)
BOLD-4 (FCT 24)
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NEER-9 (FCT 24)
NEER-7 (FCT 24)
PTWALT-1 (FCT 24)
CHIDPT-1 (FCT 24)
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C71-4 (FCT 25)
MYALUP-2 (FCT 25)
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CORON-2 (FCT 25)
KEME-1 (FCT 25)
LYONS-2 (FCT 25)
MEAL-1 (FCT 25)
PAGA-8 (FCT 25)
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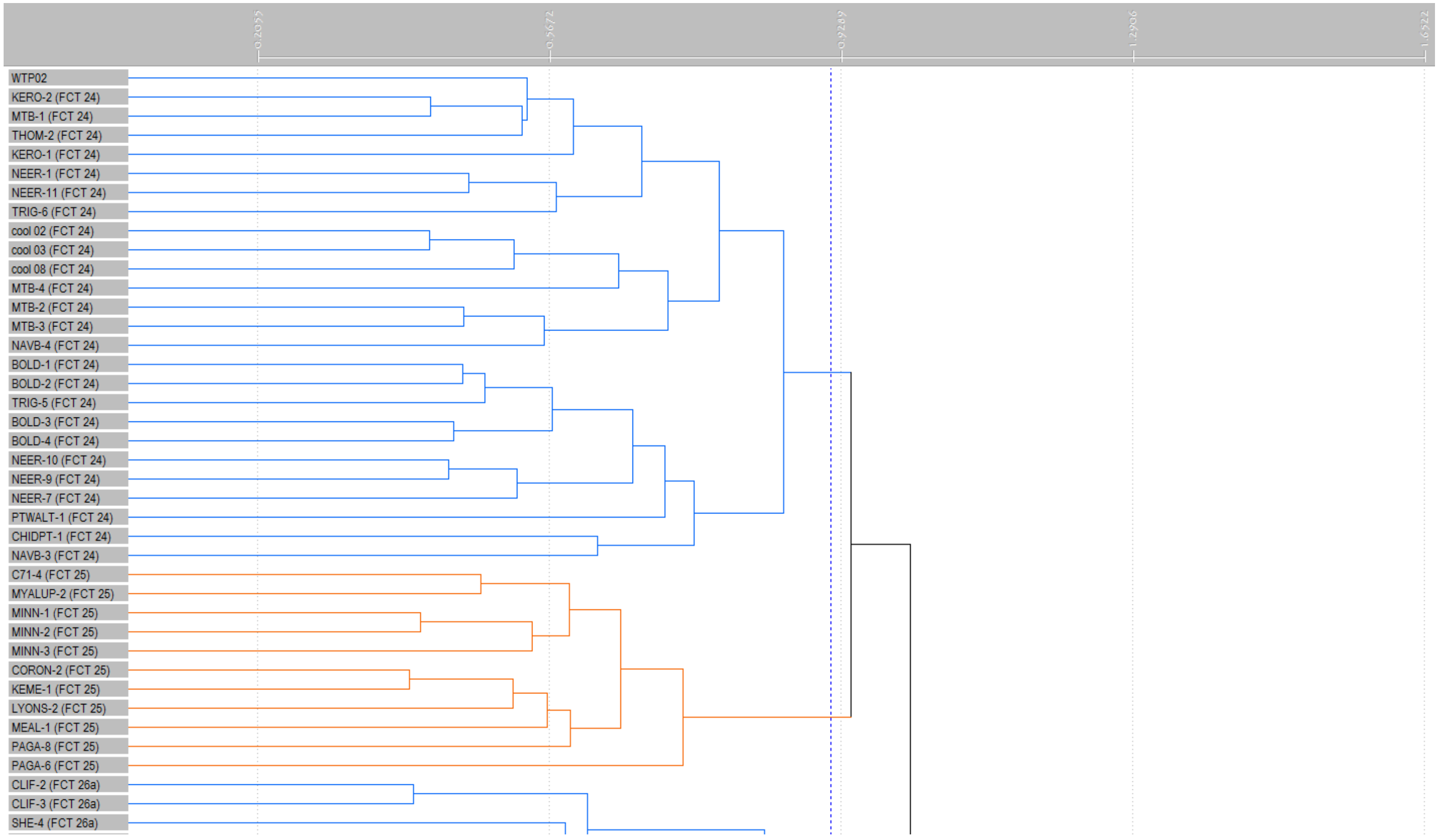
WTP02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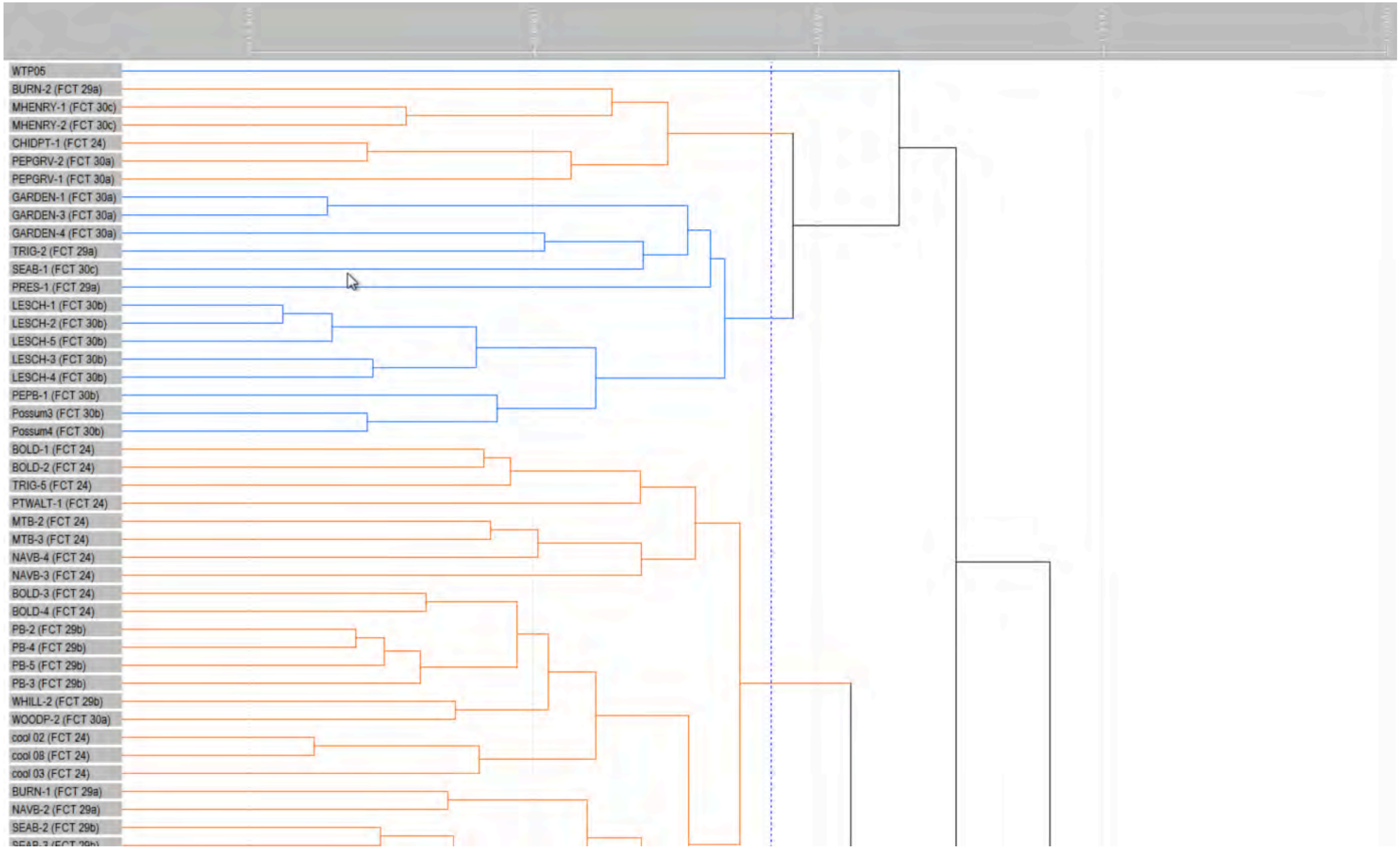
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GARDEN-1 (FCT 30a)
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GARDEN-4 (FCT 30a)
TRIG-2 (FCT 29a)
SEAB-1 (FCT 30c)
PRES-1 (FCT 29a)
LESCH-1 (FCT 30b)
LESCH-2 (FCT 30b)
LESCH-5 (FCT 30b)
LESCH-3 (FCT 30b)
LESCH-4 (FCT 30b)
PEPB-1 (FCT 30b)
Possum3 (FCT 30b)
Possum4 (FCT 30b)
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BOLD-2 (FCT 24)
TRIG-5 (FCT 24)
PTWALT-1 (FCT 24)
MTB-2 (FCT 24)
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BOLD-3 (FCT 24)
BOLD-4 (FCT 24)
PB-2 (FCT 29b)
PB-4 (FCT 29b)
PB-5 (FCT 29b)
PB-3 (FCT 29b)
WHILL-2 (FCT 29b)
WOODP-2 (FCT 30a)
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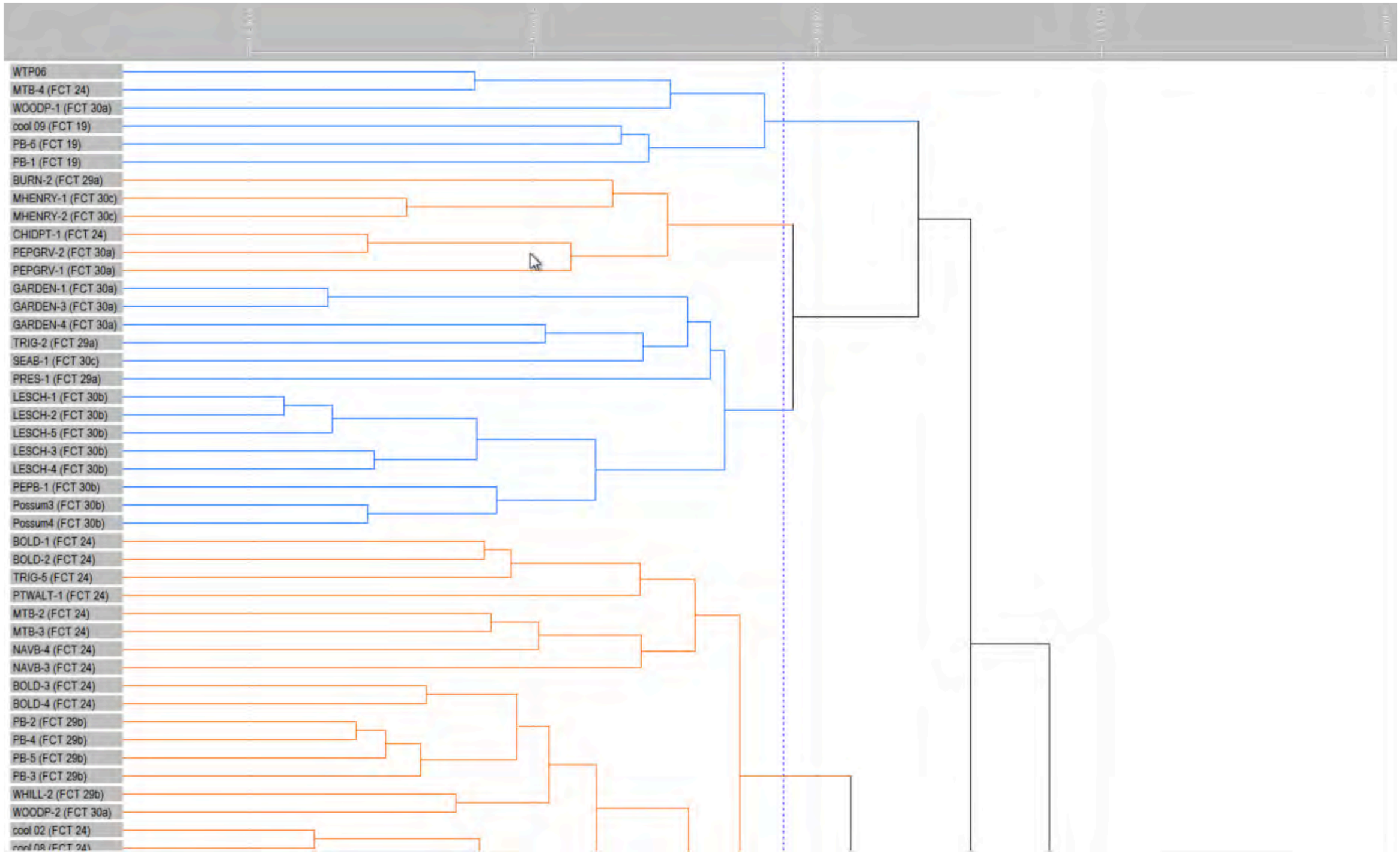
WTP06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PB-6 (FCT 19)
PB-1 (FCT 19)
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MHENRY-1 (FCT 30c)
MHENRY-2 (FCT 30c)
CHIDPT-1 (FCT 24)
PEPGRV-2 (FCT 30a)
PEPGRV-1 (FCT 30a)
GARDEN-1 (FCT 30a)
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TRIG-2 (FCT 29a)
SEAB-1 (FCT 30c)
PRES-1 (FCT 29a)
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Possum3 (FCT 30b)
Possum4 (FCT 30b)
BOLD-1 (FCT 24)
BOLD-2 (FCT 24)
TRIG-5 (FCT 24)
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PB-2 (FCT 29b)
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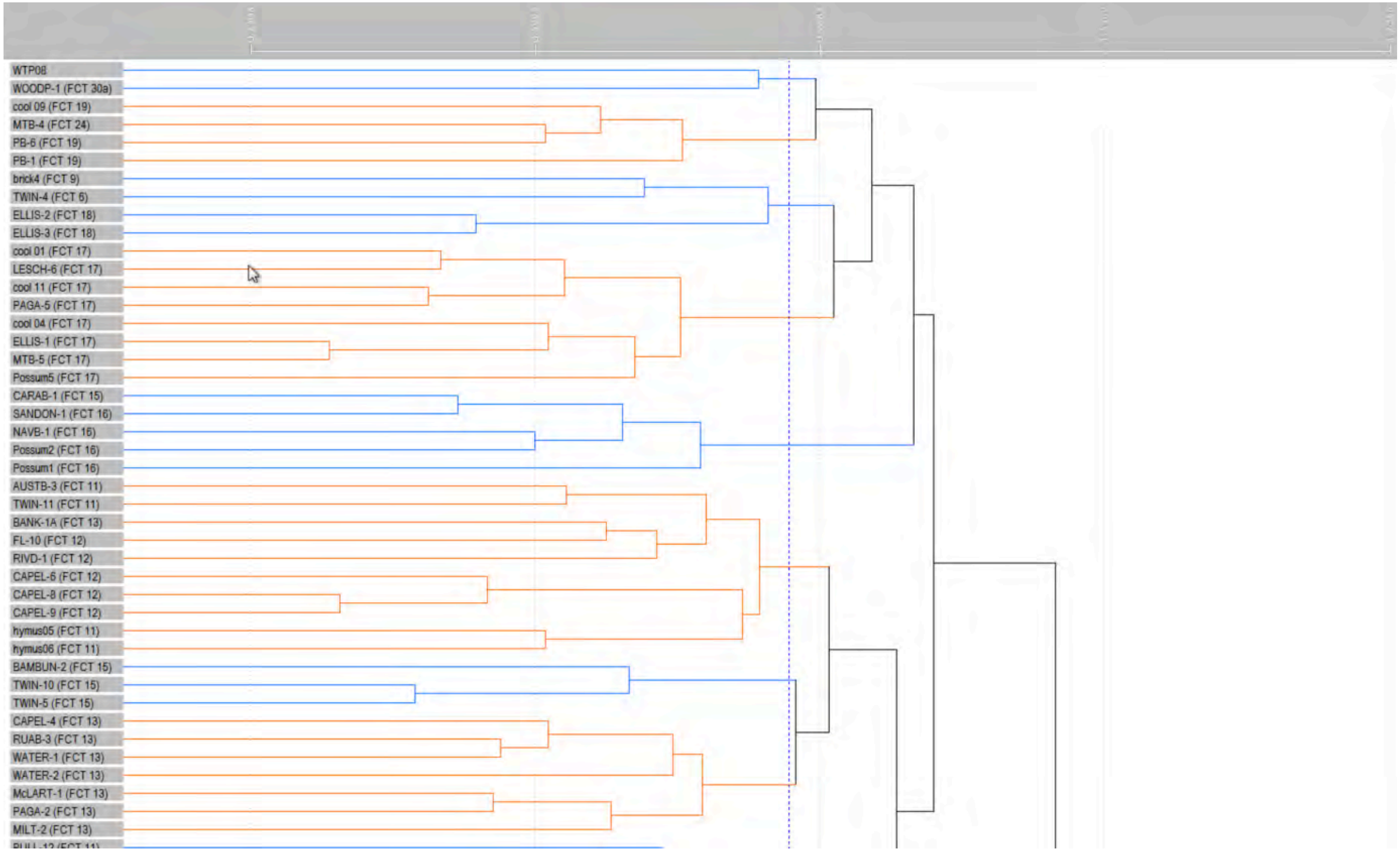
cool 02 (FCT 24)

WTP08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TWIN-4 (FCT 6)
ELLIS-2 (FCT 18)
ELLIS-3 (FCT 18)
cool 01 (FCT 17)
LESCH-6 (FCT 17)
cool 11 (FCT 17)
PAGA-5 (FCT 17)
cool 04 (FCT 17)
ELLIS-1 (FCT 17)
MTB-5 (FCT 17)
Possum5 (FCT 17)
CARAB-1 (FCT 15)
SANDON-1 (FCT 16)
NAVB-1 (FCT 16)
Possum2 (FCT 16)
Possum1 (FCT 16)
AUSTB-3 (FCT 11)
TWIN-11 (FCT 11)
BANK-1A (FCT 13)
FL-10 (FCT 12)
RIVD-1 (FCT 12)
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TWIN-10 (FCT 15)
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CAPEL-4 (FCT 13)
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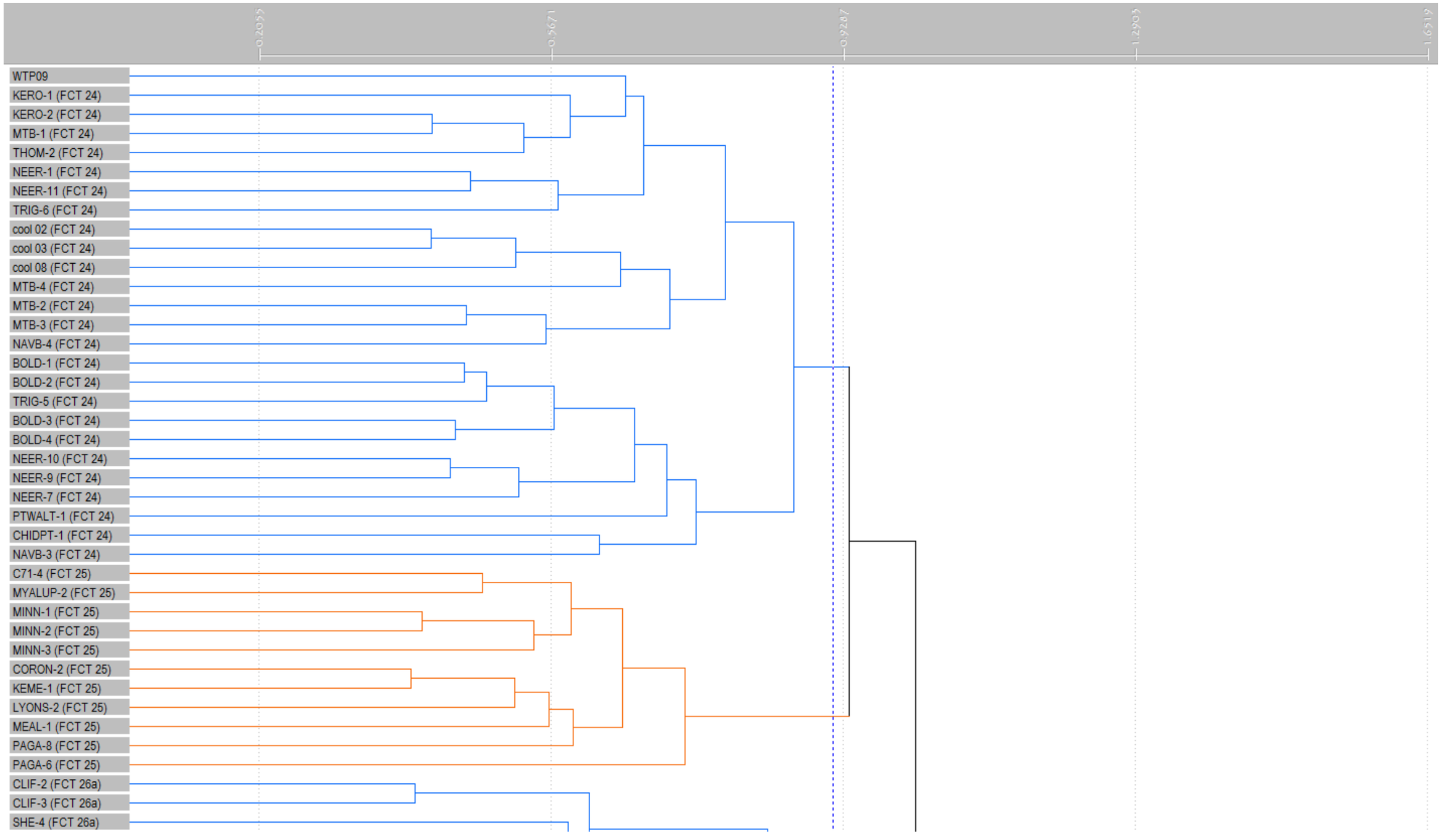
WTP09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LYONS-2 (FCT 25)
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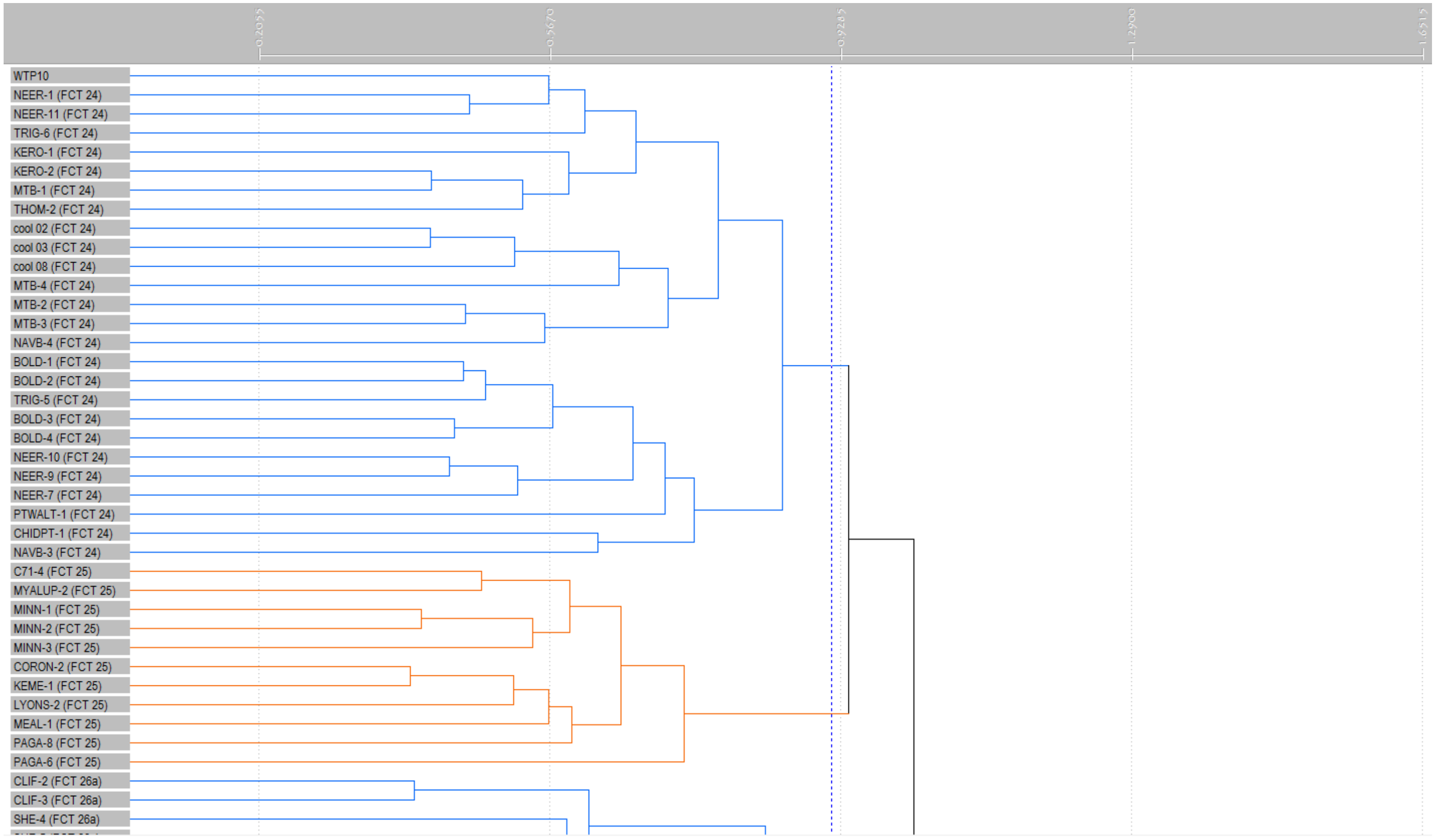
WTP10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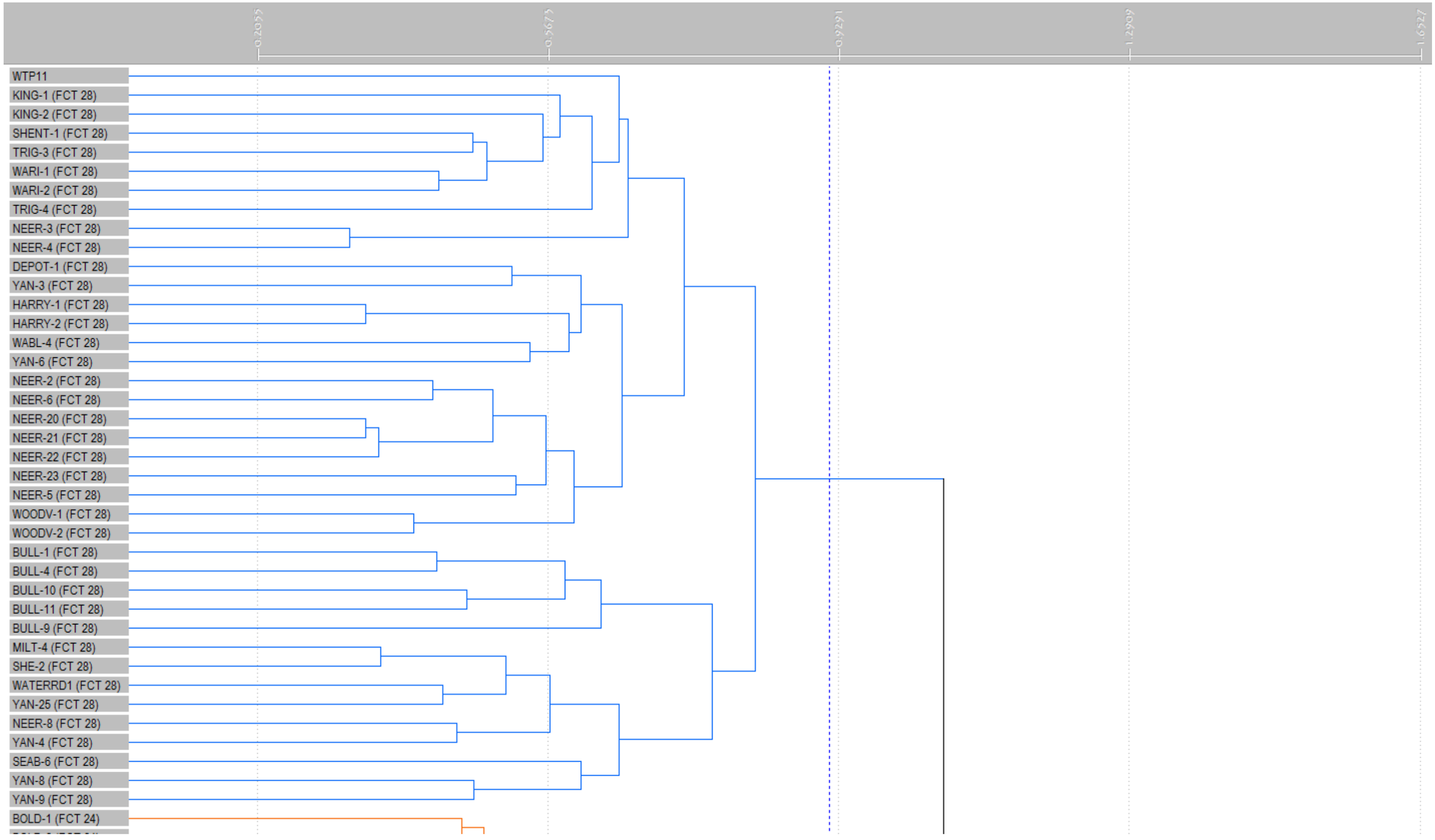
WTP11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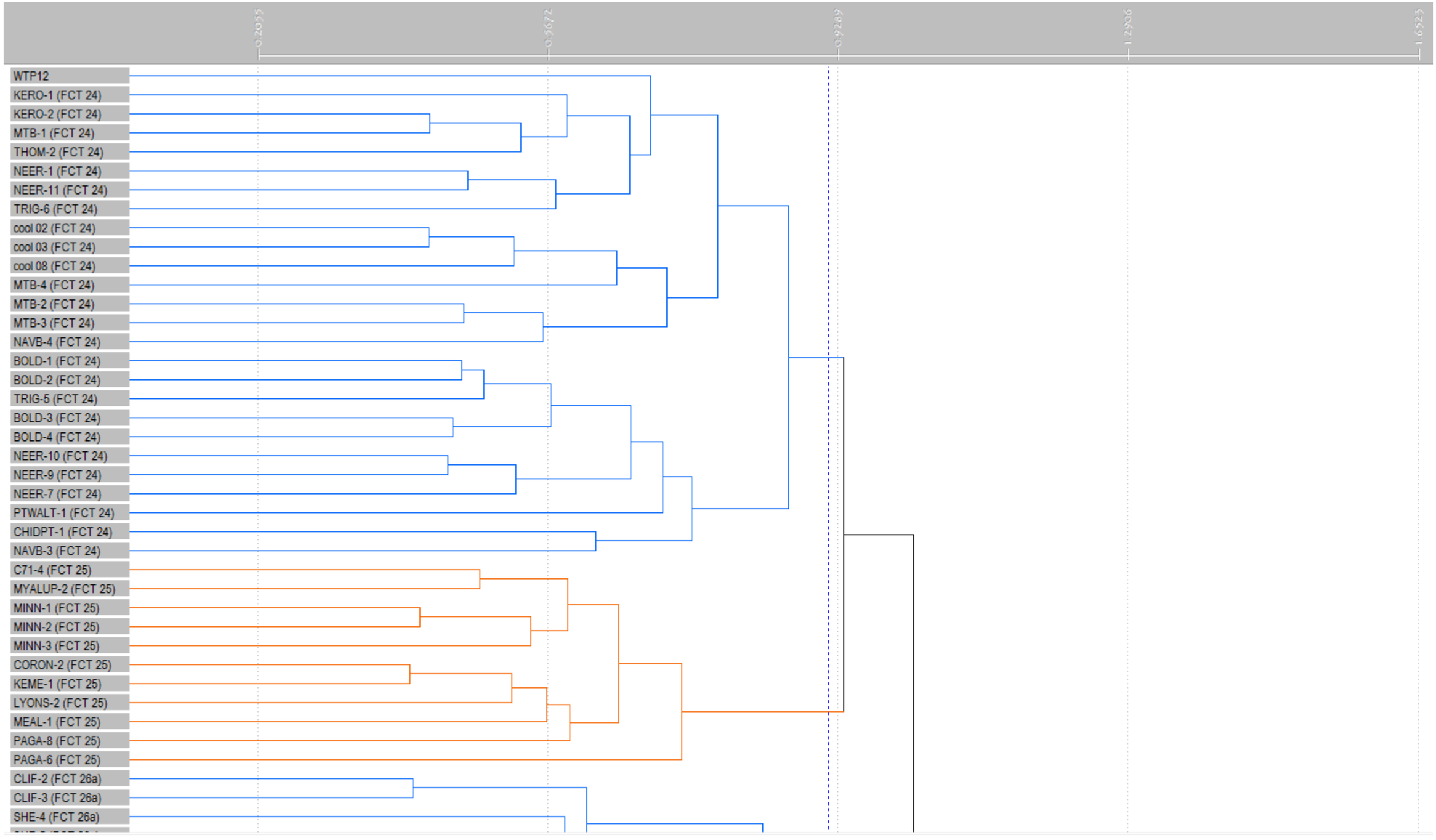
WTP12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MEAL-1 (FCT 25)
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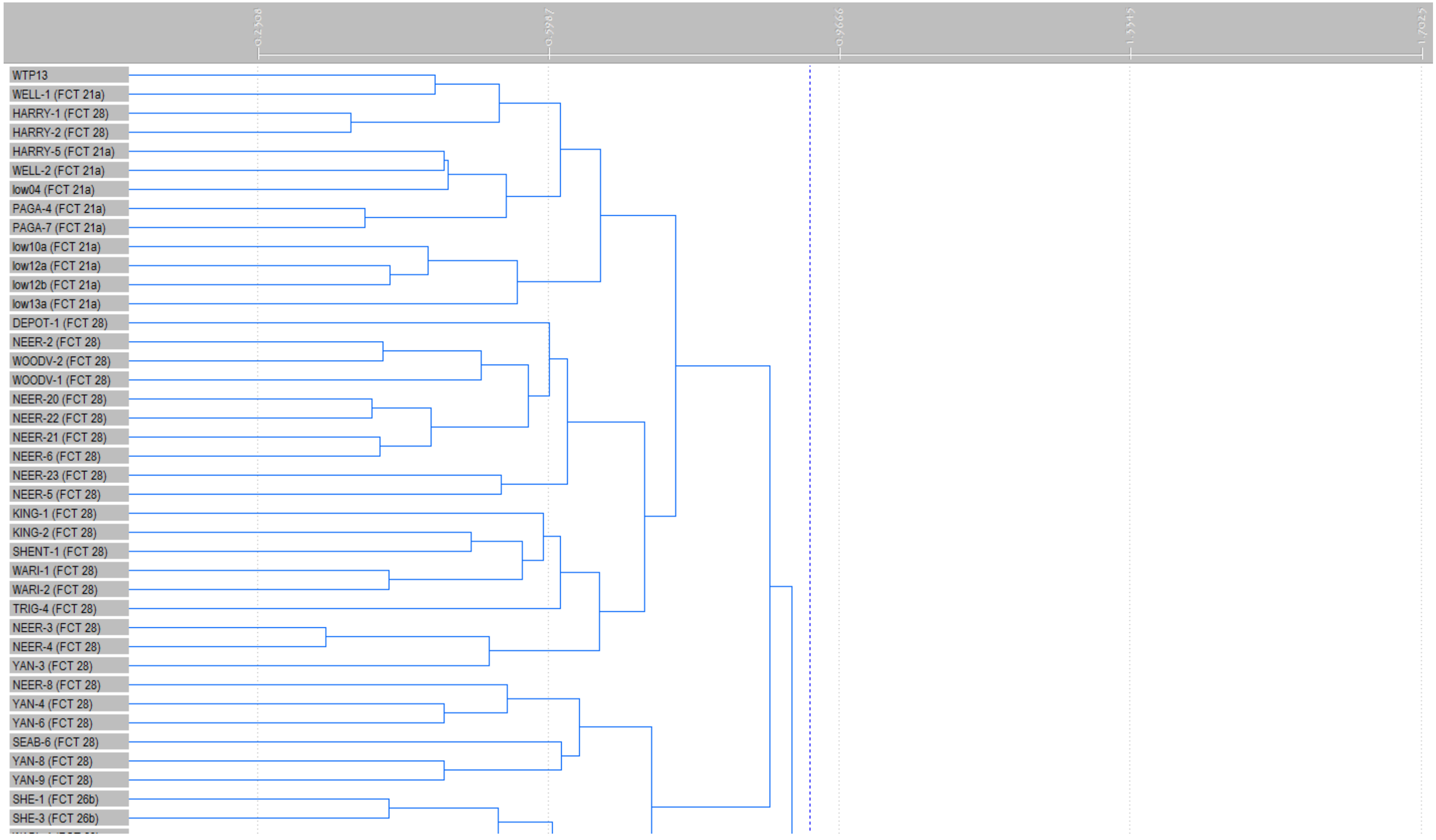
WTP13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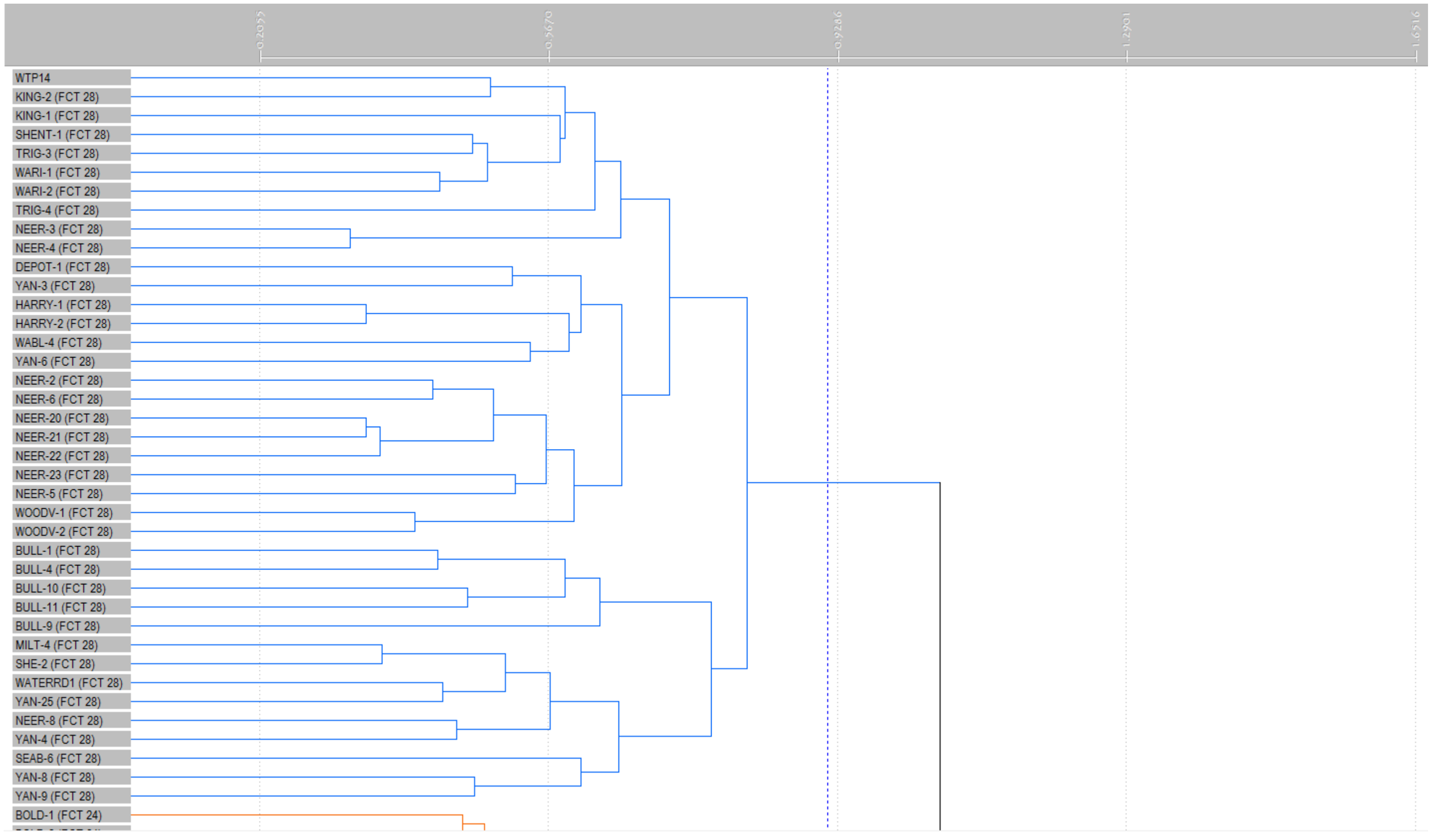
1.7025
WTP13
WELL-1 (FCT 21a)
HARRY-1 (FCT 28)
HARRY-2 (FCT 28)
HARRY-5 (FCT 21a)
WELL-2 (FCT 21a)
low04 (FCT 21a)
PAGA-4 (FCT 21a)
PAGA-7 (FCT 21a)
low10a (FCT 21a)
low12a (FCT 21a)
low12b (FCT 21a)
low13a (FCT 21a)
DEPOT-1 (FCT 28)
NEER-2 (FCT 28)
WOODV-2 (FCT 28)
WOODV-1 (FCT 28)
NEER-20 (FCT 28)
NEER-22 (FCT 28)
NEER-21 (FCT 28)
NEER-6 (FCT 28)
NEER-23 (FCT 28)
NEER-5 (FCT 28)
KING-1 (FCT 28)
KING-2 (FCT 28)
SHENT-1 (FCT 28)
WARI-1 (FCT 28)
WARI-2 (FCT 28)
TRIG-4 (FCT 28)
NEER-3 (FCT 28)
NEER-4 (FCT 28)
YAN-3 (FCT 28)
NEER-8 (FCT 28)
YAN-4 (FCT 28)
YAN-6 (FCT 28)
SEAB-6 (FCT 28)
YAN-8 (FCT 28)
YAN-9 (FCT 28)
SHE-1 (FCT 26b)
SHE-3 (FCT 26b)

WTP14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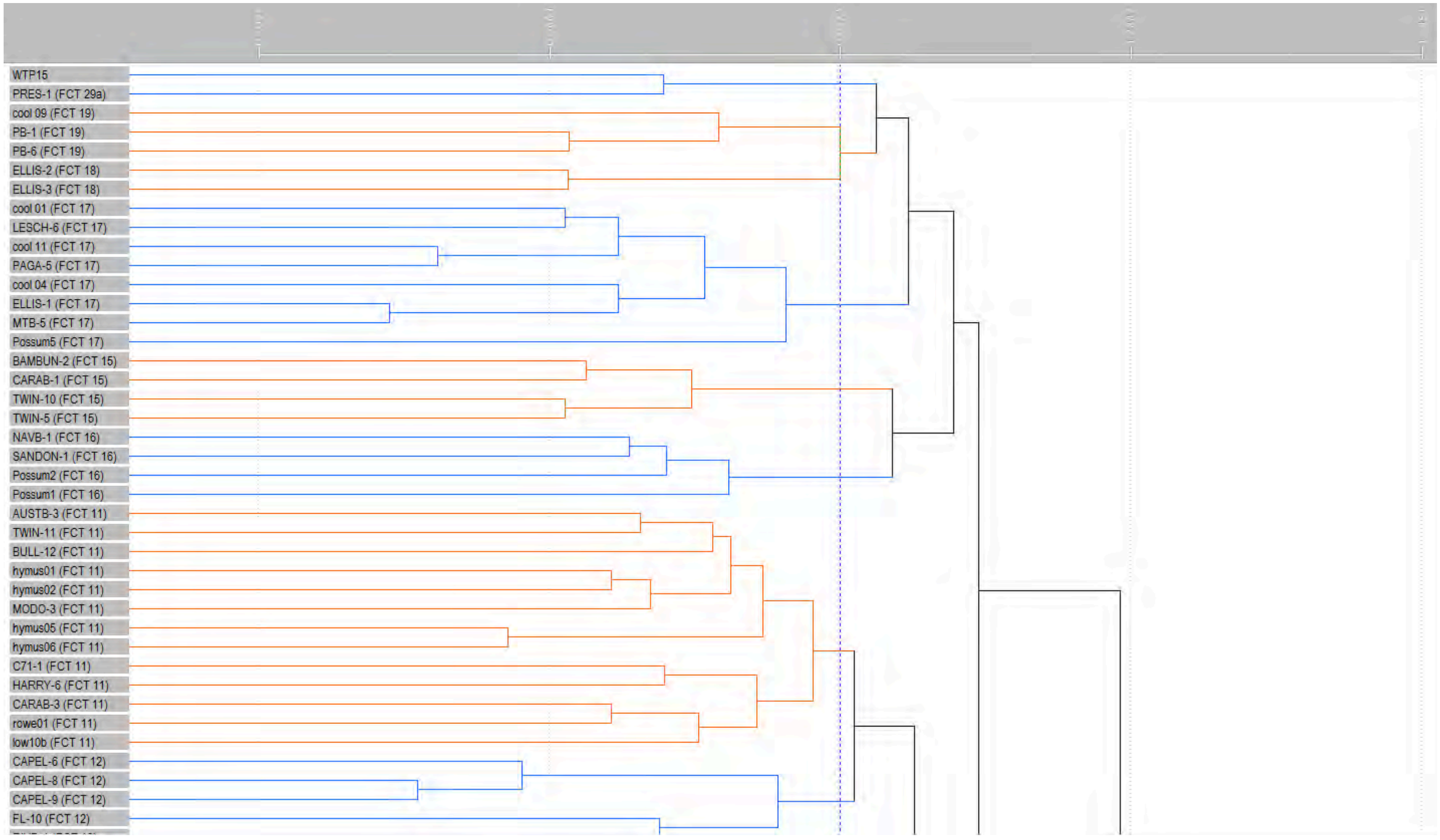
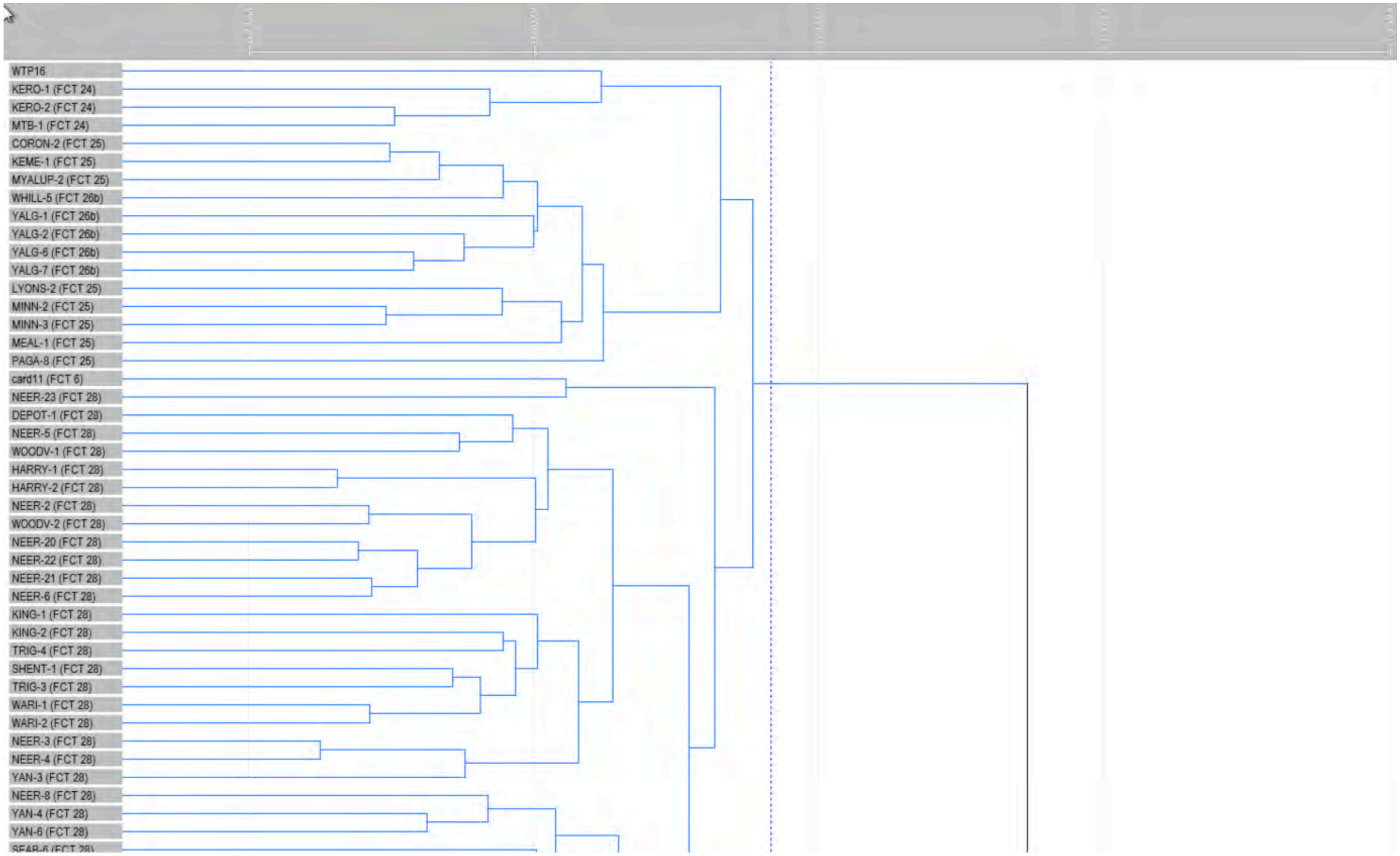
0.9286
1.2901
1.6516
WTP14
KING-2 (FCT 28)
KING-1 (FCT 28)
SHENT-1 (FCT 28)
TRIG-3 (FCT 28)
WARI-1 (FCT 28)
WARI-2 (FCT 28)
TRIG-4 (FCT 28)
NEER-3 (FCT 28)
NEER-4 (FCT 28)
DEPOT-1 (FCT 28)
YAN-3 (FCT 28)
HARRY-1 (FCT 28)
HARRY-2 (FCT 28)
WABL-4 (FCT 28)
YAN-6 (FCT 28)
NEER-2 (FCT 28)
NEER-6 (FCT 28)
NEER-20 (FCT 28)
NEER-21 (FCT 28)
NEER-22 (FCT 28)
NEER-23 (FCT 28)
NEER-5 (FCT 28)
WOODV-1 (FCT 28)
WOODV-2 (FCT 28)
BULL-1 (FCT 28)
BULL-4 (FCT 28)
BULL-10 (FCT 28)
BULL-11 (FCT 28)
BULL-9 (FCT 28)
MILT-4 (FCT 28)
SHE-2 (FCT 28)
WATERRD1 (FCT 28)
YAN-25 (FCT 28)
NEER-8 (FCT 28)
YAN-4 (FCT 28)
SEAB-6 (FCT 28)
YAN-8 (FCT 28)
YAN-9 (FCT 28)
BOLD-1 (FCT 24)

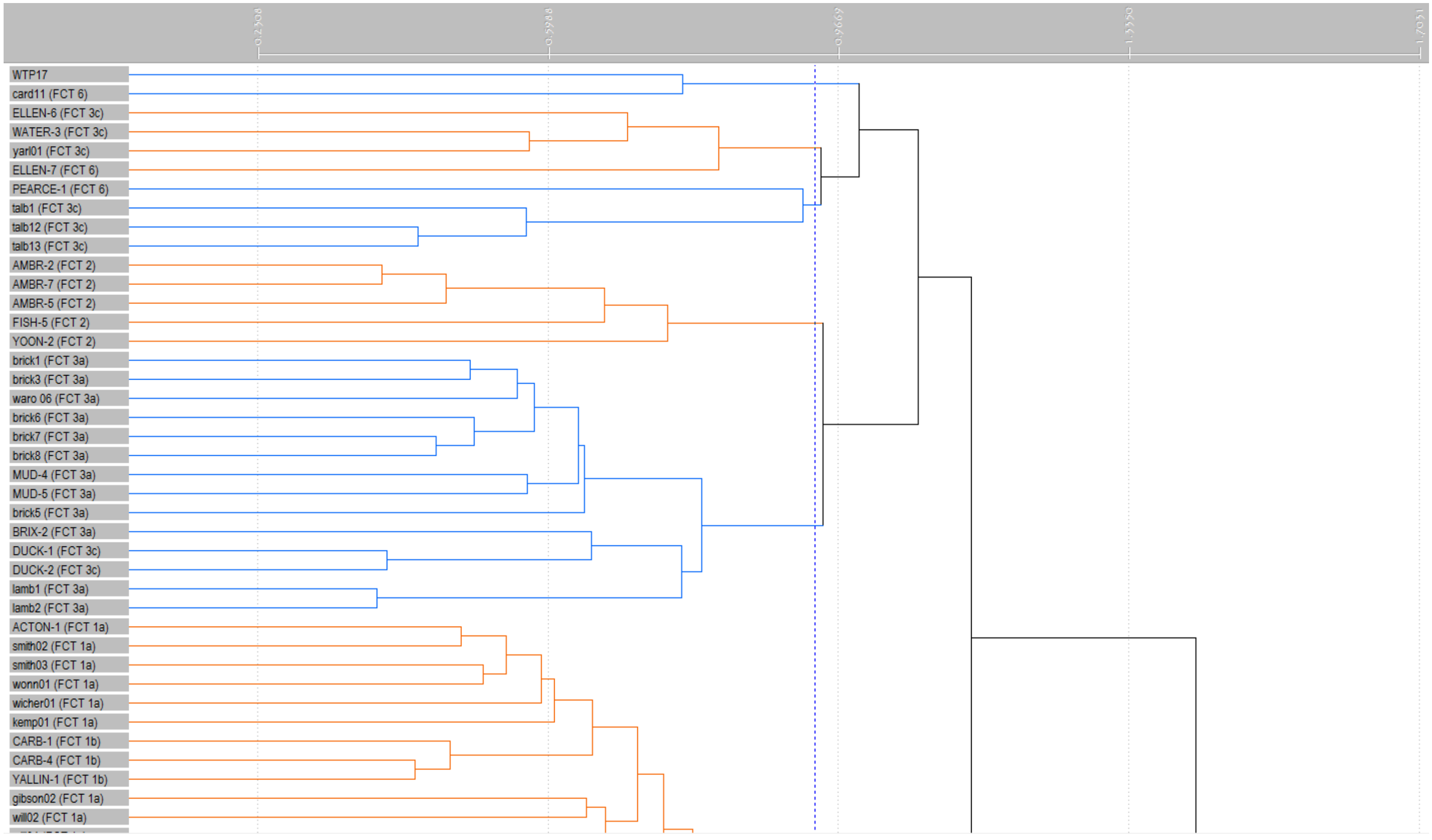
WTP15


WTP15
PRES-1 (FCT 29a)
cool 09 (FCT 19)
PB-1 (FCT 19)
PB-6 (FCT 19)
ELLIS-2 (FCT 18)
ELLIS-3 (FCT 18)
cool 01 (FCT 17)
LESCH-6 (FCT 17)
cool 11 (FCT 17)
PAGA-5 (FCT 17)
cool 04 (FCT 17)
ELLIS-1 (FCT 17)
MTB-5 (FCT 17)
Possum5 (FCT 17)
BAMBUN-2 (FCT 15)
CARAB-1 (FCT 15)
TWIN-10 (FCT 15)
TWIN-5 (FCT 15)
NAVB-1 (FCT 16)
SANDON-1 (FCT 16)
Possum2 (FCT 16)
Possum1 (FCT 16)
AUSTB-3 (FCT 11)
TWIN-11 (FCT 11)
BULL-12 (FCT 11)
hymus01 (FCT 11)
hymus02 (FCT 11)
MODO-3 (FCT 11)
hymus05 (FCT 11)
hymus06 (FCT 11)
C71-1 (FCT 11)
HARRY-6 (FCT 11)
CARAB-3 (FCT 11)
rowe01 (FCT 11)
low10b (FCT 11)
CAPEL-6 (FCT 12)
CAPEL-8 (FCT 12)
CAPEL-9 (FCT 12)
FL-10 (FCT 12)

WTP16


WTP16
KERO-1 (FCT 24)
KERO-2 (FCT 24)
MTB-1 (FCT 24)
CORON-2 (FCT 25)
KEME-1 (FCT 25)
MYALUP-2 (FCT 25)
WHILL-5 (FCT 26b)
YALG-1 (FCT 26b)
YALG-2 (FCT 26b)
YALG-6 (FCT 26b)
YALG-7 (FCT 26b)
LYONS-2 (FCT 25)
MINN-2 (FCT 25)
MINN-3 (FCT 25)
MEAL-1 (FCT 25)
PAGA-8 (FCT 25)
card11 (FCT 6)
NEER-23 (FCT 28)
DEPOT-1 (FCT 28)
NEER-5 (FCT 28)
WOODV-1 (FCT 28)
HARRY-1 (FCT 28)
HARRY-2 (FCT 28)
NEER-2 (FCT 28)
WOODV-2 (FCT 28)
NEER-20 (FCT 28)
NEER-22 (FCT 28)
NEER-21 (FCT 28)
NEER-6 (FCT 28)
KING-1 (FCT 28)
KING-2 (FCT 28)
TRIG-4 (FCT 28)
SHENT-1 (FCT 28)
TRIG-3 (FCT 28)
WARI-1 (FCT 28)
WARI-2 (FCT 28)
NEER-3 (FCT 28)
NEER-4 (FCT 28)
YAN-3 (FCT 28)
NEER-8 (FCT 28)
YAN-4 (FCT 28)
YAN-6 (FCT 28)

WTP17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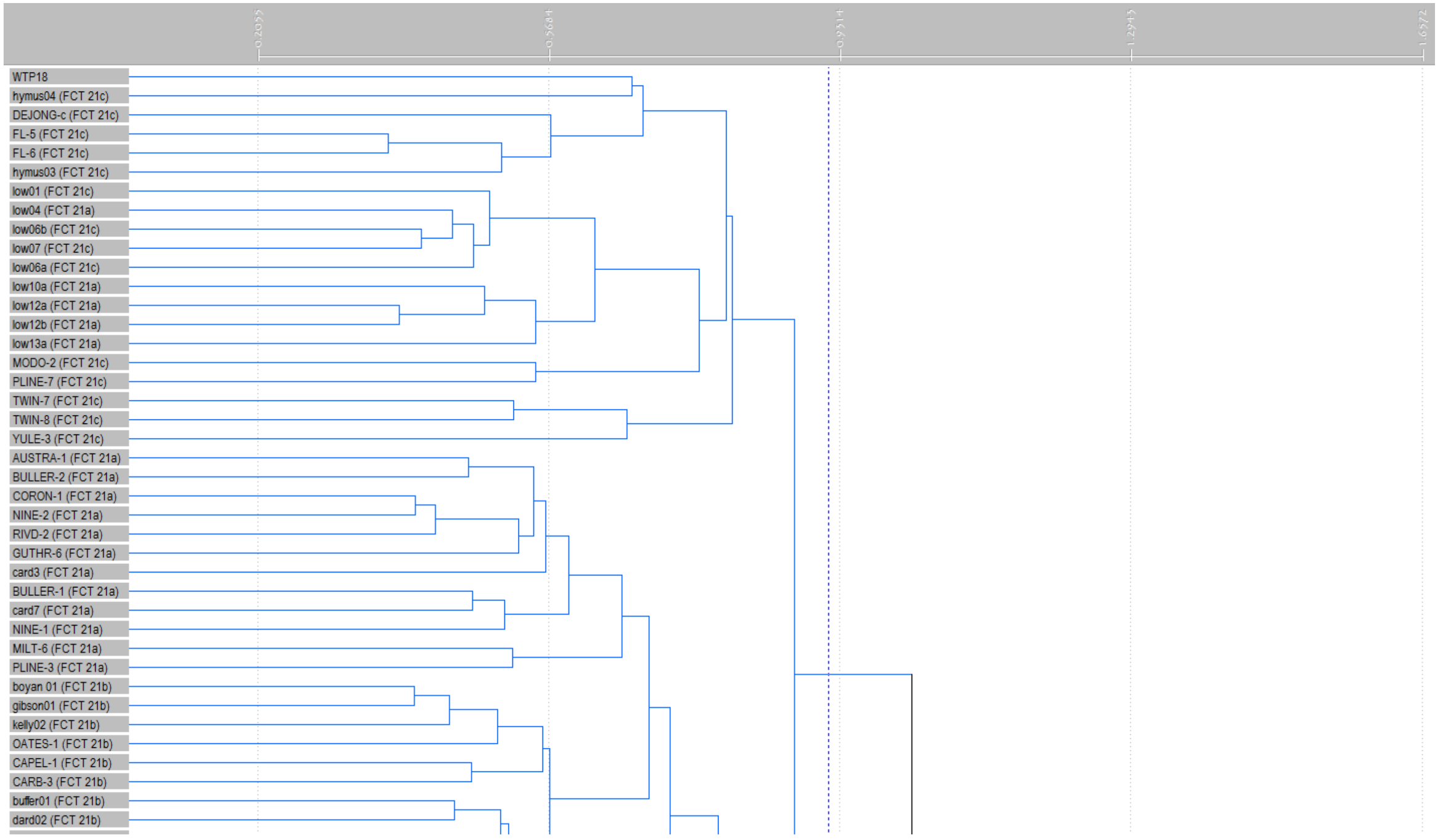
0.9669
1.3350
1.7031
WTP17
card11 (FCT 6)
ELLEN-6 (FCT 3c)
WATER-3 (FCT 3c)
yarl01 (FCT 3c)
ELLEN-7 (FCT 6)
PEARCE-1 (FCT 6)
talb1 (FCT 3c)
talb12 (FCT 3c)
talb13 (FCT 3c)
AMBR-2 (FCT 2)
AMBR-7 (FCT 2)
AMBR-5 (FCT 2)
FISH-5 (FCT 2)
YOON-2 (FCT 2)
brick1 (FCT 3a)
brick3 (FCT 3a)
waro 06 (FCT 3a)
brick6 (FCT 3a)
brick7 (FCT 3a)
brick8 (FCT 3a)
MUD-4 (FCT 3a)
MUD-5 (FCT 3a)
brick5 (FCT 3a)
BRIX-2 (FCT 3a)
DUCK-1 (FCT 3c)
DUCK-2 (FCT 3c)
lamb1 (FCT 3a)
lamb2 (FCT 3a)
ACTON-1 (FCT 1a)
smith02 (FCT 1a)
smith03 (FCT 1a)
wonn01 (FCT 1a)
wicher01 (FCT 1a)
kemp01 (FCT 1a)
CARB-1 (FCT 1b)
CARB-4 (FCT 1b)
YALLIN-1 (FCT 1b)
gibson02 (FCT 1a)
will02 (FCT 1a)

WTP18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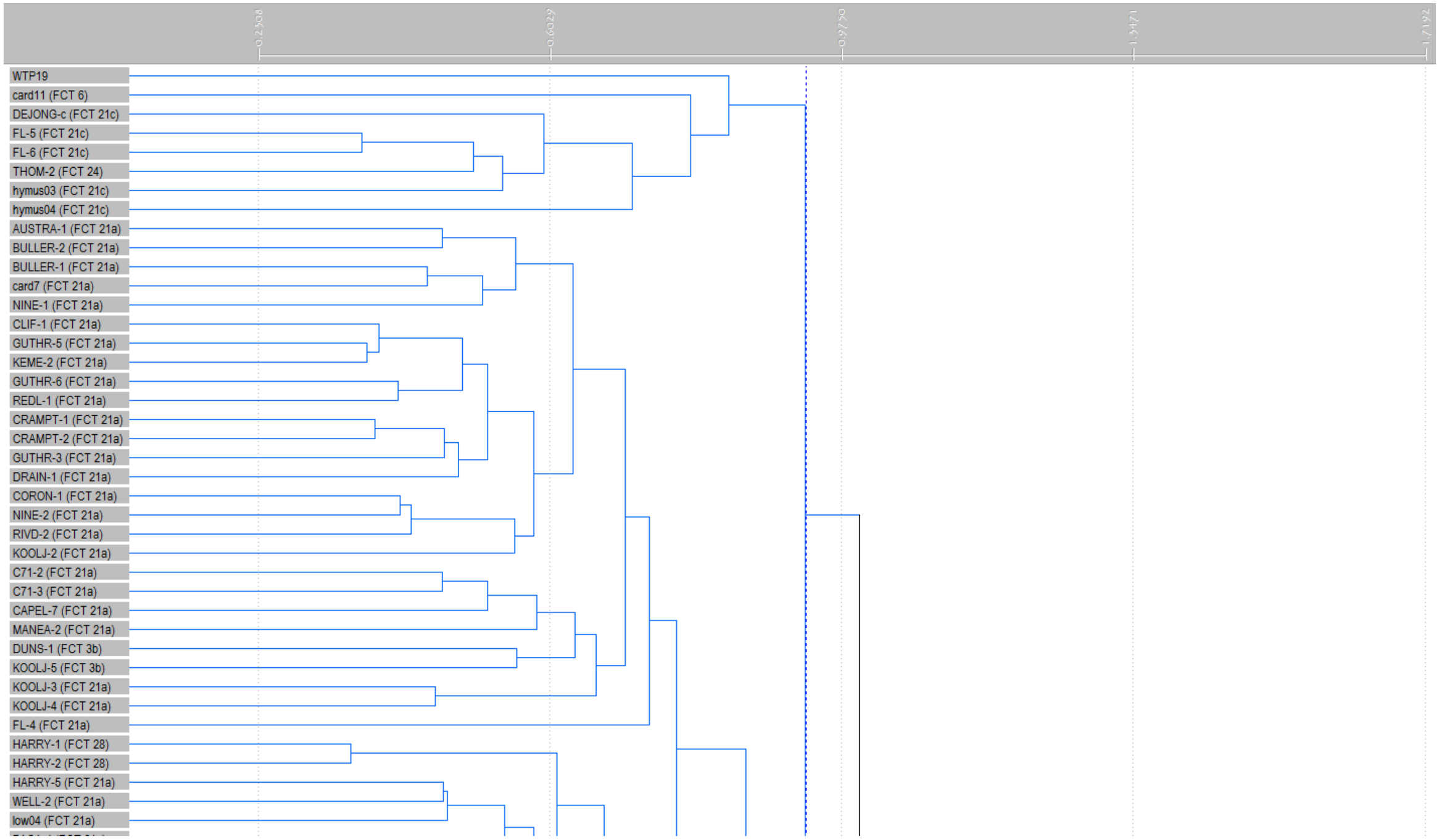
0.9314
1.2945
1.6572
WTP18
hymus04 (FCT 21c)
DEJONG-c (FCT 21c)
FL-5 (FCT 21c)
FL-6 (FCT 21c)
hymus03 (FCT 21c)
low01 (FCT 21c)
low04 (FCT 21a)
low06b (FCT 21c)
low07 (FCT 21c)
low06a (FCT 21c)
low10a (FCT 21a)
low12a (FCT 21a)
low12b (FCT 21a)
low13a (FCT 21a)
MODO-2 (FCT 21c)
PLINE-7 (FCT 21c)
TWIN-7 (FCT 21c)
TWIN-8 (FCT 21c)
YULE-3 (FCT 21c)
AUSTRA-1 (FCT 21a)
BULLER-2 (FCT 21a)
CORON-1 (FCT 21a)
NINE-2 (FCT 21a)
RIVD-2 (FCT 21a)
GUTHR-6 (FCT 21a)
card3 (FCT 21a)
BULLER-1 (FCT 21a)
card7 (FCT 21a)
NINE-1 (FCT 21a)
MILT-6 (FCT 21a)
PLINE-3 (FCT 21a)
boyan 01 (FCT 21b)
gibson01 (FCT 21b)
kelly02 (FCT 21b)
OATES-1 (FCT 21b)
CAPEL-1 (FCT 21b)
CARB-3 (FCT 21b)
buffer01 (FCT 21b)
dard02 (FCT 21b)

WTP19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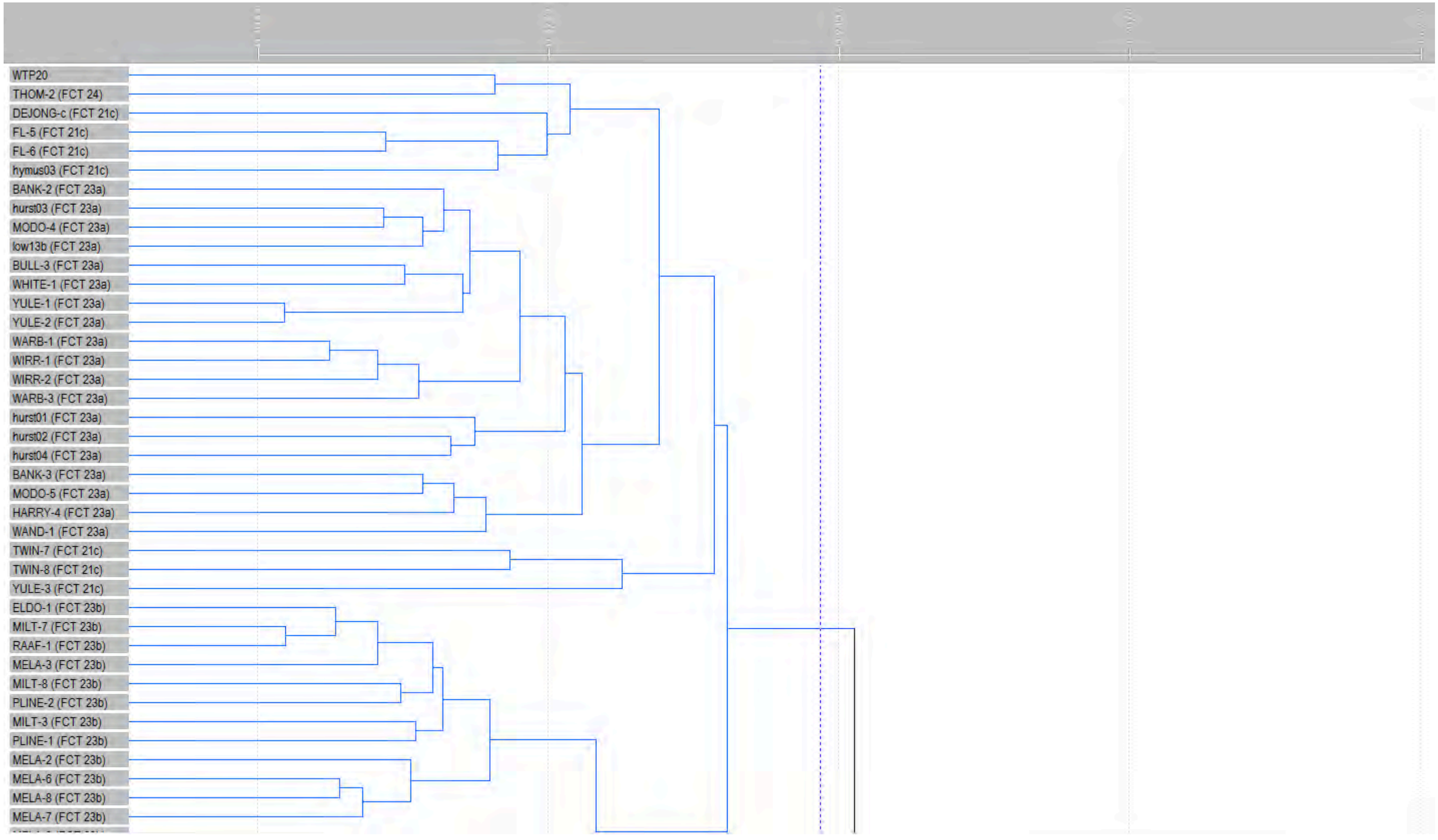
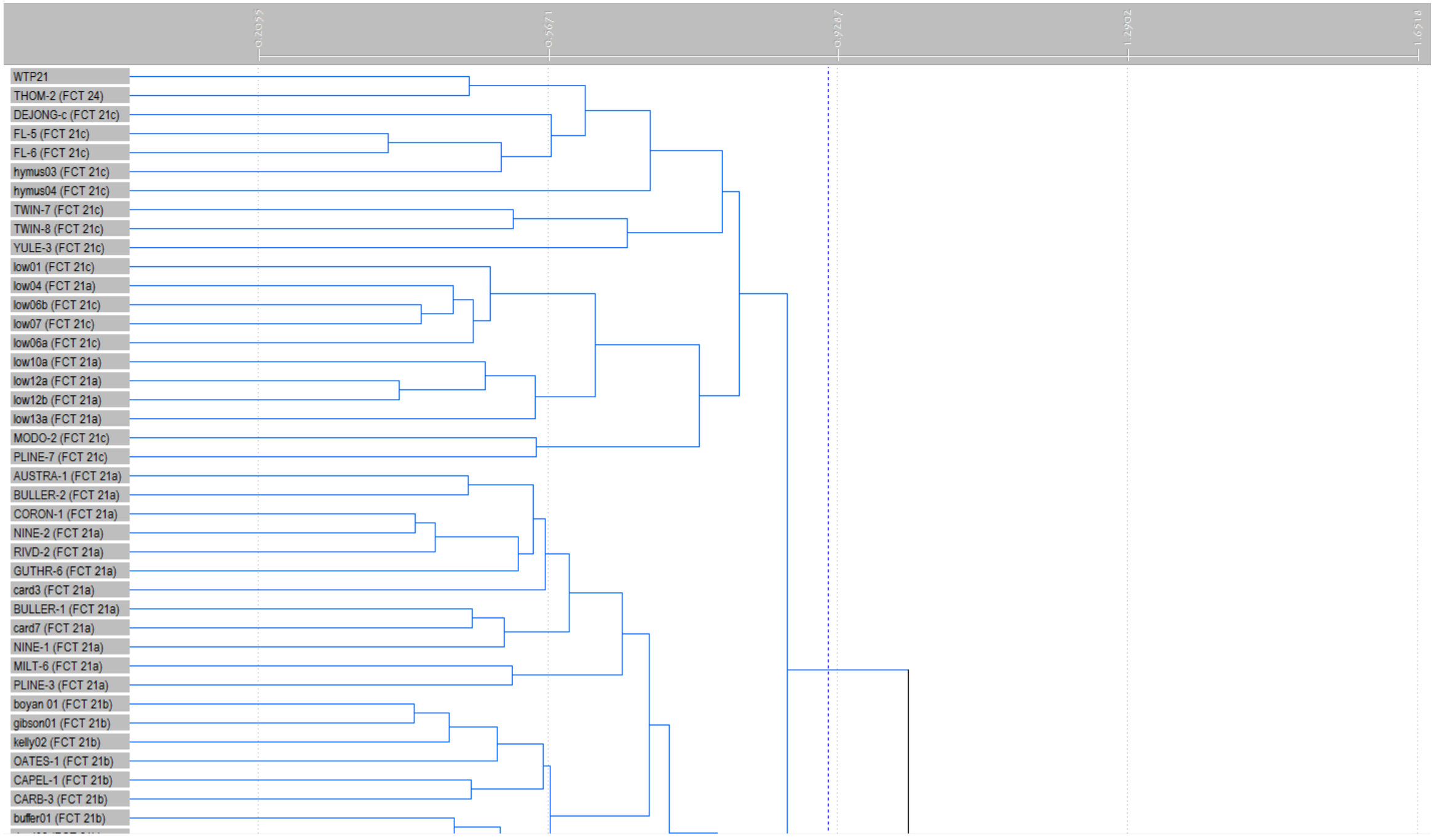
1.3471
1.7192
WTP19
card11 (FCT 6)
DEJONG-c (FCT 21c)
FL-5 (FCT 21c)
FL-6 (FCT 21c)
THOM-2 (FCT 24)
hymus03 (FCT 21c)
hymus04 (FCT 21c)
AUSTRA-1 (FCT 21a)
BULLER-2 (FCT 21a)
BULLER-1 (FCT 21a)
card7 (FCT 21a)
NINE-1 (FCT 21a)
CLIF-1 (FCT 21a)
GUTHR-5 (FCT 21a)
KEME-2 (FCT 21a)
GUTHR-6 (FCT 21a)
REDL-1 (FCT 21a)
CRAMPT-1 (FCT 21a)
CRAMPT-2 (FCT 21a)
GUTHR-3 (FCT 21a)
DRAIN-1 (FCT 21a)
CORON-1 (FCT 21a)
NINE-2 (FCT 21a)
RIVD-2 (FCT 21a)
KOOLJ-2 (FCT 21a)
C71-2 (FCT 21a)
C71-3 (FCT 21a)
CAPEL-7 (FCT 21a)
MANEA-2 (FCT 21a)
DUNS-1 (FCT 3b)
KOOLJ-5 (FCT 3b)
KOOLJ-3 (FCT 21a)
KOOLJ-4 (FCT 21a)
FL-4 (FCT 21a)
HARRY-1 (FCT 28)
HARRY-2 (FCT 28)
HARRY-5 (FCT 21a)
WELL-2 (FCT 21a)
low04 (FCT 21a)

WTP20


WTP20
THOM-2 (FCT 24)
DEJONG-c (FCT 21c)
FL-5 (FCT 21c)
FL-6 (FCT 21c)
hymus03 (FCT 21c)
BANK-2 (FCT 23a)
hurst03 (FCT 23a)
MODO-4 (FCT 23a)
low13b (FCT 23a)
BULL-3 (FCT 23a)
WHITE-1 (FCT 23a)
YULE-1 (FCT 23a)
YULE-2 (FCT 23a)
WARB-1 (FCT 23a)
WIRR-1 (FCT 23a)
WIRR-2 (FCT 23a)
WARB-3 (FCT 23a)
hurst01 (FCT 23a)
hurst02 (FCT 23a)
hurst04 (FCT 23a)
BANK-3 (FCT 23a)
MODO-5 (FCT 23a)
HARRY-4 (FCT 23a)
WAND-1 (FCT 23a)
TWIN-7 (FCT 21c)
TWIN-8 (FCT 21c)
YULE-3 (FCT 21c)
ELDO-1 (FCT 23b)
MILT-7 (FCT 23b)
RAAF-1 (FCT 23b)
MELA-3 (FCT 23b)
MILT-8 (FCT 23b)
PLINE-2 (FCT 23b)
MILT-3 (FCT 23b)
PLINE-1 (FCT 23b)
MELA-2 (FCT 23b)
MELA-6 (FCT 23b)
MELA-8 (FCT 23b)
MELA-7 (FCT 23b)

WTP21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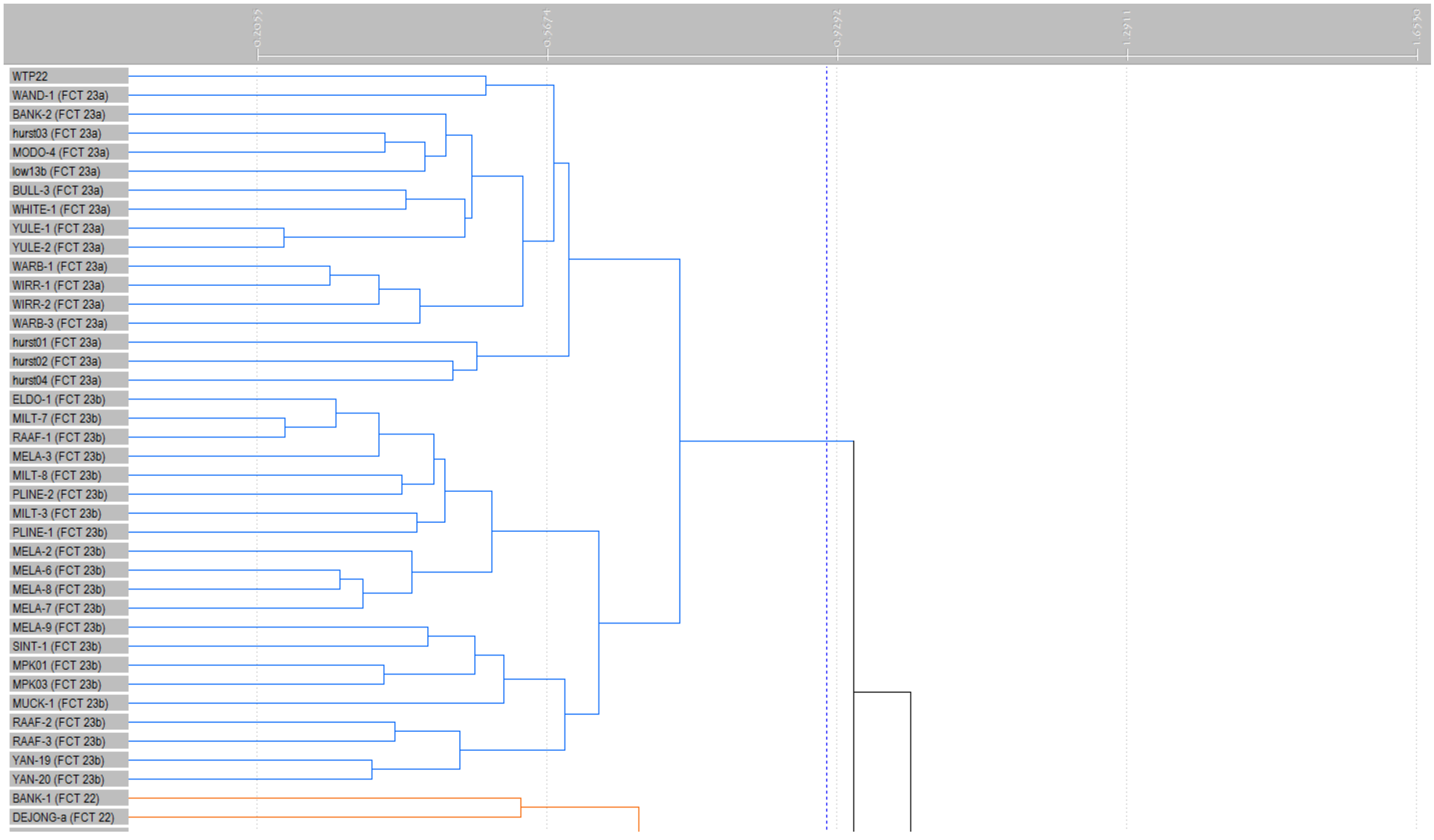
1.6518
WTP21
THOM-2 (FCT 24)
DEJONG-c (FCT 21c)
FL-5 (FCT 21c)
FL-6 (FCT 21c)
hymus03 (FCT 21c)
hymus04 (FCT 21c)
TWIN-7 (FCT 21c)
TWIN-8 (FCT 21c)
YULE-3 (FCT 21c)
low01 (FCT 21c)
low04 (FCT 21a)
low06b (FCT 21c)
low07 (FCT 21c)
low06a (FCT 21c)
low10a (FCT 21a)
low12a (FCT 21a)
low12b (FCT 21a)
low13a (FCT 21a)
MODO-2 (FCT 21c)
PLINE-7 (FCT 21c)
AUSTRA-1 (FCT 21a)
BULLER-2 (FCT 21a)
CORON-1 (FCT 21a)
NINE-2 (FCT 21a)
RIVD-2 (FCT 21a)
GUTHR-6 (FCT 21a)
card3 (FCT 21a)
BULLER-1 (FCT 21a)
card7 (FCT 21a)
NINE-1 (FCT 21a)
MILT-6 (FCT 21a)
PLINE-3 (FCT 21a)
boyan 01 (FCT 21b)
gibson01 (FCT 21b)
kelly02 (FCT 21b)
OATES-1 (FCT 21b)
CAPEL-1 (FCT 21b)
CARB-3 (FCT 21b)
buffer01 (FCT 21b)

WTP22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0.9292
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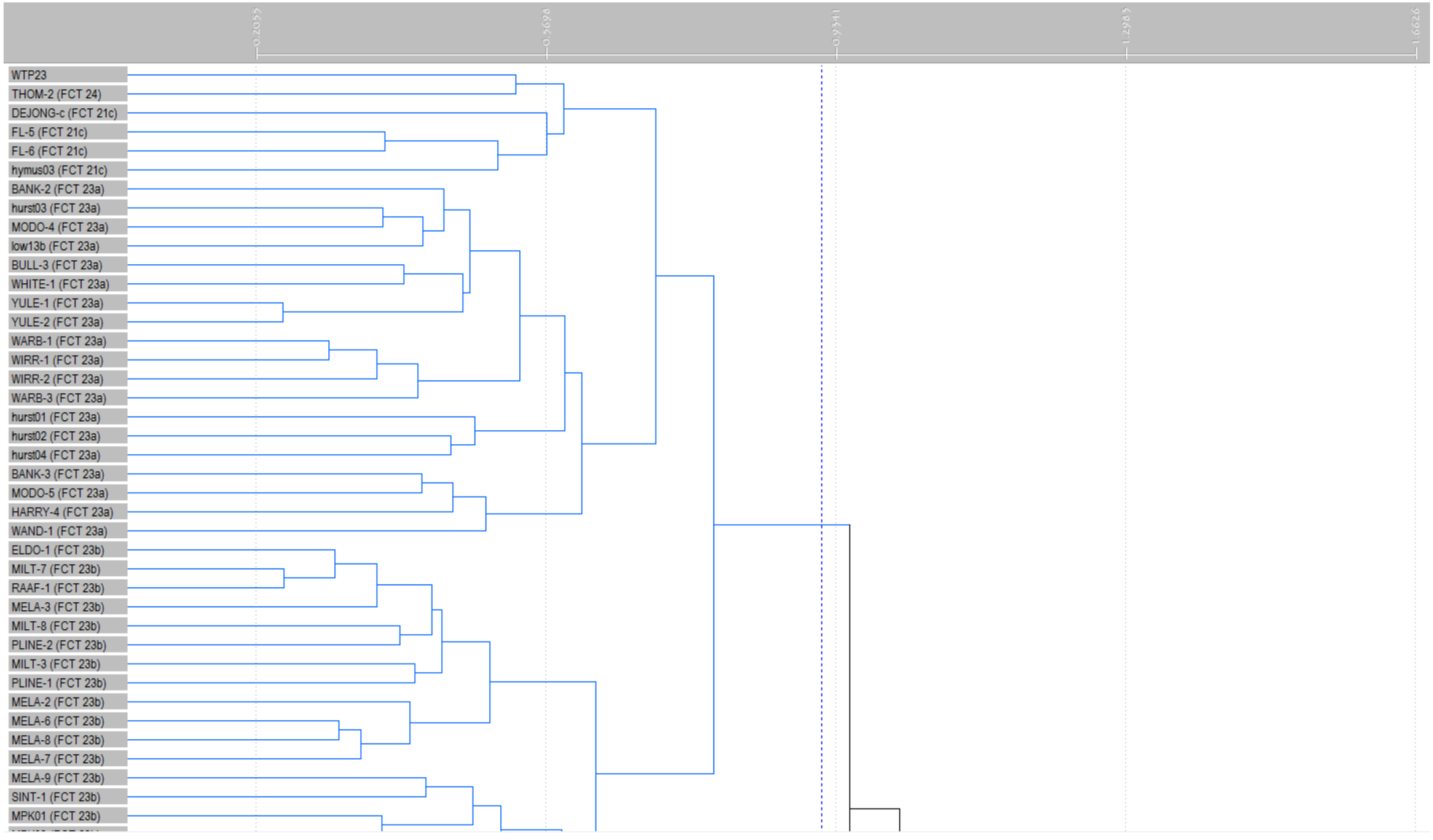
1.6530
WTP22
WAND-1 (FCT 23a)
BANK-2 (FCT 23a)
hurst03 (FCT 23a)
MODO-4 (FCT 23a)
low13b (FCT 23a)
BULL-3 (FCT 23a)
WHITE-1 (FCT 23a)
YULE-1 (FCT 23a)
YULE-2 (FCT 23a)
WARB-1 (FCT 23a)
WIRR-1 (FCT 23a)
WIRR-2 (FCT 23a)
WARB-3 (FCT 23a)
hurst01 (FCT 23a)
hurst02 (FCT 23a)
hurst04 (FCT 23a)
ELDO-1 (FCT 23b)
MILT-7 (FCT 23b)
RAAF-1 (FCT 23b)
MELA-3 (FCT 23b)
MILT-8 (FCT 23b)
PLINE-2 (FCT 23b)
MILT-3 (FCT 23b)
PLINE-1 (FCT 23b)
MELA-2 (FCT 23b)
MELA-6 (FCT 23b)
MELA-8 (FCT 23b)
MELA-7 (FCT 23b)
MELA-9 (FCT 23b)
SINT-1 (FCT 23b)
MPK01 (FCT 23b)
MPK03 (FCT 23b)
MUCK-1 (FCT 23b)
RAAF-2 (FCT 23b)
RAAF-3 (FCT 23b)
YAN-19 (FCT 23b)
YAN-20 (FCT 23b)
BANK-1 (FCT 22)
DEJONG-a (FCT 22)

WTP23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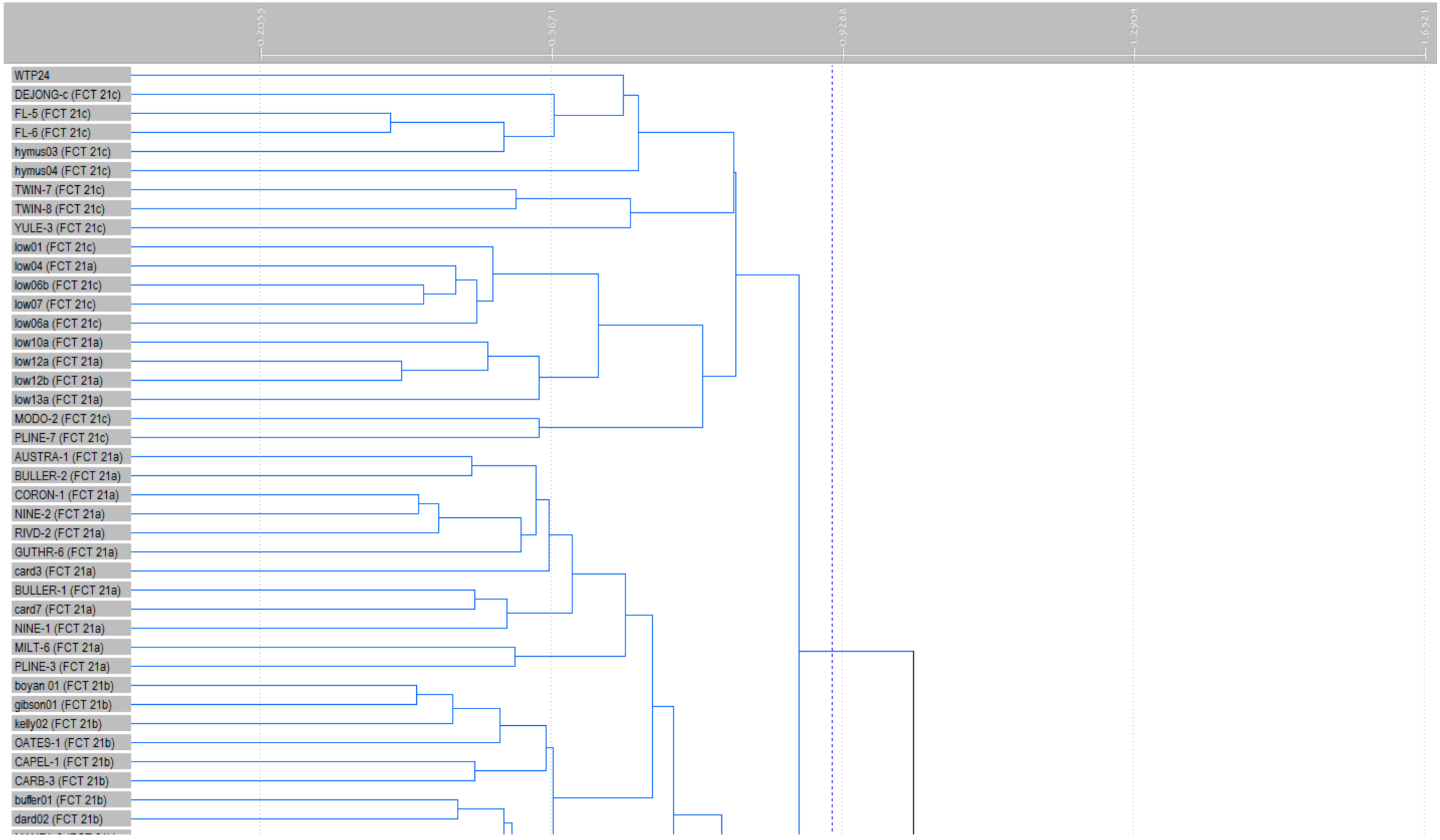
0.9341
1.2983
1.6626
WTP23
THOM-2 (FCT 24)
DEJONG-c (FCT 21c)
FL-5 (FCT 21c)
FL-6 (FCT 21c)
hymus03 (FCT 21c)
BANK-2 (FCT 23a)
hurst03 (FCT 23a)
MODO-4 (FCT 23a)
low13b (FCT 23a)
BULL-3 (FCT 23a)
WHITE-1 (FCT 23a)
YULE-1 (FCT 23a)
YULE-2 (FCT 23a)
WARB-1 (FCT 23a)
WIRR-1 (FCT 23a)
WIRR-2 (FCT 23a)
WARB-3 (FCT 23a)
hurst01 (FCT 23a)
hurst02 (FCT 23a)
hurst04 (FCT 23a)
BANK-3 (FCT 23a)
MODO-5 (FCT 23a)
HARRY-4 (FCT 23a)
WAND-1 (FCT 23a)
ELDO-1 (FCT 23b)
MILT-7 (FCT 23b)
RAAF-1 (FCT 23b)
MELA-3 (FCT 23b)
MILT-8 (FCT 23b)
PLINE-2 (FCT 23b)
MILT-3 (FCT 23b)
PLINE-1 (FCT 23b)
MELA-2 (FCT 23b)
MELA-6 (FCT 23b)
MELA-8 (FCT 23b)
MELA-7 (FCT 23b)
MELA-9 (FCT 23b)
SINT-1 (FCT 23b)
MPK01 (FCT 23b)

WTP24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0.9288
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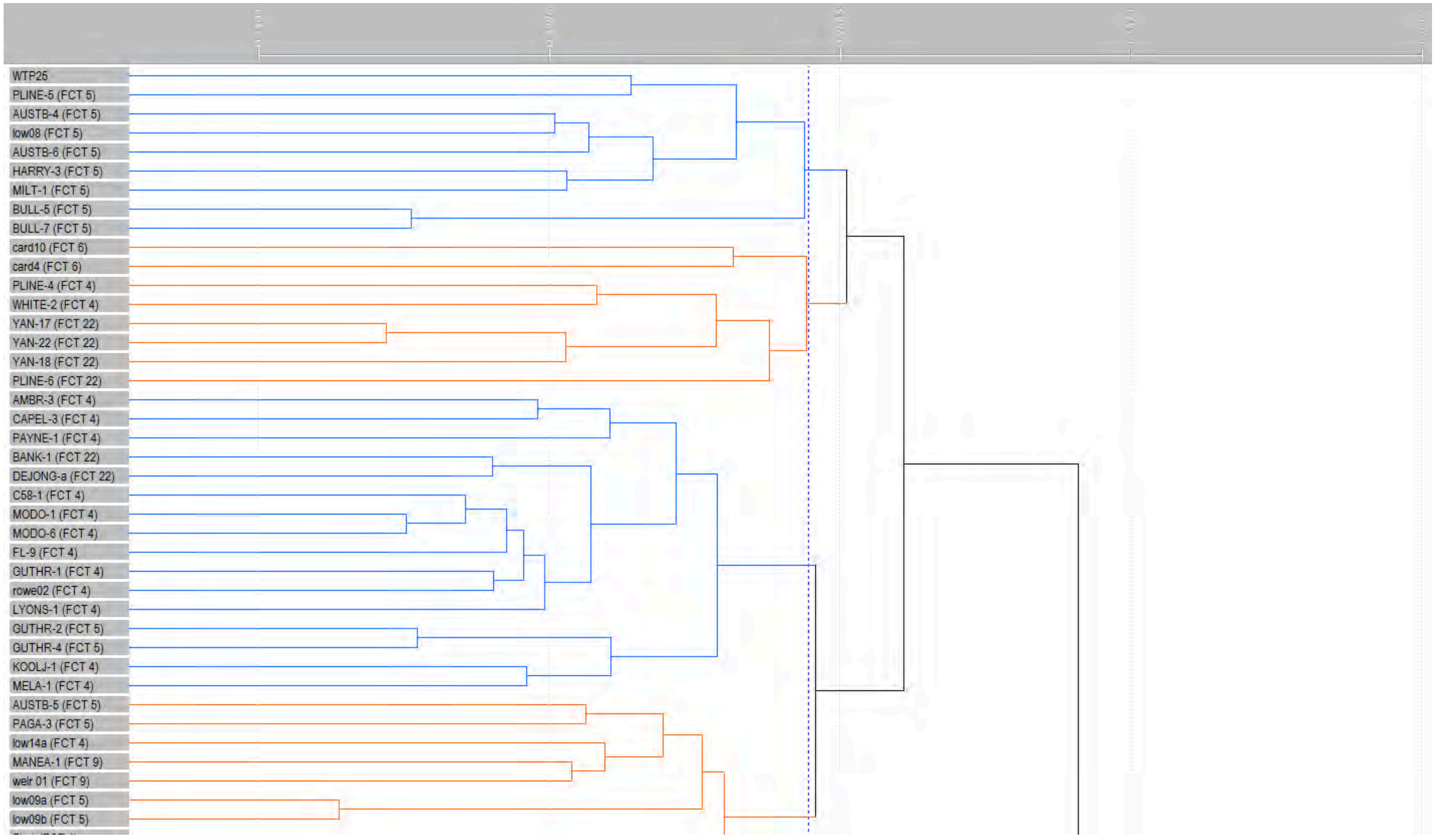
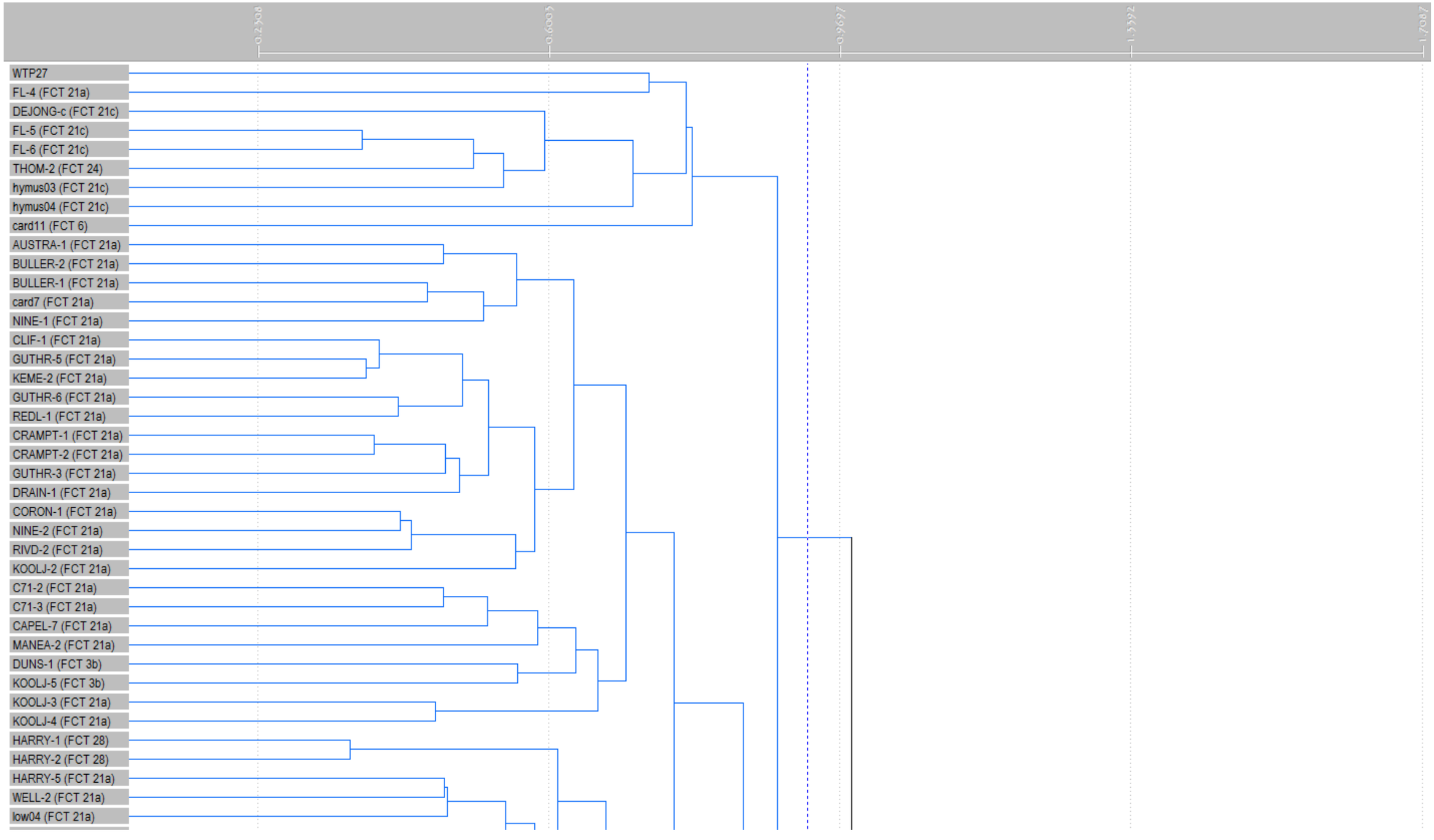
1.6521
WTP24
DEJONG-c (FCT 21c)
FL-5 (FCT 21c)
FL-6 (FCT 21c)
hymus03 (FCT 21c)
hymus04 (FCT 21c)
TWIN-7 (FCT 21c)
TWIN-8 (FCT 21c)
YULE-3 (FCT 21c)
low01 (FCT 21c)
low04 (FCT 21a)
low06b (FCT 21c)
low07 (FCT 21c)
low06a (FCT 21c)
low10a (FCT 21a)
low12a (FCT 21a)
low12b (FCT 21a)
low13a (FCT 21a)
MODO-2 (FCT 21c)
PLINE-7 (FCT 21c)
AUSTRA-1 (FCT 21a)
BULLER-2 (FCT 21a)
CORON-1 (FCT 21a)
NINE-2 (FCT 21a)
RIVD-2 (FCT 21a)
GUTHR-6 (FCT 21a)
card3 (FCT 21a)
BULLER-1 (FCT 21a)
card7 (FCT 21a)
NINE-1 (FCT 21a)
MILT-6 (FCT 21a)
PLINE-3 (FCT 21a)
boyan 01 (FCT 21b)
gibson01 (FCT 21b)
kelly02 (FCT 21b)
OATES-1 (FCT 21b)
CAPEL-1 (FCT 21b)
CARB-3 (FCT 21b)
buffer01 (FCT 21b)
dard02 (FCT 21b)

WTP25


WTP25
PLINE-5 (FCT 5)
AUSTB-4 (FCT 5)
low08 (FCT 5)
AUSTB-6 (FCT 5)
HARRY-3 (FCT 5)
MILT-1 (FCT 5)
BULL-5 (FCT 5)
BULL-7 (FCT 5)
card10 (FCT 6)
card4 (FCT 6)
PLINE-4 (FCT 4)
WHITE-2 (FCT 4)
YAN-17 (FCT 22)
YAN-22 (FCT 22)
YAN-18 (FCT 22)
PLINE-6 (FCT 22)
AMBR-3 (FCT 4)
CAPEL-3 (FCT 4)
PAYNE-1 (FCT 4)
BANK-1 (FCT 22)
DEJONG-a (FCT 22)
C58-1 (FCT 4)
MODO-1 (FCT 4)
MODO-6 (FCT 4)
FL-9 (FCT 4)
GUTHR-1 (FCT 4)
rowe02 (FCT 4)
LYONS-1 (FCT 4)
GUTHR-2 (FCT 5)
GUTHR-4 (FCT 5)
KOOLJ-1 (FCT 4)
MELA-1 (FCT 4)
AUSTB-5 (FCT 5)
PAGA-3 (FCT 5)
low14a (FCT 4)
MANEA-1 (FCT 9)
weir 01 (FCT 9)
low09a (FCT 5)
low09b (FCT 5)

