TRONOX MANAGEMENT PTY LTD

COOLJARLOO WEST TITANIUM MINERALS PROJECT

FLORA AND VEGETATION ASSESSMENT

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EXECUTIVE SUMMARY

Tronox Management Pty Ltd (Tronox) is proposing to expand its current mining operations to Cooljarloo West, which includes the dredge mining of titanium bearing (and other) minerals from the Woolka Road deposits. This proposal is being assessed by the way of a Public Environmental Review (PER). Tronox commissioned Woodman Environmental Consulting Pty Ltd (Woodman Environmental) to conduct a Level 2 flora and vegetation survey as defined by the Environmental Protection Authority (EPA) Guidance Statement No. 51 (EPA 2004), to support an impact assessment under the Environmental Protection Act 1986 for the proposed mining operation.

A method statement was prepared by Woodman Environmental (2012a) to provide a guide in the assessment of impacts on flora and vegetation, including cumulative impacts, associated with Tronox's proposed mining activities at Cooljarloo West. This report comprises a baseline flora and vegetation study over the Cooljarloo West Study Area. The objective of the report is to provide a detailed description of the flora and vegetation of the Study Area and inform the definition and quantification of potential impacts of the project on these environmental aspects.

The study comprised floristic assessment of the majority of the Study Area during Spring 2012. Data from previous mapping projects and searches for conservation significant species were also incorporated into the study to provide a more complete species list, larger area of vegetation mapping and understanding of conservation significant flora in the Study Area.

This study identified total of 1156 discrete vascular flora taxa and 1 putative hybrid have been recorded within or immediately adjacent to the Study Area, representing 86 families and 318 genera. This includes 1063 native taxa, and 93 introduced (weed) taxa. A total of 67 discrete conservation significant flora taxa (CS flora taxa) have been recorded from within the Study Area during both the 2012 and historical surveys, including four Threatened (DRF) taxa as listed by DPaW (Strijk 2013; DPaW 2013a):

- *Andersonia gracilis*
- *Anigozanthos viridis* subsp. *terraspectans*
- *Macarthuria keigheryi*
- *Paracaleana dixonii*

The local populations of six of these CS flora taxa were ranked as being of High regional conservation significance, including the Threatened flora listed above, and:

- *Diuris* ?*eburnea* (P1)
- *Stylidium aceratum* (P2)

A total of 93 introduced taxa are known from the Study Area, of which two (*Echium plantagineum* (Paterson's Curse) and *Moraea flaccida* (One leaf Cape Tulip) are Declared Pests under the Biosecurity Management Act 2007 (BAM Act).

The majority of the Study Area consists of large areas of intact native vegetation and was mapped being condition ranking 2 (Excellent) condition with little to minor disturbance (primarily historical drilling lines and tracks), with minor non-invasive introduced taxa present. Wetland areas appear to be more degraded than vegetation on other landforms in the

Study Area owing to their moister nature favouring weed establishment, as well as proximity to neighbouring cleared agricultural areas.

A total of 18 Vegetation Types (VTs) (including one VT being split into two subgroups), comprising of two super-groups were described and mapped within the Study Area.

Supergroup 1 comprises of VTs 1 – 16, and consisted of a variety of structural types and floristic compositions, related by positions on areas with greater moisture availability, including wetland habitats, other areas of higher moisture retention (soils with clay content or impeding layer) or areas underlain by limestone. VTs forming Supergroup 1 were mapped over 26 % of the Study Area.

Supergroup 2 comprises of VTs 17 and 18 and occupies approximately 66 % of the Study Area. This group consists of Banksia Woodland to Shrubland with emergent Banksia on undulating plains and dunes of deeper sand. VTs within Super-group 2 generally grouped together due to the presence of taxa which typically inhabit dry sandy soils, and was mapped in areas from open depressions (not water gaining), plains, and lowerslopes through to upperslopes and dune crests.

The local significance of all VTs were ranked Moderate, High or Very High, based on their varying mapped presence in the Study Area and their provision of habitat for significant CS flora taxa. The local conservation significance of the majority of vegetation within the Study Area was ranked Moderate (78.1 % of the Study Area, VTs 1, 17 and 18); 11.0 % of the Study Area was ranked High (VTs 2, 3, 5, 7, 8, 11, 13 and 15); and 3.2 % of the Study Area was ranked Very High (VTs 4, 6, 9a, 9b, 10, 12, 14, 16).

No Threatened Ecological Communities (TECs) or Priority Ecological Communities (PECs) as listed under the Wildlife Conservation Act (1950) (WC Act) or Environment Protection and Biodiversity Conservation Act (1999) (EPBC Act) are known from the Study Area, and the VTs mapped within the Study Area are not representative of any listed TECs or PECs.

In the absence of a regional quadrat dataset covering the Study Area, the vegetation types mapped have been compared against historical vegetation descriptions undertaken in nearby conservation reserves. From this, it is likely that VTs 12, 13, 14 and 16 are regionally significant, with no known locations outside of the Study Area.

1. INTRODUCTION

1.1 Project and Level of Assessment

Tronox Management Pty Ltd (Tronox) (formerly Tiwest) operates a mineral sand mine located at Cooljarloo, approximately 160 kilometres (km) north of Perth on the northern tip of the Swan Coastal Plain in Western Australia. Mining commenced at Cooljarloo in 1989 at Mullering Farm, extending both south (South Mine) and north (North Mine) of the original farm area. The North Mine extended further north into the Falcon tenement in 2007. Both dry (strip) and dredge mining processes have been adopted across the project area.

Tronox is proposing to expand its current mining operations to Cooljarloo West, which includes the dredge mining of titanium bearing (and other) minerals from the Woolka Road deposits - Woolka, Harrier and Kestrel, and all associated supporting activities. This proposal is being assessed by the way of a Public Environmental Review (PER) because it has the potential to impact upon significant environmental factors including; highly complex native vegetation, the known presence of a large number of conservation significant (CS) flora taxa (including several threatened (T) – Declared Rare Flora (DRF) taxa), Carnaby's Cockatoo feeding habitat, habitat for other Threatened fauna (including the Western Ground Parrot) and complex wetland and groundwater systems in the Cooljarloo area.

As part of the PER an in-depth understanding of the vegetation, including the presence and potential habitat for CS flora taxa is required. Tronox commissioned Woodman Environmental Consulting Pty Ltd (Woodman Environmental) to conduct a Level 2 flora and vegetation survey as defined by the Environmental Protection Authority (EPA) Guidance Statement No. 51 (EPA 2004), to support an impact assessment under the *Environmental Protection Act 1986* for the proposed mining operation.

1.2 The Cooljarloo West Study Area

The Cooljarloo West project area is located immediately west of the existing Tronox Cooljarloo mining operation. The lack of regional vegetation mapping on the northern Swan Coastal Plain at a scale suitable to undertake flora and vegetation impact assessment prompted Tronox to define a Study Area for the flora and vegetation assessment that incorporates the proposed Cooljarloo West operations area and also sufficient surrounding areas to provide a suitable local/sub-regional context within which potential impacts on flora and vegetation may be assessed. In addition, Tronox incorporated areas surrounding the existing Cooljarloo operations to allow cumulative impacts to be assessed as far as practicable. The area of assessment in this document includes the proposed area of disturbance at Cooljarloo West, the existing Cooljarloo mining tenements including Falcon and surrounding native vegetation primarily of the Bassendean sands (the Study Area) (Figure 1). The Study Area occupies an area of approximately 34 424 hectares (ha), with dimensions of approximately 26 km from east to west and 24 km from north to south. The Brand Highway is located on the eastern boundary of the Study Area, with the northern boundary formed by Wongonderrah Road. The Lancelin Defence Training Area (DTA) is located on the southern boundary of the Study Area, with private property and then the Nambung National Park and Wanagarren Nature Reserve to the west and south-west.

The land tenure of the Study Area is mainly Unallocated Crown Land (UCL), which is managed by the Department of Parks and Wildlife (DPaW). Private property, Travelling

Stock Route and two Nature Reserves (Wongonderrah Nature Reserve and Reserve A40916) (also managed by DPaW) are also located within the Study Area (Figure 1). Both areas of intact native vegetation as well as cleared areas for roads and mining (including the Falcon mining area, sections of the North Mine and the South Mine) are located within the Study Area.

1.3 Study Design

Numerous flora and vegetation assessments have been undertaken throughout the Cooljarloo tenements, including plant community mapping and surveys for conservation significant flora taxa (CS flora taxa), including Threatened - Declared Rare Flora (T-DRF) and Priority Flora. Plant community mapping has predominantly been structurally based, with floristic mapping undertaken only in the Falcon area. These previous studies have been conducted for successive exploration and mining approvals over various portions of the current Study Area.

Based on existing knowledge of the Study Area, and a conceptual understanding of the mining proposal, a Level 2 Survey (Detailed) was identified as the appropriate investigation to support this impact assessment. This level of survey was determined to be appropriate based on a review of Table 2 of Guidance Statement No. 51, where the Bioregion Group is defined as Group 2 and the nature of the impact was considered to be Moderate during the desktop phase of reporting (EPA 2004). A Level 2 survey (Detailed) study consists of a background research/desktop study and reconnaissance survey, followed by a detailed survey of the Study Area.

A method statement including a desktop review of the flora and vegetation of the Study Area was undertaken by Woodman Environmental (2012a) to provide a guide in the assessment of impacts on flora and vegetation, including cumulative impacts, associated with Tronox's proposed mining activities at Cooljarloo West. The proposed methods were based on previous data collected within the Study Area. The results of the background research/desktop study are presented in Section 2 of this report, with the results of the detailed survey of the Study Area presented in Section 4.

This report is a baseline flora and vegetation study, providing comprehensive floristic vegetation mapping over the entire Study Area while incorporating existing data from all previous work, based on the methods presented in Woodman Environmental (2012a). The current study includes historic records of all CS flora taxa known from within the Study Area, to support future impact assessments and applications for clearing permits or approvals to mine.

1.4 Aims of the Study

The aim of this study was to describe the flora and vegetation values of the Study Area, in order to provide appropriate contextual information within a PER.

The overall objectives of the survey were to:

- Compile an inventory of vascular plant taxa present within the Study Area;
- Record and map locations of CS flora taxa including Threatened (Declared Rare Flora) (T-DRF) taxa, Priority Flora taxa and other taxa of particular conservation value such as range extensions, potentially new species to science and taxa of scientific interest that are present within the Study Area. The data to be presented

included results from all previous surveys as well as records of CS flora from the vegetation mapping studies undertaken in 2012;
- Define and map Vegetation Types (VTs) present within the Study Area based on floristics;
- Map the locations of introduced taxa and the condition of all areas of vegetation within the Study Area; and
- Discuss the local and regional conservation significance of the flora and vegetation of the Study Area.