WTP27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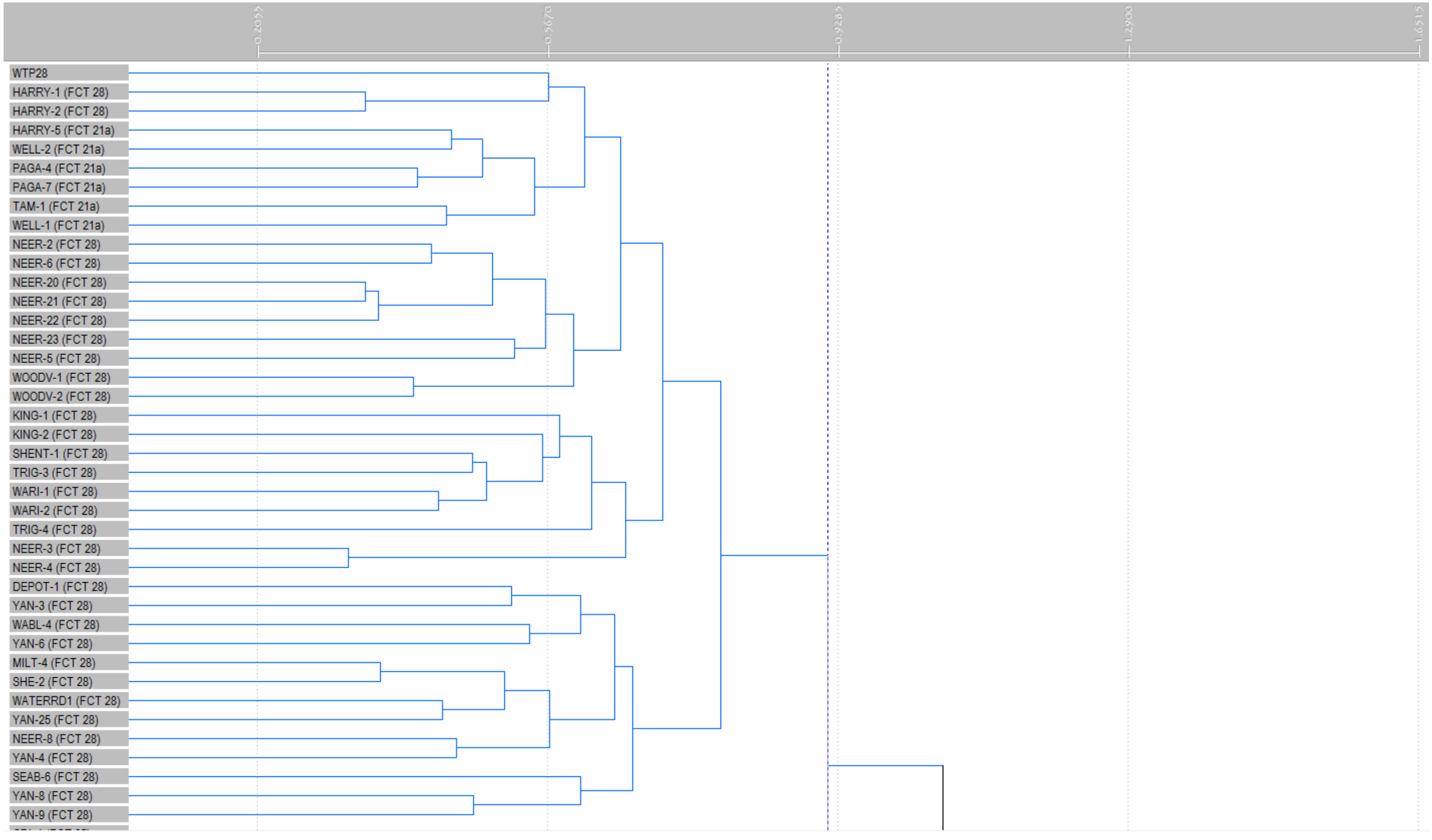
0.6003
0.9697
1.3392
1.7087
WTP27
FL-4 (FCT 21a)
DEJONG-c (FCT 21c)
FL-5 (FCT 21c)
FL-6 (FCT 21c)
THOM-2 (FCT 24)
hymus03 (FCT 21c)
hymus04 (FCT 21c)
card11 (FCT 6)
AUSTRA-1 (FCT 21a)
BULLER-2 (FCT 21a)
BULLER-1 (FCT 21a)
card7 (FCT 21a)
NINE-1 (FCT 21a)
CLIF-1 (FCT 21a)
GUTHR-5 (FCT 21a)
KEME-2 (FCT 21a)
GUTHR-6 (FCT 21a)
REDL-1 (FCT 21a)
CRAMPT-1 (FCT 21a)
CRAMPT-2 (FCT 21a)
GUTHR-3 (FCT 21a)
DRAIN-1 (FCT 21a)
CORON-1 (FCT 21a)
NINE-2 (FCT 21a)
RIVD-2 (FCT 21a)
KOOLJ-2 (FCT 21a)
C71-2 (FCT 21a)
C71-3 (FCT 21a)
CAPEL-7 (FCT 21a)
MANEA-2 (FCT 21a)
DUNS-1 (FCT 3b)
KOOLJ-5 (FCT 3b)
KOOLJ-3 (FCT 21a)
KOOLJ-4 (FCT 21a)
HARRY-1 (FCT 28)
HARRY-2 (FCT 28)
HARRY-5 (FCT 21a)
WELL-2 (FCT 21a)
low04 (FCT 21a)

WTP28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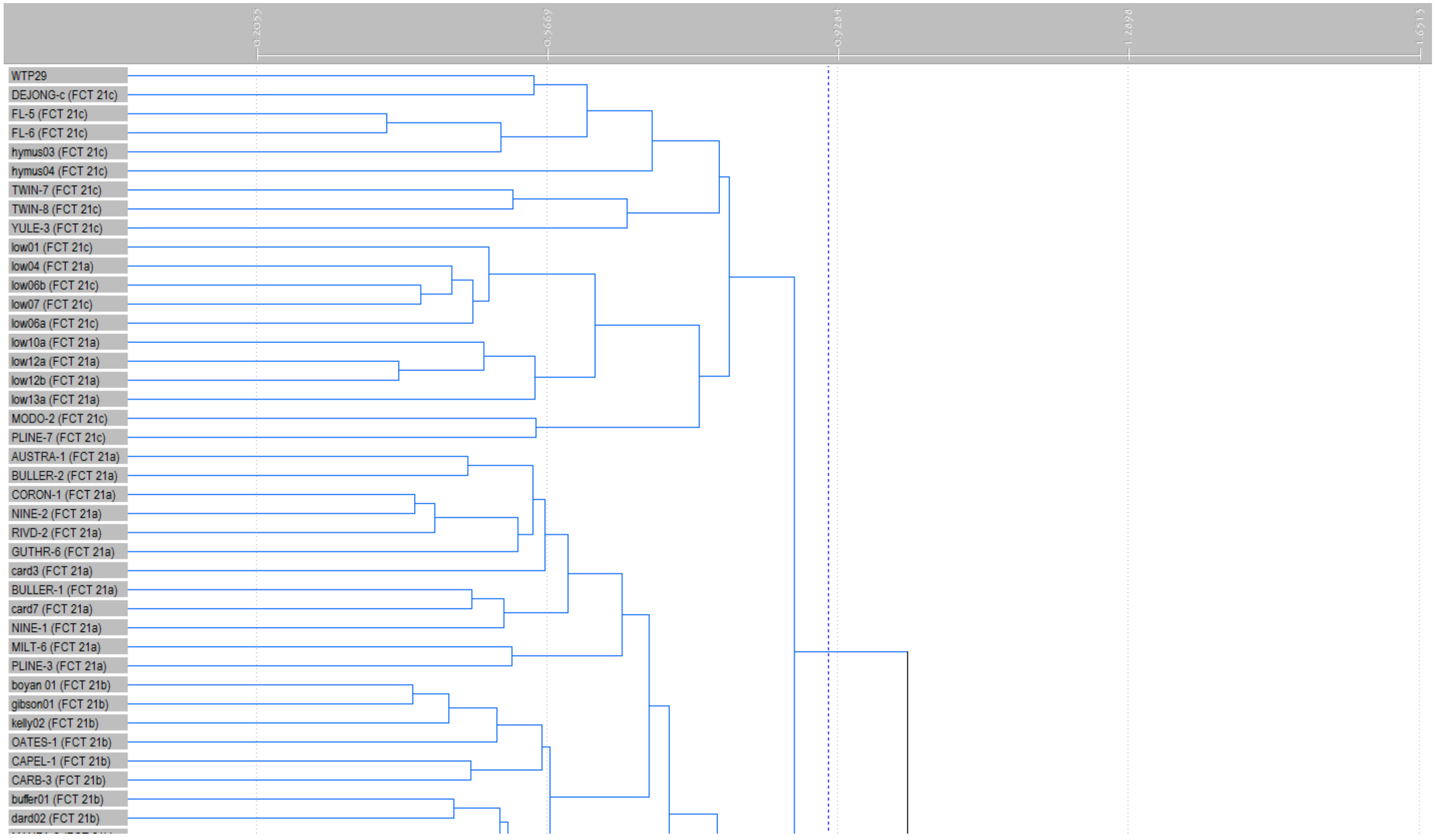
0.9285
1.2900
1.6515
WTP28
HARRY-1 (FCT 28)
HARRY-2 (FCT 28)
HARRY-5 (FCT 21a)
WELL-2 (FCT 21a)
PAGA-4 (FCT 21a)
PAGA-7 (FCT 21a)
TAM-1 (FCT 21a)
WELL-1 (FCT 21a)
NEER-2 (FCT 28)
NEER-6 (FCT 28)
NEER-20 (FCT 28)
NEER-21 (FCT 28)
NEER-22 (FCT 28)
NEER-23 (FCT 28)
NEER-5 (FCT 28)
WOODV-1 (FCT 28)
WOODV-2 (FCT 28)
KING-1 (FCT 28)
KING-2 (FCT 28)
SHENT-1 (FCT 28)
TRIG-3 (FCT 28)
WARI-1 (FCT 28)
WARI-2 (FCT 28)
TRIG-4 (FCT 28)
NEER-3 (FCT 28)
NEER-4 (FCT 28)
DEPOT-1 (FCT 28)
YAN-3 (FCT 28)
WABL-4 (FCT 28)
YAN-6 (FCT 28)
MILT-4 (FCT 28)
SHE-2 (FCT 28)
WATERRD1 (FCT 28)
YAN-25 (FCT 28)
NEER-8 (FCT 28)
YAN-4 (FCT 28)
SEAB-6 (FCT 28)
YAN-8 (FCT 28)
YAN-9 (FCT 28)

WTP29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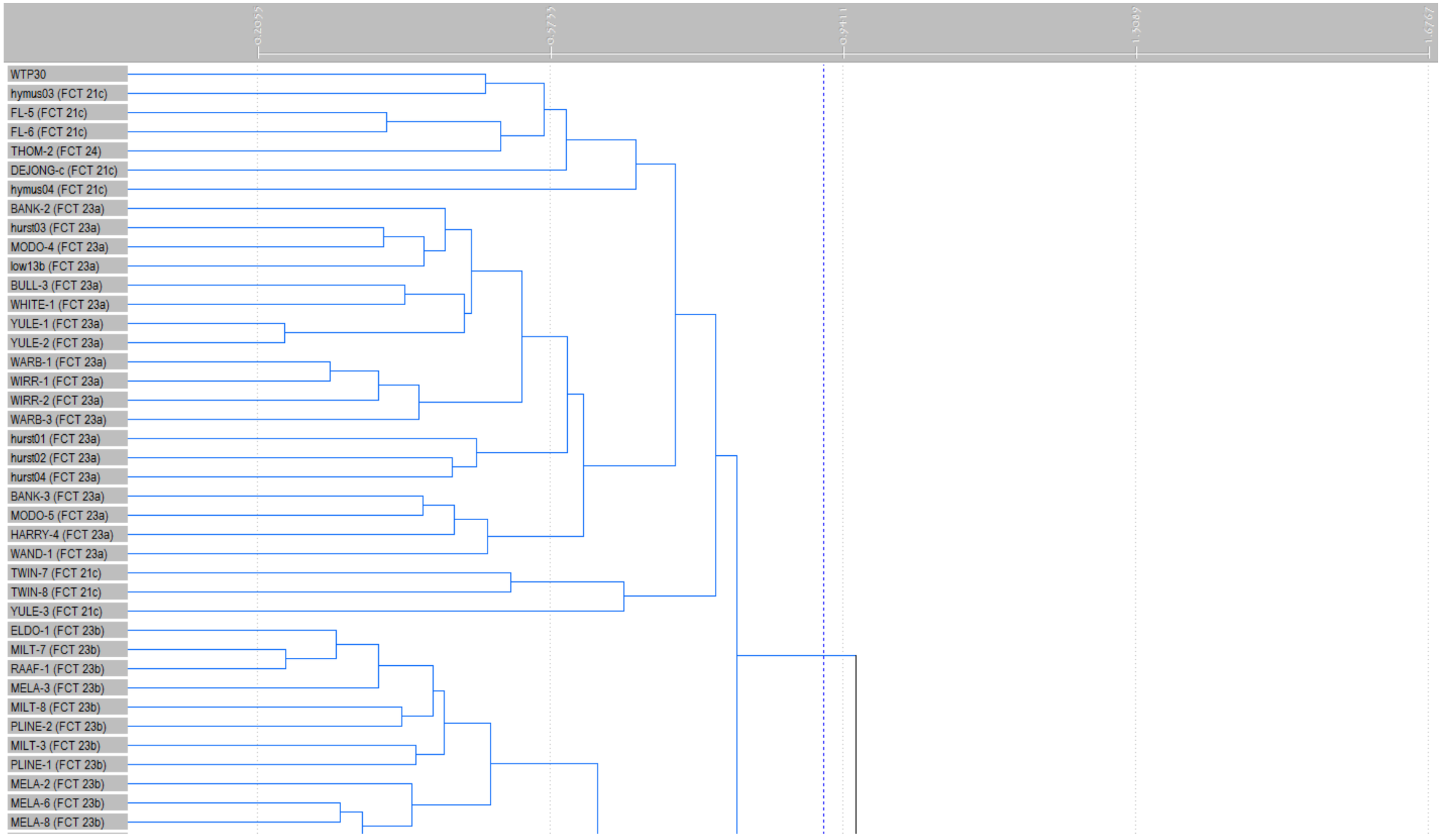
0.9281
1.2898
1.6513
WTP29
DEJONG-c (FCT 21c)
FL-5 (FCT 21c)
FL-6 (FCT 21c)
hymus03 (FCT 21c)
hymus04 (FCT 21c)
TWIN-7 (FCT 21c)
TWIN-8 (FCT 21c)
YULE-3 (FCT 21c)
low01 (FCT 21c)
low04 (FCT 21a)
low06b (FCT 21c)
low07 (FCT 21c)
low06a (FCT 21c)
low10a (FCT 21a)
low12a (FCT 21a)
low12b (FCT 21a)
low13a (FCT 21a)
MODO-2 (FCT 21c)
PLINE-7 (FCT 21c)
AUSTRA-1 (FCT 21a)
BULLER-2 (FCT 21a)
CORON-1 (FCT 21a)
NINE-2 (FCT 21a)
RIVD-2 (FCT 21a)
GUTHR-6 (FCT 21a)
card3 (FCT 21a)
BULLER-1 (FCT 21a)
card7 (FCT 21a)
NINE-1 (FCT 21a)
MILT-6 (FCT 21a)
PLINE-3 (FCT 21a)
boyan 01 (FCT 21b)
gibson01 (FCT 21b)
kelly02 (FCT 21b)
OATES-1 (FCT 21b)
CAPEL-1 (FCT 21b)
CARB-3 (FCT 21b)
buffer01 (FCT 21b)
dard02 (FCT 21b)

WTP30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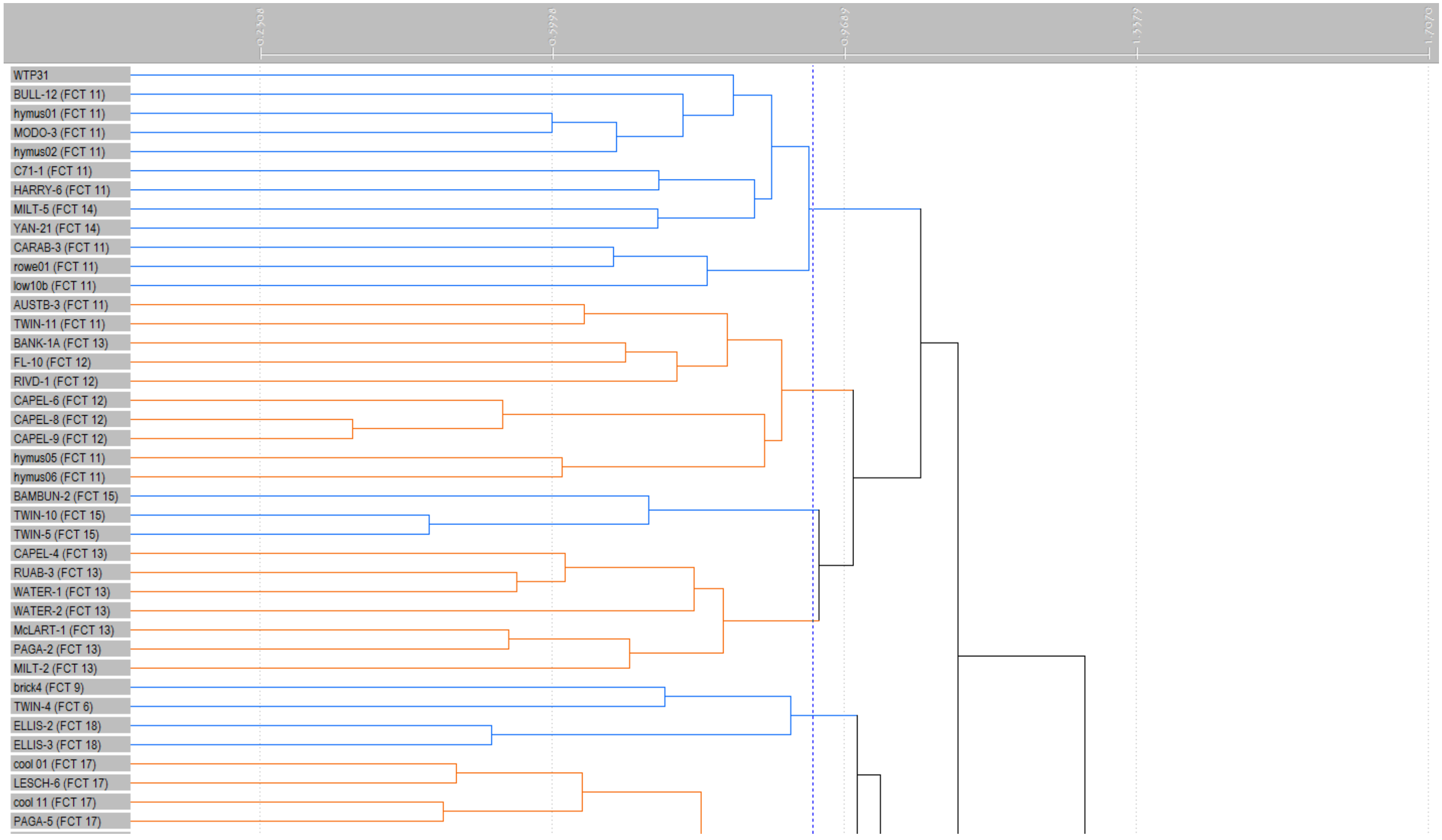
0.9411
1.3089
1.6767
WTP30
hymus03 (FCT 21c)
FL-5 (FCT 21c)
FL-6 (FCT 21c)
THOM-2 (FCT 24)
DEJONG-c (FCT 21c)
hymus04 (FCT 21c)
BANK-2 (FCT 23a)
hurst03 (FCT 23a)
MODO-4 (FCT 23a)
low13b (FCT 23a)
BULL-3 (FCT 23a)
WHITE-1 (FCT 23a)
YULE-1 (FCT 23a)
YULE-2 (FCT 23a)
WARB-1 (FCT 23a)
WIRR-1 (FCT 23a)
WIRR-2 (FCT 23a)
WARB-3 (FCT 23a)
hurst01 (FCT 23a)
hurst02 (FCT 23a)
hurst04 (FCT 23a)
BANK-3 (FCT 23a)
MODO-5 (FCT 23a)
HARRY-4 (FCT 23a)
WAND-1 (FCT 23a)
TWIN-7 (FCT 21c)
TWIN-8 (FCT 21c)
YULE-3 (FCT 21c)
ELDO-1 (FCT 23b)
MILT-7 (FCT 23b)
RAAF-1 (FCT 23b)
MELA-3 (FCT 23b)
MILT-8 (FCT 23b)
PLINE-2 (FCT 23b)
MILT-3 (FCT 23b)
PLINE-1 (FCT 23b)
MELA-2 (FCT 23b)
MELA-6 (FCT 23b)
MELA-8 (FCT 23b)

WTP31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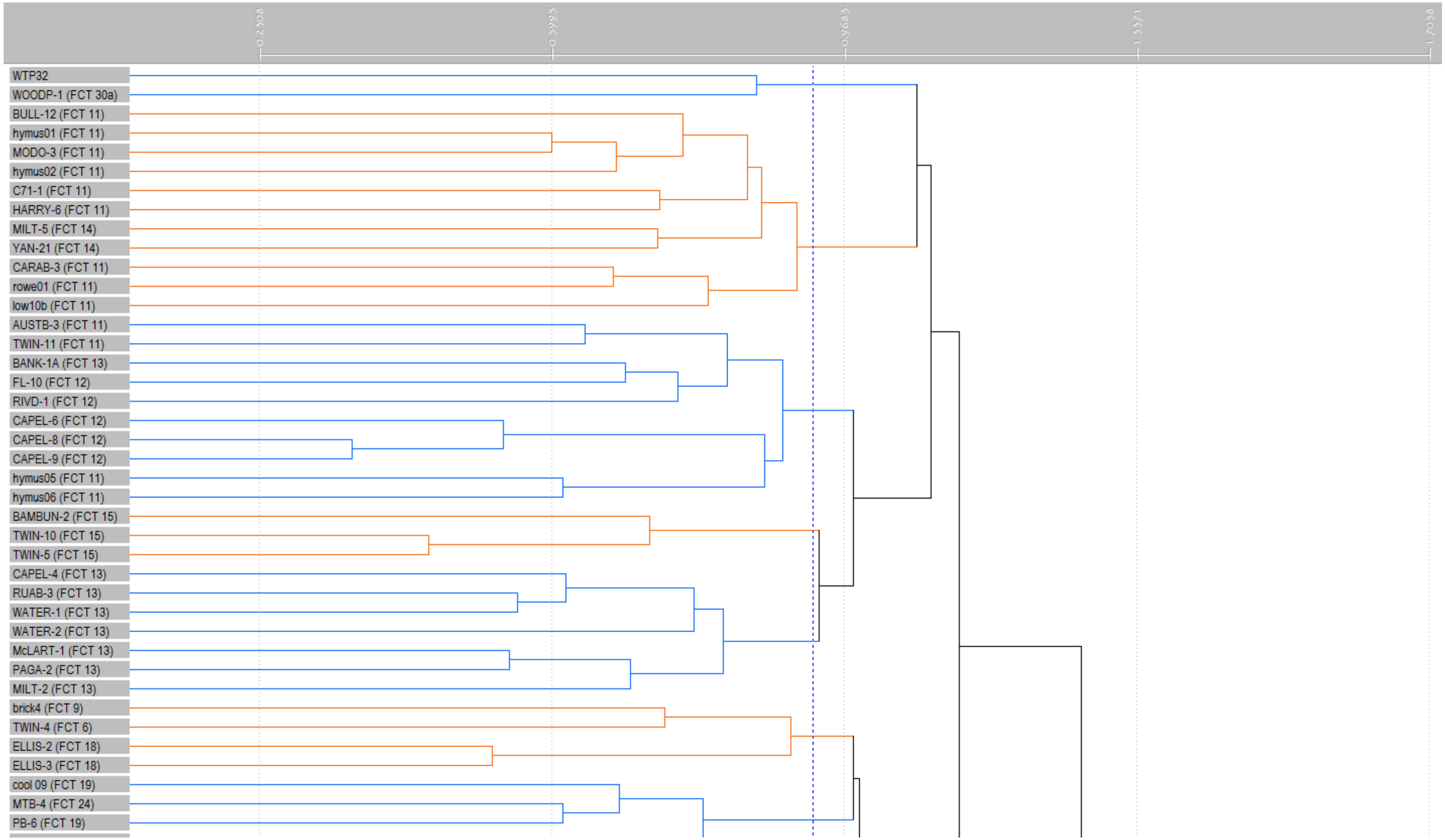
0.9689
1.3379
1.7070
WTP31
BULL-12 (FCT 11)
hymus01 (FCT 11)
MODO-3 (FCT 11)
hymus02 (FCT 11)
C71-1 (FCT 11)
HARRY-6 (FCT 11)
MILT-5 (FCT 14)
YAN-21 (FCT 14)
CARAB-3 (FCT 11)
rowe01 (FCT 11)
low10b (FCT 11)
AUSTB-3 (FCT 11)
TWIN-11 (FCT 11)
BANK-1A (FCT 13)
FL-10 (FCT 12)
RIVD-1 (FCT 12)
CAPEL-6 (FCT 12)
CAPEL-8 (FCT 12)
CAPEL-9 (FCT 12)
hymus05 (FCT 11)
hymus06 (FCT 11)
BAMBUN-2 (FCT 15)
TWIN-10 (FCT 15)
TWIN-5 (FCT 15)
CAPEL-4 (FCT 13)
RUAB-3 (FCT 13)
WATER-1 (FCT 13)
WATER-2 (FCT 13)
McLART-1 (FCT 13)
PAGA-2 (FCT 13)
MILT-2 (FCT 13)
brick4 (FCT 9)
TWIN-4 (FCT 6)
ELLIS-2 (FCT 18)
ELLIS-3 (FCT 18)
cool 01 (FCT 17)
LESCH-6 (FCT 17)
cool 11 (FCT 17)
PAGA-5 (FCT 17)

WTP32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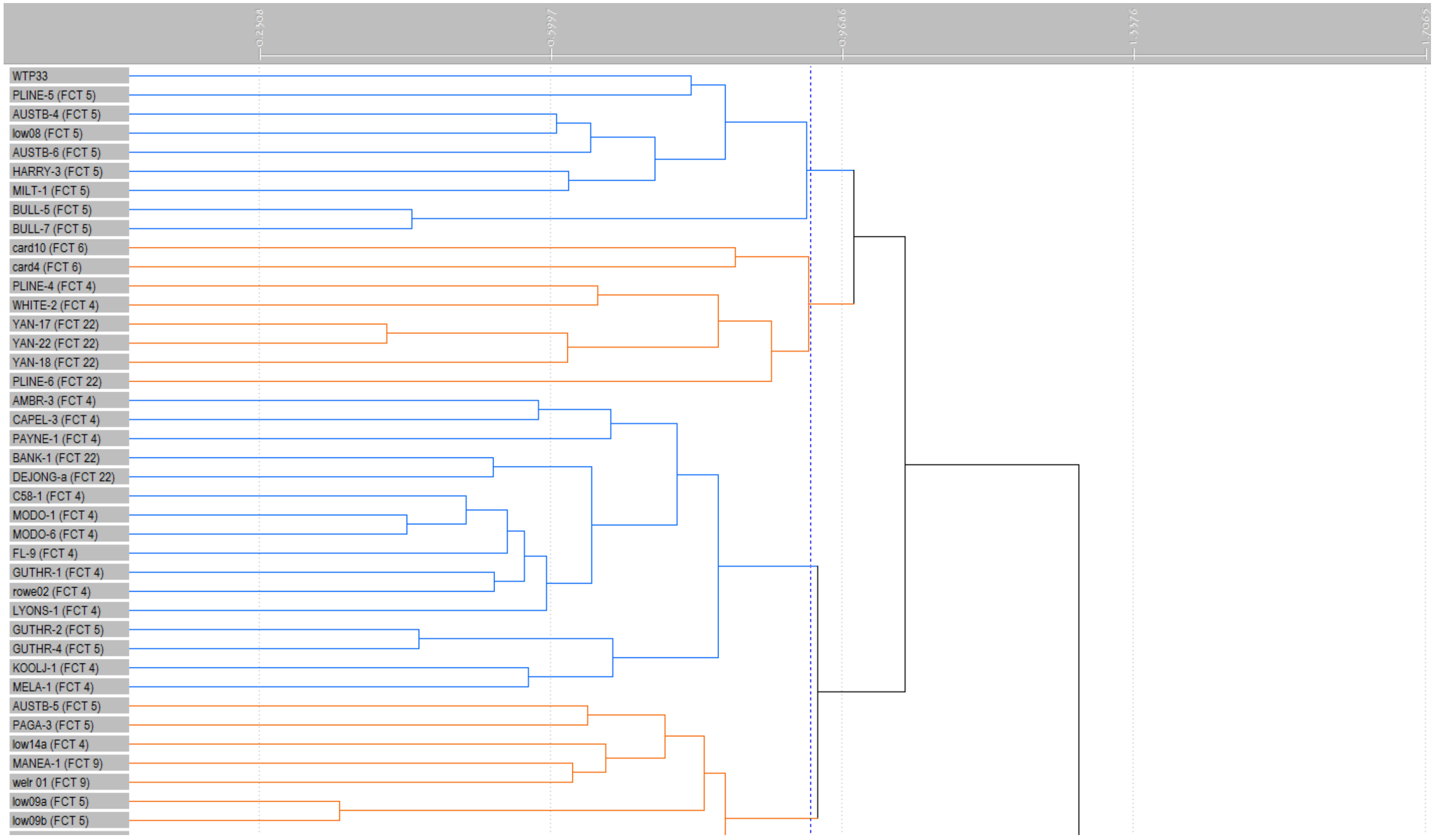
0.9683
1.3371
1.7058
WTP32
WOODP-1 (FCT 30a)
BULL-12 (FCT 11)
hymus01 (FCT 11)
MODO-3 (FCT 11)
hymus02 (FCT 11)
C71-1 (FCT 11)
HARRY-6 (FCT 11)
MILT-5 (FCT 14)
YAN-21 (FCT 14)
CARAB-3 (FCT 11)
rowe01 (FCT 11)
low10b (FCT 11)
AUSTB-3 (FCT 11)
TWIN-11 (FCT 11)
BANK-1A (FCT 13)
FL-10 (FCT 12)
RIVD-1 (FCT 12)
CAPEL-6 (FCT 12)
CAPEL-8 (FCT 12)
CAPEL-9 (FCT 12)
hymus05 (FCT 11)
hymus06 (FCT 11)
BAMBUN-2 (FCT 15)
TWIN-10 (FCT 15)
TWIN-5 (FCT 15)
CAPEL-4 (FCT 13)
RUAB-3 (FCT 13)
WATER-1 (FCT 13)
WATER-2 (FCT 13)
McLART-1 (FCT 13)
PAGA-2 (FCT 13)
MILT-2 (FCT 13)
brick4 (FCT 9)
TWIN-4 (FCT 6)
ELLIS-2 (FCT 18)
ELLIS-3 (FCT 18)
cool 09 (FCT 19)
MTB-4 (FCT 24)
PB-6 (FCT 19)

WTP33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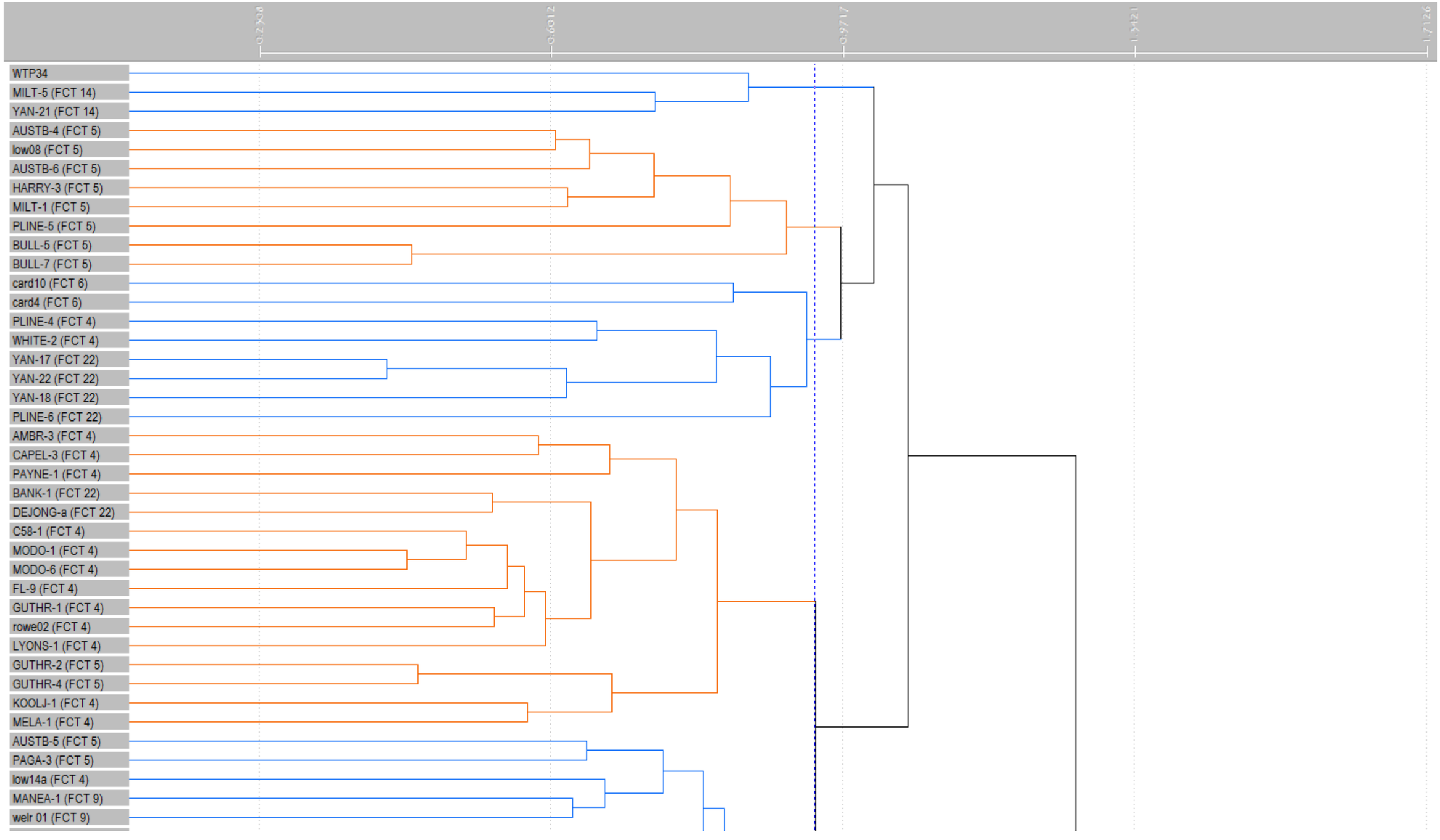
0.9606
1.3576
1.7062
WTP33
PLINE-5 (FCT 5)
AUSTB-4 (FCT 5)
low08 (FCT 5)
AUSTB-6 (FCT 5)
HARRY-3 (FCT 5)
MILT-1 (FCT 5)
BULL-5 (FCT 5)
BULL-7 (FCT 5)
card10 (FCT 6)
card4 (FCT 6)
PLINE-4 (FCT 4)
WHITE-2 (FCT 4)
YAN-17 (FCT 22)
YAN-22 (FCT 22)
YAN-18 (FCT 22)
PLINE-6 (FCT 22)
AMBR-3 (FCT 4)
CAPEL-3 (FCT 4)
PAYNE-1 (FCT 4)
BANK-1 (FCT 22)
DEJONG-a (FCT 22)
C58-1 (FCT 4)
MODO-1 (FCT 4)
MODO-6 (FCT 4)
FL-9 (FCT 4)
GUTHR-1 (FCT 4)
rowe02 (FCT 4)
LYONS-1 (FCT 4)
GUTHR-2 (FCT 5)
GUTHR-4 (FCT 5)
KOOLJ-1 (FCT 4)
MELA-1 (FCT 4)
AUSTB-5 (FCT 5)
PAGA-3 (FCT 5)
low14a (FCT 4)
MANEA-1 (FCT 9)
welr 01 (FCT 9)
low09a (FCT 5)
low09b (FCT 5)

WTP34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0.9717
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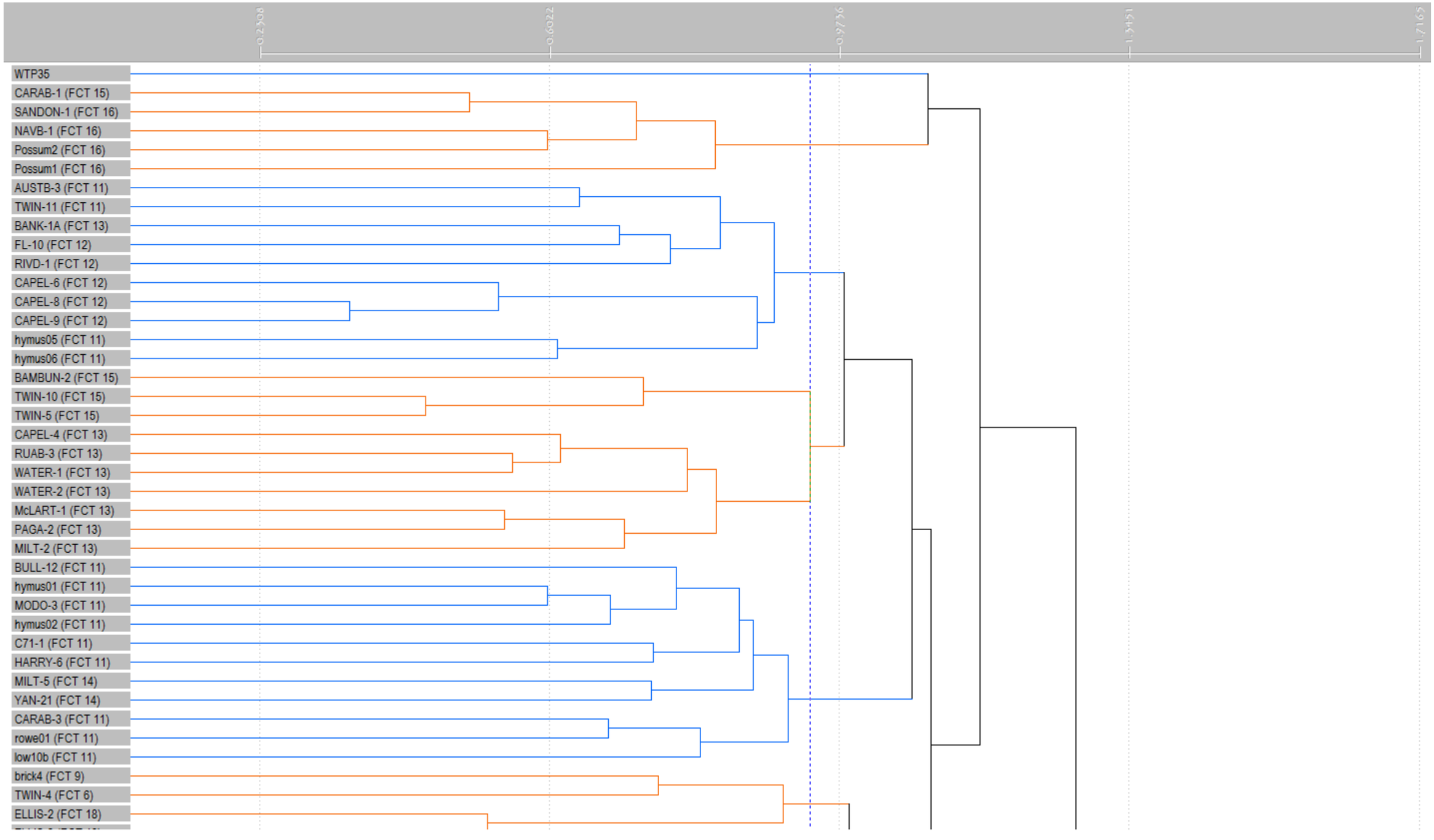
1.7126
WTP34
MILT-5 (FCT 14)
YAN-21 (FCT 14)
AUSTB-4 (FCT 5)
low08 (FCT 5)
AUSTB-6 (FCT 5)
HARRY-3 (FCT 5)
MILT-1 (FCT 5)
PLINE-5 (FCT 5)
BULL-5 (FCT 5)
BULL-7 (FCT 5)
card10 (FCT 6)
card4 (FCT 6)
PLINE-4 (FCT 4)
WHITE-2 (FCT 4)
YAN-17 (FCT 22)
YAN-22 (FCT 22)
YAN-18 (FCT 22)
PLINE-6 (FCT 22)
AMBR-3 (FCT 4)
CAPEL-3 (FCT 4)
PAYNE-1 (FCT 4)
BANK-1 (FCT 22)
DEJONG-a (FCT 22)
C58-1 (FCT 4)
MODO-1 (FCT 4)
MODO-6 (FCT 4)
FL-9 (FCT 4)
GUTHR-1 (FCT 4)
rowe02 (FCT 4)
LYONS-1 (FCT 4)
GUTHR-2 (FCT 5)
GUTHR-4 (FCT 5)
KOOLJ-1 (FCT 4)
MELA-1 (FCT 4)
AUSTB-5 (FCT 5)
PAGA-3 (FCT 5)
low14a (FCT 4)
MANEA-1 (FCT 9)
welr 01 (FCT 9)

WTP35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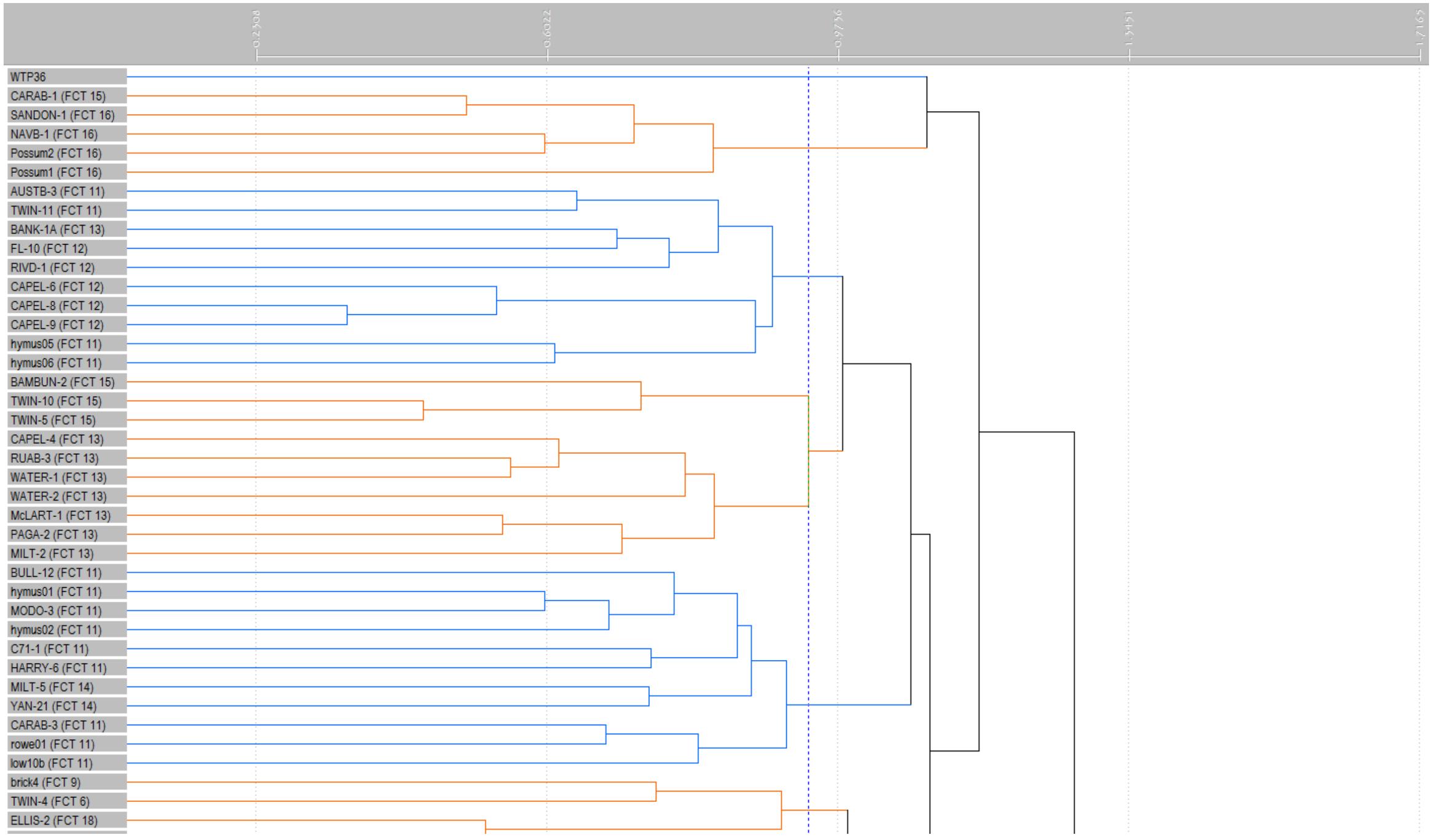
0.9736
1.3451
1.7165
WTP35
CARAB-1 (FCT 15)
SANDON-1 (FCT 16)
NAVB-1 (FCT 16)
Possum2 (FCT 16)
Possum1 (FCT 16)
AUSTB-3 (FCT 11)
TWIN-11 (FCT 11)
BANK-1A (FCT 13)
FL-10 (FCT 12)
RIVD-1 (FCT 12)
CAPEL-6 (FCT 12)
CAPEL-8 (FCT 12)
CAPEL-9 (FCT 12)
hymus05 (FCT 11)
hymus06 (FCT 11)
BAMBUN-2 (FCT 15)
TWIN-10 (FCT 15)
TWIN-5 (FCT 15)
CAPEL-4 (FCT 13)
RUAB-3 (FCT 13)
WATER-1 (FCT 13)
WATER-2 (FCT 13)
McLART-1 (FCT 13)
PAGA-2 (FCT 13)
MILT-2 (FCT 13)
BULL-12 (FCT 11)
hymus01 (FCT 11)
MODO-3 (FCT 11)
hymus02 (FCT 11)
C71-1 (FCT 11)
HARRY-6 (FCT 11)
MILT-5 (FCT 14)
YAN-21 (FCT 14)
CARAB-3 (FCT 11)
rowe01 (FCT 11)
low10b (FCT 11)
brick4 (FCT 9)
TWIN-4 (FCT 6)
ELLIS-2 (FCT 18)

WTP36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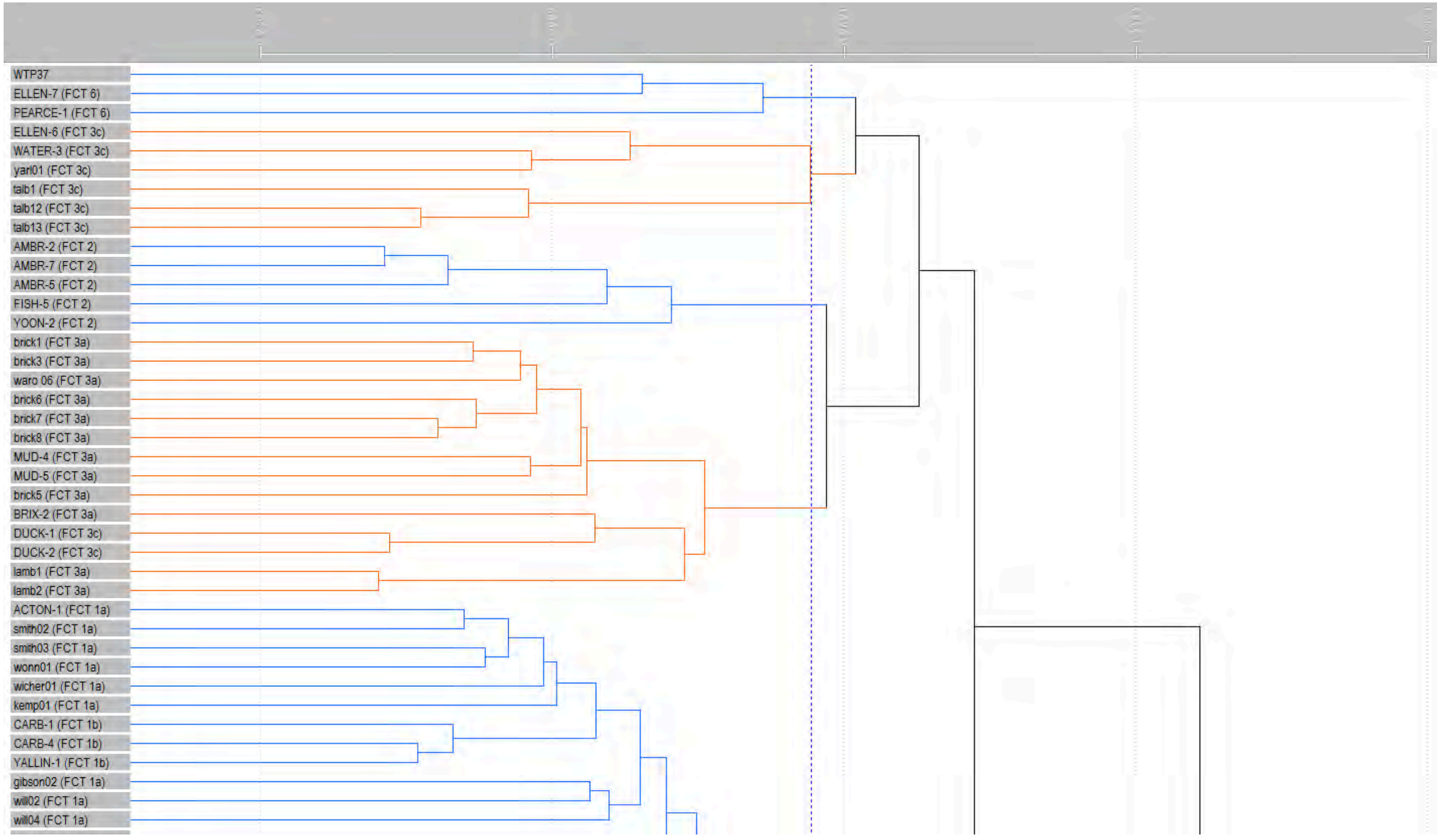
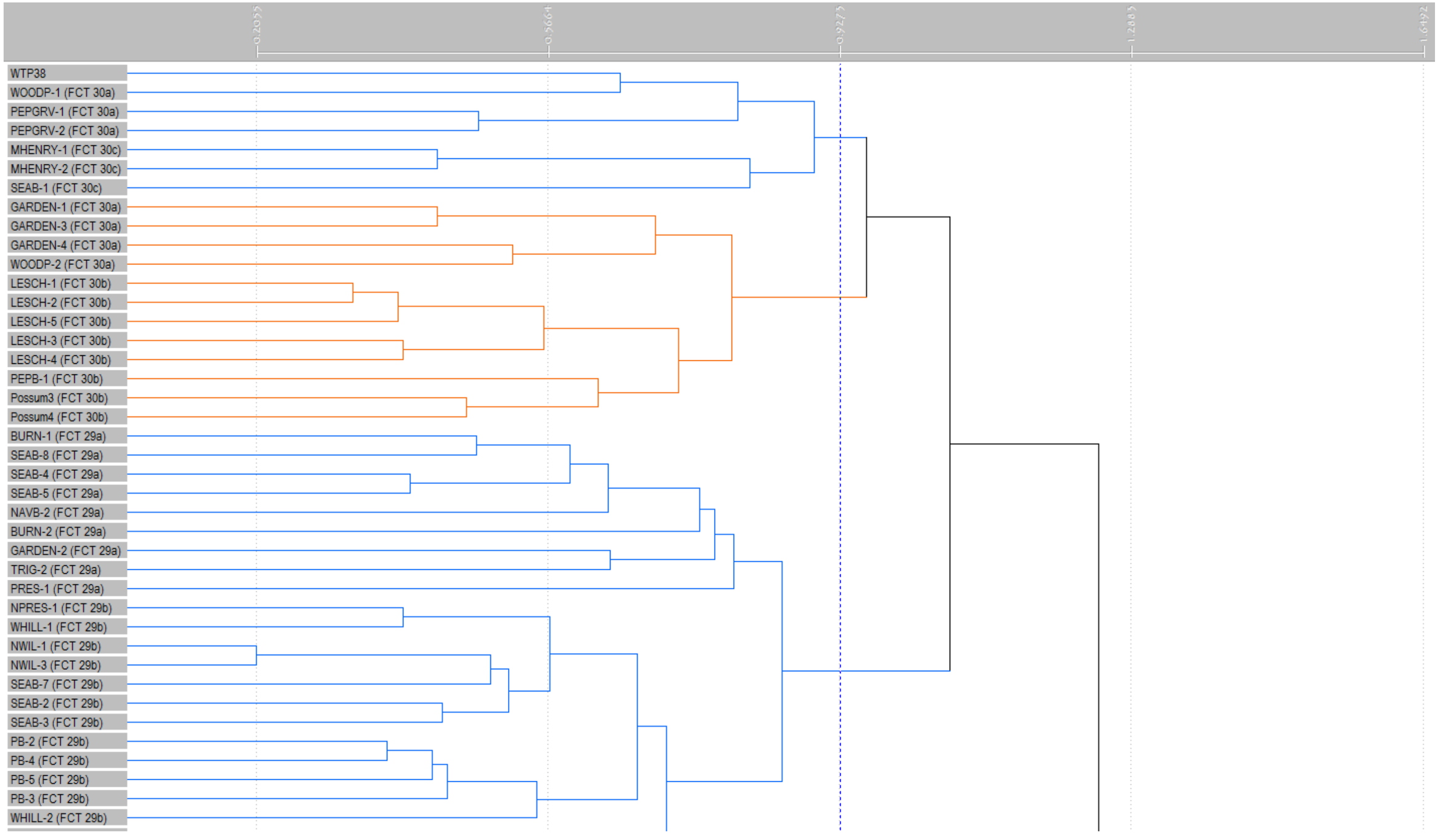
0.9736
1.3451
1.7165
WTP36
CARAB-1 (FCT 15)
SANDON-1 (FCT 16)
NAVB-1 (FCT 16)
Possum2 (FCT 16)
Possum1 (FCT 16)
AUSTB-3 (FCT 11)
TWIN-11 (FCT 11)
BANK-1A (FCT 13)
FL-10 (FCT 12)
RIVD-1 (FCT 12)
CAPEL-6 (FCT 12)
CAPEL-8 (FCT 12)
CAPEL-9 (FCT 12)
hymus05 (FCT 11)
hymus06 (FCT 11)
BAMBUN-2 (FCT 15)
TWIN-10 (FCT 15)
TWIN-5 (FCT 15)
CAPEL-4 (FCT 13)
RUAB-3 (FCT 13)
WATER-1 (FCT 13)
WATER-2 (FCT 13)
McLART-1 (FCT 13)
PAGA-2 (FCT 13)
MILT-2 (FCT 13)
BULL-12 (FCT 11)
hymus01 (FCT 11)
MODO-3 (FCT 11)
hymus02 (FCT 11)
C71-1 (FCT 11)
HARRY-6 (FCT 11)
MILT-5 (FCT 14)
YAN-21 (FCT 14)
CARAB-3 (FCT 11)
rowe01 (FCT 11)
low10b (FCT 11)
brick4 (FCT 9)
TWIN-4 (FCT 6)
ELLIS-2 (FCT 18)

WTP37


WTP37
ELLEN-7 (FCT 6)
PEARCE-1 (FCT 6)
ELLEN-6 (FCT 3c)
WATER-3 (FCT 3c)
yarl01 (FCT 3c)
talb1 (FCT 3c)
talb12 (FCT 3c)
talb13 (FCT 3c)
AMBR-2 (FCT 2)
AMBR-7 (FCT 2)
AMBR-5 (FCT 2)
FISH-5 (FCT 2)
YOON-2 (FCT 2)
brick1 (FCT 3a)
brick3 (FCT 3a)
waro 06 (FCT 3a)
brick6 (FCT 3a)
brick7 (FCT 3a)
brick8 (FCT 3a)
MUD-4 (FCT 3a)
MUD-5 (FCT 3a)
brick5 (FCT 3a)
BRIX-2 (FCT 3a)
DUCK-1 (FCT 3c)
DUCK-2 (FCT 3c)
lamb1 (FCT 3a)
lamb2 (FCT 3a)
ACTON-1 (FCT 1a)
smith02 (FCT 1a)
smith03 (FCT 1a)
wonn01 (FCT 1a)
wicher01 (FCT 1a)
kemp01 (FCT 1a)
CARB-1 (FCT 1b)
CARB-4 (FCT 1b)
YALLIN-1 (FCT 1b)
gibson02 (FCT 1a)
will02 (FCT 1a)
will04 (FCT 1a)

WTP38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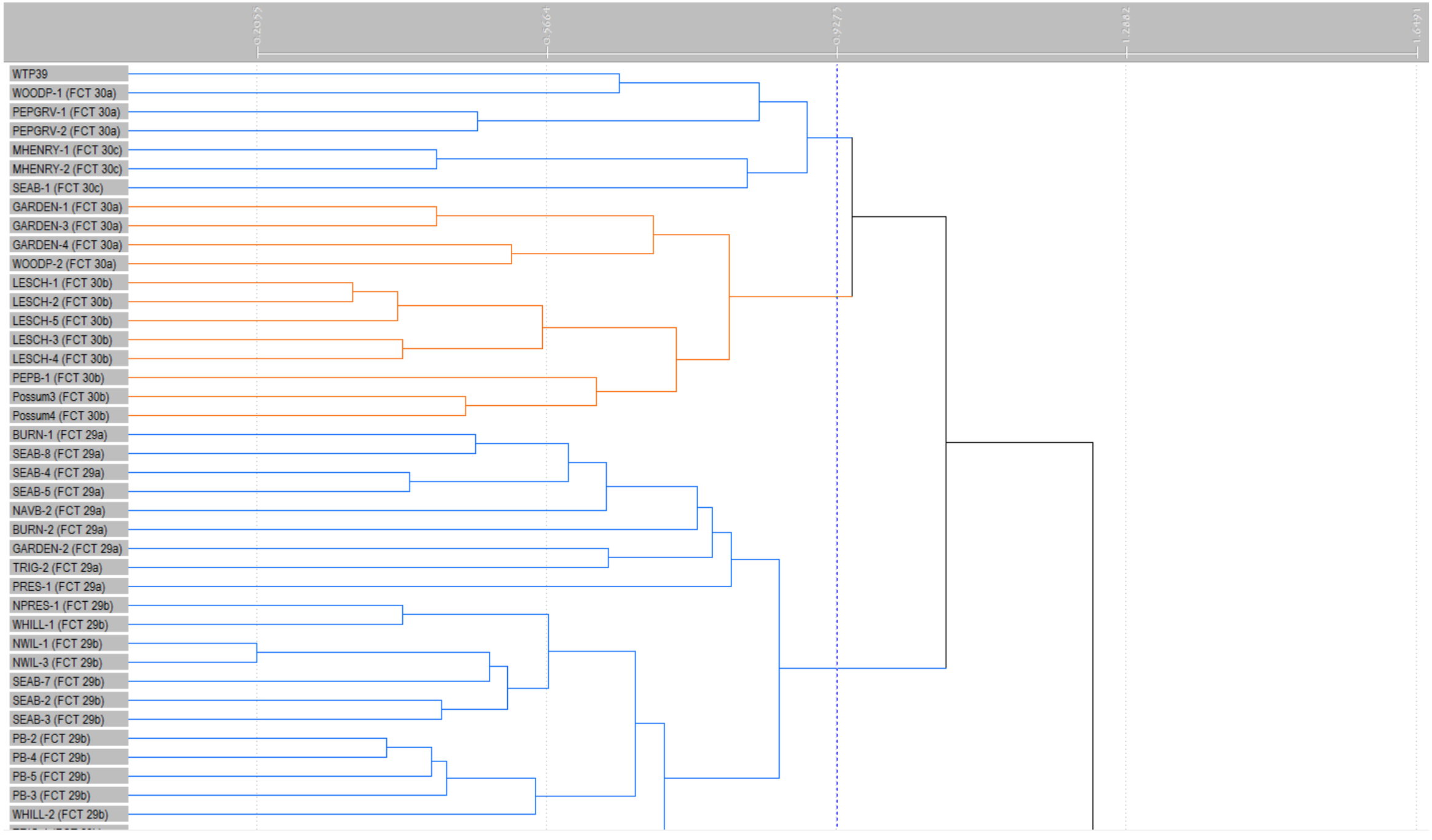
1.6492
WTP38
WOODP-1 (FCT 30a)
PEPGRV-1 (FCT 30a)
PEPGRV-2 (FCT 30a)
MHENRY-1 (FCT 30c)
MHENRY-2 (FCT 30c)
SEAB-1 (FCT 30c)
GARDEN-1 (FCT 30a)
GARDEN-3 (FCT 30a)
GARDEN-4 (FCT 30a)
WOODP-2 (FCT 30a)
LESCH-1 (FCT 30b)
LESCH-2 (FCT 30b)
LESCH-5 (FCT 30b)
LESCH-3 (FCT 30b)
LESCH-4 (FCT 30b)
PEPB-1 (FCT 30b)
Possum3 (FCT 30b)
Possum4 (FCT 30b)
BURN-1 (FCT 29a)
SEAB-8 (FCT 29a)
SEAB-4 (FCT 29a)
SEAB-5 (FCT 29a)
NAVB-2 (FCT 29a)
BURN-2 (FCT 29a)
GARDEN-2 (FCT 29a)
TRIG-2 (FCT 29a)
PRES-1 (FCT 29a)
NPRES-1 (FCT 29b)
WHILL-1 (FCT 29b)
NWIL-1 (FCT 29b)
NWIL-3 (FCT 29b)
SEAB-7 (FCT 29b)
SEAB-2 (FCT 29b)
SEAB-3 (FCT 29b)
PB-2 (FCT 29b)
PB-4 (FCT 29b)
PB-5 (FCT 29b)
PB-3 (FCT 29b)
WHILL-2 (FCT 29b)

WTP39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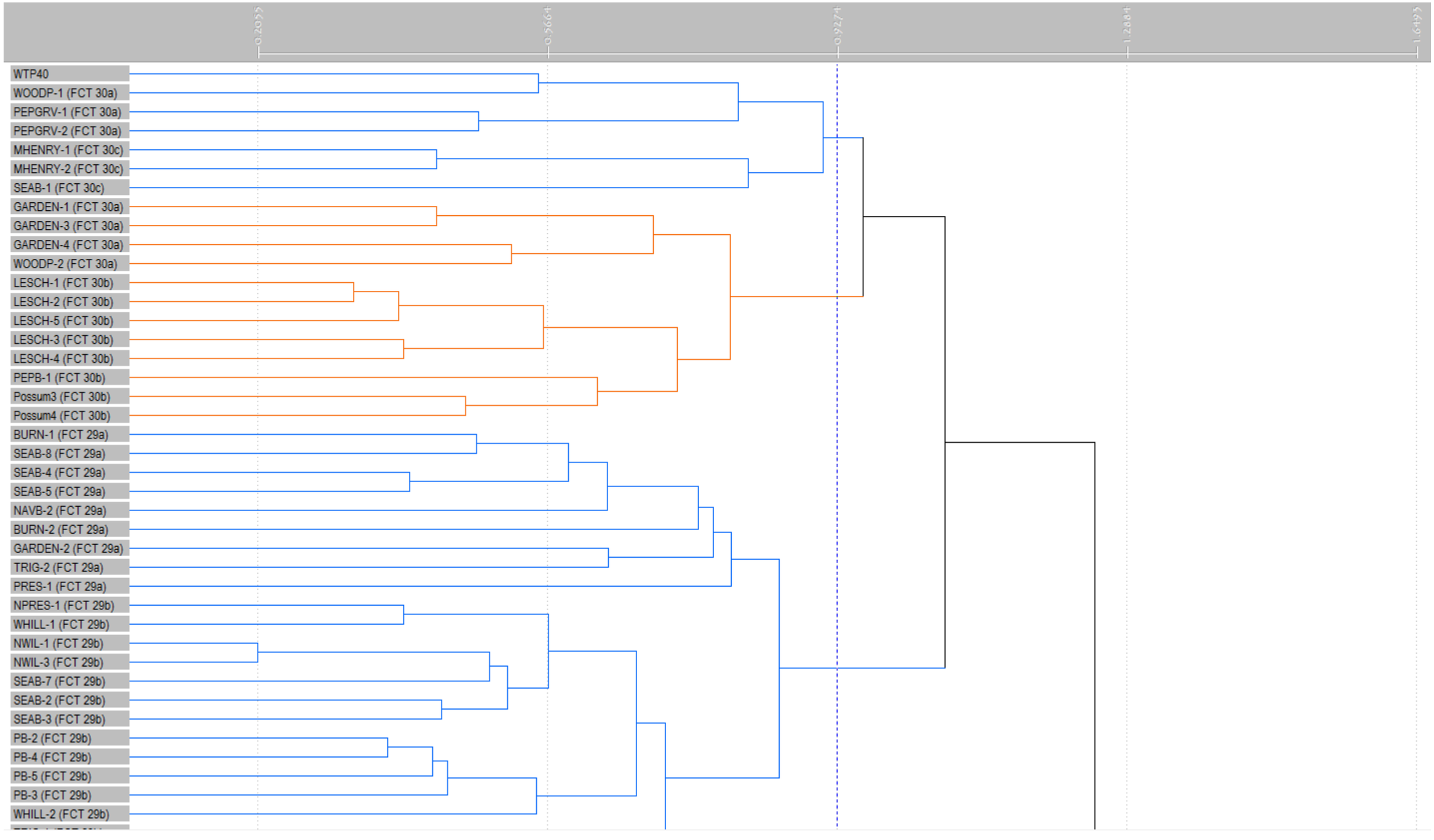
0.9273
1.2882
1.6491
WTP39
WOODP-1 (FCT 30a)
PEPGRV-1 (FCT 30a)
PEPGRV-2 (FCT 30a)
MHENRY-1 (FCT 30c)
MHENRY-2 (FCT 30c)
SEAB-1 (FCT 30c)
GARDEN-1 (FCT 30a)
GARDEN-3 (FCT 30a)
GARDEN-4 (FCT 30a)
WOODP-2 (FCT 30a)
LESCH-1 (FCT 30b)
LESCH-2 (FCT 30b)
LESCH-5 (FCT 30b)
LESCH-3 (FCT 30b)
LESCH-4 (FCT 30b)
PEPB-1 (FCT 30b)
Possum3 (FCT 30b)
Possum4 (FCT 30b)
BURN-1 (FCT 29a)
SEAB-8 (FCT 29a)
SEAB-4 (FCT 29a)
SEAB-5 (FCT 29a)
NAVB-2 (FCT 29a)
BURN-2 (FCT 29a)
GARDEN-2 (FCT 29a)
TRIG-2 (FCT 29a)
PRES-1 (FCT 29a)
NPRES-1 (FCT 29b)
WHILL-1 (FCT 29b)
NWIL-1 (FCT 29b)
NWIL-3 (FCT 29b)
SEAB-7 (FCT 29b)
SEAB-2 (FCT 29b)
SEAB-3 (FCT 29b)
PB-2 (FCT 29b)
PB-4 (FCT 29b)
PB-5 (FCT 29b)
PB-3 (FCT 29b)
WHILL-2 (FCT 29b)

WTP40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0.5664
0.9274
1.2884
1.6495
WTP40
WOODP-1 (FCT 30a)
PEPGRV-1 (FCT 30a)
PEPGRV-2 (FCT 30a)
MHENRY-1 (FCT 30c)
MHENRY-2 (FCT 30c)
SEAB-1 (FCT 30c)
GARDEN-1 (FCT 30a)
GARDEN-3 (FCT 30a)
GARDEN-4 (FCT 30a)
WOODP-2 (FCT 30a)
LESCH-1 (FCT 30b)
LESCH-2 (FCT 30b)
LESCH-5 (FCT 30b)
LESCH-3 (FCT 30b)
LESCH-4 (FCT 30b)
PEPB-1 (FCT 30b)
Possum3 (FCT 30b)
Possum4 (FCT 30b)
BURN-1 (FCT 29a)
SEAB-8 (FCT 29a)
SEAB-4 (FCT 29a)
SEAB-5 (FCT 29a)
NAVB-2 (FCT 29a)
BURN-2 (FCT 29a)
GARDEN-2 (FCT 29a)
TRIG-2 (FCT 29a)
PRES-1 (FCT 29a)
NPRES-1 (FCT 29b)
WHILL-1 (FCT 29b)
NWIL-1 (FCT 29b)
NWIL-3 (FCT 29b)
SEAB-7 (FCT 29b)
SEAB-2 (FCT 29b)
SEAB-3 (FCT 29b)
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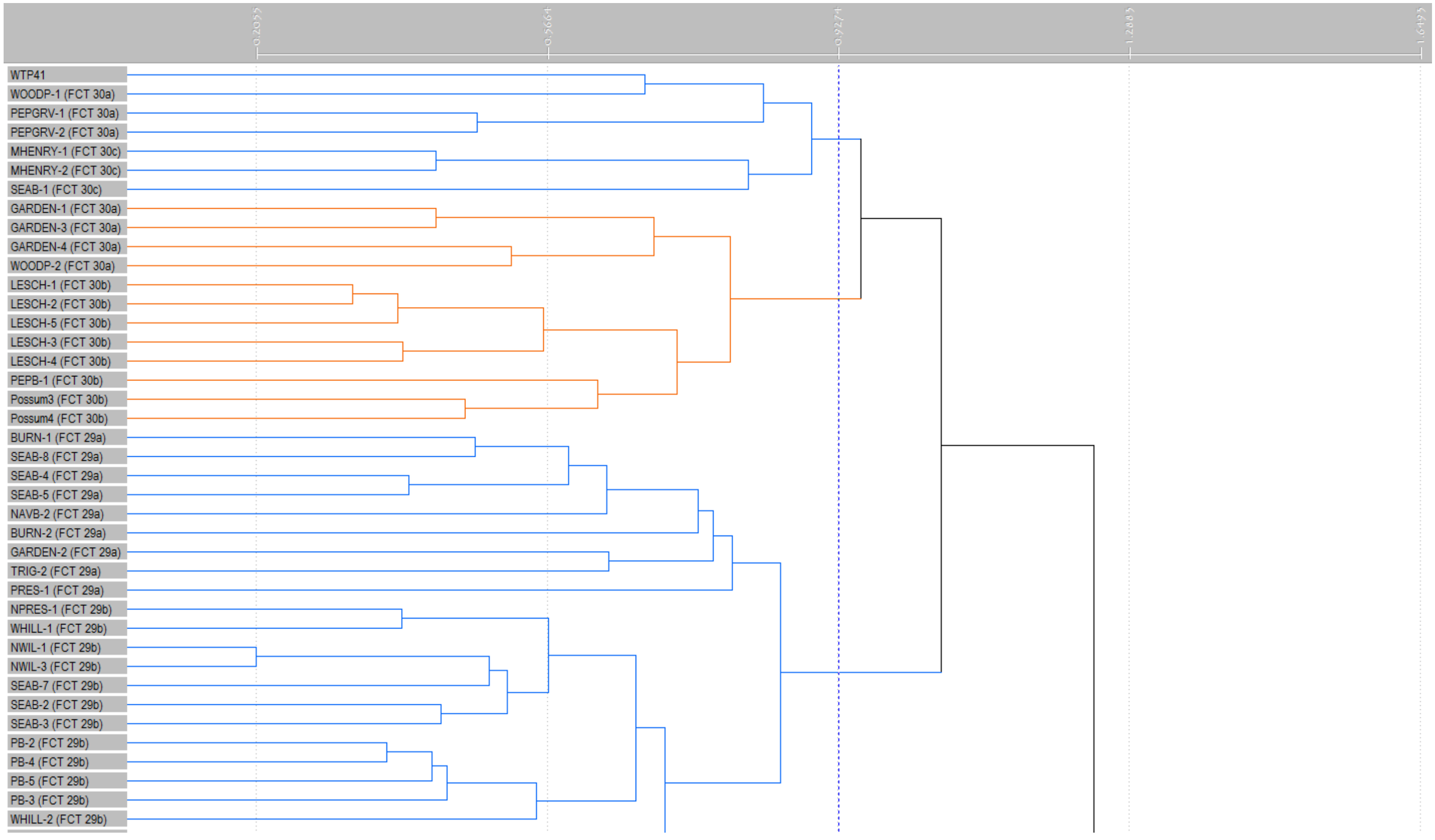
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SEAB-1 (FCT 30c)
GARDEN-1 (FCT 30a)
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GARDEN-4 (FCT 30a)
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LESCH-1 (FCT 30b)
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LESCH-4 (FCT 30b)
PEPB-1 (FCT 30b)
Possum3 (FCT 30b)
Possum4 (FCT 30b)
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SEAB-8 (FCT 29a)
SEAB-4 (FCT 29a)
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BURN-2 (FCT 29a)
GARDEN-2 (FCT 29a)
TRIG-2 (FCT 29a)
PRES-1 (FCT 29a)
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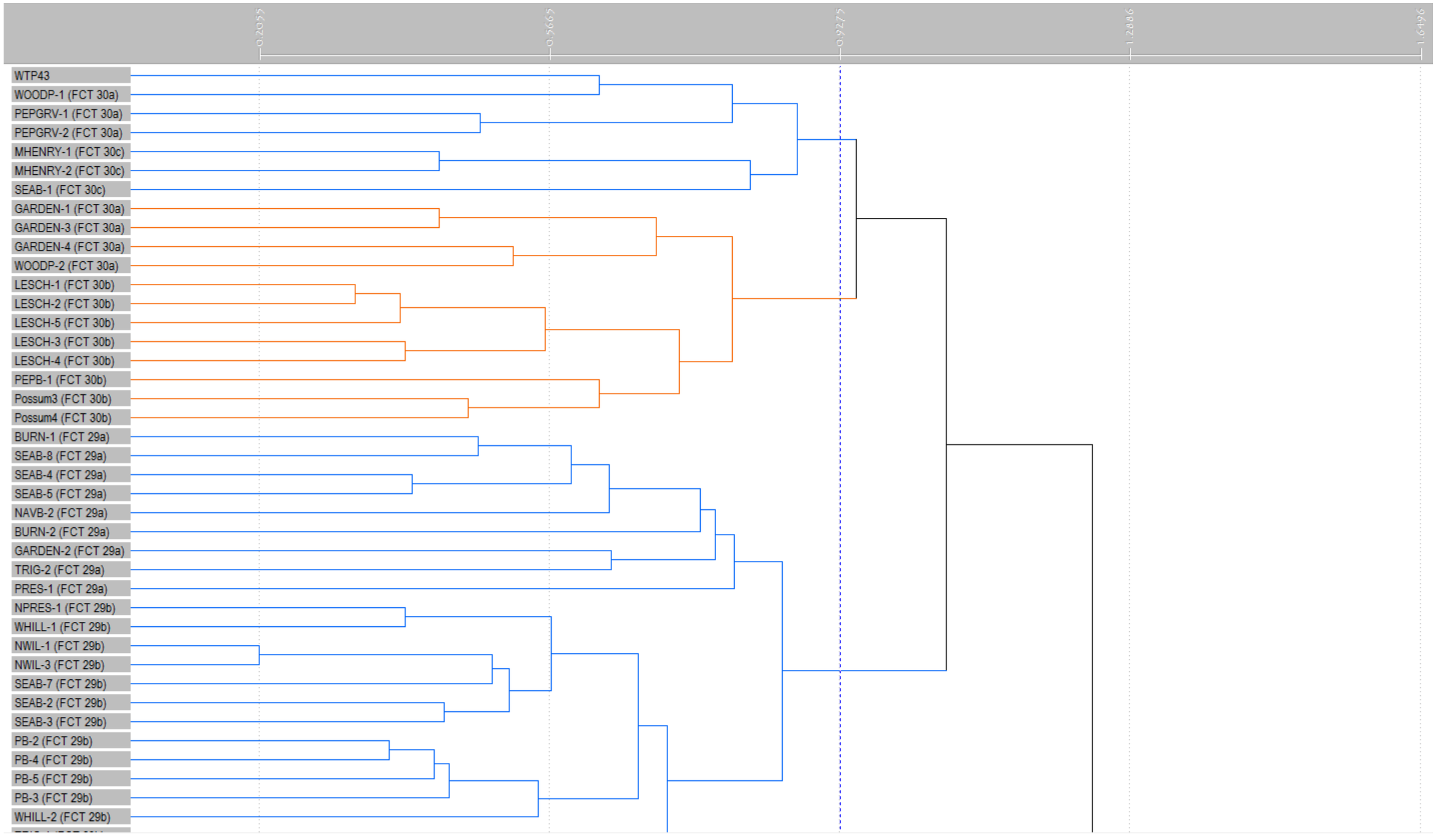
WTP43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SEAB-1 (FCT 30c)
GARDEN-1 (FCT 30a)
GARDEN-3 (FCT 30a)
GARDEN-4 (FCT 30a)
WOODP-2 (FCT 30a)
LESCH-1 (FCT 30b)
LESCH-2 (FCT 30b)
LESCH-5 (FCT 30b)
LESCH-3 (FCT 30b)
LESCH-4 (FCT 30b)
PEPB-1 (FCT 30b)
Possum3 (FCT 30b)
Possum4 (FCT 30b)
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PRES-1 (FCT 29a)
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NWIL-1 (FCT 29b)
NWIL-3 (FCT 29b)
SEAB-7 (FCT 29b)
SEAB-2 (FCT 29b)
SEAB-3 (FCT 29b)
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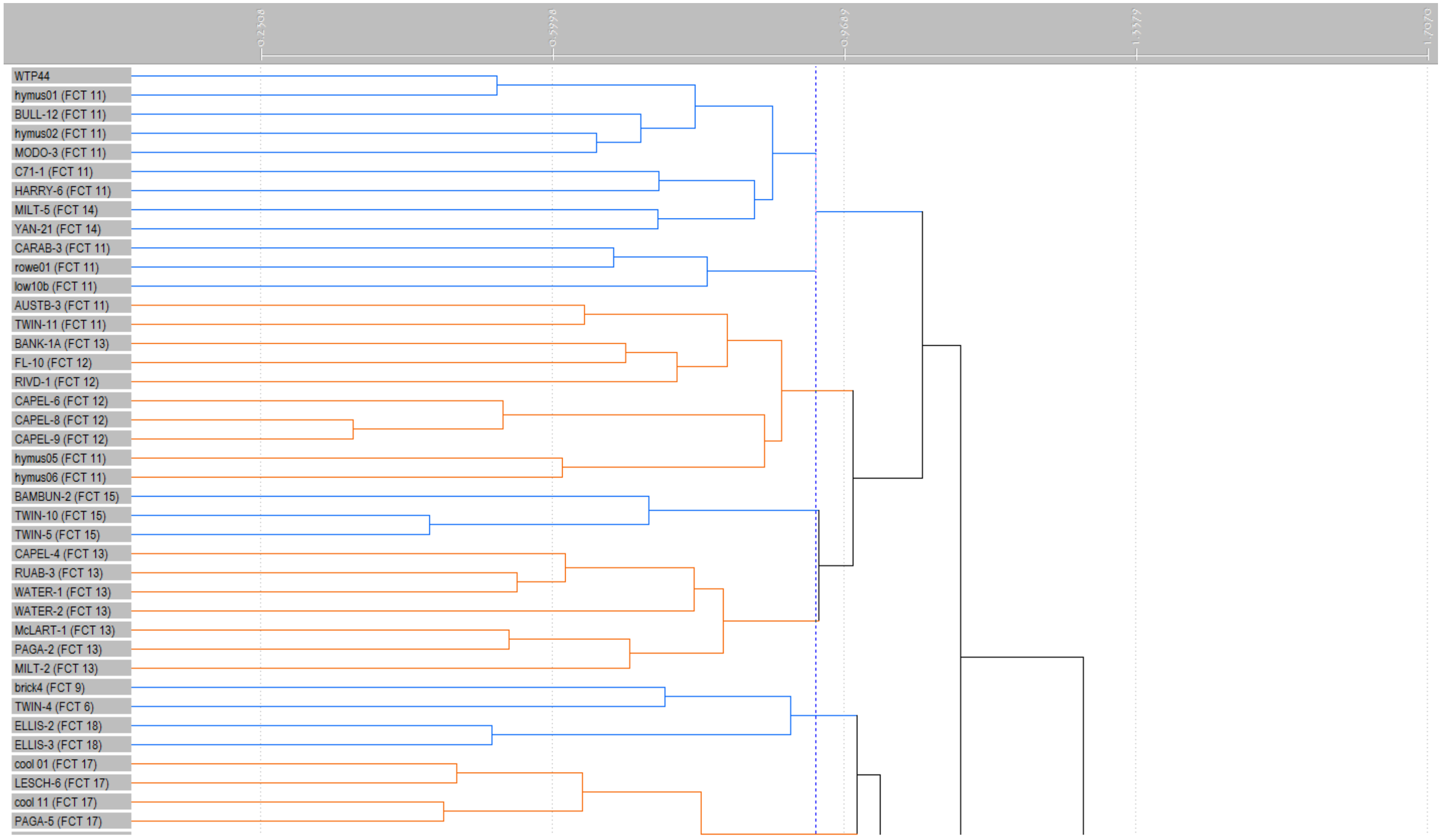
PB-5 (FCT 29b)
PB-3 (FCT 29b)
WHILL-2 (FCT 29b)

WTP44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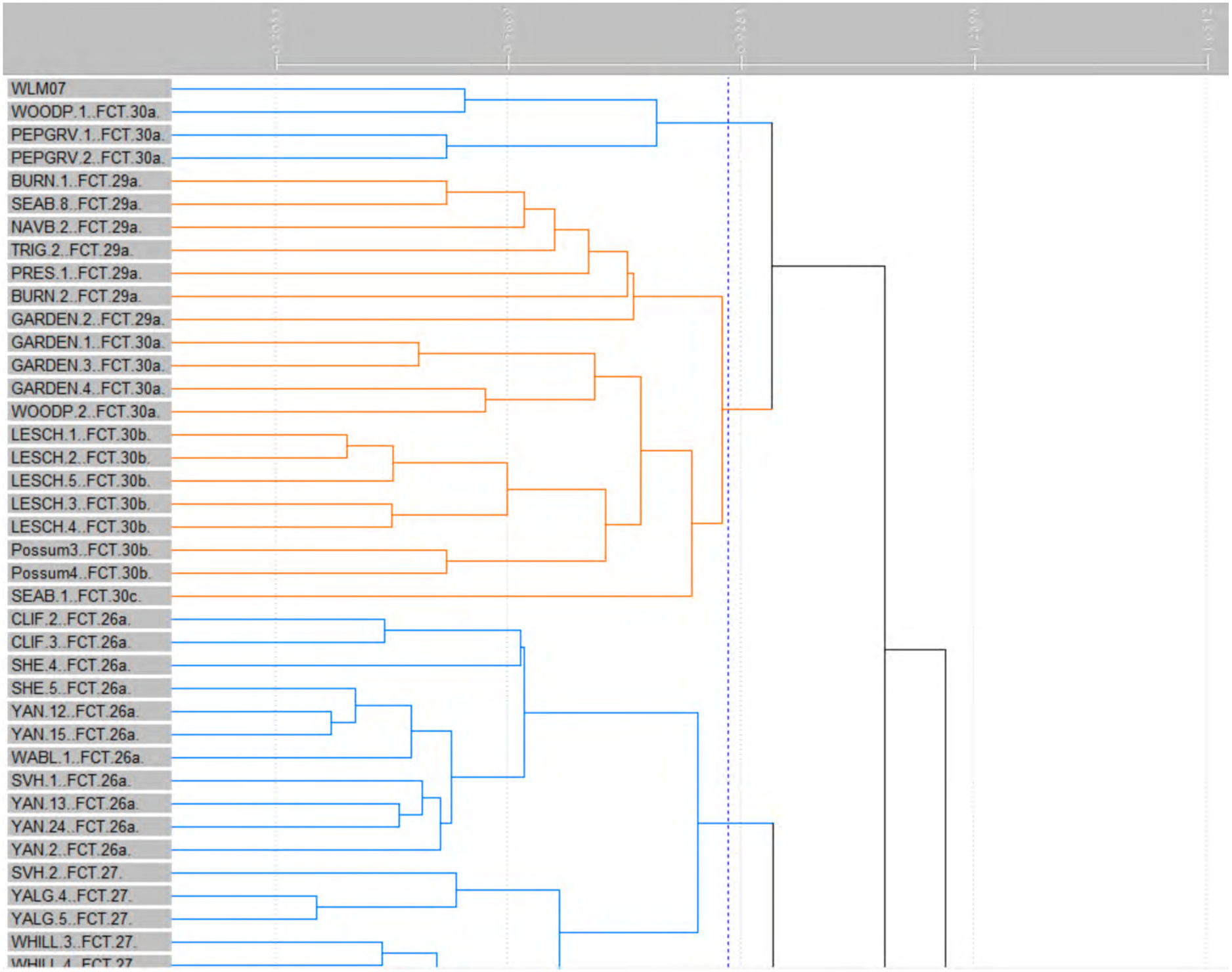
MODO-3 (FCT 11)
C71-1 (FCT 11)
HARRY-6 (FCT 11)
MILT-5 (FCT 14)
YAN-21 (FCT 14)
CARAB-3 (FCT 11)
rowe01 (FCT 11)
low10b (FCT 11)
AUSTB-3 (FCT 11)
TWIN-11 (FCT 11)
BANK-1A (FCT 13)
FL-10 (FCT 12)
RIVD-1 (FCT 12)
CAPEL-6 (FCT 12)
CAPEL-8 (FCT 12)
CAPEL-9 (FCT 12)
hymus05 (FCT 11)
hymus06 (FCT 11)
BAMBUN-2 (FCT 15)
TWIN-10 (FCT 15)
TWIN-5 (FCT 15)
CAPEL-4 (FCT 13)
RUAB-3 (FCT 13)
WATER-1 (FCT 13)
WATER-2 (FCT 13)
McLART-1 (FCT 13)
PAGA-2 (FCT 13)
MILT-2 (FCT 13)
brick4 (FCT 9)
TWIN-4 (FCT 6)
ELLIS-2 (FCT 18)
ELLIS-3 (FCT 18)
cool 01 (FCT 17)
LESCH-6 (FCT 17)
cool 11 (FCT 17)
PAGA-5 (FCT 17)

Table 4: Nearest Neigbour Boundary results (NNB; 20 nearest sites) and UPGMA clustering dendrgram summary for WLMA sites.

Site	Result	Notes		1	2	3	4	5	6	7	8	9	10		11	12	13	14	15	16	17	18	19	20
WLM07	FCT 24	Grouped with FCT 30a sites WOODP-1 ,PEPGRV-1,PEPGRV2 Then seven 29a sites, and 30a/30b NNB suggests FCT24 with afinity to FCT30a and FCT29b	**WLM07**	FCT 30a	FCT 30a	FCT 30a	FCT 29b	FCT 24	FCT 24	FCT 27	FCT 30c	FCT 29b	FCT 24	**WLM07**	FCT 24	FCT 24	FCT 29b	FCT 24	FCT 24	FCT 24	FCT 29a	FCT 24	FCT 29b	FCT 30a
				WOODP-1	PEPGRV-1	WOODP-2	WHILL-2	BOLD-3	NAVB-3	WHILL-4	MHENRY-1	TRIG-1	CHIDPT-1		cool 08	TRIG-6	PB-4	NEER-1	cool 02	BOLD-4	BURN-1	NEER-10	NPRES-1	PEPGRV-2
				0.5	0.6522	0.6596	0.6923	0.7015	0.75	0.7667	0.7674	0.7727	0.7736		0.7778	0.7895	0.7917	0.7941	0.7959	0.7966	0.8033	0.8056	0.8125	0.814
WLM09	FCT 24	Paired with CHIDPT-1 and NAVB-3 with high similarity. Then remainder of FCT24 sites with FCT30a sites MHENRY (x2) NNB supports FCT24	**WLM09**	FCT 24	FCT 30a	FCT 24	FCT 24	FCT 24	FCT 26a	FCT 24	FCT 24	FCT 24	FCT 29a	**WLM09**	FCT 24	FCT 25	FCT 24	FCT 24	FCT 24	FCT 30c	FCT 26a	FCT 29a	FCT 26a	FCT 29a
				BOLD-3	WOODP-2	CHIDPT-1	NEER-1	MTB-2	SVH-1	NEER-10	NAVB-3	NAVB-4	BURN-1		MTB-3	MINN-1	BOLD-4	TRIG-5	cool 02	MHENRY-1	YAN-2	TRIG-2	YAN-24	NAVB-2
				0.5385	0.5493	0.5844	0.587	0.5904	0.604	0.6042	0.6136	0.6145	0.6235		0.6341	0.6344	0.6386	0.6703	0.6712	0.6716	0.6731	0.6765	0.6809	0.6842
WLM13	FCT 24 aff. FCT 29a	Grouped with FCT 24 sites and FCT30a sites MHENRY (x2) Then seven 29a sites, and 30a/30b NNB supports FCT24 and affinity to FCT29a	**WLM13**	FCT 29a	FCT 24	FCT 24	FCT 24	FCT 24	FCT 29a	FCT 30a	FCT 24	FCT 24	FCT 24	**WLM13**	FCT 24	FCT 24	FCT 24	FCT 30a	FCT 11	FCT 24	FCT 19	FCT 30c	FCT 29b	FCT 29a
				TRIG-2	cool 08	MTB-3	BOLD-4	cool 03	BURN-1	WOODP-2	TRIG-6	cool 02	BOLD-3		BOLD-1	NEER-1	NAVB-4	WOODP-1	CARAB-3	KERO-1	PB-6	MHENRY-1	TRIG-1	BURN-2
				0.6923	0.7143	0.7358	0.7407	0.7436	0.75	0.7619	0.7692	0.7727	0.7742		0.7742	0.7778	0.7778	0.7778	0.7778	0.7778	0.7826	0.7895	0.7949	0.7949
WLM14	FCT 24 aff. FCT 29a	Paired with CHIDPT-1 and NAVB-3 with high similarity. NNB supports FCT24 with affinity to FCT29a	**WLM14**	FCT 24	FCT 24	FCT 24	FCT 30a	FCT 24	FCT 24	FCT 29a	FCT 26a	FCT 24	FCT 24	**WLM14**	FCT 24	FCT 24	FCT 27	FCT 30a	FCT 24	FCT 29a	FCT 26a	FCT 29a	FCT 24	FCT 26a
				CHIDPT-1	BOLD-3	cool 08	WOODP-2	NEER-10	NAVB-3	BURN-1	SVH-1	BOLD-4	NEER-1		NAVB-4	MTB-2	WHILL-4	PEPGRV-2	cool 02	SEAB-4	YAN-24	SEAB-5	TRIG-5	YAN-2
				0.525	0.5319	0.5802	0.5946	0.596	0.6044	0.6136	0.6154	0.6279	0.6421		0.6512	0.6512	0.6552	0.6571	0.6579	0.6697	0.6701	0.6731	0.6809	0.6822
WLM16	FCT 24 aff. FCT 17	Paired with yarl01 (FCT3c) at low similarity Then FCT19,18,17,13,16 NNB suggests FCT24 with affinity to FCT30a	**WLM16**	FCT 30a	FCT 30a	FCT 24	FCT 29a	FCT 24	FCT 24	FCT 24	FCT 24	FCT 24	FCT 24	**WLM16**	FCT 24	FCT 24	FCT 17	FCT 30a	FCT 17	FCT 24	FCT 24	FCT 28	FCT 24	FCT 14
				WOODP-1	WOODP-2	BOLD-4	TRIG-2	cool 08	MTB-4	cool 02	MTB-3	BOLD-3	NEER-1		cool 03	NAVB-3	Possum5	GARDEN-4	cool 04	TRIG-5	BOLD-1	WOODV-2	TRIG-6	YAN-21
				0.6923	0.7073	0.7358	0.7368	0.75	0.75	0.7674	0.7692	0.7705	0.7742		0.7895	0.7931	0.7931	0.8	0.8	0.8033	0.8033	0.8033	0.8039	0.8065
WLM30	FCT 24 aff. FCT 11	Paired with Possum5 (FCT17) The grouped with eight FCT11 sites and single FCT25 and FCT14 sites NNB suggests FCT24	**WLM30**	FCT 30a	FCT 24	FCT 24	FCT 24	FCT 24	FCT 24	FCT 9	FCT 28	FCT 24	FCT 19	**WLM30**	FCT 11	FCT 17	FCT 14	FCT 30a	FCT 24	FCT 24	FCT 24	FCT 28	FCT 24	FCT 24
				WOODP-1	MTB-4	NEER-1	cool 02	cool 03	cool 08	brick4	NEER-23	BOLD-4	PB-6		rowe01	Possum5	YAN-21	WOODP-2	TRIG-6	BOLD-3	TRIG-5	WOODV-2	MTB-3	NAVB-4
				0.6875	0.6957	0.7059	0.7143	0.7273	0.7407	0.75	0.7586	0.7627	0.7647		0.7647	0.7714	0.7838	0.7872	0.7895	0.791	0.791	0.791	0.7931	0.7966
WLM38	FCT 24 aff. FCT 25	Initially grouped with ten FCT24 sites and 2 FCT25 sites at very high similarity and then grouped with eight FCT26a, three FCT26b and three FCT24 sites NNB supports FCT24 with affinity to FCT25	**WLM38**	FCT 24	FCT 24	FCT 24	FCT 24	FCT 24	FCT 24	FCT 24	FCT 24	FCT 24	FCT 25	**WLM38**	FCT 30a	FCT 25	FCT 24	FCT 24	FCT 29a	FCT 24	FCT 24	FCT 24	FCT 24	FCT 28
				cool 02	BOLD-3	NAVB-4	MTB-1	MTB-3	CHIDPT-1	BOLD-4	TRIG-6	NEER-1	C71-4		WOODP-2	MINN-1	NAVB-3	KERO-2	BURN-1	cool 03	BOLD-1	MTB-2	PTWALT-1	TRIG-3
				0.5294	0.5349	0.5641	0.6	0.6104	0.6111	0.6154	0.6316	0.6322	0.6341		0.6364	0.6364	0.6386	0.6386	0.65	0.6508	0.6512	0.6667	0.6667	0.6699
WLM40	FCT 24	Intiially grouped with three FCT30a sites then seven FCT29a sites and then numerous of FCT30a abd FCT30b sites NNB suggests FCT24 with affinity to FCT30a	**WLM40**	FCT 30a	FCT 24	FCT 30a	FCT 24	FCT 30a	FCT 24	FCT 25	FCT 24	FCT 24	FCT 24	**WLM40**	FCT 26a	FCT 24	FCT 30c	FCT 24	FCT 24	FCT 24	FCT 29a	FCT 24	FCT 25	FCT 24
				WOODP-1	BOLD-3	WOODP-2	NEER-1	PEPGRV-1	CHIDPT-1	MINN-1	BOLD-4	MTB-2	cool 02		SVH-1	NAVB-3	MHENRY-1	MTB-3	NAVB-4	TRIG-5	BURN-1	cool 08	C71-4	MTB-1
				0.5789	0.6164	0.6226	0.6486	0.6538	0.661	0.68	0.6923	0.6923	0.7091		0.7108	0.7143	0.7143	0.7188	0.7231	0.726	0.7313	0.7333	0.7391	0.7403
WLM41	FCT 24 aff.FCT 29a	Intiially grouped with three FCT30a sites then seven FCT29a sites and then numerous of FCT30a abd FCT30b sites NNB suggests FCT24 with support of affinity to FCT30a and FCT29a	**WLM41**	FCT 24	FCT 30a	FCT 30a	FCT 24	FCT 30a	FCT 24	FCT 24	FCT 24	FCT 24	FCT 30c	**WLM41**	FCT 29a	FCT 29b	FCT 24	FCT 30b	FCT 24	FCT 24	FCT 25	FCT 29a	FCT 30a	FCT 24
				BOLD-3	WOODP-1	PEPGRV-1	CHIDPT-1	WOODP-2	TRIG-6	cool 08	NAVB-3	NEER-1	MHENRY-1		BURN-1	TRIG-1	NEER-10	PEPB-1	BOLD-4	NAVB-4	MINN-1	PRES-1	PEPGRV-2	PTWALT-1
				0.6061	0.6129	0.6889	0.6923	0.6957	0.7143	0.7358	0.746	0.7612	0.7619		0.7667	0.7674	0.7746	0.7818	0.7931	0.7931	0.7941	0.8049	0.8095	0.8125
WLM42	FCT 24 aff. FCT 28	Grouped with FCT24 sites with addition of MHENRY-1 and MHENRY-2 (FCT30c) NNB supports FCT24 with affinity to FCT28	**WLM42**	FCT 24	FCT 24	FCT 24	FCT 24	FCT 24	FCT 24	FCT 30a	FCT 24	FCT 24	FCT 28	**WLM42**	FCT 30a	FCT 28	FCT 28	FCT 24	FCT 24	FCT 24	FCT 24	FCT 28	FCT 25	FCT 28
				TRIG-6	KERO-2	NEER-1	KERO-1	BOLD-3	THOM-2	WOODP-1	NEER-11	BOLD-4	KING-1		WOODP-2	WOODV-2	TRIG-3	MTB-1	MTB-3	NAVB-4	TRIG-5	TRIG-4	MINN-1	NEER-3
				0.5588	0.6267	0.6456	0.6538	0.6667	0.6667	0.6744	0.6842	0.6857	0.6875		0.6897	0.6923	0.7053	0.7073	0.7101	0.7143	0.7179	0.7183	0.725	0.7368
WLMR43	FCT 24 aff. FCT 11	Initally grouped with yarl01 (FCT3c) at low similarity, then evenly with a group of eight FCT 11 sites and also with nine FCT6 sites NNB suggests FCT24 with affinity to FCT29b	**WLMR43**	FCT 24	FCT 29b	FCT 24	FCT 30a	FCT 24	FCT 24	FCT 24	FCT 24	FCT 30a	FCT 24	**WLMR43**	FCT 29b	FCT 24	FCT 24	FCT 24	FCT 24	FCT 24	FCT 24	FCT 30b	FCT 25	FCT 29b
				CHIDPT-1	TRIG-1	BOLD-3	WOODP-1	TRIG-5	BOLD-1	cool 08	NEER-10	WOODP-2	PTWALT-1		WHILL-2	TRIG-6	NEER-1	BOLD-4	NAVB-4	NAVB-3	BOLD-2	PEPB-1	MINN-1	PB-4
				0.6897	0.7143	0.7222	0.7297	0.75	0.75	0.7627	0.7662	0.7692	0.7714		0.7727	0.7742	0.7808	0.7813	0.7813	0.7971	0.8	0.8033	0.8108	0.8113

WLM07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LESCH.3..FCT.30b.
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Possum4..FCT.30b.
SEAB.1..FCT.30c.
CLIF.2..FCT.26a.
CLIF.3..FCT.26a.
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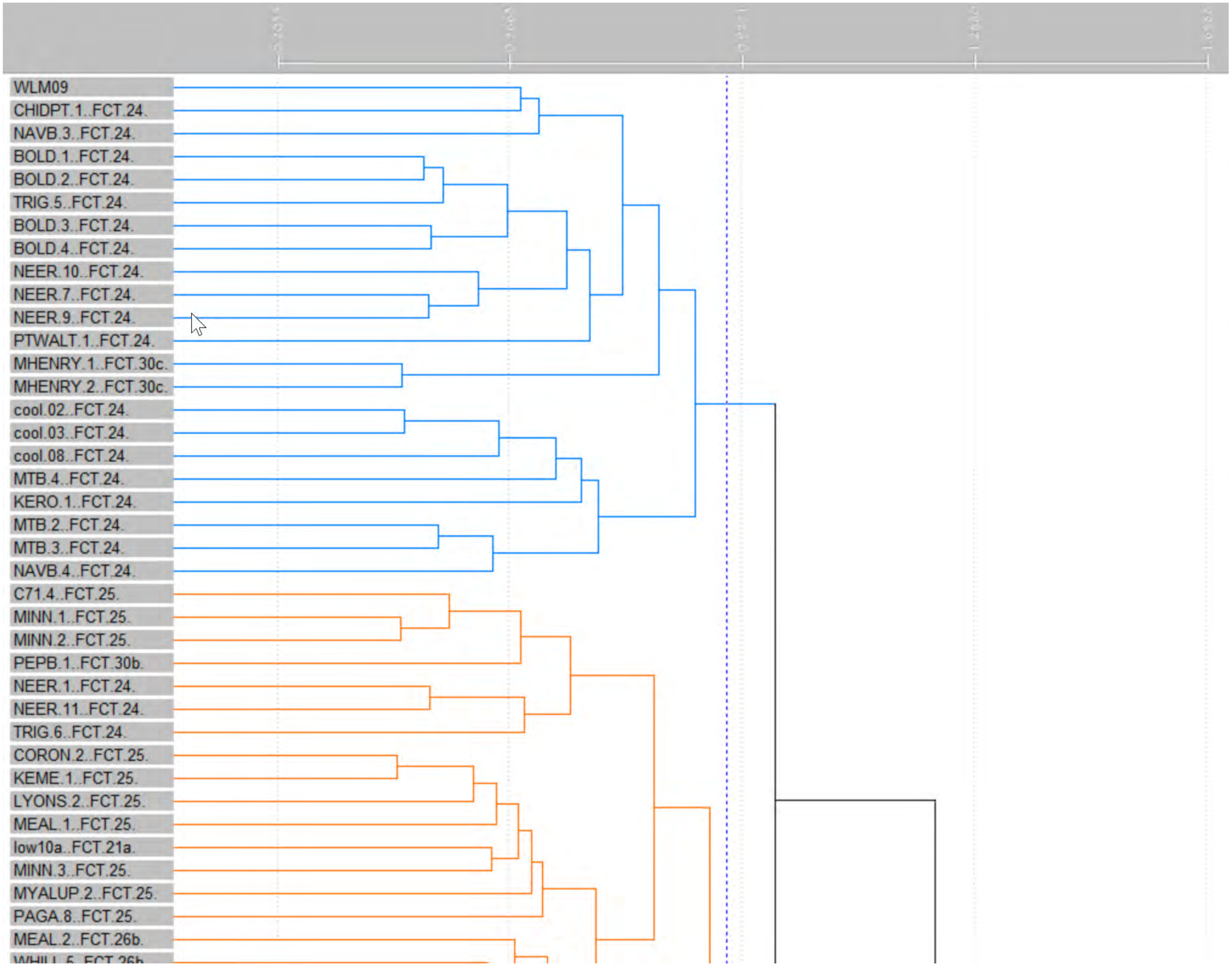
WHILL.3..FCT.27.

WLM09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BOLD.4..FCT.24.
NEER.10..FCT.24.
NEER.7..FCT.24.
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cool.03..FCT.24.
cool.08..FCT.24.
MTB.4..FCT.24.
KERO.1..FCT.24.
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MINN.1..FCT.25.
MINN.2..FCT.25.
PEPB.1..FCT.30b.
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TRIG.6..FCT.24.
CORON.2..FCT.25.
KEME.1..FCT.25.
LYONS.2..FCT.25.
MEAL.1..FCT.25.
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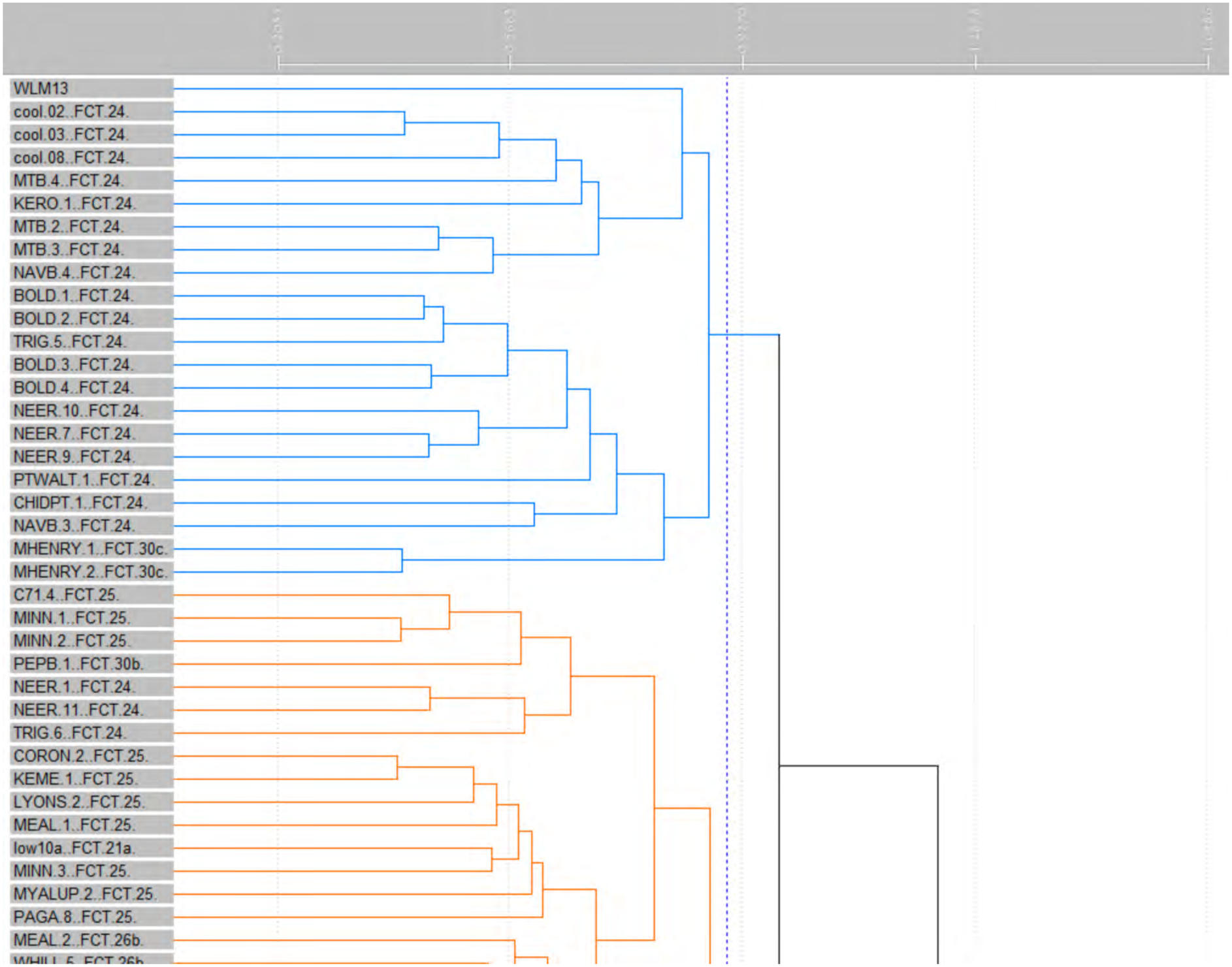
WLM13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C71.4..FCT.25.
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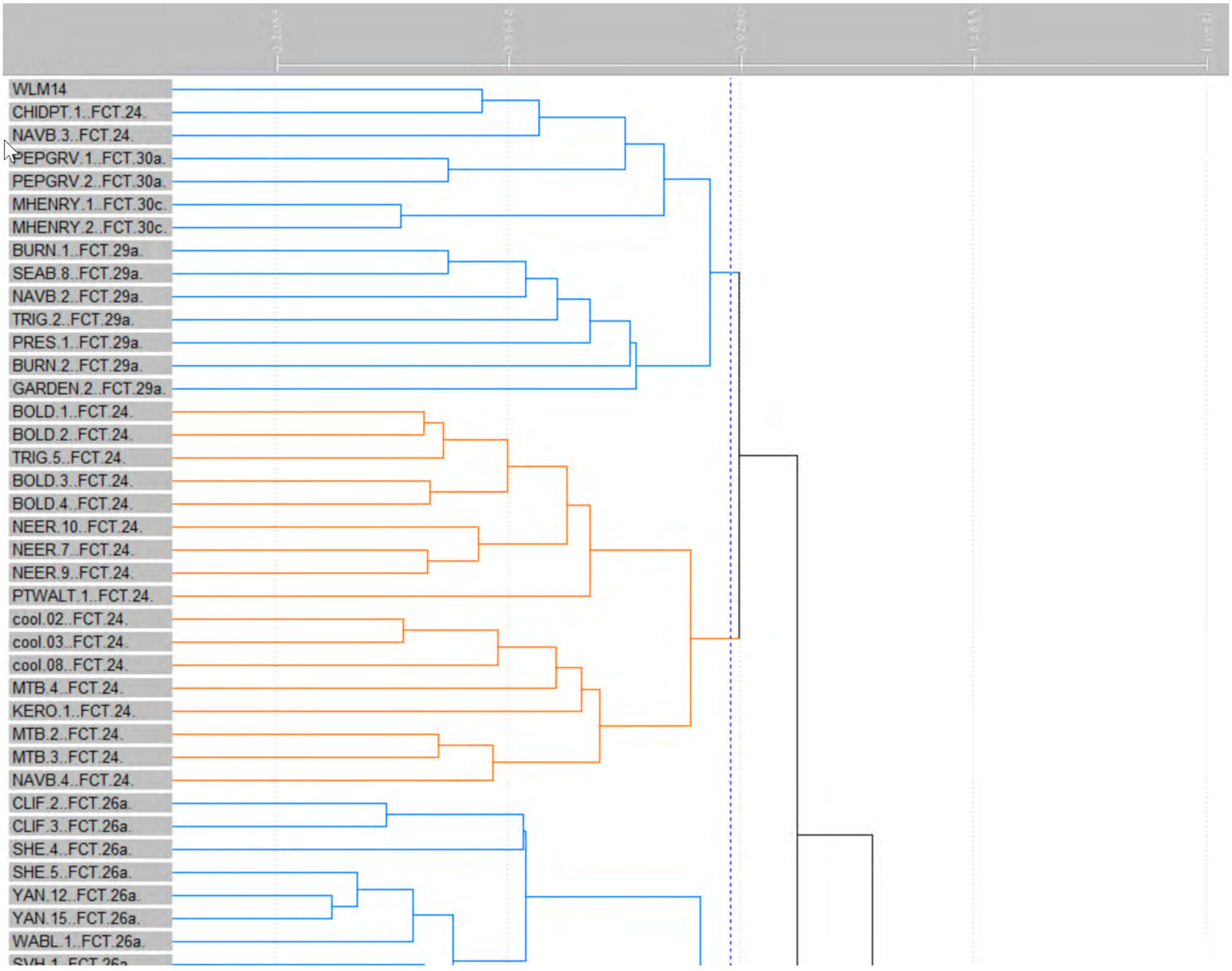
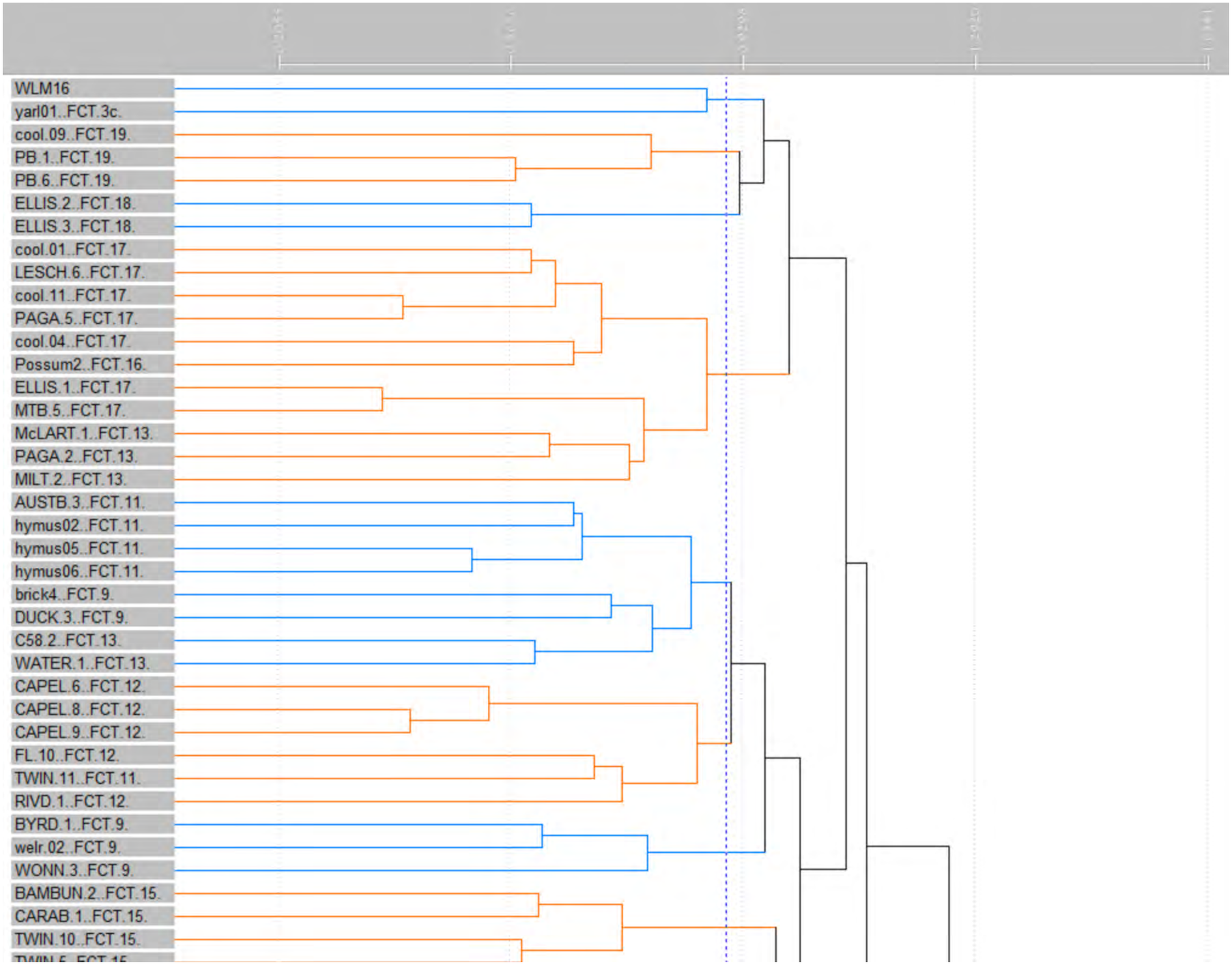
LYONS.2..FCT.25.
MEAL.1..FCT.25.
low10a..FCT.21a.
MINN.3..FCT.25.
MYALUP.2..FCT.25.
PAGA.8..FCT.25.
MEAL.2..FCT.26b.

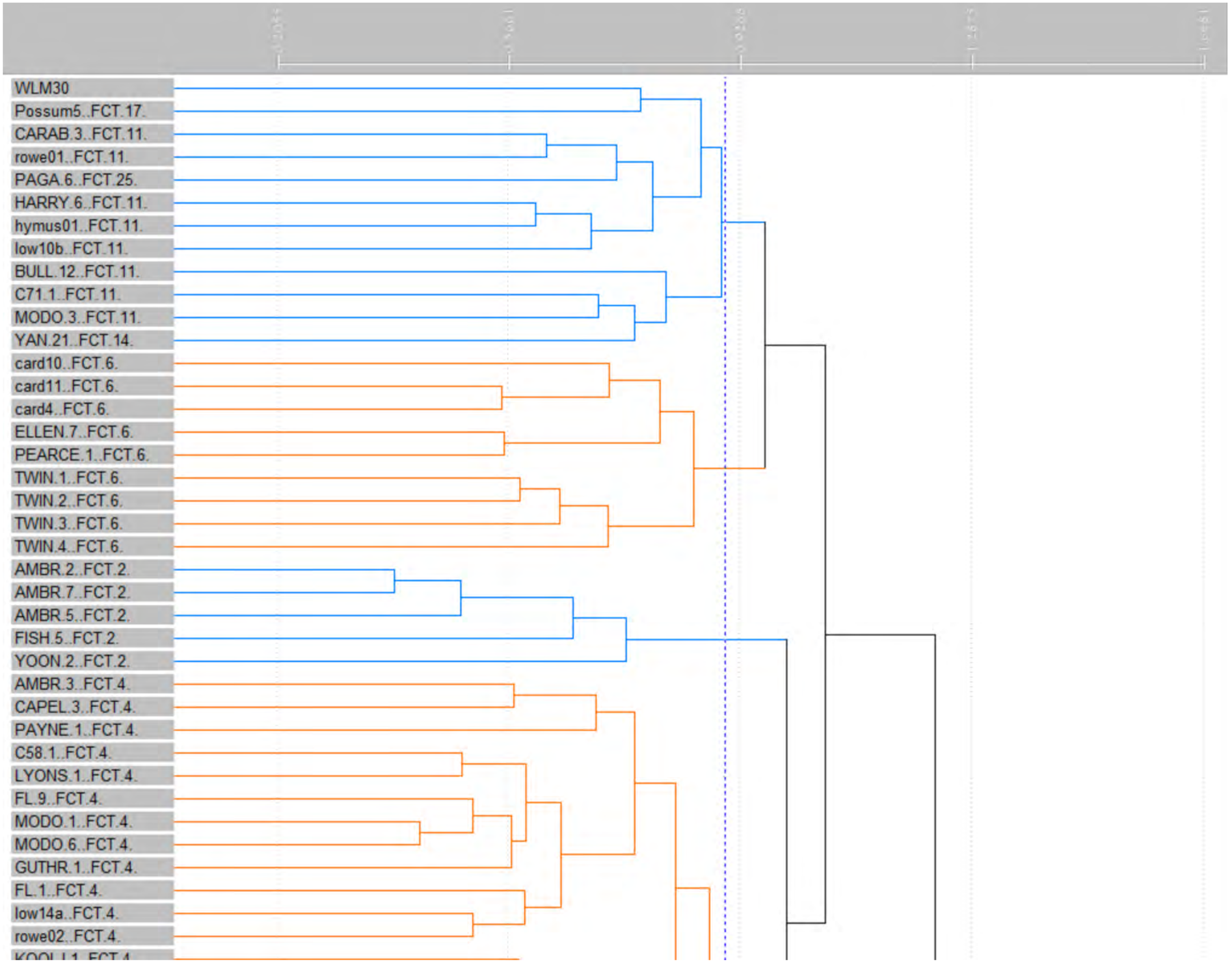
WLM14


WLM14
CHIDPT.1..FCT.24.
NAVB.3..FCT.24.
PEPGRV.1..FCT.30a.
PEPGRV.2..FCT.30a.
MHENRY.1..FCT.30c.
MHENRY.2..FCT.30c.
BURN.1..FCT.29a.
SEAB.8..FCT.29a.
NAVB.2..FCT.29a.
TRIG.2..FCT.29a.
PRES.1..FCT.29a.
BURN.2..FCT.29a.
GARDEN.2..FCT.29a.
BOLD.1..FCT.24.
BOLD.2..FCT.24.
TRIG.5..FCT.24.
BOLD.3..FCT.24.
BOLD.4..FCT.24.
NEER.10..FCT.24.
NEER.7..FCT.24.
NEER.9..FCT.24.
PTWALT.1..FCT.24.
cool.02..FCT.24.
cool.03..FCT.24.
cool.08..FCT.24.
MTB.4..FCT.24.
KERO.1..FCT.24.
MTB.2..FCT.24.
MTB.3..FCT.24.
NAVB.4..FCT.24.
CLIF.2..FCT.26a.
CLIF.3..FCT.26a.
SHE.4..FCT.26a.
SHE.5..FCT.26a.
YAN.12..FCT.26a.
YAN.15..FCT.26a.
WABL.1..FCT.26a.

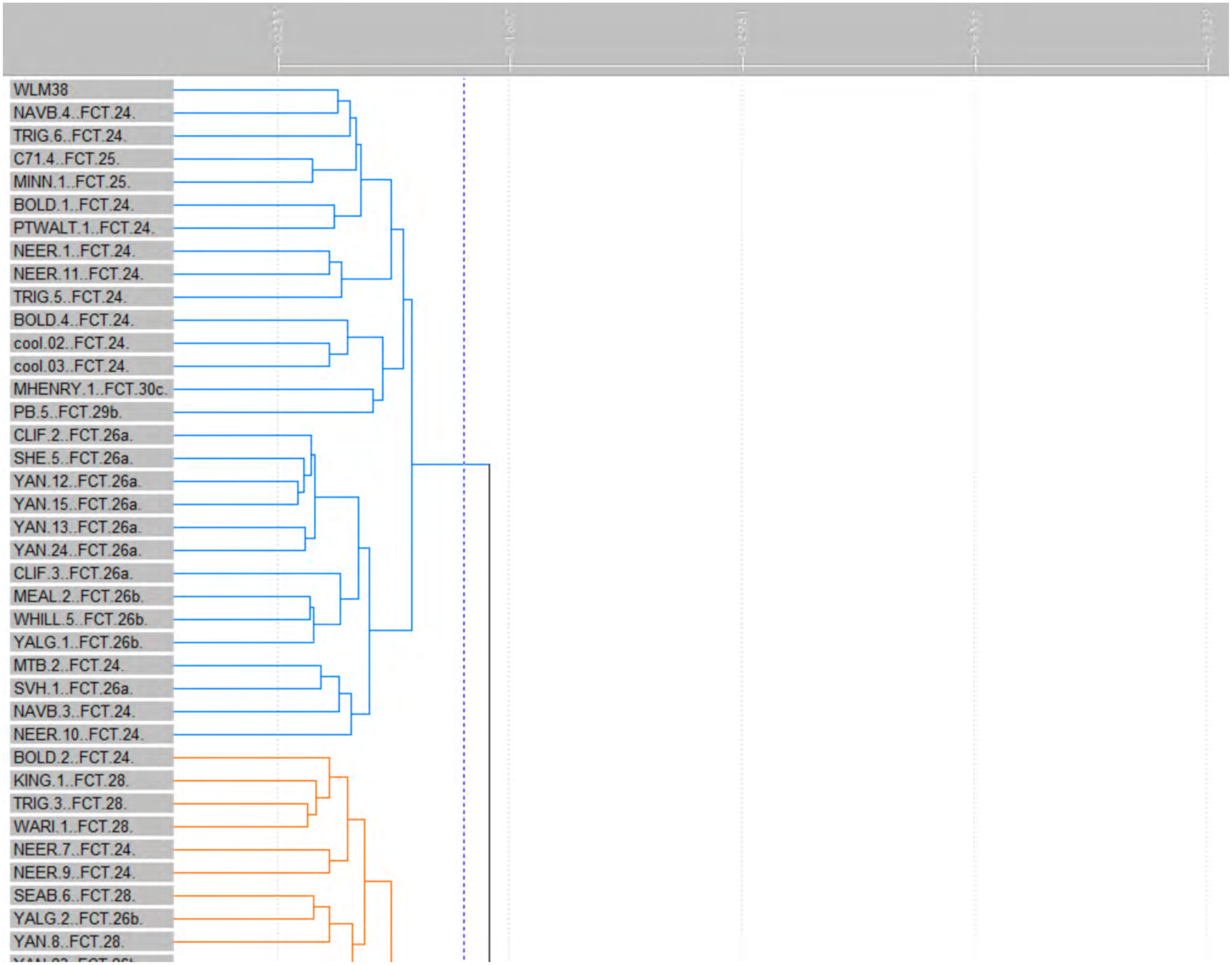
WLM16


WLM16
yarl01..FCT.3c.
cool.09..FCT.19.
PB.1..FCT.19.
PB.6..FCT.19.
ELLIS.2..FCT.18.
ELLIS.3..FCT.18.
cool.01..FCT.17.
LESCH.6..FCT.17.
cool.11..FCT.17.
PAGA.5..FCT.17.
cool.04..FCT.17.
Possum2..FCT.16.
ELLIS.1..FCT.17.
MTB.5..FCT.17.
McLART.1..FCT.13.
PAGA.2..FCT.13.
MILT.2..FCT.13.
AUSTB.3..FCT.11.
hymus02..FCT.11.
hymus05..FCT.11.
hymus06..FCT.11.
brick4..FCT.9.
DUCK.3..FCT.9.
C58.2..FCT.13.
WATER.1..FCT.13.
CAPEL.6..FCT.12.
CAPEL.8..FCT.12.
CAPEL.9..FCT.12.
FL.10..FCT.12.
TWIN.11..FCT.11.
RIVD.1..FCT.12.
BYRD.1..FCT.9.
welr.02..FCT.9.
WONN.3..FCT.9.
BAMBUN.2..FCT.15.
CARAB.1..FCT.15.
TWIN.10..FCT.15.

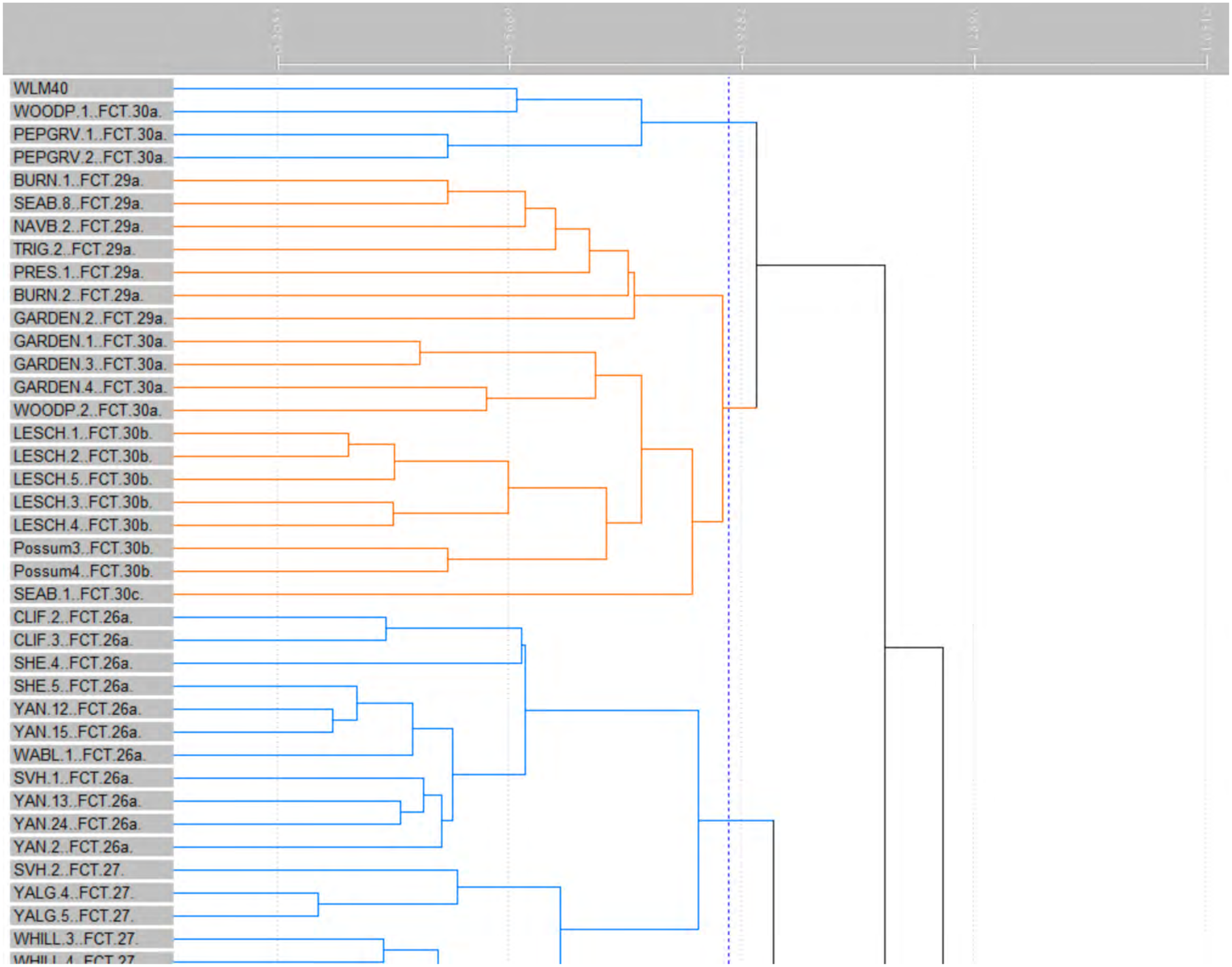
WLM30


WLM30
Possum5..FCT.17.
CARAB.3..FCT.11.
rowe01..FCT.11.
PAGA.6..FCT.25.
HARRY.6..FCT.11.
hymus01..FCT.11.
low10b..FCT.11.
BULL.12..FCT.11.
C71.1..FCT.11.
MODO.3..FCT.11.
YAN.21..FCT.14.
card10..FCT.6.
card11..FCT.6.
card4..FCT.6.
ELLEN.7..FCT.6.
PEARCE.1..FCT.6.
TWIN.1..FCT.6.
TWIN.2..FCT.6.
TWIN.3..FCT.6.
TWIN.4..FCT.6.
AMBR.2..FCT.2.
AMBR.7..FCT.2.
AMBR.5..FCT.2.
FISH.5..FCT.2.
YOON.2..FCT.2.
AMBR.3..FCT.4.
CAPEL.3..FCT.4.
PAYNE.1..FCT.4.
C58.1..FCT.4.
LYONS.1..FCT.4.
FL.9..FCT.4.
MODO.1..FCT.4.
MODO.6..FCT.4.
GUTHR.1..FCT.4.
FL.1..FCT.4.
low14a..FCT.4.
rowe02..FCT.4.

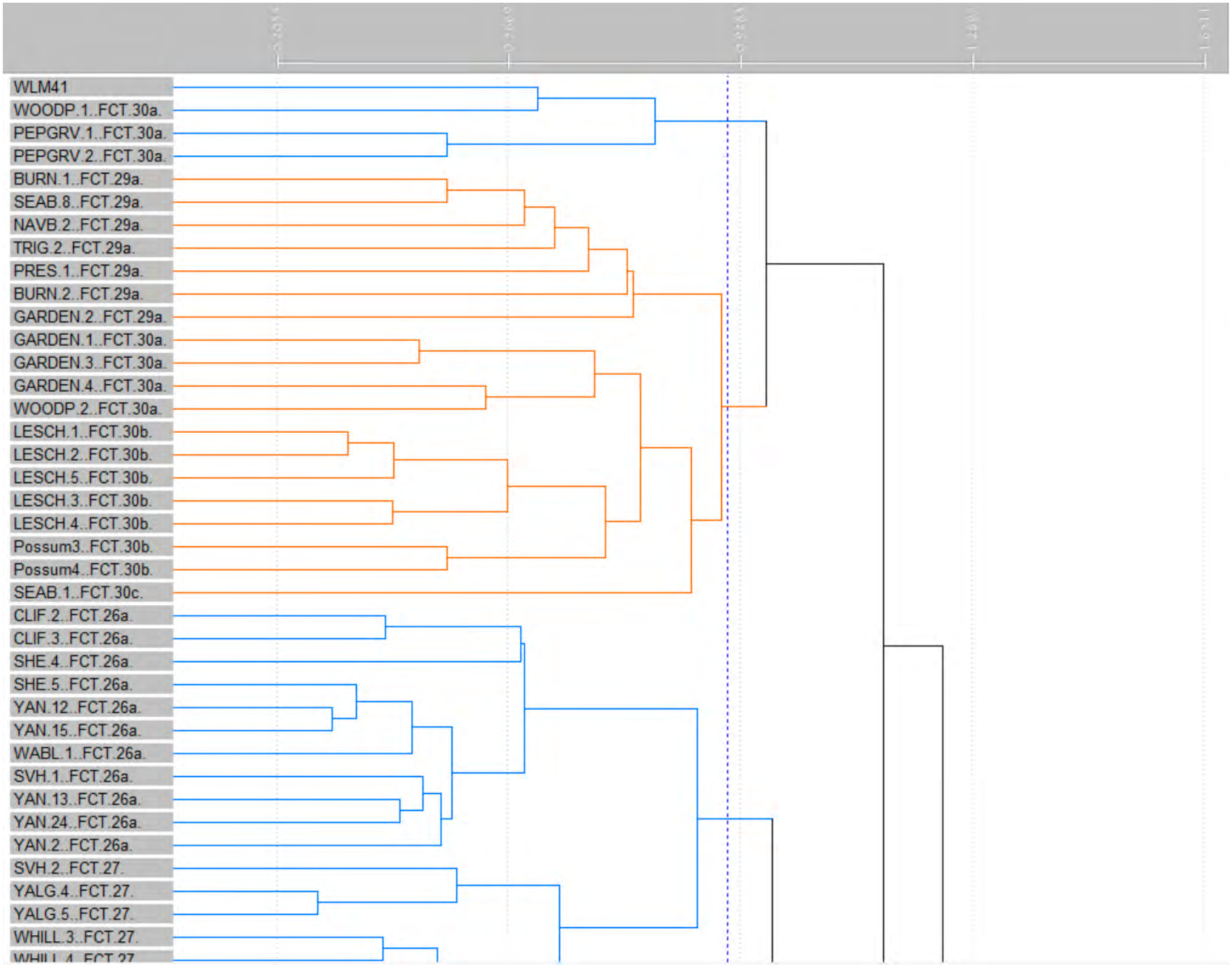
WLM38


WLM38
NAVB.4..FCT.24.
TRIG.6..FCT.24.
C71.4..FCT.25.
MINN.1..FCT.25.
BOLD.1..FCT.24.
PTWALT.1..FCT.24.
NEER.1..FCT.24.
NEER.11..FCT.24.
TRIG.5..FCT.24.
BOLD.4..FCT.24.
cool.02..FCT.24.
cool.03..FCT.24.
MHENRY.1..FCT.30c.
PB.5..FCT.29b.
CLIF.2..FCT.26a.
SHE.5..FCT.26a.
YAN.12..FCT.26a.
YAN.15..FCT.26a.
YAN.13..FCT.26a.
YAN.24..FCT.26a.
CLIF.3..FCT.26a.
MEAL.2..FCT.26b.
WHILL.5..FCT.26b.
YALG.1..FCT.26b.
MTB.2..FCT.24.
SVH.1..FCT.26a.
NAVB.3..FCT.24.
NEER.10..FCT.24.
BOLD.2..FCT.24.
KING.1..FCT.28.
TRIG.3..FCT.28.
WARI.1..FCT.28.
NEER.7..FCT.24.
NEER.9..FCT.24.
SEAB.6..FCT.28.
YALG.2..FCT.26b.
YAN.8..FCT.28.

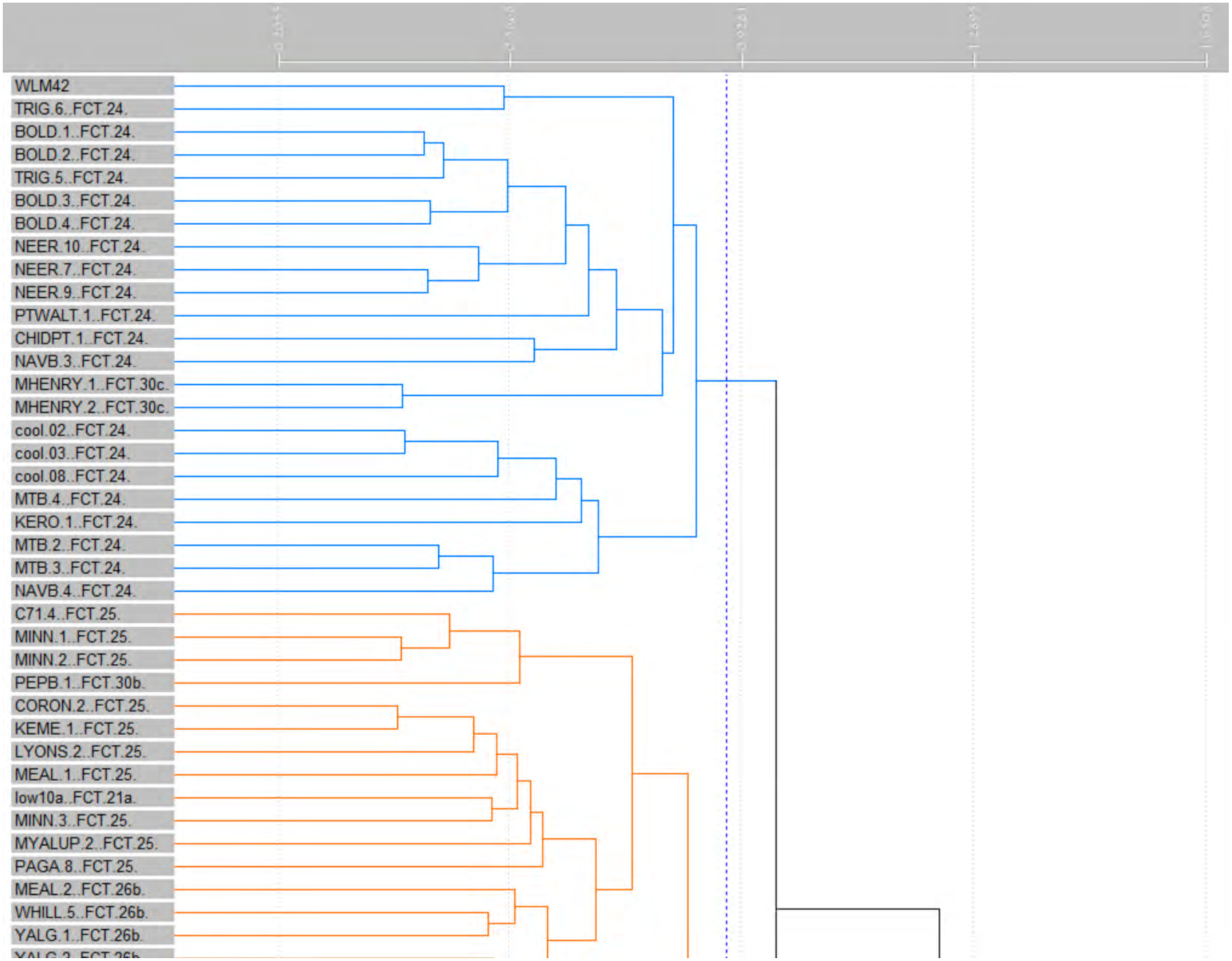
WLM40


WLM40
WOODP.1..FCT.30a.
PEPGRV.1..FCT.30a.
PEPGRV.2..FCT.30a.
BURN.1..FCT.29a.
SEAB.8..FCT.29a.
NAVB.2..FCT.29a.
TRIG.2..FCT.29a.
PRES.1..FCT.29a.
BURN.2..FCT.29a.
GARDEN.2..FCT.29a.
GARDEN.1..FCT.30a.
GARDEN.3..FCT.30a.
GARDEN.4..FCT.30a.
WOODP.2..FCT.30a.
LESCH.1..FCT.30b.
LESCH.2..FCT.30b.
LESCH.5..FCT.30b.
LESCH.3..FCT.30b.
LESCH.4..FCT.30b.
Possum3..FCT.30b.
Possum4..FCT.30b.
SEAB.1..FCT.30c.
CLIF.2..FCT.26a.
CLIF.3..FCT.26a.
SHE.4..FCT.26a.
SHE.5..FCT.26a.
YAN.12..FCT.26a.
YAN.15..FCT.26a.
WABL.1..FCT.26a.
SVH.1..FCT.26a.
YAN.13..FCT.26a.
YAN.24..FCT.26a.
YAN.2..FCT.26a.
SVH.2..FCT.27.
YALG.4..FCT.27.
YALG.5..FCT.27.
WHILL.3..FCT.27.

WLM41


WLM41
WOODP.1..FCT.30a.
PEPGRV.1..FCT.30a.
PEPGRV.2..FCT.30a.
BURN.1..FCT.29a.
SEAB.8..FCT.29a.
NAVB.2..FCT.29a.
TRIG.2..FCT.29a.
PRES.1..FCT.29a.
BURN.2..FCT.29a.
GARDEN.2..FCT.29a.
GARDEN.1..FCT.30a.
GARDEN.3..FCT.30a.
GARDEN.4..FCT.30a.
WOODP.2..FCT.30a.
LESCH.1..FCT.30b.
LESCH.2..FCT.30b.
LESCH.5..FCT.30b.
LESCH.3..FCT.30b.
LESCH.4..FCT.30b.
Possum3..FCT.30b.
Possum4..FCT.30b.
SEAB.1..FCT.30c.
CLIF.2..FCT.26a.
CLIF.3..FCT.26a.
SHE.4..FCT.26a.
SHE.5..FCT.26a.
YAN.12..FCT.26a.
YAN.15..FCT.26a.
WABL.1..FCT.26a.
SVH.1..FCT.26a.
YAN.13..FCT.26a.
YAN.24..FCT.26a.
YAN.2..FCT.26a.
SVH.2..FCT.27.
YALG.4..FCT.27.
YALG.5..FCT.27.
WHILL.3..FCT.27.

WLM42


WLM42
TRIG.6..FCT.24.
BOLD.1..FCT.24.
BOLD.2..FCT.24.
TRIG.5..FCT.24.
BOLD.3..FCT.24.
BOLD.4..FCT.24.
NEER.10..FCT.24.
NEER.7..FCT.24.
NEER.9..FCT.24.
PTWALT.1..FCT.24.
CHIDPT.1..FCT.24.
NAVB.3..FCT.24.
MHENRY.1..FCT.30c.
MHENRY.2..FCT.30c.
cool.02..FCT.24.
cool.03..FCT.24.
cool.08..FCT.24.
MTB.4..FCT.24.
KERO.1..FCT.24.
MTB.2..FCT.24.
MTB.3..FCT.24.
NAVB.4..FCT.24.
C71.4..FCT.25.
MINN.1..FCT.25.
MINN.2..FCT.25.
PEPB.1..FCT.30b.
CORON.2..FCT.25.
KEME.1..FCT.25.
LYONS.2..FCT.25.
MEAL.1..FCT.25.
low10a..FCT.21a.
MINN.3..FCT.25.
MYALUP.2..FCT.25.
PAGA.8..FCT.25.
MEAL.2..FCT.26b.
WHILL.5..FCT.26b.
YALG.1..FCT.26b.

WLMR43

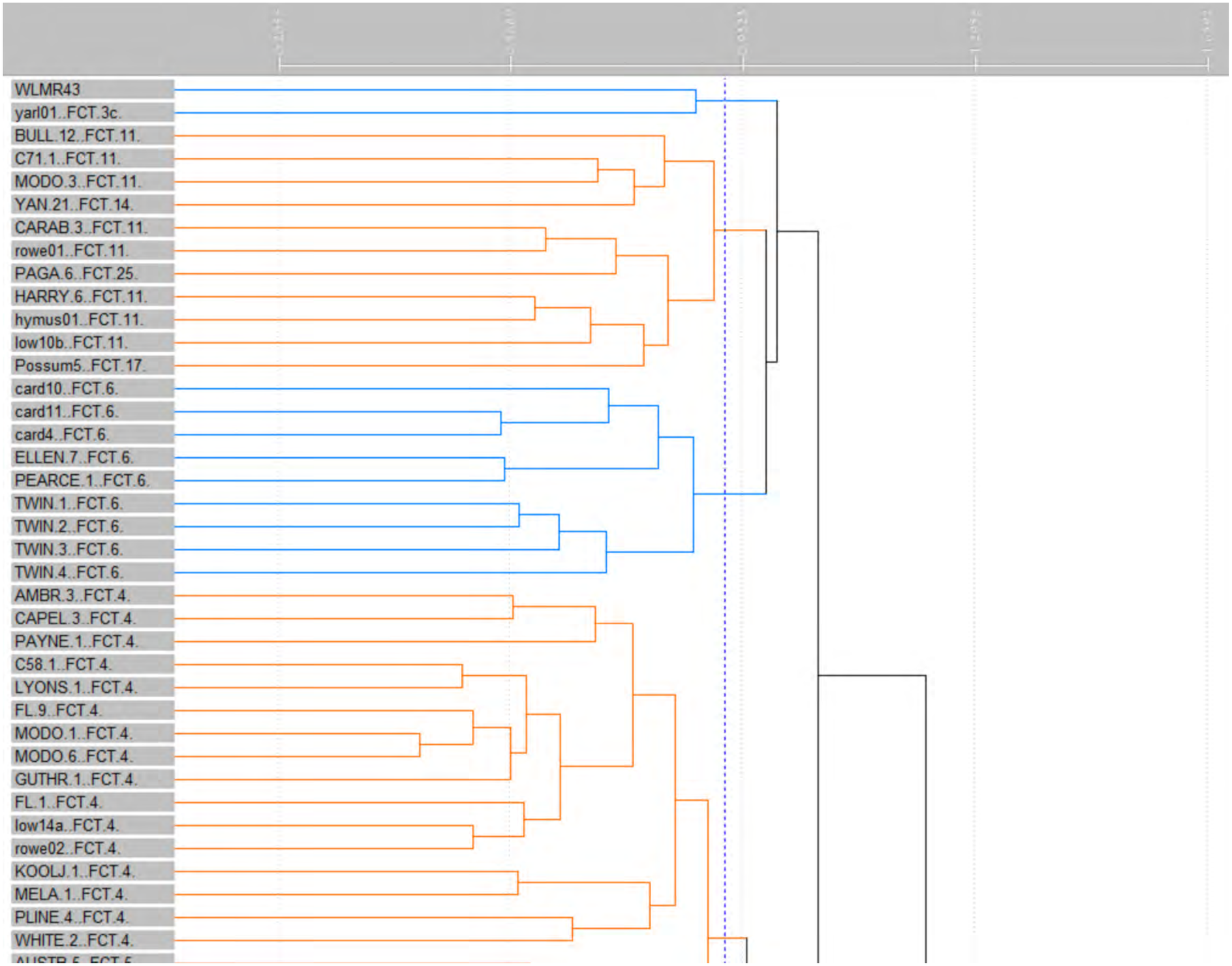
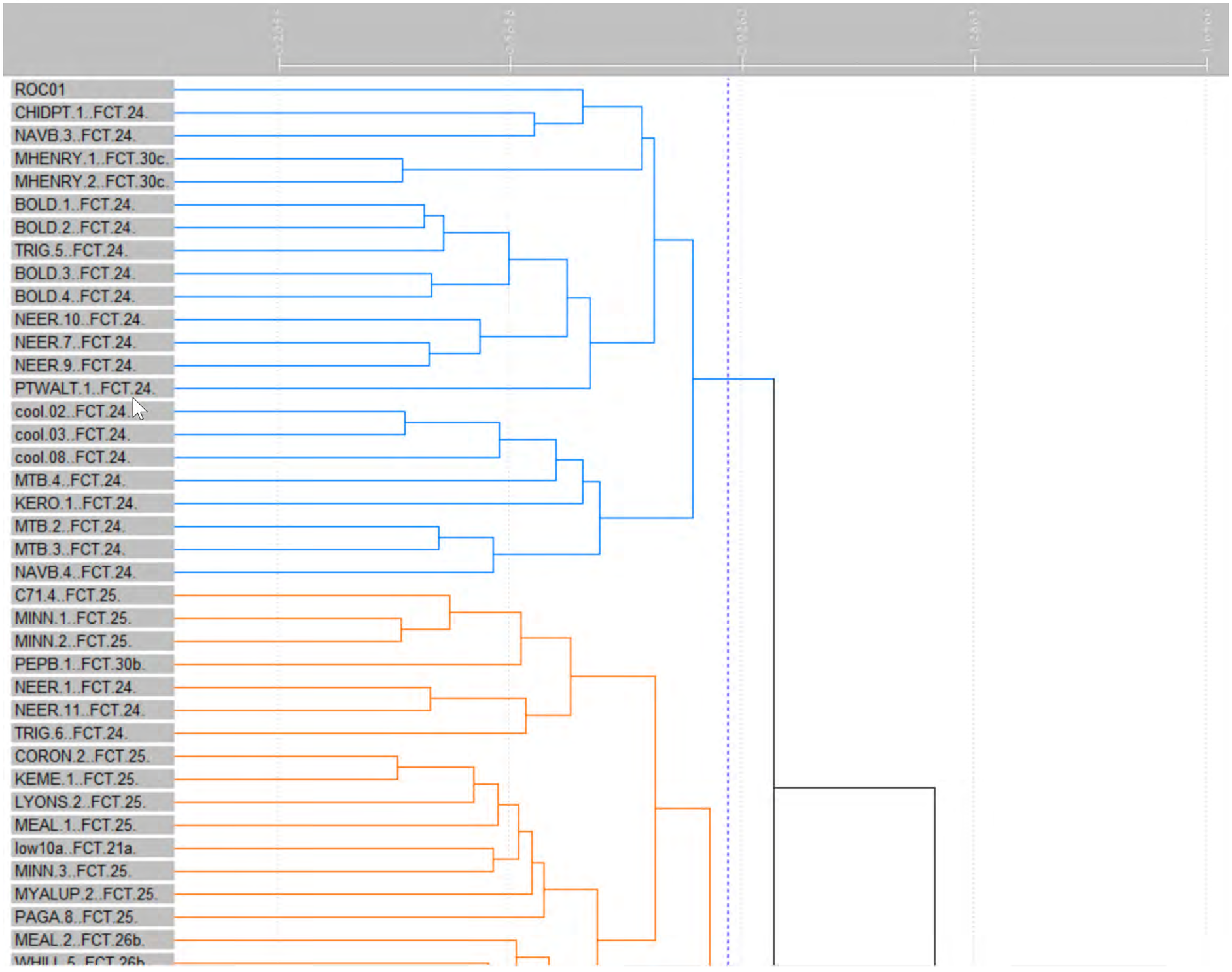

WLMR43
yarl01..FCT.3c.
BULL.12..FCT.11.
C71.1..FCT.11.
MODO.3..FCT.11.
YAN.21..FCT.14.
CARAB.3..FCT.11.
rowe01..FCT.11.
PAGA.6..FCT.25.
HARRY.6..FCT.11.
hymus01..FCT.11.
low10b..FCT.11.
Possum5..FCT.17.
card10..FCT.6.
card11..FCT.6.
card4..FCT.6.
ELLEN.7..FCT.6.
PEARCE.1..FCT.6.
TWIN.1..FCT.6.
TWIN.2..FCT.6.
TWIN.3..FCT.6.
TWIN.4..FCT.6.
AMBR.3..FCT.4.
CAPEL.3..FCT.4.
PAYNE.1..FCT.4.
C58.1..FCT.4.
LYONS.1..FCT.4.
FL.9..FCT.4.
MODO.1..FCT.4.
MODO.6..FCT.4.
GUTHR.1..FCT.4.
FL.1..FCT.4.
low14a..FCT.4.
rowe02..FCT.4.
KOOLJ.1..FCT.4.
MELA.1..FCT.4.
PLINE.4..FCT.4.
WHITE.2..FCT.4.

Table 3: **Nearest Neigbour Boundary results (NNB; 20 nearest sites) and UPGMA clustering dendrgram summary for Rockingham Road sites.**

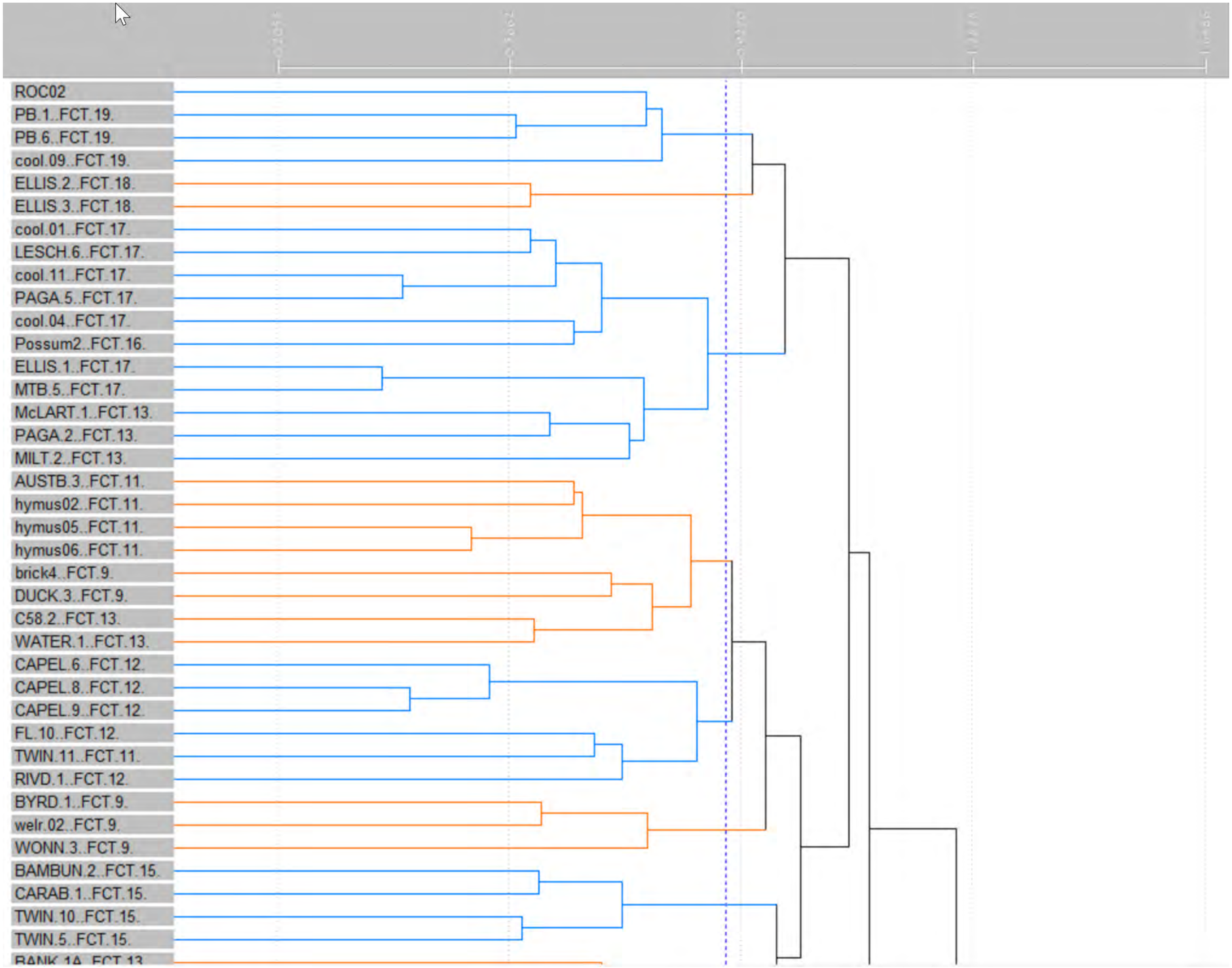
Site	Result	Notes		1	2	3	4	5	6	7	8	9	10		11	12	13	14	15	16	17	18	19	20
ROC01	FCT 24	Grouped with majority of FCT24 sites NNB supports FCT24	ROC01	FCT 24	FCT 26a	FCT 24	FCT 24	FCT 24	FCT 24	FCT 24	FCT 24	FCT 24	FCT 30a	ROC01	FCT 30c	FCT 25	FCT 19	FCT 24	FCT 24	FCT 29a	FCT 30b	FCT 24	FCT 24	FCT 24
				cool 08	SVH-1	BOLD-3	TRIG-6	MTB-2	NEER-1	NAVB-3	NAVB-4	CHIDPT-1	WOODP-2		MHENRY-1	MINN-1	PB-6	MTB-3	BOLD-1	BURN-1	PEPB-1	cool 02	NEER-10	NEER-11
				0.6232	0.6304	0.6341	0.6389	0.6486	0.6627	0.6709	0.6757	0.6765	0.6774		0.6897	0.6905	0.697	0.6986	0.7073	0.7105	0.7183	0.7188	0.7241	0.725
ROC02	FCT 24 aff. FCT 19	Paired with three FCT19 sites, two FCT18 sites, and seven FCT17 sites NNB suggests FCT24	ROC02	FCT 24	FCT 24	FCT 19	FCT 24	FCT 24	FCT 26a	FCT 24	FCT 24	FCT 25	FCT 24	ROC02	FCT 24	FCT 24	FCT 28	FCT 24	FCT 24	FCT 30c	FCT 6	FCT 29a	FCT 24	FCT 24
				MTB-2	NEER-1	PB-6	BOLD-3	cool 08	SVH-1	MTB-3	NAVB-4	MINN-1	NAVB-3		TRIG-6	cool 02	NEER-23	BOLD-1	BOLD-4	MHENRY-1	ELLEN-7	BURN-1	cool 03	CHIDPT-1
				0.661	0.6765	0.6863	0.7015	0.7037	0.7143	0.7241	0.7288	0.7391	0.75		0.7544	0.7551	0.7586	0.7612	0.7627	0.7674	0.7674	0.7705	0.7727	0.7736
ROC03	FCT 24 aff. FCT 19	Paired with three FCT19 sites, two FCT18 sites, and seven FCT17 sites NNB suggests FCT24	ROC03	FCT 30a	FCT 24	FCT 24	FCT 30a	FCT 24	FCT 24	FCT 29a	FCT 30c	FCT 6	FCT 11	ROC03	FCT 29b	FCT 24	FCT 19	FCT 30b	FCT 24	FCT 24	FCT 29b	FCT 24	FCT 24	FCT 29b
				WOODP-1	TRIG-6	cool 08	WOODP-2	BOLD-3	NAVB-4	PRES-1	MHENRY-1	ELLEN-7	low10b		TRIG-1	KERO-2	cool 09	PEPB-1	THOM-2	NEER-1	PB-4	cool 02	MTB-1	WHILL-2
				0.6923	0.7255	0.75	0.7561	0.7705	0.7736	0.7778	0.7838	0.7838	0.7895		0.7895	0.7931	0.7931	0.8	0.8033	0.8065	0.8095	0.814	0.8154	0.8182
ROC04	FCT 24	Grouped with three FCT30a sites, then further with combination of FCT29a/30a/30b sites. NNB suggests FCT24	ROC04	FCT 30a	FCT 30a	FCT 24	FCT 30a	FCT 19	FCT 24	FCT 24	FCT 24	FCT 26b	FCT 30c	ROC04	FCT 30a	FCT 11	FCT 29b	FCT 24	FCT 24	FCT 6	FCT 24	FCT 24	FCT 24	FCT 24
				WOODP-1	PEPGRV-1	KERO-1	WOODP-2	cool 09	NEER-1	cool 08	TRIG-6	SHE-6	MHENRY-1		PEPGRV-2	low10b	TRIG-1	KERO-2	MTB-4	card4	NEER-11	BOLD-3	THOM-2	cool 02
				0.6364	0.7778	0.8065	0.8378	0.84	0.8621	0.8636	0.8723	0.875	0.8788		0.8788	0.8824	0.8824	0.8889	0.8889	0.8889	0.8909	0.8947	0.8947	0.8974
ROC05	FCT 24 aff. FCT 29a	Paired with two FCT24 sites, then two FCT30a sites, and further with seven FCT29a sites NNB suggests strong FCT24 and secondary FCT29a	ROC05	FCT 24	FCT 24	FCT 24	FCT 24	FCT 24	FCT 24	FCT 30a	FCT 24	FCT 26a	FCT 29a	ROC05	FCT 27	FCT 26a	FCT 24	FCT 26a	FCT 24	FCT 24	FCT 29a	FCT 24	FCT 26a	FCT 24
				BOLD-3	CHIDPT-1	cool 08	NEER-10	NEER-1	NAVB-3	WOODP-2	MTB-2	SVH-1	BURN-1		WHILL-4	YAN-2	cool 02	YAN-24	TRIG-6	KERO-2	NAVB-2	MTB-3	SHE-5	BOLD-4
				0.6279	0.6389	0.6438	0.6484	0.6552	0.6627	0.6667	0.6667	0.6667	0.675		0.6962	0.697	0.7059	0.7079	0.7105	0.7108	0.7111	0.7143	0.7176	0.7179
ROC06	FCT 24	Grouped with three FCT30a sites, then further with combination of FCT29a/30a/30b sites. NNB suggests FCT24/FCT30a split	ROC06	FCT 30a	FCT 30a	FCT 24	FCT 29a	FCT 17	FCT 30a	FCT 24	FCT 24	FCT 24	FCT 25	ROC06	FCT 29a	FCT 24	FCT 29b	FCT 24	FCT 30b	FCT 30a	FCT 24	FCT 24	FCT 30a	FCT 24
				WOODP-1	WOODP-2	BOLD-3	TRIG-2	cool 04	PEPGRV-1	MTB-4	TRIG-6	NEER-1	MINN-1		PRES-1	CHIDPT-1	TRIG-1	cool 08	PEPB-1	GARDEN-4	BOLD-4	NAVB-4	GARDEN-1	cool 02
				0.5676	0.6538	0.75	0.7551	0.7561	0.7647	0.7647	0.7742	0.7808	0.7838		0.7872	0.7931	0.7959	0.7966	0.8033	0.8049	0.8125	0.8125	0.814	0.8148
ROC07	FCT 24	Paired with four FCT30a sites and then at very low similarity with large grouping of FCT29a/30a/30b NNB suggests FCT24/FCT30a split	ROC07	FCT 30a	FCT 30a	FCT 24	FCT 30a	FCT 29b	FCT 24	FCT 28	FCT 24	FCT 24	FCT 24	ROC07	FCT 24	FCT 29a	FCT 16	FCT 24	FCT 25	FCT 30c	FCT 29a	FCT 29a	FCT 24	FCT 28
				WOODP-2	WOODP-1	CHIDPT-1	GARDEN-4	TRIG-1	MTB-3	NEER-23	NAVB-4	MTB-4	BOLD-3		BOLD-4	PRES-1	Possum2	NEER-1	MINN-1	MHENRY-1	BURN-1	TRIG-2	NEER-10	NEER-22
				0.5	0.5758	0.6667	0.6757	0.6889	0.7288	0.7288	0.7333	0.7447	0.7647		0.7667	0.7674	0.7674	0.7681	0.7714	0.7727	0.7742	0.7778	0.7808	0.7867
ROC08	FCT 24	Grouped with majority of FCT24 sites with two FCT30c sites inserted into grouping. NNB supports FCT24	ROC08	FCT 24	FCT 24	FCT 24	FCT 29a	FCT 24	FCT 24	FCT 30a	FCT 24	FCT 24	FCT 29a	ROC08	FCT 24	FCT 24	FCT 26a	FCT 30c	FCT 26a	FCT 24	FCT 25	FCT 30c	FCT 24	FCT 24
				BOLD-4	BOLD-3	CHIDPT-1	BURN-1	NEER-1	NEER-10	WOODP-2	NAVB-4	cool 02	TRIG-2		TRIG-6	KERO-2	SVH-1	MHENRY-2	YAN-2	TRIG-5	MINN-1	MHENRY-1	NAVB-3	MTB-1
				0.5325	0.5765	0.6056	0.6203	0.6279	0.6444	0.6615	0.6623	0.6716	0.6774		0.68	0.6829	0.6842	0.6901	0.6939	0.6941	0.7011	0.7049	0.7073	0.7079
ROC10	FCT 24	Grouped with three FCT30a sites, then further with combination of FCT29a/30a/30b sites. NNB suggests FCT24/FCT30a split	ROC10	FCT 30a	FCT 24	FCT 24	FCT 24	FCT 30a	FCT 29a	FCT 25	FCT 30b	FCT 24	FCT 24	ROC10	FCT 24	FCT 30a	FCT 24	FCT 24	FCT 30b	FCT 24	FCT 29a	FCT 30c	FCT 29a	FCT 24
				WOODP-1	NAVB-4	MTB-4	BOLD-3	WOODP-2	BURN-1	MINN-1	PEPB-1	cool 02	MTB-3		NEER-1	PEPGRV-1	cool 08	MTB-1	LESCH-2	TRIG-6	PRES-1	MHENRY-1	TRIG-2	cool 03
				0.65	0.7015	0.7037	0.7067	0.7091	0.7101	0.7143	0.7188	0.7193	0.7273		0.7368	0.7407	0.7419	0.7468	0.7534	0.7538	0.76	0.7647	0.7692	0.7692
ROC11	FCT 24	Grouped with three FCT30a sites, then further with combination of FCT29a/30a/30b sites. NNB suggests FCT24/FCT30a split	ROC11	FCT 30a	FCT 30a	FCT 29a	FCT 30a	FCT 29b	FCT 24	FCT 24	FCT 11	FCT 24	FCT 30b	ROC11	FCT 30a	FCT 17	FCT 24	FCT 24	FCT 24	FCT 16	FCT 30c	FCT 6	FCT 25	FCT 24
				WOODP-1	WOODP-2	PRES-1	GARDEN-4	TRIG-1	CHIDPT-1	BOLD-3	low10b	cool 08	PEPB-1		PEPGRV-1	cool 04	TRIG-6	NEER-1	KERO-2	Possum2	MHENRY-1	ELLEN-7	MINN-1	MTB-1
				0.6154	0.6585	0.7222	0.7333	0.7368	0.7447	0.7705	0.7895	0.7917	0.8		0.8	0.8	0.8039	0.8065	0.8276	0.8333	0.8378	0.8378	0.8413	0.8462
ROC12	FCT 24	Grouped with three FCT30a sites, then further with combination of FCT29a/30a/30b sites. NNB suggests FCT24/FCT30a split	ROC12	FCT 30a	FCT 30a	FCT 30a	FCT 24	FCT 24	FCT 24	FCT 30c	FCT 29a	FCT 25	FCT 26a	ROC12	FCT 24	FCT 24	FCT 24	FCT 24	FCT 30a	FCT 30b	FCT 24	FCT 30b	FCT 30b	FCT 28
				WOODP-1	WOODP-2	PEPGRV-1	CHIDPT-1	BOLD-3	NEER-1	MHENRY-1	BURN-1	MINN-1	SVH-1		NAVB-3	cool 02	MTB-3	MTB-2	GARDEN-4	LESCH-3	MTB-4	PEPB-1	LESCH-2	NEER-23
				0.5	0.6471	0.68	0.6842	0.6901	0.6944	0.7021	0.7231	0.726	0.7284		0.7353	0.7358	0.7419	0.746	0.75	0.7551	0.76	0.7667	0.7681	0.7742
ROC13	FCT 24 aff. FCT 29a	Grouped with three FCT30a sites, then further with seven FCT29a sites NNB suggests FCT24 and aff. FCT29a	ROC13	FCT 30a	FCT 30b	FCT 30a	FCT 24	FCT 24	FCT 24	FCT 25	FCT 29a	FCT 30c	FCT 17	ROC13	FCT 29a	FCT 24	FCT 24	FCT 24	FCT 24	FCT 24	FCT 19	FCT 29a	FCT 24	FCT 29a
				WOODP-2	PEPB-1	WOODP-1	TRIG-6	cool 08	NEER-1	MINN-1	PRES-1	MHENRY-1	cool 04		TRIG-2	CHIDPT-1	MTB-4	MTB-1	KERO-2	cool 02	cool 09	BURN-1	cool 03	BURN-2
				0.6522	0.6727	0.6774	0.6786	0.6981	0.7015	0.7059	0.7073	0.7143	0.7143		0.7209	0.7308	0.7333	0.7429	0.746	0.75	0.7647	0.7667	0.7674	0.7674
ROC15	FCT 24	Grouped with five FCT30a sites and then further with seven FCT29a sites NNB suggests FCT24	ROC15	FCT 30a	FCT 30a	FCT 24	FCT 24	FCT 24	FCT 24	FCT 24	FCT 30c	FCT 24	FCT 24	ROC15	FCT 30a	FCT 24	FCT 24	FCT 24	FCT 6	FCT 26a	FCT 25	FCT 29a	FCT 24	FCT 29a
				WOODP-1	WOODP-2	MTB-3	NAVB-4	BOLD-4	cool 02	NAVB-3	MHENRY-1	CHIDPT-1	MTB-4		PEPGRV-1	BOLD-3	BOLD-1	MTB-2	ELLEN-7	SVH-1	MINN-1	BURN-1	cool 03	BURN-2
				0.5897	0.5926	0.6923	0.697	0.697	0.7143	0.7183	0.72	0.7333	0.7358		0.7358	0.7568	0.7568	0.7576	0.76	0.7619	0.7632	0.7647	0.7647	0.7647
ROC16	FCT 24	Grouped with three FCT30a sites, then further with combination of FCT29a/30a/30b sites. NNB suggests FCT24/FCT30a split	ROC16	FCT 30a	FCT 30a	FCT 24	FCT 24	FCT 24	FCT 30a	FCT 24	FCT 29a	FCT 24	FCT 24	ROC16	FCT 24	FCT 24	FCT 24	FCT 29a	FCT 25	FCT 24	FCT 24	FCT 30c	FCT 24	FCT 24
				WOODP-1	WOODP-2	TRIG-6	BOLD-3	NEER-1	PEPGRV-2	cool 03	TRIG-2	PTWALT-1	NAVB-4		BOLD-4	MTB-4	cool 08	BURN-1	MINN-1	cool 02	NAVB-3	MHENRY-1	BOLD-1	CHIDPT-1
				0.6	0.6364	0.6615	0.68	0.6842	0.6863	0.6923	0.6923	0.6986	0.7015		0.7015	0.7037	0.7097	0.7101	0.7143	0.7193	0.7222	0.7255	0.7333	0.7377
ROC18	FCT 24	Grouped with majority of FCT24 sites with two FCT30c sites inserted into grouping. NNB supports FCT24	ROC18	FCT 24	FCT 24	FCT 24	FCT 30a	FCT 24	FCT 24	FCT 26a	FCT 24	FCT 24	FCT 24	ROC18	FCT 24	FCT 24	FCT 29a	FCT 24	FCT 26b	FCT 24	FCT 24	FCT 26a	FCT 24	FCT 28
				BOLD-3	cool 08	BOLD-4	WOODP-2	CHIDPT-1	cool 02	SVH-1	NEER-10	TRIG-5	TRIG-6		NEER-1	NAVB-3	BURN-1	BOLD-1	WABL-3	BOLD-2	NEER-9	YAN-24	PTWALT-1	TRIG-3
				0.5529	0.5833	0.5844	0.6	0.6056	0.6119	0.6211	0.6222	0.6235	0.6267		0.6279	0.6341	0.6456	0.6471	0.6552	0.6559	0.6559	0.6591	0.6627	0.6667
ROC19	FCT 24	Grouped with large majority of FCT24 sites NNB supports FCT24	ROC19	FCT 24	FCT 24	FCT 24	FCT 24	FCT 24	FCT 29a	FCT 24	FCT 24	FCT 24	FCT 26a	ROC19	FCT 24	FCT 30a	FCT 26a	FCT 24	FCT 24	FCT 27	FCT 24	FCT 24	FCT 25	FCT 24
				BOLD-3	BOLD-4	NAVB-3	NEER-10	cool 02	BURN-1	TRIG-5	BOLD-1	NAVB-4	SVH-1		TRIG-6	WOODP-2	YAN-24	CHIDPT-1	cool 08	WHILL-4	NEER-1	NEER-9	MINN-1	MTB-3
				0.573	0.5802	0.5814	0.5957	0.6056	0.6145	0.618	0.618	0.6296	0.6364		0.6456	0.6522	0.6522	0.6533	0.6579	0.6585	0.6667	0.6701	0.6703	0.675
ROC20	FCT 24 aff. FCT 29a	Paired with PTWALT-1 (FCT24) and then with remainder of FCT24 sites, with two FCT30c sites inserted into larger group. NNB supports FCT24	ROC20	FCT 30a	FCT 24	FCT 24	FCT 30a	FCT 24	FCT 24	FCT 30c	FCT 29a	FCT 29a	FCT 24	ROC20	FCT 24	FCT 30c	FCT 30a	FCT 29a	FCT 29b	FCT 30a	FCT 26b	FCT 25	FCT 24	FCT 24
				WOODP-2	cool 08	TRIG-6	WOODP-1	PTWALT-1	BOLD-4	MHENRY-1	BURN-2	TRIG-2	BOLD-3		CHIDPT-1	MHENRY-2	PEPGRV-1	BURN-1	WHILL-2	PEPGRV-2	WABL-3	C71-4	NEER-10	NAVB-3
				0.6604	0.6667	0.6825	0.6842	0.6901	0.6923	0.7143	0.72	0.72	0.726		0.7288	0.7288	0.7308	0.7313	0.7333	0.7551	0.76	0.7681	0.7692	0.7714
ROC21	FCT 24 aff. FCT 29a	Paired with two FCT24 sites (CHIDPT-1, NAVB-3) at high similarity, and then further with two FCT30a sites and seven FCT29a sites NNB supports FCT 24 and aff. FCT 29a	ROC21	FCT 24	FCT 24	FCT 24	FCT 29a	FCT 24	FCT 30a	FCT 29a	FCT 29a	FCT 24	FCT 24	ROC21	FCT 24	FCT 30a	FCT 24	FCT 24	FCT 24	FCT 25	FCT 24	FCT 30b	FCT 29a	FCT 24
				NAVB-4	CHIDPT-1	cool 08	BURN-1	BOLD-4	WOODP-1	BURN-2	TRIG-2	BOLD-3	MTB-3		NAVB-3	WOODP-2	TRIG-6	SVH-1	NEER-10	MINN-1	cool 02	PEPB-1	NAVB-2	MTB-2
				0.5556	0.6061	0.6119	0.6216	0.6389	0.6444	0.6491	0.6491	0.65	0.662		0.6623	0.6667	0.6857	0.6889	0.6941	0.7073	0.7097	0.7101	0.7143	0.7222

ROC22	FCT 24	Paired with CHIDPT-1 (FCT24) and then with remainder of FCT24 sites, with two FCT30c sites inserted into larger group. NNB supports FCT 24	**ROC22**	FCT 24	FCT 24	FCT 24	FCT 30a	FCT 24	FCT 29a	FCT 24	FCT 24	FCT 25	FCT 24	**ROC22**	FCT 24	FCT 30c	FCT 24	FCT 24	FCT 26a	FCT 29a	FCT 24	FCT 24	FCT 28	FCT 24
				BOLD-3	CHIDPT-1	BOLD-4	WOODP-2	NAVB-4	BURN-1	NEER-1	cool 08	MINN-1	NAVB-3		NEER-10	MHENRY-2	cool 02	TRIG-6	SVH-1	TRIG-2	MTB-1	MTB-3	KING-1	MTB-2
				0.5778	0.5789	0.5854	0.6	0.6098	0.6429	0.6484	0.6623	0.6739	0.6782		0.6842	0.6842	0.6944	0.7	0.7	0.7015	0.7021	0.7037	0.7037	0.7073
ROC23	FCT 24 aff. FCT 29a	Paired with two FCT24 sites (CHIDPT-1, NAVB-3) at high similarity, and then further with two FCT30a sites and seven FCT29a sites NNB supports FCT 24	**ROC23**	FCT 24	FCT 30a	FCT 29a	FCT 24	FCT 30a	FCT 24	FCT 24	FCT 30a	FCT 25	FCT 26a	**ROC23**	FCT 26a	FCT 30a	FCT 24	FCT 26a	FCT 24	FCT 24	FCT 24	FCT 27	FCT 29a	FCT 29a
				CHIDPT-1	WOODP-2	BURN-1	BOLD-4	PEPGRV-2	NEER-10	BOLD-3	PEPGRV-1	MINN-1	SVH-1		YAN-24	WOODP-1	NAVB-3	SHE-5	TRIG-5	BOLD-1	NAVB-4	WHILL-4	SEAB-5	TRIG-2
				0.6667	0.6667	0.6765	0.697	0.72	0.7215	0.7297	0.7358	0.7368	0.7381		0.7403	0.7436	0.7465	0.7534	0.7568	0.7568	0.7576	0.7612	0.7619	0.7647
ROC24	FCT 24 aff. FCT 29a	Grouped with three FCT30a sites, then further at low similarity with combination of FCT29a/30a/30b sites. NNB suggests strong aff. FCT 24	**ROC24**	FCT 30a	FCT 30a	FCT 24	FCT 24	FCT 29a	FCT 24	FCT 30b	FCT 29a	FCT 30a	FCT 24	**ROC24**	FCT 24	FCT 29b	FCT 25	FCT 30a	FCT 24	FCT 30c	FCT 6	FCT 29a	FCT 29a	FCT 24
				WOODP-1	WOODP-2	CHIDPT-1	BOLD-3	BURN-1	cool 08	PEPB-1	PRES-1	PEPGRV-2	BOLD-4		NAVB-4	TRIG-1	MINN-1	PEPGRV-1	cool 02	MHENRY-1	ELLEN-7	TRIG-2	BURN-2	NAVB-3
				0.5294	0.6327	0.6727	0.7101	0.7143	0.7143	0.7241	0.7273	0.7333	0.7377		0.7377	0.7391	0.7465	0.75	0.7647	0.7778	0.7778	0.7826	0.7826	0.7879
ROC25	FCT 24	Grouped with three FCT30a sites, then further at low similarity with combination of FCT29a/30a/30b sites. NNB supports FCT 30a and aff FCT 24	**ROC25**	FCT 30a	FCT 24	FCT 24	FCT 30a	FCT 30a	FCT 30a	FCT 24	FCT 30a	FCT 24	FCT 29a	**ROC25**	FCT 26a	FCT 24	FCT 24	FCT 11	FCT 24	FCT 24	FCT 24	FCT 29a	FCT 25	FCT 19
				WOODP-1	cool 08	BOLD-3	PEPGRV-1	WOODP-2	PEPGRV-2	MTB-2	GARDEN-4	CHIDPT-1	BURN-1		SVH-1	cool 02	MTB-3	CARAB-3	BOLD-4	NAVB-4	NEER-1	SEAB-5	MINN-1	PB-6
				0.6571	0.6842	0.6857	0.7143	0.72	0.7391	0.7419	0.7436	0.75	0.75		0.75	0.7692	0.7705	0.7736	0.7742	0.7742	0.7746	0.775	0.7778	0.7778
ROC27	FCT 24	Grouped with seven FCT30a sites and then further at low similarity with FCT30b and FCT29a sites. NNB supports FCT 30a and aff FCT 24	**ROC27**	FCT 30a	FCT 24	FCT 30a	FCT 30a	FCT 24	FCT 24	FCT 24	FCT 30a	FCT 24	FCT 29a	**ROC27**	FCT 24	FCT 29a	FCT 30a	FCT 30c	FCT 30c	FCT 24	FCT 24	FCT 14	FCT 30a	FCT 24
				WOODP-2	cool 02	WOODP-1	PEPGRV-1	MTB-4	CHIDPT-1	NEER-1	GARDEN-4	BOLD-4	TRIG-2		BOLD-3	BURN-1	PEPGRV-2	MHENRY-1	MHENRY-2	cool 08	NAVB-3	YAN-21	GARDEN-1	TRIG-6
				0.6786	0.6897	0.7073	0.7091	0.7091	0.7097	0.7143	0.7333	0.7353	0.7358		0.7368	0.7429	0.7692	0.7692	0.7742	0.7778	0.7808	0.7826	0.7872	0.7879
ROC30	FCT 24	Grouped with three FCT30a sites, then further at low similarity with combination of FCT29a/30a/30b sites. NNB supports FCT 30a and aff FCT 24	**ROC30**	FCT 30a	FCT 30a	FCT 29a	FCT 24	FCT 30a	FCT 24	FCT 24	FCT 30c	FCT 11	FCT 30b	**ROC30**	FCT 24	FCT 24	FCT 29b	FCT 24	FCT 6	FCT 29b	FCT 24	FCT 25	FCT 17	FCT 24
				WOODP-1	WOODP-2	PRES-1	CHIDPT-1	PEPGRV-1	cool 08	BOLD-3	MHENRY-1	low10b	PEPB-1		TRIG-6	NEER-1	WHILL-2	KERO-2	ELLEN-7	TRIG-1	cool 02	C71-4	LESCH-6	NEER-11
				0.6	0.7	0.7143	0.7391	0.7436	0.7447	0.7667	0.7778	0.7838	0.7959		0.8	0.8033	0.8125	0.8246	0.8333	0.8378	0.8571	0.8571	0.8571	0.8621
ROC31	FCT 24 aff. FCT 29a/b	Grouped with five FCT30a sites, and then further with seven FCT29a sites at low similarity NNB suggests FCT24/FCT30a/FCT29(ab)	**ROC31**	FCT 24	FCT 24	FCT 30a	FCT 24	FCT 30a	FCT 30a	FCT 30a	FCT 24	FCT 29a	FCT 30c	**ROC31**	FCT 29a	FCT 29b	FCT 29b	FCT 30b	FCT 24	FCT 24	FCT 24	FCT 24	FCT 30b	FCT 24
				BOLD-3	cool 08	WOODP-2	CHIDPT-1	WOODP-1	PEPGRV-2	PEPGRV-1	BOLD-4	BURN-1	MHENRY-1		TRIG-2	WHILL-2	PB-4	PEPB-1	NAVB-3	NEER-10	TRIG-6	PTWALT-1	Possum4	NEER-1
				0.589	0.6	0.6226	0.6271	0.6316	0.6327	0.6538	0.6923	0.7015	0.7143		0.72	0.7333	0.7407	0.7419	0.7429	0.7436	0.746	0.7465	0.7551	0.7568
ROC32	FCT 24 aff. FCT 29a	Paired with two FCT24 sites, two FCT30a sites, and then with seven FCT29a sites NNB supports FCT 24	**ROC32**	FCT 24	FCT 24	FCT 24	FCT 24	FCT 29a	FCT 26a	FCT 24	FCT 24	FCT 24	FCT 24	**ROC32**	FCT 24	FCT 29a	FCT 30a	FCT 29a	FCT 24	FCT 24	FCT 24	FCT 24	FCT 29a	FCT 25
				BOLD-3	BOLD-4	CHIDPT-1	cool 08	BURN-1	SVH-1	NAVB-3	NEER-10	TRIG-6	NAVB-4		BOLD-1	BURN-2	PEPGRV-1	NAVB-2	cool 02	NEER-9	MTB-2	NEER-1	SEAB-5	MINN-1
				0.6571	0.6774	0.6786	0.6842	0.6875	0.725	0.7313	0.7333	0.7333	0.7419		0.7429	0.7447	0.7551	0.7568	0.7692	0.7692	0.7742	0.7746	0.775	0.7778
ROC33	FCT 24 aff. FCT 29a/b	Paired with two FCT24 sites, two FCT30a sites, and then with seven FCT29a sites NNB suggests FCT24/FCT30a/FCT29(ab)	**ROC33**	FCT 30a	FCT 30a	FCT 30a	FCT 24	FCT 29b	FCT 30b	FCT 24	FCT 25	FCT 29a	FCT 30b	**ROC33**	FCT 24	FCT 30a	FCT 24	FCT 17	FCT 29a	FCT 30a	FCT 29a	FCT 30b	FCT 30b	FCT 29a
				WOODP-1	WOODP-2	GARDEN-4	CHIDPT-1	TRIG-1	PEPB-1	BOLD-3	MINN-1	PRES-1	LESCH-5		cool 08	PEPGRV-1	MTB-4	cool 04	NAVB-2	GARDEN-1	BURN-1	LESCH-2	LESCH-1	SEAB-8
				0.4815	0.5714	0.6774	0.7083	0.7436	0.7647	0.7742	0.7813	0.7838	0.7931		0.7959	0.8049	0.8049	0.8065	0.8182	0.8182	0.8214	0.8333	0.8333	0.8361
ROCR34	FCT 24 aff. FCT 29a	Grouped with three FCT30a sites, then further at low similarity with combination of FCT29a/30a/30b sites. NNB supports FCT 30a	**ROCR34**	FCT 30a	FCT 30a	FCT 24	FCT 30a	FCT 24	FCT 30a	FCT 24	FCT 29a	FCT 24	FCT 30c	**ROCR34**	FCT 30c	FCT 29a	FCT 25	FCT 30b	FCT 29b	FCT 30b	FCT 30b	FCT 30a	FCT 29a	FCT 24
				WOODP-1	PEPGRV-1	CHIDPT-1	WOODP-2	BOLD-3	PEPGRV-2	BOLD-4	BURN-1	cool 08	MHENRY-1		MHENRY-2	NAVB-2	C71-4	PEPB-1	WHILL-2	LESCH-5	LESCH-3	GARDEN-4	SEAB-8	TRIG-5
				0.6111	0.64	0.6842	0.6863	0.6901	0.7021	0.7143	0.7231	0.7241	0.7447		0.7544	0.76	0.7612	0.7667	0.7674	0.791	0.7959	0.8	0.8	0.8028

ROC01


ROC01
CHIDPT.1..FCT.24.
NAVB.3..FCT.24.
MHENRY.1..FCT.30c.
MHENRY.2..FCT.30c.
BOLD.1..FCT.24.
BOLD.2..FCT.24.
TRIG.5..FCT.24.
BOLD.3..FCT.24.
BOLD.4..FCT.24.
NEER.10..FCT.24.
NEER.7..FCT.24.
NEER.9..FCT.24.
PTWALT.1..FCT.24.
cool.02..FCT.24.
cool.03..FCT.24.
cool.08..FCT.24.
MTB.4..FCT.24.
KERO.1..FCT.24.
MTB.2..FCT.24.
MTB.3..FCT.24.
NAVB.4..FCT.24.
C71.4..FCT.25.
MINN.1..FCT.25.
MINN.2..FCT.25.
PEPB.1..FCT.30b.
NEER.1..FCT.24.
NEER.11..FCT.24.
TRIG.6..FCT.24.
CORON.2..FCT.25.
KEME.1..FCT.25.
LYONS.2..FCT.25.
MEAL.1..FCT.25.
low10a..FCT.21a.
MINN.3..FCT.25.
MYALUP.2..FCT.25.
PAGA.8..FCT.25.
MEAL.2..FCT.26b.

ROC02


ROC02
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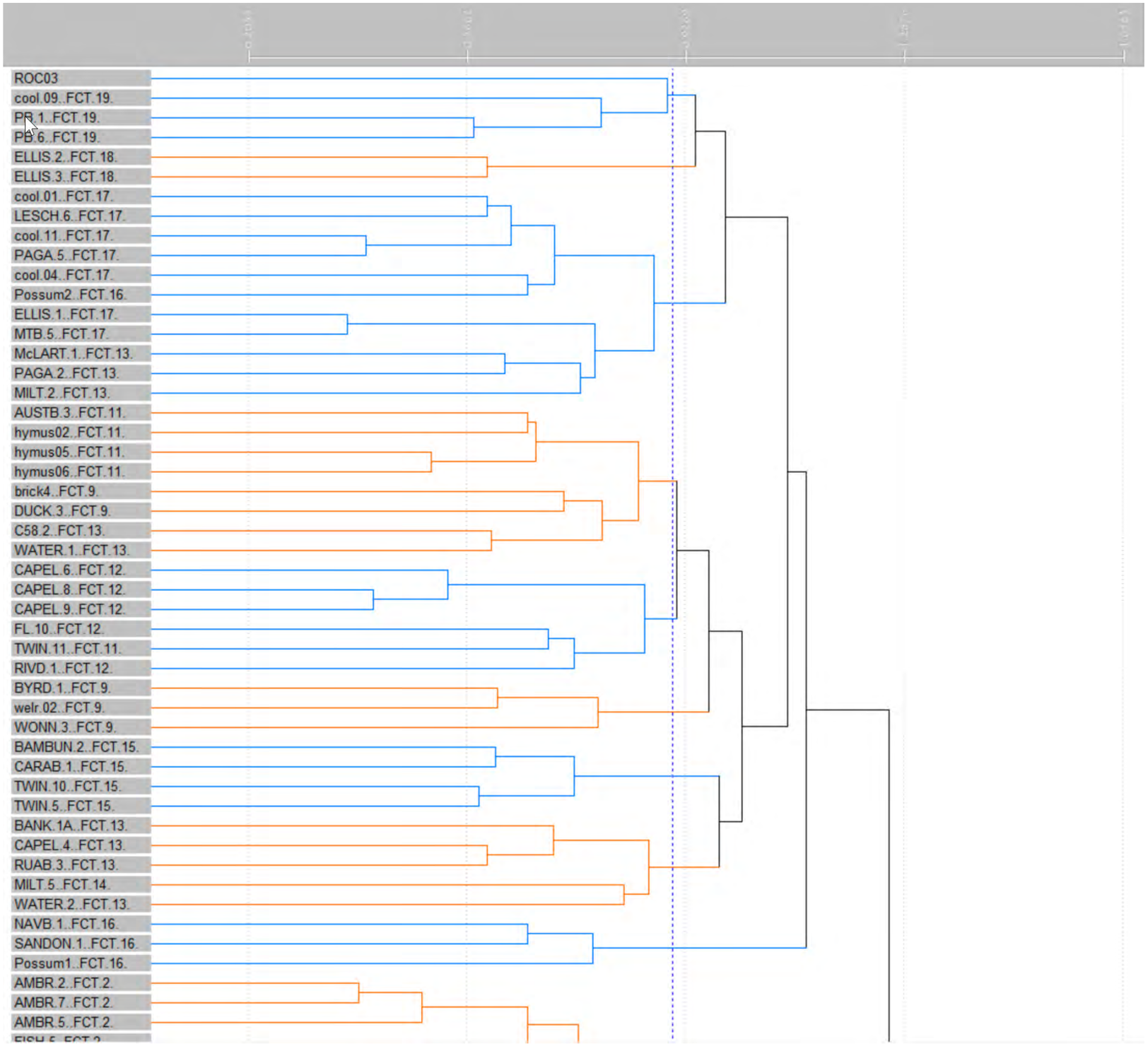
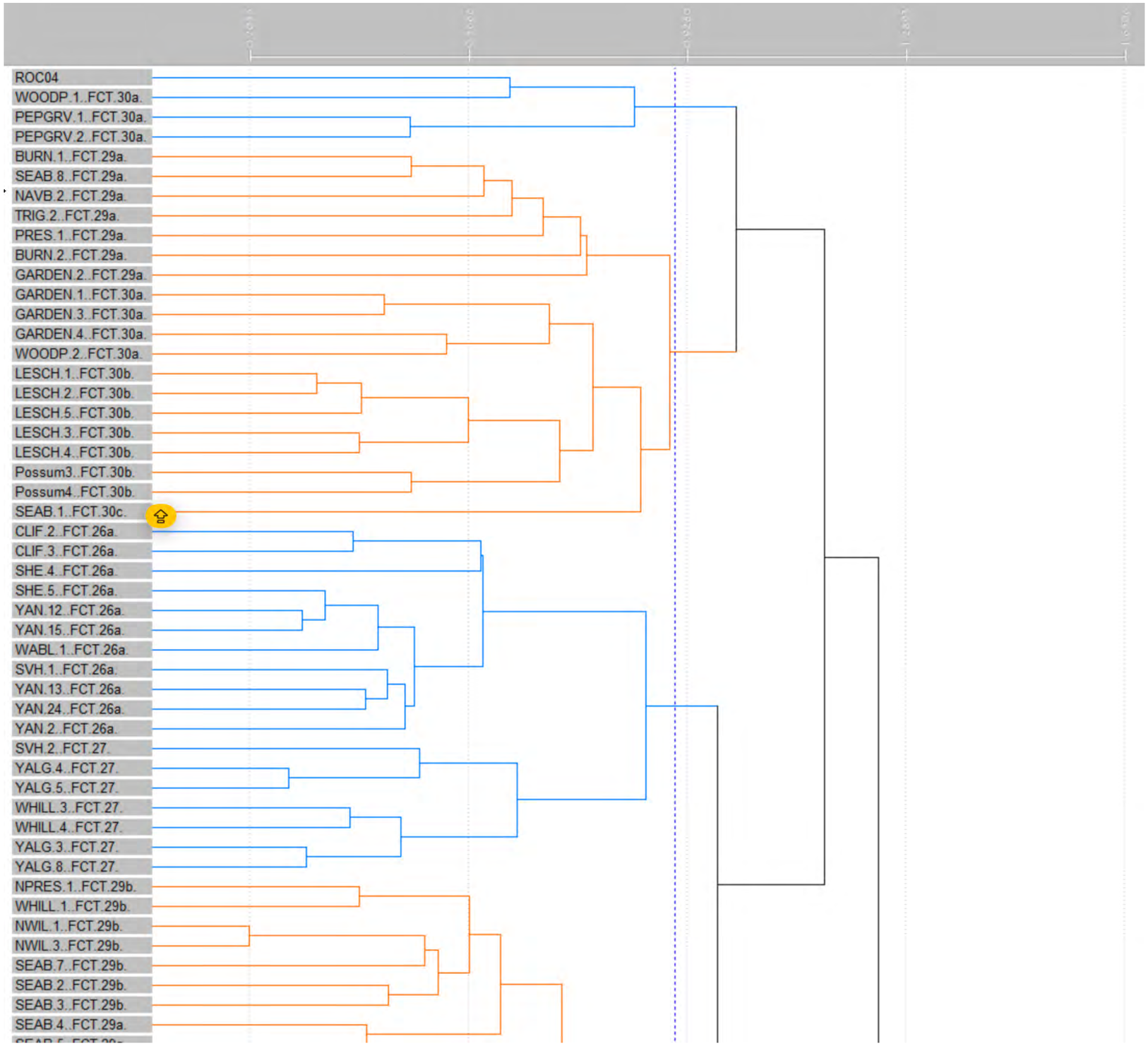
PB.6..FCT.19.
cool.09..FCT.19.
ELLIS.2..FCT.18.
ELLIS.3..FCT.18.
cool.01..FCT.17.
LESCH.6..FCT.17.
cool.11..FCT.17.
PAGA.5..FCT.17.
cool.04..FCT.17.
Possum2..FCT.16.
ELLIS.1..FCT.17.
MTB.5..FCT.17.
McLART.1..FCT.13.
PAGA.2..FCT.13.
MILT.2..FCT.13.
AUSTB.3..FCT.11.
hymus02..FCT.11.
hymus05..FCT.11.
hymus06..FCT.11.
brick4..FCT.9.
DUCK.3..FCT.9.
C58.2..FCT.13.
WATER.1..FCT.13.
CAPEL.6..FCT.12.
CAPEL.8..FCT.12.
CAPEL.9..FCT.12.
FL.10..FCT.12.
TWIN.11..FCT.11.
RIVD.1..FCT.12.
BYRD.1..FCT.9.
welr.02..FCT.9.
WONN.3..FCT.9.
BAMBUN.2..FCT.15.
CARAB.1..FCT.15.
TWIN.10..FCT.15.
TWIN.5..FCT.15.

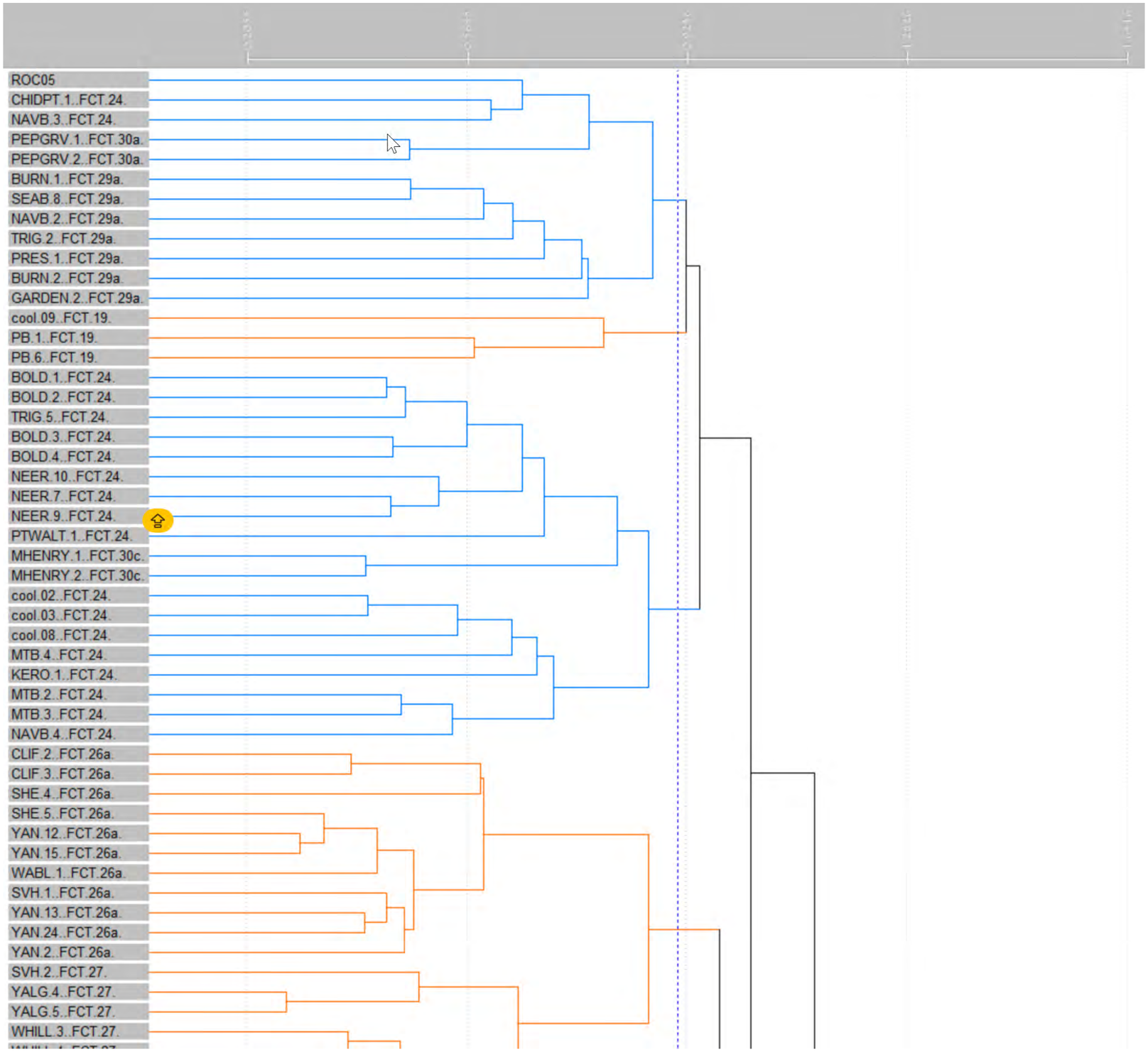
ROC03


ROC03
cool.09..FCT.19.
PR.1..FCT.19.
PB.6..FCT.19.
ELLIS.2..FCT.18.
ELLIS.3..FCT.18.
cool.01..FCT.17.
LESCH.6..FCT.17.
cool.11..FCT.17.
PAGA.5..FCT.17.
cool.04..FCT.17.
Possum2..FCT.16.
ELLIS.1..FCT.17.
MTB.5..FCT.17.
McLART.1..FCT.13.
PAGA.2..FCT.13.
MILT.2..FCT.13.
AUSTB.3..FCT.11.
hymus02..FCT.11.
hymus05..FCT.11.
hymus06..FCT.11.
brick4..FCT.9.
DUCK.3..FCT.9.
C58.2..FCT.13.
WATER.1..FCT.13.
CAPEL.6..FCT.12.
CAPEL.8..FCT.12.
CAPEL.9..FCT.12.
FL.10..FCT.12.
TWIN.11..FCT.11.
RIVD.1..FCT.12.
BYRD.1..FCT.9.
welr.02..FCT.9.
WONN.3..FCT.9.
BAMBUN.2..FCT.15.
CARAB.1..FCT.15.
TWIN.10..FCT.15.
TWIN.5..FCT.15.
BANK.1A..FCT.13.
CAPEL.4..FCT.13.
RUAB.3..FCT.13.
MILT.5..FCT.14.
WATER.2..FCT.13.
NAVB.1..FCT.16.
SANDON.1..FCT.16.
Possum1..FCT.16.
AMBR.2..FCT.2.
AMBR.7..FCT.2.
AMBR.5..FCT.2.

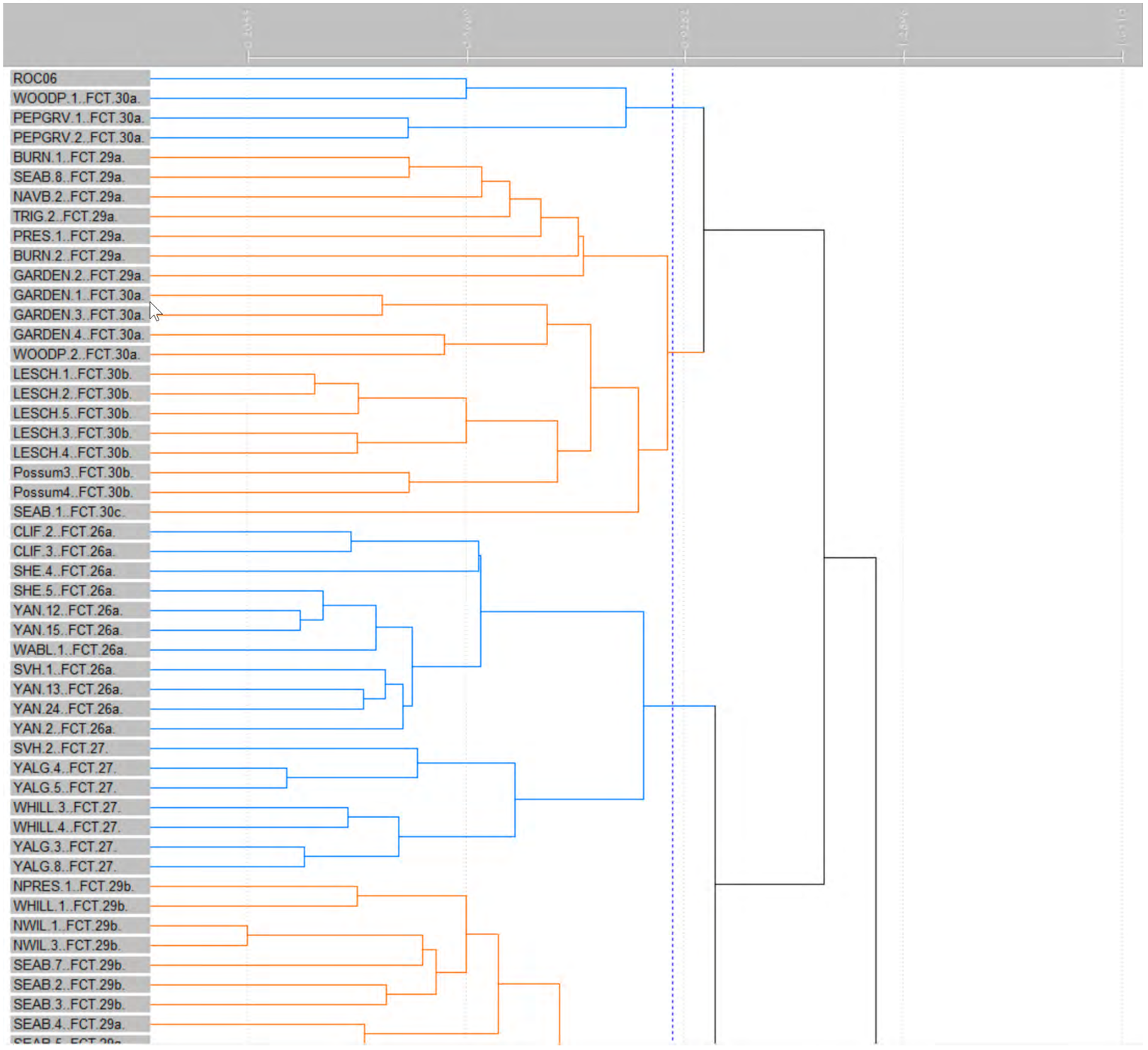
ROC04


ROC04
WOODP.1..FCT.30a.
PEPGRV.1..FCT.30a.
PEPGRV.2..FCT.30a.
BURN.1..FCT.29a.
SEAB.8..FCT.29a.
NAVB.2..FCT.29a.
TRIG.2..FCT.29a.
PRES.1..FCT.29a.
BURN.2..FCT.29a.
GARDEN.2..FCT.29a.
GARDEN.1..FCT.30a.
GARDEN.3..FCT.30a.
GARDEN.4..FCT.30a.
WOODP.2..FCT.30a.
LESCH.1..FCT.30b.
LESCH.2..FCT.30b.
LESCH.5..FCT.30b.
LESCH.3..FCT.30b.
LESCH.4..FCT.30b.
Possum3..FCT.30b.
Possum4..FCT.30b.
SEAB.1..FCT.30c.
CLIF.2..FCT.26a.
CLIF.3..FCT.26a.
SHE.4..FCT.26a.
SHE.5..FCT.26a.
YAN.12..FCT.26a.
YAN.15..FCT.26a.
WABL.1..FCT.26a.
SVH.1..FCT.26a.
YAN.13..FCT.26a.
YAN.24..FCT.26a.
YAN.2..FCT.26a.
SVH.2..FCT.27.
YALG.4..FCT.27.
YALG.5..FCT.27.
WHILL.3..FCT.27.
WHILL.4..FCT.27.
YALG.3..FCT.27.
YALG.8..FCT.27.
NPRES.1..FCT.29b.
WHILL.1..FCT.29b.
NWIL.1..FCT.29b.
NWIL.3..FCT.29b.
SEAB.7..FCT.29b.
SEAB.2..FCT.29b.
SEAB.3..FCT.29b.
SEAB.4..FCT.29a.

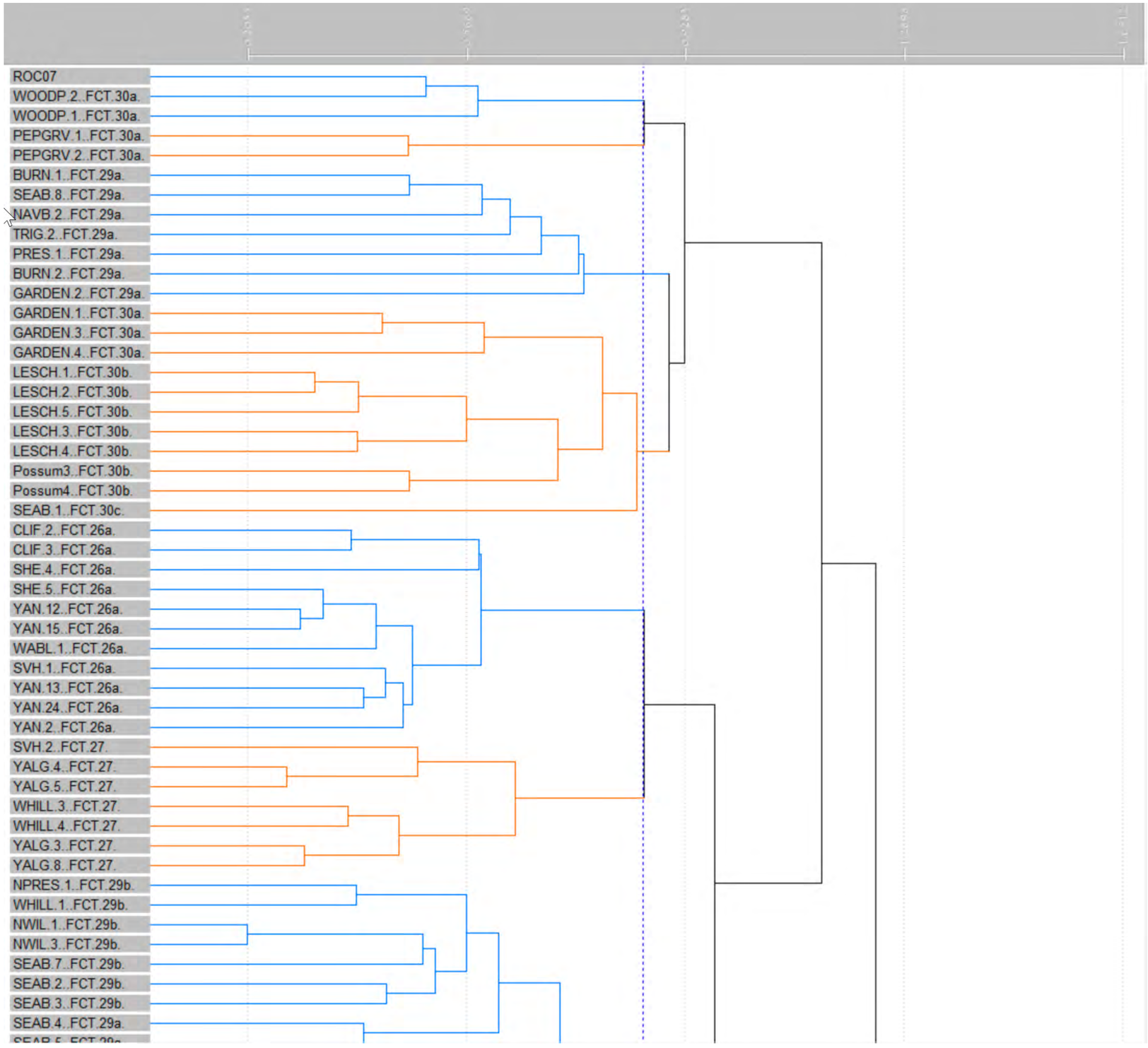
ROC05


ROC05
CHIDPT.1..FCT.24.
NAVB.3..FCT.24.
PEPGRV.1..FCT.30a.
PEPGRV.2..FCT.30a.
BURN.1..FCT.29a.
SEAB.8..FCT.29a.
NAVB.2..FCT.29a.
TRIG.2..FCT.29a.
PRES.1..FCT.29a.
BURN.2..FCT.29a.
GARDEN.2..FCT.29a.
cool.09..FCT.19.
PB.1..FCT.19.
PB.6..FCT.19.
BOLD.1..FCT.24.
BOLD.2..FCT.24.
TRIG.5..FCT.24.
BOLD.3..FCT.24.
BOLD.4..FCT.24.
NEER.10..FCT.24.
NEER.7..FCT.24.
NEER.9..FCT.24.
PTWALT.1..FCT.24.
MHENRY.1..FCT.30c.
MHENRY.2..FCT.30c.
cool.02..FCT.24.
cool.03..FCT.24.
cool.08..FCT.24.
MTB.4..FCT.24.
KERO.1..FCT.24.
MTB.2..FCT.24.
MTB.3..FCT.24.
NAVB.4..FCT.24.
CLIF.2..FCT.26a.
CLIF.3..FCT.26a.
SHE.4..FCT.26a.
SHE.5..FCT.26a.
YAN.12..FCT.26a.
YAN.15..FCT.26a.
WABL.1..FCT.26a.
SVH.1..FCT.26a.
YAN.13..FCT.26a.
YAN.24..FCT.26a.
YAN.2..FCT.26a.
SVH.2..FCT.27.
YALG.4..FCT.27.
YALG.5..FCT.27.
WHILL.3..FCT.27.

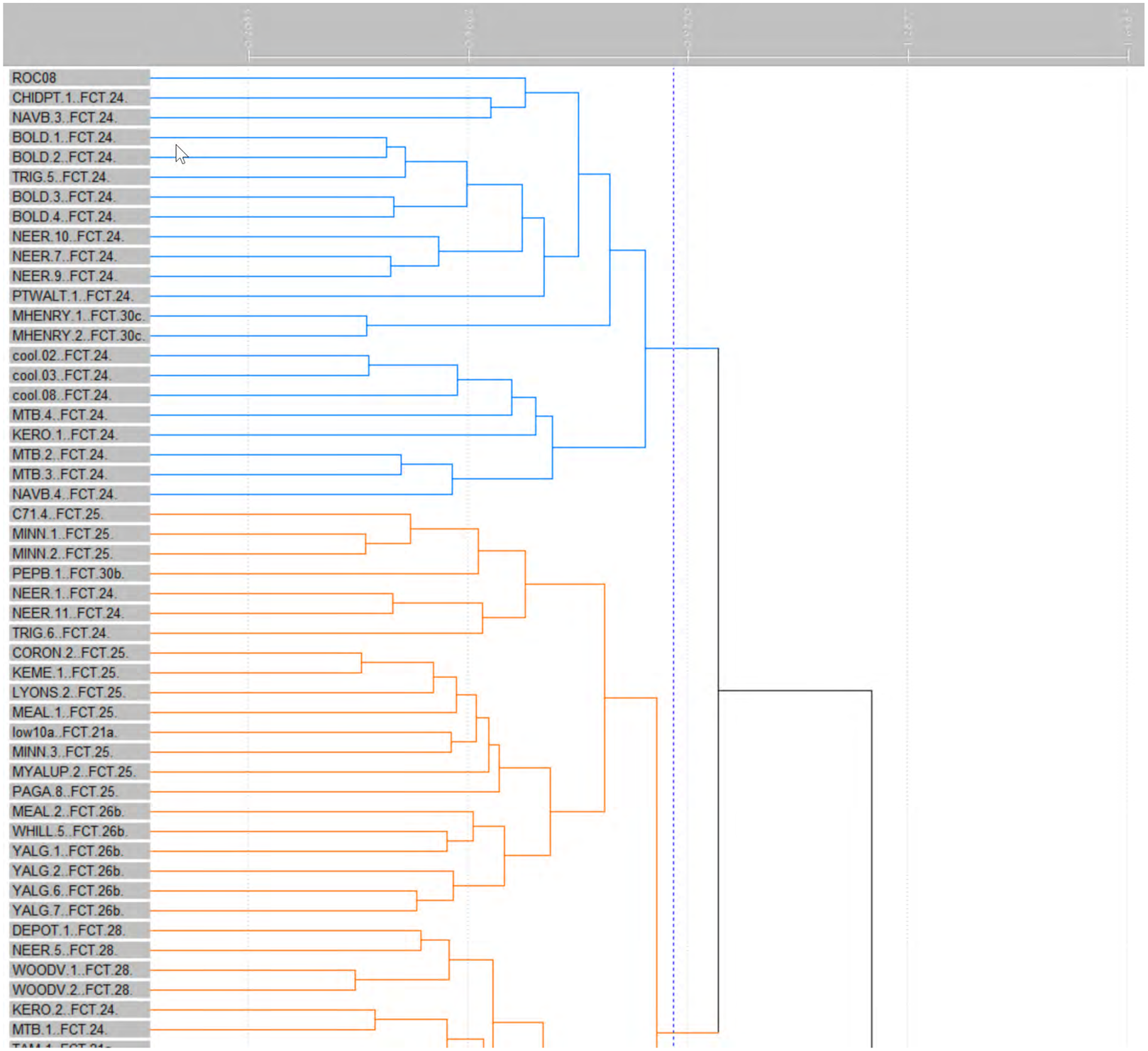
ROC06


ROC06
WOODP.1..FCT.30a.
PEPGRV.1..FCT.30a.
PEPGRV.2..FCT.30a.
BURN.1..FCT.29a.
SEAB.8..FCT.29a.
NAVB.2..FCT.29a.
TRIG.2..FCT.29a.
PRES.1..FCT.29a.
BURN.2..FCT.29a.
GARDEN.2..FCT.29a.
GARDEN.1..FCT.30a.
GARDEN.3..FCT.30a.
GARDEN.4..FCT.30a.
WOODP.2..FCT.30a.
LESCH.1..FCT.30b.
LESCH.2..FCT.30b.
LESCH.5..FCT.30b.
LESCH.3..FCT.30b.
LESCH.4..FCT.30b.
Possum3..FCT.30b.
Possum4..FCT.30b.
SEAB.1..FCT.30c.
CLIF.2..FCT.26a.
CLIF.3..FCT.26a.
SHE.4..FCT.26a.
SHE.5..FCT.26a.
YAN.12..FCT.26a.
YAN.15..FCT.26a.
WABL.1..FCT.26a.
SVH.1..FCT.26a.
YAN.13..FCT.26a.
YAN.24..FCT.26a.
YAN.2..FCT.26a.
SVH.2..FCT.27.
YALG.4..FCT.27.
YALG.5..FCT.27.
WHILL.3..FCT.27.
WHILL.4..FCT.27.
YALG.3..FCT.27.
YALG.8..FCT.27.
NPRES.1..FCT.29b.
WHILL.1..FCT.29b.
NWIL.1..FCT.29b.
NWIL.3..FCT.29b.
SEAB.7..FCT.29b.
SEAB.2..FCT.29b.
SEAB.3..FCT.29b.
SEAB.4..FCT.29a.