2. BACKGROUND

2.1 Climate

The Study Area is located within the Swan Coastal Plain region in the South-West of Western Australia, near the border of the Northern Sandplains region. The area experiences a dry, warm Mediterranean climate with predominantly winter rainfall (300 – 500 mm) and seven to eight dry months per year (Beard 1990). The long term average precipitation for Dandaragan West (approximately 15 km east of the Cooljarloo minesite) is 604.3 mm (years 1953 – 2012); mean yearly rainfall at this station has not exceeded the mean in the years 2000 – 2012 (Bureau of Meterology (BOM) (2013).

Figure 2 displays average monthly maximum and minimum temperatures, and average monthly rainfall (data from 1990 – 2012 for rainfall data and 2005 – 2011 for temperature data), recorded for Cooljarloo West (Tronox 2013a). The highest average maximum temperature at Cooljarloo West occurs in January and February (approximately 34 °C) and the lowest average minimum temperature is experienced in July (18.8 °C). The average annual rainfall for this station is approximately 549 mm. Average monthly rainfall peaks from May to August with July receiving the highest level of rainfall (109.3 mm).

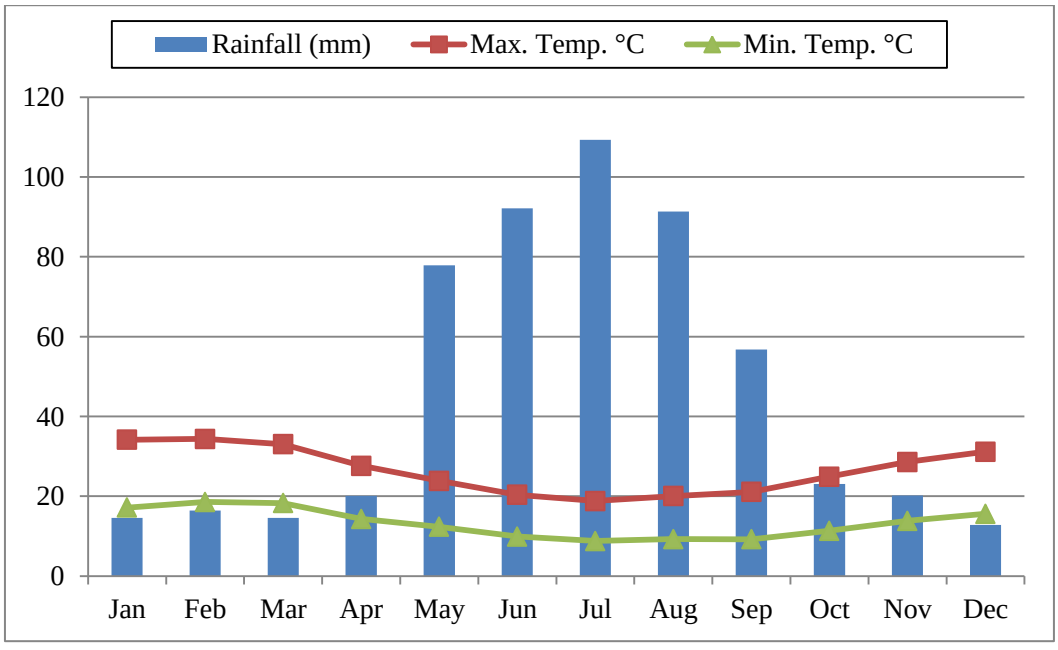


Figure 2: Mean Maximum and Minimum Temperatures (° Celsius) and Mean Rainfall (mm) for Cooljarloo West (Tronox 2013a)

2.2 Geology, Soils and Landforms

The Study Area is located within the Perth Basin, which extends from the Murchison River to the south coast of Western Australia, and is defined on the eastern boundary by the Darling Fault, with the western boundary lying under the continental slope. The Perth Basin contains a Silurian to Pleistocene sedimentary succession. According to Mory and Iasky (1996), the onshore Perth Basin is divided into 13 structural units, with the Study Area occurring on the Cadda Terrace and the Coomallo Trough units, which lie to the west of the Eneabba Fault.

Much of the Perth Basin is mantled by Quaternary deposits, up to 75 m in thickness, comprising mainly of laterite and associated eluvial sand, coastal limestone and associated dune sands, lake and swamp deposits, alluvium and colluvium (Playford *et al.* 1975). The Study Area is located on the Swan Coastal Plain physiographic unit, which is comprised of four north-south oriented systems; the Study Area located on the Bassendean Dune System (Mory and Iasky 1996). The Bassendean Dunes represents a belt of coastal dunes and other associated shoreline deposits with local concentrations of heavy-mineral sands, the identification of which from surface features is virtually impossible (Mory and Iasky (1996). This system is composed of Bassendean Sands, which are almost completely leached of calcium carbonate, represented by subdued hummocks of quartz sand with intervening swamps (Playford *et al.* 1975).

Figure 3 displays the approximate Study Area boundary atop the Dongara Hill River Geological Survey Map (Lowry *et al.* 1969). The majority of the Study Area consists of Bassendean Sand comprising ancient coastal quartz-sand dunes, scattered with areas of swamp and lacustrine deposits of sand, clay and diatomite. A small section in the south-east of the Study Area consists of alluvium with sand, silt and clay with the very north-east corner consisting of colluvium with quartz sand. Small areas of ferruginous laterite are also present in this section of the Study Area. The south western corner of the Study Area is comprised of coastal limestone covered by residual quartz sand with occasional patches of eolian limestone and kankar (Lowry *et al.* 1969).

At Cooljarloo West, the main stratigraphic units in terms of influence on vegetation are the Bassendean Sands and the Guildford Formation. The Bassendean Sands are generally between 1 – 3 m in thickness, consisting of very fine to coarse grained, well sorted quartz sand with some organic material; seasonal wetting and perching was indicated by moisture recorded in the sandy horizons as well as the presence of mottled clays at the base of this unit (Worley Parsons 2013). This layer is underlain by the Guildford Formation, which consists of blue-grey to brown silty to slightly sandy clay, which can be separated into an upper clayey facies (maximum thickness 27 m) and a lower sandier facies (nominally to 22 m thickness) (Worley Parsons 2013). The upper clay facies acts as an aquitard, with a perched water table above this unit; however, although the permeability of the clay facies is generally low, there are areas with significantly higher hydraulic conductivity where sandier portions of the Guildford Formation occur (Worley Parsons 2013); these sand lenses may form an important function in terms of soil moisture availability for vegetation (Syrinx 2013).

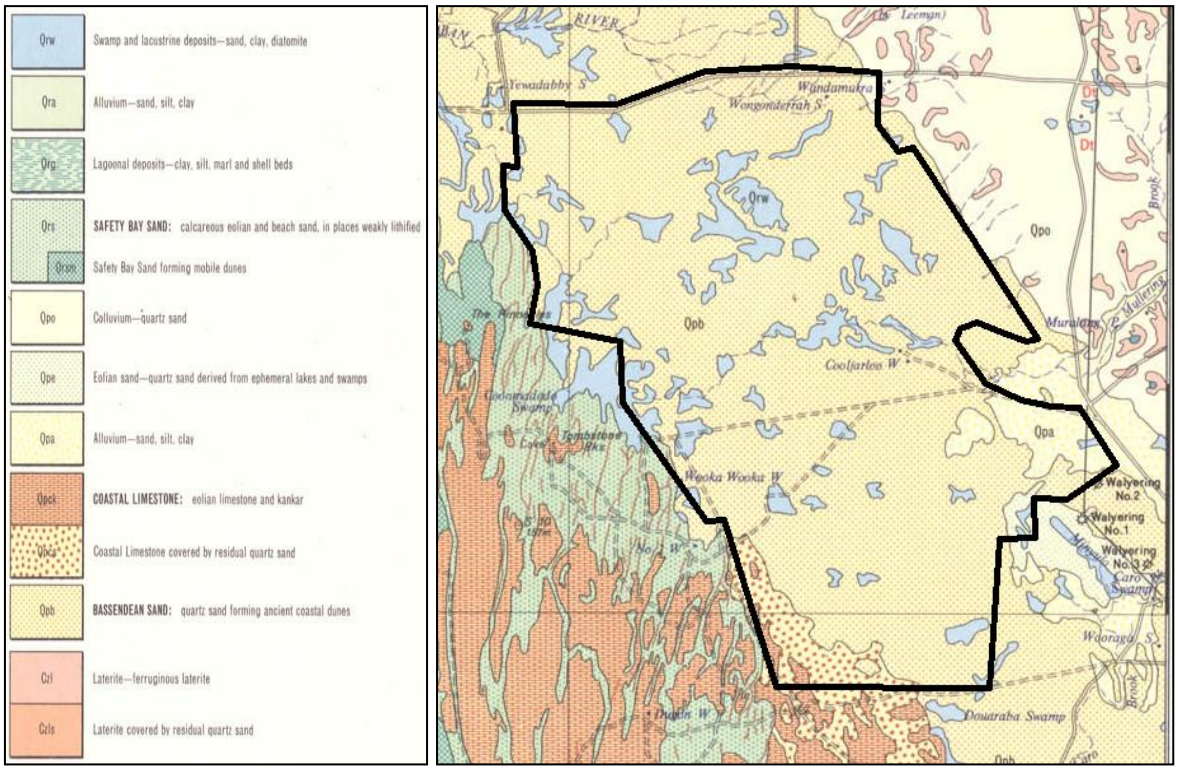


Figure 3: Geology of the Cooljarloo West Study Area (Lowry *et al.* 1969)

2.3 Regional Vegetation

The vegetation of the region was initially mapped at a broad scale (1:250 000) by Beard during the 1970's. This dataset has formed the basis of several regional mapping systems, including physiographic regions defined by Beard (1979); the biogeographical region dataset (IBRA) for Western Australia (Department of the Environment (DoE) 2013a); and vegetation system associations which are currently used to determine extents of clearing since European arrival (Government of Western Australia 2013).

2.3.1 Regional Vegetation Mapping by Beard (1979; 1990)

The Study Area is located in the Drummond Subdistrict of the Darling Botanical District (Swan Coastal Plain Subregion) (Beard 1979), the northern boundary of which is the northern limit of *Banksia* Low Woodland (Beard 1990). It traverses four physiographic systems within this subdistrict: the Bassendean, Guilderton, Jurien and Lesueur Systems (depicted in Figure 5). The Study Area is comprised predominantly of the Bassendean System with small areas of the Guilderton and Jurien Systems in the south-west and the Lesueur System in the north-east and south-east, reflecting the geological composition described in Section 2.2.