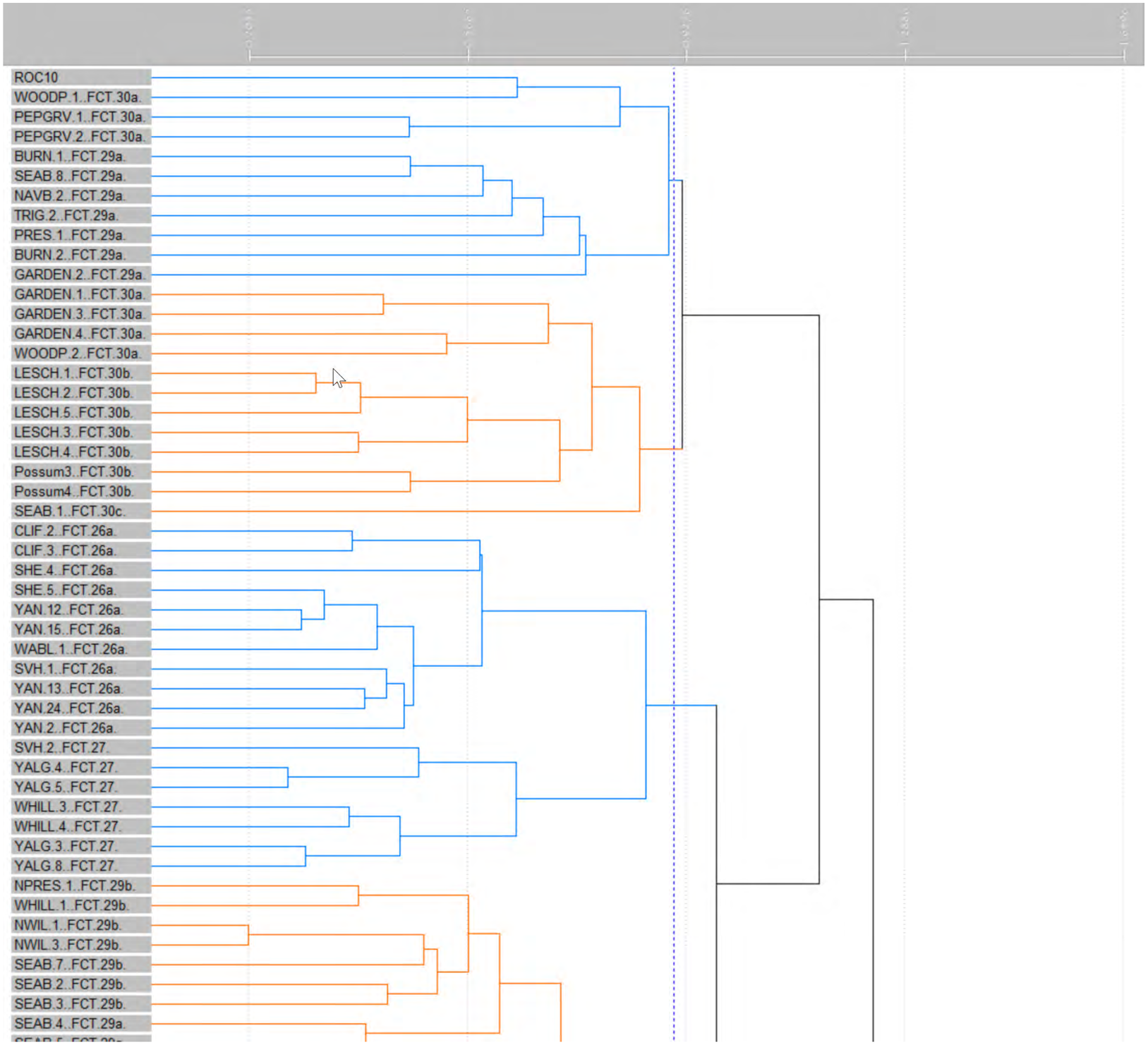
ROC07


ROC07
WOODP.2..FCT.30a.
WOODP.1..FCT.30a.
PEPGRV.1..FCT.30a.
PEPGRV.2..FCT.30a.
BURN.1..FCT.29a.
SEAB.8..FCT.29a.
NAVB.2..FCT.29a.
TRIG.2..FCT.29a.
PRES.1..FCT.29a.
BURN.2..FCT.29a.
GARDEN.2..FCT.29a.
GARDEN.1..FCT.30a.
GARDEN.3..FCT.30a.
GARDEN.4..FCT.30a.
LESCH.1..FCT.30b.
LESCH.2..FCT.30b.
LESCH.5..FCT.30b.
LESCH.3..FCT.30b.
LESCH.4..FCT.30b.
Possum3..FCT.30b.
Possum4..FCT.30b.
SEAB.1..FCT.30c.
CLIF.2..FCT.26a.
CLIF.3..FCT.26a.
SHE.4..FCT.26a.
SHE.5..FCT.26a.
YAN.12..FCT.26a.
YAN.15..FCT.26a.
WABL.1..FCT.26a.
SVH.1..FCT.26a.
YAN.13..FCT.26a.
YAN.24..FCT.26a.
YAN.2..FCT.26a.
SVH.2..FCT.27.
YALG.4..FCT.27.
YALG.5..FCT.27.
WHILL.3..FCT.27.
WHILL.4..FCT.27.
YALG.3..FCT.27.
YALG.8..FCT.27.
NPRES.1..FCT.29b.
WHILL.1..FCT.29b.
NWIL.1..FCT.29b.
NWIL.3..FCT.29b.
SEAB.7..FCT.29b.
SEAB.2..FCT.29b.
SEAB.3..FCT.29b.
SEAB.4..FCT.29a.

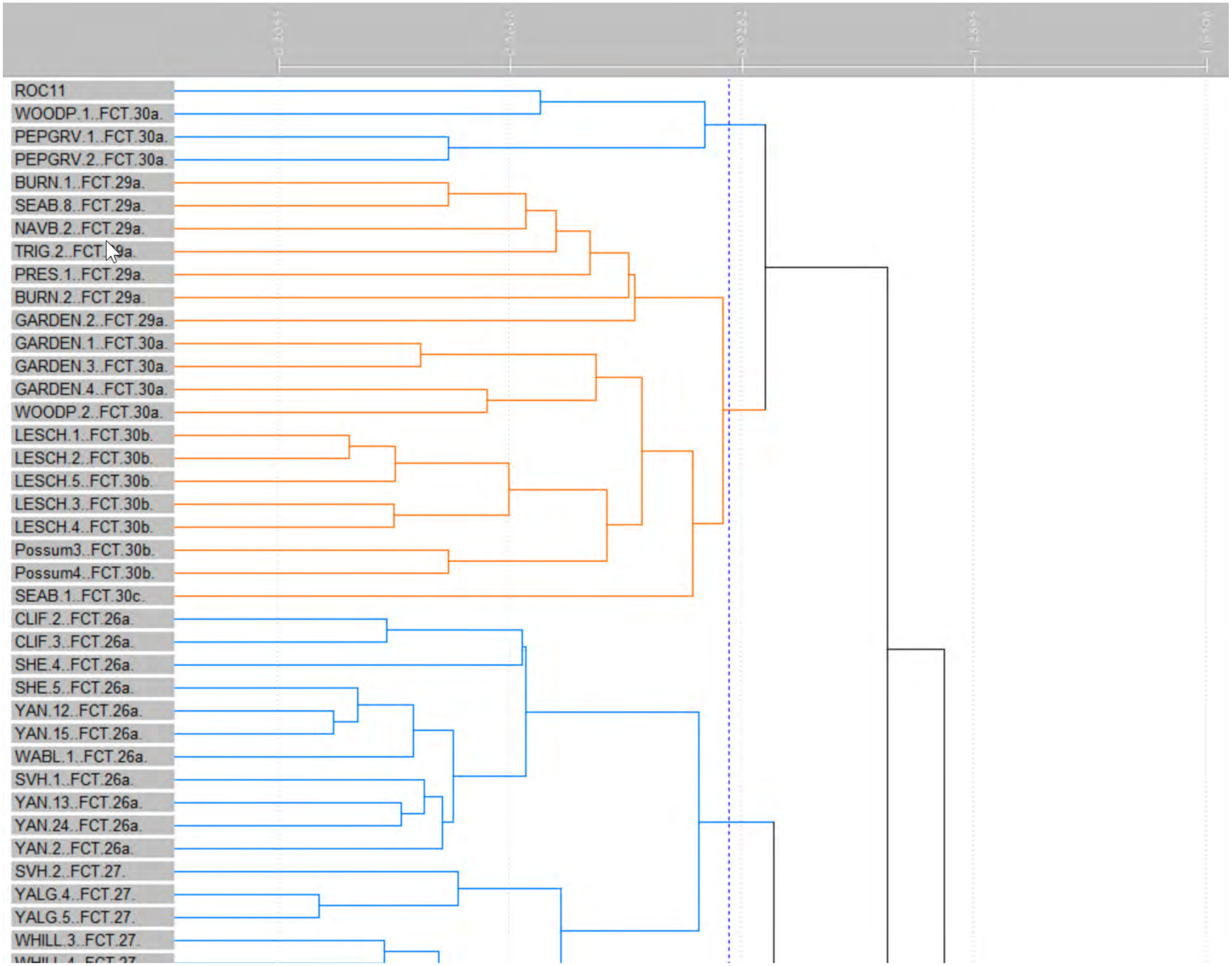
ROC08


ROC08
CHIDPT.1..FCT.24.
NAVB.3..FCT.24.
BOLD.1..FCT.24.
BOLD.2..FCT.24.
TRIG.5..FCT.24.
BOLD.3..FCT.24.
BOLD.4..FCT.24.
NEER.10..FCT.24.
NEER.7..FCT.24.
NEER.9..FCT.24.
PTWALT.1..FCT.24.
MHENRY.1..FCT.30c.
MHENRY.2..FCT.30c.
cool.02..FCT.24.
cool.03..FCT.24.
cool.08..FCT.24.
MTB.4..FCT.24.
KERO.1..FCT.24.
MTB.2..FCT.24.
MTB.3..FCT.24.
NAVB.4..FCT.24.
C71.4..FCT.25.
MINN.1..FCT.25.
MINN.2..FCT.25.
PEPB.1..FCT.30b.
NEER.1..FCT.24.
NEER.11..FCT.24.
TRIG.6..FCT.24.
CORON.2..FCT.25.
KEME.1..FCT.25.
LYONS.2..FCT.25.
MEAL.1..FCT.25.
low10a..FCT.21a.
MINN.3..FCT.25.
MYALUP.2..FCT.25.
PAGA.8..FCT.25.
MEAL.2..FCT.26b.
WHILL.5..FCT.26b.
YALG.1..FCT.26b.
YALG.2..FCT.26b.
YALG.6..FCT.26b.
YALG.7..FCT.26b.
DEPOT.1..FCT.28.
NEER.5..FCT.28.
WOODV.1..FCT.28.
WOODV.2..FCT.28.
KERO.2..FCT.24.
MTB.1..FCT.24.

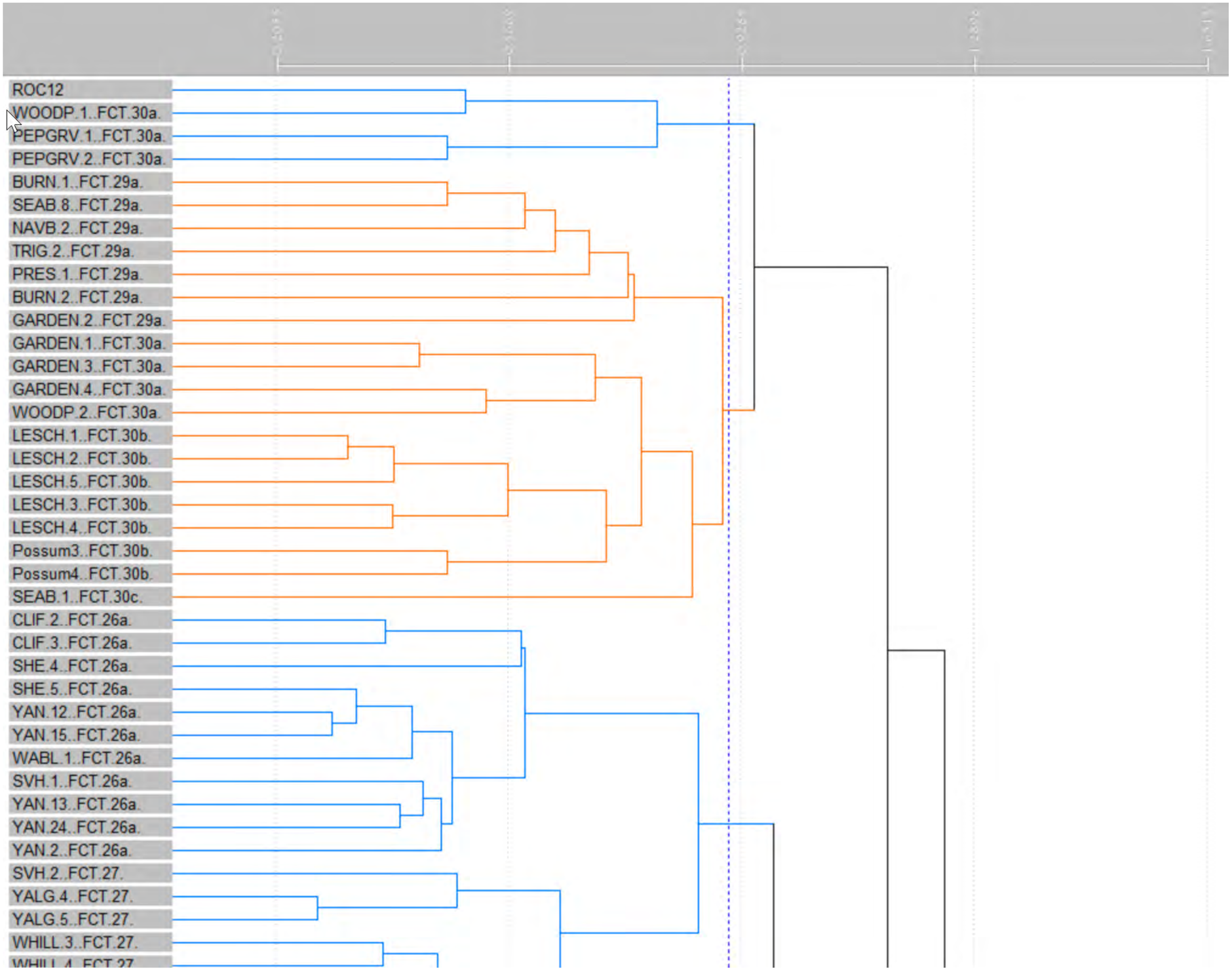
ROC10


ROC10
WOODP.1..FCT.30a.
PEPGRV.1..FCT.30a.
PEPGRV.2..FCT.30a.
BURN.1..FCT.29a.
SEAB.8..FCT.29a.
NAVB.2..FCT.29a.
TRIG.2..FCT.29a.
PRES.1..FCT.29a.
BURN.2..FCT.29a.
GARDEN.2..FCT.29a.
GARDEN.1..FCT.30a.
GARDEN.3..FCT.30a.
GARDEN.4..FCT.30a.
WOODP.2..FCT.30a.
LESCH.1..FCT.30b.
LESCH.2..FCT.30b.
LESCH.5..FCT.30b.
LESCH.3..FCT.30b.
LESCH.4..FCT.30b.
Possum3..FCT.30b.
Possum4..FCT.30b.
SEAB.1..FCT.30c.
CLIF.2..FCT.26a.
CLIF.3..FCT.26a.
SHE.4..FCT.26a.
SHE.5..FCT.26a.
YAN.12..FCT.26a.
YAN.15..FCT.26a.
WABL.1..FCT.26a.
SVH.1..FCT.26a.
YAN.13..FCT.26a.
YAN.24..FCT.26a.
YAN.2..FCT.26a.
SVH.2..FCT.27.
YALG.4..FCT.27.
YALG.5..FCT.27.
WHILL.3..FCT.27.
WHILL.4..FCT.27.
YALG.3..FCT.27.
YALG.8..FCT.27.
NPRES.1..FCT.29b.
WHILL.1..FCT.29b.
NWIL.1..FCT.29b.
NWIL.3..FCT.29b.
SEAB.7..FCT.29b.
SEAB.2..FCT.29b.
SEAB.3..FCT.29b.
SEAB.4..FCT.29a.

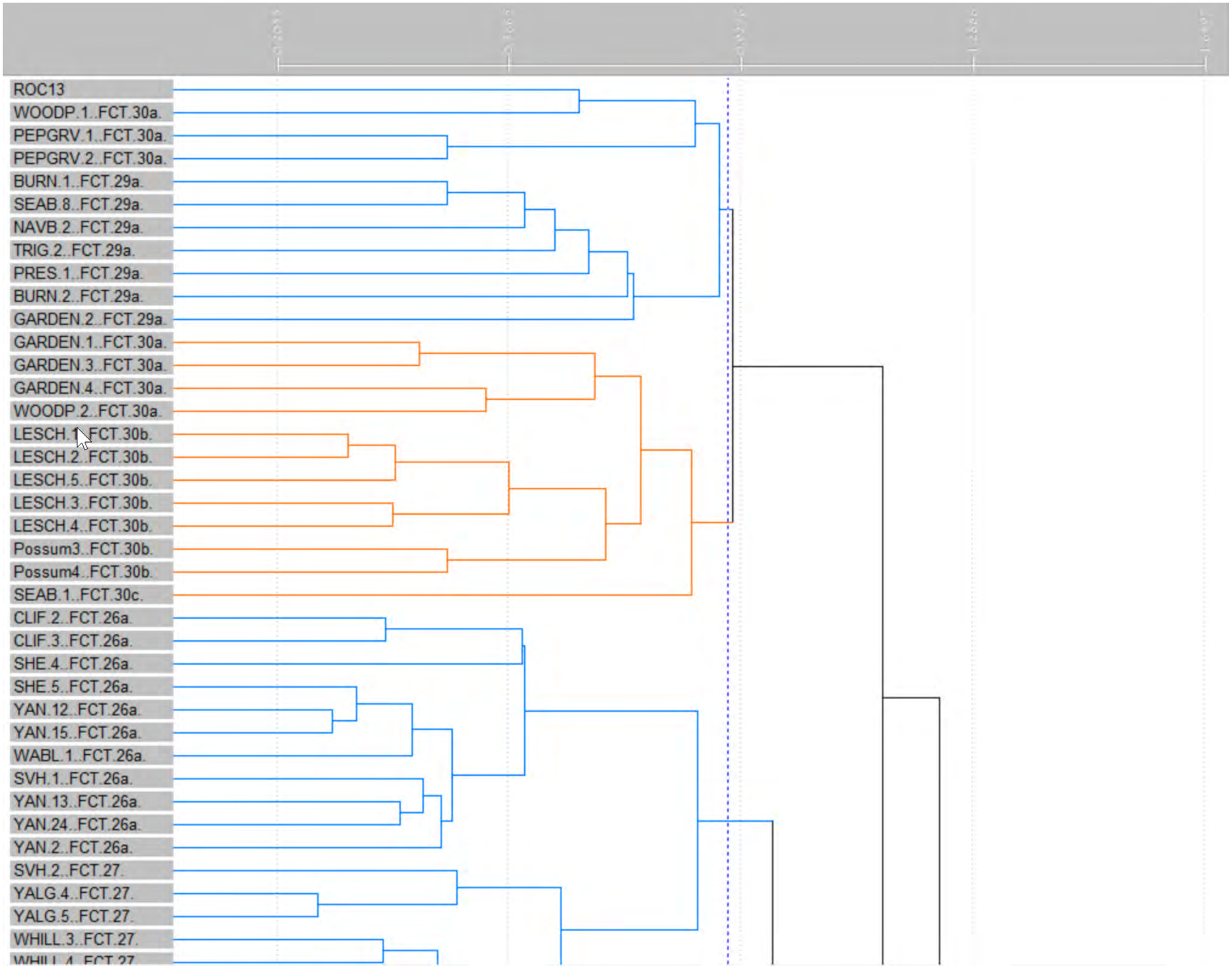
ROC11


ROC11
WOODP.1..FCT.30a.
PEPGRV.1..FCT.30a.
PEPGRV.2..FCT.30a.
BURN.1..FCT.29a.
SEAB.8..FCT.29a.
NAVB.2..FCT.29a.
TRIG.2..FCT.29a.
PRES.1..FCT.29a.
BURN.2..FCT.29a.
GARDEN.2..FCT.29a.
GARDEN.1..FCT.30a.
GARDEN.3..FCT.30a.
GARDEN.4..FCT.30a.
WOODP.2..FCT.30a.
LESCH.1..FCT.30b.
LESCH.2..FCT.30b.
LESCH.5..FCT.30b.
LESCH.3..FCT.30b.
LESCH.4..FCT.30b.
Possum3..FCT.30b.
Possum4..FCT.30b.
SEAB.1..FCT.30c.
CLIF.2..FCT.26a.
CLIF.3..FCT.26a.
SHE.4..FCT.26a.
SHE.5..FCT.26a.
YAN.12..FCT.26a.
YAN.15..FCT.26a.
WABL.1..FCT.26a.
SVH.1..FCT.26a.
YAN.13..FCT.26a.
YAN.24..FCT.26a.
YAN.2..FCT.26a.
SVH.2..FCT.27.
YALG.4..FCT.27.
YALG.5..FCT.27.
WHILL.3..FCT.27.

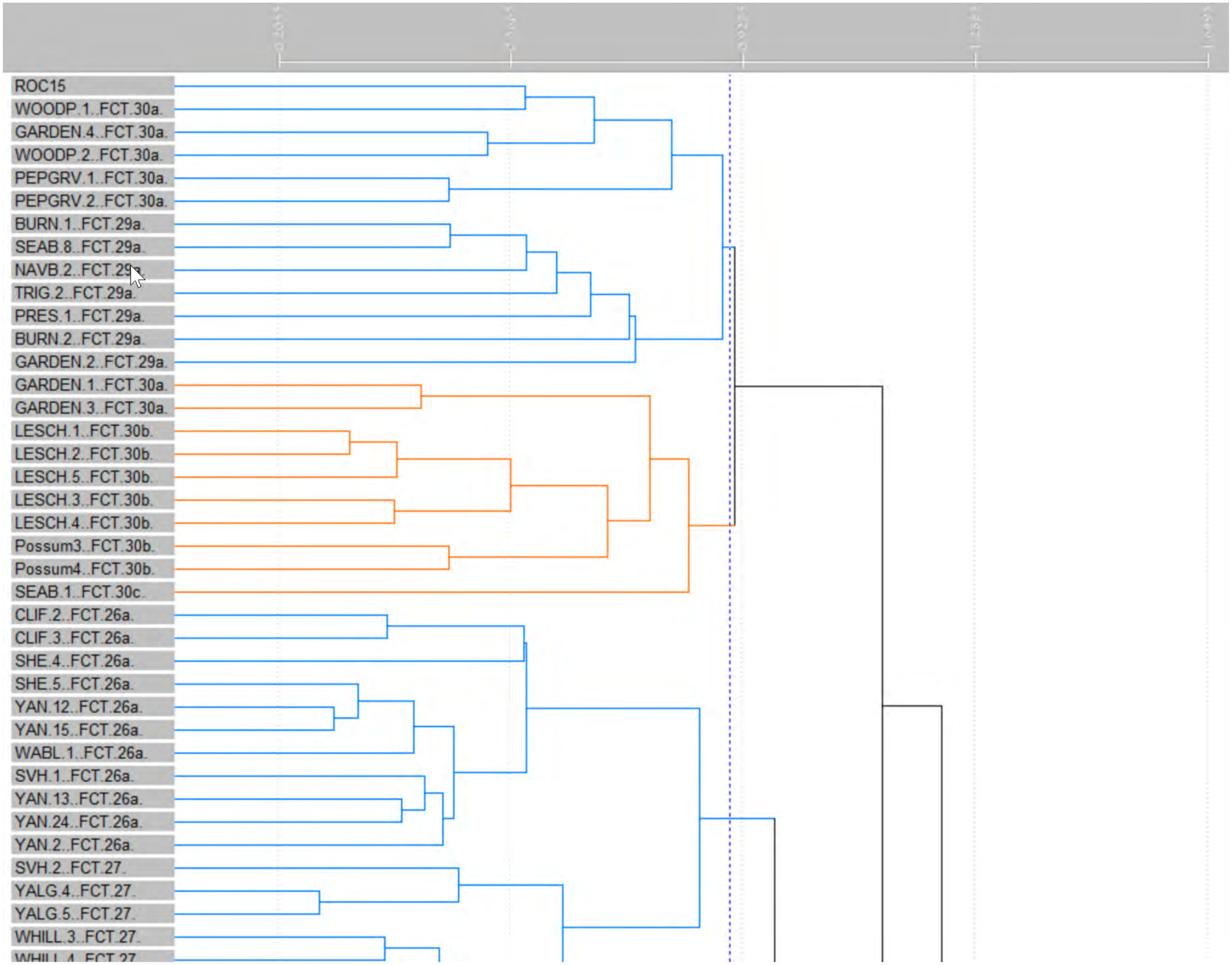
ROC12


ROC12
WOODP.1..FCT.30a.
PEPGRV.1..FCT.30a.
PEPGRV.2..FCT.30a.
BURN.1..FCT.29a.
SEAB.8..FCT.29a.
NAVB.2..FCT.29a.
TRIG.2..FCT.29a.
PRES.1..FCT.29a.
BURN.2..FCT.29a.
GARDEN.2..FCT.29a.
GARDEN.1..FCT.30a.
GARDEN.3..FCT.30a.
GARDEN.4..FCT.30a.
WOODP.2..FCT.30a.
LESCH.1..FCT.30b.
LESCH.2..FCT.30b.
LESCH.5..FCT.30b.
LESCH.3..FCT.30b.
LESCH.4..FCT.30b.
Possum3..FCT.30b.
Possum4..FCT.30b.
SEAB.1..FCT.30c.
CLIF.2..FCT.26a.
CLIF.3..FCT.26a.
SHE.4..FCT.26a.
SHE.5..FCT.26a.
YAN.12..FCT.26a.
YAN.15..FCT.26a.
WABL.1..FCT.26a.
SVH.1..FCT.26a.
YAN.13..FCT.26a.
YAN.24..FCT.26a.
YAN.2..FCT.26a.
SVH.2..FCT.27.
YALG.4..FCT.27.
YALG.5..FCT.27.
WHILL.3..FCT.27.

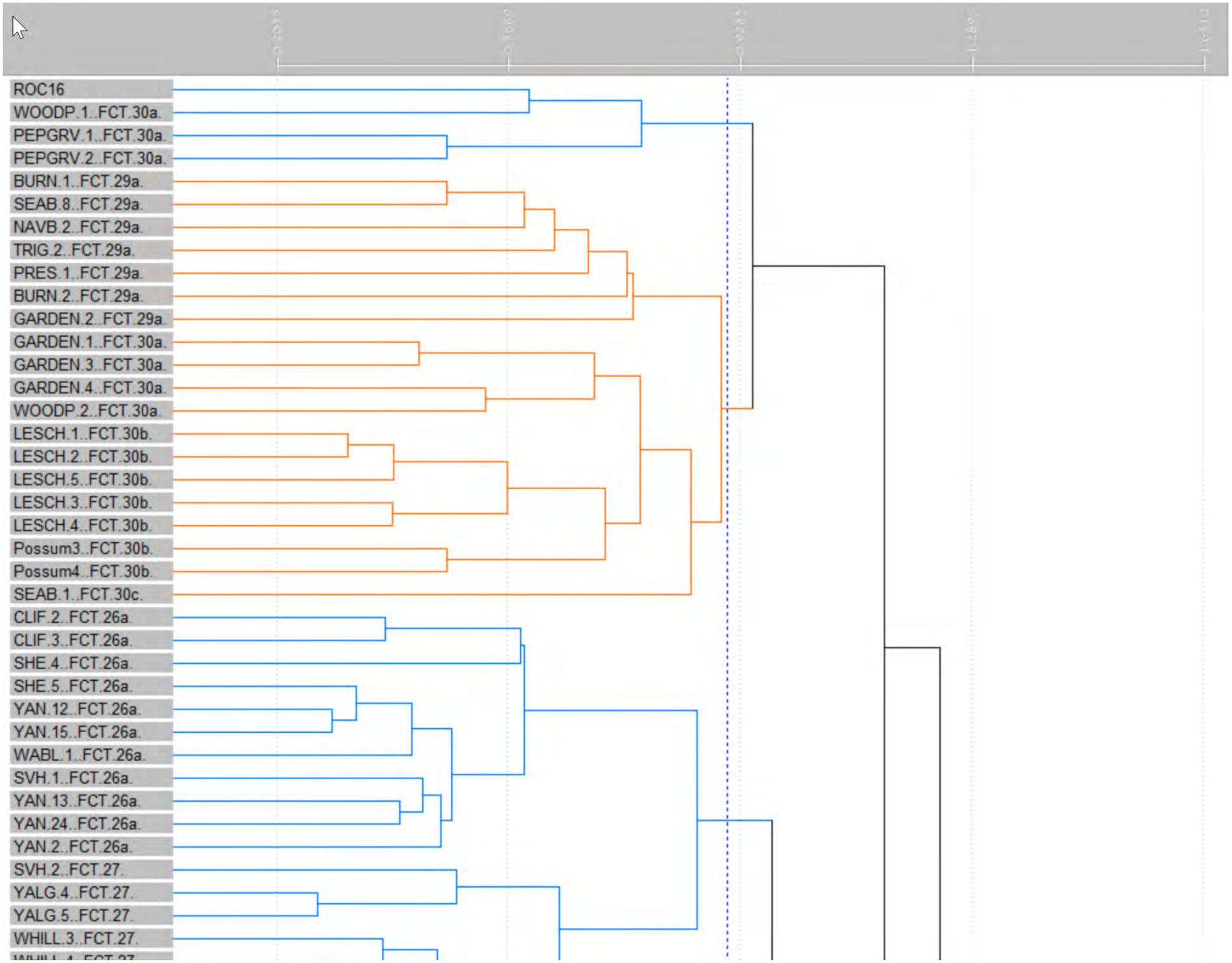
ROC13


ROC13
WOODP.1..FCT.30a.
PEPGRV.1..FCT.30a.
PEPGRV.2..FCT.30a.
BURN.1..FCT.29a.
SEAB.8..FCT.29a.
NAVB.2..FCT.29a.
TRIG.2..FCT.29a.
PRES.1..FCT.29a.
BURN.2..FCT.29a.
GARDEN.2..FCT.29a.
GARDEN.1..FCT.30a.
GARDEN.3..FCT.30a.
GARDEN.4..FCT.30a.
WOODP.2..FCT.30a.
LESCH.1..FCT.30b.
LESCH.2..FCT.30b.
LESCH.5..FCT.30b.
LESCH.3..FCT.30b.
LESCH.4..FCT.30b.
Possum3..FCT.30b.
Possum4..FCT.30b.
SEAB.1..FCT.30c.
CLIF.2..FCT.26a.
CLIF.3..FCT.26a.
SHE.4..FCT.26a.
SHE.5..FCT.26a.
YAN.12..FCT.26a.
YAN.15..FCT.26a.
WABL.1..FCT.26a.
SVH.1..FCT.26a.
YAN.13..FCT.26a.
YAN.24..FCT.26a.
YAN.2..FCT.26a.
SVH.2..FCT.27.
YALG.4..FCT.27.
YALG.5..FCT.27.
WHILL.3..FCT.27.

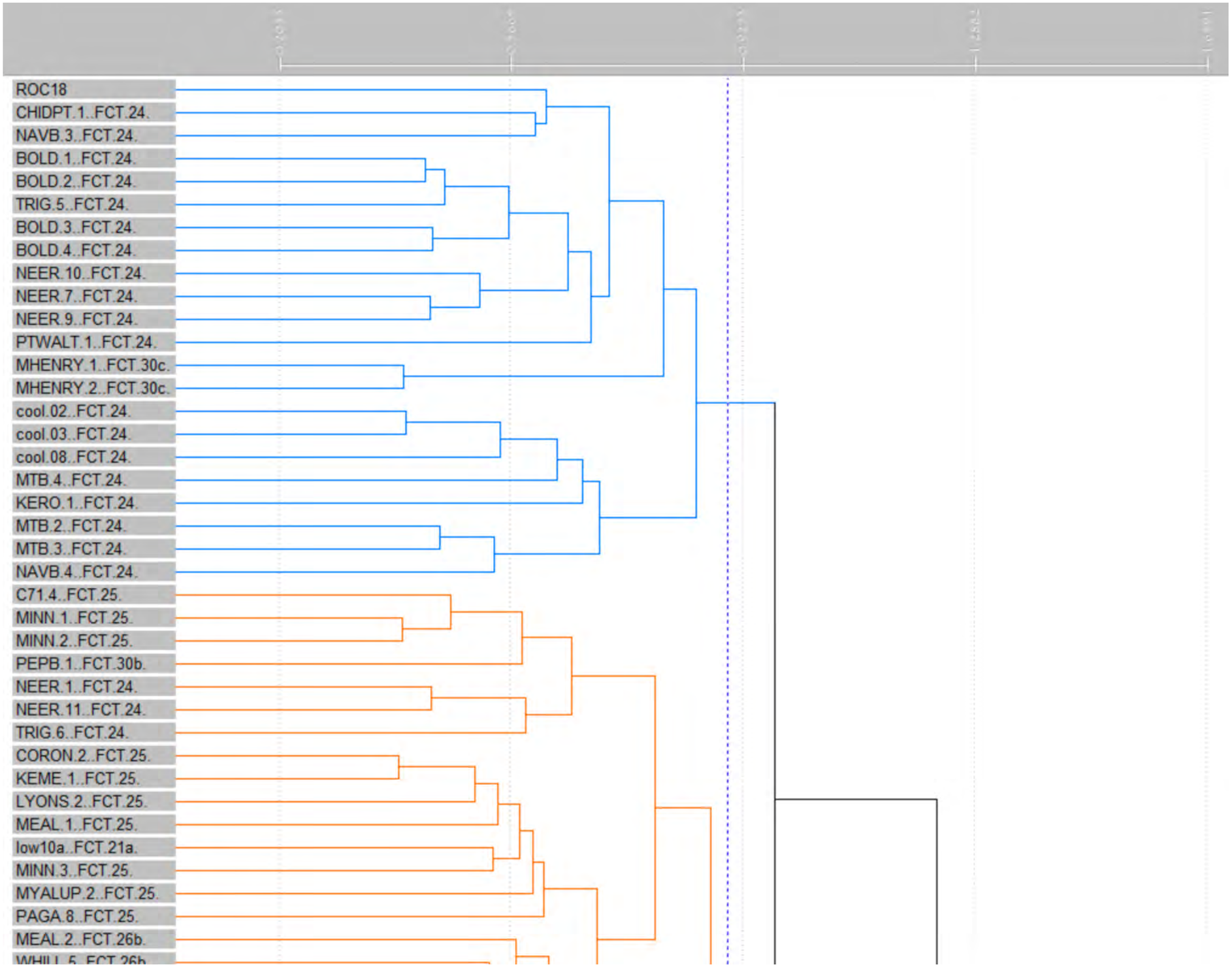
ROC15


ROC15
WOODP.1..FCT.30a.
GARDEN.4..FCT.30a.
WOODP.2..FCT.30a.
PEPGRV.1..FCT.30a.
PEPGRV.2..FCT.30a.
BURN.1..FCT.29a.
SEAB.8..FCT.29a.
NAVB.2..FCT.29a.
TRIG.2..FCT.29a.
PRES.1..FCT.29a.
BURN.2..FCT.29a.
GARDEN.2..FCT.29a.
GARDEN.1..FCT.30a.
GARDEN.3..FCT.30a.
LESCH.1..FCT.30b.
LESCH.2..FCT.30b.
LESCH.5..FCT.30b.
LESCH.3..FCT.30b.
LESCH.4..FCT.30b.
Possum3..FCT.30b.
Possum4..FCT.30b.
SEAB.1..FCT.30c.
CLIF.2..FCT.26a.
CLIF.3..FCT.26a.
SHE.4..FCT.26a.
SHE.5..FCT.26a.
YAN.12..FCT.26a.
YAN.15..FCT.26a.
WABL.1..FCT.26a.
SVH.1..FCT.26a.
YAN.13..FCT.26a.
YAN.24..FCT.26a.
YAN.2..FCT.26a.
SVH.2..FCT.27.
YALG.4..FCT.27.
YALG.5..FCT.27.
WHILL.3..FCT.27.

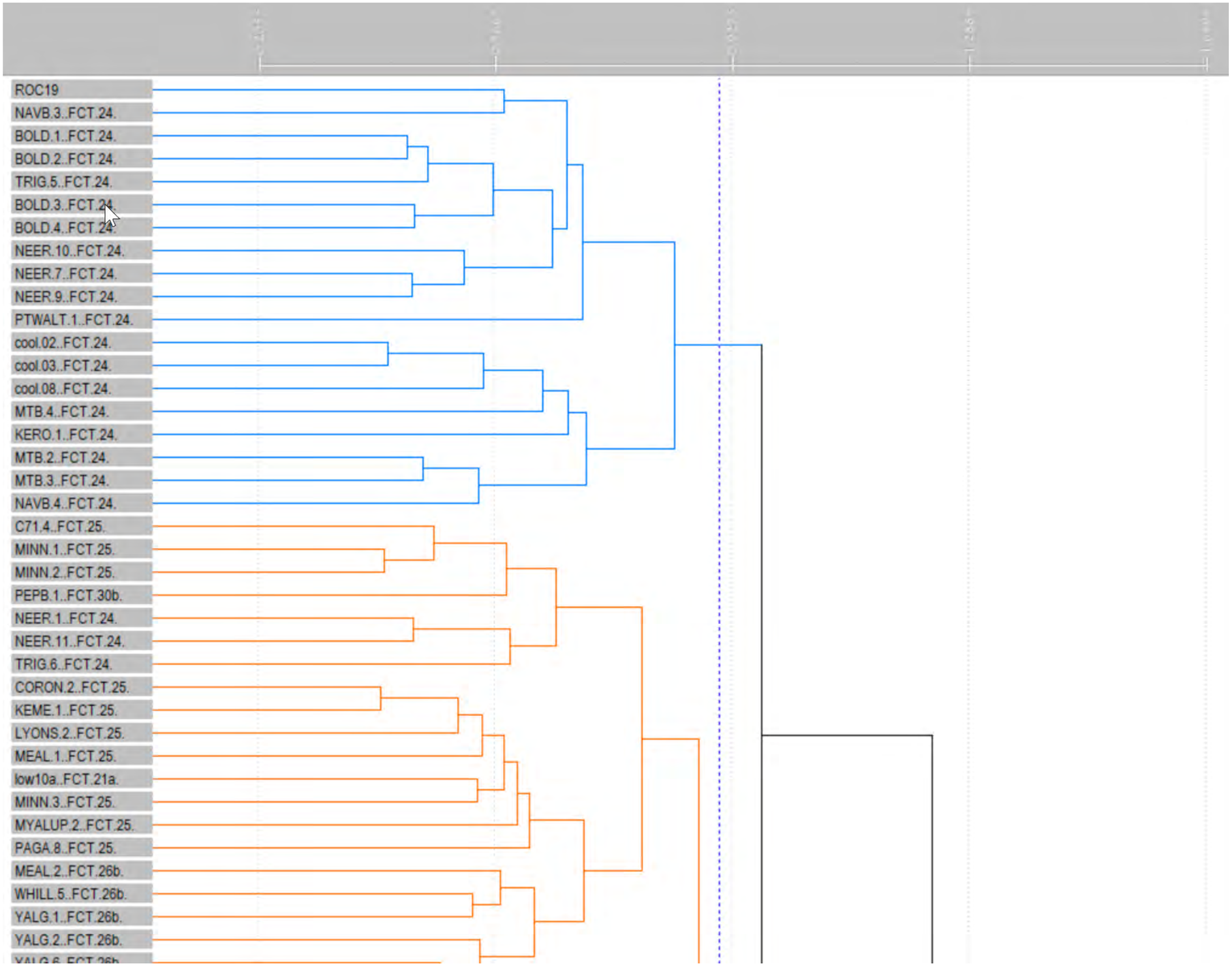
ROC16


ROC16
WOODP.1..FCT.30a.
PEPGRV.1..FCT.30a.
PEPGRV.2..FCT.30a.
BURN.1..FCT.29a.
SEAB.8..FCT.29a.
NAVB.2..FCT.29a.
TRIG.2..FCT.29a.
PRES.1..FCT.29a.
BURN.2..FCT.29a.
GARDEN.2..FCT.29a.
GARDEN.1..FCT.30a.
GARDEN.3..FCT.30a.
GARDEN.4..FCT.30a.
WOODP.2..FCT.30a.
LESCH.1..FCT.30b.
LESCH.2..FCT.30b.
LESCH.5..FCT.30b.
LESCH.3..FCT.30b.
LESCH.4..FCT.30b.
Possum3..FCT.30b.
Possum4..FCT.30b.
SEAB.1..FCT.30c.
CLIF.2..FCT.26a.
CLIF.3..FCT.26a.
SHE.4..FCT.26a.
SHE.5..FCT.26a.
YAN.12..FCT.26a.
YAN.15..FCT.26a.
WABL.1..FCT.26a.
SVH.1..FCT.26a.
YAN.13..FCT.26a.
YAN.24..FCT.26a.
YAN.2..FCT.26a.
SVH.2..FCT.27.
YALG.4..FCT.27.
YALG.5..FCT.27.
WHILL.3..FCT.27.

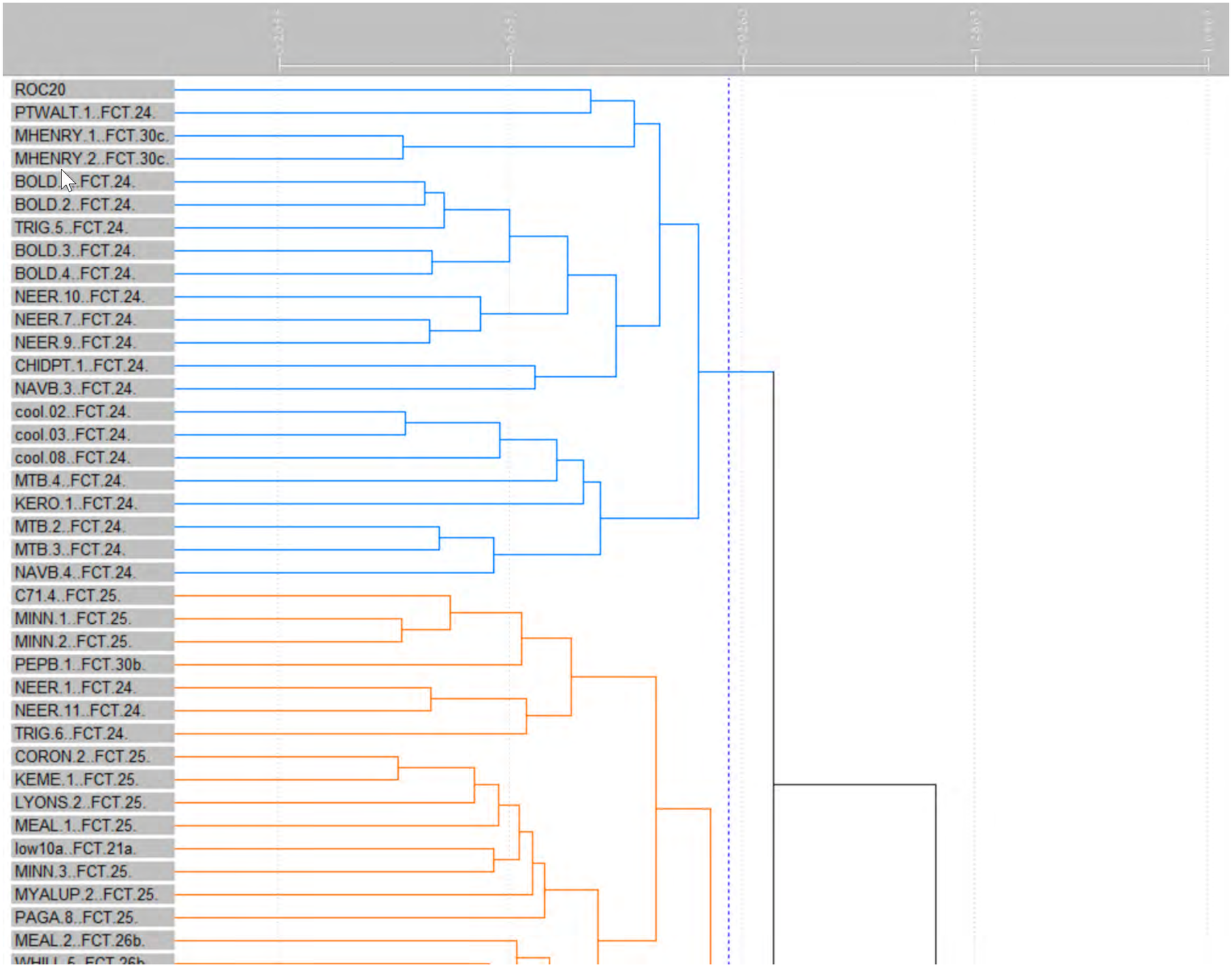
ROC18


ROC18
CHIDPT.1..FCT.24.
NAVB.3..FCT.24.
BOLD.1..FCT.24.
BOLD.2..FCT.24.
TRIG.5..FCT.24.
BOLD.3..FCT.24.
BOLD.4..FCT.24.
NEER.10..FCT.24.
NEER.7..FCT.24.
NEER.9..FCT.24.
PTWALT.1..FCT.24.
MHENRY.1..FCT.30c.
MHENRY.2..FCT.30c.
cool.02..FCT.24.
cool.03..FCT.24.
cool.08..FCT.24.
MTB.4..FCT.24.
KERO.1..FCT.24.
MTB.2..FCT.24.
MTB.3..FCT.24.
NAVB.4..FCT.24.
C71.4..FCT.25.
MINN.1..FCT.25.
MINN.2..FCT.25.
PEPB.1..FCT.30b.
NEER.1..FCT.24.
NEER.11..FCT.24.
TRIG.6..FCT.24.
CORON.2..FCT.25.
KEME.1..FCT.25.
LYONS.2..FCT.25.
MEAL.1..FCT.25.
low10a..FCT.21a.
MINN.3..FCT.25.
MYALUP.2..FCT.25.
PAGA.8..FCT.25.
MEAL.2..FCT.26b.

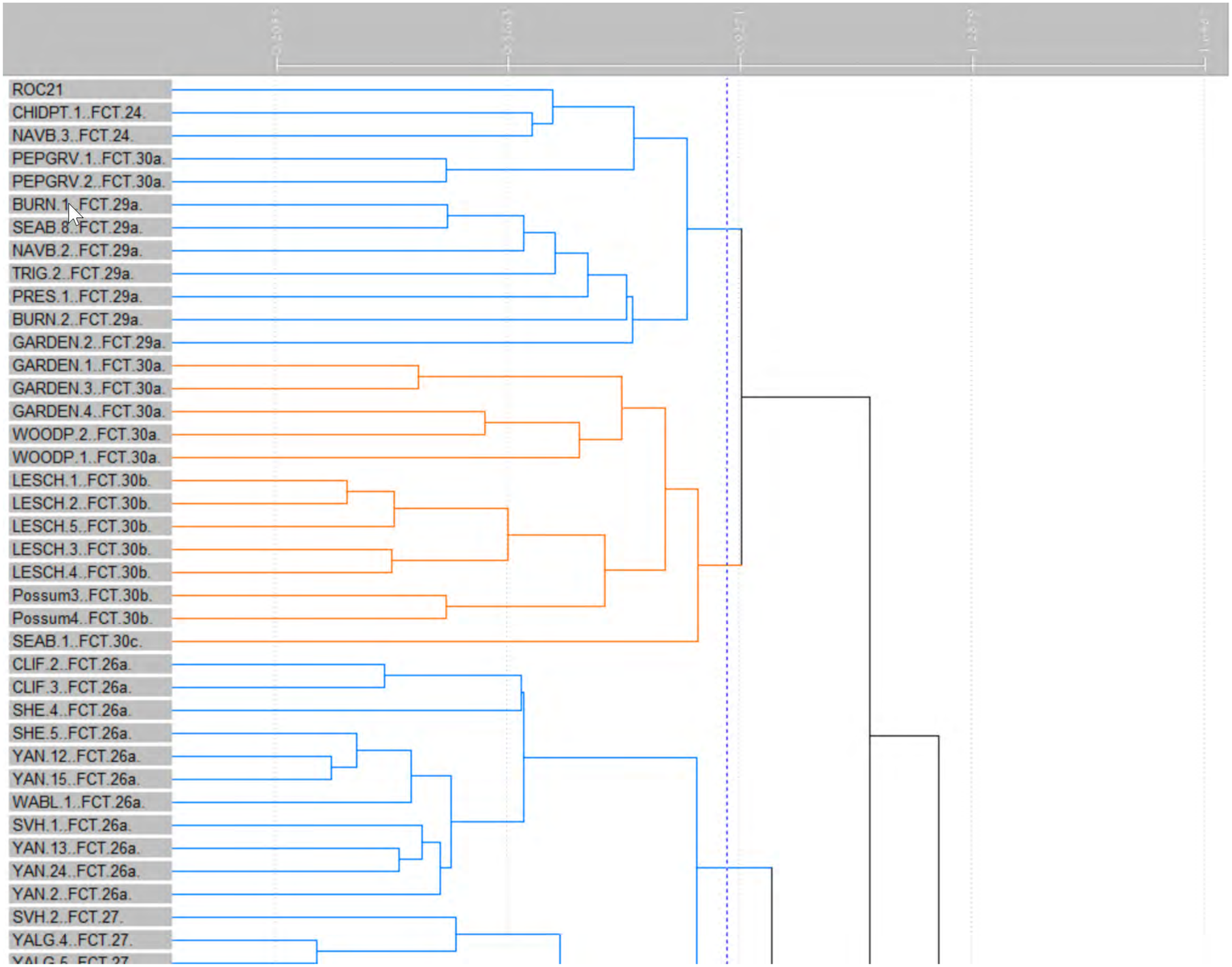
ROC19


ROC19
NAVB.3..FCT.24.
BOLD.1..FCT.24.
BOLD.2..FCT.24.
TRIG.5..FCT.24.
BOLD.3..FCT.24.
BOLD.4..FCT.24.
NEER.10..FCT.24.
NEER.7..FCT.24.
NEER.9..FCT.24.
PTWALT.1..FCT.24.
cool.02..FCT.24.
cool.03..FCT.24.
cool.08..FCT.24.
MTB.4..FCT.24.
KERO.1..FCT.24.
MTB.2..FCT.24.
MTB.3..FCT.24.
NAVB.4..FCT.24.
C71.4..FCT.25.
MINN.1..FCT.25.
MINN.2..FCT.25.
PEPB.1..FCT.30b.
NEER.1..FCT.24.
NEER.11..FCT.24.
TRIG.6..FCT.24.
CORON.2..FCT.25.
KEME.1..FCT.25.
LYONS.2..FCT.25.
MEAL.1..FCT.25.
low10a..FCT.21a.
MINN.3..FCT.25.
MYALUP.2..FCT.25.
PAGA.8..FCT.25.
MEAL.2..FCT.26b.
WHILL.5..FCT.26b.
YALG.1..FCT.26b.
YALG.2..FCT.26b.

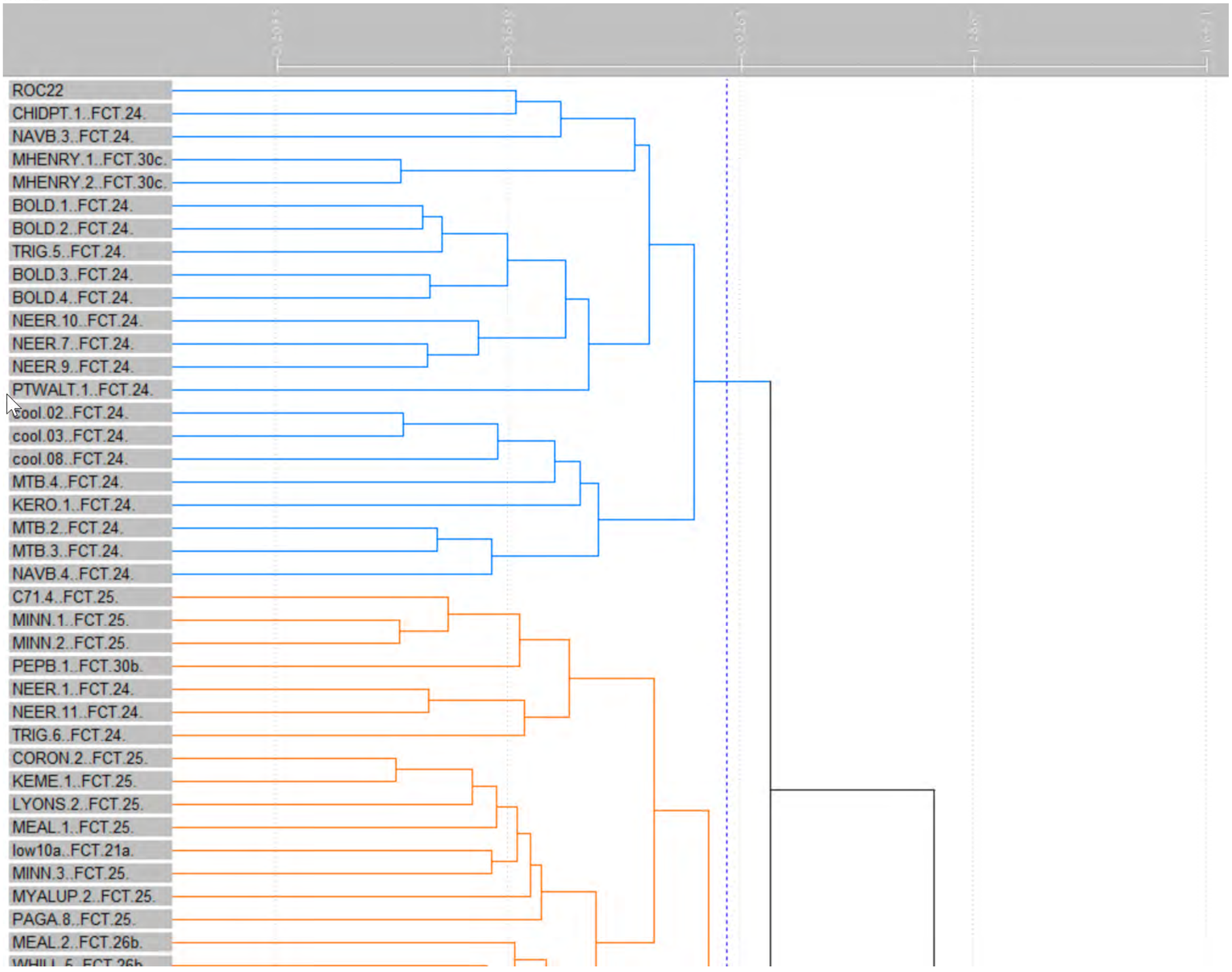
ROC20


ROC20
PTWALT.1..FCT.24.
MHENRY.1..FCT.30c.
MHENRY.2..FCT.30c.
BOLD.1..FCT.24.
BOLD.2..FCT.24.
TRIG.5..FCT.24.
BOLD.3..FCT.24.
BOLD.4..FCT.24.
NEER.10..FCT.24.
NEER.7..FCT.24.
NEER.9..FCT.24.
CHIDPT.1..FCT.24.
NAVB.3..FCT.24.
cool.02..FCT.24.
cool.03..FCT.24.
cool.08..FCT.24.
MTB.4..FCT.24.
KERO.1..FCT.24.
MTB.2..FCT.24.
MTB.3..FCT.24.
NAVB.4..FCT.24.
C71.4..FCT.25.
MINN.1..FCT.25.
MINN.2..FCT.25.
PEPB.1..FCT.30b.
NEER.1..FCT.24.
NEER.11..FCT.24.
TRIG.6..FCT.24.
CORON.2..FCT.25.
KEME.1..FCT.25.
LYONS.2..FCT.25.
MEAL.1..FCT.25.
low10a..FCT.21a.
MINN.3..FCT.25.
MYALUP.2..FCT.25.
PAGA.8..FCT.25.
MEAL.2..FCT.26b.

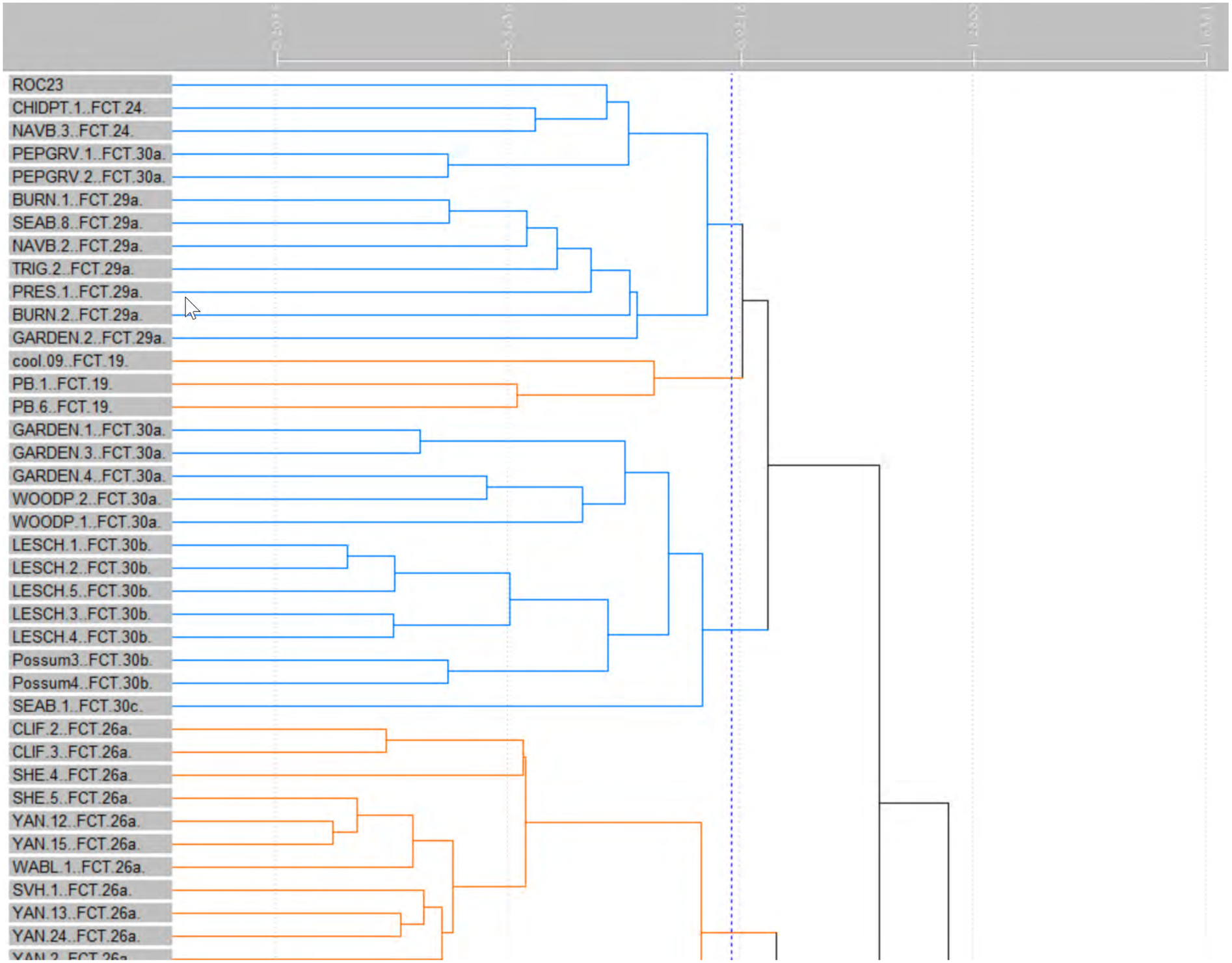
ROC21


ROC21
CHIDPT.1..FCT.24.
NAVB.3..FCT.24.
PEPGRV.1..FCT.30a.
PEPGRV.2..FCT.30a.
BURN.1..FCT.29a.
SEAB.8..FCT.29a.
NAVB.2..FCT.29a.
TRIG.2..FCT.29a.
PRES.1..FCT.29a.
BURN.2..FCT.29a.
GARDEN.2..FCT.29a.
GARDEN.1..FCT.30a.
GARDEN.3..FCT.30a.
GARDEN.4..FCT.30a.
WOODP.2..FCT.30a.
WOODP.1..FCT.30a.
LESCH.1..FCT.30b.
LESCH.2..FCT.30b.
LESCH.5..FCT.30b.
LESCH.3..FCT.30b.
LESCH.4..FCT.30b.
Possum3..FCT.30b.
Possum4..FCT.30b.
SEAB.1..FCT.30c.
CLIF.2..FCT.26a.
CLIF.3..FCT.26a.
SHE.4..FCT.26a.
SHE.5..FCT.26a.
YAN.12..FCT.26a.
YAN.15..FCT.26a.
WABL.1..FCT.26a.
SVH.1..FCT.26a.
YAN.13..FCT.26a.
YAN.24..FCT.26a.
YAN.2..FCT.26a.
SVH.2..FCT.27.
YALG.4..FCT.27.

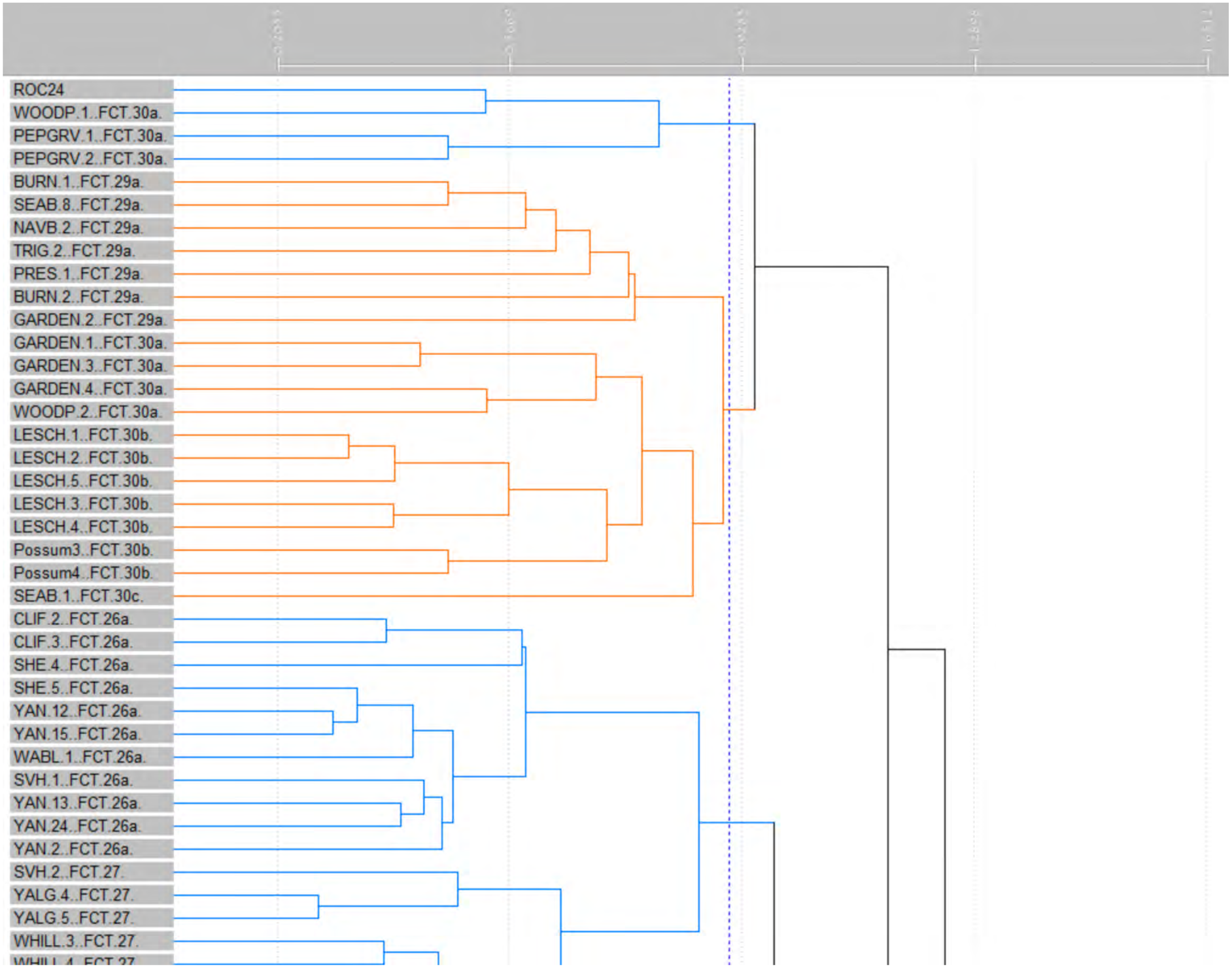
ROC22


ROC22
CHIDPT.1..FCT.24.
NAVB.3..FCT.24.
MHENRY.1..FCT.30c.
MHENRY.2..FCT.30c.
BOLD.1..FCT.24.
BOLD.2..FCT.24.
TRIG.5..FCT.24.
BOLD.3..FCT.24.
BOLD.4..FCT.24.
NEER.10..FCT.24.
NEER.7..FCT.24.
NEER.9..FCT.24.
PTWALT.1..FCT.24.
cool.02..FCT.24.
cool.03..FCT.24.
cool.08..FCT.24.
MTB.4..FCT.24.
KERO.1..FCT.24.
MTB.2..FCT.24.
MTB.3..FCT.24.
NAVB.4..FCT.24.
C71.4..FCT.25.
MINN.1..FCT.25.
MINN.2..FCT.25.
PEPB.1..FCT.30b.
NEER.1..FCT.24.
NEER.11..FCT.24.
TRIG.6..FCT.24.
CORON.2..FCT.25.
KEME.1..FCT.25.
LYONS.2..FCT.25.
MEAL.1..FCT.25.
low10a..FCT.21a.
MINN.3..FCT.25.
MYALUP.2..FCT.25.
PAGA.8..FCT.25.
MEAL.2..FCT.26b.

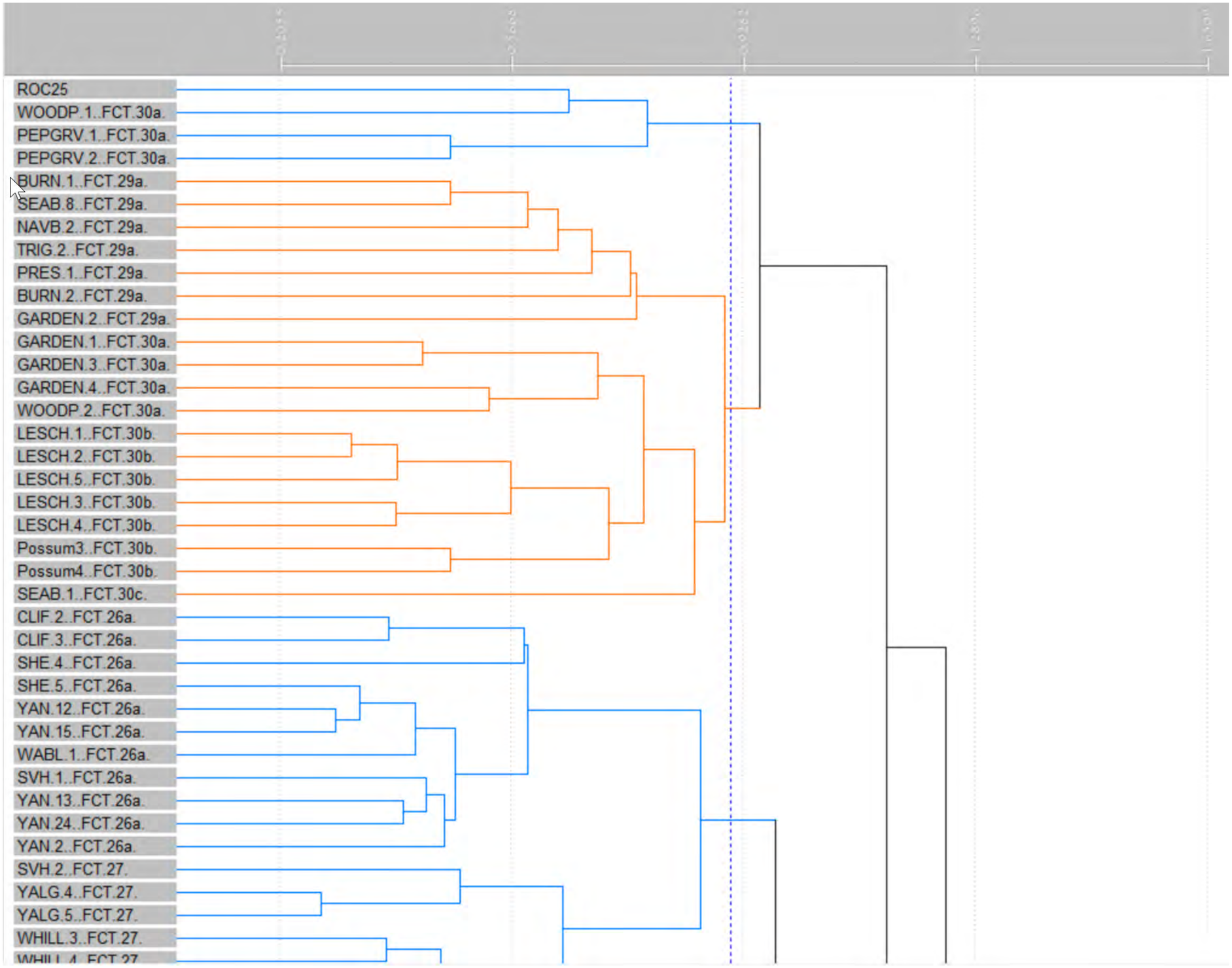
ROC23


ROC23
CHIDPT.1..FCT.24.
NAVB.3..FCT.24.
PEPGRV.1..FCT.30a.
PEPGRV.2..FCT.30a.
BURN.1..FCT.29a.
SEAB.8..FCT.29a.
NAVB.2..FCT.29a.
TRIG.2..FCT.29a.
PRES.1..FCT.29a.
BURN.2..FCT.29a.
GARDEN.2..FCT.29a.
cool.09..FCT.19.
PB.1..FCT.19.
PB.6..FCT.19.
GARDEN.1..FCT.30a.
GARDEN.3..FCT.30a.
GARDEN.4..FCT.30a.
WOODP.2..FCT.30a.
WOODP.1..FCT.30a.
LESCH.1..FCT.30b.
LESCH.2..FCT.30b.
LESCH.5..FCT.30b.
LESCH.3..FCT.30b.
LESCH.4..FCT.30b.
Possum3..FCT.30b.
Possum4..FCT.30b.
SEAB.1..FCT.30c.
CLIF.2..FCT.26a.
CLIF.3..FCT.26a.
SHE.4..FCT.26a.
SHE.5..FCT.26a.
YAN.12..FCT.26a.
YAN.15..FCT.26a.
WABL.1..FCT.26a.
SVH.1..FCT.26a.
YAN.13..FCT.26a.
YAN.24..FCT.26a.

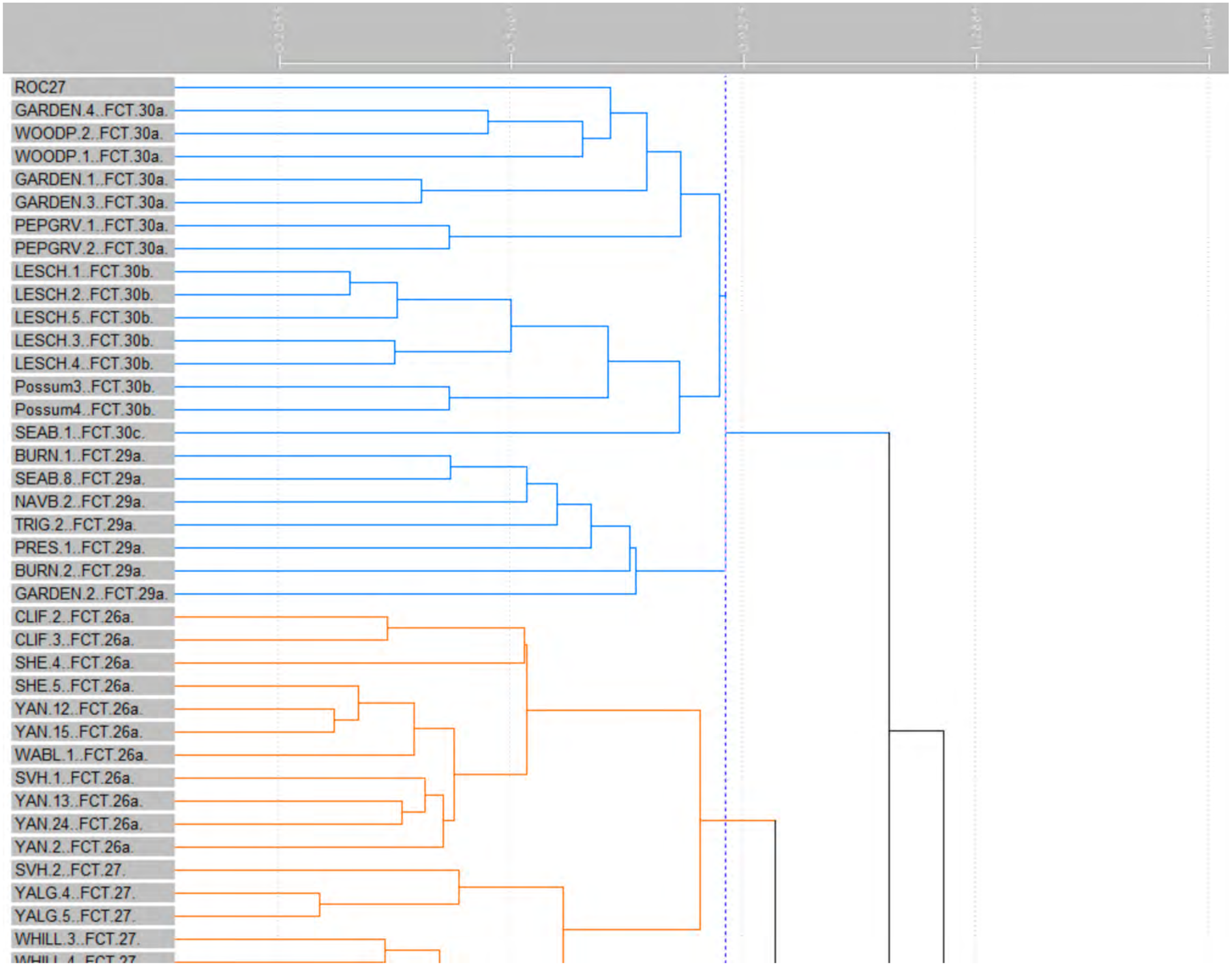
ROC24


ROC24
WOODP.1..FCT.30a.
PEPGRV.1..FCT.30a.
PEPGRV.2..FCT.30a.
BURN.1..FCT.29a.
SEAB.8..FCT.29a.
NAVB.2..FCT.29a.
TRIG.2..FCT.29a.
PRES.1..FCT.29a.
BURN.2..FCT.29a.
GARDEN.2..FCT.29a.
GARDEN.1..FCT.30a.
GARDEN.3..FCT.30a.
GARDEN.4..FCT.30a.
WOODP.2..FCT.30a.
LESCH.1..FCT.30b.
LESCH.2..FCT.30b.
LESCH.5..FCT.30b.
LESCH.3..FCT.30b.
LESCH.4..FCT.30b.
Possum3..FCT.30b.
Possum4..FCT.30b.
SEAB.1..FCT.30c.
CLIF.2..FCT.26a.
CLIF.3..FCT.26a.
SHE.4..FCT.26a.
SHE.5..FCT.26a.
YAN.12..FCT.26a.
YAN.15..FCT.26a.
WABL.1..FCT.26a.
SVH.1..FCT.26a.
YAN.13..FCT.26a.
YAN.24..FCT.26a.
YAN.2..FCT.26a.
SVH.2..FCT.27.
YALG.4..FCT.27.
YALG.5..FCT.27.
WHILL.3..FCT.27.

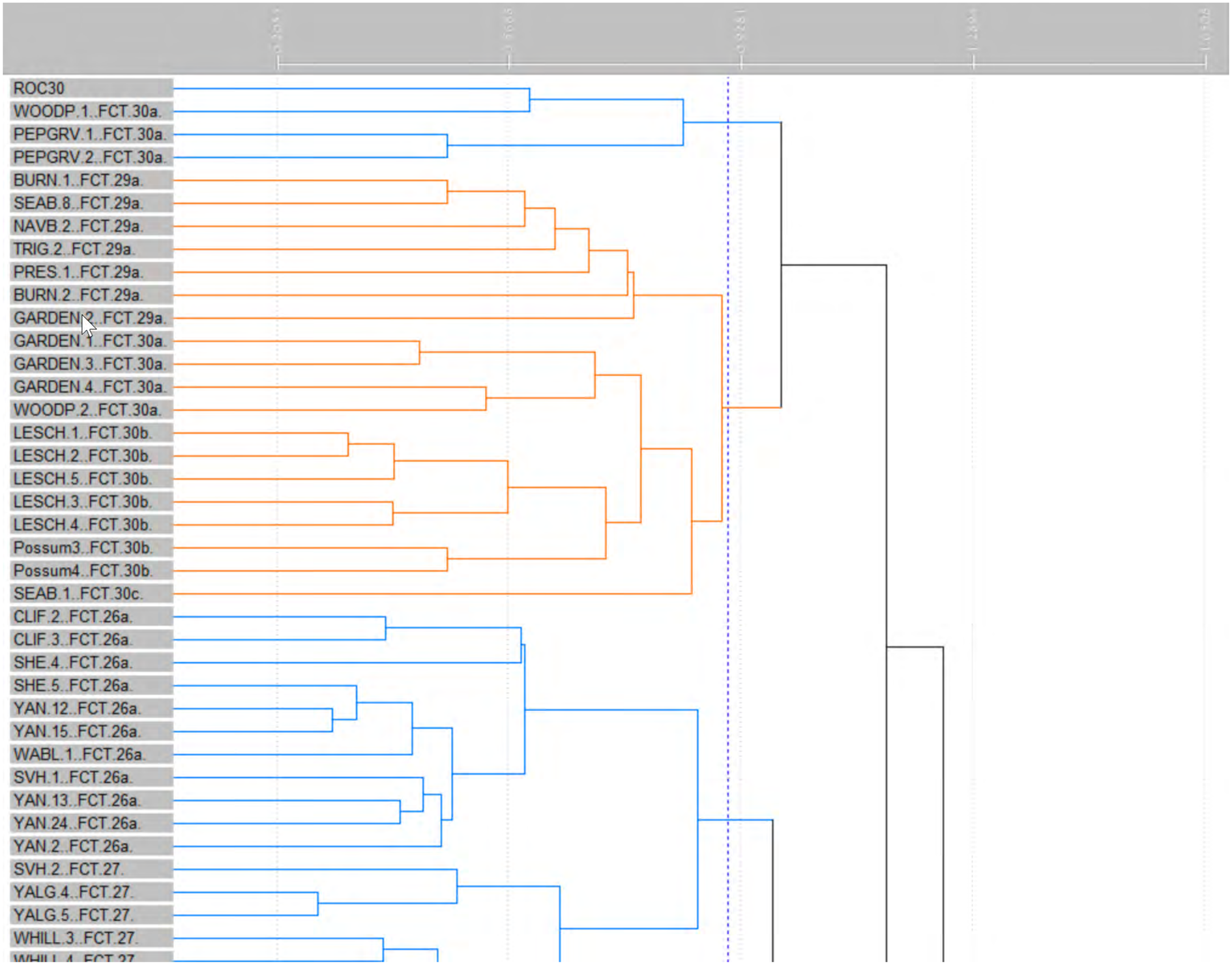
ROC25


ROC25
WOODP.1..FCT.30a.
PEPGRV.1..FCT.30a.
PEPGRV.2..FCT.30a.
BURN.1..FCT.29a.
SEAB.8..FCT.29a.
NAVB.2..FCT.29a.
TRIG.2..FCT.29a.
PRES.1..FCT.29a.
BURN.2..FCT.29a.
GARDEN.2..FCT.29a.
GARDEN.1..FCT.30a.
GARDEN.3..FCT.30a.
GARDEN.4..FCT.30a.
WOODP.2..FCT.30a.
LESCH.1..FCT.30b.
LESCH.2..FCT.30b.
LESCH.5..FCT.30b.
LESCH.3..FCT.30b.
LESCH.4..FCT.30b.
Possum3..FCT.30b.
Possum4..FCT.30b.
SEAB.1..FCT.30c.
CLIF.2..FCT.26a.
CLIF.3..FCT.26a.
SHE.4..FCT.26a.
SHE.5..FCT.26a.
YAN.12..FCT.26a.
YAN.15..FCT.26a.
WABL.1..FCT.26a.
SVH.1..FCT.26a.
YAN.13..FCT.26a.
YAN.24..FCT.26a.
YAN.2..FCT.26a.
SVH.2..FCT.27.
YALG.4..FCT.27.
YALG.5..FCT.27.
WHILL.3..FCT.27.

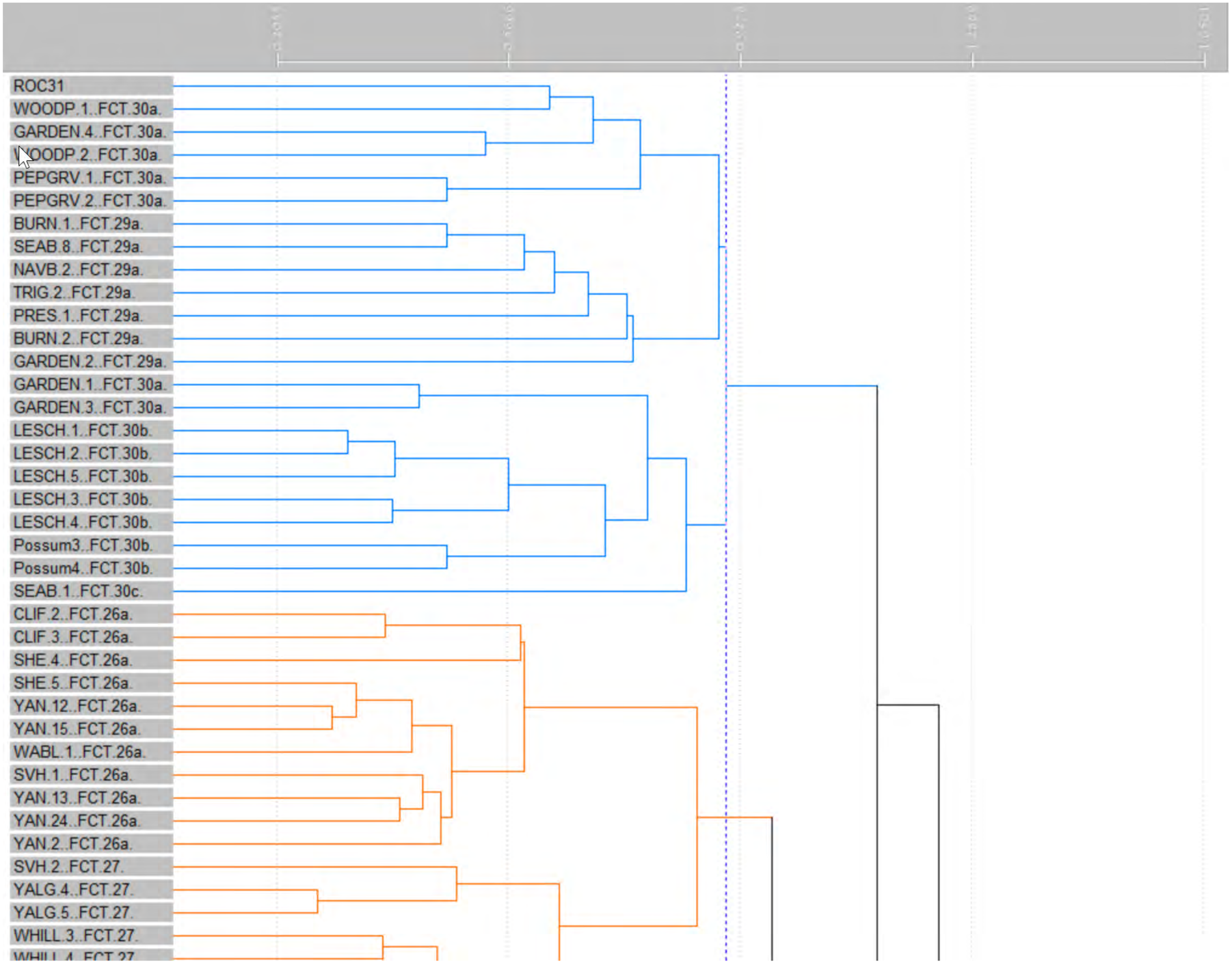
ROC27


ROC27
GARDEN.4..FCT.30a.
WOODP.2..FCT.30a.
WOODP.1..FCT.30a.
GARDEN.1..FCT.30a.
GARDEN.3..FCT.30a.
PEPGRV.1..FCT.30a.
PEPGRV.2..FCT.30a.
LESCH.1..FCT.30b.
LESCH.2..FCT.30b.
LESCH.5..FCT.30b.
LESCH.3..FCT.30b.
LESCH.4..FCT.30b.
Possum3..FCT.30b.
Possum4..FCT.30b.
SEAB.1..FCT.30c.
BURN.1..FCT.29a.
SEAB.8..FCT.29a.
NAVB.2..FCT.29a.
TRIG.2..FCT.29a.
PRES.1..FCT.29a.
BURN.2..FCT.29a.
GARDEN.2..FCT.29a.
CLIF.2..FCT.26a.
CLIF.3..FCT.26a.
SHE.4..FCT.26a.
SHE.5..FCT.26a.
YAN.12..FCT.26a.
YAN.15..FCT.26a.
WABL.1..FCT.26a.
SVH.1..FCT.26a.
YAN.13..FCT.26a.
YAN.24..FCT.26a.
YAN.2..FCT.26a.
SVH.2..FCT.27.
YALG.4..FCT.27.
YALG.5..FCT.27.
WHILL.3..FCT.27.

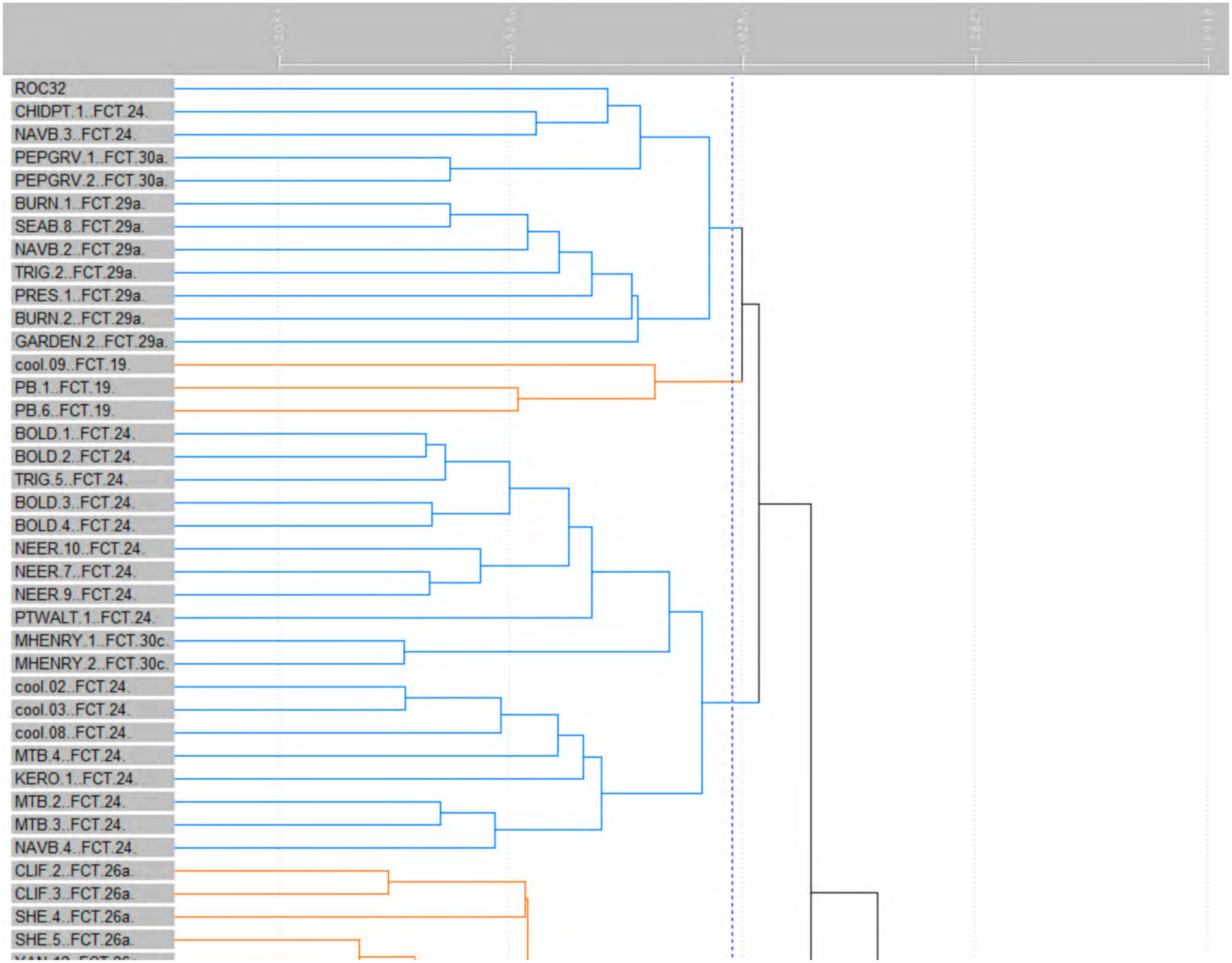
ROC30


ROC30
WOODP.1..FCT.30a.
PEPGRV.1..FCT.30a.
PEPGRV.2..FCT.30a.
BURN.1..FCT.29a.
SEAB.8..FCT.29a.
NAVB.2..FCT.29a.
TRIG.2..FCT.29a.
PRES.1..FCT.29a.
BURN.2..FCT.29a.
GARDEN.2..FCT.29a.
GARDEN.1..FCT.30a.
GARDEN.3..FCT.30a.
GARDEN.4..FCT.30a.
WOODP.2..FCT.30a.
LESCH.1..FCT.30b.
LESCH.2..FCT.30b.
LESCH.5..FCT.30b.
LESCH.3..FCT.30b.
LESCH.4..FCT.30b.
Possum3..FCT.30b.
Possum4..FCT.30b.
SEAB.1..FCT.30c.
CLIF.2..FCT.26a.
CLIF.3..FCT.26a.
SHE.4..FCT.26a.
SHE.5..FCT.26a.
YAN.12..FCT.26a.
YAN.15..FCT.26a.
WABL.1..FCT.26a.
SVH.1..FCT.26a.
YAN.13..FCT.26a.
YAN.24..FCT.26a.
YAN.2..FCT.26a.
SVH.2..FCT.27.
YALG.4..FCT.27.
YALG.5..FCT.27.
WHILL.3..FCT.27.

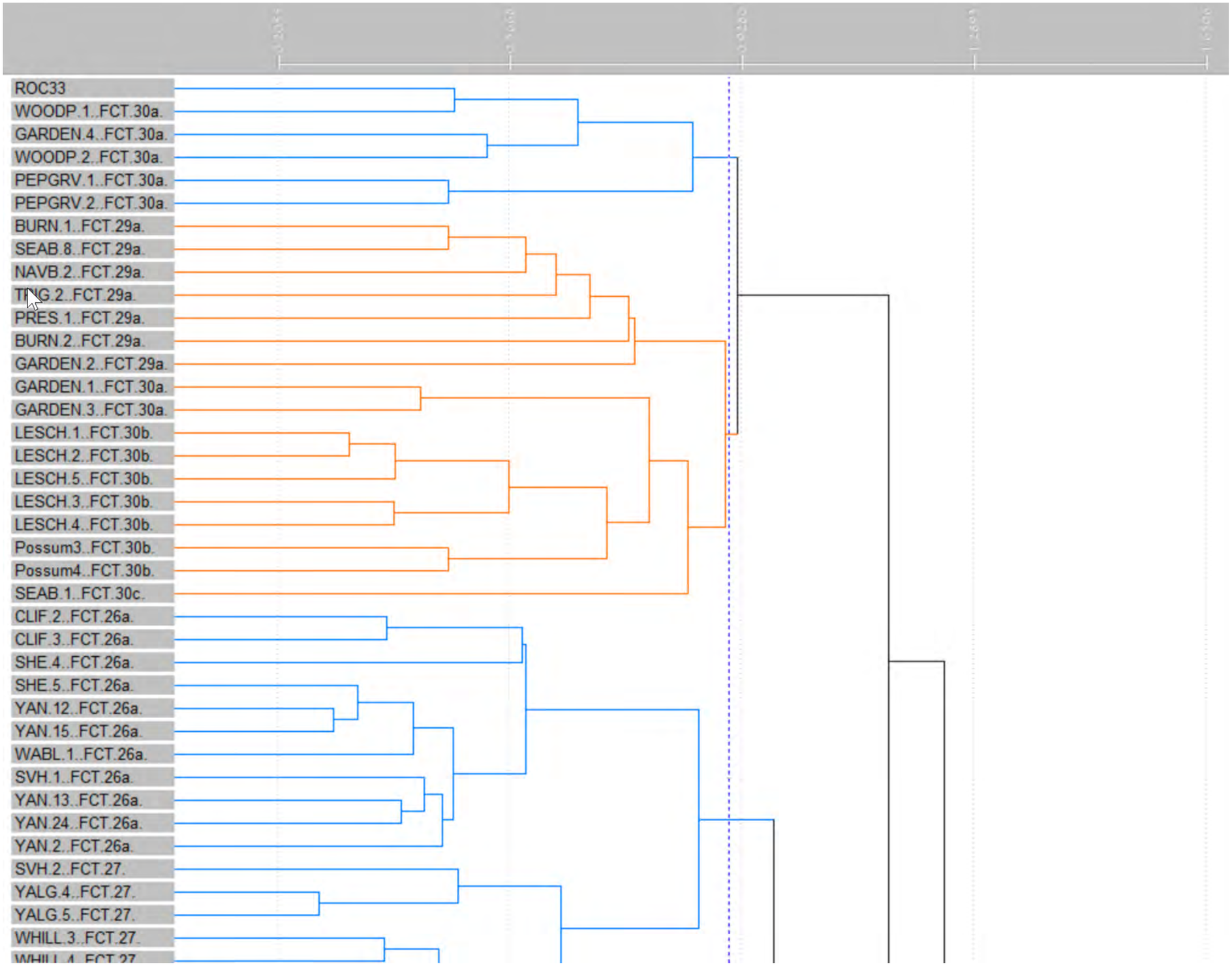
ROC31


ROC31
WOODP.1..FCT.30a.
GARDEN.4..FCT.30a.
WOODP.2..FCT.30a.
PEPGRV.1..FCT.30a.
PEPGRV.2..FCT.30a.
BURN.1..FCT.29a.
SEAB.8..FCT.29a.
NAVB.2..FCT.29a.
TRIG.2..FCT.29a.
PRES.1..FCT.29a.
BURN.2..FCT.29a.
GARDEN.2..FCT.29a.
GARDEN.1..FCT.30a.
GARDEN.3..FCT.30a.
LESCH.1..FCT.30b.
LESCH.2..FCT.30b.
LESCH.5..FCT.30b.
LESCH.3..FCT.30b.
LESCH.4..FCT.30b.
Possum3..FCT.30b.
Possum4..FCT.30b.
SEAB.1..FCT.30c.
CLIF.2..FCT.26a.
CLIF.3..FCT.26a.
SHE.4..FCT.26a.
SHE.5..FCT.26a.
YAN.12..FCT.26a.
YAN.15..FCT.26a.
WABL.1..FCT.26a.
SVH.1..FCT.26a.
YAN.13..FCT.26a.
YAN.24..FCT.26a.
YAN.2..FCT.26a.
SVH.2..FCT.27.
YALG.4..FCT.27.
YALG.5..FCT.27.
WHILL.3..FCT.27.

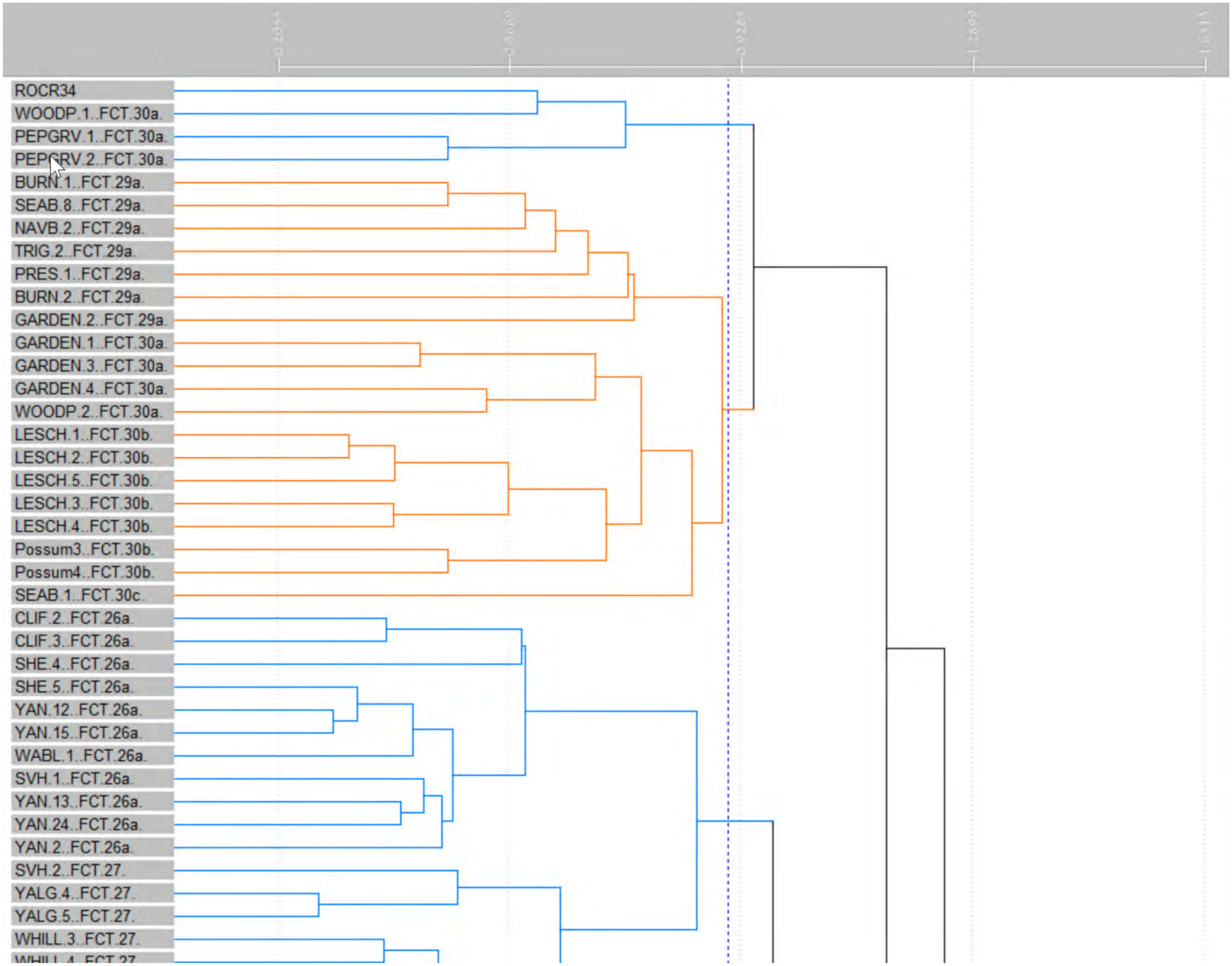
ROC32


ROC32
CHIDPT.1..FCT.24.
NAVB.3..FCT.24.
PEPGRV.1..FCT.30a.
PEPGRV.2..FCT.30a.
BURN.1..FCT.29a.
SEAB.8..FCT.29a.
NAVB.2..FCT.29a.
TRIG.2..FCT.29a.
PRES.1..FCT.29a.
BURN.2..FCT.29a.
GARDEN.2..FCT.29a.
cool.09..FCT.19.
PB.1..FCT.19.
PB.6..FCT.19.
BOLD.1..FCT.24.
BOLD.2..FCT.24.
TRIG.5..FCT.24.
BOLD.3..FCT.24.
BOLD.4..FCT.24.
NEER.10..FCT.24.
NEER.7..FCT.24.
NEER.9..FCT.24.
PTWALT.1..FCT.24.
MHENRY.1..FCT.30c.
MHENRY.2..FCT.30c.
cool.02..FCT.24.
cool.03..FCT.24.
cool.08..FCT.24.
MTB.4..FCT.24.
KERO.1..FCT.24.
MTB.2..FCT.24.
MTB.3..FCT.24.
NAVB.4..FCT.24.
CLIF.2..FCT.26a.
CLIF.3..FCT.26a.
SHE.4..FCT.26a.
SHE.5..FCT.26a.

ROC33


ROC33
WOODP.1..FCT.30a.
GARDEN.4..FCT.30a.
WOODP.2..FCT.30a.
PEPGRV.1..FCT.30a.
PEPGRV.2..FCT.30a.
BURN.1..FCT.29a.
SEAB.8..FCT.29a.
NAVB.2..FCT.29a.
TING.2..FCT.29a.
PRES.1..FCT.29a.
BURN.2..FCT.29a.
GARDEN.2..FCT.29a.
GARDEN.1..FCT.30a.
GARDEN.3..FCT.30a.
LESCH.1..FCT.30b.
LESCH.2..FCT.30b.
LESCH.5..FCT.30b.
LESCH.3..FCT.30b.
LESCH.4..FCT.30b.
Possum3..FCT.30b.
Possum4..FCT.30b.
SEAB.1..FCT.30c.
CLIF.2..FCT.26a.
CLIF.3..FCT.26a.
SHE.4..FCT.26a.
SHE.5..FCT.26a.
YAN.12..FCT.26a.
YAN.15..FCT.26a.
WABL.1..FCT.26a.
SVH.1..FCT.26a.
YAN.13..FCT.26a.
YAN.24..FCT.26a.
YAN.2..FCT.26a.
SVH.2..FCT.27.
YALG.4..FCT.27.
YALG.5..FCT.27.
WHILL.3..FCT.27.

ROCR34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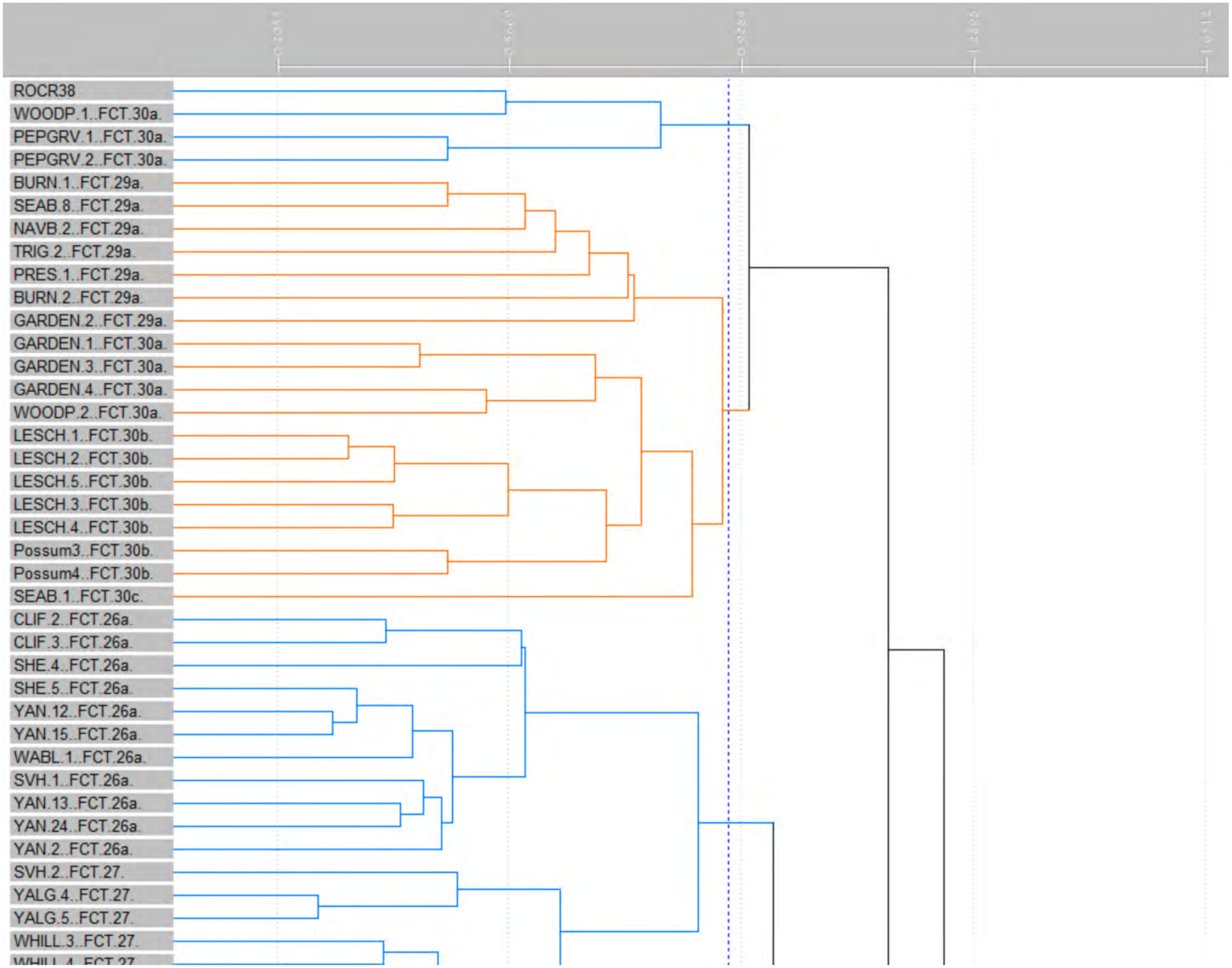
PEPGRV.1..FCT.30a.
PEPGRV.2..FCT.30a.
BURN.1..FCT.29a.
SEAB.8..FCT.29a.
NAVB.2..FCT.29a.
TRIG.2..FCT.29a.
PRES.1..FCT.29a.
BURN.2..FCT.29a.
GARDEN.2..FCT.29a.
GARDEN.1..FCT.30a.
GARDEN.3..FCT.30a.
GARDEN.4..FCT.30a.
WOODP.2..FCT.30a.
LESCH.1..FCT.30b.
LESCH.2..FCT.30b.
LESCH.5..FCT.30b.
LESCH.3..FCT.30b.
LESCH.4..FCT.30b.
Possum3..FCT.30b.
Possum4..FCT.30b.
SEAB.1..FCT.30c.
CLIF.2..FCT.26a.
CLIF.3..FCT.26a.
SHE.4..FCT.26a.
SHE.5..FCT.26a.
YAN.12..FCT.26a.
YAN.15..FCT.26a.
WABL.1..FCT.26a.
SVH.1..FCT.26a.
YAN.13..FCT.26a.
YAN.24..FCT.26a.
YAN.2..FCT.26a.
SVH.2..FCT.27.
YALG.4..FCT.27.
YALG.5..FCT.27.
WHILL.3..FCT.27.

ROCR38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SEAB.8..FCT.29a.
NAVB.2..FCT.29a.
TRIG.2..FCT.29a.
PRES.1..FCT.29a.
BURN.2..FCT.29a.
GARDEN.2..FCT.29a.
GARDEN.1..FCT.30a.
GARDEN.3..FCT.30a.
GARDEN.4..FCT.30a.
WOODP.2..FCT.30a.
LESCH.1..FCT.30b.
LESCH.2..FCT.30b.
LESCH.5..FCT.30b.
LESCH.3..FCT.30b.
LESCH.4..FCT.30b.
Possum3..FCT.30b.
Possum4..FCT.30b.
SEAB.1..FCT.30c.
CLIF.2..FCT.26a.
CLIF.3..FCT.26a.
SHE.4..FCT.26a.
SHE.5..FCT.26a.
YAN.12..FCT.26a.
YAN.15..FCT.26a.
WABL.1..FCT.26a.
SVH.1..FCT.26a.
YAN.13..FCT.26a.
YAN.24..FCT.26a.
YAN.2..FCT.26a.
SVH.2..FCT.27.
YALG.4..FCT.27.
YALG.5..FCT.27.
WHILL.3..FCT.27.

Appendix 13

Field TEC Assessment Results – Tuart Woodlands and Forests of the Swan Coastal Plain

TEC Patch Assessment #	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34
Key Diagnostic Characteristics / Assessment Patch Reference	WTP-T18	WTP-T25	WTP-T37	WTP-T17	WTP-T38	WTP-T21	WTP-T23	WTP-T24	WTP-T39	WTP-T20 (Contextual)	WTP-T30	WTP-T36	WTP-T40	WTP-T41	WTP-T61	WTP-T27_1	WTP-T27_2	WTP-T19	WTP-T08	WTP-T07	WTP-T01	WTP-T04 (Contextual)	WTP-T05 (Contextual)	WTP-T06	WTP-T29	WTP-T35	WTP-T42	WTP-T43	WTP-T44	WTP-T45	WTP-T46	WTP-T47	WTP-T48	WTP-T49
1. Location and physical envrionment: Occurs within the following IBRA region and/or subregions.																																		
Swan Coastal Plain IBRA region	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
2. Soils and Landform																																		
Spearwood Sands	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Quindalup Sands	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bassendean Sands	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pinjarra Plain	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3. Structure: The structure of the ecological community can occur as either a Forest, Open Forest, Woodland or Open Woodland:																																		
3a. The presence of at least 2 living established *Eucalyptus gomphocephala* (Tuart) trees in the uppermost canopy layer (tree's may occur as a single stem or mallee form)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N
3b. There is a gap of no more than 60 m between the outer edges of the canopies of adjacent Tuart trees (living or dead)	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N
4. Composition																																		
4c. Other trees can be present in the canopy or sub-canopy (% foliar cover):	Y	Y	Y	N	N	NA	NA	NA	N	NA	NA	NA	NA	NA	Y	N	N	NA	NA	NA	NA	NA	NA	NA	N	N	NA	NA	NA	N	NA	N	NA	NA
Agonis flexuosa	16	0	16	0	0	NA	NA	NA	0	NA	NA	NA	NA	NA	0	0	0	NA	NA	NA	NA	NA	NA	NA	0	0	NA	NA	NA	0	NA	0	NA	NA
Banksia grandis	0	0	0	0	0	NA	NA	NA	0	NA	NA	NA	NA	NA	0	0	0	NA	NA	NA	NA	NA	NA	NA	0	0	NA	NA	NA	0	NA	0	NA	NA
Banksia attenuata	0	7	0	0	0	NA	NA	NA	0	NA	NA	NA	NA	NA	2	0	0	NA	NA	NA	NA	NA	NA	NA	0	0	NA	NA	NA	0	NA	0	NA	NA
Eucalyptus marginata	0	0	0	0	0	NA	NA	NA	0	NA	NA	NA	NA	NA	0	0	0	NA	NA	NA	NA	NA	NA	NA	0	0	NA	NA	NA	0	NA	0	NA	NA
Less commonly:	N	N	N	N	N	NA	NA	NA	N	NA	NA	NA	NA	NA	N	N	N	NA	NA	NA	NA	NA	NA	NA	N	N	NA	NA	NA	N	NA	N	NA	NA
Corymbia calophylla	0	0	0	0	0	NA	NA	NA	0	NA	NA	NA	NA	NA	0	0	0	NA	NA	NA	NA	NA	NA	NA	0	0	NA	NA	NA	0	NA	0	NA	NA
Banksia menziesii	0	0	0	0	0	NA	NA	NA	0	NA	NA	NA	NA	NA	0	0	0	NA	NA	NA	NA	NA	NA	NA	0	0	NA	NA	NA	0	NA	0	NA	NA
Banksia prionotes	0	0	0	0	0	NA	NA	NA	0	NA	NA	NA	NA	NA	0	0	0	NA	NA	NA	NA	NA	NA	NA	0	0	NA	NA	NA	0	NA	0	NA	NA
4d. Typically an understorey containing native plants, including grasses, herbs and shrubs (oftenly modified by disturbance, for example, areas with soil exposed and/or plant litter can also be included in the TEC)	Y	Y	N	N	Y	Y	Y	N	Y	N	Y	Y	N	N	Y	Y	Y	N	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
4e. Are there dead stags present within 60m of living Tuart individuals?	N	N	N	Y	Y	N	N	Y	Y	N	Y	Y	N	N	N	Y	Y	N	N	N	N	N	N	N	N	N	N	Y	N	N	N	N	N	N
4. Representative Floristic Community Type (Gibson et al. 1994)																																		
FCT25 - Southern Eucalyptus gomphocephala - Agonis flexuosa woodlands																																		
Affinity to FCT25 - Southern Eucalyptus gomphocephala - Agonis flexuosa woodlands											Y	Y	Y	Y	Y	Y	Y								Y	Y								
FCT30b - Quindalup Eucalyptus gomphocephala and/or Agonis flexuosa woodlands				Y	Y																Y	Y	Y				Y	Y	Y	Y	Y	Y	Y	Y
5. Patch size																																		
5. Does the patch extend beyond cadastre/property boundary?	N	N	N	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	N	Y	Y	N	N	N	N	Y	N	N	Y	Y	N	Y	Y	Y	N	Y	N	N
5a. The patch size is less than 0.5 ha - automatically not part of the protected ecological community	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
5b. The patch size is less than 5 ha but greater than 0.5 ha (go to and complete 6. Minimum Patch Size Corresponding to Vegetation Condition Rating)	1.87	1.87	1.87			0.82	4.18	1.03	1.03									0.84	0.59	2.2															
5c. The patch size is equal to or greater than 5 ha (automatically part of the TEC as long as it meets key diagnostic criteria above, therefore skip part 6 'Minimum Patch Size Corresponding to Vegetation Condition Rating')	N	N	N	8.42	8.42	N	N	N	N	29.45	29.45	29.45	29.45	29.45	29.45	6.34	6.34	N	N	N	18.67	18.67	18.67	18.67	18.67	18.67	18.67	18.67	18.67	18.67	18.67	18.67	18.67	18.67
6. Minimum Patch Size Corresponding to Vegetation Condition Rating																																		
Very High - 0.5 ha	N	N	N	N	N	N	N	Y	Y	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
High - 0.5 ha + AND *	N	N	N	N	N	N	N			Y	Y	Y	N	N	N	N	N	N	N	N	N	N	N	N	N	N	Y	N	Y	N	N	N	N	N
Moderate - more than or equal to 2 ha + AND *	N	Y	N	Y	Y	N	N						Y	Y	Y	Y	Y	N	N	N	Y	Y	Y	N	Y	Y		Y		Y	Y	Y	Y	Y
Poor - automatically not part of the protected ecological community	Y		Y				Y											Y	Y	Y				Y										
*That either:																																		
6a. have an important landscape role (≤100 m to native vegetation)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
6b. OR have a habitat role (≥2 very large trees per 0.5 ha)	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
6c. OR show regeneration (≥15 seedlings and/or saplings per 0.5 ha)	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	Y	Y	N	N	N	N	Y	N	N	Y	Y	N	N	N	N	N	N	N	N
7. Conservation Value (see attached footnotes for reasons)																																		
High				Y	Y							Y			Y																			
High-Medium								Y	Y		Y		Y	Y	Y	Y	Y				Y				Y	Y	Y	Y	Y	Y				
Medium		Y														Y	Y					Y	Y			Y					Y	Y		
Medium-Low	Y		Y				Y			Y									Y	Y														
Low						Y												Y						Y									Y	Y

TEC Patch Assessment #	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34
Does the patch meet the above criteria for TEC status? (Y/N)	NO			YES		NO	NO	YES		YES						YES		NO	NO	NO	YES													
TEC Patch Number (Assigned)	NA			TT01		NA	NA	TT02		TT03						TT04		NA	NA	NA	TT05													

TEC Patch Assessment #	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84
Key Diagnostic Characteristics / Assessment Patch Reference	WTP-T02	WTP-T09_1	WTP-T09_2	WTP-T10_1	WTP-T10_2	WTP-T10_3	WTP-T11_1	WTP-T11_2	WTP-T13	WTP-T14	WTP-T15	WTP-T16	WTP-T26	WTP-T28	WTP-T33	WTP-T34	WTP-T50	WTP-T51	WTP-T52	WTP-T53	WTP-T54	WTP-T55	WTP-T56	WTP-T57	WTP-T58	WTP-T59	WTP-T60	WTP-T63	WTP-T03	WTP-T32	WTP-T31	WTP-T22	WTP-T62	ROC-T01	ROC-T02	ROC-T03	ROC-T04	ROC-T05	ROC-T06	ROC-T10	ROC-T11	ROC-T07	ROC-T08	ROC-T09	WLM-T01	WLM-T02	WLM-T10	WLM-T11	WLM-T12	WLM-T13
1. Location and physical envrionment: Occurs within the following IBRA region and/or subregions.																																																		
Swan Coastal Plain IBRA region	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
2. Soils and Landform																																																		
Spearwood Sands	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	NA	NA	NA	NA	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA	NA	NA
Quindalup Sands	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Y	Y	NA	NA	NA	NA	NA	NA	NA	Y	NA	Y	Y	NA	NA	Y	NA	NA
Bassendean Sands	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pinjarra Plain	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3. Structure: The structure of the ecological community can occur as either a Forest, Open Forest, Woodland or Open Woodland:																																																		
3a. The presence of at least 2 living established *Eucalyptus gomphocephala* (Tuart) trees in the uppermost canopy layer (tree's may occur as a single stem or mallee form)	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y
3b. There is a gap of no more than 60 m between the outer edges of the canopies of adjacent Tuart trees (living or dead)	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
4. Composition																																																		
4c. Other trees can be present in the canopy or sub-canopy (% foliar cover):	NA	Y	Y	Y	Y	Y	Y	Y	NA	NA	NA	NA	NA	N	N	Y	NA	NA	NA	Y	NA	Y	N	NA	NA	NA	Y	NA	Y	Y	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Agonis flexuosa	NA	0	0	0	0	0	0	0	NA	NA	NA	NA	NA	0	0	0	NA	NA	NA	0	NA	0	0	NA	NA	NA	14	NA	0	0	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Banksia grandis	NA	0	0	0	0	0	0.5	0.5	NA	NA	NA	NA	NA	0	0	17	NA	NA	NA	6	NA	0	0	NA	NA	NA	0	NA	0	0	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Banksia attenuata	NA	4	4	1	1	1	0	0	NA	NA	NA	NA	NA	0	0	0	NA	NA	NA	3	NA	4	0	NA	NA	NA	0.1	NA	0.5	0.5	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Eucalyptus marginata	NA	0	0	29	29	29	20	20	NA	NA	NA	NA	NA	0	0	10	NA	NA	NA	0	NA	14	0	NA	NA	NA	9	NA	4	4	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Less commonly:	NA	N	N	Y	Y	Y	N	N	NA	NA	NA	NA	NA	N	N	N	NA	NA	NA	N	NA	N	N	NA	NA	NA	N	NA	Y	Y	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Corymbia calophylla	NA	0	0	0	0	0	0	0	NA	NA	NA	NA	NA	0	0	0	NA	NA	NA	0	NA	0	0	NA	NA	NA	0	NA	0	0	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Banksia menziesii	NA	0	0	0.1	0.1	0.1	0	0	NA	NA	NA	NA	NA	0	0	0	NA	NA	NA	0	NA	0	0	NA	NA	NA	0	NA	7	7	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Banksia prionotes	NA	0	0	0	0	0	0	0	NA	NA	NA	NA	NA	0	0	0	NA	NA	NA	0	NA	0	0	NA	NA	NA	0	NA	0	0	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4d. Typically an understorey containing native plants, including grasses, herbs and shrubs (oftenly modified by disturbance, for example, areas with soil exposed and/or plant litter can also be included in the TEC)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y					Y					Y							
4e. Are there dead stags present within 60m of living Tuart individuals?	N	Y	Y	Y	Y	Y	N	N	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N	N	N	Y	N	N	N	N	N	Y	Y	N	N	N	N	Y	Y	Y	Y	Y	N	N	N	N	N	Y	N	N	N	Y	Y
4. Representative Floristic Community Type (Gibson et al. 1994)																																																		
FCT25 - Southern Eucalyptus gomphocephala - Agonis flexuosa woodlands																																																		
Affinity to FCT25 - Southern Eucalyptus gomphocephala - Agonis flexuosa woodlands	Y	Y	Y			Y	Y	Y					Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y																						
FCT30b - Quindalup Eucalyptus gomphocephala and/or Agonis flexuosa woodlands																																																		
5. Patch size																																																		
5. Does the patch extend beyond cadastre/property boundary?	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	N	Y	N	N	N	N	N	N	N	N	N	N	N	N	N	N	Y	N	N	Y	Y	Y	Y	Y	N	N	N	N	Y	Y	Y	Y	Y	Y	Y	Y
5a. The patch size is less than 0.5 ha - automatically not part of the protected ecological community	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	Y	N	N	N	N	N	N	N	N	N	Y	Y	N	Y	N	N	N	N
5b. The patch size is less than 5 ha but greater than 0.5 ha (go to and complete 6. Minimum Patch Size Corresponding to Vegetation Condition Rating)																													0.62	0.62			NA	2.36	2.75	1.24	1.17	0.74	0.75			0.52	NA	NA	0.53	NA	0.86	0.31	0.91	3.03
5c. The patch size is equal to or greater than 5 ha (automatically part of the TEC as long as it meets key diagnostic criteria above, therefore skip part 6 'Minimum Patch Size Corresponding to Vegetation Condition Rating')	35.73	35.73	35.73	35.73	35.73	35.73	35.73	35.73	35.73	35.73	35.73	35.73	35.73	35.73	35.73	35.73	35.73	35.73	35.73	35.73	35.73	35.73	35.73	35.73	35.73	35.73	35.73	35.73	N	N	5.74	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
6. Minimum Patch Size Corresponding to Vegetation Condition Rating																																																		
Very High - 0.5 ha	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	NA	N	N	N	N	N	N	N	N	NA	NA	N	NA	N	N	N	N
High - 0.5 ha + AND *	N	N	N	Y	Y	Y	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N	N	N	N	N	N	N	Y	N	N	N	N	NA	N	Y	N	N	Y	N	N	N	NA	NA	N	NA	N	N	Y	Y
Moderate - more than or equal to 2 ha + AND *	N	Y	Y				Y	Y										Y	Y	Y	Y	Y	Y	Y	Y	Y		Y	N	N	Y	N	NA	Y		Y	Y		N	N	N	N	NA	NA	N	NA	Y	Y		
Poor - automatically not part of the protected ecological community	Y																															Y	NA						Y	Y	Y	Y	NA	NA	Y	NA				
*That either:																																																		
6a. have an important landscape role (≤100 m to native vegetation)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
6b. OR have a habitat role (≥2 very large trees per 0.5 ha)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y
6c. OR show regeneration (≥15 seedlings and/or saplings per 0.5 ha)	N	N	Y	N	Y	Y	N	N	N	N	N	N	Y	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	Y	N	N	N	N	N	N	N	N	N
7. Conservation Value (see attached footnotes for reasons)																																																		
High				Y					Y	Y						Y								Y			Y																								
High-Medium		Y	Y		Y	Y		Y			Y	Y	Y	Y					Y	Y				Y		Y		Y		Y				Y	Y														Y
Medium							Y								Y			Y	Y		Y		Y		Y			Y						Y	Y	Y	Y												Y
Medium-Low															Y		Y					Y									Y								Y						Y			Y				
Low	Y																															Y							Y	Y	Y			Y			Y				

TEC Patch Assessment #	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84
Does the patch meet the above criteria for TEC status? (Y/N)	YES																												dnq 7		YES	dnq8	dnq9	YES	YES	dnq10	dnq11	YES	dnq12			dnq13	dnq14	dnq15	dnq16	dnq17	dnq18	dnq19	YES	YES
TEC Patch Number (Assigned)	**TT06**																												NA		**TT07**	NA	NA	**TT08**	**TT09**	NA	NA	**TT10**	NA			NA	NA	NA	NA	NA	NA	NA	**TT01**	**TT11**

Appendix 14

Field TEC Assessment Results – Banksia Woodlands of the Swan Coastal Plain

TEC Patch Assessment #	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35
Key Diagnostic Characteristics / Assessment Patch Reference	Contextual (Inferred)	Survey Area (Inferred)	Survey Area (Inferred)	WTPB-11	ANK36	ANK33	WTP-B21	ANK34	ANK22	ANK23	WTP-B15	WTP-B14	ANK27	ANK25	ANK26	ANK20	ANK21	ANK14	ANK15	ANK16	ANK17	ANK18	ANK19	Contextual (Inferred)	Contextual (Inferred)	Contextual (Inferred)	ANK08	ANK10	ANK12	WTP-B19	ANK93	ANK05	ANK06	WTP-B20	ANK07
1. Location/physical environment: occurs within following IBRA region/ subregions.																																			
Swan Coastal Plain IBRA region	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
OR																																			
Darling and Whicher scarps of the Jarrah Forest IBRA region	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
2. Soils and Landform																																			
Bassendean Sands	N	N	N	Y	Y	N	N	N	Y	Y	Y	Y	Y	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Spearwood Sands	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Quindalup Sands	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Ridge Hill Shelf	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Whicher Scarp	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Dandaragan Plateau	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
3. Structure: The structure of the ecological community is a low woodland to forest with:																																			
3a. A distinctive upper sclerophyllous layer of low trees typically dominated or co-dominated by one or more of the Banksia species identified below;and	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N	N	N	N	N	N	N	N	N	N	N	N	Y	N	N	N	Y	Y
3b. Emergent trees of medium to tall (>10m) height Eucalyptus or Allocasuarina species may sometimes be present above the Banksia canopy;and	N	Y	N	Y	N	N	Y	Y	Y	Y	Y	Y	N	Y	N	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	N	Y	N
3c. An often highly species-rich understorey that consists of layers of sclerophyllous shrubs and a herbaceous ground layer of cord rushes and sedges.	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	N	N	N	Y	N	N	N	N	N	Y	Y	N	Y	N	N	N	N	N
4. Composition																																			
4a.The patch must include at least one of the following diagnostic species:																																			
Banksia attenuata	N	Y	Y	Y	N	Y	Y	N	Y	N	Y	N	Y	Y	Y	Y	N	N	N	N	N	N	Y	N	Y	Y	Y	N	N	Y	Y	Y	N	Y	Y
Banksia menziesii	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N	N	N	N	N	Y	N	Y	N	Y	N	N	Y	N	N	N	N	Y
Banksia prionotes	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Banksia ilicifolia	N	N	N	N	N	N	N	N	N	N	Y	Y	N	N	Y	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
4b. If present, emergent tree layer often includes *Corymbia calophylla, Eucalyptus marginat* a or *E. gomphocephala.*	Y	N	N	Y	N	N	Y	Y	Y	N	Y	Y	N	N	N	Y	Y	N	N	N	Y	Y	Y	Y	Y	Y	N	N	N	Y	Y	N	N	Y	N
4c. Other trees of medium height that may be present include:																																			
Eucalyptus todtiana	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Nuytsia floribunda	N	Y	Y	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Allocasuarina fraseriana	N	N	N	Y	N	N	Y	N	N	Y	Y	Y	N	Y	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Callitris arenaria	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Callitris pyramidalis	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Xylomelum occidentale	N	N	N	N	N	Y	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
4d. Understorey typically contains high to very high diversity of shrub and herb species that often vary from patch to patch	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	N	N	N	Y	N	N	N	N	N	Y	Y	N	Y	N	N	N	N	N
4. Composition Contra-indicators																																			
Patches dominated by B. littoralis are NOT part of the Banksia woodlands	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Patches dominated by B. burdettii are NOT part of the Banksia woodlands	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
FCT20c- Eastern shrublands and woodlands corresponds with a separate EPBC listing	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
5. Condition Thresholds																																			
5a. Must be in 'Good' or better condition	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	N	N	N	N	Y	Y	N	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y
Overall Patch Size (ha)	0.7	4.9	2.3	76.1		32.7			159.6					45.4		32.2		37.9						8.2	9.2	4.5	18.3					4.2			
Assessment Point Vegetation Condition	G	G-D	G-VG	E	E-VG	VG	VG	G	VG-G	VG-G	VG	VG-G	G-D	G	E-VG	G	G	G-D	D	G-D	G-D	VG	VG	D	G	D	VG	VG-G	VG-G	VG	VG-G	G	VG	VG-G	VG
6. Minimum Patch Size Corresponding to Vegetation Condition Rating																																			
Pristine - no minimum	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Excellent - 0.5 ha	N	N	N	N	Y	N	N	N	N	N	N	N	N	N	Y	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Very Good - 1ha	N	N	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	N	N	Y	N	N	N	N	N	N	Y	Y	N	N	N	Y	Y	Y	Y	Y	N	Y	Y	Y
Good - 2 ha	N	Y	Y		NA			Y	Y	Y		Y	Y	Y		Y	Y	Y	N	Y	Y			N	Y	N		Y	Y		Y	Y		Y	

TEC Patch Assessment #	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35
Assessment Patch Reference	Contextual (Inferred)	Survey Area (Inferred)	Survey Area (Inferred)	WTPB-11	ANK36	ANK33	WTP-B21	ANK34	ANK22	ANK23	WTP-B15	WTP-B14	ANK27	ANK25	ANK26	ANK20	ANK21	ANK14	ANK15	ANK16	ANK17	ANK18	ANK19	Contextual (Inferred)	Contextual (Inferred)	Contextual (Inferred)	ANK08	ANK10	ANK12	WTP-B19	ANK93	ANK05	ANK06	WTP-B20	ANK07
Patch for Combined Assessment	10	11	12	13		14			15					16		17		18						19	20	21	22					23			
Does the patch meet the above criteria for TEC status? (Y/N)	NO	NO	YES	YES		YES			YES					YES		NO		NO						NO	NO	NO	NO					NO			
TEC Patch Number (Assigned)				BT03		BT04			BT05					BT06																					

TEC Patch Assessment #	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67
Key Diagnostic Characteristics / Assessment Patch Reference	**ANK11**	**ANK75a**	**ANK75b**	**ANK76**	**Survey Area (Inferred)**	**ANK100**	**WTP-B16**	**WTP-B18**	**ANK74**	**Survey Area (Inferred)**	**Contextual (Inferred)**	**ANK02**	**WLM42**	**WTP-B17**	**WLM43**	**Contextual (Inferred)**	**Contextual (Inferred)**	**Contextual (Inferred)**	**Contextual (Inferred)**	**Contextual (Inferred)**	**Contextual (Inferred)**	**ANK09**	**ANK28**	**ANK32**	**ANK35**	**ANK94**	**ANK95**	**ANK98**	**ANK99**	**WTP-B22**	**WTP-B23**	**WTP-B24**
1. Location/physical environment: occurs within following IBRA region/ subregions.																																
Swan Coastal Plain IBRA region	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
OR																																
Darling and Whicher scarps of the Jarrah Forest IBRA region	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
2. Soils and Landform																																
Bassendean Sands	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Spearwood Sands	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Quindalup Sands	N	N	N	N	N	N	N	N	N	N	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	N	N	N	N	N	N	N	N	N	N
Ridge Hill Shelf	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Whicher Scarp	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Dandaragan Plateau	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
3. Structure: The structure of the ecological community is a low woodland to forest with:																																
3a. A distinctive upper sclerophyllous layer of low trees typically dominated or co-dominated by one or more of the Banksia species identified below;and	N	N	N	Y	N	Y	Y	Y	Y	N	N	N	Y	Y	N	N	N	N	N	N	N	N	Y	N	N	N	N	N	N	Y	Y	Y
3b. Emergent trees of medium to tall (>10m) height Eucalyptus or Allocasuarina species may sometimes be present above the Banksia canopy;and	N	N	N	N	N	N	Y	Y	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	Y	Y	Y
3c. An often highly species-rich understorey that consists of layers of sclerophyllous shrubs and a herbaceous ground layer of cord rushes and sedges.	N	N	N	Y	N	Y	N	N	Y	N	Y	N	Y	N	Y	Y	Y	Y	N	N	N	N	N	N	N	N	N	N	N	N	Y	Y
4. Composition																																
4a.The patch must include at least one of the following diagnostic species:																																
Banksia attenuata	N	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	N	N	N	N	N	N	N	Y	Y
Banksia menziesii	N	N	N	Y	N	Y	Y	Y	Y	N	Y	N	Y	Y	N	N	N	Y	N	N	N	N	N	N	N	N	N	N	N	Y	Y	Y
Banksia prionotes	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Banksia ilicifolia	N	N	N	N	N	N	N	N	N	N	N	N	N	Y	N	N	N	N	N	N	N	Y	N	N	N	N	N	N	Y	Y	N
4b. If present, emergent tree layer often includes *Corymbia calophylla, Eucalyptus marginat* a or *E. gomphocephala.*	N	N	N	N	N	Y	Y	Y	Y	N	N	N	N	N	N	N	N	Y	N	Y	N	N	N	N	N	N	N	N	N	Y	Y	Y
4c. Other trees of medium height that may be present include:																																
Eucalyptus todtiana	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Nuytsia floribunda	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Allocasuarina fraseriana	N	N	N	N	N	N	N	N	Y	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	Y	Y	Y
Callitris arenaria	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Callitris pyramidalis	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Xylomelum occidentale	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
4d. Understorey typically contains high to very high diversity of shrub and herb species that often vary from patch to patch	N	N	N	Y	N	Y	N	N	Y	N	Y	Y	Y	N	N	Y	Y	Y	N	N	N	N	N	N	N	N	N	N	N	N	Y	Y
4. Composition Contra-indicators																																
Patches dominated by B. littoralis are NOT part of the Banksia woodlands	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Patches dominated by B. burdettii are NOT part of the Banksia woodlands	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
FCT20c- Eastern shrublands and woodlands corresponds with a separate EPBC listing	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
5. Condition Thresholds																																
5a. Must be in 'Good' or better condition	Y	Y	Y	Y	N	Y	Y	Y	Y	N	Y	Y	Y	Y	N	Y	Y	N	N	Y	Y	N	Y	N	N	N	N	Y	Y	Y	Y	Y
Overall Patch Size (ha)		17.2		5.6	0.4	3.1				0.2	1.6	3.9				0.5	5	1.6	1	0.3	0.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4.9		2.2
Assessment Point Vegetation Condition	VG-G	VG-G	G	E-VG	D	VG	E	VG	E-VG	D	G	G	G	G	D	G-D	VG-G	D	D	G-D	G-D	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	G	E	VG
6. Minimum Patch Size Corresponding to Vegetation Condition Rating																																
Pristine - no minimum		N		N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N	N	N
Excellent - 0.5 ha		N		Y	N	N	Y	N	Y	N	N	N	N	N	N	N	N	N	N	N	N	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N	Y	N
Very Good - 1ha		Y			N	Y		Y	Y	N	N	N	N	N	N	N	Y	N	N	N	N	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N		Y
Good - 2 ha					N					N	N	Y	Y	Y	N	N	Y	N	N	N	N	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Y		

TEC Patch Assessment #	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67
Assessment Patch Reference	**ANK11**	**ANK75a**	**ANK75b**	**ANK76**	**Survey Area (Inferred)**	**ANK100**	**WTP-B16**	**WTP-B18**	**ANK74**	**Survey Area (Inferred)**	**Contextual (Inferred)**	**ANK02**	**WLM42**	**WTP-B17**	**WLM43**	**Contextual (Inferred)**	**Contextual (Inferred)**	**Contextual (Inferred)**	**Contextual (Inferred)**	**Contextual (Inferred)**	**Contextual (Inferred)**	**ANK09**	**ANK28**	**ANK32**	**ANK35**	**ANK94**	**ANK95**	**ANK98**	**ANK99**	**WTP-B22**	**WTP-B23**	**WTP-B24**
Patch for Combined Assessment	**24**			**25**	**26**	**27**				**28**	**29**	**30**				**31**	**32**	**33**	**34**	**35**	**36**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**37**		**38**
Does the patch meet the above criteria for TEC status? (Y/N)	NO			YES	NO	YES				NO	NO	YES			NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	YES		YES
TEC Patch Number (Assigned)				**BT07**		**BT08**						**BT09**																		**BT02**		**BT01**

Appendix 15

Vascular Flora Species Recorded During Surveys (Biota 2022, 2023, and Current)

Family	Species	Status	Anketell Road Study	Westport Freight Road Study	2023 Surveys
Aizoaceae	**Carpobrotus edulis*	Introduced	✓	✓	✓
	Carpobrotus virescens				✓
	**Mesembryanthemum crystallinum*	Introduced	✓		
	Sarcozona praecox				✓
	**Tetragonia decumbens*	Introduced			✓
Amaranthaceae	*Ptilotus drummondii*		✓		
	Ptilotus polystachyus		✓	✓	
Anacardiaceae	**Schinus terebinthifolia*	Introduced	✓	✓	✓
Anarthriaceae	*Lyginia barbata*		✓	✓	
	Lyginia imberbis		✓	✓	
Apiaceae	*Daucus glochidiatus*		✓	✓	✓
	Eryngium pinnatifidum subsp. Palustre (G.J. Keighery)	Priority 3	✓		
	Eryngium pinnatifidum subsp. pinnatifidum		✓	✓	
	**Foeniculum vulgare*	Introduced	✓		✓
	Homalosciadium homalocarpum		✓	✓	
	Xanthosia huegelii		✓	✓	
Apocynaceae	*Alyxia buxifolia*				✓
	**Gomphocarpus fruticosus*	Introduced	✓	✓	✓
	**Nerium oleander*	Introduced			✓
Araceae	**Zantedeschia aethiopica*	Introduced	✓	✓	✓
Araliaceae	*Hydrocotyle callicarpa*				✓
	**Phoenix canariensis*	Introduced	✓		
	Trachymene pilosa		✓	✓	
	**Washingtonia filifera*	Introduced			✓
Asparagaceae	*Acanthocarpus preissii*		✓	✓	✓
	**Agave americana*	Introduced			✓

Family	Species	Status	Anketell Road Study	Westport Freight Road Study	2023 Surveys
Asparagaceae	**Asparagus asparagoides*	Introduced	✓	✓	✓
	Laxmannia ramosa subsp. ramosa		✓		
	Laxmannia squarrosa		✓	✓	
	Laxmannia sp.			✓	
	Lomandra caespitosa		✓	✓	
	Lomandra hermaphrodita		✓	✓	
	Lomandra maritima				✓
	Lomandra nigricans		✓		
	Lomandra preissii		✓	✓	
	Lomandra purpurea		✓		
	Lomandra sericea		✓		
	Lomandra suaveolens		✓	✓	
	Lomandra sp.			✓	
	**Ornithogalum arabicum*	Introduced		✓	
	Sowerbaea laxiflora		✓	✓	
	Thysanotus arenarius		✓	✓	
	Thysanotus manglesianus		✓	✓	
	Thysanotus multiflorus		✓	✓	
	Thysanotus patersonii		✓	✓	✓
	Thysanotus thyrsoideus		✓		
	Thysanotus sp. (manglesianus/patersonii)		✓	✓	✓
	Thysanotus sp.			✓	
Asphodelaceae	**Asphodelus fistulosus*	Introduced	✓		✓
	**Trachyandra divaricata*	Introduced		✓	✓
Asteraceae	**Arctotheca calendula*	Introduced	✓	✓	✓
	**Arctotheca calendula x populifolia*	Introduced	✓		✓

Family	Species	Status	Anketell Road Study	Westport Freight Road Study	2023 Surveys
Asteraceae	*Asteridea pulverulenta*		✓	✓	
	Brachyscome iberidifolia		✓		
	**Carduus pycnocephalus*	Introduced	✓	✓	✓
	**Centaurea melitensis*	Introduced	✓		✓
	**Chrysanthemoides monilifera subsp. monilifera*	Introduced			✓
	**Cirsium vulgare*	Introduced			✓
	**Conyza bonariensis*	Introduced	✓		
	Cotula australis			✓	
	**Cotula turbinata*	Introduced		✓	
	**Erigeron bonariensis*	Introduced		✓	✓
	**Erigeron sumatrensis*	Introduced	✓	✓	✓
	**Erigeron sp.*	Introduced		✓	✓
	Gnephosis angianthoides			✓	
	Hyalosperma cotula		✓		
	**Hypochaeris glabra*	Introduced	✓	✓	✓
	**Hypochaeris radicata*	Introduced	✓	✓	✓
	**Hypochaeris sp.*	Introduced	✓		
	**Lactuca serriola forma serriola*	Introduced	✓	✓	✓
	**Lactuca sp.*	Introduced			✓
	Lagenophora huegelii		✓	✓	
	**Leontodon rhagadioloides*	Introduced	✓	✓	✓
	**Leontodon sp.*	Introduced			✓
	Millotia tenuifolia (var. not determined)			✓	
	Millotia tenuifolia var. tenuifolia		✓	✓	
	Olearia axillaris		✓		✓
	Podolepis gracilis		✓	✓	

Family	Species	Status	Anketell Road Study	Westport Freight Road Study	2023 Surveys
	Podotheca angustifolia		✓	✓	
	Podotheca chrysantha		✓	✓	
	Podotheca gnaphalioides		✓	✓	
	Pseudognaphalium luteoalbum				✓
	Quinetia urvillei		✓	✓	
	**Reichardia tingitana*	Introduced			✓
	Rhodanthe citrina		✓		
	**Senecio condylus*	Introduced	✓	✓	✓
	**Senecio vulgaris*	Introduced	✓	✓	✓
	Senecio sp.			✓	
	Siloxerus humifusus		✓	✓	
	Siloxerus pygmaeus		✓		
	**Sonchus asper*	Introduced	✓	✓	✓
	**Sonchus hydrophilus*	Introduced	✓	✓	
	**Sonchus oleraceus*	Introduced	✓	✓	✓
	**Sonchus sp.*	Intorduced			✓
	**Symphyotrichum squamatum*	Introduced			✓
	**Taraxacum khatoonae*	Introduced		✓	✓
	**Taraxacum sp.*	Introduced			✓
	**Urospermum picroides*	Introduced	✓	✓	✓
	**Ursinia anthemoides subsp. anthemoides*	Introduced	✓	✓	
	Waitzia suaveolens var. suaveolens			✓	
	Xerochrysum sp.		✓		
	Asteraceae sp.			✓	✓
Boraginaceae	**Echium plantagineum*	Introduced	✓		✓
Brassicaceae	**Brassica tournefortii*	Introduced	✓	✓	✓

Family	Species	Status	Anketell Road Study	Westport Freight Road Study	2023 Surveys
Brassicaceae	**Cakile maritima*	Introduced			✓
	**Heliophila pusilla*	Introduced	✓	✓	
	**Raphanus raphanistrum*	Introduced	✓	✓	✓
Campanulaceae	*Isotoma sp.*		✓		
	Lobelia anceps		✓		
	Lobelia tenuior		✓		
	Lobelia sp.		✓		
	**Monopsis debilis var. depressa*	Introduced	✓		
	**Wahlenbergia capensis*	Introduced	✓	✓	
	Wahlenbergia gracilenta		✓		
	Wahlenbergia preissii		✓		
	Wahlenbergia sp.			✓	
	Campanulaceae sp.		✓		
Caprifoliaceae	**Centranthus macrosiphon*	Introduced			✓
	**Sixalix atropurpurea*	Introduced			✓
Caryophyllaceae	**Cerastium glomeratum*	Introduced	✓	✓	✓
	**Cerastium pumilum*	Introduced			✓
	**Minuartia mediterranea*	Introduced		✓	✓
	**Petrorhagia dubia*	Introduced	✓	✓	✓
	**Polycarpon tetraphyllum*	Introduced	✓	✓	✓
	**Sagina apetala*	Introduced	✓	✓	
	**Silene gallica var. gallica*	Introduced	✓	✓	
	**Silene nocturna*	Introduced		✓	
	**Stellaria media*	Introduced	✓		
	**Stellaria pallida*	Introduced		✓	✓
Casuarinaceae	*Allocasuarina fraseriana*		✓	✓	✓

Family	Species	Status	Anketell Road Study	Westport Freight Road Study	2023 Surveys
Casuarinaceae	*Allocasuarina huegeliana*				✓
	Allocasuarina humilis		✓	✓	✓
	Allocasuarina sp.		✓		
	**Casuarina glauca*	Introduced	✓		
	Casuarina obesa				✓
Celastraceae	*Stackhousia monogyna*		✓		
Centrolepidaceae	*Centrolepis drummondiana*		✓	✓	
	Centrolepis inconspicua		✓		
	Centrolepis polygyna		✓	✓	
Chenopodiaceae	*Atriplex cinerea*				✓
	Enchylaena tomentosa				✓
	Rhagodia baccata subsp. baccata		✓	✓	✓
	Threlkeldia diffusa				✓
Colchicaceae	*Burchardia congesta*		✓	✓	✓
Commelinaceae	*Cartonema philydroides*		✓		
Convolvulaceae	**Cuscuta sp.*	Introduced			✓
Crassulaceae	*Crassula colorata var. acuminata*		✓	✓	✓
	Crassula colorata var. colorata		✓	✓	✓
	Crassula decumbens var. decumbens		✓	✓	✓
	**Crassula glomerata*	Introduced	✓	✓	✓
	**Crassula thunbergiana subsp. thunbergiana*	Introduced			✓
	Crassula sp.		✓	✓	
Cupressaceae	*Callitris preissii*				✓
Cyperaceae	*Bolboschoenus caldwellii*				✓
	Chaetospora curvifolia		✓	✓	
	**Ficinia marginata*	Introduced			✓

Family	Species	Status	Anketell Road Study	Westport Freight Road Study	2023 Surveys
Cyperaceae	*Ficinia nodosa*				✓
	Gahnia trifida				✓
	Isolepis cernua var. cernua		✓	✓	
	Isolepis cernua var. setiformis		✓		
	Isolepis marginata		✓	✓	✓
	Lepidosperma apricola		✓	✓	
	Lepidosperma calcicola		✓	✓	✓
	Lepidosperma gladiatum				✓
	Lepidosperma longitudinale		✓		
	Lepidosperma sp.			✓	
	Mesomelaena pseudostygia		✓	✓	✓
	Mesomelaena stygia subsp. stygia		✓		
	Morelotia octandra		✓	✓	
	Schoenus andrewsii		✓		
	Schoenus clandestinus		✓	✓	
Dasypogonaceae	*Calectasia narragara*		✓		
	Dasypogon bromeliifolius		✓	✓	
Dennstaedtiaceae	*Pteridium esculentum subsp. esculentum*			✓	
Dilleniaceae	*Hibbertia aurea*				✓
	Hibbertia cuneiformis		✓		✓
	Hibbertia hibbertioides var. hibbertioides			✓	
	Hibbertia huegelii		✓		
	Hibbertia hypericoides subsp. hypericoides		✓	✓	✓
	Hibbertia leptotheca	Priority 3			✓
	Hibbertia racemosa		✓	✓	
	Hibbertia striata		✓		

Family	Species	Status	Anketell Road Study	Westport Freight Road Study	2023 Surveys
Dilleniaceae	*Hibbertia subvaginata*		✓	✓	
	Hibbertia vaginata		✓	✓	
Dioscoreaceae	*Dioscorea hastifolia*			✓	
Droseraceae	*Drosera barbigera*			✓	
	Drosera drummondii		✓		
	Drosera erythrorhiza		✓	✓	
	Drosera geniculata			✓	
	Drosera glanduligera		✓		
	Drosera macrantha			✓	
	Drosera menziesii		✓	✓	
	Drosera micrantha		✓	✓	
	Drosera pallida			✓	✓
	Drosera pedicellaris	Priority ✓		✓	
	Drosera porrecta		✓	✓	
	Drosera zonaria		✓	✓	
	Drosera sp.			✓	✓
Ericaceae	*Brachyloma preissii*		✓	✓	
	Conostephium pendulum		✓	✓	
	Conostephium preissii		✓	✓	
	Leucopogon parviflorus		✓		✓
	Styphelia conostephioides		✓	✓	
	Styphelia kingiana		✓	✓	
	Styphelia pendula			✓	
	Styphelia propinqua		✓	✓	
Euphorbiaceae	*Adriana quadripartita*				✓
	**Euphorbia paralias*	Introduced			✓

Family	Species	Status	Anketell Road Study	Westport Freight Road Study	2023 Surveys
Euphorbiaceae	**Euphorbia peplus*	Introduced	✓	✓	✓
	**Euphorbia terracina*	Introduced	✓	✓	✓
	**Ricinus communis*	Introduced	✓	✓	✓
Fabaceae	*Acacia alata var. alata*		✓	✓	✓
	Acacia applanata			✓	
	Acacia cochlearis		✓		✓
	Acacia cyclops		✓	✓	✓
	Acacia huegelii		✓	✓	
	**Acacia iteaphylla*	Introduced	✓	✓	
	Acacia lasiocarpa var. lasiocarpa		✓	✓	✓
	**Acacia longifolia subsp. longifolia*	Introduced		✓	✓
	Acacia microbotrya				✓
	Acacia pulchella var. glaberrima		✓	✓	✓
	Acacia pulchella var. pulchella		✓	✓	✓
	Acacia rostellifera		✓	✓	✓
	Acacia saligna		✓	✓	✓
	Acacia stenoptera		✓	✓	
	Acacia truncata				✓
	Acacia willdenowiana			✓	
	Acacia sp.			✓	
	Aotus procumbens		✓	✓	
	Bossiaea eriocarpa		✓	✓	
	Daviesia divaricata subsp. divaricata		✓	✓	
	Daviesia physodes		✓	✓	
	Daviesia triflora		✓	✓	
	Euchilopsis linearis		✓		

Family	Species	Status	Anketell Road Study	Westport Freight Road Study	2023 Surveys
Fabaceae	*Eutaxia virgata*		✓		
	Gastrolobium capitatum		✓	✓	
	Gompholobium aristatum		✓		
	Gompholobium tomentosum		✓	✓	✓
	Hardenbergia comptoniana		✓	✓	✓
	Hovea pungens		✓	✓	
	Hovea trisperma var. trisperma		✓	✓	
	Isotropis cuneifolia subsp. cuneifolia		✓	✓	
	Jacksonia furcellata		✓	✓	✓
	Jacksonia sternbergiana		✓	✓	
	Kennedia coccinea subsp. coccinea		✓		
	Kennedia prostrata		✓	✓	
	**Lotus angustissimus*	Introduced	✓		
	**Lotus subbiflorus*	Introduced	✓	✓	
	**Lupinus angustifolius*	Introduced	✓	✓	
	**Lupinus cosentinii*	Introduced	✓	✓	✓
	**Medicago polymorpha*	Introduced	✓	✓	✓
	**Melilotus indicus*	Introduced	✓		
	Mirbelia sp.				✓
	**Ornithopus compressus*	Introduced	✓	✓	
	**Ornithopus sativus*	Introduced		✓	
	Phyllota gracilis		✓	✓	
	Pultenaea reticulata		✓		
	**Retama raetam*	Introduced		✓	
	Templetonia retusa				✓
	**Trifolium angustifolium var. angustifolium*	Introduced	✓		✓

Family	Species	Status	Anketell Road Study	Westport Freight Road Study	2023 Surveys
Fabaceae	**Trifolium arvense var. arvense*	Introduced	✓	✓	✓
	**Trifolium campestre var. campestre*	Introduced	✓	✓	✓
	**Trifolium glomeratum*	Introduced			✓
	**Trifolium hirtum*	Introduced	✓		
	**Trifolium repens var. repens*	Introduced	✓		
	**Trifolium scabrum*	Introduced			✓
	**Trifolium tomentosum var. tomentosum*	Introduced			✓
	**Vicia sativa (subsp. not determined)*	Introduced			✓
	**Vicia sativa subsp. cordata*	Introduced			✓
	**Vicia sativa subsp. sativa*	Introduced		✓	✓
	Fabaceae sp.		✓		
Geraniaceae	**Erodium botrys*	Introduced	✓	✓	✓
	**Erodium cicutarium*	Introduced			✓
	**Erodium moschatum*	Introduced			✓
	**Geranium molle*	Introduced	✓	✓	✓
	Geranium solanderi			✓	
	**Pelargonium capitatum*	Introduced	✓	✓	✓
Goodeniaceae	*Dampiera linearis*		✓	✓	
	Lechenaultia floribunda		✓	✓	
	Scaevola anchusifolia				✓
	Scaevola canescens		✓	✓	✓
	Scaevola crassifolia				✓
	Scaevola thesioides subsp. thesioides				✓
Haemodoraceae	*Anigozanthos flavidus*		✓		
	Anigozanthos humilis subsp. humilis		✓		
	Anigozanthos manglesii subsp. manglesii		✓	✓	

Family	Species	Status	Anketell Road Study	Westport Freight Road Study	2023 Surveys
Haemodoraceae	*Anigozanthos sp.*		✓		
	Conostylis aculeata subsp. aculeata		✓	✓	✓
	Conostylis aculeata subsp. preissii		✓	✓	
	Conostylis candicans subsp. calcicola				✓
	Conostylis candicans subsp. candicans		✓	✓	✓
	Conostylis juncea		✓	✓	
	Conostylis setigera subsp. setigera		✓	✓	
	Haemodorum discolor		✓		
	Haemodorum paniculatum		✓	✓	
	Haemodorum spicatum		✓	✓	
	Haemodorum sp.			✓	
	Phlebocarya ciliata		✓	✓	
	Phlebocarya filifolia		✓		
Haloragaceae	*Glischrocaryon aureum*		✓		
	Gonocarpus pithyoides		✓	✓	
Hemerocallidaceae	*Arnocrinum preissii*		✓	✓	
	Caesia micrantha		✓	✓	✓
	Caesia occidentalis		✓		
	Caesia sp.			✓	
	Chamaescilla corymbosa var. corymbosa			✓	
	Corynotheca micrantha var. micrantha		✓	✓	
	Dianella revoluta var. divaricata			✓	
	Dianella revoluta var. revoluta		✓	✓	✓
	Tricoryne elatior		✓	✓	✓
	Tricoryne tenella		✓	✓	
Iridaceae	**Freesia alba x leichtlinii*	Introduced	✓	✓	

Family	Species	Status	Anketell Road Study	Westport Freight Road Study	2023 Surveys
Iridaceae	**Gladiolus angustus*	Introduced	✓		
	**Gladiolus caryophyllaceus*	Introduced	✓	✓	✓
	**Gladiolus sp.*	Introduced			✓
	**Ixia maculata*	Introduced	✓		
	**Moraea flaccida*	Introduced	✓	✓	✓
	**Moraea miniata*	Introduced		✓	
	Orthrosanthus laxus		✓		
	Patersonia occidentalis var. occidentalis		✓	✓	
	**Romulea rosea var. australis*	Introduced	✓	✓	✓
	**Watsonia meriana var. bulbillifera*	Introduced	✓		
	Iridaceae sp.			✓	
Juncaceae	**Juncus bufonius*	Introduced		✓	
	Juncus pallidus		✓		
	Luzula meridionalis		✓	✓	
Juncaginaceae	*Triglochin isingiana*			✓	✓
Lamiaceae	*Hemiandra pungens*		✓	✓	
	**Stachys arvensis*	Introduced	✓		
Lauraceae	*Cassytha flava*				✓
	Cassytha flava/pomiformis		✓		
	Cassytha glabella		✓	✓	✓
	Cassytha racemosa forma racemosa		✓	✓	✓
	Cassytha sp.			✓	
Loganiaceae	*Phyllangium divergens*		✓		
	Phyllangium paradoxum		✓	✓	
Loranthaceae	*Amyema linophylla subsp. linophylla*			✓	
	Amyema miquelii		✓		

Family	Species	Status	Anketell Road Study	Westport Freight Road Study	2023 Surveys
Loranthaceae	*Nuytsia floribunda*		✓	✓	
Lythraceae	**Lythrum hyssopifolia*	Introduced	✓		
	Lythrum sp.			✓	
Malvaceae	**Malva arborea*	Introduced			✓
	**Malva parviflora*	Introduced		✓	
	Thomasia cognata				✓
Meliaceae	*Melia azedarach*		✓		
Myrtaceae	*Agonis flexuosa var. flexuosa*		✓	✓	✓
	Astartea scoparia		✓	✓	
	Astartea sp.		✓		
	**Callistemon citrinus*	Introduced	✓	✓	
	Callistemon phoeniceus			✓	
	Calothamnus quadrifidus (subsp. not determined)				✓
	Calothamnus quadrifidus subsp. angustifolius		✓	✓	
	Calothamnus quadrifidus subsp. quadrifidus		✓	✓	✓
	Calothamnus quadrifidus subsp. teretifolius	Priority 4	✓	✓	
	Calothamnus rupestris		✓	✓	
	Calothamnus sp.				✓
	Calytrix angulata		✓	✓	
	Calytrix flavescens		✓	✓	
	Calytrix fraseri		✓	✓	
	Calytrix sp.			✓	
	Chamelaucium uncinatum				✓
	Corymbia calophylla		✓	✓	
	**Corymbia citriodora*	Planted		✓	
	Eremaea asterocarpa subsp. asterocarpa		✓		

Family	Species	Status	Anketell Road Study	Westport Freight Road Study	2023 Surveys
Myrtaceae	*Eremaea pauciflora*			✓	
	Eremaea pauciflora var. pauciflora		✓	✓	
	**Eucalyptus botryoides*	Introduced		✓	
	**Eucalyptus camaldulensis*	Planted		✓	✓
	Eucalyptus decipiens		✓	✓	✓
	**Eucalyptus erythrocorys*	Planted	✓		
	Eucalyptus foecunda subsp. foecunda	Priority 4			✓
	Eucalyptus gomphocephala		✓	✓	✓
	**Eucalyptus grandis*	Introduced	✓		
	Eucalyptus marginata subsp. marginata		✓	✓	
	Eucalyptus rudis subsp. rudis		✓	✓	
	Eucalyptus todtiana		✓	✓	
	**Eucalyptus utilis*	Introduced	✓	✓	✓
	**Gaudium laevigatum*	Introduced	✓	✓	✓
	Hypocalymma angustifolium subsp. Swan Coastal Plain (G.J. Keighery ✓6777)		✓	✓	
	Hypocalymma robustum		✓	✓	
	Kunzea glabrescens		✓	✓	
	Melaleuca huegelii subsp. huegelii		✓	✓	✓
	Melaleuca lanceolata		✓	✓	✓
	Melaleuca preissiana		✓	✓	
	Melaleuca rhaphiophylla			✓	
	Melaleuca seriata		✓	✓	
	Melaleuca systena		✓	✓	✓
	Melaleuca teretifolia		✓		
	Melaleuca thymoides		✓	✓	

Family	Species	Status	Anketell Road Study	Westport Freight Road Study	2023 Surveys
Myrtaceae	*Pericalymma ellipticum var. floridum*		✓		
	Scholtzia involucrata		✓	✓	
	Verticordia densiflora		✓		
Oleaceae	**Olea europaea subsp. europaea*	Introduced	✓	✓	✓
Onagraceae	**Oenothera drummondii subsp. drummondii*	Introduced			✓
	**Oenothera stricta subsp. stricta*	Introduced	✓		
Orchidaceae	*Caladenia ? arenicola*		✓		
	Caladenia arenicola/georgei		✓		
	Caladenia discoidea		✓	✓	
	Caladenia flava subsp. flava		✓	✓	✓
	Caladenia georgei		✓		
	Caladenia latifolia		✓	✓	✓
	Caladenia longicauda subsp. calcigena		✓	✓	
	Caladenia longicauda subsp. clivicola		✓		
	Caladenia longicauda subsp. longicauda		✓	✓	
	Caladenia longicauda/splendens		✓		
	Caladenia paludosa		✓		
	Caladenia paludosa/ferruginea		✓		
	Caladenia reptans subsp. reptans			✓	
	Caladenia serotina		✓		
	Caladenia sp.			✓	✓
	Caladenia speciosa	Priority 4	✓		
	Corybas recurvus			✓	
	Corybas sp.		✓		✓
	Cyrtostylis huegelii		✓		
	**Disa bracteata*	Introduced	✓	✓	

Family	Species	Status	Anketell Road Study	Westport Freight Road Study	2023 Surveys
Orchidaceae	*Diuris corymbosa*		✓	✓	
	Diuris laxiflora			✓	
	Diuris longifolia			✓	
	Diuris magnifica		✓	✓	
	Elythranthera brunonis		✓	✓	
	Eriochilus dilatatus		✓		
	Leporella fimbriata			✓	
	Microtis media (subsp. not determined)				✓
	Microtis media subsp. media		✓	✓	
	Microtis sp.			✓	
	Paracaleana sp.		✓		
	Pterostylis ectypha		✓	✓	✓
	Pterostylis pyramidalis			✓	
	Pterostylis recurva		✓		
	Pterostylis vittata		✓	✓	
	Pterostylis sp.			✓	✓
	Pyrorchis nigricans		✓	✓	
	Thelymitra graminea		✓		
	Thelymitra macrophylla		✓		
	Thelymitra vulgaris/frenchii		✓		
	Thelymitra sp.		✓		
	Orchidaceae sp.			✓	
Orobanchaceae	**Orobanche minor*	Introduced	✓		✓
Oxalidaceae	**Oxalis corniculata*	Introduced	✓	✓	✓
	**Oxalis pes-caprae*	Introduced	✓	✓	✓
	**Oxalis purpurea*	Introduced	✓	✓	

Family	Species	Status	Anketell Road Study	Westport Freight Road Study	2023 Surveys
Oxalidaceae	*Oxalis sp.*			✓	
Papaveraceae	**Fumaria bastardii*	Introduced		✓	
	**Fumaria capreolata*	Introduced	✓	✓	✓
	**Fumaria muralis*	Introduced	✓	✓	
Phyllanthaceae	*Lysiandra calycina*		✓	✓	✓
	Poranthera microphylla		✓	✓	✓
	Poranthera moorokatta	Priority 2	✓	✓	
Pinaceae	**Pinus pinaster*	Introduced			✓
Plantaginaceae	**Callitriche stagnalis*	Introduced			✓
Poaceae	**Aira caryophyllea*	Introduced	✓		
	**Aira cupaniana*	Introduced	✓	✓	
	**Aira praecox*	Introduced	✓	✓	
	**Aira sp.*	Introduced		✓	
	**Ammophila arenaria*	Introduced			✓
	**Ammophila arenaria subsp. arenaria*	Introduced			✓
	Amphipogon turbinatus		✓	✓	
	**Anthoxanthum odoratum*	Introduced		✓	
	**Arundo donax*	Introduced			✓
	Austrostipa campylachne		✓		
	Austrostipa compressa		✓	✓	
	Austrostipa elegantissima		✓	✓	✓
	Austrostipa flavescens				✓
	Austrostipa mollis		✓		
	Austrostipa semibarbata		✓		
	Austrostipa sp.		✓		✓
	**Avellinia festucoides*	Introduced		✓	

Family	Species	Status	Anketell Road Study	Westport Freight Road Study	2023 Surveys
Poaceae	**Avena barbata*	Introduced	✓	✓	✓
	**Avena sativa*	Introduced		✓	
	**Brachypodium distachyon*	Introduced	✓		✓
	**Briza maxima*	Introduced	✓	✓	✓
	**Briza minor*	Introduced	✓	✓	✓
	**Bromus diandrus*	Introduced	✓	✓	✓
	**Bromus hordeaceus*	Introduced	✓		✓
	**Bromus madritensis*	Introduced		✓	
	Bromus sp.			✓	
	**Cenchrus clandestinus*	Introduced		✓	
	**Cenchrus setaceus*	Introduced	✓	✓	✓
	**Cortaderia selloana*	Introduced	✓		✓
	**Cynodon dactylon*	Introduced	✓	✓	✓
	**Ehrharta calycina*	Introduced	✓	✓	✓
	**Ehrharta longiflora*	Introduced	✓	✓	✓
	**Eragrostis curvula*	Introduced	✓	✓	✓
	**Holcus lanatus*	Introduced	✓		
	**Hordeum leporinum*	Introduced			✓
	**Hyparrhenia hirta*	Introduced			✓
	Lachnagrostis sp.		✓		
	**Lagurus ovatus*	Introduced	✓	✓	✓
	**Lolium multiflorum*	Introduced			✓
	**Lolium perenne*	Introduced		✓	✓
	**Lolium perenne x rigidum*	Introduced	✓	✓	✓
	**Lolium rigidum*	Introduced	✓	✓	
	**Lolium sp.*	Introduced		✓	✓

Family	Species	Status	Anketell Road Study	Westport Freight Road Study	2023 Surveys
Poaceae	*Microlaena stipoides*		✓		
	Neurachne alopecuroidea		✓	✓	
	**Paspalum dilatatum*	Introduced		✓	
	**Pentameris airoides subsp. airoides*	Introduced		✓	
	**Poa annua*	Introduced	✓		✓
	Poa drummondiana		✓		
	**Rostraria cristata*	Introduced	✓	✓	✓
	Rytidosperma acerosum		✓		
	Rytidosperma occidentale		✓	✓	
	Spinifex longifolius				✓
	Sporobolus virginicus		✓		✓
	**Stenotaphrum secundatum*	Introduced			✓
	**Triticum aestivum*	Introduced		✓	
	**Vulpia bromoides*	Introduced	✓	✓	✓
	**Vulpia myuros forma megalura*	Introduced	✓	✓	
	**Vulpia myuros forma myuros*	Introduced	✓	✓	✓
	**Vulpia sp.*	Introduced		✓	
	Poaceae sp.			✓	
Polygalaceae	*Comesperma calymega*		✓		
Polygonaceae	**Polygonum sp.*	Introduced		✓	
	**Rumex acetosella*	Introduced	✓		
	**Rumex crispus*	Introduced		✓	
Primulaceae	**Lysimachia arvensis*	Introduced	✓	✓	✓
	**Lysimachia linum-stellatum*	Introduced			✓
Proteaceae	*Adenanthos cygnorum subsp. cygnorum*		✓	✓	
	Adenanthos obovatus		✓	✓	

Family	Species	Status	Anketell Road Study	Westport Freight Road Study	2023 Surveys
Proteaceae	*Banksia attenuata*		✓	✓	✓
	Banksia dallanneyi subsp. dallanneyi var. dallanneyi		✓	✓	✓
	Banksia grandis		✓	✓	
	Banksia ilicifolia		✓	✓	
	Banksia littoralis		✓		
	Banksia menziesii		✓	✓	
	Banksia sessilis var. cygnorum			✓	✓
	Banksia sessilis var. sessilis				✓
	Grevillea crithmifolia		✓		
	Grevillea obtusifolia				✓
	Grevillea preissii		✓		✓
	Grevillea vestita subsp. vestita		✓	✓	✓
	Hakea lissocarpha		✓	✓	
	Hakea prostrata		✓		
	Hakea trifurcata				✓
	Persoonia saccata		✓	✓	
	Petrophile linearis		✓	✓	
	Stirlingia latifolia		✓	✓	
	Synaphea spinulosa subsp. spinulosa		✓	✓	
	Xylomelum occidentale		✓	✓	
Ranunculaceae	*Clematis linearifolia*		✓	✓	✓
	Clematis pubescens		✓	✓	
Restionaceae	*Alexgeorgea nitens*			✓	
	Desmocladus asper		✓	✓	✓
	Desmocladus fasciculatus		✓		✓
	Desmocladus flexuosus		✓	✓	✓

Family	Species	Status	Anketell Road Study	Westport Freight Road Study	2023 Surveys
Restionaceae	*Dielsia stenostachya*		✓	✓	
	Hypolaena exsulca		✓	✓	
	Leptocarpus roycei		✓		
	Loxocarya cinerea		✓	✓	
Rhamnaceae	**Rhamnus alaternus*	Introduced	✓		✓
	Spyridium globulosum		✓	✓	✓
	Trymalium ledifolium var. ledifolium				✓
Rosaceae	**Rubus ulmifolius*	Introduced	✓		
Rubiaceae	**Galium divaricatum*	Introduced	✓	✓	
	**Galium murale*	Introduced	✓	✓	✓
	Opercularia vaginata		✓		✓
Rutaceae	*Boronia crenulata subsp. viminea*		✓		
	Diplolaena dampieri				✓
	Philotheca spicata		✓	✓	✓
Santalaceae	*Exocarpos sparteus*			✓	
	Santalum acuminatum				✓
Scrophulariaceae	**Dischisma arenarium*	Introduced		✓	
	Eremophila glabra subsp. albicans				✓
	Eremophila glabra subsp. glabra				✓
	Myoporum insulare				✓
	**Phyllopodium cordatum*	Introduced		✓	
	**Verbascum virgatum*	Introduced			✓
Solanaceae	**Nicotiana glauca*	Introduced			✓
	**Solanum nigrum*	Introduced	✓	✓	✓
	Solanum simile				✓
Stylidiaceae	*Levenhookia stipitata*		✓	✓	

Family	Species	Status	Anketell Road Study	Westport Freight Road Study	2023 Surveys
Stylidiaceae	*Stylidium araeophyllum*		✓	✓	
	Stylidium brunonianum		✓	✓	
	Stylidium carnosum		✓		
	Stylidium neurophyllum		✓	✓	
	Stylidium piliferum		✓	✓	
	Stylidium repens		✓	✓	
	Stylidium schoenoides		✓	✓	
	Stylidium sp.		✓	✓	
Tamaricaceae	**Tamarix aphylla*	Introduced			✓
Thymelaeaceae	*Pimelea calcicola*	Priority 3			✓
	Pimelea rosea subsp. rosea		✓	✓	✓
Typhaceae	*Typha domingensis*			✓	
	Typha orientalis				✓
Urticaceae	*Parietaria debilis*				✓
Violaceae	*Hybanthus calycinus*		✓	✓	✓
Xanthorrhoeaceae	*Xanthorrhoea brunonis subsp. brunonis*		✓	✓	✓
	Xanthorrhoea preissii		✓	✓	✓
Zamiaceae	*Macrozamia riedlei*		✓	✓	✓
	Macrozamia sp.			✓	

Appendix 16

Technical Memo: Priority Flora Species Contextual/Additional Searches

Biota Environmental Sciences

Biota (n): The living creatures of an area; the flora and fauna together

16 October 2024

John Morrell
Environment and Heritage
Planning and Technical Services Directorate
Main Roads WA
Via email

Anketell Road Upgrade Proposal - Technical Memo: Priority Flora Species Contextual/ Additional Searches

Main Roads WA (Main Roads) commissioned Biota Environmental Sciences (Biota) to conduct additional Priority flora targeted searches and provide information further to the Anketell Road Upgrade Consolidated Biological Report (Biota 2024a) regarding the local populations of three Priority flora species, together with potential mitigation measures and recommendations of further work. Here, we provide that information specific to the comment below:

- "Risks to the priority flora mentioned (*Hibbertia leptotheca, Pimelea calcicola*, and *Eucalyptus foecunda* subsp. *foecunda*), and advice on how indirect impacts to priority flora should be managed with recommendations on any additional work required."

1. Scope and Objectives

The scope was to undertake a targeted spring survey for the three Priority Flora species in order to provide more certainty around individual numbers and populations within the locality, but to also provide some additional contextual information regarding the potential local distribution of each species.

This will resolve/further inform the assessment of the likelihood of this taxon occurring within both the referral area, but also in other local areas outside of the referral envelope.

The specific objectives of this survey were to:

- Undertake systematic traverses within identified suitable habitat (see Section 2) to search for *Hibbertia leptotheca, Pimelea calcicola*, and *Eucalyptus foecunda* subsp. *foecunda* individuals, and where (if) additional plants were observed, to record the GPS location of each individual allowing an inventory of the number of plants/population size.
- Prepare a letter-style report that summarises the results, includes a discussion of risks to the priority flora, advice on the mitigation of indirect impacts, recommendations for any additional work, and spatial mapping of occurrences of *the Priority flora* within both the referral area and contextual areas.

2. Review of Available Information

Multiple desktop reviews and reports (Biota 2021a, 2021b, 2022, 2023a, 2023b, 2024a, 2024b, 2024c, 2024d) identified numerous significant taxa and their prospective habitats from the locality that had either been previously recorded from the project area or were considered to have some potential to occur, including the three species in question.

2.1. Records from the Referral Area

Three Priority flora species that were recorded from initial surveys (*Hibbertia leptotheca, Pimelea calcicola*, and *Eucalyptus foecunda* subsp. *foecunda*) were the focus of this scope. Prior to this additional targeted survey, the following records from within the referral area were known for each (Biota 2024a):

- *Hibbertia leptotheca* – Five (5) records from within three quadrats (WLM09, WLM14, WLM38) situated in one remnant patch of vegetation.
- *Pimelea calcicola* – 15 individuals from nine locations located across two patches of remnant vegetation (one inside the referral boundary and one outside).
- *Eucalyptus foecunda* subsp. *foecunda* – 149 individuals from 38 locations (all located within the one patch of remnant vegetation). Also recorded as percentage cover at quadrats ROC08 (31%) and ROC22 (28%).

2.2. Known Habitat of the Priority Flora

The suitable habitats known for each species are:

- *Hibbertia leptotheca* – sand over tamala limestone outcropping/ridges in coastal heaths and thickets, usually dominated by species of *Melaleuca* and *Acacia* (Thiele 2019); currently recorded from 39 coastal and near-coastal locations extending from west of Cataby in the north to Lake Preston in the south (WA Herbarium 2024).
- *Pimelea calcicola* – typical habitat for this species is coastal limestone ridges and sand over limestone (WA Herbarium 2024); currently recorded from 31 locations between Guilderton and Yalgorup National Park.
- *Eucalyptus foecunda* subsp. *foecunda* – associated with coastal sand overlying limestone (WA Herbarium 2024); currently recorded between Jurien Bay and Lake Preston from 75 locations and from within several reserves including Leda Nature Reserve, Bold Park, Neerabup National Park, Yalgorup National Park, and Yanchep National Park.

2.3 Current Known State Distribution

- *Hibbertia leptotheca* – currently known from 39 coastal and near-coastal locations extending from Seabird in the north to Lake Preston in the south.
- *Pimelea calcicola* – currently known from 31 vouchered records between Guilderton in the north to Yalgorup National Park in the south.
- *Eucalyptus foecunda* subsp. *foecunda* – currently vouchered from 75 locations between Jurien Bay and Lake Preston.

3. Approach to Additional Targeted Flora Surveys

A follow-up targeted search of the broader locality, and within the preferred habitat of conservation significant flora species, provides benefits to help with the environmental impact assessment process of the project. The environmental impact of the project on conservation significant flora is greatly reduced when more individuals or populations are recorded outside the proposed disturbance footprint.

Principal Botanist Scott Werner undertook targeted searches over a two-day period in spring 2024, during the optimum flowering period of all three target species. The botanist covered all outstanding search areas within the referral area, focusing on the preferred habitats of the species of conservation significance that have already been recorded on site or are considered likely to occur.

Searches were also conducted within the broader locality (see Attachments - Figure 1) both north and south of the referral area, on coastal areas of exposed Tamala limestone and outcropping that intersected with accessible land tenure (Bush Forever Sites and DBCA managed lands), in order to locate any contextual populations.

The approach and methodology of the targeted searches was in accordance with all relevant legislation and Commonwealth and State policy.

4. Results

A total of 1,227 hectares of contextual land outside of the survey area was assessed for habitat suitability and then searched if the vegetation and geology was considered prospective for the occurrence of either of the three species.

Vegetation within the referral area was also re-searched in order to confirm previous records and to determine if further individuals occurred.

5.1. Records from the Referral Area

The following additional records were made:

Hibbertia leptotheca (Attachment Figure 2)

- 59 individuals from 12 locations northwest of the Rockingham Rd – Anketell Rd intersection within the referral area.
- 16 individuals from 9 locations southwest of the Rockingham Rd – Anketell Rd intersection within the referral area.
- 7 individuals from outside of the referral area but within the contextual area, northwest of the Rockingham Rd – Link Rd intersection.

Pimelea calcicola (Attachment Figure 3 & 4)

- An additional four (4) individuals were recorded from remnant vegetation northwest of the Rockingham Rd-Thomas Rd intersection within the contextual area.
- A further 24 individuals from 8 contextual locations within Bush Forever Site 395 (Paganoni Swamp and Adjacent Bushland, Singleton).

Eucalyptus foecunda* subsp. *foecunda (Attachment Figure 5)

- Two (2) additional individual recorded from within the referral area amongst all other initial records of this species.

5.2. Suitable Habitat for Further Records

With regards to potential areas where the three Priority flora species would likely occur and populate, several vegetation units mapped for the Anketell Road Upgrade referral area and contextual area (Biota 2024a) are considered to be representative of preferred habitats of the three species, being:

- M2: *Melaleuca lanceolata* low woodland*;*
- M4: Mixed *Melaleuca (Melaleuca systena)* over *Xanthorrhoea* with mixed Fabaceae/Proteaceae/ Rhamnaceae and *Hibbertia*.
- M6: *Melaleuca systena* and *Acacia saligna* over *Templetonia retusa, Spyridium globulosum* and *Acacia lasiocarpa*;
- E7: *Eucalyptus foecunda* over *Spyridium globulosum* and *Acacia rostellifera* with *Hibbertia*.

Based on the spatial mapping of the above vegetation units in *Anketell Road Upgrade Consolidated Biological Report* (Biota 2024a), and the current point locations recorded for the three species, a total of 5.33 ha of habitat specific to the three Priority flora species is present within the referral area (see Attachment Figure 6), with a further 2.64 ha situated within the contextual area. Any vegetation patches in a Degraded or Completely Degraded condition are not considered suitable and have not been included.

5. Mitigation of Indirect Impacts

Indirect impacts on the Priority flora within the referral area may include, but are not necessarily limited to:

- fragmentation of populations, and isolation of populations/occurrences
- impacts on habitat that supports the flora and vegetation
- impacts on other species with important ecological functions
- introduction or promotion of weeds and/or disease, and temporary impacts such as fire
- altered hydrology, including increase or decrease of groundwater level and alteration of surface water flow.

Several measures can be implemented to reduce the potential indirect impacts on the flora species, both before and during the project and can include, but should not be limited to:

Weed Hygiene/Management

The spread of invasive species may amplify competition and predation, lead to changes in fire regimes, or could degrade habitat via compositional changes in communities or soil compaction and degradation that impact on the persistence of threatened species in the region.

- strict weed hygiene measures for whole of site.
- implement measures to prevent the spread or establishment of new or additional weed species because of construction.
- ongoing weed management to manage potential edge-effects and restrict any further modification / degradation of the general vegetation.
- ensure that weed control measures are implemented to ensure there is no significant impact of weeds on flora and vegetation.
- control existing infestations or future outbreaks of WONS and Declared Pests.
- prevent the introduction and spread of weeds by plant and equipment.
- Imported fill should be weed-free / Dieback Free prior to being utilised.

Protection/Restriction

- fencing of sensitive vegetation areas so that they are protected.
- creation of a restricted development area to protect significant plants and/or vegetation communities.
- clear marking of restricted areas and individual/s populations that lie adjacent to proposed infrastructure
- restrict access to larger areas where priority flora occurs to reduce chance of invasive weed introduction.
- retain as many large remnant patches of vegetation as possible to reduce edge effects.

Management Plans & Monitoring

- preparation and implementation of a Vegetation Management Plan to manage remaining vegetation
- preparation and implementation of a Weed Management Plan
- preparation of a Significant Flora Management Plan to protect species or populations.

Awareness and Training

- conduct environmental inductions that discuss:
  - significant weeds (Declared Pests, WoNS and priority weeds) recorded within the project.
  - high risk areas (including mapping of known locations of significant weeds).

- clean-on-entry requirements and wash-down/brush down procedures.

- ongoing training and awareness regarding significant flora and weed management delivered to all site personnel including employees, contractors and visitors.

Infrastructure Planning

- avoid placement of infrastructure directly adjacent to populations and/or individuals of significant flora.

6. Recommendations for Additional Work

Two key recommendations for further work are presented regarding the significant flora identified to occur within the referral area:

1. Identify the location and numbers of WONS and Declared Pests prior to project commencement and subsequently conduct quarterly weed surveillance monitoring across the project. The objective being to determine if weed controls have been effective, if weeds are being introduced to the area because of the project, and if additional adaptive measures are required.
2. Establishment of a significant flora and weed monitoring program, focusing on important receptors such as the Priority flora species recorded, that includes:
    - baseline monitoring data for reference sites to allow determination of any vegetation decline, changes in vegetation condition not due to seasonal variation, and increase in weed composition that may be attributable to the project
    - monitoring differential change in species richness, foliage cover, plant health (of Priority flora species and keystone species) and vegetation condition. Surveys undertaken biannually (Autumn & Spring) to quantify the extent of normal seasonal variation. Assessment methods to include ground-based survey and multispectral analysis (NDRE/NDVI). Regime of monitoring to be managed adaptively dependant on quantitative assessment of results.

Please contact us should you wish to discuss the above or any further information is required.

Biota Environmental Sciences Pty Ltd

Scott Werner
Principal Biologist

Attachments:
Figure 1: Priority Flora Contextual Search Areas
Figure 2: *Hibbertia leptotheca* Records
Figure 3: *Pimelea calcicola* Records (Referral Area)
Figure 4: *Pimelea calcicola* Records (Contextual)
Figure 5: *Eucalyptus foecunda* subsp. *foecunda* Records
Figure 6: Priority Flora Suitable Habitat

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Appendix 17

Introduced Flora Locations

Family	Species	Status	Site	Easting	Northing	Number of Individuals	Cover (%)
Aizoaceae	*Carpobrotus edulis	Introduced	ANK22	389897	6435596	0	0.1
	*Carpobrotus edulis	Introduced	WTP06	388344	6435531	0	0.1
	*Carpobrotus edulis	Introduced	WTP18	392184	6435666	0	0.1
	*Carpobrotus edulis	Introduced	ANK12	386873	6435630	0	0.5
	*Carpobrotus edulis	Introduced	ANK99	385770	6435916	0	0.5
	*Carpobrotus edulis	Introduced	WTP16	390766	6435735	0	0.5
	*Carpobrotus edulis	Introduced	WTP02	386878	6435753	0	1
	*Carpobrotus edulis	Introduced	WTP10	389174	6435512	0	1
	*Carpobrotus edulis	Introduced	WTP13	389876	6435704	0	1
	*Carpobrotus edulis	Introduced	ANK10	386714	6435658	0	5
	*Carpobrotus edulis	Introduced	ANK93	386484	6435758	0	11
	*Carpobrotus edulis	Introduced	ANK21	389623	6435488	0	16
	*Carpobrotus edulis	Introduced	WTP01	386847	6435818	2	0.1
	*Carpobrotus edulis	Introduced	ROC10R	385673	6434795	0	0.1
	*Carpobrotus edulis	Introduced	ROC18	385645	6434075	0	0.1
	*Carpobrotus edulis	Introduced	WLMR43	385496	6435971	0	1
	*Carpobrotus edulis	Introduced	ROC10	385673	6434795	0	4
	*Carpobrotus edulis	Introduced	ROC23R	385650	6434903	0	7
	*Carpobrotus edulis	Introduced	ROC23	385650	6434903	0	11
Anacardiaceae	*Schinus terebinthifolia	Introduced	ANK01	385516	6435622	0	0.1
	*Schinus terebinthifolia	Introduced	WTP43	385614	6435579	0	0.1
	*Schinus terebinthifolia	Introduced	ANK99	385770	6435916	0	19
	*Schinus terebinthifolia	Introduced	Opportunistic	385769	6435902	1	0
	*Schinus terebinthifolia	Introduced	Opportunistic	385760	6435916	1	0
	*Schinus terebinthifolia	Introduced	Opportunistic	385776	6435921	1	0
	*Schinus terebinthifolia	Introduced	Opportunistic	392674	6435743	1	0
	*Schinus terebinthifolia	Introduced	ROC04	385630	6436000	0	0.1
	*Schinus terebinthifolia	Introduced	ROC08	385527	6435187	0	0.1
	*Schinus terebinthifolia	Introduced	ROC08R	385527	6435187	0	0.1
	*Schinus terebinthifolia	Introduced	ROC16	385662	6434137	0	0.1

Family	Species	Status	Site	Easting	Northing	Number of Individuals	Cover (%)
	*Schinus terebinthifolia	Introduced	ROC16R	385662	6434137	0	0.1
	*Schinus terebinthifolia	Introduced	ROC32	385541	6434789	0	0.1
	*Schinus terebinthifolia	Introduced	ROC32R	385541	6434789	0	0.1
	*Schinus terebinthifolia	Introduced	ROCR38	385076	6436110	0	0.1
	*Schinus terebinthifolia	Introduced	ROCR38R	385076	6436110	0	0.1
	*Schinus terebinthifolia	Introduced	WLM13R	385092	6435870	0	0.1
	*Schinus terebinthifolia	Introduced	WLM14	385340	6435839	0	0.1
	*Schinus terebinthifolia	Introduced	WLM30	385236	6435739	0	0.1
	*Schinus terebinthifolia	Introduced	ROC04R	385630	6436000	0	0.5
	*Schinus terebinthifolia	Introduced	ROC01	385277	6436437	0	5
	*Schinus terebinthifolia	Introduced	WLM18	385232	6435808	0	5
	*Schinus terebinthifolia	Introduced	WLMR43	385496	6435971	0	5
	*Schinus terebinthifolia	Introduced	ROC01R	385277	6436437	0	8
	*Schinus terebinthifolia	Introduced	ROC24R	385494	6435134	0	10
	*Schinus terebinthifolia	Introduced	Opportunistic	385647	6435106	1	0
	*Schinus terebinthifolia	Introduced	Opportunistic	385393	6435933	1	0
	*Schinus terebinthifolia	Introduced	Opportunistic	385244	6436170	1	0
	*Schinus terebinthifolia	Introduced	Opportunistic	385609	6435019	1	0
	*Schinus terebinthifolia	Introduced	Opportunistic	385532	6435352	1	0
	*Schinus terebinthifolia	Introduced	Opportunistic	385528	6435376	1	0
	*Schinus terebinthifolia	Introduced	Opportunistic	385523	6435094	1	0
	*Schinus terebinthifolia	Introduced	Opportunistic	385642	6435079	1	0
	*Schinus terebinthifolia	Introduced	Opportunistic	385489	6435490	1	0
Apiaceae	*Foeniculum vulgare	Introduced	WLMR43	385496	6435971	0	0.1
Apocynaceae	*Gomphocarpus fruticosus	Introduced (Declared Pest)	WTP41	387749	6435529	0	0.1
	*Gomphocarpus fruticosus	Introduced (Declared Pest)	WTP40	387657	6435560	3	1
	*Gomphocarpus fruticosus	Introduced (Declared Pest)	ANK15	387745	6435458	7	0.1
	*Gomphocarpus fruticosus	Introduced (Declared Pest)	Opportunistic	387640	6435560	8	0
	*Gomphocarpus fruticosus	Introduced (Declared Pest)	ROC08	385527	6435187	0	0.1
	*Gomphocarpus fruticosus	Introduced (Declared Pest)	ROC08R	385527	6435187	0	0.1

Family	Species	Status	Site	Easting	Northing	Number of Individuals	Cover (%)
	*Gomphocarpus fruticosus	Introduced (Declared Pest)	ROC13	385499	6434517	0	0.1
	*Gomphocarpus fruticosus	Introduced (Declared Pest)	ROC15	385759	6434387	0	0.1
	*Gomphocarpus fruticosus	Introduced (Declared Pest)	ROC15R	385759	6434387	0	0.1
	*Gomphocarpus fruticosus	Introduced (Declared Pest)	ROC18	385645	6434075	0	0.1
	*Gomphocarpus fruticosus	Introduced (Declared Pest)	ROC18R	385645	6434075	0	0.1
	*Gomphocarpus fruticosus	Introduced (Declared Pest)	ROC22	385482	6435250	0	0.1
	*Gomphocarpus fruticosus	Introduced (Declared Pest)	ROC22R	385482	6435250	0	0.1
	*Gomphocarpus fruticosus	Introduced (Declared Pest)	ROC23	385650	6434903	0	0.1
	*Gomphocarpus fruticosus	Introduced (Declared Pest)	ROC23R	385650	6434903	0	0.1
	*Gomphocarpus fruticosus	Introduced (Declared Pest)	ROC24	385494	6435134	0	0.1
	*Gomphocarpus fruticosus	Introduced (Declared Pest)	ROC24R	385494	6435134	0	0.1
	*Gomphocarpus fruticosus	Introduced (Declared Pest)	ROC25	385281	6436212	0	0.1
	*Gomphocarpus fruticosus	Introduced (Declared Pest)	ROC27	385602	6434872	0	0.1
	*Gomphocarpus fruticosus	Introduced (Declared Pest)	ROC27R	385602	6434872	0	0.1
	*Gomphocarpus fruticosus	Introduced (Declared Pest)	ROC33	385446	6435307	0	0.1
	*Gomphocarpus fruticosus	Introduced (Declared Pest)	ROC33R	385446	6435307	0	0.1
	*Gomphocarpus fruticosus	Introduced (Declared Pest)	WLM41	385280	6435981	0	0.1
	*Gomphocarpus fruticosus	Introduced (Declared Pest)	Opportunistic	385690	6434633	1	0
	*Gomphocarpus fruticosus	Introduced (Declared Pest)	Opportunistic	385556	6435194	1	0
	*Gomphocarpus fruticosus	Introduced (Declared Pest)	Opportunistic	385335	6435924	1	0
	*Gomphocarpus fruticosus	Introduced (Declared Pest)	Opportunistic	385432	6435133	1	0
	*Gomphocarpus fruticosus	Introduced (Declared Pest)	PLOPP	385557	6435153	1	0
	*Gomphocarpus fruticosus	Introduced (Declared Pest)	PLOPP	385544	6435118	1	0
	*Gomphocarpus fruticosus	Introduced (Declared Pest)	Opportunistic	385215	6435810	1	0
	*Gomphocarpus fruticosus	Introduced (Declared Pest)	Opportunistic	385130	6435782	1	0
	*Gomphocarpus fruticosus	Introduced (Declared Pest)	Opportunistic	385643	6434946	1	0
	*Gomphocarpus fruticosus	Introduced (Declared Pest)	Opportunistic	385418	6435845	1	0
	*Gomphocarpus fruticosus	Introduced (Declared Pest)	Opportunistic	385236	6435776	1	0
	*Gomphocarpus fruticosus	Introduced (Declared Pest)	Opportunistic	385696	6434591	1	0
	*Gomphocarpus fruticosus	Introduced (Declared Pest)	Opportunistic	385643	6434921	1	0

Family	Species	Status	Site	Easting	Northing	Number of Individuals	Cover (%)
	*Gomphocarpus fruticosus	Introduced (Declared Pest)	Opportunistic	385695	6433986	1	0
	*Gomphocarpus fruticosus	Introduced (Declared Pest)	Opportunistic	385642	6435068	1	0
	*Gomphocarpus fruticosus	Introduced (Declared Pest)	Opportunistic	385643	6434985	1	0
	*Gomphocarpus fruticosus	Introduced (Declared Pest)	Opportunistic	385673	6434541	1	0
	*Gomphocarpus fruticosus	Introduced (Declared Pest)	Opportunistic	385595	6435245	1	0
	*Gomphocarpus fruticosus	Introduced (Declared Pest)	Opportunistic	385610	6435177	1	0
	*Gomphocarpus fruticosus	Introduced (Declared Pest)	Opportunistic	385243	6436170	1	0
	*Gomphocarpus fruticosus	Introduced (Declared Pest)	Opportunistic	385598	6435153	1	0
	*Gomphocarpus fruticosus	Introduced (Declared Pest)	Opportunistic	385644	6434905	1	0
	*Gomphocarpus fruticosus	Introduced (Declared Pest)	Opportunistic	385687	6434647	1	0
	*Gomphocarpus fruticosus	Introduced (Declared Pest)	Opportunistic	385485	6435181	1	0
	*Gomphocarpus fruticosus	Introduced (Declared Pest)	Opportunistic	385487	6435205	1	0
	*Gomphocarpus fruticosus	Introduced (Declared Pest)	Opportunistic	385616	6434787	1	0
	*Gomphocarpus fruticosus	Introduced (Declared Pest)	Opportunistic	385662	6434550	1	0
	*Gomphocarpus fruticosus	Introduced (Declared Pest)	Opportunistic	385659	6434504	1	0
	*Gomphocarpus fruticosus	Introduced (Declared Pest)	Opportunistic	385687	6434451	1	0
	*Gomphocarpus fruticosus	Introduced (Declared Pest)	Opportunistic	385698	6434400	1	0
	*Gomphocarpus fruticosus	Introduced (Declared Pest)	Opportunistic	385608	6434971	1	0
	*Gomphocarpus fruticosus	Introduced (Declared Pest)	Opportunistic	385606	6435057	1	0
	*Gomphocarpus fruticosus	Introduced (Declared Pest)	Opportunistic	385596	6435036	1	0
	*Gomphocarpus fruticosus	Introduced (Declared Pest)	Opportunistic	385609	6435009	1	0
	*Gomphocarpus fruticosus	Introduced (Declared Pest)	Opportunistic	385600	6434997	1	0
	*Gomphocarpus fruticosus	Introduced (Declared Pest)	Opportunistic	385609	6434987	1	0
	*Gomphocarpus fruticosus	Introduced (Declared Pest)	Opportunistic	385600	6435135	1	0
	*Gomphocarpus fruticosus	Introduced (Declared Pest)	Opportunistic	385618	6434814	1	0
	*Gomphocarpus fruticosus	Introduced (Declared Pest)	Opportunistic	385551	6435156	1	0
	*Gomphocarpus fruticosus	Introduced (Declared Pest)	Opportunistic	385484	6434588	1	0
	*Gomphocarpus fruticosus	Introduced (Declared Pest)	Opportunistic	385523	6435095	1	0
	*Gomphocarpus fruticosus	Introduced (Declared Pest)	Opportunistic	385518	6435155	1	0
	*Gomphocarpus fruticosus	Introduced (Declared Pest)	Opportunistic	385523	6435161	1	0

Family	Species	Status	Site	Easting	Northing	Number of Individuals	Cover (%)
	*Gomphocarpus fruticosus	Introduced (Declared Pest)	Opportunistic	385534	6435191	1	0
	*Gomphocarpus fruticosus	Introduced (Declared Pest)	Opportunistic	385555	6435137	1	0
	*Gomphocarpus fruticosus	Introduced (Declared Pest)	Opportunistic	385518	6435117	1	0
	*Gomphocarpus fruticosus	Introduced (Declared Pest)	Opportunistic	385618	6434807	1	0
	*Gomphocarpus fruticosus	Introduced (Declared Pest)	Opportunistic	385545	6435029	1	0
	*Gomphocarpus fruticosus	Introduced (Declared Pest)	Opportunistic	385644	6434969	1	0
	*Gomphocarpus fruticosus	Introduced (Declared Pest)	Opportunistic	385644	6434939	1	0
	*Gomphocarpus fruticosus	Introduced (Declared Pest)	Opportunistic	385559	6434869	1	0
	*Gomphocarpus fruticosus	Introduced (Declared Pest)	Opportunistic	385525	6435133	1	0
	*Gomphocarpus fruticosus	Introduced (Declared Pest)	Opportunistic	385555	6435099	1	0
	*Gomphocarpus fruticosus	Introduced (Declared Pest)	Opportunistic	385238	6435802	1	0
	*Gomphocarpus fruticosus	Introduced (Declared Pest)	Opportunistic	385244	6435710	1	0
	*Gomphocarpus fruticosus	Introduced (Declared Pest)	Opportunistic	385018	6435785	1	0
	*Gomphocarpus fruticosus	Introduced (Declared Pest)	Opportunistic	385182	6435710	1	0
	*Gomphocarpus fruticosus	Introduced (Declared Pest)	Opportunistic	385037	6435701	1	0
	*Nerium oleander	Introduced	PLOPP	385342	6435903	1	0
Araceae	*Zantedeschia aethiopica	Introduced (Declared Pest)	ANK09	386441	6435798	0	0.1
	*Zantedeschia aethiopica	Introduced (Declared Pest)	WTP21	392691	6435718	0	0.1
	*Zantedeschia aethiopica	Introduced (Declared Pest)	ANK11	386717	6435808	0	1.5
	*Zantedeschia aethiopica	Introduced (Declared Pest)	Opportunistic	389923	6435619	1	0
	*Zantedeschia aethiopica	Introduced (Declared Pest)	Opportunistic	392673	6435750	1	0
	*Zantedeschia aethiopica	Introduced (Declared Pest)	ANK08	386141	6435764	1	0.1
	*Zantedeschia aethiopica	Introduced (Declared Pest)	ANK23	390083	6435709	1	0.1
	*Zantedeschia aethiopica	Introduced (Declared Pest)	Opportunistic	387694	6435553	2	0
	*Zantedeschia aethiopica	Introduced (Declared Pest)	Opportunistic	392677	6435722	2	0
	*Zantedeschia aethiopica	Introduced (Declared Pest)	ANK94	386709	6435757	2	0.1
	*Zantedeschia aethiopica	Introduced (Declared Pest)	ANK15	387745	6435458	3	0.1
	*Zantedeschia aethiopica	Introduced (Declared Pest)	Opportunistic	387625	6435540	4	0
	*Zantedeschia aethiopica	Introduced (Declared Pest)	WTP02	386878	6435753	5	0.1
	*Zantedeschia aethiopica	Introduced (Declared Pest)	WTP39	387525	6435568	7	0.1

Family	Species	Status	Site	Easting	Northing	Number of Individuals	Cover (%)
	*Zantedeschia aethiopica	Introduced (Declared Pest)	ANK12	386873	6435630	7	0.25
	*Zantedeschia aethiopica	Introduced (Declared Pest)	Opportunistic	390091	6435716	8	0
	*Zantedeschia aethiopica	Introduced (Declared Pest)	Opportunistic	385695	6433986	1	0
Arecaceae	*Washingtonia filifera	Introduced	Opportunistic	385479	6435466	1	0
Asparagaceae	*Agave americana var. americana	Introduced	Opportunistic	383909	6435694	1	0
	*Asapargus asparagoides	Introduced (Declared Pest; WoNS)	ROC04	385630	6436000	0	0.1
	*Asapargus asparagoides	Introduced (Declared Pest; WoNS)	ROC04R	385630	6436000	0	0.1
	*Asapargus asparagoides	Introduced (Declared Pest; WoNS)	ROC05R	385464	6435478	0	0.1
	*Asapargus asparagoides	Introduced (Declared Pest; WoNS)	ROC06	385600	6435469	0	0.1
	*Asapargus asparagoides	Introduced (Declared Pest; WoNS)	ROC06R	385600	6435469	0	0.1
	*Asapargus asparagoides	Introduced (Declared Pest; WoNS)	ROC10	385673	6434795	0	0.1
	*Asapargus asparagoides	Introduced (Declared Pest; WoNS)	ROC10R	385673	6434795	0	0.1
	*Asapargus asparagoides	Introduced (Declared Pest; WoNS)	ROC11	385490	6434691	0	0.1
	*Asapargus asparagoides	Introduced (Declared Pest; WoNS)	ROC11R	385490	6434691	0	0.1
	*Asapargus asparagoides	Introduced (Declared Pest; WoNS)	ROC13R	385499	6434517	0	0.1
	*Asapargus asparagoides	Introduced (Declared Pest; WoNS)	ROC18	385645	6434075	0	0.1
	*Asapargus asparagoides	Introduced (Declared Pest; WoNS)	ROC18	385645	6434075	0	0.1
	*Asapargus asparagoides	Introduced (Declared Pest; WoNS)	ROC18R	385645	6434075	0	0.1
	*Asapargus asparagoides	Introduced (Declared Pest; WoNS)	ROC20	385778	6434275	0	0.1
	*Asapargus asparagoides	Introduced (Declared Pest; WoNS)	ROC21	385736	6434496	0	0.1
	*Asapargus asparagoides	Introduced (Declared Pest; WoNS)	ROC21R	385736	6434496	0	0.1
	*Asapargus asparagoides	Introduced (Declared Pest; WoNS)	ROC23R	385650	6434903	0	0.1
	*Asapargus asparagoides	Introduced (Declared Pest; WoNS)	ROC25	385281	6436212	0	0.1
	*Asapargus asparagoides	Introduced (Declared Pest; WoNS)	ROC27	385602	6434872	0	0.1
	*Asapargus asparagoides	Introduced (Declared Pest; WoNS)	ROC29R	385602	6434872	0	0.1
	*Asapargus asparagoides	Introduced (Declared Pest; WoNS)	ROC30	385591	6434043	0	0.1
	*Asapargus asparagoides	Introduced (Declared Pest; WoNS)	ROC30R	385591	6434043	0	0.1
	*Asapargus asparagoides	Introduced (Declared Pest; WoNS)	ROC31	385591	6434412	0	0.1
	*Asapargus asparagoides	Introduced (Declared Pest; WoNS)	ROC31R	385591	6434412	0	0.1
	*Asapargus asparagoides	Introduced (Declared Pest; WoNS)	ROCR38	385076	6436110	0	0.1

Family	Species	Status	Site	Easting	Northing	Number of Individuals	Cover (%)
	*Asapargus asparagoides	Introduced (Declared Pest; WoNS)	ROCR38R	385076	6436110	0	0.1
	*Asapargus asparagoides	Introduced (Declared Pest; WoNS)	WLM08R	384097	6435951	0	0.1
	*Asapargus asparagoides	Introduced (Declared Pest; WoNS)	WLM09R	385332	6435932	0	0.1
	*Asapargus asparagoides	Introduced (Declared Pest; WoNS)	WLM11	384036	6435925	0	0.1
	*Asapargus asparagoides	Introduced (Declared Pest; WoNS)	WLM13R	385092	6435870	0	0.1
	*Asapargus asparagoides	Introduced (Declared Pest; WoNS)	WLM15	384095	6435785	0	0.1
	*Asapargus asparagoides	Introduced (Declared Pest; WoNS)	WLM15R	384095	6435785	0	0.1
	*Asapargus asparagoides	Introduced (Declared Pest; WoNS)	WLM16	385089	6435772	0	0.1
	*Asapargus asparagoides	Introduced (Declared Pest; WoNS)	WLM16R	385089	6435772	0	0.1
	*Asapargus asparagoides	Introduced (Declared Pest; WoNS)	WLM18	385232	6435808	0	0.1
	*Asapargus asparagoides	Introduced (Declared Pest; WoNS)	WLM30	385236	6435739	0	0.1
	*Asapargus asparagoides	Introduced (Declared Pest; WoNS)	WLM42R	385453	6435739	0	0.1
	*Asapargus asparagoides	Introduced (Declared Pest; WoNS)	WLM08	384097	6435951	0	0.5
	*Asapargus asparagoides	Introduced (Declared Pest; WoNS)	ROC05	385464	6435478	0	1
	*Asapargus asparagoides	Introduced (Declared Pest; WoNS)	ROC07R	385505	6435296	0	1
	*Asapargus asparagoides	Introduced (Declared Pest; WoNS)	ROC08	385527	6435187	0	1
	*Asapargus asparagoides	Introduced (Declared Pest; WoNS)	ROC08R	385527	6435187	0	1
	*Asapargus asparagoides	Introduced (Declared Pest; WoNS)	ROC22	385482	6435250	0	1
	*Asapargus asparagoides	Introduced (Declared Pest; WoNS)	ROC22R	385482	6435250	0	1
	*Asapargus asparagoides	Introduced (Declared Pest; WoNS)	WLM07	385307	6436060	0	1
	*Asapargus asparagoides	Introduced (Declared Pest; WoNS)	WLM07R	385307	6436060	0	1
	*Asapargus asparagoides	Introduced (Declared Pest; WoNS)	WLM09	385332	6435932	0	1
	*Asapargus asparagoides	Introduced (Declared Pest; WoNS)	WLM14	385340	6435839	0	1
	*Asapargus asparagoides	Introduced (Declared Pest; WoNS)	WLM14R	385340	6435839	0	1
	*Asapargus asparagoides	Introduced (Declared Pest; WoNS)	WLM40	385373	6435636	0	1
	*Asapargus asparagoides	Introduced (Declared Pest; WoNS)	WLM40R	385373	6435636	0	1
	*Asapargus asparagoides	Introduced (Declared Pest; WoNS)	WLM42	385453	6435739	0	1
	*Asapargus asparagoides	Introduced (Declared Pest; WoNS)	WLMR43	385496	6435971	0	1
	*Asapargus asparagoides	Introduced (Declared Pest; WoNS)	ROC19	385721	6434011	0	1.5
	*Asapargus asparagoides	Introduced (Declared Pest; WoNS)	ROC19R	385721	6434011	0	1.5

Family	Species	Status	Site	Easting	Northing	Number of Individuals	Cover (%)
	*Asapargus asparagoides	Introduced (Declared Pest; WoNS)	ROC12	385705	6434337	0	2
	*Asapargus asparagoides	Introduced (Declared Pest; WoNS)	ROC12R	385705	6434337	0	2
	*Asapargus asparagoides	Introduced (Declared Pest; WoNS)	ROC23	385650	6434903	0	2
	*Asapargus asparagoides	Introduced (Declared Pest; WoNS)	ROC24R	385494	6435134	0	2
	*Asapargus asparagoides	Introduced (Declared Pest; WoNS)	ROCR34	385432	6435092	0	2
	*Asapargus asparagoides	Introduced (Declared Pest; WoNS)	WLM41	385280	6435981	0	2
	*Asapargus asparagoides	Introduced (Declared Pest; WoNS)	ROC07	385505	6435296	0	2.5
	*Asapargus asparagoides	Introduced (Declared Pest; WoNS)	ROC16	385662	6434137	0	3
	*Asapargus asparagoides	Introduced (Declared Pest; WoNS)	ROC16R	385662	6434137	0	3
	*Asapargus asparagoides	Introduced (Declared Pest; WoNS)	ROC33	385446	6435307	0	3
	*Asapargus asparagoides	Introduced (Declared Pest; WoNS)	ROC24	385494	6435134	0	4
	*Asapargus asparagoides	Introduced (Declared Pest; WoNS)	ROC33R	385446	6435307	0	5
	*Asapargus asparagoides	Introduced (Declared Pest; WoNS)	ROC15	385759	6434387	0	6
	*Asapargus asparagoides	Introduced (Declared Pest; WoNS)	ROC15R	385759	6434387	0	6
	*Asapargus asparagoides	Introduced (Declared Pest; WoNS)	Opportunistic	385708	6434513	1	0
	*Asapargus asparagoides	Introduced (Declared Pest; WoNS)	Opportunistic	385650	6434988	1	0
	*Asapargus asparagoides	Introduced (Declared Pest; WoNS)	Opportunistic	385634	6435465	1	0
	*Asapargus asparagoides	Introduced (Declared Pest; WoNS)	Opportunistic	385637	6435354	1	0
	*Asapargus asparagoides	Introduced (Declared Pest; WoNS)	Opportunistic	385639	6435280	1	0
	*Asapargus asparagoides	Introduced (Declared Pest; WoNS)	Opportunistic	385634	6435231	1	0
	*Asapargus asparagoides	Introduced (Declared Pest; WoNS)	Opportunistic	385637	6435177	1	0
	*Asapargus asparagoides	Introduced (Declared Pest; WoNS)	Opportunistic	385632	6435128	1	0
	*Asapargus asparagoides	Introduced (Declared Pest; WoNS)	Opportunistic	385633	6435055	1	0
	*Asapargus asparagoides	Introduced (Declared Pest; WoNS)	Opportunistic	385636	6434912	1	0
	*Asapargus asparagoides	Introduced (Declared Pest; WoNS)	Opportunistic	385645	6434832	1	0
	*Asapargus asparagoides	Introduced (Declared Pest; WoNS)	Opportunistic	385687	6434627	1	0
	*Asapargus asparagoides	Introduced (Declared Pest; WoNS)	Opportunistic	385716	6434476	1	0
	*Asapargus asparagoides	Introduced (Declared Pest; WoNS)	Opportunistic	385720	6434449	1	0
	*Asapargus asparagoides	Introduced (Declared Pest; WoNS)	Opportunistic	385729	6434424	1	0
	*Asapargus asparagoides	Introduced (Declared Pest; WoNS)	Opportunistic	385736	6434402	1	0

Family	Species	Status	Site	Easting	Northing	Number of Individuals	Cover (%)
	*Asapargus asparagoides	Introduced (Declared Pest; WoNS)	Opportunistic	385798	6434084	1	0
	*Asapargus asparagoides	Introduced (Declared Pest; WoNS)	Opportunistic	385811	6433998	1	0
	*Asapargus asparagoides	Introduced (Declared Pest; WoNS)	Opportunistic	385781	6434298	1	0
	*Asapargus asparagoides	Introduced (Declared Pest; WoNS)	Opportunistic	385755	6434371	1	0
	*Asapargus asparagoides	Introduced (Declared Pest; WoNS)	Opportunistic	385757	6434415	1	0
	*Asapargus asparagoides	Introduced (Declared Pest; WoNS)	Opportunistic	385698	6434656	1	0
	*Asapargus asparagoides	Introduced (Declared Pest; WoNS)	Opportunistic	385659	6434865	1	0
	*Asapargus asparagoides	Introduced (Declared Pest; WoNS)	Opportunistic	385660	6434873	1	0
	*Asapargus asparagoides	Introduced (Declared Pest; WoNS)	Opportunistic	385082	6435762	1	0
	*Asapargus asparagoides	Introduced (Declared Pest; WoNS)	Opportunistic	385649	6434812	1	0
	*Asapargus asparagoides	Introduced (Declared Pest; WoNS)	Opportunistic	384099	6435776	1	0
	*Asapargus asparagoides	Introduced (Declared Pest; WoNS)	Opportunistic	385395	6435931	1	0
	*Asapargus asparagoides	Introduced (Declared Pest; WoNS)	Opportunistic	385688	6433987	1	0
	*Asapargus asparagoides	Introduced (Declared Pest; WoNS)	Opportunistic	385238	6435775	1	0
	*Asapargus asparagoides	Introduced (Declared Pest; WoNS)	Opportunistic	385361	6435971	1	0
	*Asapargus asparagoides	Introduced (Declared Pest; WoNS)	Opportunistic	385376	6435950	1	0
	*Asapargus asparagoides	Introduced (Declared Pest; WoNS)	Opportunistic	385382	6435939	1	0
	*Asapargus asparagoides	Introduced (Declared Pest; WoNS)	Opportunistic	385396	6435930	1	0
	*Asapargus asparagoides	Introduced (Declared Pest; WoNS)	Opportunistic	385414	6435872	1	0
	*Asapargus asparagoides	Introduced (Declared Pest; WoNS)	Opportunistic	385409	6435850	1	0
	*Asapargus asparagoides	Introduced (Declared Pest; WoNS)	Opportunistic	385408	6435900	1	0
	*Asapargus asparagoides	Introduced (Declared Pest; WoNS)	Opportunistic	385286	6436098	1	0
	*Asapargus asparagoides	Introduced (Declared Pest; WoNS)	Opportunistic	385313	6436024	1	0
	*Asapargus asparagoides	Introduced (Declared Pest; WoNS)	Opportunistic	385091	6435792	1	0
	*Asapargus asparagoides	Introduced (Declared Pest; WoNS)	Opportunistic	384178	6435834	1	0
	*Asapargus asparagoides	Introduced (Declared Pest; WoNS)	Opportunistic	384124	6435992	1	0
	*Asapargus asparagoides	Introduced (Declared Pest; WoNS)	Opportunistic	384103	6435938	1	0
	*Asapargus asparagoides	Introduced (Declared Pest; WoNS)	Opportunistic	385307	6436098	1	0
	*Asapargus asparagoides	Introduced (Declared Pest; WoNS)	Opportunistic	385250	6436196	1	0
	*Asapargus asparagoides	Introduced (Declared Pest; WoNS)	Opportunistic	385598	6435153	1	0