The Bassendean System is a flat undulating plain with low ridges of bleached sand interspersed with swampy flats underlain by calcareous soils. On well drained soils Banksia woodlands are dominant, with trees ranging from 3 – 6 m in height. Beard noted that in the Banksia Low Woodlands there was considerable consistency in the overstorey, but less so in the understorey (pg. 34, Beard 1979). The swampy areas give rise to heaths of a mix of species including *Acacia lasiocarpa*, *Melaleuca acerosa*, *Banksia telmatiaea*, *Calytrix aurea*, *Calytrix flavescens*, *Verticordia densiflora* and *Verticordia drummondii*. Samphires and *Frankenia* spp. are found within salt pans, whereas deeper swamps typically consist of woodlands of *Melaleuca rhaphiophylla*, *Eucalyptus rudis* and *Banksia littoralis* over species such as

Hypocalymma angustifolium, *Acacia rostellifera*, *Melaleuca thyoides* and *Casuarina obesa* (Beard 1979).

The Guilderton System features the recent sand dunes of the coastal belt and is the northern extension of the Quindalup Dunes of the Swan Coastal Plain. The dunes consist of white sands succeeded by thickets of *Acacia cyclops*. In areas with frequent burning the vegetation is typically heath or low scrub dominated by *Acacia lasiocarpa* and *Melaleuca acerosa*. On flats and interdunes the vegetation climaxes to thickets of *Allocasuarina lehmanniana* and on salt flats saltbush, samphire and *Melaleuca thyoides* are dominant. Unvegetated drift sands are a feature within the Guilderton System (Beard 1979).

The Jurien System is located within the older coastal limestone belt and is the northern extension of the Spearwood Dunes on the Swan Coastal Plain. The vegetation is typically *Banksia prionotes* Woodland over tall shrubs such as *Dryandra* (now *Banksia*) *sessilis* and *Calothamnus quadrifidus*. Patches of *Acacia spathulata* Heath are found on shallow soils, Banksia Woodlands on deep white sands and stunted *Eucalyptus gomphocephala* in depressions (Beard 1979).

The Lesueur System includes prominent breakaway slopes (up to 100 m high) and flat-topped mesas of exposed sandstone and siltstone, with flanking mature gullies of mainly shallow colluvial sand and gravel with some areas of yellow, sandy clay over weathered sandstone. The vegetation is dominated by Low to Moderate Heath of *Banksia attenuata, B. menziesii* and *Eucalyptus todtiana*, up to 2 m high on the mesas and up to 0.5 m on slopes and breakaways. Drainage channels and gullies ranging from coarse-sand to yellow (mottled) sandy-clay soils support low heath with a diverse range of dominant species including *Verticordia densiflora, Calothamnus hirsutus, Eucalyptus rudis, Melaleuca rhaphiophylla, Acacia saligna, Hakea neurophylla* and *H. undulata* (Beard 1979).

2.3.2 IBRA Regions

Beard mapped the phytogeographic regions of Western Australia based on natural delineations in vegetation and landscape, divisible into regions and further broken down in to Botanical Districts. The boundaries of Western Australia's IBRA (Interim Biogeographic Regionalisation for Australia) regions are broadly compatible with those of Beard's phytogeographic regions. Figure 4 presents the location of the Study Area in relation to the IBRA mapping.

The Study Area is located in the northern extent of the Swan Coastal Plain IBRA Region, specifically the SWA02 – Swan Coastal Plain Subregion (DoE 2013a). The SWA02 Subregion is characterised by colluvial and aeolian sand, alluvial river flats and coastal limestone, with vegetation generally featuring heath and/or Tuart Woodlands on limestone, Banksia and Jarrah-Banksia Woodlands on Quaternary marine dunes, and Marri on colluvial and alluvials, and includes a complex series of wetlands. Within this subregion there are areas of a high degree of ecosystem and species diversity, notably on the eastern side of the coastal plain. It has also been noted that although there has been quadrat-based floristic survey throughout the subregion, the floristics of the northern half of the subregion has not been as well surveyed as the southern half, and a systematic and consolidated analysis of floristic data is required throughout (Mitchell *et al.* 2002).

The SWA02 Subregion is bordered by the GES02 – Lesueur Sandplain Subregion to the north-east, in close proximity to the Study Area, with the SWA01 – Dandaragan Plateau Subregion further to the east/north-east (DoE 2013a; Beard 1979). GES02 contains mainly

proteaceous scrub-heaths (kwongan) which are rich in endemics on undulating lateritic sandplain, and exhibits high floristic endemism (Desmond and Chant 2001). SWA01 is characterised by Banksia Low Woodland, Jarrah-Marri Woodland and Marri Woodland and Scrub-heath on laterite pavement and gravelley sandplains (Desmond 2001).

2.3.3 Vegetation System Associations

Shepherd *et al.* (2002) mapped and described vegetation system associations related to physiognomy, expanding on mapping originally undertaken by Beard (1979), at a scale of 1:250,000. These vegetation system associations were further refined in 2012 (Government of Western Australia 2013). The Study Area traverses five such vegetation system associations as presented in Table 1 and in Figure 5. Table 1 also presents the current extent of each vegetation system association in relation to the pre-European extent, and the extent within Department of Parks and Wildlife-managed (DPaW) lands (formerly Department of Environment and Conservation), including conservation reserves.

Table 1: Extent of Vegetation Associations within the Study Area (Government of Western Australia 2013)

Vegetation System Association	Description	Current Extent (ha)	Percentage of Pre-European Extent Remaining	Percentage of Current Extent Reserved in DPaW-Managed Lands
Bassendean – 1030	Low Woodland; *Banksia attenuata* & *Banksia menziesii*	80 264.2	69.2	13.8
Bassendean – 1031	Mosaic: Shrublands; *Hakea* scrub-heath / Shrublands; *Dryandra* (now *Banksia*) heath	402.7	8.3	0.0
Guilderton – 1026	Mosaic: Shrublands; *Acacia rostellifera*, *A. cyclops* (in the south) & *Melaleuca cardiophylla* (in the north) thicket / Shrublands; *Acacia lasiocarpa* & *Melaleuca acerosa* heath	54 993.7	93.7	54.8
Jurien – 1029	Bare areas; drift sand	48 699.2	71.5	34.9
Lesueur - 1031	Mosaic: Shrublands; *Hakea* Scrub-heath / Shrublands; *Dryandra* (now *Banksia*) Heath	73 884.5	32.8	37.6

A 30 % threshold level as the proportion of a vegetation community below which the community is considered at risk of decline has been set by the EPA (EPA 2000). The vegetation system associations present in the Study Area have >30 % of the pre-european mapped extents remaining, with the exception of Bassendean – 1031 which has only just over 8 % of the original extent remaining (Table 1). This vegetation system association occurs within the Study Area along the southern edge of the existing Cooljarloo mining area; the majority of the pre-european extent of this vegetation system association occurred to the east of the Study Area and was cleared for agriculture. The extent of each vegetation system association currently reserved for conservation present within the Study Area range from just over half the current extent reserved (Guilderton – 1026), to none of the current extent reserved (Bassendean – 1031).

2.3.4 Ecological Communities

The DPaW Threatened Ecological Communities (TEC) and Priority Ecological Communities (PEC) databases were interrogated (April 2013) for information regarding any occurrences of TECs or PECs within or in the vicinity (10 km buffer) of the Study Area (DEC 2013a). There are no known occurrences within the Study Area; however, one TEC and one PEC occur within 2 km of the boundary of the search area:

- TEC-018: Stromatolite community of stratified hypersaline coastal lake - Lake Thetis (Vulnerable); and
- PEC-006 (Swan): Claypans with mid dense shrublands of *Melaleuca lateritia* over herbs (Priority 1) (also listed as Critically Endangered under the *Environmental Protection and Biodiversity Conservation Act 1999* (EPBC Act), as part of Commonwealth TEC 121: Claypans of the Swan Coastal Plain).

TEC-018 is restricted to Lake Thetis, which is approximately 30 km to the north-west of the Study Area (1 km to the east of the township of Cervantes). PEC-006 is known from various small locations through the south-west, the nearest of which in relation to the Study Area is located at Lake Walyengarra, which is approximately 10 km south of the Study Area. Appendix A presents definitions, categories and criteria for TECs and PECs (DEC 2010).

The Study Area is located within the Minyulo and Mimegarra Wetland Suites as defined by Semeniuk (1994). The Minyulo Suite is located in the vicinity of Mullering Brook and consists of a series of sumplands, damplands and creeks within the Bassendean System. The creek transports sediment and flushes water from the associated floodplains and palusplains. The presence of an undisturbed buffer of vegetation surrounding the Mullering Brook enhances the biological values of this Suite.

The Mimegarra Suite is represented north of private property located north of Woolka Rd. This Suite is locally significant as it contains a number of seasonal freshwater sumplands and damplands within a generally water deficient area (Semeniuk 1994). The basins provide habitat nodes for fauna, with the undisturbed vegetation which surrounds the majority of these basins providing hydrological buffers. Both the Minyulo Brook and Mullering Brooks are considered to be locally to regionally significant (Semeniuk 1994).

Biodiversity hotspots are areas that support natural ecosystems that are largely intact and where native species and communities associated with these ecosystems are well represented; they are also areas with a high diversity of locally endemic species, which are species that are not found or are rarely found outside the hotspot (DoE 2013b). The Southwest Australia Hotspot is comprised of the Southwestern Botanical Province, and includes 2 948 endemic species; the forest, woodlands, shrublands and heaths of this area are characterised by high endemism among both plants and reptiles (Conservation International 2013); in addition, some areas within the Swan Coastal Plain subregion are of known high ecosystem and species diversity (Mitchell *et al.* 2002).

Along with occurring in proximity to the junction of several land systems and vegetation associations, the Study Area is located approximately 60 km south of the Mt Lesueur/Eneabba Biodiversity Hotspot, which is one of fifteen Australian hotspots recognised by the Australian Government in 2003. This area is known to support a large number of distinct, species-rich and endemic communities (DoE 2013b).

2.4 Regional Flora

Numerous flora studies have been undertaken throughout the region, providing good contextual information regarding flora taxa known of the region and their distribution. On a regional scale, a total of 624 taxa were recorded in a study of vegetation between the Moore River and Jurien (Griffin and Keighery 1989); 2 847 flowering vascular plant taxa (including 1964 native taxa) were subsequently recorded in 649 sites in the northern sandplain region between Geraldton and Perth (Griffin 1994). It was noted by Griffin and Keighery (1989) that it is likely that the flora in the northern sandplains region represents one fifth of the flora of Western Australia. Current regional information on FloraBase (DPaW 2013a) shows that approximately 4 165 current vascular plant taxa are known in the SWA02 subregion, of which 3 322 are native taxa.