Family	Species	Status	Site	Easting	Northing	Number of Individuals	Cover (%)
	*Asapargus asparagoides	Introduced (Declared Pest; WoNS)	Opportunistic	385591	6435287	1	0
	*Asapargus asparagoides	Introduced (Declared Pest; WoNS)	Opportunistic	385736	6434423	1	0
	*Asapargus asparagoides	Introduced (Declared Pest; WoNS)	Opportunistic	385600	6435135	1	0
	*Asapargus asparagoides	Introduced (Declared Pest; WoNS)	Opportunistic	385687	6434451	1	0
	*Asapargus asparagoides	Introduced (Declared Pest; WoNS)	Opportunistic	385691	6434428	1	0
	*Asapargus asparagoides	Introduced (Declared Pest; WoNS)	Opportunistic	385667	6434483	1	0
	*Asapargus asparagoides	Introduced (Declared Pest; WoNS)	Opportunistic	385616	6434787	1	0
	*Asapargus asparagoides	Introduced (Declared Pest; WoNS)	Opportunistic	385605	6434960	1	0
	*Asapargus asparagoides	Introduced (Declared Pest; WoNS)	Opportunistic	385610	6434836	1	0
	*Asapargus asparagoides	Introduced (Declared Pest; WoNS)	Opportunistic	385550	6435315	1	0
	*Asapargus asparagoides	Introduced (Declared Pest; WoNS)	Opportunistic	385800	6434135	1	0
	*Asapargus asparagoides	Introduced (Declared Pest; WoNS)	Opportunistic	385484	6434586	1	0
	*Asapargus asparagoides	Introduced (Declared Pest; WoNS)	Opportunistic	385830	6433976	1	0
	*Asapargus asparagoides	Introduced (Declared Pest; WoNS)	Opportunistic	385825	6433983	1	0
	*Asapargus asparagoides	Introduced (Declared Pest; WoNS)	Opportunistic	385733	6434006	1	0
	*Asapargus asparagoides	Introduced (Declared Pest; WoNS)	Opportunistic	385490	6435433	1	0
	*Asapargus asparagoides	Introduced (Declared Pest; WoNS)	Opportunistic	385675	6434001	1	0
	*Asapargus asparagoides	Introduced (Declared Pest; WoNS)	Opportunistic	385716	6434021	1	0
	*Asapargus asparagoides	Introduced (Declared Pest; WoNS)	Opportunistic	385218	6435801	1	0
	*Asparagus asparagoides	Introduced (Declared Pest; WoNS)	ANK17	388176	6435464	0	0.1
	*Asparagus asparagoides	Introduced (Declared Pest; WoNS)	ANK18	388477	6435472	0	0.1
	*Asparagus asparagoides	Introduced (Declared Pest; WoNS)	WTP05	387848	6435525	0	0.5
	*Asparagus asparagoides	Introduced (Declared Pest; WoNS)	ANK15	387745	6435458	0	1
	*Asparagus asparagoides	Introduced (Declared Pest; WoNS)	ANK94	386709	6435757	0	1
	*Asparagus asparagoides	Introduced (Declared Pest; WoNS)	ANK76	386404	6435876	0	1.5
	*Asparagus asparagoides	Introduced (Declared Pest; WoNS)	ANK93	386484	6435758	0	2
	*Asparagus asparagoides	Introduced (Declared Pest; WoNS)	ANK75A	386257	6435846	0	3
	*Asparagus asparagoides	Introduced (Declared Pest; WoNS)	ANK75B	386188	6435879	0	3
	*Asparagus asparagoides	Introduced (Declared Pest; WoNS)	ANK01	385516	6435622	0	7
	*Asparagus asparagoides	Introduced (Declared Pest; WoNS)	ANK09	386441	6435798	0	9

Family	Species	Status	Site	Easting	Northing	Number of Individuals	Cover (%)
	*Asparagus asparagoides	Introduced (Declared Pest; WoNS)	ANK99	385770	6435916	0	17
	*Asparagus asparagoides	Introduced (Declared Pest; WoNS)	ANK34	391495	6435713	1	0.1
	*Asparagus asparagoides	Introduced (Declared Pest; WoNS)	WTP14	390092	6435823	1	0.1
	*Asparagus asparagoides	Introduced (Declared Pest; WoNS)	ANK05	385657	6435591	2	0.1
	*Asparagus asparagoides	Introduced (Declared Pest; WoNS)	WTP16	390766	6435735	2	0.1
	*Asparagus asparagoides	Introduced (Declared Pest; WoNS)	Opportunistic	388513	6435466	3	0
	*Asparagus asparagoides	Introduced (Declared Pest; WoNS)	Opportunistic	388610	6435454	3	0
	*Asparagus asparagoides	Introduced (Declared Pest; WoNS)	ANK10	386714	6435658	4	0.1
	*Asparagus asparagoides	Introduced (Declared Pest; WoNS)	Opportunistic	388734	6435459	5	0
	*Asparagus asparagoides	Introduced (Declared Pest; WoNS)	Opportunistic	388521	6435464	5	0
	*Asparagus asparagoides	Introduced (Declared Pest; WoNS)	Opportunistic	388540	6435462	5	0
	*Asparagus asparagoides	Introduced (Declared Pest; WoNS)	Opportunistic	388546	6435464	5	0
	*Asparagus asparagoides	Introduced (Declared Pest; WoNS)	Opportunistic	388762	6435467	5	0
	*Asparagus asparagoides	Introduced (Declared Pest; WoNS)	ANK14	387522	6435455	5	0.1
	*Asparagus asparagoides	Introduced (Declared Pest; WoNS)	WTP43	385614	6435579	5	0.5
	*Asparagus asparagoides	Introduced (Declared Pest; WoNS)	ANK02	385449	6435739	6	0.1
	*Asparagus asparagoides	Introduced (Declared Pest; WoNS)	ANK35	391771	6435741	7	0.1
	*Asparagus asparagoides	Introduced (Declared Pest; WoNS)	Opportunistic	388526	6435468	8	0
	*Asparagus asparagoides	Introduced (Declared Pest; WoNS)	ANK25	390210	6435781	8	3
	*Asparagus asparagoides	Introduced (Declared Pest; WoNS)	Opportunistic	388923	6435459	10	0
	*Asparagus asparagoides	Introduced (Declared Pest; WoNS)	ANK100	385859	6435862	10	0.1
	*Asparagus asparagoides	Introduced (Declared Pest; WoNS)	ANK11	386717	6435808	10	0.1
	*Asparagus asparagoides	Introduced (Declared Pest; WoNS)	WTP01	386847	6435818	10	0.1
	*Asparagus asparagoides	Introduced (Declared Pest; WoNS)	WTP02	386878	6435753	10	0.1
	*Asparagus asparagoides	Introduced (Declared Pest; WoNS)	WTP39	387525	6435568	10	0.1
	*Asparagus asparagoides	Introduced (Declared Pest; WoNS)	WTP38	387494	6435565	10	1
	*Asparagus asparagoides	Introduced (Declared Pest; WoNS)	WTP40	387657	6435560	10	2
	*Asparagus asparagoides	Introduced (Declared Pest; WoNS)	ANK23	390083	6435709	12	0.25
	*Asparagus asparagoides	Introduced (Declared Pest; WoNS)	ANK08	386141	6435764	14	5
	*Asparagus asparagoides	Introduced (Declared Pest; WoNS)	ANK74	385948	6435846	15	1.5

Family	Species	Status	Site	Easting	Northing	Number of Individuals	Cover (%)
	*Asparagus asparagoides	Introduced (Declared Pest; WoNS)	ANK12	386873	6435630	16	9
	*Asparagus asparagoides	Introduced (Declared Pest; WoNS)	Opportunistic	387628	6435535	65	0
	*Ornithogalum arabicum	Introduced	ANK18	388477	6435472	0	0.1
	*Ornithogalum arabicum	Introduced	ANK18	388477	6435472	0	0.1
Asphodelaceae	*Asphodelus fistulosus	Introduced	ROC12	385705	6434337	0	0.1
	*Asphodelus fistulosus	Introduced	ROC13	385499	6434517	0	0.1
	*Asphodelus fistulosus	Introduced	ROC13R	385499	6434517	0	0.1
	*Asphodelus fistulosus	Introduced	ROC22R	385482	6435250	0	0.1
	*Asphodelus fistulosus	Introduced	ROC23	385650	6434903	0	0.1
	*Asphodelus fistulosus	Introduced	ROC23R	385650	6434903	0	0.1
	*Asphodelus fistulosus	Introduced	ROC24	385494	6435134	0	0.1
	*Asphodelus fistulosus	Introduced	ROC27	385602	6434872	0	0.1
	*Asphodelus fistulosus	Introduced	ROC31R	385591	6434412	0	0.1
	*Asphodelus fistulosus	Introduced	WLM11	384036	6435925	0	0.1
	*Asphodelus fistulosus	Introduced	WLM42	385453	6435739	0	0.1
	*Asphodelus fistulosus	Introduced	WLM42R	385453	6435739	0	0.1
	*Asphodelus fistulosus	Introduced	ROC32R	385541	6434789	0	0.5
	*Asphodelus fistulosus	Introduced	ROC32	385541	6434789	0	1
	*Trachyandra divaricata	Introduced	ANK05	385657	6435591	0	0.1
	*Trachyandra divaricata	Introduced	ANK07	385880	6435768	0	0.1
	*Trachyandra divaricata	Introduced	ANK02	385449	6435739	1	0.1
	*Trachyandra divaricata	Introduced	WTP43	385614	6435579	2	0.1
	*Trachyandra divaricata	Introduced	ROC05	385464	6435478	0	0.1
	*Trachyandra divaricata	Introduced	ROC19	385721	6434011	0	0.1
	*Trachyandra divaricata	Introduced	ROC19R	385721	6434011	0	0.1
	*Trachyandra divaricata	Introduced	ROC22	385482	6435250	0	0.1
	*Trachyandra divaricata	Introduced	ROC25	385281	6436212	0	0.1
	*Trachyandra divaricata	Introduced	ROC31	385591	6434412	0	0.1
	*Trachyandra divaricata	Introduced	WLM06	384171	6436126	0	0.1
	*Trachyandra divaricata	Introduced	WLM06R	384171	6436126	0	0.1

Family	Species	Status	Site	Easting	Northing	Number of Individuals	Cover (%)
	*Trachyandra divaricata	Introduced	WLM08	384097	6435951	0	0.1
	*Trachyandra divaricata	Introduced	WLM09	385332	6435932	0	0.1
	*Trachyandra divaricata	Introduced	WLM17	383926	6435734	0	0.1
	*Trachyandra divaricata	Introduced	WLM17R	383926	6435734	0	0.1
	*Trachyandra divaricata	Introduced	WLM19	383815	6435591	0	0.1
	*Trachyandra divaricata	Introduced	WLM19R	383815	6435591	0	0.1
	*Trachyandra divaricata	Introduced	WLM42	385453	6435739	0	0.1
	*Trachyandra divaricata	Introduced	WLM42R	385453	6435739	0	0.1
	*Trachyandra divaricata	Introduced	WLM11	384036	6435925	0	0.5
	*Trachyandra divaricata	Introduced	WLM11R	384036	6435925	0	0.5
Asteraceae	*Arctotheca calendula	Introduced	ANK17	388176	6435464	0	0.1
	*Arctotheca calendula	Introduced	ANK93	386484	6435758	0	0.1
	*Arctotheca calendula	Introduced	WTP05	387848	6435525	0	0.1
	*Arctotheca calendula	Introduced	WTP15	390462	6435782	0	0.1
	*Arctotheca calendula	Introduced	WTP17	392081	6435675	0	0.1
	*Arctotheca calendula	Introduced	WTP18	392184	6435666	0	0.1
	*Arctotheca calendula	Introduced	WTP19	392425	6435643	0	0.1
	*Arctotheca calendula	Introduced	ANK100	385859	6435862	1	0.1
	*Arctotheca calendula	Introduced	ANK34	391495	6435713	50	0.1
	*Arctotheca calendula	Introduced	ROC05	385464	6435478	0	0.1
	*Arctotheca calendula	Introduced	ROC06	385600	6435469	0	0.1
	*Arctotheca calendula x populifolia	Introduced	ROC16	385662	6434137	0	0.1
	*Arctotheca calendula x populifolia	Introduced	ROC18	385645	6434075	0	0.1
	*Carduus pycnocephalus	Introduced	ANK01	385516	6435622	0	0.1
	*Carduus pycnocephalus	Introduced	ANK05	385657	6435591	0	0.1
	*Carduus pycnocephalus	Introduced	ROC05	385464	6435478	0	0.1
	*Carduus pycnocephalus	Introduced	ROC05R	385464	6435478	0	0.1
	*Carduus pycnocephalus	Introduced	ROC08	385527	6435187	0	0.1
	*Carduus pycnocephalus	Introduced	ROC08R	385527	6435187	0	0.1
	*Carduus pycnocephalus	Introduced	ROC13	385499	6434517	0	0.1

Family	Species	Status	Site	Easting	Northing	Number of Individuals	Cover (%)
	*Carduus pycnocephalus	Introduced	ROC13R	385499	6434517	0	0.1
	*Carduus pycnocephalus	Introduced	ROC22	385482	6435250	0	0.1
	*Carduus pycnocephalus	Introduced	ROC22R	385482	6435250	0	0.1
	*Centaurea melitensis	Introduced	ROC07	385505	6435296	0	0.1
	*Centaurea melitensis	Introduced	ROC07R	385505	6435296	0	0.1
	*Centaurea melitensis	Introduced	ROC08	385527	6435187	0	0.1
	*Centaurea melitensis	Introduced	WLM14	385340	6435839	0	0.1
	*Cirsium vulgare	Introduced	ROC31R	385591	6434412	0	0.1
	*Erigeron bonariensis	Introduced	ANK100	385859	6435862	0	0.1
	*Erigeron bonariensis	Introduced	ANK19	388845	6435463	0	0.1
	*Erigeron bonariensis	Introduced	WTP06	388344	6435531	0	0.1
	*Erigeron bonariensis	Introduced	WTP09	389021	6435535	0	0.1
	*Erigeron bonariensis	Introduced	WTP38	387494	6435565	0	0.1
	*Erigeron bonariensis	Introduced	WTP39	387525	6435568	0	0.1
	*Erigeron bonariensis	Introduced	ROC10	385673	6434795	0	0.1
	*Erigeron bonariensis	Introduced	ROC10R	385673	6434795	0	0.1
	*Erigeron bonariensis	Introduced	ROC13R	385499	6434517	0	0.1
	*Erigeron bonariensis	Introduced	ROC15	385759	6434387	0	0.1
	*Erigeron bonariensis	Introduced	ROC23	385650	6434903	0	0.1
	*Erigeron bonariensis	Introduced	ROC23R	385650	6434903	0	0.1
	*Erigeron bonariensis	Introduced	ROC27	385602	6434872	0	0.1
	*Erigeron bonariensis	Introduced	ROC32	385541	6434789	0	0.1
	*Erigeron bonariensis	Introduced	ROCR34	385432	6435092	0	0.1
	*Erigeron bonariensis	Introduced	WLM08	384097	6435951	0	0.1
	*Erigeron bonariensis	Introduced	Opportunistic	385794	6434125	1	0
	*Erigeron sumatrensis	Introduced	ANK14	387522	6435455	0	0.1
	*Erigeron sumatrensis	Introduced	ANK99	385770	6435916	0	0.1
	*Erigeron sumatrensis	Introduced	Opportunistic	385539	6435014	1	0
	*Hypochaeris glabra	Introduced	ANK02	385449	6435739	0	0.1
	*Hypochaeris glabra	Introduced	ANK05	385657	6435591	0	0.1

Family	Species	Status	Site	Easting	Northing	Number of Individuals	Cover (%)
	*Hypochaeris glabra	Introduced	ANK06	385745	6435716	0	0.1
	*Hypochaeris glabra	Introduced	ANK07	385880	6435768	0	0.1
	*Hypochaeris glabra	Introduced	ANK08	386141	6435764	0	0.1
	*Hypochaeris glabra	Introduced	ANK10	386714	6435658	0	0.1
	*Hypochaeris glabra	Introduced	ANK100	385859	6435862	0	0.1
	*Hypochaeris glabra	Introduced	ANK11	386717	6435808	0	0.1
	*Hypochaeris glabra	Introduced	ANK15	387745	6435458	0	0.1
	*Hypochaeris glabra	Introduced	ANK16	387935	6435456	0	0.1
	*Hypochaeris glabra	Introduced	ANK17	388176	6435464	0	0.1
	*Hypochaeris glabra	Introduced	ANK20	389347	6435477	0	0.1
	*Hypochaeris glabra	Introduced	ANK23	390083	6435709	0	0.1
	*Hypochaeris glabra	Introduced	ANK36	391764	6435627	0	0.1
	*Hypochaeris glabra	Introduced	ANK75A	386257	6435846	0	0.1
	*Hypochaeris glabra	Introduced	ANK93	386484	6435758	0	0.1
	*Hypochaeris glabra	Introduced	WTP02	386878	6435753	0	0.1
	*Hypochaeris glabra	Introduced	WTP05	387848	6435525	0	0.1
	*Hypochaeris glabra	Introduced	WTP09	389021	6435535	0	0.1
	*Hypochaeris glabra	Introduced	WTP10	389174	6435512	0	0.1
	*Hypochaeris glabra	Introduced	WTP11	389539	6435528	0	0.1
	*Hypochaeris glabra	Introduced	WTP13	389876	6435704	0	0.1
	*Hypochaeris glabra	Introduced	WTP14	390092	6435823	0	0.1
	*Hypochaeris glabra	Introduced	WTP15	390462	6435782	0	0.1
	*Hypochaeris glabra	Introduced	WTP16	390766	6435735	0	0.1
	*Hypochaeris glabra	Introduced	WTP17	392081	6435675	0	0.1
	*Hypochaeris glabra	Introduced	WTP18	392184	6435666	0	0.1
	*Hypochaeris glabra	Introduced	WTP20	392697	6435869	0	0.1
	*Hypochaeris glabra	Introduced	WTP21	392691	6435718	0	0.1
	*Hypochaeris glabra	Introduced	WTP39	387525	6435568	0	0.1
	*Hypochaeris glabra	Introduced	WTP41	387749	6435529	0	0.1
	*Hypochaeris glabra	Introduced	ANK75B	386188	6435879	0	0.5

Family	Species	Status	Site	Easting	Northing	Number of Individuals	Cover (%)
	*Hypochaeris glabra	Introduced	WTP12	389686	6435585	0	0.5
	*Hypochaeris glabra	Introduced	WTP43	385614	6435579	60	0.1
	*Hypochaeris glabra	Introduced	ANK74	385948	6435846	100	0.1
	*Hypochaeris glabra	Introduced	ANK34	391495	6435713	150	0.1
	*Hypochaeris glabra	Introduced	ROC08	385527	6435187	0	0.1
	*Hypochaeris glabra	Introduced	ROC10	385673	6434795	0	0.1
	*Hypochaeris glabra	Introduced	ROC12	385705	6434337	0	0.1
	*Hypochaeris glabra	Introduced	ROC15	385759	6434387	0	0.1
	*Hypochaeris glabra	Introduced	ROC16	385662	6434137	0	0.1
	*Hypochaeris glabra	Introduced	ROC16R	385662	6434137	0	0.1
	*Hypochaeris glabra	Introduced	ROC18	385645	6434075	0	0.1
	*Hypochaeris glabra	Introduced	ROC19	385721	6434011	0	0.1
	*Hypochaeris glabra	Introduced	ROC21	385736	6434496	0	0.1
	*Hypochaeris glabra	Introduced	ROC22R	385482	6435250	0	0.1
	*Hypochaeris glabra	Introduced	ROC24	385494	6435134	0	0.1
	*Hypochaeris glabra	Introduced	ROC25	385281	6436212	0	0.1
	*Hypochaeris glabra	Introduced	ROC27	385602	6434872	0	0.1
	*Hypochaeris glabra	Introduced	WLM09	385332	6435932	0	0.1
	*Hypochaeris glabra	Introduced	WLM15	384095	6435785	0	0.1
	*Hypochaeris glabra	Introduced	WLM16	385089	6435772	0	0.1
	*Hypochaeris glabra	Introduced	WLM16R	385089	6435772	0	0.1
	*Hypochaeris glabra	Introduced	WLM18	385232	6435808	0	0.1
	*Hypochaeris glabra	Introduced	WLM30	385236	6435739	0	0.1
	*Hypochaeris glabra	Introduced	WLM38	385411	6435805	0	0.1
	*Hypochaeris glabra	Introduced	WLM40	385373	6435636	0	0.1
	*Hypochaeris glabra	Introduced	WLM40R	385373	6435636	0	0.1
	*Hypochaeris glabra	Introduced	WLM14	385340	6435839	0	1
	*Hypochaeris glabra	Introduced	ROC05	385464	6435478	0	1.5
	*Hypochaeris radicata	Introduced	ANK02	385449	6435739	0	0.1
	*Hypochaeris radicata	Introduced	ANK05	385657	6435591	0	0.1

Family	Species	Status	Site	Easting	Northing	Number of Individuals	Cover (%)
	*Hypochaeris radicata	Introduced	ANK06	385745	6435716	0	0.1
	*Hypochaeris radicata	Introduced	ANK08	386141	6435764	0	0.1
	*Hypochaeris radicata	Introduced	ANK10	386714	6435658	0	0.1
	*Hypochaeris radicata	Introduced	ANK22	389897	6435596	0	0.1
	*Hypochaeris radicata	Introduced	ANK23	390083	6435709	0	0.1
	*Hypochaeris radicata	Introduced	ANK23	390083	6435709	0	0.1
	*Hypochaeris radicata	Introduced	ANK75A	386257	6435846	0	0.1
	*Hypochaeris radicata	Introduced	ANK75B	386188	6435879	0	0.1
	*Hypochaeris radicata	Introduced	WTP02	386878	6435753	0	0.1
	*Hypochaeris radicata	Introduced	WTP08	388591	6435545	0	0.1
	*Hypochaeris radicata	Introduced	WTP09	389021	6435535	0	0.1
	*Hypochaeris radicata	Introduced	WTP10	389174	6435512	0	0.1
	*Hypochaeris radicata	Introduced	WTP11	389539	6435528	0	0.1
	*Hypochaeris radicata	Introduced	WTP12	389686	6435585	0	0.1
	*Hypochaeris radicata	Introduced	WTP13	389876	6435704	0	0.1
	*Hypochaeris radicata	Introduced	WTP14	390092	6435823	0	0.1
	*Hypochaeris radicata	Introduced	WTP15	390462	6435782	0	0.1
	*Hypochaeris radicata	Introduced	WTP16	390766	6435735	0	0.1
	*Hypochaeris radicata	Introduced	WTP19	392425	6435643	0	0.1
	*Hypochaeris radicata	Introduced	WTP39	387525	6435568	0	0.1
	*Hypochaeris radicata	Introduced	ANK25	390210	6435781	0	7
	*Hypochaeris radicata	Introduced	ANK74	385948	6435846	10	0.1
	*Hypochaeris radicata	Introduced	ANK34	391495	6435713	50	0.1
	*Hypochaeris radicata	Introduced	ROC01	385277	6436437	0	0.1
	*Hypochaeris radicata	Introduced	ROC02	385258	6436257	0	0.1
	*Hypochaeris radicata	Introduced	ROC15	385759	6434387	0	0.1
	*Hypochaeris radicata	Introduced	ROC16	385662	6434137	0	0.1
	*Hypochaeris radicata	Introduced	ROC16R	385662	6434137	0	0.1
	*Hypochaeris radicata	Introduced	ROC19R	385721	6434011	0	0.1
	*Hypochaeris radicata	Introduced	ROC23	385650	6434903	0	0.1

Family	Species	Status	Site	Easting	Northing	Number of Individuals	Cover (%)
	*Hypochaeris radicata	Introduced	ROC24R	385494	6435134	0	0.1
	*Hypochaeris radicata	Introduced	WLM12	384162	6435907	0	0.1
	*Hypochaeris radicata	Introduced	WLM13	385092	6435870	0	0.1
	*Hypochaeris radicata	Introduced	WLM13R	385092	6435870	0	0.1
	*Hypochaeris radicata	Introduced	WLM18	385232	6435808	0	0.1
	*Hypochaeris radicata	Introduced	WLM30	385236	6435739	0	0.1
	*Hypochaeris radicata	Introduced	WLM40	385373	6435636	0	0.1
	*Hypochaeris radicata	Introduced	WLM40R	385373	6435636	0	0.1
	*Lactuca serriola forma serriola	Introduced	ANK14	387522	6435455	0	0.1
	*Lactuca serriola forma serriola	Introduced	ANK35	391771	6435741	0	0.1
	*Lactuca serriola forma serriola	Introduced	ANK11	386717	6435808	2	0.1
	*Lactuca serriola forma serriola	Introduced	ROC15	385759	6434387	0	0.1
	*Lactuca sp.	Introduced	ROC13	385499	6434517	0	0.1
	*Leontodon rhagadioloides	Introduced	WTP09	389021	6435535	0	0.1
	*Leontodon rhagadioloides	Introduced	WTP15	390462	6435782	0	0.1
	*Leontodon rhagadioloides	Introduced	ROC01	385277	6436437	0	0.1
	*Leontodon rhagadioloides	Introduced	ROC05	385464	6435478	0	0.1
	*Leontodon rhagadioloides	Introduced	ROC06	385600	6435469	0	0.1
	*Leontodon rhagadioloides	Introduced	WLM13R	385092	6435870	0	0.1
	*Leontodon rhagadioloides	Introduced	WLM14R	385340	6435839	0	0.1
	*Leontodon rhagadioloides	Introduced	WLM16R	385089	6435772	0	0.1
	*Leontodon rhagadioloides	Introduced	WLM17	383926	6435734	0	0.1
	*Leontodon sp.	Introduced	WLM09	385332	6435932	0	0.1
	*Leontodon sp.	Introduced	WLM09R	385332	6435932	0	0.1
	*Leontodon sp.	Introduced	WLM14	385340	6435839	0	0.1
	*Reichardia tingitana	Introduced	ROC01R	385277	6436437	0	0.1
	*Reichardia tingitana	Introduced	ROC02R	385258	6436257	0	0.1
	*Reichardia tingitana	Introduced	ROC05	385464	6435478	0	0.1
	*Reichardia tingitana	Introduced	ROC05R	385464	6435478	0	0.1
	*Reichardia tingitana	Introduced	ROC10	385673	6434795	0	0.1

Family	Species	Status	Site	Easting	Northing	Number of Individuals	Cover (%)
	*Reichardia tingitana	Introduced	ROC10R	385673	6434795	0	0.1
	*Reichardia tingitana	Introduced	ROC10R	385673	6434795	0	0.1
	*Reichardia tingitana	Introduced	ROC11R	385490	6434691	0	0.1
	*Reichardia tingitana	Introduced	ROC13	385499	6434517	0	0.1
	*Reichardia tingitana	Introduced	ROC16	385662	6434137	0	0.1
	*Reichardia tingitana	Introduced	ROC16R	385662	6434137	0	0.1
	*Reichardia tingitana	Introduced	ROC21R	385736	6434496	0	0.1
	*Reichardia tingitana	Introduced	ROC24	385494	6435134	0	0.1
	*Reichardia tingitana	Introduced	ROC24R	385494	6435134	0	0.1
	*Reichardia tingitana	Introduced	ROC32	385541	6434789	0	0.1
	*Reichardia tingitana	Introduced	ROCR38R	385076	6436110	0	0.1
	*Reichardia tingitana	Introduced	WLM06R	384171	6436126	0	0.1
	*Reichardia tingitana	Introduced	WLM07R	385307	6436060	0	0.1
	*Reichardia tingitana	Introduced	WLM08R	384097	6435951	0	0.1
	*Reichardia tingitana	Introduced	WLM10R	384217	6435958	0	0.1
	*Reichardia tingitana	Introduced	WLM11	384036	6435925	0	0.1
	*Reichardia tingitana	Introduced	WLM11R	384036	6435925	0	0.1
	*Reichardia tingitana	Introduced	WLM12R	384162	6435907	0	0.1
	*Reichardia tingitana	Introduced	WLM17	383926	6435734	0	0.1
	*Reichardia tingitana	Introduced	WLM17	383926	6435734	0	0.1
	*Reichardia tingitana	Introduced	WLM17R	383926	6435734	0	0.1
	*Reichardia tingitana	Introduced	WLM19R	383815	6435591	0	0.1
	*Reichardia tingitana	Introduced	WLM42R	385453	6435739	0	0.1
	*Reichardia tingitana	Introduced	ROC13R	385499	6434517	0	1
	*Reichardia tingitana	Introduced	ROC10	385673	6434795	0	3
	*Sonchus asper	Introduced	ANK08	386141	6435764	0	0.1
	*Sonchus asper	Introduced	ANK10	386714	6435658	0	0.1
	*Sonchus asper	Introduced	ANK75A	386257	6435846	0	0.1
	*Sonchus asper	Introduced	ANK75B	386188	6435879	0	0.1
	*Sonchus asper	Introduced	ROC01	385277	6436437	0	0.1

Family	Species	Status	Site	Easting	Northing	Number of Individuals	Cover (%)
	*Sonchus asper	Introduced	ROC02	385258	6436257	0	0.1
	*Sonchus asper	Introduced	ROC12	385705	6434337	0	0.1
	*Sonchus asper	Introduced	WLM11R	384036	6435925	0	0.1
	*Sonchus asper	Introduced	WLM30	385236	6435739	0	0.1
	*Sonchus oleraceus	Introduced	ANK01	385516	6435622	0	0.1
	*Sonchus oleraceus	Introduced	ANK02	385449	6435739	0	0.1
	*Sonchus oleraceus	Introduced	ANK05	385657	6435591	0	0.1
	*Sonchus oleraceus	Introduced	ANK06	385745	6435716	0	0.1
	*Sonchus oleraceus	Introduced	ANK07	385880	6435768	0	0.1
	*Sonchus oleraceus	Introduced	ANK08	386141	6435764	0	0.1
	*Sonchus oleraceus	Introduced	ANK09	386441	6435798	0	0.1
	*Sonchus oleraceus	Introduced	ANK10	386714	6435658	0	0.1
	*Sonchus oleraceus	Introduced	ANK100	385859	6435862	0	0.1
	*Sonchus oleraceus	Introduced	ANK12	386873	6435630	0	0.1
	*Sonchus oleraceus	Introduced	ANK14	387522	6435455	0	0.1
	*Sonchus oleraceus	Introduced	ANK15	387745	6435458	0	0.1
	*Sonchus oleraceus	Introduced	ANK16	387935	6435456	0	0.1
	*Sonchus oleraceus	Introduced	ANK17	388176	6435464	0	0.1
	*Sonchus oleraceus	Introduced	ANK19	388845	6435463	0	0.1
	*Sonchus oleraceus	Introduced	ANK20	389347	6435477	0	0.1
	*Sonchus oleraceus	Introduced	ANK23	390083	6435709	0	0.1
	*Sonchus oleraceus	Introduced	ANK25	390210	6435781	0	0.1
	*Sonchus oleraceus	Introduced	ANK35	391771	6435741	0	0.1
	*Sonchus oleraceus	Introduced	ANK36	391764	6435627	0	0.1
	*Sonchus oleraceus	Introduced	ANK74	385948	6435846	0	0.1
	*Sonchus oleraceus	Introduced	ANK75A	386257	6435846	0	0.1
	*Sonchus oleraceus	Introduced	ANK75B	386188	6435879	0	0.1
	*Sonchus oleraceus	Introduced	ANK76	386404	6435876	0	0.1
	*Sonchus oleraceus	Introduced	ANK93	386484	6435758	0	0.1
	*Sonchus oleraceus	Introduced	ANK99	385770	6435916	0	0.1

Family	Species	Status	Site	Easting	Northing	Number of Individuals	Cover (%)
	*Sonchus oleraceus	Introduced	WTP01	386847	6435818	0	0.1
	*Sonchus oleraceus	Introduced	WTP02	386878	6435753	0	0.1
	*Sonchus oleraceus	Introduced	WTP05	387848	6435525	0	0.1
	*Sonchus oleraceus	Introduced	WTP06	388344	6435531	0	0.1
	*Sonchus oleraceus	Introduced	WTP08	388591	6435545	0	0.1
	*Sonchus oleraceus	Introduced	WTP08	388591	6435545	0	0.1
	*Sonchus oleraceus	Introduced	WTP09	389021	6435535	0	0.1
	*Sonchus oleraceus	Introduced	WTP10	389174	6435512	0	0.1
	*Sonchus oleraceus	Introduced	WTP11	389539	6435528	0	0.1
	*Sonchus oleraceus	Introduced	WTP12	389686	6435585	0	0.1
	*Sonchus oleraceus	Introduced	WTP13	389876	6435704	0	0.1
	*Sonchus oleraceus	Introduced	WTP14	390092	6435823	0	0.1
	*Sonchus oleraceus	Introduced	WTP15	390462	6435782	0	0.1
	*Sonchus oleraceus	Introduced	WTP19	392425	6435643	0	0.1
	*Sonchus oleraceus	Introduced	WTP19	392425	6435643	0	0.1
	*Sonchus oleraceus	Introduced	WTP20	392697	6435869	0	0.1
	*Sonchus oleraceus	Introduced	WTP21	392691	6435718	0	0.1
	*Sonchus oleraceus	Introduced	WTP38	387494	6435565	0	0.1
	*Sonchus oleraceus	Introduced	WTP39	387525	6435568	0	0.1
	*Sonchus oleraceus	Introduced	WTP40	387657	6435560	0	0.1
	*Sonchus oleraceus	Introduced	WTP41	387749	6435529	0	0.1
	*Sonchus oleraceus	Introduced	WTP43	385614	6435579	35	0.1
	*Sonchus oleraceus	Introduced	ANK94	386709	6435757	40	0.1
	*Sonchus oleraceus	Introduced	ANK34	391495	6435713	50	0.1
	*Sonchus oleraceus	Introduced	ANK11	386717	6435808	100	0.1
	*Sonchus oleraceus	Introduced	ROC01	385277	6436437	0	0.1
	*Sonchus oleraceus	Introduced	ROC01R	385277	6436437	0	0.1
	*Sonchus oleraceus	Introduced	ROC02	385258	6436257	0	0.1
	*Sonchus oleraceus	Introduced	ROC02R	385258	6436257	0	0.1
	*Sonchus oleraceus	Introduced	ROC03	385362	6436184	0	0.1

Family	Species	Status	Site	Easting	Northing	Number of Individuals	Cover (%)
	*Sonchus oleraceus	Introduced	ROC03R	385362	6436184	0	0.1
	*Sonchus oleraceus	Introduced	ROC04R	385630	6436000	0	0.1
	*Sonchus oleraceus	Introduced	ROC05	385464	6435478	0	0.1
	*Sonchus oleraceus	Introduced	ROC06	385600	6435469	0	0.1
	*Sonchus oleraceus	Introduced	ROC06	385600	6435469	0	0.1
	*Sonchus oleraceus	Introduced	ROC06R	385600	6435469	0	0.1
	*Sonchus oleraceus	Introduced	ROC07	385505	6435296	0	0.1
	*Sonchus oleraceus	Introduced	ROC07R	385505	6435296	0	0.1
	*Sonchus oleraceus	Introduced	ROC08	385527	6435187	0	0.1
	*Sonchus oleraceus	Introduced	ROC08R	385527	6435187	0	0.1
	*Sonchus oleraceus	Introduced	ROC10	385673	6434795	0	0.1
	*Sonchus oleraceus	Introduced	ROC10R	385673	6434795	0	0.1
	*Sonchus oleraceus	Introduced	ROC12	385705	6434337	0	0.1
	*Sonchus oleraceus	Introduced	ROC12R	385705	6434337	0	0.1
	*Sonchus oleraceus	Introduced	ROC13	385499	6434517	0	0.1
	*Sonchus oleraceus	Introduced	ROC13R	385499	6434517	0	0.1
	*Sonchus oleraceus	Introduced	ROC15	385759	6434387	0	0.1
	*Sonchus oleraceus	Introduced	ROC15	385759	6434387	0	0.1
	*Sonchus oleraceus	Introduced	ROC15	385759	6434387	0	0.1
	*Sonchus oleraceus	Introduced	ROC15	385759	6434387	0	0.1
	*Sonchus oleraceus	Introduced	ROC15R	385759	6434387	0	0.1
	*Sonchus oleraceus	Introduced	ROC15R	385759	6434387	0	0.1
	*Sonchus oleraceus	Introduced	ROC16	385662	6434137	0	0.1
	*Sonchus oleraceus	Introduced	ROC16R	385662	6434137	0	0.1
	*Sonchus oleraceus	Introduced	ROC18	385645	6434075	0	0.1
	*Sonchus oleraceus	Introduced	ROC18R	385645	6434075	0	0.1
	*Sonchus oleraceus	Introduced	ROC19	385721	6434011	0	0.1
	*Sonchus oleraceus	Introduced	ROC19R	385721	6434011	0	0.1
	*Sonchus oleraceus	Introduced	ROC20	385778	6434275	0	0.1
	*Sonchus oleraceus	Introduced	ROC21	385736	6434496	0	0.1

Family	Species	Status	Site	Easting	Northing	Number of Individuals	Cover (%)
	*Sonchus oleraceus	Introduced	ROC21R	385736	6434496	0	0.1
	*Sonchus oleraceus	Introduced	ROC22	385482	6435250	0	0.1
	*Sonchus oleraceus	Introduced	ROC22R	385482	6435250	0	0.1
	*Sonchus oleraceus	Introduced	ROC23	385650	6434903	0	0.1
	*Sonchus oleraceus	Introduced	ROC23R	385650	6434903	0	0.1
	*Sonchus oleraceus	Introduced	ROC24	385494	6435134	0	0.1
	*Sonchus oleraceus	Introduced	ROC24R	385494	6435134	0	0.1
	*Sonchus oleraceus	Introduced	ROC24R	385494	6435134	0	0.1
	*Sonchus oleraceus	Introduced	ROC27	385602	6434872	0	0.1
	*Sonchus oleraceus	Introduced	ROC29R	385602	6434872	0	0.1
	*Sonchus oleraceus	Introduced	ROC30	385591	6434043	0	0.1
	*Sonchus oleraceus	Introduced	ROC30R	385591	6434043	0	0.1
	*Sonchus oleraceus	Introduced	ROC30R	385591	6434043	0	0.1
	*Sonchus oleraceus	Introduced	ROC31	385591	6434412	0	0.1
	*Sonchus oleraceus	Introduced	ROC33	385446	6435307	0	0.1
	*Sonchus oleraceus	Introduced	ROC33R	385446	6435307	0	0.1
	*Sonchus oleraceus	Introduced	ROCR34	385432	6435092	0	0.1
	*Sonchus oleraceus	Introduced	ROCR38	385076	6436110	0	0.1
	*Sonchus oleraceus	Introduced	ROCR38R	385076	6436110	0	0.1
	*Sonchus oleraceus	Introduced	WLM06	384171	6436126	0	0.1
	*Sonchus oleraceus	Introduced	WLM06R	384171	6436126	0	0.1
	*Sonchus oleraceus	Introduced	WLM07	385307	6436060	0	0.1
	*Sonchus oleraceus	Introduced	WLM07R	385307	6436060	0	0.1
	*Sonchus oleraceus	Introduced	WLM08	384097	6435951	0	0.1
	*Sonchus oleraceus	Introduced	WLM08R	384097	6435951	0	0.1
	*Sonchus oleraceus	Introduced	WLM09	385332	6435932	0	0.1
	*Sonchus oleraceus	Introduced	WLM09R	385332	6435932	0	0.1
	*Sonchus oleraceus	Introduced	WLM10R	384217	6435958	0	0.1
	*Sonchus oleraceus	Introduced	WLM11	384036	6435925	0	0.1
	*Sonchus oleraceus	Introduced	WLM11R	384036	6435925	0	0.1

Family	Species	Status	Site	Easting	Northing	Number of Individuals	Cover (%)
	*Sonchus oleraceus	Introduced	WLM12	384162	6435907	0	0.1
	*Sonchus oleraceus	Introduced	WLM12R	384162	6435907	0	0.1
	*Sonchus oleraceus	Introduced	WLM13	385092	6435870	0	0.1
	*Sonchus oleraceus	Introduced	WLM13R	385092	6435870	0	0.1
	*Sonchus oleraceus	Introduced	WLM14	385340	6435839	0	0.1
	*Sonchus oleraceus	Introduced	WLM14	385340	6435839	0	0.1
	*Sonchus oleraceus	Introduced	WLM14R	385340	6435839	0	0.1
	*Sonchus oleraceus	Introduced	WLM15	384095	6435785	0	0.1
	*Sonchus oleraceus	Introduced	WLM15R	384095	6435785	0	0.1
	*Sonchus oleraceus	Introduced	WLM16	385089	6435772	0	0.1
	*Sonchus oleraceus	Introduced	WLM16R	385089	6435772	0	0.1
	*Sonchus oleraceus	Introduced	WLM17	383926	6435734	0	0.1
	*Sonchus oleraceus	Introduced	WLM17R	383926	6435734	0	0.1
	*Sonchus oleraceus	Introduced	WLM18	385232	6435808	0	0.1
	*Sonchus oleraceus	Introduced	WLM19	383815	6435591	0	0.1
	*Sonchus oleraceus	Introduced	WLM30	385236	6435739	0	0.1
	*Sonchus oleraceus	Introduced	WLM38	385411	6435805	0	0.1
	*Sonchus oleraceus	Introduced	WLM40	385373	6435636	0	0.1
	*Sonchus oleraceus	Introduced	WLM40R	385373	6435636	0	0.1
	*Sonchus oleraceus	Introduced	WLM42	385453	6435739	0	0.1
	*Sonchus oleraceus	Introduced	WLM42R	385453	6435739	0	0.1
	*Sonchus oleraceus	Introduced	WLMR43	385496	6435971	0	0.1
	*Sonchus oleraceus	Introduced	ROC11R	385490	6434691	0	0.5
	*Sonchus oleraceus	Introduced	ROC11	385490	6434691	0	1
	*Sonchus oleraceus	Introduced	ROC24	385494	6435134	0	1
	*Sonchus oleraceus	Introduced	WLM41	385280	6435981	0	1
	*Sonchus oleraceus	Introduced	WLM10	384217	6435958	0	2
	*Sonchus oleraceus	Introduced	ROC13	385499	6434517	0	4
	*Sonchus oleraceus	Introduced	ROC13R	385499	6434517	0	4
	*Symphyotrichum squamatum	Introduced	ROC13	385499	6434517	0	0.1

Family	Species	Status	Site	Easting	Northing	Number of Individuals	Cover (%)
	*Taraxacum khatoonae	Introduced	ANK06	385745	6435716	0	0.1
	*Taraxacum khatoonae	Introduced	ROC13R	385499	6434517	0	0.1
	*Urospermum picroides	Introduced	ANK02	385449	6435739	0	0.1
	*Urospermum picroides	Introduced	ANK05	385657	6435591	0	0.1
	*Urospermum picroides	Introduced	ANK06	385745	6435716	0	0.1
	*Urospermum picroides	Introduced	ANK07	385880	6435768	0	0.1
	*Urospermum picroides	Introduced	ANK08	386141	6435764	0	0.1
	*Urospermum picroides	Introduced	ANK15	387745	6435458	0	0.1
	*Urospermum picroides	Introduced	ANK16	387935	6435456	0	0.1
	*Urospermum picroides	Introduced	ANK17	388176	6435464	0	0.1
	*Urospermum picroides	Introduced	ANK21	389623	6435488	0	0.1
	*Urospermum picroides	Introduced	ANK21	389623	6435488	0	0.1
	*Urospermum picroides	Introduced	ANK23	390083	6435709	0	0.1
	*Urospermum picroides	Introduced	ANK35	391771	6435741	0	0.1
	*Urospermum picroides	Introduced	ANK74	385948	6435846	0	0.1
	*Urospermum picroides	Introduced	ANK75A	386257	6435846	0	0.1
	*Urospermum picroides	Introduced	ANK76	386404	6435876	0	0.1
	*Urospermum picroides	Introduced	WTP01	386847	6435818	0	0.1
	*Urospermum picroides	Introduced	WTP02	386878	6435753	0	0.1
	*Urospermum picroides	Introduced	WTP05	387848	6435525	0	0.1
	*Urospermum picroides	Introduced	WTP08	388591	6435545	0	0.1
	*Urospermum picroides	Introduced	WTP10	389174	6435512	0	0.1
	*Urospermum picroides	Introduced	WTP11	389539	6435528	0	0.1
	*Urospermum picroides	Introduced	WTP12	389686	6435585	0	0.1
	*Urospermum picroides	Introduced	WTP14	390092	6435823	0	0.1
	*Urospermum picroides	Introduced	WTP18	392184	6435666	0	0.1
	*Urospermum picroides	Introduced	WTP19	392425	6435643	0	0.1
	*Urospermum picroides	Introduced	WTP40	387657	6435560	0	0.1
	*Urospermum picroides	Introduced	WTP41	387749	6435529	0	0.1
	*Urospermum picroides	Introduced	ANK75B	386188	6435879	0	0.5

Family	Species	Status	Site	Easting	Northing	Number of Individuals	Cover (%)
	*Urospermum picroides	Introduced	ANK11	386717	6435808	1	0.1
	*Urospermum picroides	Introduced	ANK34	391495	6435713	1	0.1
	*Urospermum picroides	Introduced	ANK100	385859	6435862	20	0.1
	*Urospermum picroides	Introduced	WTP43	385614	6435579	25	0.1
	*Urospermum picroides	Introduced	ROC01	385277	6436437	0	0.1
	*Urospermum picroides	Introduced	ROC02	385258	6436257	0	0.1
	*Urospermum picroides	Introduced	ROC05R	385464	6435478	0	0.1
	*Urospermum picroides	Introduced	ROC07R	385505	6435296	0	0.1
	*Urospermum picroides	Introduced	ROC08	385527	6435187	0	0.1
	*Urospermum picroides	Introduced	ROC08R	385527	6435187	0	0.1
	*Urospermum picroides	Introduced	ROC10	385673	6434795	0	0.1
	*Urospermum picroides	Introduced	ROC10R	385673	6434795	0	0.1
	*Urospermum picroides	Introduced	ROC12	385705	6434337	0	0.1
	*Urospermum picroides	Introduced	ROC12R	385705	6434337	0	0.1
	*Urospermum picroides	Introduced	ROC15	385759	6434387	0	0.1
	*Urospermum picroides	Introduced	ROC21	385736	6434496	0	0.1
	*Urospermum picroides	Introduced	ROC22	385482	6435250	0	0.1
	*Urospermum picroides	Introduced	ROC22R	385482	6435250	0	0.1
	*Urospermum picroides	Introduced	ROC24R	385494	6435134	0	0.1
	*Urospermum picroides	Introduced	ROC25	385281	6436212	0	0.1
	*Urospermum picroides	Introduced	ROC31R	385591	6434412	0	0.1
	*Urospermum picroides	Introduced	ROC32R	385541	6434789	0	0.1
	*Urospermum picroides	Introduced	ROC33R	385446	6435307	0	0.1
	*Urospermum picroides	Introduced	ROCR34	385432	6435092	0	0.1
	*Urospermum picroides	Introduced	WLM06	384171	6436126	0	0.1
	*Urospermum picroides	Introduced	WLM12	384162	6435907	0	0.1
	*Urospermum picroides	Introduced	WLM13	385092	6435870	0	0.1
	*Urospermum picroides	Introduced	WLM13R	385092	6435870	0	0.1
	*Urospermum picroides	Introduced	WLM14R	385340	6435839	0	0.1
	*Urospermum picroides	Introduced	WLM15	384095	6435785	0	0.1

Family	Species	Status	Site	Easting	Northing	Number of Individuals	Cover (%)
	*Urospermum picroides	Introduced	WLM16	385089	6435772	0	0.1
	*Urospermum picroides	Introduced	WLM19	383815	6435591	0	0.1
	*Urospermum picroides	Introduced	WLM30	385236	6435739	0	0.1
	*Urospermum picroides	Introduced	WLM40R	385373	6435636	0	0.1
	*Urospermum picroides	Introduced	WLM42	385453	6435739	0	0.1
	*Urospermum picroides	Introduced	WLMR43	385496	6435971	0	0.1
	*Urospermum picroides	Introduced	ROC07	385505	6435296	0	1
	*Urospermum picroides	Introduced	ROC24	385494	6435134	0	1
	*Urospermum picroides	Introduced	ROC33R	385446	6435307	0	1
	*Urospermum picroides	Introduced	ROC33	385446	6435307	0	5
	*Ursinia anthemoides subsp. anthemoides	Introduced	ANK06	385745	6435716	0	0.1
	*Ursinia anthemoides subsp. anthemoides	Introduced	ANK07	385880	6435768	0	0.1
	*Ursinia anthemoides subsp. anthemoides	Introduced	ANK22	389897	6435596	0	0.1
	*Ursinia anthemoides subsp. anthemoides	Introduced	ANK23	390083	6435709	0	0.1
	*Ursinia anthemoides subsp. anthemoides	Introduced	ANK36	391764	6435627	0	0.1
	*Ursinia anthemoides subsp. anthemoides	Introduced	WTP09	389021	6435535	0	0.1
	*Ursinia anthemoides subsp. anthemoides	Introduced	WTP10	389174	6435512	0	0.1
	*Ursinia anthemoides subsp. anthemoides	Introduced	WTP11	389539	6435528	0	0.1
	*Ursinia anthemoides subsp. anthemoides	Introduced	WTP16	390766	6435735	0	0.1
	*Ursinia anthemoides subsp. anthemoides	Introduced	WTP17	392081	6435675	0	0.1
	*Ursinia anthemoides subsp. anthemoides	Introduced	WTP18	392184	6435666	0	0.1
	*Ursinia anthemoides subsp. anthemoides	Introduced	WTP19	392425	6435643	0	0.1
	*Ursinia anthemoides subsp. anthemoides	Introduced	WTP20	392697	6435869	0	0.1
	*Ursinia anthemoides subsp. anthemoides	Introduced	WTP21	392691	6435718	0	0.1
	*Ursinia anthemoides subsp. anthemoides	Introduced	WTP14	390092	6435823	0	0.5
	*Ursinia anthemoides subsp. anthemoides	Introduced	WTP13	389876	6435704	0	1
	*Ursinia anthemoides subsp. anthemoides	Introduced	ANK34	391495	6435713	100	0.1
Boraginaceae	*Echium plantagineum	Introduced (Declared Pest)	Opportunistic	385535	6435189	1	0
Brassicaceae	*Brassica tournefortii	Introduced	ANK02	385449	6435739	0	0.1
	*Brassica tournefortii	Introduced	ANK05	385657	6435591	0	0.1

Family	Species	Status	Site	Easting	Northing	Number of Individuals	Cover (%)
	*Brassica tournefortii	Introduced	ANK06	385745	6435716	0	0.1
	*Brassica tournefortii	Introduced	ANK07	385880	6435768	0	0.1
	*Brassica tournefortii	Introduced	ANK07	385880	6435768	0	0.1
	*Brassica tournefortii	Introduced	ANK15	387745	6435458	0	0.1
	*Brassica tournefortii	Introduced	ANK75A	386257	6435846	0	0.1
	*Brassica tournefortii	Introduced	ANK75B	386188	6435879	0	0.1
	*Brassica tournefortii	Introduced	ANK76	386404	6435876	0	0.1
	*Brassica tournefortii	Introduced	WTP10	389174	6435512	0	0.1
	*Brassica tournefortii	Introduced	WTP15	390462	6435782	0	0.1
	*Brassica tournefortii	Introduced	ROC05	385464	6435478	0	0.1
	*Brassica tournefortii	Introduced	ROC05R	385464	6435478	0	0.1
	*Brassica tournefortii	Introduced	ROC07	385505	6435296	0	0.1
	*Brassica tournefortii	Introduced	ROC07R	385505	6435296	0	0.1
	*Brassica tournefortii	Introduced	WLM09	385332	6435932	0	0.1
	*Brassica tournefortii	Introduced	WLM11	384036	6435925	0	0.1
	*Brassica tournefortii	Introduced	WLM14	385340	6435839	0	0.1
	*Brassica tournefortii	Introduced	WLM17	383926	6435734	0	0.1
	*Brassica tournefortii	Introduced	WLM38	385411	6435805	0	0.1
	*Brassica tournefortii	Introduced	WLMR43	385496	6435971	0	0.1
	*Brassica tournefortii	Introduced	Opportunistic	384007	6435848	1	0
	*Cakile maritima	Introduced	WLM11	384036	6435925	0	0.1
	*Heliophila pusilla	Introduced	WTP13	389876	6435704	0	0.1
	*Raphanus raphanistrum	Introduced	ANK09	386441	6435798	0	0.1
	*Raphanus raphanistrum	Introduced	ANK75B	386188	6435879	0	0.1
	*Raphanus raphanistrum	Introduced	ROC10	385673	6434795	0	0.1
	*Raphanus raphanistrum	Introduced	ROC21	385736	6434496	0	0.1
	*Raphanus raphanistrum	Introduced	Opportunistic	385564	6435896	1	0
Campanulaceae	*Wahlenbergia capensis	Introduced	ANK07	385880	6435768	0	0.1
	*Wahlenbergia capensis	Introduced	ANK20	389347	6435477	0	0.1
	*Wahlenbergia capensis	Introduced	WTP01	386847	6435818	0	0.1

Family	Species	Status	Site	Easting	Northing	Number of Individuals	Cover (%)
	*Wahlenbergia capensis	Introduced	WTP02	386878	6435753	0	0.1
	*Wahlenbergia capensis	Introduced	WTP02	386878	6435753	0	0.1
	*Wahlenbergia capensis	Introduced	WTP08	388591	6435545	0	0.1
	*Wahlenbergia capensis	Introduced	WTP10	389174	6435512	0	0.1
	*Wahlenbergia capensis	Introduced	WTP13	389876	6435704	0	0.1
	*Wahlenbergia capensis	Introduced	WTP15	390462	6435782	0	0.1
	*Wahlenbergia capensis	Introduced	WTP17	392081	6435675	0	0.1
	*Wahlenbergia capensis	Introduced	WTP18	392184	6435666	0	0.1
	*Wahlenbergia capensis	Introduced	WTP19	392425	6435643	0	0.1
	*Wahlenbergia capensis	Introduced	WTP20	392697	6435869	0	0.1
	*Wahlenbergia capensis	Introduced	ANK100	385859	6435862	1	0.1
	*Wahlenbergia capensis	Introduced	ANK11	386717	6435808	25	0.1
Caprifoliaceae	*Centranthus macrosiphon	Introduced	ROC02	385258	6436257	0	0.1
	*Centranthus macrosiphon	Introduced	WLM09	385332	6435932	0	0.1
	*Centranthus macrosiphon	Introduced	ROC32	385541	6434789	0	4
	*Centranthus macrosiphon	Introduced	ROC32R	385541	6434789	0	4
	*Centranthus macrosiphon	Introduced	PLOPP	385489	6435491	1	0
	*Centranthus macrosiphon	Introduced	Opportunistic	385488	6435339	1	0
	*Sixalix atropurpurea	Introduced	ROC01	385277	6436437	0	0.1
	*Sixalix atropurpurea	Introduced	ROC01R	385277	6436437	0	0.1
	*Sixalix atropurpurea	Introduced	ROC02R	385258	6436257	0	0.1
	*Sixalix atropurpurea	Introduced	ROC13	385499	6434517	0	0.1
	*Sixalix atropurpurea	Introduced	ROC13R	385499	6434517	0	0.1
	*Sixalix atropurpurea	Introduced	ROC21	385736	6434496	0	0.1
	*Sixalix atropurpurea	Introduced	ROC21R	385736	6434496	0	0.1
	*Sixalix atropurpurea	Introduced	ROC23	385650	6434903	0	0.1
	*Sixalix atropurpurea	Introduced	ROC23R	385650	6434903	0	0.1
	*Sixalix atropurpurea	Introduced	ROC25	385281	6436212	0	0.1
	*Sixalix atropurpurea	Introduced	ROCR38R	385076	6436110	0	0.1
	*Sixalix atropurpurea	Introduced	WLM10	384217	6435958	0	0.1

Family	Species	Status	Site	Easting	Northing	Number of Individuals	Cover (%)
	*Sixalix atropurpurea	Introduced	WLM12	384162	6435907	0	0.1
	*Sixalix atropurpurea	Introduced	WLM12R	384162	6435907	0	0.1
	*Sixalix atropurpurea	Introduced	WLM16	385089	6435772	0	0.1
	*Sixalix atropurpurea	Introduced	WLM19	383815	6435591	0	0.1
	*Sixalix atropurpurea	Introduced	WLM30	385236	6435739	0	0.1
	*Sixalix atropurpurea	Introduced	WLM18	385232	6435808	0	2
	*Sixalix atropurpurea	Introduced	WLM30	385236	6435739	0	6
	*Sixalix atropurpurea	Introduced	Opportunistic	384127	6436061	1	0
	*Sixalix atropurpurea	Introduced	Opportunistic	385492	6434555	1	0
Caryophyllaceae	*Cerastium glomeratum	Introduced	ANK02	385449	6435739	0	0.1
	*Cerastium glomeratum	Introduced	ANK05	385657	6435591	0	0.1
	*Cerastium glomeratum	Introduced	ANK10	386714	6435658	0	0.1
	*Cerastium glomeratum	Introduced	ANK100	385859	6435862	0	0.1
	*Cerastium glomeratum	Introduced	ANK12	386873	6435630	0	0.1
	*Cerastium glomeratum	Introduced	ANK15	387745	6435458	0	0.1
	*Cerastium glomeratum	Introduced	ANK74	385948	6435846	0	0.1
	*Cerastium glomeratum	Introduced	ANK75A	386257	6435846	0	0.1
	*Cerastium glomeratum	Introduced	ANK75B	386188	6435879	0	0.1
	*Cerastium glomeratum	Introduced	ANK76	386404	6435876	0	0.1
	*Cerastium glomeratum	Introduced	ANK93	386484	6435758	0	0.1
	*Cerastium glomeratum	Introduced	WTP02	386878	6435753	0	0.1
	*Cerastium glomeratum	Introduced	WTP05	387848	6435525	0	0.1
	*Cerastium glomeratum	Introduced	WTP12	389686	6435585	0	0.1
	*Cerastium glomeratum	Introduced	WTP13	389876	6435704	0	0.1
	*Cerastium glomeratum	Introduced	WTP16	390766	6435735	0	0.1
	*Cerastium glomeratum	Introduced	ROC07	385505	6435296	0	0.1
	*Cerastium glomeratum	Introduced	ROC08	385527	6435187	0	0.1
	*Cerastium glomeratum	Introduced	ROC22	385482	6435250	0	0.1
	*Cerastium glomeratum	Introduced	WLM09	385332	6435932	0	0.1
	*Cerastium glomeratum	Introduced	WLM09R	385332	6435932	0	0.1

Family	Species	Status	Site	Easting	Northing	Number of Individuals	Cover (%)
	*Cerastium glomeratum	Introduced	WLM14	385340	6435839	0	0.1
	*Cerastium glomeratum	Introduced	WLM38	385411	6435805	0	0.1
	*Cerastium pumilum	Introduced	ROC19	385721	6434011	0	0.1
	*Minuartia mediterranea	Introduced	ANK06	385745	6435716	0	0.1
	*Minuartia mediterranea	Introduced	ANK94	386709	6435757	0	0.1
	*Minuartia mediterranea	Introduced	ROC05	385464	6435478	0	0.1
	*Minuartia mediterranea	Introduced	ROC15	385759	6434387	0	0.1
	*Minuartia mediterranea	Introduced	ROC22	385482	6435250	0	0.1
	*Minuartia mediterranea	Introduced	ROC22R	385482	6435250	0	0.1
	*Minuartia mediterranea	Introduced	WLM16	385089	6435772	0	0.1
	*Petrorhagia dubia	Introduced	ANK06	385745	6435716	0	0.1
	*Petrorhagia dubia	Introduced	ANK06	385745	6435716	0	0.1
	*Petrorhagia dubia	Introduced	ANK10	386714	6435658	0	0.1
	*Petrorhagia dubia	Introduced	ANK100	385859	6435862	0	0.1
	*Petrorhagia dubia	Introduced	ANK12	386873	6435630	0	0.1
	*Petrorhagia dubia	Introduced	ANK16	387935	6435456	0	0.1
	*Petrorhagia dubia	Introduced	ANK17	388176	6435464	0	0.1
	*Petrorhagia dubia	Introduced	ANK74	385948	6435846	0	0.1
	*Petrorhagia dubia	Introduced	ANK75B	386188	6435879	0	0.1
	*Petrorhagia dubia	Introduced	ANK76	386404	6435876	0	0.1
	*Petrorhagia dubia	Introduced	ANK93	386484	6435758	0	0.1
	*Petrorhagia dubia	Introduced	WTP01	386847	6435818	0	0.1
	*Petrorhagia dubia	Introduced	WTP02	386878	6435753	0	0.1
	*Petrorhagia dubia	Introduced	WTP05	387848	6435525	0	0.1
	*Petrorhagia dubia	Introduced	WTP09	389021	6435535	0	0.1
	*Petrorhagia dubia	Introduced	WTP10	389174	6435512	0	0.1
	*Petrorhagia dubia	Introduced	WTP11	389539	6435528	0	0.1
	*Petrorhagia dubia	Introduced	WTP13	389876	6435704	0	0.1
	*Petrorhagia dubia	Introduced	WTP14	390092	6435823	0	0.1
	*Petrorhagia dubia	Introduced	WTP18	392184	6435666	0	0.1

Family	Species	Status	Site	Easting	Northing	Number of Individuals	Cover (%)
	*Petrorhagia dubia	Introduced	WTP41	387749	6435529	0	0.1
	*Petrorhagia dubia	Introduced	WTP12	389686	6435585	0	0.5
	*Petrorhagia dubia	Introduced	ROC16R	385662	6434137	0	0.1
	*Petrorhagia dubia	Introduced	ROC18	385645	6434075	0	0.1
	*Petrorhagia dubia	Introduced	ROC18R	385645	6434075	0	0.1
	*Petrorhagia dubia	Introduced	ROC19	385721	6434011	0	0.1
	*Petrorhagia dubia	Introduced	ROC19R	385721	6434011	0	0.1
	*Petrorhagia dubia	Introduced	ROC32	385541	6434789	0	0.1
	*Petrorhagia dubia	Introduced	ROC32R	385541	6434789	0	0.1
	*Petrorhagia dubia	Introduced	WLM09	385332	6435932	0	0.1
	*Petrorhagia dubia	Introduced	WLM09R	385332	6435932	0	0.1
	*Petrorhagia dubia	Introduced	WLM14R	385340	6435839	0	0.1
	*Petrorhagia dubia	Introduced	WLM16R	385089	6435772	0	0.1
	*Petrorhagia dubia	Introduced	WLM38	385411	6435805	0	0.1
	*Petrorhagia dubia	Introduced	WLM40	385373	6435636	0	0.1
	*Petrorhagia dubia	Introduced	WLM40R	385373	6435636	0	0.1
	*Polycarpon tetraphyllum	Introduced	ANK05	385657	6435591	0	0.1
	*Polycarpon tetraphyllum	Introduced	ANK06	385745	6435716	0	0.1
	*Polycarpon tetraphyllum	Introduced	ANK10	386714	6435658	0	0.1
	*Polycarpon tetraphyllum	Introduced	ANK11	386717	6435808	0	0.1
	*Polycarpon tetraphyllum	Introduced	ANK75A	386257	6435846	0	0.1
	*Polycarpon tetraphyllum	Introduced	ANK76	386404	6435876	0	0.1
	*Polycarpon tetraphyllum	Introduced	WTP02	386878	6435753	0	0.1
	*Polycarpon tetraphyllum	Introduced	ROC16	385662	6434137	0	0.1
	*Polycarpon tetraphyllum	Introduced	ROC18R	385645	6434075	0	0.1
	*Polycarpon tetraphyllum	Introduced	ROC19R	385721	6434011	0	0.1
	*Sagina apetala	Introduced	ANK10	386714	6435658	0	0.1
	*Sagina apetala	Introduced	ANK11	386717	6435808	0	0.1
	*Sagina apetala	Introduced	ANK75A	386257	6435846	0	0.1
	*Sagina apetala	Introduced	ANK75B	386188	6435879	0	0.1

Family	Species	Status	Site	Easting	Northing	Number of Individuals	Cover (%)
	*Silene gallica var. gallica	Introduced	WTP10	389174	6435512	0	0.1
	*Silene gallica var. gallica	Introduced	WTP13	389876	6435704	0	0.1
	*Silene nocturna	Introduced	ANK06	385745	6435716	0	0.1
	*Stellaria pallida	Introduced	ANK100	385859	6435862	0	0.1
	*Stellaria pallida	Introduced	ANK74	385948	6435846	0	0.1
	*Stellaria pallida	Introduced	ANK75A	386257	6435846	0	0.1
	*Stellaria pallida	Introduced	WTP05	387848	6435525	0	0.1
	*Stellaria pallida	Introduced	ROC08	385527	6435187	0	0.1
Crassulaceae	*Crassula glomerata	Introduced	ANK02	385449	6435739	0	0.1
	*Crassula glomerata	Introduced	ANK07	385880	6435768	0	0.1
	*Crassula glomerata	Introduced	ANK08	386141	6435764	0	0.1
	*Crassula glomerata	Introduced	ANK10	386714	6435658	0	0.1
	*Crassula glomerata	Introduced	ANK100	385859	6435862	0	0.1
	*Crassula glomerata	Introduced	ANK11	386717	6435808	0	0.1
	*Crassula glomerata	Introduced	ANK15	387745	6435458	0	0.1
	*Crassula glomerata	Introduced	ANK17	388176	6435464	0	0.1
	*Crassula glomerata	Introduced	ANK34	391495	6435713	0	0.1
	*Crassula glomerata	Introduced	ANK75A	386257	6435846	0	0.1
	*Crassula glomerata	Introduced	ANK76	386404	6435876	0	0.1
	*Crassula glomerata	Introduced	ANK93	386484	6435758	0	0.1
	*Crassula glomerata	Introduced	ANK94	386709	6435757	0	0.1
	*Crassula glomerata	Introduced	WTP02	386878	6435753	0	0.1
	*Crassula glomerata	Introduced	WTP05	387848	6435525	0	0.1
	*Crassula glomerata	Introduced	WTP09	389021	6435535	0	0.1
	*Crassula glomerata	Introduced	WTP41	387749	6435529	0	0.1
	*Crassula glomerata	Introduced	ROC05	385464	6435478	0	0.1
	*Crassula glomerata	Introduced	ROC08	385527	6435187	0	0.1
	*Crassula glomerata	Introduced	ROC08R	385527	6435187	0	0.1
	*Crassula glomerata	Introduced	ROC15	385759	6434387	0	0.1
	*Crassula glomerata	Introduced	ROC19	385721	6434011	0	0.1

Family	Species	Status	Site	Easting	Northing	Number of Individuals	Cover (%)
	*Crassula glomerata	Introduced	ROC21	385736	6434496	0	0.1
	*Crassula glomerata	Introduced	ROC22	385482	6435250	0	0.1
	*Crassula glomerata	Introduced	WLM06	384171	6436126	0	0.1
	*Crassula glomerata	Introduced	WLM13	385092	6435870	0	0.1
	*Crassula glomerata	Introduced	WLM13R	385092	6435870	0	0.1
	*Crassula glomerata	Introduced	WLM16R	385089	6435772	0	0.1
	*Crassula glomerata	Introduced	WLM17	383926	6435734	0	0.1
	*Crassula glomerata	Introduced	WLM18	385232	6435808	0	0.1
	*Crassula glomerata	Introduced	WLM19	383815	6435591	0	0.1
	*Crassula glomerata	Introduced	WLM38	385411	6435805	0	0.1
	*Crassula glomerata	Introduced	WLM38	385411	6435805	0	0.1
Cyperaceae	*Ficinia marginata	Introduced	ROC08	385527	6435187	0	0.1
	*Ficinia marginata	Introduced	ROC24	385494	6435134	0	0.1
Euphorbiaceae	*Euphorbia paralias	Introduced	WLM17R	383926	6435734	0	0.1
	*Euphorbia paralias	Introduced	WLM11	384036	6435925	0	1
	*Euphorbia paralias	Introduced	WLM11R	384036	6435925	0	1
	*Euphorbia paralias	Introduced	WLM19	383815	6435591	0	1.5
	*Euphorbia paralias	Introduced	WLM19R	383815	6435591	0	1.5
	*Euphorbia paralias	Introduced	Opportunistic	385565	6434932	1	0
	*Euphorbia peplus	Introduced	ANK01	385516	6435622	0	0.1
	*Euphorbia peplus	Introduced	ANK05	385657	6435591	0	0.1
	*Euphorbia peplus	Introduced	ANK06	385745	6435716	0	0.1
	*Euphorbia peplus	Introduced	ANK08	386141	6435764	0	0.1
	*Euphorbia peplus	Introduced	ANK09	386441	6435798	0	0.1
	*Euphorbia peplus	Introduced	ANK10	386714	6435658	0	0.1
	*Euphorbia peplus	Introduced	ANK11	386717	6435808	0	0.1
	*Euphorbia peplus	Introduced	ANK14	387522	6435455	0	0.1
	*Euphorbia peplus	Introduced	ANK15	387745	6435458	0	0.1
	*Euphorbia peplus	Introduced	ANK16	387935	6435456	0	0.1
	*Euphorbia peplus	Introduced	ANK17	388176	6435464	0	0.1

Family	Species	Status	Site	Easting	Northing	Number of Individuals	Cover (%)
	*Euphorbia peplus	Introduced	ANK18	388477	6435472	0	0.1
	*Euphorbia peplus	Introduced	ANK19	388845	6435463	0	0.1
	*Euphorbia peplus	Introduced	ANK20	389347	6435477	0	0.1
	*Euphorbia peplus	Introduced	ANK21	389623	6435488	0	0.1
	*Euphorbia peplus	Introduced	ANK75A	386257	6435846	0	0.1
	*Euphorbia peplus	Introduced	ANK76	386404	6435876	0	0.1
	*Euphorbia peplus	Introduced	ANK93	386484	6435758	0	0.1
	*Euphorbia peplus	Introduced	ANK99	385770	6435916	0	0.1
	*Euphorbia peplus	Introduced	WTP02	386878	6435753	0	0.1
	*Euphorbia peplus	Introduced	WTP05	387848	6435525	0	0.1
	*Euphorbia peplus	Introduced	WTP06	388344	6435531	0	0.1
	*Euphorbia peplus	Introduced	WTP08	388591	6435545	0	0.1
	*Euphorbia peplus	Introduced	WTP10	389174	6435512	0	0.1
	*Euphorbia peplus	Introduced	WTP11	389539	6435528	0	0.1
	*Euphorbia peplus	Introduced	WTP17	392081	6435675	0	0.1
	*Euphorbia peplus	Introduced	WTP38	387494	6435565	0	0.1
	*Euphorbia peplus	Introduced	WTP39	387525	6435568	0	0.1
	*Euphorbia peplus	Introduced	WTP40	387657	6435560	0	0.1
	*Euphorbia peplus	Introduced	WTP41	387749	6435529	0	0.1
	*Euphorbia peplus	Introduced	ANK75B	386188	6435879	0	0.5
	*Euphorbia peplus	Introduced	WTP15	390462	6435782	0	0.5
	*Euphorbia peplus	Introduced	ANK07	385880	6435768	0	1
	*Euphorbia peplus	Introduced	ANK12	386873	6435630	0	1
	*Euphorbia peplus	Introduced	WTP12	389686	6435585	0	1
	*Euphorbia peplus	Introduced	WTP01	386847	6435818	0	2
	*Euphorbia peplus	Introduced	ANK35	391771	6435741	0	2.5
	*Euphorbia peplus	Introduced	ANK02	385449	6435739	0	3
	*Euphorbia peplus	Introduced	ANK94	386709	6435757	0	4
	*Euphorbia peplus	Introduced	ANK100	385859	6435862	0	5
	*Euphorbia peplus	Introduced	ANK74	385948	6435846	0	5

Family	Species	Status	Site	Easting	Northing	Number of Individuals	Cover (%)
	*Euphorbia peplus	Introduced	WTP43	385614	6435579	100	0.5
	*Euphorbia peplus	Introduced	ANK34	391495	6435713	200	0.1
	*Euphorbia peplus	Introduced	ROC01R	385277	6436437	0	0.1
	*Euphorbia peplus	Introduced	ROC06R	385600	6435469	0	0.1
	*Euphorbia peplus	Introduced	ROC07R	385505	6435296	0	0.1
	*Euphorbia peplus	Introduced	ROC08R	385527	6435187	0	0.1
	*Euphorbia peplus	Introduced	ROC10	385673	6434795	0	0.1
	*Euphorbia peplus	Introduced	ROC10R	385673	6434795	0	0.1
	*Euphorbia peplus	Introduced	ROC11	385490	6434691	0	0.1
	*Euphorbia peplus	Introduced	ROC12	385705	6434337	0	0.1
	*Euphorbia peplus	Introduced	ROC12R	385705	6434337	0	0.1
	*Euphorbia peplus	Introduced	ROC16	385662	6434137	0	0.1
	*Euphorbia peplus	Introduced	ROC16R	385662	6434137	0	0.1
	*Euphorbia peplus	Introduced	ROC18	385645	6434075	0	0.1
	*Euphorbia peplus	Introduced	ROC18R	385645	6434075	0	0.1
	*Euphorbia peplus	Introduced	ROC19	385721	6434011	0	0.1
	*Euphorbia peplus	Introduced	ROC19R	385721	6434011	0	0.1
	*Euphorbia peplus	Introduced	ROC20	385778	6434275	0	0.1
	*Euphorbia peplus	Introduced	ROC22R	385482	6435250	0	0.1
	*Euphorbia peplus	Introduced	ROC23	385650	6434903	0	0.1
	*Euphorbia peplus	Introduced	ROC23R	385650	6434903	0	0.1
	*Euphorbia peplus	Introduced	ROC25	385281	6436212	0	0.1
	*Euphorbia peplus	Introduced	ROC27	385602	6434872	0	0.1
	*Euphorbia peplus	Introduced	ROC29R	385602	6434872	0	0.1
	*Euphorbia peplus	Introduced	ROC30	385591	6434043	0	0.1
	*Euphorbia peplus	Introduced	ROC30R	385591	6434043	0	0.1
	*Euphorbia peplus	Introduced	ROC31	385591	6434412	0	0.1
	*Euphorbia peplus	Introduced	ROC31R	385591	6434412	0	0.1
	*Euphorbia peplus	Introduced	ROC32	385541	6434789	0	0.1
	*Euphorbia peplus	Introduced	ROC32R	385541	6434789	0	0.1

Family	Species	Status	Site	Easting	Northing	Number of Individuals	Cover (%)
	*Euphorbia peplus	Introduced	ROCR38	385076	6436110	0	0.1
	*Euphorbia peplus	Introduced	ROCR38R	385076	6436110	0	0.1
	*Euphorbia peplus	Introduced	WLM06	384171	6436126	0	0.1
	*Euphorbia peplus	Introduced	WLM09	385332	6435932	0	0.1
	*Euphorbia peplus	Introduced	WLM09R	385332	6435932	0	0.1
	*Euphorbia peplus	Introduced	WLM12	384162	6435907	0	0.1
	*Euphorbia peplus	Introduced	WLM13	385092	6435870	0	0.1
	*Euphorbia peplus	Introduced	WLM13R	385092	6435870	0	0.1
	*Euphorbia peplus	Introduced	WLM14	385340	6435839	0	0.1
	*Euphorbia peplus	Introduced	WLM14R	385340	6435839	0	0.1
	*Euphorbia peplus	Introduced	WLM15R	384095	6435785	0	0.1
	*Euphorbia peplus	Introduced	WLM16	385089	6435772	0	0.1
	*Euphorbia peplus	Introduced	WLM16R	385089	6435772	0	0.1
	*Euphorbia peplus	Introduced	WLM18	385232	6435808	0	0.1
	*Euphorbia peplus	Introduced	WLM30	385236	6435739	0	0.1
	*Euphorbia peplus	Introduced	WLM38	385411	6435805	0	0.1
	*Euphorbia peplus	Introduced	WLM40	385373	6435636	0	0.1
	*Euphorbia peplus	Introduced	WLM40R	385373	6435636	0	0.1
	*Euphorbia peplus	Introduced	WLM41	385280	6435981	0	0.1
	*Euphorbia peplus	Introduced	WLM42	385453	6435739	0	0.1
	*Euphorbia peplus	Introduced	ROC21	385736	6434496	0	0.5
	*Euphorbia peplus	Introduced	ROC33R	385446	6435307	0	0.5
	*Euphorbia peplus	Introduced	WLM07R	385307	6436060	0	0.5
	*Euphorbia peplus	Introduced	ROC01	385277	6436437	0	1
	*Euphorbia peplus	Introduced	ROC08	385527	6435187	0	1
	*Euphorbia peplus	Introduced	ROC24R	385494	6435134	0	1
	*Euphorbia peplus	Introduced	ROCR34	385432	6435092	0	1
	*Euphorbia peplus	Introduced	WLM08	384097	6435951	0	1
	*Euphorbia peplus	Introduced	ROC05	385464	6435478	0	2
	*Euphorbia peplus	Introduced	ROC22	385482	6435250	0	2

Family	Species	Status	Site	Easting	Northing	Number of Individuals	Cover (%)
	*Euphorbia peplus	Introduced	WLM07	385307	6436060	0	2
	*Euphorbia peplus	Introduced	WLM10R	384217	6435958	0	2
	*Euphorbia peplus	Introduced	WLM15	384095	6435785	0	2
	*Euphorbia peplus	Introduced	ROC15	385759	6434387	0	3
	*Euphorbia peplus	Introduced	WLM10	384217	6435958	0	3
	*Euphorbia peplus	Introduced	ROC06	385600	6435469	0	4
	*Euphorbia peplus	Introduced	ROC24	385494	6435134	0	5
	*Euphorbia peplus	Introduced	ROC33	385446	6435307	0	5
	*Euphorbia peplus	Introduced	ROC07	385505	6435296	0	6
	*Euphorbia terracina	Introduced	ANK06	385745	6435716	0	0.1
	*Euphorbia terracina	Introduced	ANK07	385880	6435768	0	0.1
	*Euphorbia terracina	Introduced	ANK08	386141	6435764	0	0.1
	*Euphorbia terracina	Introduced	ANK09	386441	6435798	0	0.1
	*Euphorbia terracina	Introduced	ANK10	386714	6435658	0	0.1
	*Euphorbia terracina	Introduced	ANK16	387935	6435456	0	0.1
	*Euphorbia terracina	Introduced	ANK17	388176	6435464	0	0.1
	*Euphorbia terracina	Introduced	ANK18	388477	6435472	0	0.1
	*Euphorbia terracina	Introduced	ANK19	388845	6435463	0	0.1
	*Euphorbia terracina	Introduced	ANK20	389347	6435477	0	0.1
	*Euphorbia terracina	Introduced	ANK35	391771	6435741	0	0.1
	*Euphorbia terracina	Introduced	ANK75A	386257	6435846	0	0.1
	*Euphorbia terracina	Introduced	ANK93	386484	6435758	0	0.1
	*Euphorbia terracina	Introduced	ANK99	385770	6435916	0	0.1
	*Euphorbia terracina	Introduced	WTP05	387848	6435525	0	0.1
	*Euphorbia terracina	Introduced	WTP12	389686	6435585	0	0.1
	*Euphorbia terracina	Introduced	WTP17	392081	6435675	0	0.1
	*Euphorbia terracina	Introduced	WTP19	392425	6435643	0	0.1
	*Euphorbia terracina	Introduced	WTP38	387494	6435565	0	0.1
	*Euphorbia terracina	Introduced	WTP41	387749	6435529	0	0.1
	*Euphorbia terracina	Introduced	ANK15	387745	6435458	0	0.5

Family	Species	Status	Site	Easting	Northing	Number of Individuals	Cover (%)
	*Euphorbia terracina	Introduced	ANK34	391495	6435713	0	0.5
	*Euphorbia terracina	Introduced	ANK21	389623	6435488	0	1
	*Euphorbia terracina	Introduced	ANK25	390210	6435781	0	1
	*Euphorbia terracina	Introduced	WTP06	388344	6435531	0	1
	*Euphorbia terracina	Introduced	WTP15	390462	6435782	0	1
	*Euphorbia terracina	Introduced	WTP40	387657	6435560	0	1
	*Euphorbia terracina	Introduced	ANK14	387522	6435455	0	1.5
	*Euphorbia terracina	Introduced	WTP39	387525	6435568	0	2
	*Euphorbia terracina	Introduced	WTP43	385614	6435579	0	3
	*Euphorbia terracina	Introduced	ROC01	385277	6436437	0	0.1
	*Euphorbia terracina	Introduced	ROC01R	385277	6436437	0	0.1
	*Euphorbia terracina	Introduced	ROC02	385258	6436257	0	0.1
	*Euphorbia terracina	Introduced	ROC02R	385258	6436257	0	0.1
	*Euphorbia terracina	Introduced	ROC05	385464	6435478	0	0.1
	*Euphorbia terracina	Introduced	ROC05R	385464	6435478	0	0.1
	*Euphorbia terracina	Introduced	ROC06	385600	6435469	0	0.1
	*Euphorbia terracina	Introduced	ROC06R	385600	6435469	0	0.1
	*Euphorbia terracina	Introduced	ROC12	385705	6434337	0	0.1
	*Euphorbia terracina	Introduced	ROC12R	385705	6434337	0	0.1
	*Euphorbia terracina	Introduced	ROC18	385645	6434075	0	0.1
	*Euphorbia terracina	Introduced	ROC18R	385645	6434075	0	0.1
	*Euphorbia terracina	Introduced	ROC19	385721	6434011	0	0.1
	*Euphorbia terracina	Introduced	ROC22	385482	6435250	0	0.1
	*Euphorbia terracina	Introduced	ROC22R	385482	6435250	0	0.1
	*Euphorbia terracina	Introduced	ROC25	385281	6436212	0	0.1
	*Euphorbia terracina	Introduced	ROC30	385591	6434043	0	0.1
	*Euphorbia terracina	Introduced	ROC30R	385591	6434043	0	0.1
	*Euphorbia terracina	Introduced	ROC31	385591	6434412	0	0.1
	*Euphorbia terracina	Introduced	ROC31R	385591	6434412	0	0.1
	*Euphorbia terracina	Introduced	ROC32	385541	6434789	0	0.1

Family	Species	Status	Site	Easting	Northing	Number of Individuals	Cover (%)
	*Euphorbia terracina	Introduced	ROC32R	385541	6434789	0	0.1
	*Euphorbia terracina	Introduced	ROC33	385446	6435307	0	0.1
	*Euphorbia terracina	Introduced	ROC33R	385446	6435307	0	0.1
	*Euphorbia terracina	Introduced	ROCR34	385432	6435092	0	0.1
	*Euphorbia terracina	Introduced	ROCR38	385076	6436110	0	0.1
	*Euphorbia terracina	Introduced	WLM06R	384171	6436126	0	0.1
	*Euphorbia terracina	Introduced	WLM07	385307	6436060	0	0.1
	*Euphorbia terracina	Introduced	WLM07R	385307	6436060	0	0.1
	*Euphorbia terracina	Introduced	WLM08	384097	6435951	0	0.1
	*Euphorbia terracina	Introduced	WLM09	385332	6435932	0	0.1
	*Euphorbia terracina	Introduced	WLM09R	385332	6435932	0	0.1
	*Euphorbia terracina	Introduced	WLM10	384217	6435958	0	0.1
	*Euphorbia terracina	Introduced	WLM10R	384217	6435958	0	0.1
	*Euphorbia terracina	Introduced	WLM11R	384036	6435925	0	0.1
	*Euphorbia terracina	Introduced	WLM12	384162	6435907	0	0.1
	*Euphorbia terracina	Introduced	WLM12R	384162	6435907	0	0.1
	*Euphorbia terracina	Introduced	WLM14	385340	6435839	0	0.1
	*Euphorbia terracina	Introduced	WLM14R	385340	6435839	0	0.1
	*Euphorbia terracina	Introduced	WLM15R	384095	6435785	0	0.1
	*Euphorbia terracina	Introduced	WLM16	385089	6435772	0	0.1
	*Euphorbia terracina	Introduced	WLM16R	385089	6435772	0	0.1
	*Euphorbia terracina	Introduced	WLM17	383926	6435734	0	0.1
	*Euphorbia terracina	Introduced	WLM17R	383926	6435734	0	0.1
	*Euphorbia terracina	Introduced	WLM18	385232	6435808	0	0.1
	*Euphorbia terracina	Introduced	WLM19	383815	6435591	0	0.1
	*Euphorbia terracina	Introduced	WLM19R	383815	6435591	0	0.1
	*Euphorbia terracina	Introduced	WLM30	385236	6435739	0	0.1
	*Euphorbia terracina	Introduced	WLM40	385373	6435636	0	0.1
	*Euphorbia terracina	Introduced	WLM40R	385373	6435636	0	0.1
	*Euphorbia terracina	Introduced	WLM42	385453	6435739	0	0.1

Family	Species	Status	Site	Easting	Northing	Number of Individuals	Cover (%)
	*Euphorbia terracina	Introduced	WLMR43	385496	6435971	0	0.1
	*Euphorbia terracina	Introduced	ROC04	385630	6436000	0	0.5
	*Euphorbia terracina	Introduced	ROC04R	385630	6436000	0	0.5
	*Euphorbia terracina	Introduced	WLM06	384171	6436126	0	0.5
	*Euphorbia terracina	Introduced	ROC03	385362	6436184	0	1
	*Euphorbia terracina	Introduced	ROC03R	385362	6436184	0	1
	*Euphorbia terracina	Introduced	ROC15	385759	6434387	0	1
	*Euphorbia terracina	Introduced	ROC15R	385759	6434387	0	1
	*Euphorbia terracina	Introduced	ROC20	385778	6434275	0	1
	*Euphorbia terracina	Introduced	ROC24	385494	6435134	0	1
	*Euphorbia terracina	Introduced	ROC24R	385494	6435134	0	1
	*Euphorbia terracina	Introduced	ROC29R	385602	6434872	0	1
	*Euphorbia terracina	Introduced	WLM11	384036	6435925	0	1
	*Euphorbia terracina	Introduced	ROC21R	385736	6434496	0	2
	*Euphorbia terracina	Introduced	ROC23R	385650	6434903	0	2
	*Euphorbia terracina	Introduced	ROC27	385602	6434872	0	2
	*Euphorbia terracina	Introduced	ROC27R	385602	6434872	0	2
	*Euphorbia terracina	Introduced	ROCR38R	385076	6436110	0	2
	*Euphorbia terracina	Introduced	WLM15	384095	6435785	0	2
	*Euphorbia terracina	Introduced	ROC23	385650	6434903	0	4
	*Euphorbia terracina	Introduced	WLM41	385280	6435981	0	4
	*Euphorbia terracina	Introduced	ROC10	385673	6434795	0	5
	*Euphorbia terracina	Introduced	ROC10R	385673	6434795	0	5
	*Euphorbia terracina	Introduced	ROC21	385736	6434496	0	5
	*Euphorbia terracina	Introduced	ROC13	385499	6434517	0	7
	*Euphorbia terracina	Introduced	ROC13R	385499	6434517	0	7
	*Euphorbia terracina	Introduced	ROC16	385662	6434137	0	7
	*Euphorbia terracina	Introduced	ROC16R	385662	6434137	0	7
	*Euphorbia terracina	Introduced	ROC11	385490	6434691	0	8
	*Euphorbia terracina	Introduced	ROC11R	385490	6434691	0	8

Family	Species	Status	Site	Easting	Northing	Number of Individuals	Cover (%)
	*Ricinus communis	Introduced	Opportunistic	389132	6435467	1	0
	*Ricinus communis	Introduced	Opportunistic	387536	6435545	6	0
	*Ricinus communis	Introduced	Opportunistic	387555	6435562	12	0
	*Ricinus communis	Introduced	Opportunistic	387571	6435539	25	0
	*Ricinus communis	Introduced	Opportunistic	387514	6435528	30	0
	*Ricinus communis	Introduced	ROC01	385277	6436437	0	0.1
	*Ricinus communis	Introduced	ROCR38	385076	6436110	0	0.1
	*Ricinus communis	Introduced	ROCR38R	385076	6436110	0	3
	*Ricinus communis	Introduced	ROC30	385591	6434043	0	6
	*Ricinus communis	Introduced	ROC30R	385591	6434043	0	6
	*Ricinus communis	Introduced	PLOPP	384142	6435743	1	0
	*Ricinus communis	Introduced	PLOPP	384142	6435743	1	0
	*Ricinus communis	Introduced	PLOPP	384142	6435743	1	0
	*Ricinus communis	Introduced	Opportunistic	385140	6436129	1	0
	*Ricinus communis	Introduced	Opportunistic	385643	6435103	1	0
	*Ricinus communis	Introduced	Opportunistic	385201	6435765	1	0
	*Ricinus communis	Introduced	Opportunistic	384158	6435753	1	0
	*Ricinus communis	Introduced	Opportunistic	384162	6435970	1	0
	*Ricinus communis	Introduced	Opportunistic	384150	6435984	1	0
	*Ricinus communis	Introduced	Opportunistic	384119	6436053	1	0
	*Ricinus communis	Introduced	Opportunistic	385127	6436072	1	0
	*Ricinus communis	Introduced	Opportunistic	385248	6436169	1	0
	*Ricinus communis	Introduced	Opportunistic	385609	6435151	1	0
	*Ricinus communis	Introduced	Opportunistic	385736	6434423	1	0
	*Ricinus communis	Introduced	Opportunistic	385705	6434554	1	0
	*Ricinus communis	Introduced	Opportunistic	385617	6434815	1	0
	*Ricinus communis	Introduced	Opportunistic	385494	6434587	1	0
	*Ricinus communis	Introduced	Opportunistic	385555	6435138	1	0
	*Ricinus communis	Introduced	Opportunistic	385807	6434077	1	0
	*Ricinus communis	Introduced	Opportunistic	385522	6435149	1	0

Family	Species	Status	Site	Easting	Northing	Number of Individuals	Cover (%)
	*Ricinus communis	Introduced	Opportunistic	385526	6435080	1	0
	*Ricinus communis	Introduced	Opportunistic	385820	6434044	1	0
	*Ricinus communis	Introduced	Opportunistic	385641	6435082	1	0
	*Ricinus communis	Introduced	Opportunistic	385544	6434983	1	0
	*Ricinus communis	Introduced	Opportunistic	385241	6435712	1	0
	*Ricinus communis	Introduced	Opportunistic	385555	6435144	1	0
	*Ricinus communis	Introduced	Opportunistic	384162	6435761	1	0
	*Ricinus communis	Introduced	Opportunistic	385677	6434798	1	0
Fabaceae	*Acacia iteaphylla	Introduced	ANK20	389347	6435477	0	1
	*Acacia longifolia subsp. longifolia	Introduced	ROC20	385778	6434275	0	0.1
	*Lotus subbiflorus	Introduced	WTP13	389876	6435704	0	0.1
	*Lotus subbiflorus	Introduced	ANK35	391771	6435741	0	0.25
	*Lupinus angustifolius	Introduced	ANK21	389623	6435488	0	0.1
	*Lupinus angustifolius	Introduced	WTP06	388344	6435531	0	0.1
	*Lupinus angustifolius	Introduced	WTP39	387525	6435568	0	0.1
	*Lupinus cosentinii	Introduced	ANK07	385880	6435768	0	0.1
	*Lupinus cosentinii	Introduced	WTP11	389539	6435528	0	0.1
	*Lupinus cosentinii	Introduced	WTP17	392081	6435675	0	0.1
	*Lupinus cosentinii	Introduced	WTP39	387525	6435568	0	0.1
	*Lupinus cosentinii	Introduced	ANK34	391495	6435713	2	0.1
	*Lupinus cosentinii	Introduced	WLMR43	385496	6435971	0	0.1
	*Lupinus cosentinii	Introduced	PLOPP	385475	6435474	1	0
	*Lupinus cosentinii	Introduced	Opportunistic	385581	6435974	1	0
	*Retama raetam	Introduced	ANK34	391495	6435713	0	0.1
	*Trifolium angustifolium var. angustifolium	Introduced	ROC01	385277	6436437	0	0.1
	*Trifolium angustifolium var. angustifolium	Introduced	ROC02	385258	6436257	0	0.1
	*Trifolium angustifolium var. angustifolium	Introduced	ROC12	385705	6434337	0	0.1
	*Trifolium arvense var. arvense	Introduced	ANK07	385880	6435768	0	0.1
	*Trifolium arvense var. arvense	Introduced	WTP02	386878	6435753	0	0.1
	*Trifolium arvense var. arvense	Introduced	ROC25	385281	6436212	0	0.1

Family	Species	Status	Site	Easting	Northing	Number of Individuals	Cover (%)
	*Trifolium campestre var. campestre	Introduced	ANK05	385657	6435591	0	0.1
	*Trifolium campestre var. campestre	Introduced	ANK06	385745	6435716	0	0.1
	*Trifolium campestre var. campestre	Introduced	ANK07	385880	6435768	0	0.1
	*Trifolium campestre var. campestre	Introduced	ANK08	386141	6435764	0	0.1
	*Trifolium campestre var. campestre	Introduced	ANK10	386714	6435658	0	0.1
	*Trifolium campestre var. campestre	Introduced	ANK12	386873	6435630	0	0.1
	*Trifolium campestre var. campestre	Introduced	ANK14	387522	6435455	0	0.1
	*Trifolium campestre var. campestre	Introduced	ANK16	387935	6435456	0	0.1
	*Trifolium campestre var. campestre	Introduced	ANK20	389347	6435477	0	0.1
	*Trifolium campestre var. campestre	Introduced	ANK21	389623	6435488	0	0.1
	*Trifolium campestre var. campestre	Introduced	ANK35	391771	6435741	0	0.1
	*Trifolium campestre var. campestre	Introduced	ANK74	385948	6435846	0	0.1
	*Trifolium campestre var. campestre	Introduced	ANK76	386404	6435876	0	0.1
	*Trifolium campestre var. campestre	Introduced	ANK93	386484	6435758	0	0.1
	*Trifolium campestre var. campestre	Introduced	ANK94	386709	6435757	0	0.1
	*Trifolium campestre var. campestre	Introduced	WTP02	386878	6435753	0	0.1
	*Trifolium campestre var. campestre	Introduced	WTP05	387848	6435525	0	0.1
	*Trifolium campestre var. campestre	Introduced	WTP06	388344	6435531	0	0.1
	*Trifolium campestre var. campestre	Introduced	WTP09	389021	6435535	0	0.1
	*Trifolium campestre var. campestre	Introduced	WTP13	389876	6435704	0	0.1
	*Trifolium campestre var. campestre	Introduced	WTP15	390462	6435782	0	0.1
	*Trifolium campestre var. campestre	Introduced	WTP18	392184	6435666	0	0.1
	*Trifolium campestre var. campestre	Introduced	WTP38	387494	6435565	0	0.1
	*Trifolium campestre var. campestre	Introduced	WTP39	387525	6435568	0	0.1
	*Trifolium campestre var. campestre	Introduced	WTP41	387749	6435529	0	0.1
	*Trifolium campestre var. campestre	Introduced	WTP41	387749	6435529	0	0.1
	*Trifolium campestre var. campestre	Introduced	WTP43	385614	6435579	0	0.1
	*Trifolium campestre var. campestre	Introduced	ANK02	385449	6435739	0	0.5
	*Trifolium campestre var. campestre	Introduced	WTP12	389686	6435585	0	0.5
	*Trifolium campestre var. campestre	Introduced	WTP11	389539	6435528	0	1.5

Family	Species	Status	Site	Easting	Northing	Number of Individuals	Cover (%)
	*Trifolium campestre var. campestre	Introduced	ANK100	385859	6435862	50	0.1
	*Trifolium campestre var. campestre	Introduced	ANK34	391495	6435713	50	0.1
	*Trifolium campestre var. campestre	Introduced	ROC02	385258	6436257	0	0.1
	*Trifolium campestre var. campestre	Introduced	ROC02R	385258	6436257	0	0.1
	*Trifolium campestre var. campestre	Introduced	ROC05	385464	6435478	0	0.1
	*Trifolium campestre var. campestre	Introduced	ROC05R	385464	6435478	0	0.1
	*Trifolium campestre var. campestre	Introduced	ROC06	385600	6435469	0	0.1
	*Trifolium campestre var. campestre	Introduced	ROC06R	385600	6435469	0	0.1
	*Trifolium campestre var. campestre	Introduced	ROC12	385705	6434337	0	0.1
	*Trifolium campestre var. campestre	Introduced	ROC12R	385705	6434337	0	0.1
	*Trifolium campestre var. campestre	Introduced	ROC13	385499	6434517	0	0.1
	*Trifolium campestre var. campestre	Introduced	ROC13R	385499	6434517	0	0.1
	*Trifolium campestre var. campestre	Introduced	ROC16	385662	6434137	0	0.1
	*Trifolium campestre var. campestre	Introduced	ROC18	385645	6434075	0	0.1
	*Trifolium campestre var. campestre	Introduced	ROC18R	385645	6434075	0	0.1
	*Trifolium campestre var. campestre	Introduced	ROC19R	385721	6434011	0	0.1
	*Trifolium campestre var. campestre	Introduced	ROC22	385482	6435250	0	0.1
	*Trifolium campestre var. campestre	Introduced	ROC22R	385482	6435250	0	0.1
	*Trifolium campestre var. campestre	Introduced	ROC32	385541	6434789	0	0.1
	*Trifolium campestre var. campestre	Introduced	ROC32R	385541	6434789	0	0.1
	*Trifolium campestre var. campestre	Introduced	WLM09	385332	6435932	0	0.1
	*Trifolium campestre var. campestre	Introduced	WLM09R	385332	6435932	0	0.1
	*Trifolium campestre var. campestre	Introduced	WLM14	385340	6435839	0	0.1
	*Trifolium campestre var. campestre	Introduced	WLM14R	385340	6435839	0	0.1
	*Trifolium campestre var. campestre	Introduced	WLM38R	385411	6435805	0	0.1
	*Trifolium campestre var. campestre	Introduced	WLM40	385373	6435636	0	0.1
	*Trifolium campestre var. campestre	Introduced	WLM40R	385373	6435636	0	0.1
	*Trifolium campestre var. campestre	Introduced	WLM41	385280	6435981	0	0.1
	*Trifolium campestre var. campestre	Introduced	WLM42R	385453	6435739	0	0.1
	*Trifolium campestre var. campestre	Introduced	WLMR43	385496	6435971	0	0.1

Family	Species	Status	Site	Easting	Northing	Number of Individuals	Cover (%)
	*Trifolium campestre var. campestre	Introduced	ROC19	385721	6434011	0	0.5
	*Trifolium campestre var. campestre	Introduced	ROC01	385277	6436437	0	1
	*Trifolium campestre var. campestre	Introduced	ROC01R	385277	6436437	0	1
	*Trifolium campestre var. campestre	Introduced	WLM38	385411	6435805	0	2
	*Trifolium glomeratum	Introduced	ROC06	385600	6435469	0	0.1
	*Trifolium glomeratum	Introduced	ROC06R	385600	6435469	0	0.1
	*Trifolium scabrum	Introduced	ROC01	385277	6436437	0	0.1
	*Trifolium scabrum	Introduced	ROC05	385464	6435478	0	0.1
	*Trifolium scabrum	Introduced	ROC13	385499	6434517	0	0.1
	*Trifolium scabrum	Introduced	ROC13R	385499	6434517	0	0.5
	*Trifolium tomentosum var. tomentosum	Introduced	ROC06	385600	6435469	0	0.1
	*Trifolium tomentosum var. tomentosum	Introduced	ROC06R	385600	6435469	0	0.1
	*Vicia sativa subsp. cordata	Introduced	PLOPP	385476	6435474	1	0
	*Vicia sativa subsp. sativa	Introduced	WTP15	390462	6435782	0	0.1
	*Vicia sativa subsp. sativa	Introduced	ROC01	385277	6436437	0	0.1
	*Vicia sativa subsp. sativa	Introduced	ROC01R	385277	6436437	0	0.1
	*Vicia sativa subsp. sativa	Introduced	Opportunistic	385400	6435889	1	0
Geraniaceae	*Erodium botrys	Introduced	ANK07	385880	6435768	0	0.1
	*Erodium botrys	Introduced	ANK93	386484	6435758	0	0.1
	*Erodium botrys	Introduced	WTP41	387749	6435529	0	0.1
	*Erodium botrys	Introduced	ROC16	385662	6434137	0	0.1
	*Erodium botrys	Introduced	Opportunistic	385367	6435822	1	0
	*Erodium cicutarium	Introduced	ROC05	385464	6435478	0	0.1
	*Erodium cicutarium	Introduced	ROC22	385482	6435250	0	0.1
	*Geranium molle	Introduced	ANK01	385516	6435622	0	0.1
	*Geranium molle	Introduced	ANK09	386441	6435798	0	0.1
	*Geranium molle	Introduced	ANK15	387745	6435458	0	0.1
	*Geranium molle	Introduced	WTP39	387525	6435568	0	0.1
	*Geranium molle	Introduced	ROC23	385650	6434903	0	0.1
	*Pelargonium capitatum	Introduced	ANK05	385657	6435591	0	0.1

Family	Species	Status	Site	Easting	Northing	Number of Individuals	Cover (%)
	*Pelargonium capitatum	Introduced	ANK06	385745	6435716	0	0.1
	*Pelargonium capitatum	Introduced	ANK07	385880	6435768	0	0.1
	*Pelargonium capitatum	Introduced	ANK08	386141	6435764	0	0.1
	*Pelargonium capitatum	Introduced	ANK22	389897	6435596	0	0.1
	*Pelargonium capitatum	Introduced	ANK23	390083	6435709	0	0.1
	*Pelargonium capitatum	Introduced	WTP09	389021	6435535	0	0.1
	*Pelargonium capitatum	Introduced	WTP11	389539	6435528	0	0.1
	*Pelargonium capitatum	Introduced	WTP15	390462	6435782	0	0.1
	*Pelargonium capitatum	Introduced	WTP17	392081	6435675	0	0.1
	*Pelargonium capitatum	Introduced	WTP43	385614	6435579	0	0.1
	*Pelargonium capitatum	Introduced	ANK25	390210	6435781	0	0.5
	*Pelargonium capitatum	Introduced	ANK100	385859	6435862	1	0.1
	*Pelargonium capitatum	Introduced	WTP12	389686	6435585	2	0.1
	*Pelargonium capitatum	Introduced	WTP43	385614	6435579	2	0.1
	*Pelargonium capitatum	Introduced	ROC08	385527	6435187	0	0.1
	*Pelargonium capitatum	Introduced	ROC08	385527	6435187	0	0.1
	*Pelargonium capitatum	Introduced	ROC08R	385527	6435187	0	0.1
	*Pelargonium capitatum	Introduced	ROC08R	385527	6435187	0	0.1
	*Pelargonium capitatum	Introduced	ROC13R	385499	6434517	0	0.1
	*Pelargonium capitatum	Introduced	ROC19	385721	6434011	0	0.1
	*Pelargonium capitatum	Introduced	ROC19R	385721	6434011	0	0.1
	*Pelargonium capitatum	Introduced	ROC20	385778	6434275	0	0.1
	*Pelargonium capitatum	Introduced	ROC21	385736	6434496	0	0.1
	*Pelargonium capitatum	Introduced	ROC22	385482	6435250	0	0.1
	*Pelargonium capitatum	Introduced	ROC22R	385482	6435250	0	0.1
	*Pelargonium capitatum	Introduced	ROC24	385494	6435134	0	0.1
	*Pelargonium capitatum	Introduced	ROC29R	385602	6434872	0	0.1
	*Pelargonium capitatum	Introduced	ROC31R	385591	6434412	0	0.1
	*Pelargonium capitatum	Introduced	ROCR38	385076	6436110	0	0.1
	*Pelargonium capitatum	Introduced	ROCR38R	385076	6436110	0	0.1

Family	Species	Status	Site	Easting	Northing	Number of Individuals	Cover (%)
	*Pelargonium capitatum	Introduced	WLM06	384171	6436126	0	0.1
	*Pelargonium capitatum	Introduced	WLM06R	384171	6436126	0	0.1
	*Pelargonium capitatum	Introduced	WLM10	384217	6435958	0	0.1
	*Pelargonium capitatum	Introduced	WLM10R	384217	6435958	0	0.1
	*Pelargonium capitatum	Introduced	WLM12	384162	6435907	0	0.1
	*Pelargonium capitatum	Introduced	WLM12R	384162	6435907	0	0.1
	*Pelargonium capitatum	Introduced	WLM13	385092	6435870	0	0.1
	*Pelargonium capitatum	Introduced	WLM13R	385092	6435870	0	0.1
	*Pelargonium capitatum	Introduced	WLM14	385340	6435839	0	0.1
	*Pelargonium capitatum	Introduced	WLM14R	385340	6435839	0	0.1
	*Pelargonium capitatum	Introduced	WLM16	385089	6435772	0	0.1
	*Pelargonium capitatum	Introduced	WLM16R	385089	6435772	0	0.1
	*Pelargonium capitatum	Introduced	WLM41	385280	6435981	0	0.1
	*Pelargonium capitatum	Introduced	ROC31	385591	6434412	0	0.5
	*Pelargonium capitatum	Introduced	ROC16	385662	6434137	0	1
	*Pelargonium capitatum	Introduced	ROC16R	385662	6434137	0	1
	*Pelargonium capitatum	Introduced	ROC32R	385541	6434789	0	2
	*Pelargonium capitatum	Introduced	ROC32	385541	6434789	0	3
	*Pelargonium capitatum	Introduced	ROC23	385650	6434903	0	4
	*Pelargonium capitatum	Introduced	WLM11	384036	6435925	0	4
	*Pelargonium capitatum	Introduced	WLM11R	384036	6435925	0	4
	*Pelargonium capitatum	Introduced	ROC23R	385650	6434903	0	8
	*Pelargonium capitatum	Introduced	WLM17	383926	6435734	0	14
	*Pelargonium capitatum	Introduced	WLM17R	383926	6435734	0	14
	*Pelargonium capitatum	Introduced	WLM19	383815	6435591	0	14
	*Pelargonium capitatum	Introduced	WLM19R	383815	6435591	0	14
	*Pelargonium capitatum	Introduced	Opportunistic	385496	6435509	1	0
Iridaceae	*Freesia alba x leichtlinii	Introduced	ANK14	387522	6435455	0	0.1
	*Freesia alba x leichtlinii	Introduced	WTP18	392184	6435666	0	0.5
	*Freesia alba x leichtlinii	Introduced	WTP20	392697	6435869	0	0.5