2.4.1 Conservation Significant Flora

The DPaW threatened flora databases, including the Threatened and Priority Flora Database (TPFL), the Western Australian Herbarium (WAHerb) specimen database, and the Threatened and Priority Flora List (TP List) were interrogated for information regarding CS flora taxa known from within or in the vicinity of the Study Area (DEC 2012). The TPFL and WAHerb databases are interrogated for information that is directly known from within the requested search area (i.e. information from specimens housed at the WAHerb, or known records in the TPFL database). The TP List returns a much broader set of information regarding CS taxa known from within the region of the search area; in this case, the Midwest Region (DPaW region). Therefore, taxa which are returned from the TP List may not actually occur within the search area itself. Appendix B presents conservation codes for Western Australia flora (DPaW 2013c).

The Tronox conservation significant flora database was interrogated for locations of CS flora taxa within the Study Area. This database contains all information regarding CS flora taxa recorded by consultants within the Cooljarloo area, and is current to 2013.

A list of CS flora taxa historically known to occur within or in the vicinity of the Study Area is presented in Appendix C. The list includes CS taxa returned from the DEC database interrogation as well as additional records from other historical studies undertaken in the area (via the Tronox database). A total of 121 CS taxa are known to occur within or in the vicinity of the Study Area, including 16 T-DRF taxa. Of these taxa, 37 are solely from the DEC TP List, and therefore may not occur within the Study Area.

Helena Holdings (2007) undertook a survey for significant *Schoenus* spp. within the wider Cooljarloo area, including Wondonderrah Nature Reserve, and habitat within the Falcon, Woolka Road, Wongonderrah Road and Yerramullah Road areas. It was determined by Helena Holdings that *Schoenus badius* (P2) (previously identified by Woodman Environmental within the Falcon area) was actually *Schoenus pennisetis* (P1). The specimen lodged at the WAHerb of *Schoenus badius* (P1) (collected by Woodman Environmental) is still held under this name, and therefore this taxon was returned as part of the WAHerb database search; however, for the purposes of this report it has been removed from Appendix C (and Table 9).

A search for environmental matters of national significance using the Protected Matters Search Tool (PMST) as listed under the EPBC Act, was performed for the Study Area (DSEWPC (now DoE) 2013a). The results of this search returned eight threatened flora taxa (as listed under the EPBC Act) which may occur in the search area, or species habitat may

occur in the search area. Three of these taxa were also returned from the DEC database search and/or were found in previous surveys as shown in Appendix C (*Andersonia gracilis*, *Anigozanthos viridis* subsp. *terraspectans* and *Macarthuria keigheryi*). The remaining five taxa (*Centrolepis caespitosa, Darwinia foetida, Drakaea elastica, Epiblema grandiflorum* var. *cyaneum* and *Hemiandra gardneri*) were not returned from the DEC database search (DSEWPC 2013a):

- *Epiblema grandiflorum* var. *cyaneum* was originally listed as Threatened under the EPBC Act under the name *E. grandiflorum* var. *cyanea* K. Dixon ms (Commonwealth of Australia 2000); the name was subsequently updated under the Act in 2007 to *E. grandiflorum* var. *cyaneum* (Commonwealth of Australia 2007). It was noted in the Interim Recovery Plan (IRP) for this taxon that the genus *Epiblema* is represented by only one species, with two varieites, and that the only difference between the two varieties is the colour of the flowers (sky-blue in the case of var. *cyaneum*; lilac-blue to dark mauve in var. *grandiflorum*) (Luu and English 2004). *E. grandiflorum* var. *cyaneum* was only known from one population in the Perth metropolitan area (approximately 160 km south of the Study Area). The name *Epiblema grandiflorum* var. *cyaneum* is no longer current, with the two varieties being removed from useage; this taxon is now known as *Epiblema grandiflorum*, a common taxon (DPaW 2013a). It was noted by Thiele (2011) that the population known as *E. grandiflora* var. *cyaneum* was based on a colour variation, with normal coloured plants also occurring in the area; genetic analysis of a very small sample size resulted in little or no genetic differentiation between the paler coloured flowered individuals, and the normal coloured individuals (Thiele 2011).
- *Centrolepis caespitosa* is ranked as Priority (P) 4 in Western Australia and is widespread in the south west of WA with a known range of approximately 380 km from north to south and 280 km from east to west. The closest recorded occurrence of this species is over 120 km from the Study Area (in the vicinity of the Pearce Airforce Base), with the majority of locations recorded from south of Perth, numerous of which occur around Albany (DPaW 2013b). It occurs on white sands and clay, including salt flats and wet areas (DPaW 2013a).
- The closest occurrence of *Darwinia foetida* is over 110 km from the Study Area, in the vicinity of Muchea, Bullsbrook and Gnangara (DPaW 2013a; 2013b). Collections of this taxon vouchered in the WAHerb were taken from areas including dry grey sand, winter-wet damp flats, and seasonally wet areas with poor drainage.
- The nearest known occurrence of *Drakaea elastica* is 25 km south of the Study Area; it was collected on a fire break on a slope with moist grey sand, under an open woodland of *Banksia menziesii, B. attenuata* and *B. ilicifolia* (DPaW 2013a). The species grows on bare patches of sand within otherwise dense vegetation in low-lying areas alongside winter-wet swamps, typically in banksia (*Banksia menziesii, B. attenuata* and *B. ilicifolia*) Woodland or Spearwood (*Kunzea glabrescens*) Thicket vegetation (DEC 2008). While there are some records of this species north of Perth, the majority of records occur south of Perth with numerous records near Busselton (DEC 2013b).
- The closest occurrence of *Hemiandra gardneri* is approximately 50 km north of the Study Area at Cockleshell Gully; this population has not been relocated since 1978 (Stack and Broun 2004). The majority of populations of this species occur inland between Watheroo and Gunyidi in deep yellow to yellow-white sand on Sandplains and hills (DEC 2013b; Stack and Broun 2004).

It is unlikely that any of these five taxa are present in the Study Area. The majority of these taxa are known only from areas a great distance from the Study Area; considerable survey

effort for CS flora taxa has also been spent within the Study Area, and no individuals of these taxa have been recorded in the Study Area.

2.4.2 Introduced Flora

The results of the PMST search also returned eight significant invasive flora taxa that are likely to occur in, or habitat for these taxa is likely to occur in the Study Area (DSEWPC 2013). These taxa were:

- *Asparagus asparagoides*
- *Cenchrus ciliaris*
- *Chrysanthemoides monilifera*
- *Genista* sp. x *Genista monspessulana*
- *Lycium ferocissimum*
- *Olea europaea*
- *Pinus radiata*
- *Urochloa mutica*

Asparagus asparagoides, *Lycium ferocissimum*, *Pinus radiata* and *Urochloa mutica* are known from the wider region surrounding the Study Area and therefore may occur within the Study Area. However, *Cenchrus ciliaris* does not generally occur in the south of Western Australia, and there are no records of *Chrysanthemoides monilifera*, *Genista* sp. x *Genista monspessulana* or *Olea europaea* (other than cultivated plantations) within 140 km of the Study Area (DEC 2013b). It is therefore considered unlikely that these four taxa would occur within the Study Area.

A search of the WAHerb specimen database for records of introduced flora (weed) taxa recorded within the Study Area and surrounds was performed using the online tool NatureMap (DPaW 2013b). A total of seven introduced taxa were returned, as listed in Table 2. Table 2 displays rankings (where available) of introduced taxa in terms of their environmental impact on biodiversity under the under the then Department of Conservation and Land Management's (CALM) Environmental Weed Strategy for Western Australia (CALM 1999) (Appendix D). There was one result for Weeds of National Significance (WoNS) returned in this search, this being the Declared Pest *Moraea flaccida* (Australia Weeds Committee 2013). This species is ranked as a Declared Pest (s22) for the whole state under the *Biosecurity and Agriculture Management Act 2007* (BAM Act) (Department of Agriculture and Food 2013).

Table 2: Introduced Taxa Known to Occur Within or in the Vicinity of the Study Area from DEC Records (DEC 2013b)

Taxon	Common Name	Comments
Centaurium tenuiflorum	-	Ranked as 'Low' (CALM 1999)
Juncus capitatus	Capitate Rush	Ranked as 'Moderate' (CALM 1999)
Moraea flaccida (formerly *Homeria flaccida*)	One-leaf Cape Tulip	Ranked as 'High' (CALM 1999); Declared Pest (Dept. Agriculture 2013)
Ornithopus compressus	Yellow Serradella	Ranked as 'Mild' (CALM 1999)
Polypogon maritimus	Coast Beardgrass	Ranked as 'Low' (CALM 1999)
Polypogon monspeliensis	Annual Beardgrass	Ranked as 'Moderate' (CALM 1999)
Vulpia muralis	-	Ranked as 'Low' (CALM 1999)

2.5 Local Flora and Vegetation

Numerous botanical surveys have been undertaken over many years in the Cooljarloo area, and Table 3 presents a summary of flora and vegetation of the most significant of these studies. Figure 6 presents the location of these survey areas, including the extent of various plant community/Vegetation Type mapping surveys, location of detailed recording sites (sites) and quadrats, and proposed drill lines which have been surveyed within the Study Area. This figure also includes the current Study Area and quadrats established during 2012. Appendix E presents a list of all flora taxa (inclusive of introduced taxa) which have been recorded during these surveys. Where possible taxonomic nomenclature has been updated to reflect changes in taxa names since surveys were conducted.

The majority of surveys undertaken in the area have been to characterise the vegetation (either as structural plant communities or VTs) and/or to survey for CS flora taxa, in order to support either applications for exploration drilling or in relation to mining (including indirect impacts such as groundwater drawdown). Additional studies to monitor the effects of mining activities on the health of flora and vegetation have also been conducted in the area by Woodman Environmental (as summarised in Woodman Environmental 2013a).

Table 3: Summary of Significant Flora and Vegetation Surveys undertaken within Cooljarloo West

Survey (Report reference)	Timing of Survey	Location of Survey	Type of Data Collected	Size of Survey Area (ha)	Total Number of Taxa Recorded	Number of Families/Genera	CS Flora Taxa	Number of Introduced Taxa	Numbers of Plant Communities Mapped/Described
Mattiske Consulting Pty Ltd (Mattiske) (1996) (TIW007/203/96)	April 1996	North Mine	Reference Sites; no quadrats established	700	272	40 families	6 CS flora taxa (all Priority Flora taxa)	NA	15 plant communities
Mattiske (1997) (TIW014/37/97)	September 1997	27000 (South Mine)	Reference Sites; no quadrats established	1 000	219	39 families	3 CS flora taxa, including: 1 T (DRF) taxon 2 Priority flora taxa	6	13 plant communities
Landcare Services (1999) (LSC 92)	August 1999	ML application 70/1010	No reference sites, transects walked; Survey for CS flora taxa		199	35 families; 102 genera	7 CS flora taxa, including; 1 T (DRF) taxon 4 Priority flora 1 undescribed	1	4 major habitat types
ecologia (2000)	November 1999	Lancelin DTA Extension (includes majority of Study Area)	55 quadrats established	35 000	469	71 families; 231 genera	12 CS flora taxa, including; 2 T (DRF) 10 Priority flora	67	10 vegetation types
Western Botanical (2002)		North and west of the north-western boundaries of mapping by Mattiske (1996), northwards to Wongonderrah Rd	Unknown		Unknown	Unknown	7 (all Priority Flora taxa)		2 land systems, 5 land types, 12 habitat units

Survey (Report reference)	Timing of Survey	Location of Survey	Type of Data Collected	Size of Survey Area (ha)	Total Number of Taxa Recorded	Number of Families/Genera	CS Flora Taxa	Number of Introduced Taxa	Numbers of Plant Communities Mapped/Described
Woodman Environmental (2006b) (Empire05-20)	Sep-Nov 2005; May 2006	Mullering (vicinity of Woolka Rd)	131 detailed recording sites; Targeted survey for CS flora taxa undertaken	6 680	486	71 families	12 CS flora taxa, including 3 T (DRF)	32	25 (also 7 other areas mapped as mosaics or cleared)
Woodman Environmental (2006c) (Tiwest05-37)	November 2005	Falcon	Detailed Site recordings	1 233	289	53	18 (including 1 T (DRF)	15	12 plant communities
Woodman Environmental (2007a) (Tiwest06-23)	December 2006	Cooljarloo West	Survey of drill lines for CS flora taxa	NA	NA	NA	3 T (DRF) Taxa		Plant communities present as per those mapped by Woodman (WEC 2006b)
Woodman Environmental (2007b) (Tiwest06-23)	October - November 2006	Falcon (and adjacent UCL and Nature Reserves (regional plots)) M70/1162 & M70/1163	27 quadrats established (in Falcon); 24 quadrats established (regional plots)	1 233 (Falcon)	373 (includes results from WEC 2006c); 202 (in regional plots)		23 CS flora taxa (including two T (DRF)) at Falcon – includes historical data; 1 T (DRF) and 2 Priority flora additionally located only in regional plots	21 (including results from WEC 2006c) 8 (in adjacent areas)	Total of 8 FCTs described; 7 of which occur at Falcon
Helena Holdings (2007) (Tiwest07-01)	October – December 2007	Wongonderrah Road to Regans Ford	Survey for populations of *Schoenus* species	Not detailed	NA	NA	2 CS flora taxa (both Priority Flora taxa)	NA	NA

Survey (Report reference)	Timing of Survey	Location of Survey	Type of Data Collected	Size of Survey Area (ha)	Total Number of Taxa Recorded	Number of Families/Genera	CS Flora Taxa	Number of Introduced Taxa	Numbers of Plant Communities Mapped/Described
Rockwater Pty Ltd (2008) (143.12/08/02)	October - December 2007	Cooljarloo West	Survey of drill lines for CS flora taxa	NA	NA	NA	30 CS flora taxa (including 4 T (DRF)) taxa	NA	30 vegetation communities described
Woodman Environmental (2009a) (Tiwest08-03)	March 2008	Falcon (mapping of groundwater extension area, tying into Falcon area)	48 quadrats (in Falcon extension area); 4 quadrats (regional plots)	3 591	391 native taxa (includes previous Falcon studies)		15 (only in extension area, includes 1 T (DRF) taxon	23 (includes results from previous Falcon studies)	Total of 12 FCTs (all represented within the Falcon and/or Falcon extension area)
Woodman Environmental (2009c) (Tiwest08-19-01)	November 2008	Cooljarloo West exploration lease areas	286 detailed recording sites (including sites from WEC 2006b)	26 150	617 native taxa (including WEC 2006b; 2007a)		31 CS flora taxa (an additional 22 also recorded in area in previous surveys); Four DRF (T) taxa recorded	42 (includes results from WEC 2006b; 2007a)	Total of 22 structural plant communities mapped
Mattiske Consulting Pty Ltd (2010) (TJV1002/130/10)	September – November 2010	Cooljarloo West and Cooljarloo North-West	Drill Line survey	NA	NA	NA	13 CS flora taxa (including 1 T (DRF) taxon)	NA	NA
Woodman Environmental (2011) (Tiwest10-35-01)	October 2010	Southern portions of Cooljarloo North	96 quadrats (72 in mulched areas, 24 in non-mulched areas)	NA	259 taxa (250 native taxa)	130/44	10 CS flora taxa (all Priority taxa)	9	6 plant communities
Mattiske Consulting Pty Ltd (2012) (TJV1102/085/11)	September – November 2011	Cooljarloo West (and Cooljarloo North-West and Cooljarloo South-West)	Survey of drill lines for CS flora taxa	NA	NA	NA	4 CS flora taxa, including 3 T (DRF) taxa	NA	NA

Survey (Report reference)	Timing of Survey	Location of Survey	Type of Data Collected	Size of Survey Area (ha)	Total Number of Taxa Recorded	Number of Families/Genera	CS Flora Taxa	Number of Introduced Taxa	Numbers of Plant Communities Mapped/Described
Astron Environmental Services (Astron) (2013a) (16502b-12-BSR-1Rev1_130205)	October – November 2013	Cooljarloo West, Cooljarloo North West, Cooljarloo South West	Survey of drill lines for CS flora taxa	NA	NA	NA	7 CS flora taxa	NA	NA
Astron (2013b) (16504-12-BSR-2Rev0_130507)	December 2012	Cooljarloo West	Survey of drill lines for CS flora taxa	NA	NA	NA	4 CS flora taxa, including 1 T (DRF) taxon	NA	NA
Astron (2013c) (16504-12-BSR-1Rev1A_130530)	December 2012	Cooljarloo North West	Survey of drill lines for CS flora taxa	NA	NA	NA	1 CS flora taxon	NA	NA

3. METHODS

3.1 Personnel and Licensing

Table 4 lists the personnel involved in both fieldwork and plant identifications for the field survey conducted in 2012. All personnel have had previous field experience in the Swan Coastal Plain region, with personnel involved in plant identifications having extensive taxonomic experience with the flora of the Swan Coastal Plain. All plant material was collected under the scientific licences (pursuant to *Wildlife Conservation Act 1950* (WC Act) Section 23C and Section 23F) as listed in Table 4.

Table 4: Personnel and Licensing Information for Surveys Conducted in 2012

Personnel	Role	Flora Collecting Permit / Permit to take T-DRF
Alison Saligari (WEC)	Fieldwork	SL009956 / 149-1112
Bethea Loudon (WEC)	Fieldwork	SL009953 / 150-1112
Greg Woodman (WEC)	Fieldwork	SL009959 / 144-1112
John Grantham (WEC)	Fieldwork	SL009955
Terri Jones (WEC)	Fieldwork	SL009952
Frank Obbens (WEC contractor)	Plant Identifications	
Melissa Bestwick (WEC casual)	Fieldwork	-
Melissa Hay (WEC casual)	Fieldwork	SL009997
Peter Malajczuk (WEC casual)	Fieldwork	-
Sharnya Thomson (WEC contractor)	Fieldwork / Plant identifications	SL 010159
Alex Devine (NAC)	Fieldwork	SL010169
Jacquie Milner (NAC)	Fieldwork	SL010034 / 35-1213 (Mid-West Region, WA)
Sharon Hines (NAC)	Fieldwork	-
Simon Colwill (WB)	Fieldwork	SL010137
Daniel Brassington (WB)	Fieldwork	SL010134
Manon Hannart (WB)	Fieldwork	SL010141
Wesley Lamont (WB)	Fieldwork	SL010150

Note: Personnel companies are abbreviated as follows: WEC: Woodman Environmental Consulting, NAC: Natural Area Consulting, WB: Western Botanical

3.2 Initial Aerial Photography Interpretation

Initial interpretation of vegetation boundaries was conducted with the use of ortho-rectified aerial photography at a scale of 1:10,000, sourced by Woodman Environmental from SLIP, with photography dated February 2012. Preliminary vegetation type (VT) boundaries were transcribed onto the aerial photography, to allow for ground-truthing of these boundaries to be conducted in the field. Preliminary quadrat locations were also allocated based on these vegetation type boundaries. A minimum of three quadrats were allocated to each discernable vegetation type where possible. Such replication is required for meaningful results to be produced following statistical analysis of quadrat data, and to provide local context for VT distribution.

3.3 Field Survey Methods

3.3.1 Detailed Field Survey

A total of 235 quadrats were established within the Study Area over six field trips totalling 25 days (65 team days) as listed below:

- Field trip 1: 24th – 28th September 2012 (10 personnel)
- Field trip 2: 8th – 12th October 2012 (8 personnel)
- Field trip 3: 15th – 19th October 2012 (2 personnel)
- Field trip 4: 22nd – 26th October 2012 (2 personnel)
- Field trip 5: 5th –9th November 2012 (2 personnel)
- Field trip 6: 19th – 23rd November 2012 (4 personnel)
- Field trip 7: 27th – 30th May 2013 (2 personnel)

The Study Area was accessed by vehicle where possible, using available tracks and public roads, and also traversed on foot.

3.3.2 Quadrat Establishment

All quadrats covered an area of $100m^2$ with quadrats measuring 10m x 10m. This quadrat size corresponds to that used during the DEC and EPA's *Technical Guide – Flora and Vegetation Surveys for Environmental Impact Assessment* (EPA & DEC in prep.), and is the standard size used in South-West of Western Australia flora and vegetation surveys. Quadrats were established in all vegetation types identified following interpretation of aerial photography. The number of quadrats within each identified vegetation type was determined based on the size of the area covered by the vegetation type, and the potential species richness of each plant community. Multiple quadrats were established in all identified vegetation types where possible.

All quadrats established were non-permanent, with measuring tapes extended to define the boundary of the quadrat. The quadrats were orientated north-south-east-west where possible, with the bearings of each side recorded for any quadrats that could not be established using cardinal points. All vascular taxa that were visually identifiable within each quadrat were recorded and collected as necessary. The following information was recorded at each quadrat:

- Personnel
- Unique quadrat number
- Date of survey
- GPS coordinates (WGS84), and location at quadrat where coordinates were recorded
- Quadrat photograph
- Topography (including landform type and aspect)
- Soil colour and type (including the presence of any rock outcropping and surface stones)
- Vegetation condition (Scale for South West Botanical Province (Keighery 1994), displayed in Table 5)
- Approximate time since fire
- Presence of disturbance (if any)
- Percentage foliage cover (for each species)
- Height (m) (for each species, excluding climbers/aerial shrubs)

Additional flora taxa were also recorded opportunistically via a search around the general vicinity of each quadrat, during traverses on foot between quadrats and while driving along tracks.