Family	Species	Status	Site	Easting	Northing	Number of Individuals	Cover (%)
	*Freesia alba x leichtlinii	Introduced	WTP21	392691	6435718	0	11
	*Freesia alba x leichtlinii	Introduced	ANK02	385449	6435739	1	0.1
	*Freesia alba x leichtlinii	Introduced	ANK34	391495	6435713	15	0.1
	*Gladiolus caryophyllaceus	Introduced	ANK08	386141	6435764	0	0.1
	*Gladiolus caryophyllaceus	Introduced	ANK10	386714	6435658	0	0.1
	*Gladiolus caryophyllaceus	Introduced	ANK100	385859	6435862	0	0.1
	*Gladiolus caryophyllaceus	Introduced	ANK12	386873	6435630	0	0.1
	*Gladiolus caryophyllaceus	Introduced	ANK20	389347	6435477	0	0.1
	*Gladiolus caryophyllaceus	Introduced	ANK21	389623	6435488	0	0.1
	*Gladiolus caryophyllaceus	Introduced	ANK22	389897	6435596	0	0.1
	*Gladiolus caryophyllaceus	Introduced	ANK23	390083	6435709	0	0.1
	*Gladiolus caryophyllaceus	Introduced	ANK25	390210	6435781	0	0.1
	*Gladiolus caryophyllaceus	Introduced	ANK35	391771	6435741	0	0.1
	*Gladiolus caryophyllaceus	Introduced	ANK36	391764	6435627	0	0.1
	*Gladiolus caryophyllaceus	Introduced	ANK75B	386188	6435879	0	0.1
	*Gladiolus caryophyllaceus	Introduced	ANK76	386404	6435876	0	0.1
	*Gladiolus caryophyllaceus	Introduced	ANK93	386484	6435758	0	0.1
	*Gladiolus caryophyllaceus	Introduced	WTP06	388344	6435531	0	0.1
	*Gladiolus caryophyllaceus	Introduced	WTP09	389021	6435535	0	0.1
	*Gladiolus caryophyllaceus	Introduced	WTP10	389174	6435512	0	0.1
	*Gladiolus caryophyllaceus	Introduced	WTP11	389539	6435528	0	0.1
	*Gladiolus caryophyllaceus	Introduced	WTP13	389876	6435704	0	0.1
	*Gladiolus caryophyllaceus	Introduced	WTP14	390092	6435823	0	0.1
	*Gladiolus caryophyllaceus	Introduced	WTP16	390766	6435735	0	0.1
	*Gladiolus caryophyllaceus	Introduced	WTP19	392425	6435643	0	0.1
	*Gladiolus caryophyllaceus	Introduced	WTP20	392697	6435869	0	0.1
	*Gladiolus caryophyllaceus	Introduced	WTP08	388591	6435545	0	0.25
	*Gladiolus caryophyllaceus	Introduced	ANK34	391495	6435713	10	0.1
	*Gladiolus caryophyllaceus	Introduced	WTP02	386878	6435753	10	0.1
	*Gladiolus caryophyllaceus	Introduced	ANK02	385449	6435739	50	0.1

Family	Species	Status	Site	Easting	Northing	Number of Individuals	Cover (%)
	*Gladiolus caryophyllaceus	Introduced	WLM42	385453	6435739	0	0.1
	*Gladiolus caryophyllaceus	Introduced	WLM42R	385453	6435739	0	0.1
	*Gladiolus sp.	Introduced	ROC12	385705	6434337	0	3
	*Gladiolus sp.	Introduced	ROC12R	385705	6434337	0	3
	*Moraea flaccida	Introduced (Declared Pest)	ANK74	385948	6435846	0	0.1
	*Moraea flaccida	Introduced (Declared Pest)	ANK99	385770	6435916	0	0.1
	*Moraea flaccida	Introduced (Declared Pest)	Opportunistic	390156	6435777	1	0
	*Moraea flaccida	Introduced (Declared Pest)	Opportunistic	390105	6435752	2	0
	*Moraea flaccida	Introduced (Declared Pest)	Opportunistic	390145	6435770	3	0
	*Moraea flaccida	Introduced (Declared Pest)	Opportunistic	390213	6435782	4	0
	*Moraea flaccida	Introduced (Declared Pest)	Opportunistic	389977	6435540	15	0
	*Moraea flaccida	Introduced (Declared Pest)	Opportunistic	390183	6435805	35	0
	*Moraea flaccida	Introduced (Declared Pest)	Opportunistic	390305	6435847	50	0
	*Moraea flaccida	Introduced (Declared Pest)	ROC07	385505	6435296	0	0.1
	*Moraea flaccida	Introduced (Declared Pest)	ROC27	385602	6434872	0	0.1
	*Moraea flaccida	Introduced (Declared Pest)	WLM09	385332	6435932	0	0.1
	*Moraea flaccida	Introduced (Declared Pest)	PLOPP	385364	6435838	1	0
	*Moraea flaccida	Introduced (Declared Pest)	Opportunistic	385627	6434688	1	0
	*Moraea flaccida	Introduced (Declared Pest)	Opportunistic	385473	6435285	1	0
	*Moraea flaccida	Introduced (Declared Pest)	Opportunistic	385625	6434697	1	0
	*Moraea flaccida	Introduced (Declared Pest)	Opportunistic	385622	6434692	1	0
	*Moraea miniata	Introduced (Declared Pest)	Opportunistic	390066	6435662	1	0
	*Moraea miniata	Introduced (Declared Pest)	Opportunistic	392720	6435745	4	0
	*Moraea miniata	Introduced (Declared Pest)	Opportunistic	389884	6435555	5	0
	*Moraea miniata	Introduced (Declared Pest)	Opportunistic	389929	6435577	130	0
	*Romulea rosea var. australis	Introduced	ANK07	385880	6435768	0	0.1
	*Romulea rosea var. australis	Introduced	ANK09	386441	6435798	0	0.1
	*Romulea rosea var. australis	Introduced	ANK14	387522	6435455	0	0.1
	*Romulea rosea var. australis	Introduced	ANK19	388845	6435463	0	0.1
	*Romulea rosea var. australis	Introduced	ANK20	389347	6435477	0	0.1

Family	Species	Status	Site	Easting	Northing	Number of Individuals	Cover (%)
	*Romulea rosea var. australis	Introduced	ANK21	389623	6435488	0	0.1
	*Romulea rosea var. australis	Introduced	ANK22	389897	6435596	0	0.1
	*Romulea rosea var. australis	Introduced	ANK25	390210	6435781	0	0.1
	*Romulea rosea var. australis	Introduced	ANK36	391764	6435627	0	0.1
	*Romulea rosea var. australis	Introduced	WTP10	389174	6435512	0	0.1
	*Romulea rosea var. australis	Introduced	WTP11	389539	6435528	0	0.1
	*Romulea rosea var. australis	Introduced	WTP13	389876	6435704	0	0.1
	*Romulea rosea var. australis	Introduced	WTP16	390766	6435735	0	0.1
	*Romulea rosea var. australis	Introduced	WTP18	392184	6435666	0	4
	*Romulea rosea var. australis	Introduced	WTP17	392081	6435675	0	6
	*Romulea rosea var. australis	Introduced	WTP43	385614	6435579	5	0.1
	*Romulea rosea var. australis	Introduced	ANK34	391495	6435713	400	0.25
	*Romulea rosea var. australis	Introduced	ROC05	385464	6435478	0	0.1
	*Romulea rosea var. australis	Introduced	ROC18R	385645	6434075	0	0.1
	*Romulea rosea var. australis	Introduced	ROC21	385736	6434496	0	0.1
	*Romulea rosea var. australis	Introduced	ROC25	385281	6436212	0	0.1
	*Romulea rosea var. australis	Introduced	WLM07R	385307	6436060	0	0.1
	*Romulea rosea var. australis	Introduced	WLM09	385332	6435932	0	0.1
	*Romulea rosea var. australis	Introduced	WLM09R	385332	6435932	0	0.1
	*Romulea rosea var. australis	Introduced	WLM10	384217	6435958	0	0.1
	*Romulea rosea var. australis	Introduced	WLM13R	385092	6435870	0	0.1
	*Romulea rosea var. australis	Introduced	WLM14	385340	6435839	0	0.1
	*Romulea rosea var. australis	Introduced	WLM14R	385340	6435839	0	0.1
	*Romulea rosea var. australis	Introduced	WLM16R	385089	6435772	0	0.1
	*Romulea rosea var. australis	Introduced	WLM40	385373	6435636	0	0.1
	*Romulea rosea var. australis	Introduced	WLM40R	385373	6435636	0	0.1
	*Romulea rosea var. australis	Introduced	ROC01	385277	6436437	0	2
	*Romulea rosea var. australis	Introduced	ROC02	385258	6436257	0	3
Malvaceae	*Lavatera arborea	Introduced	Opportunistic	383994	6435732	1	0
Myrtaceae	*Callistemon citrinus	Naturalised	ANK35	391771	6435741	0	5

Family	Species	Status	Site	Easting	Northing	Number of Individuals	Cover (%)
	*Corymbia citriodora	Introduced	WTP11	389539	6435528	0	11
	*Leptospermum laevigatum	Naturalised	ANK16	387935	6435456	0	1
	*Leptospermum laevigatum	Naturalised	ANK36	391764	6435627	0	6
Oleaceae	*Olea europaea subsp. europaea	Introduced	ANK09	386441	6435798	0	0.1
	*Olea europaea subsp. europaea	Introduced	ANK12	386873	6435630	0	0.1
	*Olea europaea subsp. europaea	Introduced	ANK74	385948	6435846	0	0.1
	*Olea europaea subsp. europaea	Introduced	ANK14	387522	6435455	0	0.25
	*Olea europaea subsp. europaea	Introduced	ANK01	385516	6435622	0	0.5
	*Olea europaea subsp. europaea	Introduced	Opportunistic	387551	6435534	1	0
	*Olea europaea subsp. europaea	Introduced	ANK34	391495	6435713	1	0.1
	*Olea europaea subsp. europaea	Introduced	ROCR38	385076	6436110	0	0.1
	*Olea europaea subsp. europaea	Introduced	ROCR38R	385076	6436110	0	0.1
	*Olea europaea subsp. europaea	Introduced	WLM09	385332	6435932	0	0.1
	*Olea europaea subsp. europaea	Introduced	WLM09R	385332	6435932	0	0.1
	*Olea europaea subsp. europaea	Introduced	ROC22R	385482	6435250	0	1.5
	*Olea europaea subsp. europaea	Introduced	ROC12	385705	6434337	0	4
	*Olea europaea subsp. europaea	Introduced	ROC12R	385705	6434337	0	4
	*Olea europaea subsp. europaea	Introduced	Opportunistic	385124	6436073	1	0
	*Olea europaea subsp. europaea	Introduced	Opportunistic	385239	6435726	1	0
	*Olea europaea subsp. europaea	Introduced	Opportunistic	385609	6435176	1	0
	*Olea europaea subsp. europaea	Introduced	Opportunistic	385592	6435286	1	0
	*Olea europaea subsp. europaea	Introduced	Opportunistic	385659	6434504	1	0
	*Olea europaea subsp. europaea	Introduced	Opportunistic	385692	6434428	1	0
	*Olea europaea subsp. europaea	Introduced	Opportunistic	385785	6434185	1	0
	*Olea europaea subsp. europaea	Introduced	Opportunistic	385511	6434529	1	0
Onagraceae	*Oenothera drummondii subsp. drummondii	Introduced	ROC01	385277	6436437	0	0.1
	*Oenothera drummondii subsp. drummondii	Introduced	WLM11	384036	6435925	0	0.1
	*Oenothera drummondii subsp. drummondii	Introduced	WLM11R	384036	6435925	0	0.1
	*Oenothera drummondii subsp. drummondii	Introduced	WLM17	383926	6435734	0	0.1
	*Oenothera drummondii subsp. drummondii	Introduced	WLM19R	383815	6435591	0	0.1

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Orchidaceae	*Disa bracteata	Introduced	WTP08	388591	6435545	0	0.1
	*Disa bracteata	Introduced	WTP11	389539	6435528	0	0.1
	*Disa bracteata	Introduced	WTP16	390766	6435735	0	0.1
Orobanchaceae	*Orobanche minor	Introduced	ROC33	385446	6435307	0	0.1
Oxalidaceae	*Oxalis cernua	Introduced	ROC01	385277	6436437	0	0.1
	*Oxalis cernua	Introduced	ROC06R	385600	6435469	0	0.1
	*Oxalis cernua	Introduced	ROC12	385705	6434337	0	0.1
	*Oxalis cernua	Introduced	ROC19	385721	6434011	0	0.1
	*Oxalis cernua	Introduced	ROC19R	385721	6434011	0	0.1
	*Oxalis cernua	Introduced	ROC20	385778	6434275	0	0.1
	*Oxalis cernua	Introduced	ROC22	385482	6435250	0	0.1
	*Oxalis cernua	Introduced	ROC30	385591	6434043	0	0.1
	*Oxalis cernua	Introduced	ROC30R	385591	6434043	0	0.1
	*Oxalis cernua	Introduced	ROC31	385591	6434412	0	0.1
	*Oxalis cernua	Introduced	ROCR34	385432	6435092	0	0.1
	*Oxalis cernua	Introduced	WLM06	384171	6436126	0	0.1
	*Oxalis cernua	Introduced	WLM07R	385307	6436060	0	0.1
	*Oxalis cernua	Introduced	WLM15R	384095	6435785	0	0.1
	*Oxalis cernua	Introduced	WLM19	383815	6435591	0	0.1
	*Oxalis cernua	Introduced	WLM41	385280	6435981	0	0.1
	*Oxalis cernua	Introduced	ROC15	385759	6434387	0	1.5
	*Oxalis cernua	Introduced	WLM08	384097	6435951	0	2
	*Oxalis cernua	Introduced	ROC10	385673	6434795	0	2.5
	*Oxalis cernua	Introduced	ROC27	385602	6434872	0	3
	*Oxalis cernua	Introduced	WLM17	383926	6435734	0	3
	*Oxalis cernua	Introduced	WLM38	385411	6435805	0	3
	*Oxalis cernua	Introduced	ROC06	385600	6435469	0	5
	*Oxalis cernua	Introduced	ROC11	385490	6434691	0	5
	*Oxalis cernua	Introduced	ROC12R	385705	6434337	0	5
	*Oxalis cernua	Introduced	WLM30	385236	6435739	0	5

Family	Species	Status	Site	Easting	Northing	Number of Individuals	Cover (%)
	*Oxalis cernua	Introduced	ROC13	385499	6434517	0	6
	*Oxalis cernua	Introduced	ROC18	385645	6434075	0	7
	*Oxalis cernua	Introduced	ROC12	385705	6434337	0	14
	*Oxalis cernua	Introduced	WLM15	384095	6435785	0	20
	*Oxalis cernua	Introduced	ROC03	385362	6436184	0	32
	*Oxalis cernua	Introduced	WLM07	385307	6436060	0	40
	*Oxalis cernua	Introduced	ROC04	385630	6436000	0	70
	*Oxalis corniculata	Introduced	ANK10	386714	6435658	0	0.1
	*Oxalis corniculata	Introduced	ANK12	386873	6435630	0	0.1
	*Oxalis corniculata	Introduced	ANK14	387522	6435455	0	0.1
	*Oxalis corniculata	Introduced	ANK15	387745	6435458	0	0.1
	*Oxalis corniculata	Introduced	ANK18	388477	6435472	0	0.1
	*Oxalis corniculata	Introduced	ANK74	385948	6435846	0	0.1
	*Oxalis corniculata	Introduced	ANK75A	386257	6435846	0	0.1
	*Oxalis corniculata	Introduced	ANK75B	386188	6435879	0	0.1
	*Oxalis corniculata	Introduced	WTP01	386847	6435818	0	0.1
	*Oxalis corniculata	Introduced	WTP02	386878	6435753	0	0.1
	*Oxalis corniculata	Introduced	WTP06	388344	6435531	0	0.1
	*Oxalis corniculata	Introduced	WTP08	388591	6435545	0	0.1
	*Oxalis corniculata	Introduced	WTP38	387494	6435565	0	0.1
	*Oxalis corniculata	Introduced	WTP39	387525	6435568	0	0.1
	*Oxalis corniculata	Introduced	WTP41	387749	6435529	0	0.1
	*Oxalis corniculata	Introduced	WTP05	387848	6435525	0	0.5
	*Oxalis corniculata	Introduced	ANK11	386717	6435808	0	1
	*Oxalis corniculata	Introduced	WTP40	387657	6435560	0	1
	*Oxalis corniculata	Introduced	ROC07	385505	6435296	0	0.1
	*Oxalis corniculata	Introduced	ROC07R	385505	6435296	0	0.1
	*Oxalis corniculata	Introduced	ROC08	385527	6435187	0	0.1
	*Oxalis corniculata	Introduced	ROC18R	385645	6434075	0	0.1
	*Oxalis corniculata	Introduced	ROC22R	385482	6435250	0	0.1

Family	Species	Status	Site	Easting	Northing	Number of Individuals	Cover (%)
	*Oxalis corniculata	Introduced	ROC24	385494	6435134	0	0.1
	*Oxalis corniculata	Introduced	ROC24R	385494	6435134	0	0.1
	*Oxalis corniculata	Introduced	WLM07R	385307	6436060	0	0.1
	*Oxalis corniculata	Introduced	WLM09R	385332	6435932	0	0.1
	*Oxalis corniculata	Introduced	WLM14	385340	6435839	0	0.1
	*Oxalis corniculata	Introduced	WLM14R	385340	6435839	0	0.1
	*Oxalis corniculata	Introduced	ROC18	385645	6434075	0	0.5
	*Oxalis corniculata	Introduced	WLM09	385332	6435932	0	3
	*Oxalis corniculata	Introduced	ROC22	385482	6435250	0	5
	*Oxalis pes-caprae	Introduced	ANK07	385880	6435768	0	0.1
	*Oxalis pes-caprae	Introduced	ANK11	386717	6435808	0	0.1
	*Oxalis pes-caprae	Introduced	ANK20	389347	6435477	0	0.1
	*Oxalis pes-caprae	Introduced	ANK21	389623	6435488	0	0.1
	*Oxalis pes-caprae	Introduced	ANK75B	386188	6435879	0	0.1
	*Oxalis pes-caprae	Introduced	ANK93	386484	6435758	0	0.1
	*Oxalis pes-caprae	Introduced	WTP20	392697	6435869	0	0.1
	*Oxalis pes-caprae	Introduced	WTP21	392691	6435718	0	0.1
	*Oxalis pes-caprae	Introduced	WTP43	385614	6435579	0	0.1
	*Oxalis pes-caprae	Introduced	ANK02	385449	6435739	0	0.5
	*Oxalis pes-caprae	Introduced	WTP39	387525	6435568	0	0.5
	*Oxalis pes-caprae	Introduced	WTP11	389539	6435528	0	1
	*Oxalis pes-caprae	Introduced	ANK09	386441	6435798	0	1.5
	*Oxalis pes-caprae	Introduced	ANK05	385657	6435591	0	4.5
	*Oxalis pes-caprae	Introduced	ANK35	391771	6435741	0	8
	*Oxalis pes-caprae	Introduced	WTP06	388344	6435531	0	8
	*Oxalis pes-caprae	Introduced	WTP38	387494	6435565	0	45
	*Oxalis purpurea	Introduced	WTP15	390462	6435782	0	0.1
Papaveraceae	*Fumaria bastardii	Introduced	WTP21	392691	6435718	0	0.1
	*Fumaria capreolata	Introduced	ANK08	386141	6435764	0	0.1
	*Fumaria capreolata	Introduced	ANK17	388176	6435464	0	0.1

Family	Species	Status	Site	Easting	Northing	Number of Individuals	Cover (%)
	*Fumaria capreolata	Introduced	ANK74	385948	6435846	0	0.1
	*Fumaria capreolata	Introduced	ANK76	386404	6435876	0	0.1
	*Fumaria capreolata	Introduced	ANK93	386484	6435758	0	0.1
	*Fumaria capreolata	Introduced	ANK99	385770	6435916	0	0.1
	*Fumaria capreolata	Introduced	WTP05	387848	6435525	0	0.1
	*Fumaria capreolata	Introduced	WTP06	388344	6435531	0	0.1
	*Fumaria capreolata	Introduced	WTP08	388591	6435545	0	0.1
	*Fumaria capreolata	Introduced	WTP40	387657	6435560	0	0.1
	*Fumaria capreolata	Introduced	WTP41	387749	6435529	0	0.1
	*Fumaria capreolata	Introduced	ANK07	385880	6435768	0	0.5
	*Fumaria capreolata	Introduced	ANK02	385449	6435739	0	2
	*Fumaria capreolata	Introduced	ANK09	386441	6435798	0	2
	*Fumaria capreolata	Introduced	ANK05	385657	6435591	0	3.5
	*Fumaria capreolata	Introduced	ANK15	387745	6435458	0	4
	*Fumaria capreolata	Introduced	ANK19	388845	6435463	0	5
	*Fumaria capreolata	Introduced	WTP43	385614	6435579	0	7
	*Fumaria capreolata	Introduced	ANK01	385516	6435622	0	15
	*Fumaria capreolata	Introduced	WTP15	390462	6435782	0	15
	*Fumaria capreolata	Introduced	ANK25	390210	6435781	0	22
	*Fumaria capreolata	Introduced	ANK14	387522	6435455	0	25
	*Fumaria capreolata	Introduced	WTP38	387494	6435565	0	31
	*Fumaria capreolata	Introduced	WTP39	387525	6435568	0	50
	*Fumaria capreolata	Introduced	ANK18	388477	6435472	0	55
	*Fumaria capreolata	Introduced	ANK11	386717	6435808	1	0.1
	*Fumaria capreolata	Introduced	ANK94	386709	6435757	1	0.1
	*Fumaria capreolata	Introduced	ROC03R	385362	6436184	0	0.1
	*Fumaria capreolata	Introduced	ROC06	385600	6435469	0	0.1
	*Fumaria capreolata	Introduced	ROC10	385673	6434795	0	0.1
	*Fumaria capreolata	Introduced	ROC12	385705	6434337	0	0.1
	*Fumaria capreolata	Introduced	ROC15	385759	6434387	0	0.1

Family	Species	Status	Site	Easting	Northing	Number of Individuals	Cover (%)
	*Fumaria capreolata	Introduced	ROC16	385662	6434137	0	0.1
	*Fumaria capreolata	Introduced	ROC21	385736	6434496	0	0.1
	*Fumaria capreolata	Introduced	ROC24	385494	6435134	0	0.1
	*Fumaria capreolata	Introduced	ROC24R	385494	6435134	0	0.1
	*Fumaria capreolata	Introduced	ROC31	385591	6434412	0	0.1
	*Fumaria capreolata	Introduced	ROCR38	385076	6436110	0	0.1
	*Fumaria capreolata	Introduced	ROCR38R	385076	6436110	0	0.1
	*Fumaria capreolata	Introduced	WLM07	385307	6436060	0	0.1
	*Fumaria capreolata	Introduced	WLM10	384217	6435958	0	0.1
	*Fumaria capreolata	Introduced	WLM14	385340	6435839	0	0.1
	*Fumaria capreolata	Introduced	WLM15R	384095	6435785	0	0.1
	*Fumaria capreolata	Introduced	WLM18	385232	6435808	0	0.1
	*Fumaria capreolata	Introduced	WLM30	385236	6435739	0	0.1
	*Fumaria capreolata	Introduced	WLM38	385411	6435805	0	0.1
	*Fumaria capreolata	Introduced	WLM40	385373	6435636	0	0.1
	*Fumaria capreolata	Introduced	WLM40R	385373	6435636	0	0.1
	*Fumaria capreolata	Introduced	WLM42	385453	6435739	0	0.1
	*Fumaria capreolata	Introduced	WLMR43	385496	6435971	0	0.1
	*Fumaria capreolata	Introduced	ROC04R	385630	6436000	0	1
	*Fumaria capreolata	Introduced	WLM06	384171	6436126	0	1
	*Fumaria capreolata	Introduced	WLM08	384097	6435951	0	1
	*Fumaria capreolata	Introduced	ROC01	385277	6436437	0	2
	*Fumaria capreolata	Introduced	ROC03	385362	6436184	0	2
	*Fumaria capreolata	Introduced	ROCR34	385432	6435092	0	2
	*Fumaria capreolata	Introduced	WLM15	384095	6435785	0	3
	*Fumaria capreolata	Introduced	ROC25	385281	6436212	0	6
	*Fumaria capreolata	Introduced	WLM41	385280	6435981	0	8
	*Fumaria capreolata	Introduced	ROC04	385630	6436000	0	20
	*Fumaria muralis	Introduced	ANK74	385948	6435846	0	0.1
	*Fumaria muralis	Introduced	WTP19	392425	6435643	0	0.1

Family	Species	Status	Site	Easting	Northing	Number of Individuals	Cover (%)
Pinaceae	*Pinus pinaster	Introduced	Opportunistic	385595	6435284	1	0
Poaceae	*Aira cupaniana	Introduced	WTP13	389876	6435704	0	0.1
	*Aira cupaniana	Introduced	WTP20	392697	6435869	0	0.1
	*Aira praecox	Introduced	WTP16	390766	6435735	0	0.1
	*Ammophila arenaria subsp. arenaria	Introduced	WLM17	383926	6435734	0	3
	*Ammophila arenaria subsp. arenaria	Introduced	WLM17R	383926	6435734	0	3
	*Ammophila arenaria subsp. arenaria	Introduced	WLM19R	383815	6435591	0	4
	*Ammophila arenaria subsp. arenaria	Introduced	WLM11	384036	6435925	0	6
	*Ammophila arenaria subsp. arenaria	Introduced	WLM11R	384036	6435925	0	6
	*Ammophila arenaria subsp. arenaria	Introduced	Opportunistic	385556	6435109	1	0
	*Arundo donax var. donax	Introduced	Opportunistic	385417	6435108	1	0
	*Avena barbata	Introduced	ANK07	385880	6435768	0	0.1
	*Avena barbata	Introduced	ANK08	386141	6435764	0	0.1
	*Avena barbata	Introduced	ANK75A	386257	6435846	0	0.1
	*Avena barbata	Introduced	WTP08	388591	6435545	0	0.1
	*Avena barbata	Introduced	WTP40	387657	6435560	0	0.1
	*Avena barbata	Introduced	ANK23	390083	6435709	0	0.5
	*Avena barbata	Introduced	WTP10	389174	6435512	0	0.5
	*Avena barbata	Introduced	ANK14	387522	6435455	0	1
	*Avena barbata	Introduced	WTP15	390462	6435782	0	4
	*Avena barbata	Introduced	ROC03	385362	6436184	0	0.1
	*Avena barbata	Introduced	ROC05R	385464	6435478	0	0.1
	*Avena barbata	Introduced	ROC06R	385600	6435469	0	0.1
	*Avena barbata	Introduced	ROC07R	385505	6435296	0	0.1
	*Avena barbata	Introduced	ROC08	385527	6435187	0	0.1
	*Avena barbata	Introduced	ROC08R	385527	6435187	0	0.1
	*Avena barbata	Introduced	ROC11	385490	6434691	0	0.1
	*Avena barbata	Introduced	ROC11R	385490	6434691	0	0.1
	*Avena barbata	Introduced	ROC12R	385705	6434337	0	0.1
	*Avena barbata	Introduced	ROC15R	385759	6434387	0	0.1

Family	Species	Status	Site	Easting	Northing	Number of Individuals	Cover (%)
	*Avena barbata	Introduced	ROC19R	385721	6434011	0	0.1
	*Avena barbata	Introduced	ROC21	385736	6434496	0	0.1
	*Avena barbata	Introduced	ROC21R	385736	6434496	0	0.1
	*Avena barbata	Introduced	ROC22	385482	6435250	0	0.1
	*Avena barbata	Introduced	ROC22R	385482	6435250	0	0.1
	*Avena barbata	Introduced	ROC23R	385650	6434903	0	0.1
	*Avena barbata	Introduced	ROC24	385494	6435134	0	0.1
	*Avena barbata	Introduced	ROC24R	385494	6435134	0	0.1
	*Avena barbata	Introduced	ROC29R	385602	6434872	0	0.1
	*Avena barbata	Introduced	ROC32	385541	6434789	0	0.1
	*Avena barbata	Introduced	ROC32R	385541	6434789	0	0.1
	*Avena barbata	Introduced	ROC33	385446	6435307	0	0.1
	*Avena barbata	Introduced	ROC33R	385446	6435307	0	0.1
	*Avena barbata	Introduced	ROCR34	385432	6435092	0	0.1
	*Avena barbata	Introduced	ROCR38	385076	6436110	0	0.1
	*Avena barbata	Introduced	WLM06R	384171	6436126	0	0.1
	*Avena barbata	Introduced	WLM07R	385307	6436060	0	0.1
	*Avena barbata	Introduced	WLM09R	385332	6435932	0	0.1
	*Avena barbata	Introduced	WLM10R	384217	6435958	0	0.1
	*Avena barbata	Introduced	WLM11	384036	6435925	0	0.1
	*Avena barbata	Introduced	WLM11R	384036	6435925	0	0.1
	*Avena barbata	Introduced	WLM12	384162	6435907	0	0.1
	*Avena barbata	Introduced	WLM13R	385092	6435870	0	0.1
	*Avena barbata	Introduced	WLM14	385340	6435839	0	0.1
	*Avena barbata	Introduced	WLM16R	385089	6435772	0	0.1
	*Avena barbata	Introduced	WLM17	383926	6435734	0	0.1
	*Avena barbata	Introduced	WLM17R	383926	6435734	0	0.1
	*Avena barbata	Introduced	WLM30	385236	6435739	0	0.1
	*Avena barbata	Introduced	WLM42R	385453	6435739	0	0.1
	*Avena barbata	Introduced	ROC31R	385591	6434412	0	0.5

Family	Species	Status	Site	Easting	Northing	Number of Individuals	Cover (%)
	*Avena barbata	Introduced	WLM14R	385340	6435839	0	0.5
	*Avena barbata	Introduced	WLM18	385232	6435808	0	0.5
	*Avena barbata	Introduced	ROC01R	385277	6436437	0	1
	*Avena barbata	Introduced	ROC05	385464	6435478	0	1
	*Avena barbata	Introduced	ROC13	385499	6434517	0	1
	*Avena barbata	Introduced	ROC13R	385499	6434517	0	1
	*Avena barbata	Introduced	WLM12R	384162	6435907	0	1
	*Avena barbata	Introduced	WLM38R	385411	6435805	0	1
	*Avena barbata	Introduced	ROC16R	385662	6434137	0	1.5
	*Avena barbata	Introduced	ROC02	385258	6436257	0	2
	*Avena barbata	Introduced	ROC03R	385362	6436184	0	2
	*Avena barbata	Introduced	ROC02R	385258	6436257	0	3
	*Avena barbata	Introduced	ROC30	385591	6434043	0	3
	*Avena barbata	Introduced	ROC30R	385591	6434043	0	3
	*Avena barbata	Introduced	ROC31	385591	6434412	0	3
	*Avena barbata	Introduced	WLM38	385411	6435805	0	3
	*Avena barbata	Introduced	WLMR43	385496	6435971	0	3
	*Avena barbata	Introduced	ROC25	385281	6436212	0	4
	*Avena barbata	Introduced	WLM41	385280	6435981	0	4
	*Avena barbata	Introduced	ROC18R	385645	6434075	0	5
	*Avena barbata	Introduced	WLM15R	384095	6435785	0	5
	*Avena barbata	Introduced	WLM41	385280	6435981	0	5
	*Avena barbata	Introduced	WLM42	385453	6435739	0	5
	*Avena barbata	Introduced	ROC10	385673	6434795	0	6
	*Avena barbata	Introduced	ROC10R	385673	6434795	0	6
	*Avena barbata	Introduced	ROC01	385277	6436437	0	11
	*Avena barbata	Introduced	ROCR38R	385076	6436110	0	20
	*Avena barbata	Introduced	WLM40R	385373	6435636	0	20
	*Avena barbata	Introduced	WLM40	385373	6435636	0	25
	*Avena barbata	Introduced	Opportunistic	384028	6435880	1	0

Family	Species	Status	Site	Easting	Northing	Number of Individuals	Cover (%)
	*Briza maxima	Introduced	ANK06	385745	6435716	0	0.1
	*Briza maxima	Introduced	ANK10	386714	6435658	0	0.1
	*Briza maxima	Introduced	ANK14	387522	6435455	0	0.1
	*Briza maxima	Introduced	ANK19	388845	6435463	0	0.1
	*Briza maxima	Introduced	ANK20	389347	6435477	0	0.1
	*Briza maxima	Introduced	ANK22	389897	6435596	0	0.1
	*Briza maxima	Introduced	ANK23	390083	6435709	0	0.1
	*Briza maxima	Introduced	ANK34	391495	6435713	0	0.1
	*Briza maxima	Introduced	ANK36	391764	6435627	0	0.1
	*Briza maxima	Introduced	ANK75A	386257	6435846	0	0.1
	*Briza maxima	Introduced	ANK75B	386188	6435879	0	0.1
	*Briza maxima	Introduced	ANK76	386404	6435876	0	0.1
	*Briza maxima	Introduced	ANK93	386484	6435758	0	0.1
	*Briza maxima	Introduced	ANK99	385770	6435916	0	0.1
	*Briza maxima	Introduced	WTP02	386878	6435753	0	0.1
	*Briza maxima	Introduced	WTP06	388344	6435531	0	0.1
	*Briza maxima	Introduced	WTP08	388591	6435545	0	0.1
	*Briza maxima	Introduced	WTP12	389686	6435585	0	0.1
	*Briza maxima	Introduced	WTP18	392184	6435666	0	0.1
	*Briza maxima	Introduced	ANK17	388176	6435464	0	0.25
	*Briza maxima	Introduced	ANK100	385859	6435862	0	0.5
	*Briza maxima	Introduced	WTP13	389876	6435704	0	0.5
	*Briza maxima	Introduced	WTP20	392697	6435869	0	0.5
	*Briza maxima	Introduced	ANK02	385449	6435739	0	1
	*Briza maxima	Introduced	ANK05	385657	6435591	0	1
	*Briza maxima	Introduced	ANK74	385948	6435846	0	1
	*Briza maxima	Introduced	WTP21	392691	6435718	0	1
	*Briza maxima	Introduced	WTP11	389539	6435528	0	1.5
	*Briza maxima	Introduced	ANK12	386873	6435630	0	2
	*Briza maxima	Introduced	WTP14	390092	6435823	0	3

Family	Species	Status	Site	Easting	Northing	Number of Individuals	Cover (%)
	*Briza maxima	Introduced	WTP10	389174	6435512	0	8
	*Briza maxima	Introduced	WTP16	390766	6435735	0	9
	*Briza maxima	Introduced	ANK07	385880	6435768	0	12
	*Briza maxima	Introduced	ANK08	386141	6435764	0	31
	*Briza maxima	Introduced	ROC08	385527	6435187	0	0.1
	*Briza maxima	Introduced	ROC08R	385527	6435187	0	0.1
	*Briza maxima	Introduced	ROC18R	385645	6434075	0	0.1
	*Briza maxima	Introduced	ROC21	385736	6434496	0	0.1
	*Briza maxima	Introduced	ROC22R	385482	6435250	0	0.1
	*Briza maxima	Introduced	WLM09	385332	6435932	0	0.1
	*Briza maxima	Introduced	WLM09R	385332	6435932	0	0.1
	*Briza maxima	Introduced	WLM14R	385340	6435839	0	0.1
	*Briza maxima	Introduced	WLM38	385411	6435805	0	0.1
	*Briza maxima	Introduced	WLM42R	385453	6435739	0	0.1
	*Briza maxima	Introduced	WLMR43	385496	6435971	0	0.1
	*Briza maxima	Introduced	WLM38R	385411	6435805	0	0.5
	*Briza maxima	Introduced	WLM42	385453	6435739	0	0.5
	*Briza maxima	Introduced	ROC22	385482	6435250	0	1
	*Briza minor	Introduced	ANK02	385449	6435739	0	0.1
	*Briza minor	Introduced	ANK05	385657	6435591	0	0.1
	*Briza minor	Introduced	ANK100	385859	6435862	0	0.1
	*Briza minor	Introduced	ANK17	388176	6435464	0	0.1
	*Briza minor	Introduced	WTP02	386878	6435753	0	0.1
	*Briza minor	Introduced	WTP12	389686	6435585	0	0.1
	*Briza minor	Introduced	ROC08	385527	6435187	0	0.1
	*Briza minor	Introduced	ROC08R	385527	6435187	0	0.1
	*Briza minor	Introduced	ROC18R	385645	6434075	0	0.1
	*Briza minor	Introduced	ROC19	385721	6434011	0	0.1
	*Briza minor	Introduced	ROC19R	385721	6434011	0	0.1
	*Briza minor	Introduced	ROC27	385602	6434872	0	0.1

Family	Species	Status	Site	Easting	Northing	Number of Individuals	Cover (%)
	*Briza minor	Introduced	WLM09R	385332	6435932	0	0.1
	*Briza minor	Introduced	WLM38	385411	6435805	0	0.1
	*Bromus diandrus	Introduced	ANK01	385516	6435622	0	0.1
	*Bromus diandrus	Introduced	ANK05	385657	6435591	0	0.1
	*Bromus diandrus	Introduced	ANK06	385745	6435716	0	0.1
	*Bromus diandrus	Introduced	ANK07	385880	6435768	0	0.1
	*Bromus diandrus	Introduced	ANK08	386141	6435764	0	0.1
	*Bromus diandrus	Introduced	ANK10	386714	6435658	0	0.1
	*Bromus diandrus	Introduced	ANK15	387745	6435458	0	0.1
	*Bromus diandrus	Introduced	ANK17	388176	6435464	0	0.1
	*Bromus diandrus	Introduced	ANK99	385770	6435916	0	0.1
	*Bromus diandrus	Introduced	WTP01	386847	6435818	0	0.1
	*Bromus diandrus	Introduced	WTP06	388344	6435531	0	0.1
	*Bromus diandrus	Introduced	WTP12	389686	6435585	0	0.1
	*Bromus diandrus	Introduced	WTP21	392691	6435718	0	0.1
	*Bromus diandrus	Introduced	WTP38	387494	6435565	0	0.1
	*Bromus diandrus	Introduced	WTP39	387525	6435568	0	0.1
	*Bromus diandrus	Introduced	WTP41	387749	6435529	0	0.1
	*Bromus diandrus	Introduced	ANK12	386873	6435630	0	0.5
	*Bromus diandrus	Introduced	ANK16	387935	6435456	0	1
	*Bromus diandrus	Introduced	WTP43	385614	6435579	0	2
	*Bromus diandrus	Introduced	ANK94	386709	6435757	0	3
	*Bromus diandrus	Introduced	WTP15	390462	6435782	0	4
	*Bromus diandrus	Introduced	ANK25	390210	6435781	0	16
	*Bromus diandrus	Introduced	WTP40	387657	6435560	0	16
	*Bromus diandrus	Introduced	ANK21	389623	6435488	0	25
	*Bromus diandrus	Introduced	ANK14	387522	6435455	0	31
	*Bromus diandrus	Introduced	ANK11	386717	6435808	1	0.1
	*Bromus diandrus	Introduced	WTP43	385614	6435579	25	1
	*Bromus diandrus	Introduced	ROC02	385258	6436257	0	0.1

Family	Species	Status	Site	Easting	Northing	Number of Individuals	Cover (%)
	*Bromus diandrus	Introduced	ROC05	385464	6435478	0	0.1
	*Bromus diandrus	Introduced	ROC05R	385464	6435478	0	0.1
	*Bromus diandrus	Introduced	ROC06	385600	6435469	0	0.1
	*Bromus diandrus	Introduced	ROC08	385527	6435187	0	0.1
	*Bromus diandrus	Introduced	ROC08R	385527	6435187	0	0.1
	*Bromus diandrus	Introduced	ROC11R	385490	6434691	0	0.1
	*Bromus diandrus	Introduced	ROC12	385705	6434337	0	0.1
	*Bromus diandrus	Introduced	ROC12R	385705	6434337	0	0.1
	*Bromus diandrus	Introduced	ROC13R	385499	6434517	0	0.1
	*Bromus diandrus	Introduced	ROC15	385759	6434387	0	0.1
	*Bromus diandrus	Introduced	ROC16	385662	6434137	0	0.1
	*Bromus diandrus	Introduced	ROC16R	385662	6434137	0	0.1
	*Bromus diandrus	Introduced	ROC22	385482	6435250	0	0.1
	*Bromus diandrus	Introduced	ROC22R	385482	6435250	0	0.1
	*Bromus diandrus	Introduced	ROCR38	385076	6436110	0	0.1
	*Bromus diandrus	Introduced	WLM07	385307	6436060	0	0.1
	*Bromus diandrus	Introduced	WLM07R	385307	6436060	0	0.1
	*Bromus diandrus	Introduced	WLM09	385332	6435932	0	0.1
	*Bromus diandrus	Introduced	WLM09R	385332	6435932	0	0.1
	*Bromus diandrus	Introduced	WLM10R	384217	6435958	0	0.1
	*Bromus diandrus	Introduced	WLM12	384162	6435907	0	0.1
	*Bromus diandrus	Introduced	WLM13R	385092	6435870	0	0.1
	*Bromus diandrus	Introduced	WLM14R	385340	6435839	0	0.1
	*Bromus diandrus	Introduced	WLM16R	385089	6435772	0	0.1
	*Bromus diandrus	Introduced	WLM19R	383815	6435591	0	0.1
	*Bromus diandrus	Introduced	WLM38	385411	6435805	0	0.1
	*Bromus diandrus	Introduced	WLM38R	385411	6435805	0	0.1
	*Bromus diandrus	Introduced	WLM42	385453	6435739	0	0.1
	*Bromus diandrus	Introduced	WLM42R	385453	6435739	0	0.1
	*Bromus diandrus	Introduced	ROC15	385759	6434387	0	0.5

Family	Species	Status	Site	Easting	Northing	Number of Individuals	Cover (%)
	*Bromus diandrus	Introduced	ROC15R	385759	6434387	0	0.5
	*Bromus diandrus	Introduced	ROC21	385736	6434496	0	0.5
	*Bromus diandrus	Introduced	ROC21R	385736	6434496	0	0.5
	*Bromus diandrus	Introduced	ROC01R	385277	6436437	0	1
	*Bromus diandrus	Introduced	ROC27	385602	6434872	0	1
	*Bromus diandrus	Introduced	ROC27R	385602	6434872	0	1
	*Bromus diandrus	Introduced	WLM08	384097	6435951	0	1
	*Bromus diandrus	Introduced	WLM08R	384097	6435951	0	1
	*Bromus diandrus	Introduced	WLM19	383815	6435591	0	1
	*Bromus diandrus	Introduced	WLM41	385280	6435981	0	1
	*Bromus diandrus	Introduced	ROC02R	385258	6436257	0	2
	*Bromus diandrus	Introduced	WLM12R	384162	6435907	0	2
	*Bromus diandrus	Introduced	WLM14	385340	6435839	0	2
	*Bromus diandrus	Introduced	WLMR43	385496	6435971	0	2
	*Bromus diandrus	Introduced	ROC13	385499	6434517	0	3
	*Bromus diandrus	Introduced	WLM10	384217	6435958	0	3
	*Bromus diandrus	Introduced	ROC18	385645	6434075	0	4
	*Bromus diandrus	Introduced	ROC18R	385645	6434075	0	4
	*Bromus diandrus	Introduced	ROC30	385591	6434043	0	4
	*Bromus diandrus	Introduced	ROC30R	385591	6434043	0	4
	*Bromus diandrus	Introduced	ROC11	385490	6434691	0	5
	*Bromus diandrus	Introduced	ROC20	385778	6434275	0	5
	*Bromus diandrus	Introduced	ROC25	385281	6436212	0	5
	*Bromus diandrus	Introduced	ROC29R	385602	6434872	0	5
	*Bromus diandrus	Introduced	ROC32	385541	6434789	0	5
	*Bromus diandrus	Introduced	ROC32R	385541	6434789	0	5
	*Bromus diandrus	Introduced	ROCR34	385432	6435092	0	5
	*Bromus diandrus	Introduced	WLM06R	384171	6436126	0	5
	*Bromus diandrus	Introduced	WLM11	384036	6435925	0	5
	*Bromus diandrus	Introduced	WLM11R	384036	6435925	0	5

Family	Species	Status	Site	Easting	Northing	Number of Individuals	Cover (%)
	*Bromus diandrus	Introduced	ROC31R	385591	6434412	0	6
	*Bromus diandrus	Introduced	WLM06	384171	6436126	0	8
	*Bromus diandrus	Introduced	ROC23	385650	6434903	0	9
	*Bromus diandrus	Introduced	ROC23R	385650	6434903	0	9
	*Bromus diandrus	Introduced	ROC06R	385600	6435469	0	10
	*Bromus diandrus	Introduced	ROC31	385591	6434412	0	10
	*Bromus diandrus	Introduced	ROC31	385591	6434412	0	10
	*Bromus diandrus	Introduced	ROC31R	385591	6434412	0	10
	*Bromus diandrus	Introduced	ROC01	385277	6436437	0	11
	*Bromus diandrus	Introduced	WLM40R	385373	6435636	0	12
	*Bromus diandrus	Introduced	WLM40	385373	6435636	0	13
	*Bromus diandrus	Introduced	ROC10	385673	6434795	0	15
	*Bromus diandrus	Introduced	ROC10R	385673	6434795	0	15
	*Bromus diandrus	Introduced	WLM17	383926	6435734	0	15
	*Bromus diandrus	Introduced	WLM17R	383926	6435734	0	17
	*Bromus diandrus	Introduced	ROC19R	385721	6434011	0	18
	*Bromus diandrus	Introduced	ROC03R	385362	6436184	0	25
	*Bromus diandrus	Introduced	ROC19	385721	6434011	0	25
	*Bromus diandrus	Introduced	ROC24	385494	6435134	0	25
	*Bromus diandrus	Introduced	ROC24R	385494	6435134	0	25
	*Bromus diandrus	Introduced	WLM15R	384095	6435785	0	25
	*Bromus diandrus	Introduced	ROC03	385362	6436184	0	28
	*Bromus diandrus	Introduced	WLM15	384095	6435785	0	40
	*Bromus diandrus	Introduced	ROCR38R	385076	6436110	0	50
	*Bromus madritensis	Introduced	ANK94	386709	6435757	0	0.1
	*Bromus molliformis	Introduced	ROC06	385600	6435469	0	0.1
	*Bromus molliformis	Introduced	ROC07	385505	6435296	0	0.1
	*Bromus molliformis	Introduced	ROC07R	385505	6435296	0	0.1
	*Bromus molliformis	Introduced	ROC11R	385490	6434691	0	1
	*Bromus molliformis	Introduced	ROC06	385600	6435469	0	10

Family	Species	Status	Site	Easting	Northing	Number of Individuals	Cover (%)
	*Cenchrus setaceus	Introduced	ANK06	385745	6435716	0	0.1
	*Cenchrus setaceus	Introduced	ANK09	386441	6435798	0	0.1
	*Cenchrus setaceus	Introduced	ANK15	387745	6435458	0	0.1
	*Cenchrus setaceus	Introduced	ANK75A	386257	6435846	0	0.1
	*Cenchrus setaceus	Introduced	ANK08	386141	6435764	0	0.5
	*Cenchrus setaceus	Introduced	ANK93	386484	6435758	0	4
	*Cenchrus setaceus	Introduced	ANK01	385516	6435622	0	7
	*Cenchrus setaceus	Introduced	ANK14	387522	6435455	0	8
	*Cenchrus setaceus	Introduced	ANK94	386709	6435757	1	0.1
	*Cenchrus setaceus	Introduced	WTP38	387494	6435565	1	0.1
	*Cenchrus setaceus	Introduced	WTP43	385614	6435579	1	0.1
	*Cenchrus setaceus	Introduced	ROC11	385490	6434691	0	0.1
	*Cenchrus setaceus	Introduced	ROC12	385705	6434337	0	0.1
	*Cenchrus setaceus	Introduced	ROC12R	385705	6434337	0	0.1
	*Cenchrus setaceus	Introduced	ROC13	385499	6434517	0	0.1
	*Cenchrus setaceus	Introduced	ROC13R	385499	6434517	0	0.1
	*Cenchrus setaceus	Introduced	ROC16	385662	6434137	0	0.1
	*Cenchrus setaceus	Introduced	ROC16R	385662	6434137	0	0.1
	*Cenchrus setaceus	Introduced	ROC18	385645	6434075	0	0.1
	*Cenchrus setaceus	Introduced	ROC18R	385645	6434075	0	0.1
	*Cenchrus setaceus	Introduced	ROC21	385736	6434496	0	0.1
	*Cenchrus setaceus	Introduced	ROC21R	385736	6434496	0	0.1
	*Cenchrus setaceus	Introduced	ROC22	385482	6435250	0	0.1
	*Cenchrus setaceus	Introduced	ROC22R	385482	6435250	0	0.1
	*Cenchrus setaceus	Introduced	ROC25	385281	6436212	0	0.1
	*Cenchrus setaceus	Introduced	ROCR34	385432	6435092	0	0.1
	*Cenchrus setaceus	Introduced	ROCR38	385076	6436110	0	0.1
	*Cenchrus setaceus	Introduced	ROCR38R	385076	6436110	0	0.1
	*Cenchrus setaceus	Introduced	WLM09	385332	6435932	0	0.1
	*Cenchrus setaceus	Introduced	WLM09R	385332	6435932	0	0.1

Family	Species	Status	Site	Easting	Northing	Number of Individuals	Cover (%)
	*Cenchrus setaceus	Introduced	WLM11	384036	6435925	0	0.1
	*Cenchrus setaceus	Introduced	WLM11R	384036	6435925	0	0.1
	*Cenchrus setaceus	Introduced	WLM19	383815	6435591	0	0.1
	*Cenchrus setaceus	Introduced	WLM19R	383815	6435591	0	0.1
	*Cenchrus setaceus	Introduced	WLM40	385373	6435636	0	0.1
	*Cenchrus setaceus	Introduced	WLM40R	385373	6435636	0	0.1
	*Cenchrus setaceus	Introduced	WLM41	385280	6435981	0	0.1
	*Cenchrus setaceus	Introduced	WLMR43	385496	6435971	0	0.1
	*Cenchrus setaceus	Introduced	ROC20	385778	6434275	0	0.5
	*Cenchrus setaceus	Introduced	WLM10	384217	6435958	0	0.5
	*Cenchrus setaceus	Introduced	WLM10R	384217	6435958	0	0.5
	*Cenchrus setaceus	Introduced	ROC29R	385602	6434872	0	1
	*Cenchrus setaceus	Introduced	WLM13	385092	6435870	0	1
	*Cenchrus setaceus	Introduced	WLM13R	385092	6435870	0	1
	*Cenchrus setaceus	Introduced	WLM14	385340	6435839	0	1
	*Cenchrus setaceus	Introduced	WLM14R	385340	6435839	0	1
	*Cenchrus setaceus	Introduced	WLM16	385089	6435772	0	1
	*Cenchrus setaceus	Introduced	WLM16R	385089	6435772	0	1
	*Cenchrus setaceus	Introduced	ROC24	385494	6435134	0	2
	*Cenchrus setaceus	Introduced	ROC24R	385494	6435134	0	2
	*Cenchrus setaceus	Introduced	WLM42	385453	6435739	0	2
	*Cenchrus setaceus	Introduced	WLM42R	385453	6435739	0	2
	*Cenchrus setaceus	Introduced	WLM38	385411	6435805	0	3
	*Cenchrus setaceus	Introduced	WLM38R	385411	6435805	0	3
	*Cenchrus setaceus	Introduced	WLM12	384162	6435907	0	4
	*Cenchrus setaceus	Introduced	WLM12R	384162	6435907	0	4
	*Cenchrus setaceus	Introduced	ROC10	385673	6434795	0	5
	*Cenchrus setaceus	Introduced	ROC10R	385673	6434795	0	5
	*Cenchrus setaceus	Introduced	ROC30R	385591	6434043	0	5
	*Cenchrus setaceus	Introduced	ROC31R	385591	6434412	0	5

Family	Species	Status	Site	Easting	Northing	Number of Individuals	Cover (%)
	*Cenchrus setaceus	Introduced	ROC30	385591	6434043	0	6
	*Cenchrus setaceus	Introduced	ROC23	385650	6434903	0	7
	*Cenchrus setaceus	Introduced	ROC23R	385650	6434903	0	7
	*Cenchrus setaceus	Introduced	ROC31	385591	6434412	0	7
	*Cenchrus setaceus	Introduced	ROC02	385258	6436257	0	8
	*Cenchrus setaceus	Introduced	ROC02R	385258	6436257	0	8
	*Cenchrus setaceus	Introduced	ROC32	385541	6434789	0	11
	*Cenchrus setaceus	Introduced	ROC32R	385541	6434789	0	11
	*Cenchrus setaceus	Introduced	Opportunistic	384099	6436035	1	0
	*Cenchrus setaceus	Introduced	Opportunistic	385475	6435474	1	0
	*Cortaderia selloana	Introduced	Opportunistic	385580	6435974	1	0
	*Cynodon dactylon	Introduced	ANK07	385880	6435768	0	0.1
	*Cynodon dactylon	Introduced	ANK21	389623	6435488	0	0.1
	*Cynodon dactylon	Introduced	ANK35	391771	6435741	0	0.1
	*Cynodon dactylon	Introduced	WTP38	387494	6435565	0	0.1
	*Cynodon dactylon	Introduced	ROC03R	385362	6436184	0	0.1
	*Cynodon dactylon	Introduced	WLM17	383926	6435734	0	0.1
	*Cynodon dactylon	Introduced	WLM17R	383926	6435734	0	0.1
	*Cynodon dactylon	Introduced	WLM19	383815	6435591	0	0.1
	*Cynodon dactylon	Introduced	WLMR43	385496	6435971	0	0.1
	*Ehrharta calycina	Introduced	ANK19	388845	6435463	0	0.1
	*Ehrharta calycina	Introduced	ANK25	390210	6435781	0	0.1
	*Ehrharta calycina	Introduced	ANK35	391771	6435741	0	0.1
	*Ehrharta calycina	Introduced	ANK36	391764	6435627	0	0.1
	*Ehrharta calycina	Introduced	ANK75A	386257	6435846	0	0.1
	*Ehrharta calycina	Introduced	ANK75B	386188	6435879	0	0.1
	*Ehrharta calycina	Introduced	ANK99	385770	6435916	0	0.1
	*Ehrharta calycina	Introduced	WTP13	389876	6435704	0	0.1
	*Ehrharta calycina	Introduced	WTP38	387494	6435565	0	0.5
	*Ehrharta calycina	Introduced	WTP20	392697	6435869	0	1

Family	Species	Status	Site	Easting	Northing	Number of Individuals	Cover (%)
	*Ehrharta calycina	Introduced	WTP41	387749	6435529	0	1
	*Ehrharta calycina	Introduced	ANK35	391771	6435741	0	1.5
	*Ehrharta calycina	Introduced	ANK74	385948	6435846	0	1.5
	*Ehrharta calycina	Introduced	ANK100	385859	6435862	0	2
	*Ehrharta calycina	Introduced	ANK18	388477	6435472	0	2
	*Ehrharta calycina	Introduced	ANK19	388845	6435463	0	2
	*Ehrharta calycina	Introduced	ANK94	386709	6435757	0	2
	*Ehrharta calycina	Introduced	ANK34	391495	6435713	0	3
	*Ehrharta calycina	Introduced	WTP18	392184	6435666	0	3
	*Ehrharta calycina	Introduced	ANK08	386141	6435764	0	4
	*Ehrharta calycina	Introduced	ANK76	386404	6435876	0	4
	*Ehrharta calycina	Introduced	WTP16	390766	6435735	0	4
	*Ehrharta calycina	Introduced	WTP43	385614	6435579	0	4
	*Ehrharta calycina	Introduced	WTP21	392691	6435718	0	5
	*Ehrharta calycina	Introduced	ANK09	386441	6435798	0	8
	*Ehrharta calycina	Introduced	WTP12	389686	6435585	0	8
	*Ehrharta calycina	Introduced	WTP14	390092	6435823	0	8
	*Ehrharta calycina	Introduced	ANK02	385449	6435739	0	9
	*Ehrharta calycina	Introduced	ANK22	389897	6435596	0	9
	*Ehrharta calycina	Introduced	WTP02	386878	6435753	0	11
	*Ehrharta calycina	Introduced	ANK06	385745	6435716	0	12
	*Ehrharta calycina	Introduced	ANK17	388176	6435464	0	12
	*Ehrharta calycina	Introduced	ANK05	385657	6435591	0	13
	*Ehrharta calycina	Introduced	ANK11	386717	6435808	0	15
	*Ehrharta calycina	Introduced	WTP40	387657	6435560	0	15
	*Ehrharta calycina	Introduced	WTP08	388591	6435545	0	16
	*Ehrharta calycina	Introduced	WTP39	387525	6435568	0	17
	*Ehrharta calycina	Introduced	ANK14	387522	6435455	0	20
	*Ehrharta calycina	Introduced	ANK07	385880	6435768	0	22
	*Ehrharta calycina	Introduced	ANK10	386714	6435658	0	26

Family	Species	Status	Site	Easting	Northing	Number of Individuals	Cover (%)
	*Ehrharta calycina	Introduced	ANK23	390083	6435709	0	26
	*Ehrharta calycina	Introduced	ANK15	387745	6435458	0	28
	*Ehrharta calycina	Introduced	WTP10	389174	6435512	0	28
	*Ehrharta calycina	Introduced	WTP11	389539	6435528	0	28
	*Ehrharta calycina	Introduced	WTP17	392081	6435675	0	34
	*Ehrharta calycina	Introduced	ANK21	389623	6435488	0	35
	*Ehrharta calycina	Introduced	ANK93	386484	6435758	0	35
	*Ehrharta calycina	Introduced	WTP09	389021	6435535	0	45
	*Ehrharta calycina	Introduced	WTP15	390462	6435782	0	45
	*Ehrharta calycina	Introduced	WTP06	388344	6435531	0	48
	*Ehrharta calycina	Introduced	WTP01	386847	6435818	0	55
	*Ehrharta calycina	Introduced	WTP19	392425	6435643	0	56
	*Ehrharta calycina	Introduced	ANK16	387935	6435456	0	60
	*Ehrharta calycina	Introduced	ANK25	390210	6435781	0	60
	*Ehrharta calycina	Introduced	WTP05	387848	6435525	0	69
	*Ehrharta calycina	Introduced	ANK12	386873	6435630	0	77
	*Ehrharta calycina	Introduced	ANK20	389347	6435477	0	77
	*Ehrharta calycina	Introduced	ROC01R	385277	6436437	0	0.1
	*Ehrharta calycina	Introduced	ROC15	385759	6434387	0	0.1
	*Ehrharta calycina	Introduced	ROC15R	385759	6434387	0	0.1
	*Ehrharta calycina	Introduced	ROC18	385645	6434075	0	0.1
	*Ehrharta calycina	Introduced	ROC18R	385645	6434075	0	0.1
	*Ehrharta calycina	Introduced	ROC22	385482	6435250	0	0.1
	*Ehrharta calycina	Introduced	ROC22R	385482	6435250	0	0.1
	*Ehrharta calycina	Introduced	ROCR34	385432	6435092	0	0.1
	*Ehrharta calycina	Introduced	WLM09	385332	6435932	0	0.1
	*Ehrharta calycina	Introduced	WLM09R	385332	6435932	0	0.1
	*Ehrharta calycina	Introduced	WLM14	385340	6435839	0	0.1
	*Ehrharta calycina	Introduced	WLM15R	384095	6435785	0	0.1
	*Ehrharta calycina	Introduced	WLM38	385411	6435805	0	0.1

Family	Species	Status	Site	Easting	Northing	Number of Individuals	Cover (%)
	*Ehrharta calycina	Introduced	WLM14R	385340	6435839	0	0.5
	*Ehrharta calycina	Introduced	ROC10	385673	6434795	0	1
	*Ehrharta calycina	Introduced	ROC19	385721	6434011	0	1
	*Ehrharta calycina	Introduced	ROC19R	385721	6434011	0	1
	*Ehrharta calycina	Introduced	ROC03	385362	6436184	0	2
	*Ehrharta calycina	Introduced	ROC06	385600	6435469	0	2
	*Ehrharta calycina	Introduced	ROC06R	385600	6435469	0	2
	*Ehrharta calycina	Introduced	ROC21	385736	6434496	0	2
	*Ehrharta calycina	Introduced	WLM38R	385411	6435805	0	2
	*Ehrharta calycina	Introduced	ROC21R	385736	6434496	0	3
	*Ehrharta calycina	Introduced	ROC20	385778	6434275	0	4
	*Ehrharta calycina	Introduced	ROC29R	385602	6434872	0	4
	*Ehrharta calycina	Introduced	ROC10R	385673	6434795	0	5
	*Ehrharta calycina	Introduced	ROC16	385662	6434137	0	9
	*Ehrharta calycina	Introduced	ROC16R	385662	6434137	0	9
	*Ehrharta calycina	Introduced	WLM42	385453	6435739	0	15
	*Ehrharta calycina	Introduced	WLM42R	385453	6435739	0	16
	*Ehrharta calycina	Introduced	WLMR43	385496	6435971	0	20
	*Ehrharta longiflora	Introduced	ANK05	385657	6435591	0	0.1
	*Ehrharta longiflora	Introduced	ANK06	385745	6435716	0	0.1
	*Ehrharta longiflora	Introduced	ANK10	386714	6435658	0	0.1
	*Ehrharta longiflora	Introduced	ANK12	386873	6435630	0	0.1
	*Ehrharta longiflora	Introduced	ANK25	390210	6435781	0	0.1
	*Ehrharta longiflora	Introduced	ANK36	391764	6435627	0	0.1
	*Ehrharta longiflora	Introduced	ANK75A	386257	6435846	0	0.1
	*Ehrharta longiflora	Introduced	ANK76	386404	6435876	0	0.1
	*Ehrharta longiflora	Introduced	WTP01	386847	6435818	0	0.1
	*Ehrharta longiflora	Introduced	WTP02	386878	6435753	0	0.1
	*Ehrharta longiflora	Introduced	WTP17	392081	6435675	0	0.1
	*Ehrharta longiflora	Introduced	WTP18	392184	6435666	0	0.1

Family	Species	Status	Site	Easting	Northing	Number of Individuals	Cover (%)
	*Ehrharta longiflora	Introduced	WTP21	392691	6435718	0	0.1
	*Ehrharta longiflora	Introduced	ANK100	385859	6435862	0	0.5
	*Ehrharta longiflora	Introduced	ANK34	391495	6435713	0	0.5
	*Ehrharta longiflora	Introduced	ANK75B	386188	6435879	0	0.5
	*Ehrharta longiflora	Introduced	WTP38	387494	6435565	0	0.5
	*Ehrharta longiflora	Introduced	WTP12	389686	6435585	0	1
	*Ehrharta longiflora	Introduced	WTP15	390462	6435782	0	1
	*Ehrharta longiflora	Introduced	WTP10	389174	6435512	0	1.5
	*Ehrharta longiflora	Introduced	WTP06	388344	6435531	0	2
	*Ehrharta longiflora	Introduced	WTP08	388591	6435545	0	2
	*Ehrharta longiflora	Introduced	WTP19	392425	6435643	0	2
	*Ehrharta longiflora	Introduced	ANK07	385880	6435768	0	3
	*Ehrharta longiflora	Introduced	ANK74	385948	6435846	0	3
	*Ehrharta longiflora	Introduced	ANK17	388176	6435464	0	4
	*Ehrharta longiflora	Introduced	ANK23	390083	6435709	0	4
	*Ehrharta longiflora	Introduced	WTP05	387848	6435525	0	4
	*Ehrharta longiflora	Introduced	WTP16	390766	6435735	0	4
	*Ehrharta longiflora	Introduced	WTP39	387525	6435568	0	5
	*Ehrharta longiflora	Introduced	ANK93	386484	6435758	0	6
	*Ehrharta longiflora	Introduced	ANK01	385516	6435622	0	7
	*Ehrharta longiflora	Introduced	ANK16	387935	6435456	0	8
	*Ehrharta longiflora	Introduced	ANK02	385449	6435739	0	9
	*Ehrharta longiflora	Introduced	ANK09	386441	6435798	0	11
	*Ehrharta longiflora	Introduced	WTP09	389021	6435535	0	11
	*Ehrharta longiflora	Introduced	ANK99	385770	6435916	0	13
	*Ehrharta longiflora	Introduced	ANK94	386709	6435757	0	14
	*Ehrharta longiflora	Introduced	WTP41	387749	6435529	0	19
	*Ehrharta longiflora	Introduced	ANK14	387522	6435455	0	20
	*Ehrharta longiflora	Introduced	ANK15	387745	6435458	0	24
	*Ehrharta longiflora	Introduced	ANK18	388477	6435472	0	25

Family	Species	Status	Site	Easting	Northing	Number of Individuals	Cover (%)
	*Ehrharta longiflora	Introduced	ANK08	386141	6435764	0	28
	*Ehrharta longiflora	Introduced	WTP43	385614	6435579	0	35
	*Ehrharta longiflora	Introduced	ANK19	388845	6435463	0	40
	*Ehrharta longiflora	Introduced	WTP40	387657	6435560	0	40
	*Ehrharta longiflora	Introduced	ANK35	391771	6435741	0	60
	*Ehrharta longiflora	Introduced	ROC03R	385362	6436184	0	0.1
	*Ehrharta longiflora	Introduced	ROC07R	385505	6435296	0	0.1
	*Ehrharta longiflora	Introduced	ROC08R	385527	6435187	0	0.1
	*Ehrharta longiflora	Introduced	ROC11R	385490	6434691	0	0.1
	*Ehrharta longiflora	Introduced	ROC12	385705	6434337	0	0.1
	*Ehrharta longiflora	Introduced	ROC12R	385705	6434337	0	0.1
	*Ehrharta longiflora	Introduced	ROC15	385759	6434387	0	0.1
	*Ehrharta longiflora	Introduced	ROC16	385662	6434137	0	0.1
	*Ehrharta longiflora	Introduced	ROC19	385721	6434011	0	0.1
	*Ehrharta longiflora	Introduced	ROC30	385591	6434043	0	0.1
	*Ehrharta longiflora	Introduced	ROC30R	385591	6434043	0	0.1
	*Ehrharta longiflora	Introduced	ROC31R	385591	6434412	0	0.1
	*Ehrharta longiflora	Introduced	ROC33	385446	6435307	0	0.1
	*Ehrharta longiflora	Introduced	ROC33R	385446	6435307	0	0.1
	*Ehrharta longiflora	Introduced	ROCR38	385076	6436110	0	0.1
	*Ehrharta longiflora	Introduced	WLM06R	384171	6436126	0	0.1
	*Ehrharta longiflora	Introduced	WLM07R	385307	6436060	0	0.1
	*Ehrharta longiflora	Introduced	WLM08R	384097	6435951	0	0.1
	*Ehrharta longiflora	Introduced	WLM09	385332	6435932	0	0.1
	*Ehrharta longiflora	Introduced	WLM13	385092	6435870	0	0.1
	*Ehrharta longiflora	Introduced	WLM15R	384095	6435785	0	0.1
	*Ehrharta longiflora	Introduced	WLM38	385411	6435805	0	0.1
	*Ehrharta longiflora	Introduced	WLM38R	385411	6435805	0	0.1
	*Ehrharta longiflora	Introduced	WLM40	385373	6435636	0	0.1
	*Ehrharta longiflora	Introduced	WLM40R	385373	6435636	0	0.1

Family	Species	Status	Site	Easting	Northing	Number of Individuals	Cover (%)
	*Ehrharta longiflora	Introduced	WLM42	385453	6435739	0	0.1
	*Ehrharta longiflora	Introduced	WLM42R	385453	6435739	0	0.1
	*Ehrharta longiflora	Introduced	ROC08	385527	6435187	0	0.5
	*Ehrharta longiflora	Introduced	ROC04	385630	6436000	0	1
	*Ehrharta longiflora	Introduced	ROC04R	385630	6436000	0	1
	*Ehrharta longiflora	Introduced	ROC05	385464	6435478	0	1
	*Ehrharta longiflora	Introduced	ROC07	385505	6435296	0	1
	*Ehrharta longiflora	Introduced	ROC21	385736	6434496	0	1
	*Ehrharta longiflora	Introduced	ROC22R	385482	6435250	0	1
	*Ehrharta longiflora	Introduced	WLM38	385411	6435805	0	1
	*Ehrharta longiflora	Introduced	ROC03	385362	6436184	0	2
	*Ehrharta longiflora	Introduced	WLM41	385280	6435981	0	2
	*Ehrharta longiflora	Introduced	ROCR38R	385076	6436110	0	4
	*Ehrharta longiflora	Introduced	ROC10	385673	6434795	0	5
	*Ehrharta longiflora	Introduced	ROC13R	385499	6434517	0	5
	*Ehrharta longiflora	Introduced	ROC16R	385662	6434137	0	5
	*Ehrharta longiflora	Introduced	ROC11	385490	6434691	0	6
	*Ehrharta longiflora	Introduced	WLM15	384095	6435785	0	6
	*Ehrharta longiflora	Introduced	ROC22	385482	6435250	0	7
	*Ehrharta longiflora	Introduced	ROC01	385277	6436437	0	8
	*Ehrharta longiflora	Introduced	ROC18	385645	6434075	0	10
	*Ehrharta longiflora	Introduced	ROC24R	385494	6435134	0	10
	*Ehrharta longiflora	Introduced	ROC06R	385600	6435469	0	11
	*Ehrharta longiflora	Introduced	WLM08	384097	6435951	0	15
	*Ehrharta longiflora	Introduced	ROC13	385499	6434517	0	25
	*Ehrharta longiflora	Introduced	ROC16	385662	6434137	0	25
	*Ehrharta longiflora	Introduced	ROC24	385494	6435134	0	25
	*Ehrharta longiflora	Introduced	WLM07	385307	6436060	0	30
	*Ehrharta longiflora	Introduced	ROC06	385600	6435469	0	31
	*Eragrostis curvula	Introduced	ANK21	389623	6435488	0	0.1

Family	Species	Status	Site	Easting	Northing	Number of Individuals	Cover (%)
	*Eragrostis curvula	Introduced	ANK06	385745	6435716	0	4
	*Eragrostis curvula	Introduced	ANK34	391495	6435713	0	5
	*Eragrostis curvula	Introduced	ROC05R	385464	6435478	0	0.1
	*Eragrostis curvula	Introduced	ROC24R	385494	6435134	0	0.1
	*Eragrostis curvula	Introduced	WLM14R	385340	6435839	0	0.1
	*Eragrostis curvula	Introduced	WLM18	385232	6435808	0	1
	*Eragrostis curvula	Introduced	WLM30	385236	6435739	0	11
	*Eragrostis curvula	Introduced	PLOPP	383978	6435757	1	0
	*Eragrostis curvula	Introduced	PLOPP	385549	6435348	1	0
	*Hordeum leporinum	Introduced	WLM09R	385332	6435932	0	0.1
	*Hordeum leporinum	Introduced	WLM07R	385307	6436060	0	5
	*Hordeum leporinum	Introduced	WLM15R	384095	6435785	0	10
	*Hyparrhenia hirta	Introduced	ROC05	385464	6435478	0	0.1
	*Hyparrhenia hirta	Introduced	WLM30	385236	6435739	0	13
	*Hyparrhenia hirta	Introduced	Opportunistic	385716	6434502	0	20
	*Hyparrhenia hirta	Introduced	WLM18	385232	6435808	0	31
	*Hyparrhenia hirta	Introduced	PLOPP	385475	6435476	1	0
	*Hyparrhenia hirta	Introduced	PLOPP	385488	6435495	1	0
	*Hyparrhenia hirta	Introduced	Opportunistic	383973	6435754	1	0
	*Lagurus ovatus	Introduced	ANK01	385516	6435622	0	0.1
	*Lagurus ovatus	Introduced	ANK02	385449	6435739	0	0.1
	*Lagurus ovatus	Introduced	ANK05	385657	6435591	0	0.1
	*Lagurus ovatus	Introduced	ANK06	385745	6435716	0	0.1
	*Lagurus ovatus	Introduced	ANK07	385880	6435768	0	0.1
	*Lagurus ovatus	Introduced	ANK20	389347	6435477	0	0.1
	*Lagurus ovatus	Introduced	ANK74	385948	6435846	0	0.1
	*Lagurus ovatus	Introduced	ANK93	386484	6435758	0	0.1
	*Lagurus ovatus	Introduced	WTP02	386878	6435753	0	0.1
	*Lagurus ovatus	Introduced	WTP11	389539	6435528	0	0.1
	*Lagurus ovatus	Introduced	WTP20	392697	6435869	0	0.1

Family	Species	Status	Site	Easting	Northing	Number of Individuals	Cover (%)
	*Lagurus ovatus	Introduced	WTP43	385614	6435579	0	0.5
	*Lagurus ovatus	Introduced	ANK94	386709	6435757	50	0.1
	*Lagurus ovatus	Introduced	ROC06	385600	6435469	0	0.1
	*Lagurus ovatus	Introduced	ROC06R	385600	6435469	0	0.1
	*Lagurus ovatus	Introduced	ROC08	385527	6435187	0	0.1
	*Lagurus ovatus	Introduced	ROC08R	385527	6435187	0	0.1
	*Lagurus ovatus	Introduced	ROC10R	385673	6434795	0	0.1
	*Lagurus ovatus	Introduced	ROC12	385705	6434337	0	0.1
	*Lagurus ovatus	Introduced	ROC12R	385705	6434337	0	0.1
	*Lagurus ovatus	Introduced	ROC15	385759	6434387	0	0.1
	*Lagurus ovatus	Introduced	ROC15R	385759	6434387	0	0.1
	*Lagurus ovatus	Introduced	ROC18	385645	6434075	0	0.1
	*Lagurus ovatus	Introduced	ROC18R	385645	6434075	0	0.1
	*Lagurus ovatus	Introduced	ROC19	385721	6434011	0	0.1
	*Lagurus ovatus	Introduced	ROC19R	385721	6434011	0	0.1
	*Lagurus ovatus	Introduced	ROC20	385778	6434275	0	0.1
	*Lagurus ovatus	Introduced	ROC22	385482	6435250	0	0.1
	*Lagurus ovatus	Introduced	ROC22R	385482	6435250	0	0.1
	*Lagurus ovatus	Introduced	ROC23	385650	6434903	0	0.1
	*Lagurus ovatus	Introduced	ROC23R	385650	6434903	0	0.1
	*Lagurus ovatus	Introduced	ROC24	385494	6435134	0	0.1
	*Lagurus ovatus	Introduced	ROC24R	385494	6435134	0	0.1
	*Lagurus ovatus	Introduced	ROC27R	385602	6434872	0	0.1
	*Lagurus ovatus	Introduced	ROCR38R	385076	6436110	0	0.1
	*Lagurus ovatus	Introduced	WLM06	384171	6436126	0	0.1
	*Lagurus ovatus	Introduced	WLM06R	384171	6436126	0	0.1
	*Lagurus ovatus	Introduced	WLM07	385307	6436060	0	0.1
	*Lagurus ovatus	Introduced	WLM07R	385307	6436060	0	0.1
	*Lagurus ovatus	Introduced	WLM11	384036	6435925	0	0.1
	*Lagurus ovatus	Introduced	WLM12	384162	6435907	0	0.1

Family	Species	Status	Site	Easting	Northing	Number of Individuals	Cover (%)
	*Lagurus ovatus	Introduced	WLM13	385092	6435870	0	0.1
	*Lagurus ovatus	Introduced	WLM13R	385092	6435870	0	0.1
	*Lagurus ovatus	Introduced	WLM16	385089	6435772	0	0.1
	*Lagurus ovatus	Introduced	WLM17	383926	6435734	0	0.1
	*Lagurus ovatus	Introduced	WLM18	385232	6435808	0	0.1
	*Lagurus ovatus	Introduced	WLM30	385236	6435739	0	0.1
	*Lagurus ovatus	Introduced	WLM40	385373	6435636	0	0.1
	*Lagurus ovatus	Introduced	WLM41	385280	6435981	0	0.1
	*Lagurus ovatus	Introduced	WLM42R	385453	6435739	0	0.1
	*Lagurus ovatus	Introduced	ROC02R	385258	6436257	0	0.5
	*Lagurus ovatus	Introduced	ROC21	385736	6434496	0	0.5
	*Lagurus ovatus	Introduced	ROC21R	385736	6434496	0	0.5
	*Lagurus ovatus	Introduced	WLM11R	384036	6435925	0	0.5
	*Lagurus ovatus	Introduced	WLM14R	385340	6435839	0	0.5
	*Lagurus ovatus	Introduced	WLM16R	385089	6435772	0	0.5
	*Lagurus ovatus	Introduced	WLM42	385453	6435739	0	0.5
	*Lagurus ovatus	Introduced	ROC01R	385277	6436437	0	1
	*Lagurus ovatus	Introduced	ROC05	385464	6435478	0	1
	*Lagurus ovatus	Introduced	ROC05R	385464	6435478	0	1
	*Lagurus ovatus	Introduced	ROC27	385602	6434872	0	1
	*Lagurus ovatus	Introduced	WLM09R	385332	6435932	0	1
	*Lagurus ovatus	Introduced	WLM17R	383926	6435734	0	1
	*Lagurus ovatus	Introduced	WLM19	383815	6435591	0	1
	*Lagurus ovatus	Introduced	WLM38	385411	6435805	0	1
	*Lagurus ovatus	Introduced	WLM19R	383815	6435591	0	1.5
	*Lagurus ovatus	Introduced	ROC02	385258	6436257	0	2
	*Lagurus ovatus	Introduced	ROC16	385662	6434137	0	2
	*Lagurus ovatus	Introduced	ROC16R	385662	6434137	0	2
	*Lagurus ovatus	Introduced	ROC25	385281	6436212	0	2
	*Lagurus ovatus	Introduced	ROC32	385541	6434789	0	2

Family	Species	Status	Site	Easting	Northing	Number of Individuals	Cover (%)
	*Lagurus ovatus	Introduced	ROC32R	385541	6434789	0	2
	*Lagurus ovatus	Introduced	WLM14	385340	6435839	0	2
	*Lagurus ovatus	Introduced	WLM38R	385411	6435805	0	2
	*Lagurus ovatus	Introduced	WLM40R	385373	6435636	0	2
	*Lagurus ovatus	Introduced	WLMR43	385496	6435971	0	2
	*Lagurus ovatus	Introduced	WLM09	385332	6435932	0	3
	*Lagurus ovatus	Introduced	WLM12R	384162	6435907	0	3
	*Lagurus ovatus	Introduced	ROC31	385591	6434412	0	4
	*Lagurus ovatus	Introduced	ROC31R	385591	6434412	0	4
	*Lagurus ovatus	Introduced	ROCR34	385432	6435092	0	5
	*Lagurus ovatus	Introduced	WLM30	385236	6435739	0	8
	*Lagurus ovatus	Introduced	ROC10	385673	6434795	0	9
	*Lagurus ovatus	Introduced	ROC01	385277	6436437	0	11
	*Lagurus ovatus	Introduced	Opportunistic	384129	6436066	1	0
	*Lolium multiflorum	Introduced	ROC19	385721	6434011	0	0.1
	*Lolium multiflorum	Introduced	ROC19R	385721	6434011	0	0.5
	*Lolium perenne	Introduced	ANK07	385880	6435768	0	0.1
	*Lolium perenne	Introduced	ANK35	391771	6435741	0	0.1
	*Lolium perenne	Introduced	WTP41	387749	6435529	0	0.5
	*Lolium perenne	Introduced	WTP15	390462	6435782	0	20
	*Lolium perenne	Introduced	ROC01R	385277	6436437	0	12
	*Lolium perenne	Introduced	ROC01	385277	6436437	0	13
	*Lolium perenne x rigidum	Introduced	ANK25	390210	6435781	0	0.1
	*Lolium perenne x rigidum	Introduced	ROC06	385600	6435469	0	0.1
	*Lolium perenne x rigidum	Introduced	ROC06R	385600	6435469	0	0.1
	*Lolium perenne x rigidum	Introduced	ROC13	385499	6434517	0	0.1
	*Lolium perenne x rigidum	Introduced	ROC21	385736	6434496	0	0.5
	*Lolium perenne x rigidum	Introduced	ROC21R	385736	6434496	0	0.5
	*Lolium perenne x rigidum	Introduced	ROC20	385778	6434275	0	2
	*Lolium perenne x rigidum	Introduced	ROC31	385591	6434412	0	3

Family	Species	Status	Site	Easting	Northing	Number of Individuals	Cover (%)
	*Lolium perenne x rigidum	Introduced	ROC30	385591	6434043	0	5
	*Lolium perenne x rigidum	Introduced	ROC30R	385591	6434043	0	5
	*Lolium perenne x rigidum	Introduced	ROC25	385281	6436212	0	7
	*Lolium perenne x rigidum	Introduced	WLM40R	385373	6435636	0	12
	*Lolium perenne x rigidum	Introduced	WLM40	385373	6435636	0	13
	*Lolium rigidum	Introduced	ANK15	387745	6435458	0	1
	*Lolium sp.	Introduced	ROC15	385759	6434387	0	0.1
	*Lolium sp.	Introduced	ROC16R	385662	6434137	0	0.1
	*Lolium sp.	Introduced	WLM06R	384171	6436126	0	0.1
	*Lolium sp.	Introduced	WLM13	385092	6435870	0	0.1
	*Lolium sp.	Introduced	WLM13R	385092	6435870	0	0.1
	*Lolium sp.	Introduced	WLM19	383815	6435591	0	0.1
	*Lolium sp.	Introduced	WLM19	383815	6435591	0	0.1
	*Lolium sp.	Introduced	WLM19R	383815	6435591	0	0.1
	*Lolium sp.	Introduced	WLM14	385340	6435839	0	1
	*Lolium sp.	Introduced	WLM18	385232	6435808	0	1
	*Lolium sp.	Introduced	WLM12	384162	6435907	0	2
	*Lolium sp.	Introduced	WLM12R	384162	6435907	0	2
	*Lolium sp.	Introduced	WLM06	384171	6436126	0	6
	*Lolium sp.	Introduced	WLM10	384217	6435958	0	12
	*Pentameris airoides subsp. airoides	Introduced	ANK100	385859	6435862	0	0.1
	*Poa annua	Introduced	ROC06	385600	6435469	0	0.1
	*Stenotaphrum secundatum	Introduced	ROC16	385662	6434137	0	0.1
	*Stenotaphrum secundatum	Introduced	ROC16R	385662	6434137	0	2
	*Trachynia distachyon	Introduced	ROC32	385541	6434789	0	0.1
	*Trachynia distachyon	Introduced	WLM18	385232	6435808	0	0.1
	*Trachynia distachyon	Introduced	ROC11	385490	6434691	0	1
	*Trachynia distachyon	Introduced	ROCR34	385432	6435092	0	1
	*Trachynia distachyon	Introduced	ROC01	385277	6436437	0	2
	*Trachynia distachyon	Introduced	ROC12R	385705	6434337	0	19

Family	Species	Status	Site	Easting	Northing	Number of Individuals	Cover (%)
	*Trachynia distachyon	Introduced	ROC12	385705	6434337	0	26
	*Trisetaria cristata	Introduced	ROC21	385736	6434496	0	0.1
	*Trisetaria cristata	Introduced	ROC22	385482	6435250	0	0.1
	*Trisetaria cristata	Introduced	WLM13	385092	6435870	0	0.1
	*Trisetaria cristata	Introduced	WLM13R	385092	6435870	0	0.1
	*Trisetaria cristata	Introduced	WLM38	385411	6435805	0	0.1
	*Vulpia bromoides	Introduced	ANK75A	386257	6435846	0	0.1
	*Vulpia bromoides	Introduced	ANK75B	386188	6435879	0	0.1
	*Vulpia bromoides	Introduced	ANK76	386404	6435876	0	0.1
	*Vulpia bromoides	Introduced	ANK93	386484	6435758	0	0.1
	*Vulpia bromoides	Introduced	WTP12	389686	6435585	0	0.1
	*Vulpia bromoides	Introduced	WTP20	392697	6435869	0	0.1
	*Vulpia bromoides	Introduced	ANK11	386717	6435808	0	1
	*Vulpia bromoides	Introduced	ROC08	385527	6435187	0	0.1
	*Vulpia bromoides	Introduced	ROC08R	385527	6435187	0	0.1
	*Vulpia bromoides	Introduced	WLM42	385453	6435739	0	0.1
	*Vulpia myuros forma megalura	Introduced	ANK35	391771	6435741	0	0.1
	*Vulpia myuros forma megalura	Introduced	WTP19	392425	6435643	0	0.1
	*Vulpia myuros forma myuros	Introduced	ANK02	385449	6435739	0	0.1
	*Vulpia myuros forma myuros	Introduced	ANK06	385745	6435716	0	0.1
	*Vulpia myuros forma myuros	Introduced	ANK100	385859	6435862	0	0.1
	*Vulpia myuros forma myuros	Introduced	ANK34	391495	6435713	0	0.1
	*Vulpia myuros forma myuros	Introduced	WTP01	386847	6435818	0	0.1
	*Vulpia myuros forma myuros	Introduced	WTP16	390766	6435735	0	0.1
	*Vulpia myuros forma myuros	Introduced	WTP02	386878	6435753	0	1
	*Vulpia myuros forma myuros	Introduced	ROC10	385673	6434795	0	0.1
	*Vulpia myuros forma myuros	Introduced	ROC21	385736	6434496	0	0.1
	*Vulpia myuros forma myuros	Introduced	ROC22	385482	6435250	0	0.1
	*Vulpia myuros forma myuros	Introduced	ROC22R	385482	6435250	0	0.1
	*Vulpia myuros forma myuros	Introduced	ROC24	385494	6435134	0	0.1

Family	Species	Status	Site	Easting	Northing	Number of Individuals	Cover (%)
	*Vulpia myuros forma myuros	Introduced	WLM38	385411	6435805	0	1
Primulaceae	*Lysimachia arvensis	Introduced	ANK01	385516	6435622	0	0.1
	*Lysimachia arvensis	Introduced	ANK05	385657	6435591	0	0.1
	*Lysimachia arvensis	Introduced	ANK06	385745	6435716	0	0.1
	*Lysimachia arvensis	Introduced	ANK07	385880	6435768	0	0.1
	*Lysimachia arvensis	Introduced	ANK08	386141	6435764	0	0.1
	*Lysimachia arvensis	Introduced	ANK09	386441	6435798	0	0.1
	*Lysimachia arvensis	Introduced	ANK10	386714	6435658	0	0.1
	*Lysimachia arvensis	Introduced	ANK100	385859	6435862	0	0.1
	*Lysimachia arvensis	Introduced	ANK11	386717	6435808	0	0.1
	*Lysimachia arvensis	Introduced	ANK12	386873	6435630	0	0.1
	*Lysimachia arvensis	Introduced	ANK14	387522	6435455	0	0.1
	*Lysimachia arvensis	Introduced	ANK15	387745	6435458	0	0.1
	*Lysimachia arvensis	Introduced	ANK16	387935	6435456	0	0.1
	*Lysimachia arvensis	Introduced	ANK17	388176	6435464	0	0.1
	*Lysimachia arvensis	Introduced	ANK20	389347	6435477	0	0.1
	*Lysimachia arvensis	Introduced	ANK21	389623	6435488	0	0.1
	*Lysimachia arvensis	Introduced	ANK23	390083	6435709	0	0.1
	*Lysimachia arvensis	Introduced	ANK35	391771	6435741	0	0.1
	*Lysimachia arvensis	Introduced	ANK36	391764	6435627	0	0.1
	*Lysimachia arvensis	Introduced	ANK75B	386188	6435879	0	0.1
	*Lysimachia arvensis	Introduced	ANK76	386404	6435876	0	0.1
	*Lysimachia arvensis	Introduced	ANK93	386484	6435758	0	0.1
	*Lysimachia arvensis	Introduced	ANK94	386709	6435757	0	0.1
	*Lysimachia arvensis	Introduced	ANK99	385770	6435916	0	0.1
	*Lysimachia arvensis	Introduced	WTP01	386847	6435818	0	0.1
	*Lysimachia arvensis	Introduced	WTP02	386878	6435753	0	0.1
	*Lysimachia arvensis	Introduced	WTP06	388344	6435531	0	0.1
	*Lysimachia arvensis	Introduced	WTP09	389021	6435535	0	0.1
	*Lysimachia arvensis	Introduced	WTP10	389174	6435512	0	0.1

Family	Species	Status	Site	Easting	Northing	Number of Individuals	Cover (%)
	*Lysimachia arvensis	Introduced	WTP13	389876	6435704	0	0.1
	*Lysimachia arvensis	Introduced	WTP19	392425	6435643	0	0.1
	*Lysimachia arvensis	Introduced	WTP40	387657	6435560	0	0.1
	*Lysimachia arvensis	Introduced	WTP41	387749	6435529	0	0.1
	*Lysimachia arvensis	Introduced	ANK75A	386257	6435846	0	0.5
	*Lysimachia arvensis	Introduced	WTP05	387848	6435525	0	0.5
	*Lysimachia arvensis	Introduced	ANK02	385449	6435739	50	0.1
	*Lysimachia arvensis	Introduced	ANK34	391495	6435713	50	0.1
	*Lysimachia arvensis	Introduced	ANK74	385948	6435846	200	0.1
	*Lysimachia arvensis	Introduced	ROC01	385277	6436437	0	0.1
	*Lysimachia arvensis	Introduced	ROC02	385258	6436257	0	0.1
	*Lysimachia arvensis	Introduced	ROC05	385464	6435478	0	0.1
	*Lysimachia arvensis	Introduced	ROC06	385600	6435469	0	0.1
	*Lysimachia arvensis	Introduced	ROC06R	385600	6435469	0	0.1
	*Lysimachia arvensis	Introduced	ROC07	385505	6435296	0	0.1
	*Lysimachia arvensis	Introduced	ROC07R	385505	6435296	0	0.1
	*Lysimachia arvensis	Introduced	ROC08	385527	6435187	0	0.1
	*Lysimachia arvensis	Introduced	ROC08R	385527	6435187	0	0.1
	*Lysimachia arvensis	Introduced	ROC11	385490	6434691	0	0.1
	*Lysimachia arvensis	Introduced	ROC12	385705	6434337	0	0.1
	*Lysimachia arvensis	Introduced	ROC13	385499	6434517	0	0.1
	*Lysimachia arvensis	Introduced	ROC15	385759	6434387	0	0.1
	*Lysimachia arvensis	Introduced	ROC16	385662	6434137	0	0.1
	*Lysimachia arvensis	Introduced	ROC16R	385662	6434137	0	0.1
	*Lysimachia arvensis	Introduced	ROC18	385645	6434075	0	0.1
	*Lysimachia arvensis	Introduced	ROC18R	385645	6434075	0	0.1
	*Lysimachia arvensis	Introduced	ROC19	385721	6434011	0	0.1
	*Lysimachia arvensis	Introduced	ROC19R	385721	6434011	0	0.1
	*Lysimachia arvensis	Introduced	ROC21	385736	6434496	0	0.1
	*Lysimachia arvensis	Introduced	ROC22	385482	6435250	0	0.1

Family	Species	Status	Site	Easting	Northing	Number of Individuals	Cover (%)
	*Lysimachia arvensis	Introduced	ROC22R	385482	6435250	0	0.1
	*Lysimachia arvensis	Introduced	ROC23	385650	6434903	0	0.1
	*Lysimachia arvensis	Introduced	ROC25	385281	6436212	0	0.1
	*Lysimachia arvensis	Introduced	ROC27	385602	6434872	0	0.1
	*Lysimachia arvensis	Introduced	ROC32	385541	6434789	0	0.1
	*Lysimachia arvensis	Introduced	ROC32R	385541	6434789	0	0.1
	*Lysimachia arvensis	Introduced	ROC33R	385446	6435307	0	0.1
	*Lysimachia arvensis	Introduced	WLM06	384171	6436126	0	0.1
	*Lysimachia arvensis	Introduced	WLM08	384097	6435951	0	0.1
	*Lysimachia arvensis	Introduced	WLM09	385332	6435932	0	0.1
	*Lysimachia arvensis	Introduced	WLM09	385332	6435932	0	0.1
	*Lysimachia arvensis	Introduced	WLM09R	385332	6435932	0	0.1
	*Lysimachia arvensis	Introduced	WLM10	384217	6435958	0	0.1
	*Lysimachia arvensis	Introduced	WLM12	384162	6435907	0	0.1
	*Lysimachia arvensis	Introduced	WLM13	385092	6435870	0	0.1
	*Lysimachia arvensis	Introduced	WLM13R	385092	6435870	0	0.1
	*Lysimachia arvensis	Introduced	WLM14	385340	6435839	0	0.1
	*Lysimachia arvensis	Introduced	WLM14R	385340	6435839	0	0.1
	*Lysimachia arvensis	Introduced	WLM15	384095	6435785	0	0.1
	*Lysimachia arvensis	Introduced	WLM16	385089	6435772	0	0.1
	*Lysimachia arvensis	Introduced	WLM16R	385089	6435772	0	0.1
	*Lysimachia arvensis	Introduced	WLM30	385236	6435739	0	0.1
	*Lysimachia arvensis	Introduced	WLM38	385411	6435805	0	0.1
	*Lysimachia arvensis	Introduced	WLM40	385373	6435636	0	0.1
	*Lysimachia arvensis	Introduced	WLM42	385453	6435739	0	0.1
	*Lysimachia arvensis	Introduced	ROC07	385505	6435296	0	1
	*Lysimachia arvensis	Introduced	ROC33	385446	6435307	0	1
	*Lysimachia arvensis	Introduced	WLM18	385232	6435808	0	1
	*Lysimachia linum-stellatum	Introduced	ROC10	385673	6434795	0	0.1
Rhamnaceae	*Rhamnus alaternus	Introduced	ROC02	385258	6436257	0	0.1

Family	Species	Status	Site	Easting	Northing	Number of Individuals	Cover (%)
	*Rhamnus alaternus	Introduced	ROC02R	385258	6436257	0	0.1
	*Rhamnus alaternus	Introduced	ROC08	385527	6435187	0	0.1
	*Rhamnus alaternus	Introduced	ROC08R	385527	6435187	0	0.1
	*Rhamnus alaternus	Introduced	ROC25	385281	6436212	0	0.1
	*Rhamnus alaternus	Introduced	ROCR38	385076	6436110	0	0.1
	*Rhamnus alaternus	Introduced	WLM07	385307	6436060	0	0.1
	*Rhamnus alaternus	Introduced	WLM07R	385307	6436060	0	0.1
	*Rhamnus alaternus	Introduced	WLM16	385089	6435772	0	0.1
	*Rhamnus alaternus	Introduced	WLM16R	385089	6435772	0	0.1
	*Rhamnus alaternus	Introduced	ROCR38R	385076	6436110	0	1
	*Rhamnus alaternus	Introduced	ROC06	385600	6435469	0	2
	*Rhamnus alaternus	Introduced	ROC06R	385600	6435469	0	2
	*Rhamnus alaternus	Introduced	WLM10	384217	6435958	0	2
	*Rhamnus alaternus	Introduced	WLM10R	384217	6435958	0	3
	*Rhamnus alaternus	Introduced	ROC01	385277	6436437	0	5
	*Rhamnus alaternus	Introduced	ROC01R	385277	6436437	0	5
	*Rhamnus alaternus	Introduced	WLM06	384171	6436126	0	5
	*Rhamnus alaternus	Introduced	WLM06R	384171	6436126	0	5
	*Rhamnus alaternus	Introduced	WLM15	384095	6435785	0	5
	*Rhamnus alaternus	Introduced	WLM15R	384095	6435785	0	5
	*Rhamnus alaternus	Introduced	WLM08	384097	6435951	0	6
	*Rhamnus alaternus	Introduced	WLM08R	384097	6435951	0	7
	*Rhamnus alaternus	Introduced	Opportunistic	385243	6436170	1	0
	*Rhamnus alaternus	Introduced	Opportunistic	385675	6434000	1	0
Rubiaceae	*Galium divaricatum	Introduced	ANK75B	386188	6435879	0	0.1
	*Galium divaricatum	Introduced	ANK100	385859	6435862	0	0.5
	*Galium murale	Introduced	ANK05	385657	6435591	0	0.1
	*Galium murale	Introduced	ANK06	385745	6435716	0	0.1
	*Galium murale	Introduced	ANK07	385880	6435768	0	0.1
	*Galium murale	Introduced	ANK08	386141	6435764	0	0.1

Family	Species	Status	Site	Easting	Northing	Number of Individuals	Cover (%)
	*Galium murale	Introduced	ANK10	386714	6435658	0	0.1
	*Galium murale	Introduced	ANK11	386717	6435808	0	0.1
	*Galium murale	Introduced	ANK12	386873	6435630	0	0.1
	*Galium murale	Introduced	ANK15	387745	6435458	0	0.1
	*Galium murale	Introduced	ANK16	387935	6435456	0	0.1
	*Galium murale	Introduced	ANK17	388176	6435464	0	0.1
	*Galium murale	Introduced	ANK75A	386257	6435846	0	0.1
	*Galium murale	Introduced	ANK76	386404	6435876	0	0.1
	*Galium murale	Introduced	ANK93	386484	6435758	0	0.1
	*Galium murale	Introduced	ANK94	386709	6435757	0	0.1
	*Galium murale	Introduced	WTP05	387848	6435525	0	0.1
	*Galium murale	Introduced	WTP08	388591	6435545	0	0.1
	*Galium murale	Introduced	WTP12	389686	6435585	0	0.1
	*Galium murale	Introduced	WTP15	390462	6435782	0	0.1
	*Galium murale	Introduced	WTP39	387525	6435568	0	0.1
	*Galium murale	Introduced	WTP41	387749	6435529	0	0.1
	*Galium murale	Introduced	WTP43	385614	6435579	0	0.1
	*Galium murale	Introduced	ANK74	385948	6435846	0	0.5
	*Galium murale	Introduced	WTP02	386878	6435753	0	0.5
	*Galium murale	Introduced	ANK02	385449	6435739	0	1
	*Galium murale	Introduced	ROC01	385277	6436437	0	0.1
	*Galium murale	Introduced	ROC02	385258	6436257	0	0.1
	*Galium murale	Introduced	ROC06	385600	6435469	0	0.1
	*Galium murale	Introduced	ROC07R	385505	6435296	0	0.1
	*Galium murale	Introduced	ROC08R	385527	6435187	0	0.1
	*Galium murale	Introduced	ROC10	385673	6434795	0	0.1
	*Galium murale	Introduced	ROC12	385705	6434337	0	0.1
	*Galium murale	Introduced	ROC13	385499	6434517	0	0.1
	*Galium murale	Introduced	ROC18	385645	6434075	0	0.1
	*Galium murale	Introduced	ROC18R	385645	6434075	0	0.1

Family	Species	Status	Site	Easting	Northing	Number of Individuals	Cover (%)
	*Galium murale	Introduced	ROC19	385721	6434011	0	0.1
	*Galium murale	Introduced	ROC20	385778	6434275	0	0.1
	*Galium murale	Introduced	ROC21	385736	6434496	0	0.1
	*Galium murale	Introduced	ROC22	385482	6435250	0	0.1
	*Galium murale	Introduced	ROC22R	385482	6435250	0	0.1
	*Galium murale	Introduced	ROC23	385650	6434903	0	0.1
	*Galium murale	Introduced	ROC24	385494	6435134	0	0.1
	*Galium murale	Introduced	ROC24R	385494	6435134	0	0.1
	*Galium murale	Introduced	ROC25	385281	6436212	0	0.1
	*Galium murale	Introduced	ROC27	385602	6434872	0	0.1
	*Galium murale	Introduced	ROC33	385446	6435307	0	0.1
	*Galium murale	Introduced	ROCR34	385432	6435092	0	0.1
	*Galium murale	Introduced	WLM06	384171	6436126	0	0.1
	*Galium murale	Introduced	WLM08	384097	6435951	0	0.1
	*Galium murale	Introduced	WLM09	385332	6435932	0	0.1
	*Galium murale	Introduced	WLM09R	385332	6435932	0	0.1
	*Galium murale	Introduced	WLM12	384162	6435907	0	0.1
	*Galium murale	Introduced	WLM13R	385092	6435870	0	0.1
	*Galium murale	Introduced	WLM14	385340	6435839	0	0.1
	*Galium murale	Introduced	WLM16	385089	6435772	0	0.1
	*Galium murale	Introduced	WLM16R	385089	6435772	0	0.1
	*Galium murale	Introduced	WLM18	385232	6435808	0	0.1
	*Galium murale	Introduced	WLM30	385236	6435739	0	0.1
	*Galium murale	Introduced	WLM38	385411	6435805	0	0.1
	*Galium murale	Introduced	WLM40	385373	6435636	0	0.1
	*Galium murale	Introduced	ROC15	385759	6434387	0	0.5
	*Galium murale	Introduced	ROC05	385464	6435478	0	1.5
	*Galium murale	Introduced	ROC08	385527	6435187	0	1.5
	*Galium murale	Introduced	ROC07	385505	6435296	0	2
Scrophulariaceae	*Dischisma arenarium	Introduced	WTP02	386878	6435753	0	0.1

Family	Species	Status	Site	Easting	Northing	Number of Individuals	Cover (%)
	*Phyllopodium cordatum	Introduced	ANK11	386717	6435808	50	0.1
	*Verbascum virgatum	Introduced	ROC18	385645	6434075	0	0.1
	*Verbascum virgatum	Introduced	WLM18	385232	6435808	0	0.1
	*Verbascum virgatum	Introduced	WLM30	385236	6435739	0	0.1
	*Verbascum virgatum	Introduced	WLM30	385236	6435739	0	0.1
Solanaceae	*Nicotiana glauca	Introduced	ROC24	385494	6435134	0	0.1
	*Nicotiana glauca	Introduced	ROC24R	385494	6435134	0	0.1
	*Nicotiana glauca	Introduced	ROC13	385499	6434517	0	1
	*Nicotiana glauca	Introduced	ROC13R	385499	6434517	0	1
	*Nicotiana glauca	Introduced	ROC10	385673	6434795	0	3
	*Nicotiana glauca	Introduced	ROC10R	385673	6434795	0	3
	*Nicotiana glauca	Introduced	ROC11	385490	6434691	0	9
	*Nicotiana glauca	Introduced	ROC11R	385490	6434691	0	9
	*Nicotiana glauca	Introduced	Opportunistic	384175	6435771	1	0
	*Nicotiana glauca	Introduced	Opportunistic	385643	6434985	1	0
	*Nicotiana glauca	Introduced	Opportunistic	385569	6436046	1	0
	*Nicotiana glauca	Introduced	Opportunistic	385573	6436052	1	0
	*Nicotiana glauca	Introduced	Opportunistic	385726	6434460	1	0
	*Nicotiana glauca	Introduced	Opportunistic	385703	6434552	1	0
	*Nicotiana glauca	Introduced	Opportunistic	385659	6434504	1	0
	*Nicotiana glauca	Introduced	Opportunistic	385616	6434787	1	0
	*Nicotiana glauca	Introduced	Opportunistic	385609	6435019	1	0
	*Nicotiana glauca	Introduced	Opportunistic	385600	6434997	1	0
	*Nicotiana glauca	Introduced	Opportunistic	385824	6434004	1	0
	*Nicotiana glauca	Introduced	Opportunistic	385498	6434586	1	0
	*Nicotiana glauca	Introduced	Opportunistic	385494	6434642	1	0
	*Nicotiana glauca	Introduced	Opportunistic	385809	6434020	1	0
	*Nicotiana glauca	Introduced	Opportunistic	385798	6434034	1	0
	*Nicotiana glauca	Introduced	Opportunistic	385774	6434242	1	0
	*Nicotiana glauca	Introduced	Opportunistic	385689	6434632	1	0

Family	Species	Status	Site	Easting	Northing	Number of Individuals	Cover (%)
	*Solanum nigrum	Introduced	ANK18	388477	6435472	0	0.1
	*Solanum nigrum	Introduced	ANK20	389347	6435477	0	0.1
	*Solanum nigrum	Introduced	ANK99	385770	6435916	0	0.1
	*Solanum nigrum	Introduced	Opportunistic	387608	6435596	3	0
	*Solanum nigrum	Introduced	Opportunistic	388796	6435460	3	0
	*Solanum nigrum	Introduced	ROC06	385600	6435469	0	0.1
	*Solanum nigrum	Introduced	ROC13	385499	6434517	0	0.1
	*Solanum nigrum	Introduced	ROC13R	385499	6434517	0	0.1
	*Solanum nigrum	Introduced	ROC16	385662	6434137	0	0.1
	*Solanum nigrum	Introduced	ROC20	385778	6434275	0	0.1
	*Solanum nigrum	Introduced	ROC21	385736	6434496	0	0.1
	*Solanum nigrum	Introduced	ROCR38	385076	6436110	0	0.1
	*Solanum nigrum	Introduced	WLM08	384097	6435951	0	0.1
	*Solanum nigrum	Introduced	Opportunistic	385125	6436072	1	0
	*Solanum nigrum	Introduced	Opportunistic	385041	6436064	1	0
	*Solanum nigrum	Introduced	Opportunistic	385676	6434144	1	0
	*Solanum nigrum	Introduced	Opportunistic	385600	6435136	1	0
	*Solanum nigrum	Introduced	Opportunistic	385616	6434787	1	0
	*Solanum nigrum	Introduced	Opportunistic	385641	6434614	1	0
	*Solanum nigrum	Introduced	Opportunistic	385604	6435139	1	0
	*Solanum nigrum	Introduced	Opportunistic	385245	6435712	1	0
	*Solanum nigrum	Introduced	Opportunistic	385656	6434899	1	0
Tamaricaceae	*Tamarix aphylla	Introduced (Declared Pest; WONS)	Opportunistic	383958	6435763	1	0
	*Tamarix aphylla	Introduced (Declared Pest; WONS)	Opportunistic	384032	6435714	1	0
	*Tamarix aphylla	Introduced (Declared Pest; WONS)	Opportunistic	384018	6435687	1	0
	*Tamarix aphylla	Introduced (Declared Pest; WONS)	Opportunistic	383962	6435762	1	0
	*Tamarix aphylla	Introduced (Declared Pest; WONS)	Opportunistic	384153	6435730	1	0
	*Tamarix aphylla	Introduced (Declared Pest; WONS)	Opportunistic	384151	6435735	1	0
	*Tamarix aphylla	Introduced (Declared Pest; WONS)	Opportunistic	384186	6435782	1	0