Table 5: Vegetation Condition Scale for South West Botanical Province (Keighery 1994)

Condition Ranking	Description
1	Pristine or nearly so; no obvious signs of disturbance.
2	Vegetation structure intact, disturbance affecting individual species and weeds are non-aggressive species.
3	Vegetation structure altered, obvious signs of disturbance.
4	Vegetation structure significantly altered by very obvious signs of multiple disturbances. Retains basic vegetation structure or ability to regenerate it.
5	Basic vegetation structure severely impacted by disturbance. Scope for regeneration but not to a state approaching good condition without intensive management.
6	The structure of the vegetation is no longer intact, and the area is completely or almost completely without native species.

3.4 Plant Collection and Identification

Specimens of any unknown taxa were collected and pressed for later identification at the WAHerb. Identifications were undertaken by experienced taxonomists Frank Obbens and Sharnya Thomson, with experts in particular families or genera consulted for any specimens considered to be of taxonomic interest. Species nomenclature follows *FloraBase* (DPaW 2013a) with all names checked against the current DEC Max database to ensure their validity. The conservation status of each species was checked against *FloraBase* (DPaW 2013a), which provides the most up-to-date information regarding the conservation status of flora taxa in Western Australia.

Specimens of interest (T-DRF and Priority Flora taxa, range extensions and potential new taxa) will be vouchered at the WAHerb at the conclusion of the Study. Threatened and Priority Flora Report Forms (TPFRF) will be submitted to the DEC for all populations recorded of T-DRF and Priority Flora taxa.

3.5 Statistical Analysis

3.5.1 Data

Quadrat data was statistically analysed to aid in the determination of VTs, using similar methods to those previously used by Woodman Environmental in the Northern Sandplains region (Woodman Environmental 2009e; 2011b). Data from a total of 370 quadrats established within the Study Area were included in the analysis (Figure 6):

- 235 quadrats established during the current survey (September – November 2012)
- 27 quadrats established at Falcon (October 2006) (Woodman Environmental 2006c)
- 24 quadrats established as part of the Falcon regional survey (October – November 2006) (Woodman Environmental 2007b)
- 60 quadrats established at Falcon (March 2008) (Woodman Environmental 2009a)
- 24 quadrats established as part of the Mulch harvesting monitoring survey (control quadrats only) (October 2010) (Woodman Environmental 2011)

A summary of the quadrats used in the analysis, including the quadrat code, date of establishment, location co-ordinates and the VT in which the quadrat was grouped are presented in Appendix F, with locations also presented in Figure 6 and Appendix T.

The Woodman Environmental datasets (of historical data) were reviewed and updated prior to conducting the analysis to align the data. Non-current plant names were changed to their current name after consulting *FloraBase* (DPaW 2013a). Any odd entities resulting from possible erroneous identifications (i.e. species that do not occur anywhere near the Study Area in other parts of the State) were also fixed, generally by removing the species name.

In particular, *Xanthorrhoea*, *Macrozamia* and *Grevillea thelemanniana/preissii* entities were reviewed due to possible errors with previous data and specimen identification. Photographs and site information, including their location within the Study Area in relation to vegetation associations/land systems and their known area of occurrence and habitat preference, were checked.

As a result, all previous records of *Macrozamia riedlei* were changed to *M. fraseri* as *M. riedlei* predominantly occurs around Perth rather than the northern Swan Coastal Plain. All *Xanthorrhoea drummondii* records were changed to *X. preissii* based on habitat and visual appearance, apart from one site on laterite in the north-east corner of Study Area where plants were quite obviously *X. drummondii* and one which was changed to *X.* ?*drummondii* as it was not easily discernible which species it was. In the case of *Grevillea thelemanniana* and *Grevillea preissii*, names were not changed due to difficulties distinguishing between the two taxa and their subspecies, particularly in the absence of specimens. Instead the habitat of all quadrat locations was reviewed and compared, with the various taxa grouped together in the analysis based on the habitat/landform in which they were recorded, i.e. entities were grouped under *thelemanniana* if they occurred on lower-lying winter-wet/damp flats/plains, or under *preissii* if they occurred in drier limestone associated habitats.

In addition, previous records of *Eremophila glabra* subsp. *chlorella* (T-DRF) were re-examined upon identification of specimens collected in 2012 for confirmation by the WAHerb. These entities are now known as *E. glabra* subsp. ?*carnosa* (C).

Some entities of *Lepidosperma pubisquameum* are also doubtful, particularly where they are associated with wetland habitats. Such records may have been confused with *L. longitudinale* in the absence of flowering material at the time of the previous surveys. These records have not been changed.

3.5.2 Analysis

Classification and ordination analyses were conducted on a data matrix compiled from the quadrat data, with introduced taxa, putative hybrids and opportunistic recordings (i.e. those taxa recorded outside of the quadrat) excluded from the analysis. Singletons (taxa recorded only once in the quadrat dataset) and ephemeral (short-lived) taxa including geophytes (i.e. entities of Orchidaceae, Droseraceae, Eryngium and Wurmbea) were also excluded from the analysis. These exclusions remove data inconsistencies resulting from differences in seasonal conditions and time of year in which surveying is undertaken, and the ability to record such taxa.

Various taxa were grouped together within the data matrix for the analysis where taxonomy was unclear (e.g. *Thysanotus sparteus, Thysanotus* ?*sparteus*), or where more than one infra-taxa occurred and did not correlate to different plant community, landform or soil types.

Some recordswere omitted from the analysis where the taxa could not be positively identified (e.g. *Grevillea* sp., ?*Grevillea* sp.).

Pattern analysis was conducted using PATN (V3.03) (Belbin 1989). The Bray-Curtis coefficient was used to generate an association matrix for both the classification and ordination analyses. This association matrix consisted of pairwise coefficients of similarities between quadrats based on floristic data. Agglomerative, hierarchical clustering, using flexible UPGMA (ß=-0.1) was used to generate a species and quadrat classification (Sneath and Sokal 1973). A two-way table of the species and quadrat matrix was produced, with the matrix sorted into groups generated from the species and quadrat classification. Indicator species analysis (INDVAL) was conducted using PC-Ord (McCune and Mefford 1999) using the method of Dufrene and Legendre (1997). The INDVAL measures were used to determine the indicator species for each VT and a Monte Carlo permutation test was used to test for the significance of the indicator species.

3.6 Sampling Control

The Study Area covers approximately 34 424 ha, with 370 quadrats established in the Study Area; as each quadrat has an area of 0.01 ha, a total area of 3.7 ha was sampled directly by quadrats, equating to 0.01 % of the Study Area. Quadrats were established in all VTs as discernable by initial aerial photograph interpretation (see Section 3.2), both to adequately sample variation in vegetation throughout the Study Area, and to ensure adequacy of sampling for vascular plant taxa.

Species area curves detailing the number of taxa returned within quadrat data both as a whole across the Study Area and for quadrats grouping into invidiual VTs were produced using PC-Ord (V 4) (McCune and Mefford 1999). The species area curves are presented in Appendix G. The species accumulation curves were generated using all native taxa (both annual and perennial) recorded within each quadrat, with groupings as per used in the statistical analysis of VTs.

As a whole, the number of quadrats established in the Study Area satisfies the criterium of a reduction of 5 % or less of species per increase of 10 % of quadrats (Appendix G, Chart 1). The number of quadrats established in VTs 1, 2, 5, 6, 7, 8, 12, 17 and 18 likewise met this criterium (Table 1 in Appendix G); this was due to the relatively large number of samples (quadrats) taken in each of these VTs. VTs 3, 4, 9a, 9b, 10, 11 and 13 - 16 did not meet this criterium (Table 1 in Appendix G), invariably due to the lower number of samples taken within these VTs. This low number is attributable to the relatively scarcity of each of these VTs in terms of area mapped

Species accumulation calculations for the entire dataset were also undertaken using PC-Ord. The recorded number of species is equivalent to 83.1 % of the estimated species richness (using the Chao2 esimate (bias form corrected); and is equivalent to 78.6 % of the 95 % confidence interval figure. Therefore it is estimated that approximately 80 % of the species that can be expected in the Study Area were recorded within quadrats.

3.7 Vegetation Mapping and Description

The species and quadrat classification generated from the statistical analysis of quadrat data identified the floristic units (VTs). Aerial photography interpretation and field notes taken during the survey were then used to develop VT mapping polygon boundaries over the Study

Area. These polygon boundaries were then digitised using Geographic Information System (GIS) software.

VT descriptions (though floristic in origin) have been adapted from the National Vegetation Information System (NVIS) Australian Vegetation Attribute Manual Version 6.0 (ESCAVI 2003), a system of describing structural vegetation units (based on dominant taxa), preferred by the DPaW (Dr. Stephen van Leeuwen *pers*. *comm*.). This model follows nationally-agreed guidelines to describe and represent vegetation types, so that comparable and consistent data is produced nation-wide. For the purposes of this report, it is considered that a VT is equivalent to a NVIS sub-association as described in ESCAVI (2003).

After the statistical analysis, determination of vegetation types and preliminary mapping phases, a field reconnaissance trip was undertaken between 27 - 30 May 2013 by Greg Woodman and Bethea Loudon to determine if further refinements of the VT polygon mapping were required. All accessible tracks were traversed as well as additional foot transects undertaken across the Study Area to confirm VT mapping and boundaries. One site (relevé) was undertaken during the trip to confirm the VT of a small piece of fringing vegetation in the western portion of the Study Area. The data from this site was incorporated into the analysis.

3.8 Significance of Vegetation

In this report, the local distribution of a VT is defined as the mapped distribution within the Study Area, and the regional distribution refers to the total known distribution of the VT in Western Australia.

The local significance of VTs can be measured by the mapped extent of the VT within the Study Area, and the type and extent of landforms they are associated with. They may also be significant in containing a particularly significant flora taxon or taxa that may be uncommon or restricted (e.g. T-DRF and rare or restricted Priority flora, or a disjunct occurrence of a particular taxon). Table 6 presents local conservation significance rankings of VTs in the Study Area, based on these criteria, with 'Very Low' indicating the lowest conservation significance ranking, and 'Very High'the highest.

Table 6: Descriptions of Local Conservation Significance Ranking of Vegetation Types in the Study Area

Conservation Significance Ranking	Description
Very Low	The VT is very widespread through the Study Area (occupies >30 % of the Study Area); and VT does not represent preferred habitat for Threatened (T) Flora, and such flora has not been recorded in the VT
Low	The VT is widespread through the Study Area (occupies >10 % of the Study Area); and VT does not represent preferred habitat for Threatened (T) Flora, and such flora taxa have not been recorded in the VT
Moderate	The VT is widespread through the Study Area (occupies >10% of the Study Area); and VT does represent preferred habitat for Threatened (T) Flora, and such flora taxa have been recorded in the VT

Conservation Significance Ranking	Description
High	The VT is moderately restricted in the Study Area (occupies < 10 % of the Study Area; or VT is mapped on a relatively restricted landform type (i.e. claypans, areas with lateritic substrate) VT may represent preferred habitat for Threatened (T) flora, and such flora have been recorded in VT
Very High	The VT is corresponds with a State or Commonwealth listed Threatened Ecological Community or Priority Ecological Community; or The VT is highly restricted in the Study Area (occupies <1% of the Study Area); and The VT is preferred habitat for Threatened (T) Flora species, or flora taxa ranked as P1 or P2

Determining the regional conservation significance of the VTs is difficult as there is no broad regional dataset including the Study Area available. The nearest publicly available regional dataset (as presented by Gibson *et al.* 1994) does not extend northwards to cover the Study Area. Likewise, the vegetation of the majority of nearby nature reserves has not been mapped at a VT level. However, there is limited regional data available through historical work undertaken by Woodman Environmental (2007b; 2009a), including quadrats placed in nearby Eneminga Nature Reserve, R 40916, as well as in UCL. There is also some qualitative data available with regards to the restricted wetlands survey undertaken by Woodman Environmental (Woodman Environmental 2013c).

The descriptions of VTs mapped within the Study Area are also compared against listed TEC and PEC descriptions (both listed at State and Federal levels) (DEC 2013b; 2013c; DoE 2013c) to determine the likely presence of these communities within the Study Area. By definition, any TECs or PECs are considered to be regionally significant.

The quadrat data collected within the Study Area can be considered a sub-regional dataset in itself. The Study Area covers 34 402 ha, the majority of which (32 452 ha; 94 %) is located on vegetation system association Bassedean_1030. A total of 30 1306 ha of this area is uncleared; this represents 37 % of the current extent of this vegetation system association throughout Western Australia (38 % of the current extent of this vegetation system association in IBRA subregion SWA02).

A qualitative assessment with regard to the regional conservation significance of VTs of the Study Area has been undertaken. The assessment has taken into account the known distribution of these VTs outside of the Study Area, the likelihood of any of the VTs being listed TECs or PECs, and the extent of these VTs mapped within the Study Area in combination with the types of landforms on which these VTs have been mapped.

3.9 Vegetation Condition Mapping

Vegetation condition was recorded at all quadrats, and also opportunistically within the Study Area during the 2012 survey where significant areas of disturbance to vegetation were noted (e.g. weed infestations). Vegetation condition was described using the vegetation condition scale for the South West Botanical Province (Keighery 1994), as displayed in Table 5. Vegetation condition polygon boundaries were developed using this information in

conjunction with aerial photography interpretation, and were digitised as for vegetation type mapping polygon boundaries.

3.10 Survey for Conservation Significant and Introduced Flora

As per Table 3, and shown on Figure 6, survey for CS and introduced flora taxa has been historically undertaken in areas of likely impact by future operations, and more widely through the Study Area. These studies include survey of exploration drilling lines for CS flora taxa, (including survey for indivdiuals both on and away from proposed drilling lines) and searching for CS and introduced flora taxa during more widespread mapping exercises, including during quadrat/site assessment and travelling between quadrats/sites. Due to the relatively high intensity of historical surveys throughout the Study Area, the distribution of both CS and introduced flora taxa are generally well known.

Due to the level of historical survey for CS and introduced flora taxa within the Study Area, specific targeted searches for these taxa within areas of proposed impact were not undertaken during the 2012 flora and vegetation survey. However, both CS and introduced taxa were recorded while conducting the current vegetation survey, including within quadrats and whilst traversing between quadrats.

Where populations of CS taxa were identified during the current survey a representative collection of material was made, and the abundance and spatial distribution (using GPS coordinates) of individuals within each population was recorded. Any occurrences of introduced flora were treated as for populations of CS flora.

3.11 Significance of Conservation Significant Flora Populations

In this report, the local distribution of a flora taxon is defined as one occurring within the Study Area, and the regional distribution refers to the known distribution of the taxon in Western Australia. Locations of plants are considered separate populations if there is a distance of more than approximately 500 m between locations (Stack 2010).

The significance of a local population of a CS flora taxon to the regional conservation significance of the taxon depends upon the extent of the regional distribution of the taxon, the number of known populations of the taxon, and the location of local distribution (i.e. within the Study Area) within the overall regional distribution of the taxon (i.e. throughout the State). The significance of the local population/s of CS flora taxa within the Study Area to the regional conservation significance of the taxon has been determined using Table 7.

Table 7: Significance of Local Populations to the Overall/Regional Conservation of Species

Ranking	Description
High	• Known range of taxon either entirely located within the study area, or within the survey area and to a radius of <5km of the study area; or • Taxon known from <5 discrete populations, including within the survey area; and • Study area on boundary of known regional distribution; or • Taxon listed as Threatened
Moderate	• Known range of taxon extends <50km; and • Taxon known from >5 discrete populations; and • Study area may be on boundary of known regional distribution

Ranking	Description
Low	• Known range of taxon extends >50km; and • Taxon known from >20 discrete populations; and • Study area not on boundary of known regional distribution

3.12 Limitations of Survey

Table 8 presents the limitations of the flora and vegetation survey of the Study Area in accordance with EPA Guidance Statement No. 51 (EPA 2004).

Minor limitations have been noted with regard to aspects such as disturbance levels (fire history) and access issues, affecting both structure and composition of the vegetation in some areas and ability to access vegetation; however, these were seen as being minor. The historical level of information with regards to CS flora taxa is high; however, additional survey of final footprints to determine the level of impact to such taxa is likely to be required, especially for newly recorded species such as *Paracaleana dixonii* (T-DRF). Further investigation including analysis of several VTs may in future be warranted, after moderate levels of variability were seen.

Table 8: Limitations of the Flora and Vegetation Survey of the Study Area

Potential Limitation Factor	Level of Limitation on Survey	Comment
Level of survey.	No limitation.	Level 2 (Detailed) Survey: A detailed survey was conducted throughout September to November 2012 within the usual peak flowering season in the Northern Sandplain Region over the majority of the Study Area. Replicated quadrats were established in each VT identified by initial aerial photograph interpretation over the Study Area. There was also inclusion of historical data (both recorded in spring and other seasons) for portions of the existing Cooljarloo mining area.
Competency/experience of the consultant(s) carrying out the survey.	No limitation.	Woodman Environmental personnel have had experience in conducting similar assessments in the Northern Sandplain Region, with mentoring given to less experienced botanists throughout the survey. All data collected in the field was quality assessed by senior Woodman Environmental personnel and all plant identifications verified by senior Woodman Environmental personnel.
Scope (floral groups that were sampled; some sampling methods not able to be employed because of constraints?)	No limitation.	All vascular groups that were present during the detailed survey were sampled; good foot and vehicle access to most of the Study Area allowed for appropriate sampling techniques (quadrat establishment, foot transects) to be employed. Survey over most of study area undertaken at usual peak flowering time (Spring).
Proportion of flora identified, recorded and/or collected.	No limitation.	High proportion (approximately 80 % of total expected taxa in the area; see Section 3.6) of perennial and ephemeral vascular taxa recorded; adequate intensity and method of survey, and good average rainfall totals prior to commencement of survey (between June and August 2012). All vascular taxa recorded had at least one reference specimen collected, with specimens identified at the WAHerb and a selection of new taxa for the area recorded.
Sources of information e.g. previously available information (whether historic or recent) as distinct from new data.	No limitation.	Sources include government databases (DPaW TP List, TPFL and WAHerb databases) and numerous unpublished studies undertaken both by Woodman Environmental and other consultants within or adjacent to the Study Area; historical locations of CS flora taxa within the Tronox database also accessed. Good contextual information was available including previous local experience of Woodman Environmental.
The proportion of the task achieved and further work which might be needed.	Minor limitation on survey of distribution of CS flora taxa.	Level 2 survey complete, intensity considered to be adequate. Statistical analysis considered adequate, however delineation of VTs may benefit from additional statistical analyses. Further survey of CS flora to accurately define impacts may be required, especially in relation to newly recorded CS flora.

Potential Limitation Factor	Level of Limitation on Survey	Comment
Timing/weather/season/cycle.	No limitation.	Detailed field survey conducted throughout September to November 2012. Peak flowering season for the area, with average rainfall over the usual 'wet' winter months (June - August) and leading up to the survey; taxa of both ephemeral and perennial taxa flowering at the time of the survey.
Disturbances (e.g. fire, flood, accidental human intervention etc.), which affected results of survey.	Minor limitation.	Previous fire history of parts of the Study Area influenced patterns discernible from aerial photography and also existing structure and composition of the vegetation in some areas; this had a minor effect on the survey results in regard to vegetation polygon boundaries.
Intensity of survey.	No limitation.	Survey intensity adequate to identify floristic and structural groupings of terrestrial flora as required by a Level 2 survey, with replication of quadrats through plant community types and additional foot searching allowed for identification of native and introduced taxa. Lower intensity of survey over areas where access was more difficult. Lower density of sampling in western and far southern parts due to limited access and previously established sites (historical data). Moderate level of searching for CS flora taxa over potential areas of impact (mainly historical data).
Completeness and mapping reliability.	Minor limitation.	Vegetation survey of Study Area considered complete; additional searching of footprints and surrounds for certain CS flora taxa may be required. Mapping reliability good as high resolution aerial photography was used, 235 new quadrats were established (total 370 quadrats used in analysis), and foot and vehicle transecting was employed; fire history affected some vegetation patterns discernible on aerial photography. Statistical analysis returned generally strong groups, however several VTs contained either moderate levels of variation or appeared very similar to other groups suggesting additional statistical analysis may be warranted.
Resources and experience of personnel.	No limitation.	Adequate resources and taxonomists with appropriate expertise in Northern Sandplain flora were utilised. Woodman Environmental personnel with adequate experience in the Northern Sandplains area were utilised, mentoring given to less experienced team members.
Remoteness and/or access problems.	Minor limitation.	Access to the Study Area was considered adequate given the compact nature of the Study Area, occurrence of local tracks and proximity of public roads. Access was more difficult in the far southern and western parts of the Study Area.

4. RESULTS

4.1 Flora of the Study Area

In total, 1156 discrete vascular flora taxa and 1 putative hybrid have been recorded within or immediately adjacent to the Study Area, representing 86 families and 318 genera. This includes 1063 native taxa, and 93 introduced (weed) taxa. The families with the highest number of taxa were Myrtaceae (134 taxa), Proteaceae (104 taxa), Fabaceae (98 taxa), Cyperaceae (67 taxa) and Asteraceae (64 taxa). A full list of taxa is presented in Appendix E.

A total of 641 flora taxa were recorded during surveys in 2012, of which 65 are introduced. This includes 81 native plant taxa (including 8 with incomplete identifications) and 34 introduced taxa which have not previously been recorded within the Study Area.

4.1.1 Conservation Significant Flora Taxa

A total of 67 discrete CS flora taxa, including five potential CS flora taxa (those taxa with indeterminate identifications that possibly represent CS flora) have been recorded from within the Study Area during both the 2012 and historical surveys (Table 9). This total includes four T-DRF taxa, as listed by DPaW (Strijk 2013; DPaW 2013a). A total of 23 CS flora taxa were recorded during the current (Spring 2012) surveys. Locations of the CS flora known from within the Study Area are shown in Figures 7.1 - 7.5, and presented in Appendix H.