Appendix 18

Field Geomorphic Wetlands Assessment Results and Raw Data

Key Diagnostic Characteristics/Wetland Assessment Reference	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Preliminary Desktop and Site Assessment															
Unique feature identifier number	6379	6381	6380	6539	6538	6799	6800	15333	6801	13750	15341	15342	13753	15348	15350
Location	Anketell, Perth	Anketell, Perth	Anketell, Perth	Anketell, Perth	Anketell, Perth	Anketell, Perth	Anketell, Perth	Anketell, Perth	Anketell, Perth	Anketell, Perth	Anketell, Perth	Anketell, Perth	Anketell, Perth	Anketell, Perth	Anketell, Perth
Coordinates (Long, Lat)	115.787556, -32.205419	115.800470, -32.205642	115.802265, -32.205540	115.839097, -32.216579	115.840845, -32.206966	115.880816, -32.210986	115.883072, -32.211636	115.883456, -32.205577	115.883360, -32.215052	115.888012, -32.204015	115.889140, -32.205577	115.889482, -32.204980	115.891049, -32.204723	115.892009, -32.204391	115.893866, -32.204668
Extent (ha)	2.12	1.49	2.01	132.1	20.09	1.64	1.57	19.58	0.799	12.56	0.595	0.437	0.84	2.69	1.66
IBRA bioregion	Swan Coastal Plain	Swan Coastal Plain	Swan Coastal Plain	Swan Coastal Plain	Swan Coastal Plain	Swan Coastal Plain	Swan Coastal Plain	Swan Coastal Plain	Swan Coastal Plain	Swan Coastal Plain	Swan Coastal Plain	Swan Coastal Plain	Swan Coastal Plain	Swan Coastal Plain	Swan Coastal Plain
Soils and landform	Basin	Basin	Basin	Basin	Basin	Basin	Basin	Basin	Basin	Basin	Basin	Basin	Basin	Basin	Basin
Geomorphic classification (e.g. Dampland, Palusplain)	Dampland	Dampland	Dampland	Sumpland	Dampland	Dampland	Dampland	Sumpland	Dampland	Sumpland	Sumpland	Sumpland	Dampland	Dampland	Dampland
Consanguineous suite name and code.	Stakehill (S.4)	Stakehill (S.4)	Stakehill (S.4)	Bibra (B.1)	Bibra (B.1)	Jandakot (B.3)	Jandakot (B.3)	Jandakot (B.3)	Jandakot (B.3)	Jandakot (B.3)	Jandakot (B.3)	Jandakot (B.3)	Jandakot (B.3)	Jandakot (B.3)	Jandakot (B.3)
Current management category?	Resource Enhancement	Multiple Use	Resource Enhancement	Conservation	Multiple Use	Conservation	Conservation	Conservation	Conservation	Resource Enhancement	Conservation	Multiple Use	Multiple Use	Resource Enhancement	Multiple Use
Wetland vegetation condition	Good	Cleared	Degraded	Excellent	Cleared	Cleared/Good	Cleared/Good	Good	Cleared/Good	Good	Good	Completely Degraded	Completely Degraded	Completely Degraded	Completely Degraded
Site visit (Y / N)	Y	N	N	N	N	Y	N	N	N	N	N	N	N	N	N
Wetland Overlaps Survey Area	N	N	N	N	Y	N	N	Y	N	N	N	N	N	N	N
Preliminary Evaluation (Y / N) (DBCA 2017, Appendix B)															
Currently recognised as internationally or nationally significant for its natural values.	N	N	N	Y	N	N	N	N	N	N	N	N	N	N	N
Spatially dominated by vegetation in a good or better condition using the vegetation condition scale outlined in Appendix B (DBCA 2017)	Y	N	N	Y	N	N	N	N	N	N	N	N	N	N	N
Supports a breeding, roosting, or refuge site or a critical feeding site for populations of fauna listed by the Australian Government	Y	N	N	Y	N	N	N	N	N	N	N	N	N	N	N
Spatially dominated by vegetation in a good or better condition using the vegetation condition scale outlined in Appendix B (DBCA 2017) and supports one or more of the following: • *an occurrence of a threatened ecological community,* • *a confirmed occurrence of a priority 1 or 2 ecological community, or* • *a confirmed occurrence of a declared rare flora species.*	Y	N	N	Y	N	Y	Y	Y	Y	N	N	N	N	N	N
Equal to or greater than 90% of the wetland supports vegetation in a good or better condition using the vegetation condition scale outlined in Appendix B (DBCA 2017).	Y	N	N	Y	N	N	N	Y	N	N	Y	N	N	N	N
The wetland is known to support internationally, nationally or state-wide scientific values including geoheritage and geoconservation.	N	N	N	Y	N	N	N	N	N	N	N	N	N	N	N
The wetland is spatially dominated by vegetation in a good or better condition using the vegetation condition scale outlined in Appendix B (DBCA 2017) and meets one of the following: • *≤ 10% of wetlands of the same type are assigned Conservation management category within the Swan Coastal Plain (by area).* • *≤ 10% of all wetlands in the same consanguineous suite are assigned Conservation management category (by area).* • *≤ 10% of wetlands of the same type in its consanguineous suite are assigned Conservation management category (by area).* • *Best representative of its type within its consanguineous suite domain.*	N	N	N	Y	N	N	N	N	N	N	N	N	N	N	N
Full Site Assessment Required:	Y	N	Y	N	N	Y	Y	N	N	N	N	N	N	N	N
If yes to any of the above preliminary evaluation criteria, the wetland is considered to support the highest level of values, attributes and functions. Wetlands of this level will automatically be assigned to Consevation management category. If this occurs, a full site assessment will not be necessary.	Y	N (no access)	N (no access)	N (not necessary)	N (not necessary)	Y	N (no access)	N (not necessary)	N (no access)	N (no access)	N (no access)	N (no access)	N (no access)	N (no access)	N (no access)
Full Site Assessment (If necessary)															
Geomorphology															
What geomorphic unit does the wetland belong to?	Stakehill					Jandakot									
Can all areas of the wetland be visited? (Y / N)	Yes					Yes									
Surface soil	sand to sandy loam					sand									
Slope of the wetland (flat / gentle undulations / steep banks / other)	undulations					flat									
Human induced alterations? (Y / N - Describe)	Yes (<10%)					Yes (50-75%) excavation(clearing), partition(fences), alienation along boundaries (fencilines/roads)									
Wetland Processes															
Is the wetland: fresh / saline / hypersaline / hyposaline / unknown	fresh to slightly saline					fresh									
Is the wetland: groundwater dependent / perched / both / unknown	both					both									
Does the wetland contain artificial attributes and functions that alter the natural hydrological regime (e.g. detention basins, artificial drains or channels, water bores or pumps). (Y / N)	No					Yes (roadside drains, water bores on properties)									
Identify the processes occurring in the wetland (e.g. sedimentological, hydrological, hydrogeological, chemical).	hydrological					hydrological									
To what extent have each of these processes been altered: negligible / low / medium / high / unknown.	negligible					low to high impacts									
Have alterations to the processes affected the wetland's natural attributes and functions: no impacts / low impacts / high impacts.	No					Low									
Linkages															
Is the wetland a part of a hydrological link in a larger or more complex system? (Y / N)	Unsure					Yes									
Is the wetland part of an ecological linkage or wildlife corridor or, is it connected by vegetation or waterways to other nearby bushland or wetlands? (Y / N)	Yes					Yes									
Is a portion of the wetland vegetated and as a result functions as a fragmented ecological linkage or wildlife corridor? (Y / N)	Yes					Yes									
Habitats															
Are any native fauna (e.g. frogs, oblong turtle) or flora (e.g. macrophytes, algae) observed to be dependent on the wetland's surface water. (Y / N)	No					No									
Is the wetland important for maintaining the genetic and ecological diversity in a regional or local context? (Y / N)	Yes					No									
Does the wetland supports or is likely to support fauna populations at a vulnerable stage of their life cycle or provides a nursery for fauna. (Y / N)	N/A					No									
List the various habitats located within and 50 metres surrounding the wetland (e.g. dead wood, salt marsh, thickets scrub).	large trees with canopy, seasonally inundated grasslands, scattered sedges/rushes, dead wood, heavy leaf litter, thickets/scrub					scattered sedges/rushes, sandy substrate, feral fauna burrows, scattered shrubland, thickets/scrub									
Is habitat diversity the result of disturbance or natural complexity (i.e. is the diversity evident in the wetland a result of disturbance e.g. fire, sedimentation, excavations or drains). (Y / N)	Natural					Disturbance									
Flora															
Significant flora present and number. (Y / N)	Unsure					Nuytsia floribunda									
Dominant flora species and percentage cover.	Eucalyptus gomphocephala. E. rudis rudis, Melaleuca spp., Restionaceae spp., Cyperus sp.					Nuytsia floribunda, Xanthorrhoea priessii, Melaleuca sp., introduced grasses and herbs									
Significant weed species present and number. (Y / N)	Morrea flaccida / miniata, Zantedeschia aethiopica, Asparagus asparagoides					Ehrharta spp., Gladiolus sp.									
High diversity of native flora? (Y / N)	Yes					No									
Is regeneration and rehabilitation evident in any cleared areas within the wetlands? (Y / N / NA)	No					Yes									
Fauna															
Native fauna species present? (Y / N)	Yes					No									
Does the wetland function or have the potential to function as an ecological refuge. (Y / N)	Yes					No									
Are fauna are residing in the wetland for feeding, breeding and roosting purposes or do they migrate between other natural wetlands or bushlands.	Migratory					No									
Does the wetland support a variety of fauna species compared to other wetlands of the same type? (more / less / similar)	Yes; low clearing, low weeds					No									
Cultural															
Is the wetland identified on a national (e.g. National Heritage List), state (e.g. Heritage Council of Western Australia), regional or local heritage list. (Y / N)	No					No									
Is the wetland identified for its Aboriginal cultural value (e.g. by the Department of Planning, Lands and Heritage). (Y / N)	No					No									
Are there any important social values of the wetland to the national, state, regional or local community (e.g. friends group, iconic picnic area). (Y / N)	No					No									
List any passive and active recreational based activities which currently or potentially occur in or directly surrounding the wetland (e.g. bushwalking, bird watching or canoeing).	bushwalking, bird watching, dog walking,					bushwalking, dog walking									
Education and Scientific															
Is there a primary, secondary or tertiary education institution or scientific organisation which is known or is previously known to use the wetland for educational or scientific purposes. (Y / N / U)	No					No									
Is there potential for the wetland to be used in the future for education by one of these institutions. (Y / N / U)	No					No									
Assigning a Management Category															
Defining attributes/functions/values					N/A					N/A		N/A	N/A	N/A	N/A
Applicable management category	Conservation	Multiple Use	Resource Enhancement	Conservation	Multiple Use	Multiple Use	Conservation	Conservation	Conservation	Resource Enhancement	Conservation	Multiple Use	Multiple Use	Resource Enhancement	Multiple Use
Submission to DBCA (Y / N)															
Submitted to DBCA	Yes	No	No	No	No	Yes	No	No	No	No	No	No	No	No	No
Request for modification of management category	Yes	No	No	No	No	Yes	No	No	No	No	No	No	No	No	No

Key Diagnostic Characteristics/Wetland Assessment Reference	16	17	18	19	20	21	22	23	24	25	26	27	28	29
Preliminary Desktop and Site Assessment														
Unique feature identifier number	6947	6944	6946	6945	15615	7188	7187	15806	15804	15807	15616	15909	15911	15910
Location	Anketell, Perth	Anketell, Perth	Anketell, Perth	Anketell, Perth	Anketell, Perth	Anketell, Perth	Anketell, Perth	Anketell, Perth	Anketell, Perth	Anketell, Perth	Anketell, Perth	Anketell, Perth	Anketell, Perth	Anketell, Perth
Coordinates (Long, Lat)	115.890853, -32.214242	115.893189, -32.209941	115.898918, -32.213797	115.898553, -32.211697	115.907707, -32.211080	115.910383, -32.207473	115.910736, -32.203194	115.914460, -32.203715	115.915291, -32.205362	115.919206, -32.203959	115.918023, -32.210578	115.914494, -32.212356	115.914578, -32.213434	115.913074, -32.214222
Extent (ha)	0.499	2.534	61.77	3.81	49.61	8.03	4.23	53.91	4.52	8.67	48.92	14.66	1.97	1.52
IBRA bioregion	Swan Coastal Plain	Swan Coastal Plain	Swan Coastal Plain	Swan Coastal Plain	Swan Coastal Plain	Swan Coastal Plain	Swan Coastal Plain	Swan Coastal Plain	Swan Coastal Plain	Swan Coastal Plain	Swan Coastal Plain	Swan Coastal Plain	Swan Coastal Plain	Swan Coastal Plain
Soils and landform	Basin	Basin	Basin	Basin	Basin	Basin	Basin	Basin	Basin	Basin	Basin	Basin	Basin	Basin
Geomorphic classification (e.g. Dampland, Palusplain)	Dampland	Dampland	Dampland	Dampland	Dampland	Dampland	Dampland	Dampland	Sumpland	Dampland	Dampland	Dampland	Dampland	Dampland
Consanguineous suite name and code.	Jandakot (B.3)	Jandakot (B.3)	Jandakot (B.3)	Jandakot (B.3)	Jandakot (B.3)	Jandakot (B.3)	Jandakot (B.3)	Jandakot (B.3)	Jandakot (B.3)	Jandakot (B.3)	Jandakot (B.3)	Jandakot (B.3)	Jandakot (B.3)	Jandakot (B.3)
Current management category?	Multiple Use	Resource Enhancement	Conservation	Resource Enhancement	Resource Enhancement	Conservation	Conservation	Multiple Use	Resource Enhancement	Resource Enhancement	Resource Enhancement	Multiple Use	Resource Enhancement	Resource Enhancement
Wetland vegetation condition	Cleared	Very Good	Excellent	Excellent/Good	Excellent/Good	Excellent/Very Good	Good	Excellent/Good/Cleared	Good/Degraded	Degraded	Completely Degraded	Completely Degraded	Completely Degraded	Completely Degraded
Site visit (Y / N)	N	Y	N	N	N	N	N	Y	Y	N	Y	N	N	N
Wetland Overlaps Survey Area	N	Y	N	N	Y	Y	N	Y	Y	Y	Y	N	N	N
Preliminary Evaluation (Y / N) (DBCA 2017, Appendix B)														
Currently recognised as internationally or nationally significant for its natural values.	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Spatially dominated by vegetation in a good or better condition using the vegetation condition scale outlined in Appendix B (DBCA 2017)	N	Y	Y	Y	N	Y	Y	N	N	N	N	N	N	N
Supports a breeding, roosting, or refuge site or a critical feeding site for populations of fauna listed by the Australian Government	N	N	N	N	N	N	N	N	N	N	Y	Y	Y	Y
Spatially dominated by vegetation in a good or better condition using the vegetation condition scale outlined in Appendix B (DBCA 2017) and supports one or more of the following: • *an occurrence of a threatened ecological community,* • *a confirmed occurrence of a priority 1 or 2 ecological community, or* • *a confirmed occurrence of a declared rare flora species.*	N	Y	Y	Y	N	Y	Y	Y	Y	N	N	N	N	N
Equal to or greater than 90% of the wetland supports vegetation in a good or better condition using the vegetation condition scale outlined in Appendix B (DBCA 2017).	N	N	Y	Y	N	Y	Y	N	N	N	N	N	N	N
The wetland is known to support internationally, nationally or state-wide scientific values including geoheritage and geoconservation.	N	N	N	N	N	N	N	N	N	N	N	N	N	N
The wetland is spatially dominated by vegetation in a good or better condition using the vegetation condition scale outlined in Appendix B (DBCA 2017) and meets one of the following: • *≤ 10% of wetlands of the same type are assigned Conservation management category within the Swan Coastal Plain (by area).* • *≤ 10% of all wetlands in the same consanguineous suite are assigned Conservation management category (by area).* • *≤ 10% of wetlands of the same type in its consanguineous suite are assigned Conservation management category (by area).* • *Best representative of its type within its consanguineous suite domain.*	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Full Site Assessment Required:	N	Y	N	N	N	N	N	Y	Y	N	Y	Y	Y	Y
If yes to any of the above preliminary evaluation criteria, the wetland is considered to support the highest level of values, attributes and functions. Wetlands of this level will automatically be assigned to Consevation management category. If this occurs, a full site assessment will not be necessary.	N (no access)	Y	N (not necessary)	N (not necessary)	N (not necessary)	N (not necessary)	N (not necessary)	Y	Y	N (not necessary)	Y	N (not necessary)	N (not necessary)	N (not necessary)
Full Site Assessment (If necessary)														
Geomorphology What geomorphic unit does the wetland belong to? Can all areas of the wetland be visited? (Y / N) Surface soil Slope of the wetland (flat / gentle undulations / steep banks / other) Human induced alterations? (Y / N - Describe)		Jandakot Yes Peaty loam Gentle undulations; No						Jandakot Yes Dark grey sand to sandy Flat Yes (75-90%); tracks and widescale clearing throughout)	Jandakot Yes Black loamy sand Flat Yes (<10%); vehicle track dissecting		Jandakot No Sand to sandy loam Flat, very gentle Yes (>90%) - extensively cleared, roads, dams, eutrophication			
Wetland Processes Is the wetland: fresh / saline / hypersaline / hyposaline / unknown Is the wetland: groundwater dependent / perched / both / unknown Does the wetland contain artificial attributes and functions that alter the natural hydrological regime (e.g. detention basins, artificial drains or channels, water bores or pumps). (Y / N) Identify the processes occurring in the wetland (e.g. sedimentological, hydrological, hydrogeological, chemical). To what extent have each of these processes been altered: negligible / low / medium / high / unknown. Have alterations to the processes affected the wetland's natural attributes and functions: no impacts / low impacts / high impacts.		Fresh Both No sedimentological, hydrological, hydrogeological Negligible No						Fresh both Yes (powerlines, horsetracks, vehicle tracks) Chemical (historical eutrophication) low to high low	Fresh groundwater dependent No Chemical (historical eutrophication) low low		Fresh both Yes (bores, artifical dams and drains) sedimentological, hydrological, hydrogeological medium to high low to high			
Linkages Is the wetland a part of a hydrological link in a larger or more complex system? (Y / N) Is the wetland part of an ecological linkage or wildlife corridor or, is it connected by vegetation or waterways to other nearby bushland or wetlands? (Y / N) Is a portion of the wetland vegetated and as a result functions as a fragmented ecological linkage or wildlife corridor? (Y / N)		Yes Yes Yes						Yes Yes Yes	Yes Yes Yes		Yes Technically within boundary of Ecological Yes			
Habitats Are any native fauna (e.g. frogs, oblong turtle) or flora (e.g. macrophytes, algae) observed to be dependent on the wetland's surface water. (Y / N) Is the wetland important for maintaining the genetic and ecological diversity in a regional or local context? (Y / N) Does the wetland supports or is likely to support fauna populations at a vulnerable stage of their life cycle or provides a nursery for fauna. (Y / N) List the various habitats located within and 50 metres surrounding the wetland (e.g. dead wood, salt marsh, thickets scrub). Is habitat diversity the result of disturbance or natural complexity (i.e. is the diversity evident in the wetland a result of disturbance e.g. fire, sedimentation, excavations or drains). (Y / N)		No Yes N/A seasonally inundated grasslands, scattered sedges/rushes, dead wood, low dense shrubland, feral fauna burrow, scattered shrubland Natural						N/A No No scattered sedges/rushes, large trees with canopy, trees with hollows, scattered sedges/rushes, feral fauna burrows, scattered shrubland, thickets/scrub, low dense shrubland, heavy leaf litter Natural	N/A Yes No scattered sedges/rushes, low dense shrubland, scattered shrubland, thickets/scrub, dead wood, seasonally inundated grasslands Natural		No No No large trees with canopy (none with hollows; River Gums), scattered sedges/rushes, sandy substrate, feral fauna burrows, scattered shrubland Disturbance			
Flora Significant flora present and number. (Y / N) Dominant flora species and percentage cover. Significant weed species present and number. (Y / N) High diversity of native flora? (Y / N) Is regeneration and rehabilitation evident in any cleared areas within the wetlands? (Y / N / NA)		No Melaleuca preissiana, Astartea scoparia, Melaleuca teretifolia, Eutaxia virgata, Lepidosperma longitudinale, L. apricola Morrea flaccida/miniata, Zantedeschia aethiopica, Asparagus asparagoides Similar to surrounds No						No Melaleuca sp., Myrtaceae sp. Kunzea glabrescens, Mesomelaena, Juncus, introduced grasses Morrea flaccida/miniata, Zantedeschia aethiopica, Asparagus asparagoides Similar to surrounds No	No Melaleuca sp., Myrtaceae sp. Kunzea glabrescens, Mesomelaena, Juncus, introduced grasses Morrea flaccida/miniata, Zantedeschia aethiopica, Asparagus asparagoides, Gladiolus Similar to surrounds No		No Eucalyptyus camaldulensis, Xanthorrhoea brunonis, Xylomelum occidentale, introduced grasses and herbs Morrea flaccida/miniata, Zantedeschia aethiopica, Asparagus asparagoides No No			
Fauna Native fauna species present? (Y / N) Does the wetland function or have the potential to function as an ecological refuge. (Y / N) Are fauna are residing in the wetland for feeding, breeding and roosting purposes or do they migrate between other natural wetlands or bushlands. Does the wetland support a variety of fauna species compared to other wetlands of the same type? (more / less / similar)		Yes Yes Migratory More						Yes Yes Yes Similar	Yes Yes Yes Similar		Yes No Yes (Red-tailed Black Cockatoos) No			
Cultural Is the wetland identified on a national (e.g. National Heritage List), state (e.g. Heritage Council of Western Australia), regional or local heritage list. (Y / N) Is the wetland identified for its Aboriginal cultural value (e.g. by the Department of Planning, Lands and Heritage). (Y / N) Are there any important social values of the wetland to the national, state, regional or local community (e.g. friends group, iconic picnic area). (Y / N) List any passive and active recreational based activities which currently or potentially occur in or directly surrounding the wetland (e.g. bushwalking, bird watching or canoeing).		No No No bushwalking, bird watching, horse riding						No No No bushwalking, horse riding	No No No bushwalking, horse riding		No No No horse riding			
Education and Scientific Is there a primary, secondary or tertiary education institution or scientific organisation which is known or is previously known to use the wetland for educational or scientific purposes. (Y / N / U) Is there potential for the wetland to be used in the future for education by one of these institutions. (Y / N / U)		No Yes						No No	No No		No No			
Assigning a Management Category														
Defining attributes/functions/values	N/A				N/A				N/A	N/A				
Applicable management category	Multiple Use	Conservation	Conservation	Conservation	Resource Enhancement	Conservation	Conservation	Multiple Use	Resource Enhancement	Resource Enhancement	Multiple Use	Multiple Use	Resource Enhancement	Resource Enhancement
Submission to DBCA (Y / N)														
Submitted to DBCA	No	Yes	No	Yes	No	No	No	No	No	No	Yes	No	No	No
Request for modification of management category	No	Yes	No	Yes	No	No	No	No	No	No	Yes	No	No	No

Location/Land Tenure ID			
Date:	30/01/2022		
Easting:	385730.53		
Northing:	6436150.37		
Wetland Details			
Name:	N/A	Consanguineous Suite:	Stakehill
UFI:	6379	Wetland Type:	Dampland
Wetland Area:	2.12 ha	Management Category:	Resource Enhancement
Area Evaluated:		Assessed as a portion of a wetland with varying areas of value:	

1) Preliminary evaluation scoring

The preliminary evaluation provides an initial assessment to determine if the individual wetland or wetland portion is of high conservation value. If a 'yes' can be answered to any one of the criteria then the wetland is considered to support the highest level of values, attributes and functions. Wetlands supporting a high level of values, attributes and functions are automatically assigned to *Conservation management category.*

For wetlands that are assigned to a Conservation management category under the preliminary evaluation, a secondary evaluation is not required; however, a full site assessment and secondary evaluation is encouraged so additional information on the values of the wetland can be obtained. The additional information may assist in management planning and monitoring of the wetland.

No.	Criteria	Y/N
1	The wetland is currently recognised as internationally or nationally significant for its natural values. Lists/registers include: • The Ramsar Convention on Wetlands • State Government endorsed candidate sites for the Ramsar Convention on Wetlands • Directory of Important Wetlands in Australia • National Heritage List • or equivalent.	N
2	The wetland is spatially dominated by vegetation in a good or better condition using the vegetation condition scale outlined in Appendix B and is identified as significant for its natural values under one or more of the following: • *Conservation Reserves for Western Australia Systems 1, 2, 3, 5*	Y

No.	Criteria	Y/N
	• *Conservation Reserves for Western Australia, The Darling System – System 6* • *A Systematic Overview of Environmental Values of the Wetlands, Rivers and Estuaries of the Busselton – Walpole Region* • *The Environmental Significance of Wetlands in the Perth to Bunbury Region* • *Bush Forever, Swan Bioplan* (including *Peel Regionally Significant Natural Areas*) or equivalent.	
3	The wetland supports a breeding, roosting, or refuge site or a critical feeding site for populations of fauna listed by the Australian Government (for example, *Environment Protection and Biodiversity Conservation Act 1999*, migratory bird agreements such as JAMBA, CAMBA and RoKAMBA) or the State (for example, threatened and specially protected fauna listed under the *Wildlife Conservation Act 1950*).	Y
4	The wetland is spatially dominated by vegetation in a good or better condition using the vegetation condition scale outlined in Appendix B and supports one or more of the following: • an occurrence of a threatened ecological community • a confirmed occurrence of a priority 1 or priority 2 ecological community • a confirmed occurrence of a declared rare (threatened) flora species.	Y
5	Equal to or greater than 90% of the wetland supports vegetation in a good or better condition using the vegetation condition scale outlined in Appendix B.	Y
6	The wetland is spatially dominated by vegetation in a good or better condition using the vegetation condition scale outlined in Appendix B and is known to support internationally, nationally or state-wide scientific values including geoheritage and geoconservation.	N
7	The wetland is spatially dominated by vegetation in a good or better condition using the vegetation condition scale outlined in Appendix B and meets one of the following: • ≤ 10% of wetlands of the same type are assigned Conservation management category within the Swan Coastal Plain (by area) • ≤ 10% of all wetlands in the same consanguineous suite are assigned Conservation management category (by area) • ≤ 10% of wetlands of the same type in its consanguineous suite are assigned Conservation management category (by area) • best representative of its type within its consanguineous suite domain.	N

2) Wetland Evaluation Desktop and Site Assessment Form

FULL SITE ASSESSMENT			
Geomorphology		**Wetland Processes**	
Geomorphic unit:		Wetland salinity (EC µS/cm):	Fresh to slightly saline
Can all areas of the wetland be visited? (Yes/No comment)	Yes	Groundwater dependence:	Dependent/perched
Soil type:	Sand to sandy loam	Surface water present:	No
Soil colour:	10YR 4/3 (Brown)	Artificial drainage features. (Yes/No describe)	No
Describe any human induced alterations:		Wetland processes occurring:	Hydrological
% geomorphology altered	<10%	Alteration of processes:	Negligible
		Impact of alteration of processes:	
		Is the wetland part of a hydrological linkage:	No
Habitats			
Is the wetland important for maintaining genetic and ecological diversity:		No	
Does the wetland support/likely to support fauna at vulnerable life stages:		Unlikely	
Fauna habitats present:		Dead wood, large trees, thickets, heavy leaf litter, seasonally inundated grasslands, scattered sedges/rushes.	
Fauna observed:		N/A	
Comments on habitat diversity:		Natural state	
Flora			
Significant flora species:		Tuart TEC	
Vegetation unit description(s):			
Vegetation site(s) reference:			
% of wetland boundary surrounded by land dominated by native vegetation:		~ 100%	

Compare wetland flora diversity:	Higher diversity than similar wetlands.	
Evidence of disturbance in last 24 months:	No	
Fauna		
Evidence of native fauna species:	Yes	Bandicoots, Kangaroos
Does the wetland function/potentially function as refuge:	Yes	Only wetland in close proximity to nearby bushland.
Potential fauna habitat utilisation; feeding/breeding/roosting/movement:	Migratory, though surrounding bushland fragmented by roads and cleared land.	
Fauna diversity compared to similar wetlands:	Good, low clearing, low invasive species.	
Cultural		
Is the wetland identified on national, state, regional or local heritage list:	No	
Is the wetland identified for Aboriginal heritage value:	No	
Are there any identified important social values:	No	
Identify passive and active recreational use:	Possibly bushwalking, dog walking or bike riding.	
Educational and Scientific		
Is there an educational institution known to use wetland for educational purposes:	No	
Is there potential for wetland to be used in the future for educational purposes:	No	
Photographs and/or Aerial Imagery		

3) Secondary Evaluation Scoring

A secondary evaluation provides additional information on the wetland's attributes, functions and values. Using the information collected in the *Wetland Evaluation Desktop and Site Assessment form* above, complete the secondary evaluation below.

Attributes/ functions/ values	General criteria	Criteria	Score
Geomorphology			
1	Representativeness	≤ 20% of wetlands of the same type are assigned Conservation on the Swan Coastal Plain by area.	**H**
2		≤ 20% of wetlands in the same consanguineous suite are assigned Conservation by area.	**H**
3		≤ 20% of wetlands of the same type in the same consanguineous suite are assigned Conservation by area.	**H**

Attributes/ functions/ values	General criteria	Criteria	Score
4		The wetland is outstanding in some geomorphic aspect, for example size, origin, height relative to sea level, depth, age.	**H**
5	Naturalness	Alteration to the wetland's geomorphology by % area: < 25% altered 25-75% altered > 75% altered. Note: Alteration of geomorphology refers to a modification of the landform, for example by filling, excavation, drains. Clearing of vegetation in itself does not constitute a change in geomorphology.	 **H** **I** **L**
6	Scarcity	The wetland exhibits unusual geomorphology or unusual internal geomorphic features compared to other wetlands of the same type in the consanguineous suite.	**H**
7		The wetland is the best example of its type in its consanguineous suite.	**H**
Wetland processes			
8	Representativeness	The wetland is an important component of the natural hydrological cycle providing natural functions (e.g. flood protection, recharge/discharge, hydrological storage, support for groundwater dependent ecosystems). The wetland's vegetation, geomorphology, hydrology or sediments are modified; however, the wetland is still a component of the hydrological cycle providing natural and artificial functions (e.g. flood remediation, recharge/discharge, hydrological storage, support for groundwater dependent ecosystems). The wetland's vegetation, geomorphology, hydrology or sediments are modified to the extent that the wetlands hydrological functions are artificial such as storage, or the wetland has been disconnected from the natural hydrological cycle and no longer provides natural attributes and functions.	**H** **I** **L**
9		The wetland supports a representative process (e.g. wetland process typical of the wetland's hydrological setting, sediment accretionary process typical of the wetland's geomorphic setting or hydrochemical process typical of the wetland's geological setting).	**H**
10	Naturalness	The wetland is not subject to altered wetland processes or, is subject to altered wetland processes and the wetland's natural attributes and functions are maintained. The wetland is subject to altered wetland processes and the wetland's natural attributes and functions have been changed; however, they have the potential to be rehabilitated.	**H** **I**

Attributes/ functions/ values	General criteria	Criteria	Score
		The wetland is subject to altered wetland processes to the extent that the wetland no longer supports natural attributes and functions. Note: processes to consider include hydrological, hydrogeological, sedimentological, chemical, biological.	**L**
11	Scarcity	The wetland exhibits unusual processes compared to other wetlands of the same type in the consanguineous suite.	**H**
Linkages			
12	Representativeness	The wetland is a hydrological link in a larger or more complex and intact system.	**H**
13	Naturalness	The wetland is part of a continuous ecological linkage or wildlife corridor, or a regionally significant ecological linkage or wildlife corridor connecting bushland or wetland areas. The wetland is part of a fragmented ecological linkage or wildlife corridor. The wetland is disturbed and isolated, surrounded by either a built or highly disturbed environment with no nearby native vegetation or waterways to support an intact or fragmented ecological linkage or wildlife corridor.	**H** **I** **L**
14	Scarcity	The wetland has unusual hydrological, hydrogeological, hydrochemical or ecological linkages with adjacent wetlands or bushland.	**H**
Habitats			
15	Representativeness	The wetland is isolated from other undisturbed wetlands or bushland and as a result, maintains important ecological or genetic fauna or flora diversity within its consanguineous suite domain.	**H**
16		The wetland contains evidence of surface water or groundwater expression that is vital for maintaining regionally significant populations of native aquatic or terrestrial flora or fauna. The wetland contains evidence of surface water or groundwater expression that is important for maintaining populations of native aquatic or terrestrial flora or fauna.	**H** **I**
17		The wetland provides a nursery for native fauna populations, or maintains fauna populations at a vulnerable stage of their life cycle.	**H**

Attributes/ functions/ values	General criteria	Criteria	Score
18	Naturalness	The wetland supports habitats that are unaltered or the wetland has been altered and its natural habitats are maintained. The wetland supports habitats that are altered; however, the habitats are still identifiable and have the potential to naturally regenerate or be rehabilitated after weed control, if required. The wetland is altered and as a result is no longer supporting natural habitats which can be rehabilitated.	**H** **I** **L**
19	Scarcity	The wetland supports habitats that are unusual compared to other wetlands of the same type on the Swan Coastal Plain.	**H**
Flora			
20	Representativeness	The wetland's current diversity of native flora is similar to what would be expected in an unaltered state. The wetland supports a reduced diversity of native flora due to human induced disturbances. The wetland supports a significantly reduced diversity of native flora species due to human induced disturbances.	**H** **I** **L**
21		The wetland is identified in a vegetation complex (Heddle et al. 1980) which is represented by: ≤ 30% of the pre-European extent 30-50% of the pre-European extent. Note: statistics can be obtained from Local Biodiversity Program (2013) – to allow for vegetation type and extent mapping error due to the mapping scale used, the extent of remnant vegetation is considered an overestimate. The 30% and 10% thresholds are assessed at actual 40% and 15% levels.	**H** **I**
22	Naturalness	Using the vegetation condition scale outlined in Appendix B, the wetland's vegetation condition by area is: ≥ 75% Good, Very Good, Excellent or Pristine 25-75% Good, Very Good, Excellent or Pristine < 25% Good, Very Good, Excellent or Pristine.	**H** **I** **L**
23		The wetland or ≥ 50% of the wetland boundary is surrounded by land dominated by remnant native vegetation. The wetland or 10-50% of the wetland boundary is surrounded by land dominated by remnant native vegetation.	**H** **I** **L**

Attributes/ functions/ values	General criteria	Criteria	Score
		The wetland or < 10% of the wetland boundary is surrounded by land dominated by remnant native vegetation.	
24	Scarcity	The wetland supports an occurrence of declared rare, priority 1, priority 2, priority 3 or priority 4 flora, or an occurrence of three or more significant flora taxa.	**H**
25		The wetland is likely to support declared rare, priority 1, priority 2, priority 3 or priority 4 flora; however, the occurrence cannot be located or its habitat has been altered and is no longer in a natural state.	**I**
26		The wetland supports an occurrence of a threatened ecological community, priority 1 or priority 2 ecological community.	**H**
27		The wetland supports an occurrence of a priority 3 or priority 4 ecological community.	**I**
Fauna			
28	Representativeness	The wetland is an ecological refuge for regionally significant fauna species or fauna assemblages. The wetland has the potential to be an ecological refuge but is disturbed and its attributes and functions require rehabilitation.	**H** **I**
29		The wetland supports a permanent or seasonal feeding, breeding, roosting or watering site for regionally significant native fauna. The wetland supports a permanent or seasonal feeding, breeding, roosting or watering site for regional or local fauna but only in association with other surrounding natural areas.	**H** **I**
30	Naturalness	The wetland's current diversity of native fauna is similar to what would be expected in an unaltered state, or the wetland supports diverse fauna compared to other wetlands of the same type. The wetland supports a reduced diversity of fauna compared to other wetlands of the same type. The wetland supports limited attributes and functions for fauna populations due to human induced disturbances.	**H** **I** **L**
31	Scarcity	The wetland is likely to support a breeding, roosting, refuge or feeding site for populations of fauna listed by the Australian Government (e.g. *EPBC Act 1999*, JAMBA, CAMBA, RoKAMBA Agreements) or the State (e.g. threatened or specially protected fauna listed under the *Wildlife Conservation Act 1950*).	**H**
32		The wetland supports a breeding, roosting, refuge or feeding site for priority 1, priority 2, priority 3 or priority 4 fauna.	**H**

Attributes/ functions/ values	General criteria	Criteria	Score
33		The wetland supports an occurrence of a threatened ecological community, priority 1 or priority 2 ecological community.	**H**
34		The wetland supports an occurrence of a priority 3 or priority 4 ecological community or a breeding, roosting, refuge or feeding site for significant fauna.	**I**
Cultural			
35	Representativeness	The wetland or its immediate surrounds is identified for its natural values on a national or State heritage list or the wetland supports other known regional heritage values.	**H**
36		The wetland or its immediate surrounds is identified for its natural values on a municipal heritage list or the wetland supports other known local heritage values.	**I**
37		The wetland or its immediate surrounds is identified on a national, State or local list or register for its Aboriginal cultural value.	**H**
38		The wetland is important to the local community for its natural values.	**H**
39		The wetland is or has the potential to be a site for public or private based recreation.	**I**
40		The wetland is the subject of a recognised ecological restoration / rehabilitation project by a community group, landowner or land manager that aims to improve the wetland's natural, heritage, cultural or social values. The wetland is likely to support heritage, cultural or social values; however, the values cannot be confirmed or the values have been disturbed and are no longer as important or significant. The wetland did support heritage, cultural or social values; however, these have been significantly disturbed and are no longer important or the values have been removed.	**H** **I** **L**
Scientific and educational			
41	Representativeness	The wetland supports known important teaching or research characteristics and for this reason is an existing or potential education or research site. Note: the wetland must still support the relevant teaching or research characteristics. The wetland has the potential to be used as a study or research site.	**H** **I**
42		The wetland supports known scientific, geoheritage or geoconservation values.	**H**

4) Secondary Evaluation Scores Tally

Attributes/functions/values	Scores		
	High	**Intermediate**	**Low**
Geomorphology	**II**		
Wetland processes	**I**	**I**	
Linkages		**I**	
Habitats	**I**		
Flora	**III**	**I**	
Fauna		**II**	
Cultural		**I**	
Scientific and educational			
Total score	**7**	**6**	**0**
Defining attributes/functions/values	Geomorphology, Flora, and Fauna		
Applicable management category	Conservation		

Appendix 19

Black Cockatoo Tree Data

Category[1]	Species	Latitude	Longitude	DBH (mm)
Two	*Eucalyptus gomphocephala*	-32.211414	115.822851	1920
Three	*Eucalyptus marginata*	-32.211404	115.818494	690
Three	*Eucalyptus marginata*	-32.208148	115.845029	610
Three	*Unknown Eucalypt sp.*	-32.21116	115.806322	960
Three	*Eucalyptus marginata*	-32.21043	115.856153	710
Three	*Unknown Eucalypt sp.*	-32.21249	115.829911	1270
Three	*Eucalyptus gomphocephala*	-32.211232	115.81277	1160
Three	*Eucalyptus marginata*	-32.211317	115.81861	1300
Three	*Eucalyptus gomphocephala*	-32.211406	115.813232	1230
Three	*Eucalyptus marginata*	-32.211357	115.81604	1210
Three	*Eucalyptus gomphocephala*	-32.211066	115.807828	1280
Four	*Eucalyptus marginata*	-32.210643	115.856322	1150
Four	*Eucalyptus marginata*	-32.210111	115.806566	710
Four	*Eucalyptus marginata*	-32.207481	115.78863	1030
Four	*Eucalyptus gomphocephala*	-32.210829	115.829696	860
Five	*Eucalyptus marginata*	-32.211315	115.81893	1640
Five	*Eucalyptus gomphocephala*	-32.207979	115.795018	940
Five	*Eucalyptus gomphocephala*	-32.207868	115.796791	1150
Six	*Eucalyptus marginata*	-32.207811	115.790166	600
Six	*Eucalyptus gomphocephala*	-32.211409	115.812522	970
Six	*Eucalyptus gomphocephala*	-32.210965	115.808299	1420
Six	*Eucalyptus marginata*	-32.210662	115.80611	830
Six	*Eucalyptus marginata*	-32.20767	115.788935	830
Six	*Eucalyptus marginata*	-32.20833	115.788147	930
Six	*Eucalyptus marginata*	-32.211365	115.822598	1310
Six	*Eucalyptus marginata*	-32.209988	115.848366	1390
Six	*Eucalyptus marginata*	-32.208285	115.790682	1480
Six	*Unknown Eucalypt sp.*	-32.208484	115.794699	1210
Six	*Eucalyptus gomphocephala*	-32.21132	115.822839	620
Six	*Eucalyptus gomphocephala*	-32.208589	115.796259	1150
Six	*Eucalyptus gomphocephala*	-32.211533	115.824859	1290
Six	*Eucalyptus gomphocephala*	-32.208764	115.798986	1450
Six	*Eucalyptus gomphocephala*	-32.212449	115.829895	1750
Six	*Eucalyptus gomphocephala*	-32.2051738	115.7838336	112
Seven	*?Eucalyptus camaldulensis*	-32.21104	115.829668	920
Seven	*Eucalyptus grandis*	-32.211345	115.828238	520
Seven	*Eucalyptus grandis*	-32.211277	115.82847	540
Seven	*Eucalyptus grandis*	-32.211459	115.828032	660
Seven	*Eucalyptus grandis*	-32.214711	115.806135	740
Seven	*Eucalyptus rudis*	-32.208337	115.83898	500
Seven	*Eucalyptus rudis*	-32.209394	115.847225	500
Seven	*Eucalyptus rudis*	-32.20937	115.847272	500
Seven	*Eucalyptus rudis*	-32.20856	115.786956	510
Seven	*Eucalyptus rudis*	-32.208974	115.841344	520
Seven	*Eucalyptus rudis*	-32.208606	115.84069	520
Seven	*Eucalyptus rudis*	-32.208288	115.838929	520
Seven	*Eucalyptus rudis*	-32.209176	115.847595	530
Seven	*Eucalyptus rudis*	-32.2101	115.858676	530
Seven	*Eucalyptus rudis*	-32.208162	115.837409	530
Seven	*Eucalyptus rudis*	-32.208474	115.838895	540
Seven	*Eucalyptus rudis*	-32.208856	115.848133	550
Seven	*Eucalyptus rudis*	-32.209071	115.847786	560
Seven	*Eucalyptus rudis*	-32.208177	115.839428	560
Seven	*Eucalyptus rudis*	-32.208849	115.848165	560
Seven	*Eucalyptus rudis*	-32.21001	115.857637	570
Seven	*Eucalyptus rudis*	-32.209031	115.847882	580
Seven	*Eucalyptus rudis*	-32.208923	115.848048	580
Seven	*Eucalyptus rudis*	-32.209233	115.860289	580
Seven	*Eucalyptus rudis*	-32.209156	115.847652	590
Seven	*Eucalyptus rudis*	-32.209143	115.790475	600
Seven	*Eucalyptus rudis*	-32.208884	115.84809	610
Seven	*Eucalyptus rudis*	-32.208391	115.838428	610
Seven	*Eucalyptus rudis*	-32.210081	115.858241	620
Seven	*Eucalyptus rudis*	-32.208206	115.839331	620
Seven	*Eucalyptus rudis*	-32.208132	115.78717	630
Seven	*Eucalyptus rudis*	-32.20814	115.787258	640

Category[1]	Species	Latitude	Longitude	DBH (mm)
Seven	*Eucalyptus rudis*	-32.208783	115.84826	650
Seven	*Eucalyptus rudis*	-32.20835	115.83884	690
Seven	*Eucalyptus rudis*	-32.20769	115.843606	690
Seven	*Eucalyptus rudis*	-32.208619	115.787125	700
Seven	*Eucalyptus rudis*	-32.209045	115.847836	730
Seven	*Eucalyptus rudis*	-32.209379	115.847235	740
Seven	*Eucalyptus rudis*	-32.209006	115.847908	750
Seven	*Eucalyptus rudis*	-32.208862	115.848124	760
Seven	*Eucalyptus rudis*	-32.208341	115.838114	780
Seven	*Eucalyptus rudis*	-32.209222	115.847524	800
Seven	*Eucalyptus rudis*	-32.20936	115.847315	800
Seven	*Eucalyptus rudis*	-32.209132	115.847671	830
Seven	*Eucalyptus rudis*	-32.208818	115.84822	900
Seven	*Eucalyptus rudis*	-32.209255	115.847482	1030
Seven	*Eucalyptus rudis*	-32.208371	115.839279	1040
Seven	*Eucalyptus rudis*	-32.208275	115.839104	1080
Seven	*Eucalyptus rudis*	-32.208289	115.83793	1100
Seven	*Eucalyptus rudis*	-32.208666	115.839351	1410
Seven	*Eucalyptus marginata*	-32.211089	115.82909	500
Seven	*Eucalyptus marginata*	-32.211072	115.813431	500
Seven	*Eucalyptus marginata*	-32.211128	115.806616	500
Seven	*Eucalyptus marginata*	-32.209954	115.858682	500
Seven	*Eucalyptus marginata*	-32.209002	115.791918	500
Seven	*Eucalyptus marginata*	-32.2115	115.825897	500
Seven	*Eucalyptus marginata*	-32.21205	115.825666	500
Seven	*Eucalyptus marginata*	-32.20788	115.788811	500
Seven	*Eucalyptus marginata*	-32.210572	115.848855	500
Seven	*Eucalyptus marginata*	-32.210508	115.851422	500
Seven	*Eucalyptus marginata*	-32.211338	115.828812	510
Seven	*Eucalyptus marginata*	-32.211119	115.814015	510
Seven	*Eucalyptus marginata*	-32.211083	115.829194	510
Seven	*Eucalyptus marginata*	-32.208037	115.791513	510
Seven	*Eucalyptus marginata*	-32.207905	115.788735	510
Seven	*Eucalyptus marginata*	-32.207814	115.787879	510
Seven	*Eucalyptus marginata*	-32.211812	115.816725	510
Seven	*Eucalyptus marginata*	-32.209967	115.806456	520
Seven	*Eucalyptus marginata*	-32.208571	115.787465	520
Seven	*Eucalyptus marginata*	-32.208978	115.791624	520
Seven	*Eucalyptus marginata*	-32.210559	115.830446	520
Seven	*Eucalyptus marginata*	-32.208065	115.791468	520
Seven	*Eucalyptus marginata*	-32.20794	115.789534	520
Seven	*Eucalyptus marginata*	-32.207828	115.788525	520
Seven	*Eucalyptus marginata*	-32.211851	115.818359	520
Seven	*Eucalyptus marginata*	-32.207869	115.78815	520
Seven	*Eucalyptus marginata*	-32.208489	115.789925	520
Seven	*Eucalyptus marginata*	-32.207435	115.789932	520
Seven	*Eucalyptus marginata*	-32.211485	115.824594	530
Seven	*Eucalyptus marginata*	-32.207464	115.790106	530
Seven	*Eucalyptus marginata*	-32.207394	115.788152	530
Seven	*Eucalyptus marginata*	-32.210599	115.849074	540
Seven	*Eucalyptus marginata*	-32.212001	115.819998	550
Seven	*Eucalyptus marginata*	-32.207979	115.788439	550
Seven	*Eucalyptus marginata*	-32.207849	115.791128	550
Seven	*Eucalyptus marginata*	-32.208483	115.788105	550
Seven	*Eucalyptus marginata*	-32.207851	115.789521	550
Seven	*Eucalyptus marginata*	-32.211895	115.818621	550
Seven	*Eucalyptus marginata*	-32.211826	115.820069	550
Seven	*Eucalyptus marginata*	-32.207715	115.791007	550
Seven	*Eucalyptus marginata*	-32.211963	115.826348	550
Seven	*Eucalyptus marginata*	-32.210565	115.852736	570
Seven	*Eucalyptus marginata*	-32.210503	115.852703	570
Seven	*Eucalyptus marginata*	-32.211108	115.814152	580
Seven	*Eucalyptus marginata*	-32.211335	115.821911	580
Seven	*Eucalyptus marginata*	-32.211316	115.817849	580
Seven	*Eucalyptus marginata*	-32.211086	115.806491	580
Seven	*Eucalyptus marginata*	-32.207991	115.786791	580

Category[1]	Species	Latitude	Longitude	DBH (mm)
Seven	*Eucalyptus marginata*	-32.207775	115.790661	580
Seven	*Eucalyptus marginata*	-32.211805	115.816602	580
Seven	*Eucalyptus marginata*	-32.210416	115.851393	580
Seven	*Eucalyptus marginata*	-32.211107	115.829364	590
Seven	*Eucalyptus marginata*	-32.21202	115.827316	610
Seven	*Eucalyptus marginata*	-32.2106	115.855769	610
Seven	*Eucalyptus marginata*	-32.211169	115.814014	610
Seven	*Eucalyptus marginata*	-32.210747	115.806133	620
Seven	*Eucalyptus marginata*	-32.211467	115.825785	620
Seven	*Eucalyptus marginata*	-32.207737	115.787154	620
Seven	*Eucalyptus marginata*	-32.208256	115.788691	630
Seven	*Eucalyptus marginata*	-32.208005	115.787372	640
Seven	*Eucalyptus marginata*	-32.207803	115.788474	650
Seven	*Eucalyptus marginata*	-32.21187	115.816369	650
Seven	*Eucalyptus marginata*	-32.211861	115.820525	650
Seven	*Eucalyptus marginata*	-32.208047	115.788071	650
Seven	*Eucalyptus marginata*	-32.208459	115.789083	650
Seven	*Eucalyptus marginata*	-32.211824	115.823754	650
Seven	*Eucalyptus marginata*	-32.211918	115.825446	650
Seven	*Eucalyptus marginata*	-32.212108	115.824878	670
Seven	*Eucalyptus marginata*	-32.210698	115.852002	670
Seven	*Eucalyptus marginata*	-32.210335	115.855649	680
Seven	*Eucalyptus marginata*	-32.211799	115.816322	680
Seven	*Eucalyptus marginata*	-32.212053	115.825412	690
Seven	*Eucalyptus marginata*	-32.211465	115.816	690
Seven	*Eucalyptus marginata*	-32.212039	115.824436	690
Seven	*Eucalyptus marginata*	-32.21111	115.812937	690
Seven	*Eucalyptus marginata*	-32.208234	115.787197	700
Seven	*Eucalyptus marginata*	-32.208748	115.797496	710
Seven	*Eucalyptus marginata*	-32.210567	115.806863	710
Seven	*Eucalyptus marginata*	-32.208943	115.806029	710
Seven	*Eucalyptus marginata*	-32.212053	115.828361	720
Seven	*Eucalyptus marginata*	-32.207714	115.790692	720
Seven	*Eucalyptus marginata*	-32.210548	115.806397	730
Seven	*Eucalyptus marginata*	-32.212073	115.817604	740
Seven	*Eucalyptus marginata*	-32.211005	115.829459	740
Seven	*Eucalyptus marginata*	-32.212023	115.818809	740
Seven	*Eucalyptus marginata*	-32.207879	115.789002	750
Seven	*Eucalyptus marginata*	-32.210573	115.854962	760
Seven	*Eucalyptus marginata*	-32.209197	115.834722	760
Seven	*Eucalyptus marginata*	-32.210781	115.806245	770
Seven	*Eucalyptus marginata*	-32.211355	115.813772	770
Seven	*Eucalyptus marginata*	-32.210415	115.85613	770
Seven	*Eucalyptus marginata*	-32.209221	115.806191	770
Seven	*Eucalyptus marginata*	-32.209724	115.858529	780
Seven	*Eucalyptus marginata*	-32.212037	115.814563	780
Seven	*Eucalyptus marginata*	-32.209668	115.805938	780
Seven	*Eucalyptus marginata*	-32.212018	115.82456	780
Seven	*Eucalyptus marginata*	-32.207865	115.789925	780
Seven	*Eucalyptus marginata*	-32.210401	115.851183	780
Seven	*Eucalyptus marginata*	-32.210297	115.831223	790
Seven	*Eucalyptus marginata*	-32.210975	115.829788	790
Seven	*Eucalyptus marginata*	-32.209786	115.80613	800
Seven	*Eucalyptus marginata*	-32.208189	115.790934	800
Seven	*Eucalyptus marginata*	-32.211017	115.806186	810
Seven	*Eucalyptus marginata*	-32.210792	115.806635	810
Seven	*Eucalyptus marginata*	-32.209946	115.831748	810
Seven	*Eucalyptus marginata*	-32.21099	115.8063	810
Seven	*Eucalyptus marginata*	-32.2112	115.814374	810
Seven	*Eucalyptus marginata*	-32.211366	115.815652	810
Seven	*Eucalyptus marginata*	-32.208017	115.789804	810
Seven	*Eucalyptus marginata*	-32.210077	115.85828	830
Seven	*Eucalyptus marginata*	-32.210706	115.807449	830
Seven	*Eucalyptus marginata*	-32.211455	115.824324	830
Seven	*Eucalyptus marginata*	-32.212092	115.817264	840
Seven	*Eucalyptus marginata*	-32.211828	115.816239	840

Category[1]	Species	Latitude	Longitude	DBH (mm)
Seven	*Eucalyptus marginata*	-32.211874	115.818799	850
Seven	*Eucalyptus marginata*	-32.211358	115.827937	880
Seven	*Eucalyptus marginata*	-32.212024	115.814643	880
Seven	*Eucalyptus marginata*	-32.207868	115.788808	880
Seven	*Eucalyptus marginata*	-32.209115	115.834924	890
Seven	*Eucalyptus marginata*	-32.208044	115.788893	900
Seven	*Eucalyptus marginata*	-32.210041	115.831659	910
Seven	*Eucalyptus marginata*	-32.210482	115.85501	920
Seven	*Eucalyptus marginata*	-32.209006	115.792043	920
Seven	*Eucalyptus marginata*	-32.211863	115.817531	920
Seven	*Eucalyptus marginata*	-32.211381	115.820404	930
Seven	*Eucalyptus marginata*	-32.20938	115.833088	930
Seven	*Eucalyptus marginata*	-32.211888	115.825059	930
Seven	*Eucalyptus marginata*	-32.211971	115.826612	950
Seven	*Eucalyptus marginata*	-32.208252	115.789592	950
Seven	*Eucalyptus marginata*	-32.211798	115.815294	950
Seven	*Eucalyptus marginata*	-32.20802	115.787111	960
Seven	*Eucalyptus marginata*	-32.211231	115.807176	980
Seven	*Eucalyptus marginata*	-32.211454	115.814406	980
Seven	*Eucalyptus marginata*	-32.211383	115.814027	1020
Seven	*Eucalyptus marginata*	-32.211436	115.815865	1070
Seven	*Eucalyptus marginata*	-32.211365	115.821348	1070
Seven	*Eucalyptus marginata*	-32.210636	115.80662	1070
Seven	*Eucalyptus marginata*	-32.212005	115.826942	1110
Seven	*Eucalyptus marginata*	-32.209894	115.806157	1130
Seven	*Eucalyptus marginata*	-32.210711	115.806306	1160
Seven	*Eucalyptus marginata*	-32.211972	115.827664	1160
Seven	*Eucalyptus marginata*	-32.21134	115.817924	1180
Seven	*Eucalyptus marginata*	-32.209657	115.80603	1180
Seven	*Eucalyptus marginata*	-32.207891	115.788373	1200
Seven	*Eucalyptus marginata*	-32.210323	115.858045	1220
Seven	*Eucalyptus marginata*	-32.209134	115.835129	1240
Seven	*Eucalyptus marginata*	-32.210239	115.806308	1260
Seven	*Eucalyptus marginata*	-32.21083	115.806701	1280
Seven	*Eucalyptus marginata*	-32.210149	115.831284	1320
Seven	*Eucalyptus marginata*	-32.211516	115.824471	1410
Seven	*Eucalyptus marginata*	-32.212117	115.82544	1560
Seven	*Eucalyptus marginata*	-32.211775	115.817048	600
Seven	*Eucalyptus diversicolor*	-32.208686	115.839989	540
Seven	*Corymbia calophylla*	-32.211813	115.812228	1050
Seven	*?Eucalyptus camaldulensis*	-32.214294	115.806152	650
Seven	*?Eucalyptus camaldulensis*	-32.213852	115.806144	670
Seven	*Unknown Eucalypt sp.*	-32.208964	115.841277	500
Seven	*Unknown Eucalypt sp.*	-32.211434	115.822359	550
Seven	*Unknown Eucalypt sp.*	-32.208937	115.79211	580
Seven	*Unknown Eucalypt sp.*	-32.211382	115.806904	720
Seven	*Unknown Eucalypt sp.*	-32.211446	115.822482	1090
Seven	*Eucalyptus gomphocephala*	-32.21097	115.808512	500
Seven	*Eucalyptus gomphocephala*	-32.209804	115.806282	500
Seven	*Eucalyptus gomphocephala*	-32.207603	115.805991	500
Seven	*Eucalyptus gomphocephala*	-32.208952	115.80603	500
Seven	*Eucalyptus gomphocephala*	-32.209737	115.806052	500
Seven	*Eucalyptus gomphocephala*	-32.209626	115.805977	500
Seven	*Eucalyptus gomphocephala*	-32.211982	115.825011	500
Seven	*Eucalyptus gomphocephala*	-32.20876	115.79922	500
Seven	*Eucalyptus gomphocephala*	-32.211804	115.816187	500
Seven	*Eucalyptus gomphocephala*	-32.211874	115.822604	500
Seven	*Eucalyptus gomphocephala*	-32.211793	115.816243	500
Seven	*Eucalyptus gomphocephala*	-32.211788	115.816677	500
Seven	*Eucalyptus gomphocephala*	-32.211857	115.820236	500
Seven	*Eucalyptus gomphocephala*	-32.211883	115.825243	500
Seven	*Eucalyptus gomphocephala*	-32.211547	115.819286	500
Seven	*Eucalyptus gomphocephala*	-32.211976	115.820366	510
Seven	*Eucalyptus gomphocephala*	-32.210441	115.807216	510
Seven	*Eucalyptus gomphocephala*	-32.210214	115.79957	510
Seven	*Eucalyptus gomphocephala*	-32.211491	115.8226	510

Category[1]	Species	Latitude	Longitude	DBH (mm)
Seven	*Eucalyptus gomphocephala*	-32.211916	115.819081	510
Seven	*Eucalyptus gomphocephala*	-32.209874	115.78518	510
Seven	*Eucalyptus gomphocephala*	-32.211466	115.826872	520
Seven	*Eucalyptus gomphocephala*	-32.209447	115.806143	520
Seven	*Eucalyptus gomphocephala*	-32.211236	115.811693	520
Seven	*Eucalyptus gomphocephala*	-32.211455	115.825749	520
Seven	*Eucalyptus gomphocephala*	-32.207673	115.805949	520
Seven	*Eucalyptus gomphocephala*	-32.208891	115.798742	520
Seven	*Eucalyptus gomphocephala*	-32.209182	115.806213	520
Seven	*Eucalyptus gomphocephala*	-32.210738	115.857989	520
Seven	*Eucalyptus gomphocephala*	-32.211594	115.827555	520
Seven	*Eucalyptus gomphocephala*	-32.211859	115.811912	520
Seven	*Eucalyptus gomphocephala*	-32.211853	115.815018	520
Seven	*Eucalyptus gomphocephala*	-32.211903	115.820973	520
Seven	*Eucalyptus gomphocephala*	-32.211816	115.814606	520
Seven	*Eucalyptus gomphocephala*	-32.211891	115.819035	520
Seven	*Eucalyptus gomphocephala*	-32.211889	115.826129	520
Seven	*Eucalyptus gomphocephala*	-32.212102	115.824014	530
Seven	*Eucalyptus gomphocephala*	-32.207546	115.805988	530
Seven	*Eucalyptus gomphocephala*	-32.208526	115.798847	530
Seven	*Eucalyptus gomphocephala*	-32.208596	115.785882	530
Seven	*Eucalyptus gomphocephala*	-32.208408	115.798023	530
Seven	*Eucalyptus gomphocephala*	-32.212103	115.82213	530
Seven	*Eucalyptus gomphocephala*	-32.208784	115.844667	530
Seven	*Eucalyptus gomphocephala*	-32.208632	115.79944	530
Seven	*Eucalyptus gomphocephala*	-32.211526	115.824134	530
Seven	*Eucalyptus gomphocephala*	-32.21181	115.815242	530
Seven	*Eucalyptus gomphocephala*	-32.211899	115.825848	530
Seven	*Eucalyptus gomphocephala*	-32.211828	115.806663	530
Seven	*Eucalyptus gomphocephala*	-32.209065	115.839416	530
Seven	*Eucalyptus gomphocephala*	-32.208085	115.805965	540
Seven	*Eucalyptus gomphocephala*	-32.210101	115.799724	540
Seven	*Eucalyptus gomphocephala*	-32.208399	115.799681	540
Seven	*Eucalyptus gomphocephala*	-32.21201	115.820197	540
Seven	*Eucalyptus gomphocephala*	-32.210812	115.811928	540
Seven	*Eucalyptus gomphocephala*	-32.208968	115.844854	540
Seven	*Eucalyptus gomphocephala*	-32.20772	115.805963	540
Seven	*Eucalyptus gomphocephala*	-32.209418	115.805953	540
Seven	*Eucalyptus gomphocephala*	-32.208185	115.786947	540
Seven	*Eucalyptus gomphocephala*	-32.209683	115.806205	540
Seven	*Eucalyptus gomphocephala*	-32.208306	115.837842	540
Seven	*Eucalyptus gomphocephala*	-32.208461	115.799231	550
Seven	*Eucalyptus gomphocephala*	-32.211872	115.828234	550
Seven	*Eucalyptus gomphocephala*	-32.211829	115.816941	550
Seven	*Eucalyptus gomphocephala*	-32.209731	115.784969	550
Seven	*Eucalyptus gomphocephala*	-32.211831	115.817157	550
Seven	*Eucalyptus gomphocephala*	-32.211453	115.808288	550
Seven	*Eucalyptus gomphocephala*	-32.211354	115.807608	550
Seven	*Eucalyptus gomphocephala*	-32.209383	115.806082	560
Seven	*Eucalyptus gomphocephala*	-32.210576	115.83036	560
Seven	*Eucalyptus gomphocephala*	-32.211959	115.827495	560
Seven	*Eucalyptus gomphocephala*	-32.211563	115.824122	560
Seven	*Eucalyptus gomphocephala*	-32.212043	115.816369	560
Seven	*Eucalyptus gomphocephala*	-32.208224	115.786871	560
Seven	*Eucalyptus gomphocephala*	-32.20875	115.799319	560
Seven	*Eucalyptus gomphocephala*	-32.211822	115.813452	560
Seven	*Eucalyptus gomphocephala*	-32.211766	115.807224	560
Seven	*Eucalyptus gomphocephala*	-32.209579	115.805974	570
Seven	*Eucalyptus gomphocephala*	-32.209713	115.806363	570
Seven	*Eucalyptus gomphocephala*	-32.211545	115.82343	570
Seven	*Eucalyptus gomphocephala*	-32.209241	115.805977	570
Seven	*Eucalyptus gomphocephala*	-32.21189	115.818904	570
Seven	*Eucalyptus gomphocephala*	-32.209251	115.784871	570
Seven	*Eucalyptus gomphocephala*	-32.211873	115.825265	570
Seven	*Eucalyptus gomphocephala*	-32.211828	115.807216	570
Seven	*Eucalyptus gomphocephala*	-32.20893	115.844932	580

Category[1]	Species	Latitude	Longitude	DBH (mm)
Seven	*Eucalyptus gomphocephala*	-32.21074	115.809349	580
Seven	*Eucalyptus gomphocephala*	-32.212006	115.820454	580
Seven	*Eucalyptus gomphocephala*	-32.211826	115.815044	580
Seven	*Eucalyptus gomphocephala*	-32.211872	115.825249	580
Seven	*Eucalyptus gomphocephala*	-32.207479	115.788065	580
Seven	*Eucalyptus gomphocephala*	-32.21176	115.806208	580
Seven	*Eucalyptus gomphocephala*	-32.207969	115.806098	590
Seven	*Eucalyptus gomphocephala*	-32.209745	115.806368	590
Seven	*Eucalyptus gomphocephala*	-32.210046	115.806058	590
Seven	*Eucalyptus gomphocephala*	-32.211515	115.826622	590
Seven	*Eucalyptus gomphocephala*	-32.209494	115.859811	590
Seven	*Eucalyptus gomphocephala*	-32.209064	115.784824	590
Seven	*Eucalyptus gomphocephala*	-32.208491	115.799045	600
Seven	*Eucalyptus gomphocephala*	-32.21207	115.826843	600
Seven	*Eucalyptus gomphocephala*	-32.211369	115.811488	600
Seven	*Eucalyptus gomphocephala*	-32.209262	115.806012	600
Seven	*Eucalyptus gomphocephala*	-32.212052	115.826035	600
Seven	*Eucalyptus gomphocephala*	-32.211909	115.821842	600
Seven	*Eucalyptus gomphocephala*	-32.211674	115.806741	600
Seven	*Eucalyptus gomphocephala*	-32.211565	115.819502	600
Seven	*Eucalyptus gomphocephala*	-32.207542	115.788066	600
Seven	*Eucalyptus gomphocephala*	-32.211496	115.819542	610
Seven	*Eucalyptus gomphocephala*	-32.207588	115.805981	610
Seven	*Eucalyptus gomphocephala*	-32.210769	115.811546	610
Seven	*Eucalyptus gomphocephala*	-32.212975	115.806172	610
Seven	*Eucalyptus gomphocephala*	-32.210033	115.806032	610
Seven	*Eucalyptus gomphocephala*	-32.208119	115.797742	610
Seven	*Eucalyptus gomphocephala*	-32.210057	115.806072	610
Seven	*Eucalyptus gomphocephala*	-32.211905	115.82235	610
Seven	*Eucalyptus gomphocephala*	-32.211909	115.821431	610
Seven	*Eucalyptus gomphocephala*	-32.211847	115.806964	610
Seven	*Eucalyptus gomphocephala*	-32.210035	115.79936	610
Seven	*Eucalyptus gomphocephala*	-32.209066	115.798827	620
Seven	*Eucalyptus gomphocephala*	-32.207184	115.806208	620
Seven	*Eucalyptus gomphocephala*	-32.207122	115.805933	620
Seven	*Eucalyptus gomphocephala*	-32.211983	115.824219	620
Seven	*Eucalyptus gomphocephala*	-32.208704	115.839301	620
Seven	*Eucalyptus gomphocephala*	-32.209969	115.799573	620
Seven	*Eucalyptus gomphocephala*	-32.211772	115.814929	620
Seven	*Eucalyptus gomphocephala*	-32.209062	115.839627	620
Seven	*Eucalyptus gomphocephala*	-32.20903	115.840569	620
Seven	*Eucalyptus gomphocephala*	-32.208314	115.799126	630
Seven	*Eucalyptus gomphocephala*	-32.209127	115.806143	630
Seven	*Eucalyptus gomphocephala*	-32.211091	115.806429	630
Seven	*Eucalyptus gomphocephala*	-32.209734	115.805986	630
Seven	*Eucalyptus gomphocephala*	-32.210424	115.799692	630
Seven	*Eucalyptus gomphocephala*	-32.207657	115.806174	630
Seven	*Eucalyptus gomphocephala*	-32.211838	115.816663	630
Seven	*Eucalyptus gomphocephala*	-32.208444	115.7973	640
Seven	*Eucalyptus gomphocephala*	-32.210789	115.811728	640
Seven	*Eucalyptus gomphocephala*	-32.210932	115.807353	640
Seven	*Eucalyptus gomphocephala*	-32.209086	115.805988	640
Seven	*Eucalyptus gomphocephala*	-32.209929	115.805995	640
Seven	*Eucalyptus gomphocephala*	-32.210178	115.799598	640
Seven	*Eucalyptus gomphocephala*	-32.211436	115.827148	640
Seven	*Eucalyptus gomphocephala*	-32.210019	115.799377	640
Seven	*Eucalyptus gomphocephala*	-32.209998	115.806013	640
Seven	*Eucalyptus gomphocephala*	-32.211832	115.828879	640
Seven	*Eucalyptus gomphocephala*	-32.211464	115.819564	640
Seven	*Eucalyptus gomphocephala*	-32.210692	115.830182	650
Seven	*Eucalyptus gomphocephala*	-32.211221	115.807887	650
Seven	*Eucalyptus gomphocephala*	-32.20957	115.806043	650
Seven	*Eucalyptus gomphocephala*	-32.211513	115.825455	650
Seven	*Eucalyptus gomphocephala*	-32.213481	115.805388	650
Seven	*Eucalyptus gomphocephala*	-32.211851	115.818986	650
Seven	*Eucalyptus gomphocephala*	-32.211837	115.8238	650

Category[1]	Species	Latitude	Longitude	DBH (mm)
Seven	*Eucalyptus gomphocephala*	-32.208344	115.799143	660
Seven	*Eucalyptus gomphocephala*	-32.214623	115.806212	660
Seven	*Eucalyptus gomphocephala*	-32.208142	115.786896	660
Seven	*Eucalyptus gomphocephala*	-32.209938	115.806042	660
Seven	*Eucalyptus gomphocephala*	-32.207168	115.806037	660
Seven	*Eucalyptus gomphocephala*	-32.209981	115.799818	660
Seven	*Eucalyptus gomphocephala*	-32.209134	115.798847	660
Seven	*Eucalyptus gomphocephala*	-32.209004	115.840768	660
Seven	*Eucalyptus gomphocephala*	-32.212034	115.81641	670
Seven	*Eucalyptus gomphocephala*	-32.208921	115.842041	670
Seven	*Eucalyptus gomphocephala*	-32.212584	115.829903	670
Seven	*Eucalyptus gomphocephala*	-32.21139	115.82705	680
Seven	*Eucalyptus gomphocephala*	-32.211467	115.814808	680
Seven	*Eucalyptus gomphocephala*	-32.207995	115.795481	680
Seven	*Eucalyptus gomphocephala*	-32.211504	115.815983	680
Seven	*Eucalyptus gomphocephala*	-32.208183	115.797233	690
Seven	*Eucalyptus gomphocephala*	-32.208945	115.80597	690
Seven	*Eucalyptus gomphocephala*	-32.208596	115.79969	690
Seven	*Eucalyptus gomphocephala*	-32.209598	115.805962	690
Seven	*Eucalyptus gomphocephala*	-32.207786	115.795559	700
Seven	*Eucalyptus gomphocephala*	-32.211546	115.818458	700
Seven	*Eucalyptus gomphocephala*	-32.209914	115.806044	710
Seven	*Eucalyptus gomphocephala*	-32.211155	115.812169	710
Seven	*Eucalyptus gomphocephala*	-32.210768	115.807267	710
Seven	*Eucalyptus gomphocephala*	-32.211856	115.816612	710
Seven	*Eucalyptus gomphocephala*	-32.211363	115.80687	710
Seven	*Eucalyptus gomphocephala*	-32.210162	115.785172	710
Seven	*Eucalyptus gomphocephala*	-32.211992	115.827876	720
Seven	*Eucalyptus gomphocephala*	-32.208203	115.837153	720
Seven	*Eucalyptus gomphocephala*	-32.214694	115.806207	720
Seven	*Eucalyptus gomphocephala*	-32.211912	115.822434	720
Seven	*Eucalyptus gomphocephala*	-32.211852	115.817261	720
Seven	*Eucalyptus gomphocephala*	-32.20809	115.795415	720
Seven	*Eucalyptus gomphocephala*	-32.20907	115.79884	720
Seven	*Eucalyptus gomphocephala*	-32.210944	115.809278	730
Seven	*Eucalyptus gomphocephala*	-32.209797	115.806322	730
Seven	*Eucalyptus gomphocephala*	-32.212016	115.827876	730
Seven	*Eucalyptus gomphocephala*	-32.210714	115.807649	730
Seven	*Eucalyptus gomphocephala*	-32.208636	115.799205	730
Seven	*Eucalyptus gomphocephala*	-32.208901	115.806348	740
Seven	*Eucalyptus gomphocephala*	-32.208787	115.844673	740
Seven	*Eucalyptus gomphocephala*	-32.209149	115.798832	740
Seven	*Eucalyptus gomphocephala*	-32.211465	115.808148	740
Seven	*Eucalyptus gomphocephala*	-32.210098	115.857751	750
Seven	*Eucalyptus gomphocephala*	-32.210105	115.799851	750
Seven	*Eucalyptus gomphocephala*	-32.207571	115.787874	750
Seven	*Eucalyptus gomphocephala*	-32.211871	115.817304	750
Seven	*Eucalyptus gomphocephala*	-32.210817	115.830334	760
Seven	*Eucalyptus gomphocephala*	-32.208155	115.786881	760
Seven	*Eucalyptus gomphocephala*	-32.209042	115.840104	760
Seven	*Eucalyptus gomphocephala*	-32.211204	115.811755	770
Seven	*Eucalyptus gomphocephala*	-32.21123	115.828983	770
Seven	*Eucalyptus gomphocephala*	-32.20998	115.806011	780
Seven	*Eucalyptus gomphocephala*	-32.210519	115.80668	780
Seven	*Eucalyptus gomphocephala*	-32.210397	115.799617	780
Seven	*Eucalyptus gomphocephala*	-32.210261	115.799777	790
Seven	*Eucalyptus gomphocephala*	-32.21065	115.807235	790
Seven	*Eucalyptus gomphocephala*	-32.208917	115.841962	790
Seven	*Eucalyptus gomphocephala*	-32.2076	115.788169	790
Seven	*Eucalyptus gomphocephala*	-32.211052	115.814317	800
Seven	*Eucalyptus gomphocephala*	-32.211827	115.818935	800
Seven	*Eucalyptus gomphocephala*	-32.20912	115.838386	800
Seven	*Eucalyptus gomphocephala*	-32.207841	115.786678	810
Seven	*Eucalyptus gomphocephala*	-32.211383	115.828501	810
Seven	*Eucalyptus gomphocephala*	-32.210926	115.808796	810
Seven	*Eucalyptus gomphocephala*	-32.210826	115.830331	810

Category[1]	Species	Latitude	Longitude	DBH (mm)
Seven	*Eucalyptus gomphocephala*	-32.208645	115.840533	820
Seven	*Eucalyptus gomphocephala*	-32.2114	115.824213	820
Seven	*Eucalyptus gomphocephala*	-32.208401	115.799463	820
Seven	*Eucalyptus gomphocephala*	-32.208454	115.793276	820
Seven	*Eucalyptus gomphocephala*	-32.211093	115.81218	830
Seven	*Eucalyptus gomphocephala*	-32.211139	115.8141	830
Seven	*Eucalyptus gomphocephala*	-32.210032	115.806544	840
Seven	*Eucalyptus gomphocephala*	-32.211149	115.813827	840
Seven	*Eucalyptus gomphocephala*	-32.208912	115.842064	840
Seven	*Eucalyptus gomphocephala*	-32.211406	115.825309	850
Seven	*Eucalyptus gomphocephala*	-32.211879	115.814399	850
Seven	*Eucalyptus gomphocephala*	-32.21186	115.812772	850
Seven	*Eucalyptus gomphocephala*	-32.207946	115.797571	850
Seven	*Eucalyptus gomphocephala*	-32.209084	115.805953	860
Seven	*Eucalyptus gomphocephala*	-32.207946	115.797588	860
Seven	*Eucalyptus gomphocephala*	-32.207369	115.78836	860
Seven	*Eucalyptus gomphocephala*	-32.211871	115.815153	860
Seven	*Eucalyptus gomphocephala*	-32.208183	115.797227	860
Seven	*Eucalyptus gomphocephala*	-32.210957	115.829997	870
Seven	*Eucalyptus gomphocephala*	-32.209969	115.83818	870
Seven	*Eucalyptus gomphocephala*	-32.208401	115.798039	870
Seven	*Eucalyptus gomphocephala*	-32.209105	115.834969	870
Seven	*Eucalyptus gomphocephala*	-32.21004	115.806381	880
Seven	*Eucalyptus gomphocephala*	-32.211472	115.815522	880
Seven	*Eucalyptus gomphocephala*	-32.2139	115.806221	900
Seven	*Eucalyptus gomphocephala*	-32.211032	115.807954	900
Seven	*Eucalyptus gomphocephala*	-32.209931	115.784892	900
Seven	*Eucalyptus gomphocephala*	-32.208096	115.797751	900
Seven	*Eucalyptus gomphocephala*	-32.211788	115.807844	900
Seven	*Eucalyptus gomphocephala*	-32.21374	115.805392	910
Seven	*Eucalyptus gomphocephala*	-32.210234	115.799596	910
Seven	*Eucalyptus gomphocephala*	-32.209147	115.806144	910
Seven	*Eucalyptus gomphocephala*	-32.211412	115.807658	910
Seven	*Eucalyptus gomphocephala*	-32.20754	115.787869	910
Seven	*Eucalyptus gomphocephala*	-32.210664	115.809252	920
Seven	*Eucalyptus gomphocephala*	-32.210741	115.830064	920
Seven	*Eucalyptus gomphocephala*	-32.209677	115.806353	920
Seven	*Eucalyptus gomphocephala*	-32.211381	115.824276	920
Seven	*Eucalyptus gomphocephala*	-32.211722	115.806429	920
Seven	*Eucalyptus gomphocephala*	-32.210857	115.829743	930
Seven	*Eucalyptus gomphocephala*	-32.21402	115.806237	930
Seven	*Eucalyptus gomphocephala*	-32.208901	115.842127	930
Seven	*Eucalyptus gomphocephala*	-32.210311	115.807037	940
Seven	*Eucalyptus gomphocephala*	-32.207549	115.787986	960
Seven	*Eucalyptus gomphocephala*	-32.208962	115.841281	960
Seven	*Eucalyptus gomphocephala*	-32.210864	115.808197	970
Seven	*Eucalyptus gomphocephala*	-32.21133	115.813458	980
Seven	*Eucalyptus gomphocephala*	-32.208253	115.787132	980
Seven	*Eucalyptus gomphocephala*	-32.210452	115.807173	980
Seven	*Eucalyptus gomphocephala*	-32.21127	115.813088	1000
Seven	*Eucalyptus gomphocephala*	-32.211279	115.82913	1030
Seven	*Eucalyptus gomphocephala*	-32.211445	115.808142	1030
Seven	*Eucalyptus gomphocephala*	-32.210965	115.807487	1030
Seven	*Eucalyptus gomphocephala*	-32.211396	115.828639	1040
Seven	*Eucalyptus gomphocephala*	-32.210406	115.808322	1040
Seven	*Eucalyptus gomphocephala*	-32.209137	115.835152	1040
Seven	*Eucalyptus gomphocephala*	-32.210117	115.799617	1050
Seven	*Eucalyptus gomphocephala*	-32.2089	115.842104	1080
Seven	*Eucalyptus gomphocephala*	-32.208161	115.791115	1100
Seven	*Eucalyptus gomphocephala*	-32.209022	115.788336	1100
Seven	*Eucalyptus gomphocephala*	-32.211492	115.815887	1100
Seven	*Eucalyptus gomphocephala*	-32.209023	115.806183	1120
Seven	*Eucalyptus gomphocephala*	-32.211074	115.807616	1130
Seven	*Eucalyptus gomphocephala*	-32.211281	115.813506	1150
Seven	*Eucalyptus gomphocephala*	-32.211888	115.813142	1150
Seven	*Eucalyptus gomphocephala*	-32.208608	115.799498	1170

Category[1]	Species	Latitude	Longitude	DBH (mm)
Seven	*Eucalyptus gomphocephala*	-32.211336	115.815124	1190
Seven	*Eucalyptus gomphocephala*	-32.209106	115.835135	1190
Seven	*Eucalyptus gomphocephala*	-32.208143	115.786716	1200
Seven	*Eucalyptus gomphocephala*	-32.208711	115.840206	1240
Seven	*Eucalyptus gomphocephala*	-32.211295	115.815075	1250
Seven	*Eucalyptus gomphocephala*	-32.210889	115.807924	1250
Seven	*Eucalyptus gomphocephala*	-32.207949	115.786969	1280
Seven	*Eucalyptus gomphocephala*	-32.21129	115.813503	1300
Seven	*Eucalyptus gomphocephala*	-32.209115	115.83512	1300
Seven	*Eucalyptus gomphocephala*	-32.211866	115.819627	1300
Seven	*Eucalyptus gomphocephala*	-32.210731	115.830137	1310
Seven	*Eucalyptus gomphocephala*	-32.211322	115.821529	1330
Seven	*Eucalyptus gomphocephala*	-32.208697	115.806149	1330
Seven	*Eucalyptus gomphocephala*	-32.211588	115.806313	1350
Seven	*Eucalyptus gomphocephala*	-32.211984	115.825908	1380
Seven	*Eucalyptus gomphocephala*	-32.208209	115.839397	1400
Seven	*Eucalyptus gomphocephala*	-32.211863	115.815605	1400
Seven	*Eucalyptus gomphocephala*	-32.208768	115.799065	1440
Seven	*Eucalyptus gomphocephala*	-32.211822	115.806509	1510
Seven	*Eucalyptus gomphocephala*	-32.208032	115.797523	1530
Seven	*Eucalyptus gomphocephala*	-32.212425	115.829879	1750
Seven	*Eucalyptus gomphocephala*	-32.210517	115.807348	1960
Seven	*Unknown Eucalypt sp.*	-32.208988	115.841223	650
Seven	*Unknown Eucalypt sp.*	-32.208949	115.841757	680
Seven	*Eucalyptus gomphocephala*	-32.208023	115.797527	900
Seven	*Introduced Eucalypt sp.*	-32.209636	115.859562	520
Seven	*Introduced Eucalypt sp.*	-32.209543	115.859798	940
Seven	*Eucalyptus wandoo*	-32.209291	115.860343	510
Seven	*Eucalyptus rudis*	-32.21795759	115.7865989	730
Seven	*Eucalyptus rudis*	-32.21863125	115.7863611	560
Seven	*Eucalyptus rudis*	-32.21808156	115.7862851	600
Seven	*Eucalyptus rudis*	-32.21770049	115.7862616	690
Seven	*Eucalyptus rudis*	-32.21769874	115.786058	900
Seven	*Eucalyptus rudis*	-32.21458466	115.786581	670
Seven	*Eucalyptus rudis*	-32.21460803	115.7865994	750
Seven	*Eucalyptus rudis*	-32.21445717	115.7856514	550
Seven	*Eucalyptus gomphocephala*	-32.21434093	115.7864109	510
Seven	*Eucalyptus gomphocephala*	-32.21316405	115.7859441	610
Seven	*Eucalyptus gomphocephala*	-32.21299907	115.7859689	1140
Seven	*Eucalyptus gomphocephala*	-32.21178731	115.7859481	540
Seven	*Eucalyptus gomphocephala*	-32.21158107	115.785914	620
Seven	*Eucalyptus gomphocephala*	-32.21158739	115.786064	860
Seven	*Eucalyptus marginata*	-32.2114928	115.7864553	830
Seven	*Eucalyptus marginata*	-32.20758046	115.7868624	520
Seven	*Eucalyptus marginata*	-32.20753733	115.7868137	500
Seven	*Eucalyptus marginata*	-32.20740232	115.7864644	570
Seven	*Eucalyptus marginata*	-32.20738687	115.7869331	640
Seven	*Eucalyptus gomphocephala*	-32.20724888	115.786972	570
Seven	*Eucalyptus gomphocephala*	-32.20701609	115.7867412	670
Seven	*Eucalyptus marginata*	-32.20699703	115.7864875	650
Seven	*Eucalyptus gomphocephala*	-32.20674423	115.7865109	900
Seven	*Eucalyptus gomphocephala*	-32.20645489	115.7865418	520
Seven	*Eucalyptus gomphocephala*	-32.20642228	115.7864778	1150
Seven	*Eucalyptus gomphocephala*	-32.20505528	115.7831944	550
Seven	*Eucalyptus gomphocephala*	-32.20473229	115.7830288	560
Seven	*Eucalyptus gomphocephala*	-32.20464115	115.7829882	530
Seven	*Eucalyptus gomphocephala*	-32.20393045	115.7827054	550
Seven	*Eucalyptus rudis*	-32.20792695	115.7812395	730
Seven	*Eucalyptus rudis*	-32.20809635	115.7803303	680
Seven	*Eucalyptus gomphocephala*	-32.20920722	115.7760477	620
Seven	*Eucalyptus gomphocephala*	-32.20920261	115.7758305	610
Seven	*Eucalyptus gomphocephala*	-32.20920007	115.7757412	740
Seven	*Eucalyptus gomphocephala*	-32.2091998	115.7756045	770
Seven	*Eucalyptus gomphocephala*	-32.2061628	115.7837499	540
Seven	*Eucalyptus rudis*	-32.20762085	115.784428	630
Seven	*Eucalyptus rudis*	-32.20776515	115.7845478	560

Category[1]	Species	Latitude	Longitude	DBH (mm)
Seven	*Eucalyptus rudis*	-32.20778007	115.784516	710
Seven	*Eucalyptus rudis*	-32.20836527	115.784777	700
Seven	*Eucalyptus rudis*	-32.20843301	115.784788	730
Seven	*Eucalyptus rudis*	-32.2087575	115.7849231	1020
Seven	*Eucalyptus rudis*	-32.20875833	115.78494	830
Seven	*Eucalyptus rudis*	-32.20884985	115.7849775	590
Seven	*Eucalyptus rudis*	-32.20887748	115.7850049	520
Seven	*Eucalyptus rudis*	-32.2092437	115.7851564	520
Seven	*Eucalyptus rudis*	-32.20933762	115.7852249	740
Seven	*Eucalyptus gomphocephala*	-32.20972518	115.7858592	500
Seven	*Eucalyptus gomphocephala*	-32.21007704	115.785942	690
Seven	*Eucalyptus gomphocephala*	-32.21004929	115.7859298	620
Seven	*Corymbia calophylla*	-32.21000613	115.7860102	500
Seven	*Eucalyptus gomphocephala*	-32.20758147	115.7840265	810

[1] Category as defined by the Main Roads Environmental Factsheet for Black Cockatoo Impact Assessment (2023).

Appendix 20

SRE Desktop and Survey Records

Family	Species	Conservation Status		WAM	ALA	SRE Status
		BC Act	EPBC Act			
Mygalomorphae						
Actinopodidae	*Missulena occatoria*			●	●	Not SRE
	Missulena granulosa			●	●	Not SRE
	Missulena hoggi			●	●	Not SRE
	Missulena `MYG198`			●		Potential SRE
	Missulena `black chelicerae`			●		Undetermined
	Missulena `T132965`			●		Potential SRE
	Missulena insignis			●		Not SRE
Euagridae	*Cethegus fugax*			●	●	Not SRE
Anamidae	*Aname* `mainae`			●		Potential SRE
	Aname mainae				●	Potential SRE
	Aname `metropolitan`			●		Not SRE
	Aname `UBS sp. 2`			●		Potential SRE
	Aname `false black wish-bone`			●		Potential SRE
	Aname `coastal plain`			●		Potential SRE
	Aname `MYG633`			●		Potential SRE
	Aname `Brennan sp. 1`			●		Potential SRE
	Aname `Brennan sp. 2`			●		Potential SRE
	Aname `MYG496`			●		Potential SRE
	Aname `MYG121`			●		Potential SRE
	Aname `MYG119`			●		Potential SRE
	Aname `MYG496`			●		Potential SRE
	Aname `MYG405`			●		Potential SRE
	Aname `MYG858`			●		Potential SRE
	Aname `MYG855`			●		Potential SRE
	Aname `MYG010`			●		Potential SRE
	Aname `MYG850`			●		Potential SRE
	Aname `MYG383`			●		Potential SRE
	Kwonkan `MYG060`			●		Potential SRE
	Kwonkan `MYG339`			●		Potential SRE

Anamidae	*Kwonkan* `MYG852`			●		Potential SRE
	Prosherm acha subarm ata			●	●	Undetermined
	Prosherm acha auropilosa				●	Undetermined
	Prosherm acha m aculata				●	Undetermined
	Prosherm acha tepperi				●	Not SRE
	Prosherm acha `MYG485`			●		Potential SRE
	Prosherm acha `MYG449`			●		Potential SRE
	Prosherm acha `MYG596`			●		Potential SRE
	Prosherm acha `MYG495`			●		Potential SRE
	Prosherm acha `MYG658`			●		Potential SRE
	Prosherm acha `tepperi`			●		Potential SRE
	Teyl `UBS Cat sp. 149`			●		Potential SRE
	Teyl `UBS Cat sp. 148`			●		Potential SRE
	Teyl `MYG249`			●		Potential SRE
	Teyl `waldockae`			●		Potential SRE
	Teyl sam peyae			●		Known SRE
	Teyl `Brennan sp. 2`			●		Potential SRE
	Teyl `MYG241`			●		Potential SRE
	Teyl `luculentus`			●		Undetermined
	Teyl `MYG693`	CR		●		Known SRE
	Teyl `MYG851`			●		Undetermined
Barychelidae	*Idiom m ata blackwalli*			●	●	Not SRE
	Idiom m ata `flare tip`			●		Undetermined
	Idiom m ata `UBS Cat sp. 123`			●		Potential SRE
	Synothele m ichaelseni			●		Not SRE
	Synothele m ullaloo			●	●	Potential SRE
	Synothele harveyi			●	●	Not SRE
	Synothele longbottom i			●	●	Not SRE
	Synothele durokoppin			●	●	Not SRE
	Synothele rastelloides			●	●	Not SRE
	Synothele rubripes			●		Known SRE
	Synothele taurus				●	Known SRE

	Aurecocrypta lugubris			●	●	Not SRE
Idiopidae	*Idiosoma cupulifex*				●	Not SRE
	Idiosoma jarrah			●	●	Known SRE
	Idiosoma rhaphiduca			●	●	Not SRE
	Idiosoma schoknechtorum	P3		●	●	Not SRE
	Idiosoma sigillatum	P3		●	●	Known SRE
	Bungulla parva			●	●	Known SRE
	Bungulla harrisonae			●	●	Known SRE
	Bungulla disrupta			●	●	Not SRE
	Eucyrtops latior			●	●	Not SRE
	Eucyrtops `MYG142`			●		Potential SRE
	Eucyrtops `cf T118362`			●		Potential SRE
	Eucyrtops `cf. T118377`			●		Potential SRE
	Eucyrtops `MYG146`			●		Potential SRE
	Euoplos inornatus	P3		●	●	Not SRE
	Euoplos `minimus`			●		Undetermined
	Gaius villosus			●	●	Not SRE
	Gaius cooperi			●	●	Not SRE
Pseudoscorpiones						
Atemnidae	*Oratemnus curtus*			●	●	Not SRE
Cheliferidae	*Protochelifer* `boddington`			●		Potential SRE
Chernetidae	*Balgachernes occultus*			●	●	Not SRE
	Haplochernes ramosus			●		Not SRE
	Lamprochernes savignyi			●	●	Not SRE
Chthoniidae	*Austrochthonius* `PSE188, similis`			●		Potential SRE
	Austrochthonius `PSE191, grandis`			●		Potential SRE
	Austrochthonius muchmorei			●	●	Not SRE
	Austrochthonius australis			●	●	Not SRE
	Austrochthonius `sp. nov. 4`			●		Potential SRE
	Lagynochthonius australicus			●	●	Not SRE
Garypidae	*Synsphyronus magnus*			●	●	Not SRE
	Synsphyronus mimulus				●	Not SRE

	Synsphyronus callus			●	●	Not SRE
Garypinidae	*Aldabrinus rixi*			●		Undetermined
	Protogarypinus giganteus			●	●	Not SRE
	Solinus pingrup			●		Undetermined
Geogarypidae	*Geogarypus taylori*			●	●	Not SRE
Olpiidae	*Beierolpium* `sp. 8/4`			●		Potential SRE
	Beierolpium bornemisszai			●	●	Not SRE
Pseudotyrannochthoniidae	*Pseudotyrannochthonius* `Darling Range 1`			●		Potential SRE
	Pseudotyrannochthonius `Darling Range 2`			●		Potential SRE
	Pseudotyrannochthonius `Darling Range 3`			●		Potential SRE
Syarinidae	*Ideoblothrus* `sp. Perth`			●		Potential SRE
Withiidae	*Withius piger*			●		Not SRE
Scorpiones				●		
Bothriuridae	*Cercophonius sulcatus*			●	●	Not SRE
	Cercophonius granulosus			●	●	Not SRE
	Cercophonius squama				●	Not SRE
Buthidae	*Isometroides* `vescus`			●		Not SRE
	Isometroides `jarrah`			●		Undetermined
	Lychas `austroccidentalis`			●		Not SRE
	Lychas splendens			●		Not SRE
	Lychas `majeri`			●		Potential SRE
	Lychas `prendinii`			●		Potential SRE
	Lychas `majerorum`			●		Potential SRE
	Lychas jonesae			●	●	Not SRE
	Lychas marmoreus				●	Not SRE
	Lychas variatus				●	Not SRE
Urodacidae	*Urodacus novaehollandiae*			●	●	Not SRE
	Urodacus `armatus`			●		Undetermined
	Urodacus armatus				●	Not SRE
	Urodacus planimanus			●	●	Not SRE
	Urodacus manicatus				●	Not SRE
	Urodacus `woodwardii`			●		Undetermined

	Urodacus hartmeyeri			●	●	Not SRE
Diplopoda						
Dalodesmidae	*Sphaerotrichopus* `S-W forests`			●		Undetermined
	Sphaerotrichopus ramosus			●	●	Known SRE
Iulomorphidae	*Atelomastix nigrescens*			●	●	Not SRE
	Dinocambala ingens			●	●	Potential SRE
	Podykipus collinus			●	●	Not SRE
	Podykipus leptoiuloides			●	●	Not SRE
	Podykipus `DIP241`			●	●	Potential SRE
Paradoxosomatidae	*Akamptogonus novarae*			●	●	Not SRE
	Antichiropus variabilis			●	●	Not SRE
	Antichiropus whistleri			●	●	Known SRE
	Antichiropus `DIP082`			●		Potential SRE
	Antichiropus `DIP126`			●		Potential SRE
	Antichiropus `DIP112, Norman Road 1`			●		Known SRE
	Antichiropus `DIP078`			●		Potential SRE
	Antichiropus `DIP097, marradong`			●		Known SRE
	Antichiropus `DIP046, boddington`			●		Potential SRE
	Antichiropus `DIP094, goldmine`			●		Potential SRE
	Antichiropus `DIP166 whistlepipe`			●		Potential SRE
	Antichiropus `DIP062, darling`			●		Potential SRE
	Antichiropus `DIP168`			●		Potential SRE
	Antichiropus `DIP171, ellisbrook`			●		Potential SRE
	Antichiropus minimus			●	●	Undetermined
	Antichiropus `DIP143, serpentine`			●		Potential SRE
	Antichiropus `DIP224, dwellingup`			●		Potential SRE
	Antichiropus `DIP135, minivale2`			●		Potential SRE
	Antichiropus `DIP220, mini`			●		Potential SRE
	Antichiropus `DIP221, Myara`			●		Potential SRE
	Oxidus gracilis			●	●	Not SRE
	Solaenodolichopus pruvoti			●	●	Not SRE
Polyxenidae	*Unixenus mjoebergi*			●	●	Not SRE

Polyxenidae	*Unixenus attemsi*			●	●	Not SRE
Synxenidae	*Phryssonotus novaehollandiae*			●	●	Not SRE
Chilopoda						
Chilenophilidae	*Eurytion incisunguis*			●	●	Undetermined
	Ribautia imparata			●		Undetermined
	Ribautia repanda			●	●	Not SRE
Cryptopidae	*Cryptops* `cf. australis`			●		Undetermined
Geophilidae	*Tuoba pallida*			●	●	Not SRE
Mecistocephalidae	*Mecistocephalus tahitiensis*			●	●	Not SRE
Oryidae	*Orphnaeus brevilabiatus*			●	●	Not SRE
Onychophora						
Peripatopsidae	*Occiperipatoides gilesii*			●	●	Not SRE
Gastropoda						
Bothriembryontidae	*Bothriembryon bulla*			●	●	Not SRE
	Bothriembryon kendricki			●	●	Not SRE
	Bothriembryon cf. *bradshawi* ❊	P3		●		Undetermined
	Bothriembryon indutus			●	●	Not SRE
	Bothriembryon kingii				●	Not SRE
	Bothriembryon balteolus				●	Not SRE
	Bothriembryon melo				●	Not SRE
	Bothriembryon cf. *kendricki*			●		Undetermined
	Bothriembryon onslowi					Not SRE
Punctidae	*Paralaoma servilis*			●	●	Not SRE
	Westralaoma `sp. Indet.`			●		Potential SRE
	Magilaoma `imperforata` n.sp.			●		Undetermined
Pupillidae	*Omegapilla australis*			●	●	Not SRE
Succineidae	*Succinea* cf. *contenta*			●		Undetermined
	Succinea contenta			●	●	Not SRE
	Succinea scalarina			●	●	Not SRE
Isopoda				●		
	Acanthodillo `sp. 1`			●		Potential SRE
	Acanthodillo `sp. 2`			●		Potential SRE

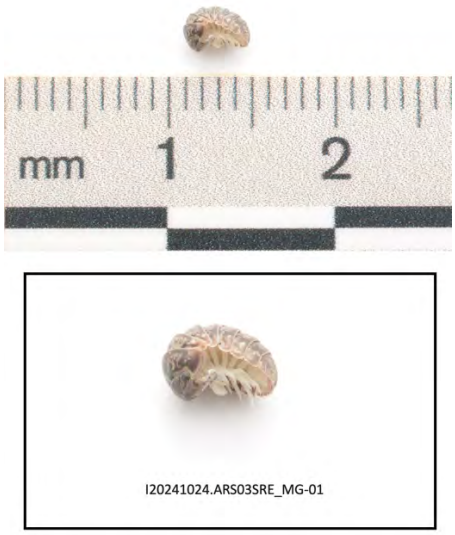
Armadillidae	*Acanthodillo flavus*			●		Potential SRE
	Buddelundia `sp. 4`			●		Potential SRE
	Buddelundia `sp. 5 Worsley`			●		Potential SRE
	Buddelundia `sp. 1`			●		Potential SRE
	Buddelundia `sp. 3`			●		Potential SRE
	Buddelundia `sp. 5`			●		Potential SRE
	Buddelundia `sp. 7`			●		Potential SRE
	Buddelundia cinerascens			●	●	Known SRE
	Buddelundia inaequalis			●	●	Known SRE
	Buddelundia nigripes			●	●	Not SRE
	Buddelundia nitidissima			●	●	Not SRE
	Buddelundia opaca			●	●	Known SRE
	Cubaris `sp. 1`			●		Potential SRE
	Cubaris `sp. 2`			●		Potential SRE
	Pseudodiploexochus `sp. 1`			●		Potential SRE
	Pseudodiploexochus `sp. 2`			●		Potential SRE
	Spherillo `sp. 5`			●		Undetermined
	Spherillo `sp. 2`			●		Undetermined
	Spherillo `sp. 3`			●		Undetermined
	Spherillo `sp. 4`			●		Undetermined
Philosciidae	*Laevophiloscia* `sp. 1`			●		Potential SRE
	Laevophiloscia `sp. 2`			●		Potential SRE
	Laevophiloscia cf. *perlata*			●		Undetermined
	Laevophiloscia cf. *yalgooensis*			●		Undetermined
	Laevophiloscia perlata			●	●	Not SRE
	Laevophiloscia yalgooensis			●	●	Not SRE
	Philosciidae `sp.S`			●		Undetermined
Platyarthridae	*Trichorhina* `sp. 1`			●		Potential SRE
	Trichorhina `sp. 2`			●		Potential SRE
	Trichorhina `sp. 3`			●		Potential SRE
Annelida				●		
	Kerria nichollsi			●		Not SRE

Megascolecidae	*Megascolex imparicystis*			●	●	Known SRE
	Plutellus candidus			●		Known SRE
	Woodwardiella affinis			●		Undetermined

※ Type material carries formal conservation Listing

Invertebrate Records from Anketell Road SRE Survey

- Camaenid snail
- *Microxeromagna* cf. *lowei* (Potiez & Michaud, 1838) in the family Geomitridae.
- An introduced species and is established in Western Australia and Australia. The Atlas of Living Australia has many records. (C. Whisson, pers. comm.)



- Terrestrial isopod
- *Buddelundia* species 7
- Distribution over 10,000km^2 as per Judd, S. (2004): Terrestrial isopods (Crustacea: Oniscidea) and biogeographical patterns from South-Western Australia

- Buthid scorpion
- *Lychas 'austroccidentalis'*
- A very widespread species in the SW (E. Volschenk, pers. comm.).

Known SREs Identified from Desktop Study

Teyl sampeyae

The mygalomorph species *Teyl sampeyae* is a member of the *damsonoides*- species group and is known only from the Mount Cooke area in the Darling Range, in the northern Jarrah Forest bioregion. This species is considered unlikely to occur on the Swan Coastal Plain. Current knowledge regarding the ecology and life history of this species is largely lacking resolution, other than that the holotype male was collected in early spring indicating the potential reproductive activity period (Rix et al. 2023).

Teyl `MYG693`

The mygalomorph species *Teyl* sp. 'MYG693' also known colloquially as the Minnivale Trapdoor Spider is an undescribed species. An assessment of the status of this species conducted by Harvey and Main (1997) found only a single extant population of this species, 1.6 km west of Minnivale, Western Australia. The preferred habitat of the species is described as 'perched' swamp land on high terrain. It is thought that the historical distribution of this species covered a narrow area between Minnivale and Mellanbye. The only known extant population of the species is located on a in the Western Australian Wheatbelt near the town of Minnivale.

Synothele rubripes

Synothele rubripes is a species of mygalomorph spider in the Barychelidae family. The species occurs in south-west Western Australia. The type locality is 16 km south of Dwellingup on the Darling Scarp. This species is unlikely to occur on the Swan Coastal Plain. Currently, little is known about the species ecology and life history (Raven, 1994).

Synothele taurus

Synothele taurus is a species of mygalomorph spider in the Barychelidae family. The species is currently only known eastern Swan Coastal Plain. The type locality is 19 km north of Bullsbrook. Records of the species are largely confined to a trip of area between Bullsbrook and Muchea. No records of the species have been identified on the western Swan Coastal Plain. Currently, little is known about the species ecology and life history (Raven, 1994).

Idiosoma jarrah

Indiosoma jarrah is a species of mygalomorph spider the Idiopidae family. The species is a member if the *nigrum* complex. *Idiosoma jarrah* has an estimated known extent of occurrence of 3,907 km^2. The species is only known to occur in mixed jarrah (*Eucalyptus marginata*) and marri (*Corymbia calophylla*) forest on and east of the Darling Escarpment, from Bullsbrook south to at least Boddington and Arthur River. This species has not been recorded on the western Swan Coastal Plain (Rix et al. 2018).

Idiosoma sigillatum

Idiosoma sigillatum is a species of mygalomorph spider the Idiopidae family. The species is the dominant idiopid trapdoor spider on the Swan Coastal Plain. Once widespread throughout the Perth region, the species still occurs in remnant habitats such as, Kings Park, Bold Park, and Shenton Park bushland. Typically, burrows of this species occur in *Banksia* woodland and heathland on sandy soils, displaying a 'moustache-like' arrangement of twig-lines The current extent of distribution of the species lies along the Swan Coastal Plain of southwestern Western Australia, from Dalyellup north to at least Ledge Point as well as Rottnest Island and Garden Island. The eastern limit of its range along the sandy foothills of the Darling Escarpment, from Boyanup north to at least Gingin. The known extent of occurrence of *Idiosoma sigillatum* is 7,100 km^2 with the coastline as western margin including Rottnest and Garden Islands, and SWA bioregion boundary as eastern margin. The discrete area of occupancy within that range is estimated to be < 3,000 km^2 (Rix et al. 2018).

Bungulla parva

Bungulla parva is a species of mygalomorph in the Idiopidae family. The species, (formerly known by WAM identification code 'MYG151') known only from the northern Jarrah Forest bioregion of south-western Australia, from Jarrahdale south to Mount Cooke. Little is known of the ecology and life history of this extremely rare species. Active male specimens have been recorded wandering in search of females in winter and spring. No records of this species have been identified from the Swan Coastal Plain (Rix et a. 2018).

Known SREs Identified from Desktop Study

Bungulla harrisonae

Bungulla harrisonae is a species of mygalomorph in the Idiopidae family. This species is regarded as extremely rare, known only from John Forrest National Park, in the northern jarrah forest situated to the east of Perth. Little is known of the ecology and life history of the of this species. Authors Rix et al. 2018 describe the unusual morphology of the burrow, the latter of which consists of a highly camouflaged, convex lid with a broadly flanged lower 'lip' around the burrow entrance (Rix et a. 2018). No records of this species have been identified from the Swan Coastal Plain.

Sphaerotrichopus ramosus

Sphaerotrichopud ramosus is a species of Millipede (Myriapoda) from the family Dalodesmidae. The original description being over 100 years old, states the type series to collected from, sites such as Wooroloo and Mundaring and Pickering Brook, suggest the species may be largely confined to the Darling Scarp, however, a single record from Rottnest Islands stands as an outlier. Most recently, several specimens were recorded from a location near Orange Grove. Currently, no records have been identified from the western Swan Coastal Plain (Attems, 1911).

Antichiropus ` DIP112, Norman Road 1`

Antichiropus ` DIP112, Norman Road1` is a species of millipede (Myriapoda) from the family Paradoxosomatidae. The species remains formally undescribed, and as such, no information regarding the species ecology and life history has been published. Western Australian Museum records indicate the species occupies a highly localised distribution, with all records coming from small area in Cardup, WA. There have been no records observed anywhere west of this location.

Antichiropus ` DIP097, marradong`

Antichiropus ` DIP097, marradong` is a species of millipede (Myriapoda) from the family Paradoxosomatidae. Little is known about this undescribed species, although, collection data indicated the species has been recorded across several habitat types including, Jarrah forrest, Wandoo woodland and granite outcrops. no records of the species have been identified beyond a small area of the Darling Scarp. Western Australian Museum records indicate the species occupies a highly localised distribution, with all records coming from 15 km northwest of Boddington, WA.

Buddelundia cinerascens / Buddelundia inaequalis

Buddelundia cinerascens and *Buddelundia inaequalis* are Isopods in the family Armadillidae. The two species were described by Budde-Lund, 1912 from the westerly Swan Coastal Plain and adjacent offshore island. However, Budde-Lund's original descriptions lack significant taxonomic detail (incomplete), rendering distinction between the two descriptions and type material very difficult. As such, it is likely the two holotype specimens designated to *B. cinerascens* and *B. inaequalis* represent the same species. Western Australia Museum records show both species exhibit a restricted distribution confined to the westerly margin of the Swan Coastal plain and Rottnest Island. Records suggest this species may occupy a range of habitats and microenvironments indicating the species may be widespread within the area.

Buddelundia opaca

Buddelundia opaca is an Isopod in the family Armadillidae. This species is known predominately from saxicoline areas of the Northern Jarrah Forest Sub Bioregion. The distribution of the species is known from the Darling scarp, from Bindoon south to Swan View, Mt Dale and Serpentine. Western Australian Museum records suggest, the species often utilizes granite rocks and logs as refugia. *Buddelundia opaca* has not been recorded from the sandy habitats of the Swan Coastal Plain.

Megascolex imparicystis

Megascolex imparicystis is a very large species of earthworm (Annelida) in the family Megascolecidae. This species has been recorded from the northern Swan Coastal Plain in metropolitan areas as new suburbs expand from coastal heath, *Banksia* woodland as well as, from reserves and agricultural land. The total extent of distribution of the species is largely confined to the northern Swan Coastal Plain, north of the metropolitan area, this species still occurs in remnant habitat. Specimens have also collected from pasture near Lancelin and Dandarragan. *Megascolex imparicystis* has not been collected south of the Swan River or in the Darling Range (Abbott, 1982).

Known SREs Identified from Desktop Study

Plutellus candidus

Plutellus candidus is a large species of earthworm (Annelida) in the family Megascolecidae. The species remains extremely rare with only a small number of specimens ever being recorded and submitted to the Western Australian Museum. Little detail regarding the species ecology and life history has been published, other than what is considered to be the type material was collected from Roleystone, WA. No records of this species have been identified from the Swan Coastal Plain (Morgan, 1983); (Jamieson, 1971).