Table 9 indicates the number of locations, the equivalent number of populations and the VTs in which these taxa have been recorded to occur within the Study Area. Note that records from Cleared (C) or Rehabilitated (R) areas are historical records; the vegetation in these areas are now either cleared, or have been cleared and rehabilitated. The listing of vegetation types includes all VTs in which these CS flora taxa have been recorded; the preferred habitat of each of these taxa (the most common VTs in which these taxa have been recorded) are further described in Appendix I.

The source data of these taxa and location records has been taken from all historical studies summarised in Section 2.5 (where specific locational data is available), results of searches of relevant DPaW databases (DEC 2012) and the Tronox Iluka Database (Tronox 2013b). A dash ('-') indicates that no point location data is available.

Table 9: Summary of Conservation Significant Taxa Known from within the Study Area

Taxon	Conservation Code (DPaW 2012c)	Number of Locations Recorded in the Study Area	Total Number of Populations Known in the Study Area	Vegetation Types in Which Present
Allocasuarina grevilleoides	P3	2	2	7
Andersonia gracilis	T-DRF (VU)	1094	39	1, 2, 5, 6, 7, 9b, 17, 18, C, R
Angianthus micropodioides	P3	30	15	2, 5, 13
Anigozanthos humilis subsp. *chrysanthus*	P4	3	3	17, 18
Anigozanthos viridis subsp. *terraspectans*	T-DRF (VU)	57	22	1, 2, 4, 5, 6, 9b, 17, 18 C, R
Anigozanthos viridis subsp. ?*terraspectans*	T-DRF (VU)	2	2	1

Taxon	Conservation Code (DPaW 2012c)	Number of Locations Recorded in the Study Area	Total Number of Populations Known in the Study Area	Vegetation Types in Which Present
Arnocrinum gracillimum	P2	3	2	17, R
Baeckea sp. Moora (R. Bone 1993/1)	P3	1	1	1
Baeckea sp. Perth Region (R.J. Cranfield 444)	P3	70	26	1, 2, 5, 7, 9a, 9b, 13, 16, 17, 18
Banksia dallanneyi subsp. *pollosta*	P3	75	17	1, 5, 17, 18, C
Beaufortia bicolor	P3	7	3	7, 17, R
Beaufortia eriocephala	P3	1	1	7
Beyeria cinerea subsp. *cinerea*	P3	1	1	8
Boronia tenuis	P4	3	1	1, 17, R
Byblis gigantea	P3	1	1	2
Calectasia palustris	P1	9	4	2, 5, 7
Calytrix aff. *eneabbensis*	P4	2	1	17
Chordifex chaunocoleus	P4	31	28	1, 2, 5, 6, 7, 17, 18
Chordifex reseminans	P1	20	14	1, 2, 5, 17, 18
Conospermum scaposum	P3	134	51	1, 5, 17, 18, C, R
Conostephium magnum	P4	180	13	1, 5, 6, 8, 17, 18, C
Desmocladus biformis	P3	1	1	17
Diuris ?*eburnea*	P1	1	1	10
Eremophila glabra subsp. ?*carnosa*	*C	2	2	2
Eryngium pinnatifidum subsp. Palustre (G.J. Keighery 13459)	P3	6	4	2, 16
Eucalyptus macrocarpa subsp. *elachantha*	P4	7	2	18, C, R
Frankenia glomerata	P3	12	6	2, 13
Goodenia perryi	P3	3	3	17, 18
Grevillea saccata	P4	4	3	18, C
Grevillea thelemanniana subsp. Cooljarloo (B.J. Keighery 28 B)	P1	59	26	1, 2, 5, 7, 13, 14, 16, 17, 18
Grevillea ?*thelemanniana* subsp. Cooljarloo (B.J. Keighery 28 B)	P1	11	10	1, 2, 5, 7
Guichenotia alba	P3	3	2	1, 7
Hakea longiflora	P3	13	2	1, 18
Hakea ?*longiflora*	P3	-	-	-
Haloragis ?*foliosa*	P3	1	1	1, 2
Hensmania stoniella	P3	79	12	5, 6, 17, 18, C, R
Hibbertia helianthemoides	P4	2	2	2, 5
Hibbertia spicata subsp. *leptotheca*	P3	1	1	8
Hypocalymma gardneri	P3	2	2	17
Hypocalymma serrulatum	P3	2	2	7, 10
Hypocalymma sp. Cataby (G.J. Keighery 5151)	P2	1	1	17
Hypolaena robusta	P4	1	1	C
Isopogon panduratus subsp. *palustris*	P2	359	49	1, 2, 5, 6, 7, 9a, 9b, 12, 17, 18, C, R

Taxon	Conservation Code (DPaW 2012c)	Number of Locations Recorded in the Study Area	Total Number of Populations Known in the Study Area	Vegetation Types in Which Present
Jacksonia carduacea	P3	20	12	1, 2, 5, 17, 18, C, R
?*Jacksonia carduacea*	P3	-	-	-
Lepidobolus densus ms	P3	2	2	1, 18
Leucopogon sp. Yanchep (M. Hislop 1986)	P3	1	1	1
Loxocarya gigas	P2	1	1	1
Lyginia excelsa	P1	1	1	1
Macarthuria keigheryi	T-DRF (EN)	157	24	1, 5, 17, 18, C
Malleostemon sp. Cooljarloo (B.Backhouse s.n. 16/11/88)	P1	3	2	5, 17
Malleostemon sp. ?Cooljarloo (B.Backhouse s.n. 16/11/88)	P1	1	1	1
?*Malleostemon* sp. Cooljarloo (B. Backhouse s.n. 16/11/88)	P1	1	1	5
Meionectes tenuifolia	P3	1	1	1
Onychosepalum microcarpum	P2	8	5	1, 5, 17
Onychosepalum nodatum	P3	39	21	1, 2, 5, 6, 17, R
Onychosepalum ?*nodatum*	P3	-	-	-
?*Onychosepalum nodatum*	P3	-	-	-
Ornduffia submersa	P4	1	1	9a
Paracaleana dixonii	T-DRF (VU)	1	1	17
Persoonia rudis	P3	1	1	17
Platysace ramosissima	P3	79	24	1, 2, 5, 6, 7, 17, 18, C, R
Schoenus griffinianus	P3	47	15	1, 5, 6, 17, 18, R
Schoenus natans	P4	1	1	9a
Schoenus pennisetis	P1	45	23	1, 2, 5, 7, 10, 17, 18, C, R
Stenanthemum sublineare	P2	1	1	17
Stylidium aceratum	P2	3	2	2; 6
Stylidium carnosum subsp. ?Narrow leaves (J.A. Wege 490)	P1	1	1	18
Stylidium hymenocraspedum	P2	133	34	1, 6, 7, 13, 17, 18
Stylidium ?*hymenocraspedum*	P2	3	3	6, 17
Stylidium longitubum	P3	4	4	1, 9a, 13
Stylidium maritimum	P3	1	1	17
Thysanotus glaucus	P4	21	9	17, 18, R
Verticordia amphigia	P3	1	1	18
Verticordia huegelii var. *tridens*	P3	1	1	7
Verticordia lindleyi subsp. *lindleyi*	P4	52	32	1, 5, 6, 7, 17, 18, C
Verticordia ?*lindleyi* subsp. *lindleyi*	P4	5	4	1, 2, 5, 6

Note: *C = species is of taxonomic and conservation significance; C (in VT column) = cleared land, R (in VT column) = rehabilitated land

Descriptions of the T-DRF taxa recorded in the Study Area are provided below. Appendix H presents a description of all Priority flora taxa known in the Study Area, including preferred habitat (VTs) in the Study Area.

Andersonia gracilis (T-DRF (VU)) is a slender, erect or open straggly shrub, growing to 0.5 m in height with white to pink / purple flowers present from September to November (Plate 1). This species generally occurs on white to grey sand, sandy clay and gravelly loam, often in winter-wet areas or near swamps (DPaW 2013a). *Andersonia gracilis* has a geographical distribution of approximately 110 km occurring from Cooljarloo to Gingin, with outliers in the Perth Region. There are currently 29 populations for this taxon recorded within DPaW databases (Woodman Environmental 2013d). *Andersonia gracilis* is ranked as Vulnerable under the WC Act, and Endangered under the EPBC Act.

At the completion of studies for this project, *Andersonia gracilis* is now known from 1094 point locations representing 39 populations in the Study Area (Appendix H, Figure 7.1). Although this taxon has been recorded in seven VTs (as well as in areas now mapped as Cleared, and rehabilitated areas), the preferred VTs are 5, 2 and 1 (546, 233 and 212 locations respectively) (Appendix H; Figure 7.1).



Plate 1: ***Andersonia gracilis*** **(T-DRF) (Photo: DPaW 2013a)**

Anigozanthos viridis subsp. *terraspectans* (T-DRF (VU)) is a rhizomatous, perennial herb growing to 0.2 m in height occurring on grey sand and clay loam in winter-wet depressions, with green and yellow flowers from August to September (Plate 2). It has a known geographical distribution of approximately 100 km, with approximately 17 populations recorded in DPaW databases (Woodman Environmental 2013d). *Anigozanthos viridis* subsp. *terraspectans* is ranked as Vulnerable under both the WC Act and the EPBC Act.

At the completion of studies for this project, *Anigozanthos viridis* subsp. *terraspectans* is now known from 57 point locations representing 22 populations in the Study Area (Appendix H, Figure 7.1). The preferred habitat for this taxon is VT 1, in which 27 locations are located (Appendix I). An indeterminate specimen was also recorded at two point locations (two separate populations) within the Study Area, both of which are also located in VT 1 (Appendix H; Figure 7.1).



Plate 2: ***Anigozanthos viridis*** **subsp.** ***terraspectans*** **(T-DRF) (Photo: DPaW 2013a)**

Eremophila glabra subsp. *chlorella* (T-DRF) is no longer believed to be the entity occurring at Cooljarloo. Review of the collected material by the WAHerb shows atypical characters for subsp. *carnosa* in having yellow corollas ageing red, and at least sometimes hairy young growth (*cf.* bright red corollas and always glabrous leaves and branchlets). This specimen is best referred to as subsp. ?*carnosa* until further investigation is undertaken. The species should be regarded as taxonomically significant and, as such efforts made to conserve the populations due to its anomalous morphology (M. Hislop pers. comm. 2013).

Eremophila glabra subsp. *carnosa* is an erect slender shrub, growing to 0.7 m high (Plate 3), generally occurring on white/grey sand in intermittently damp areas. *Eremophila glabra* subsp. ?*carnosa* is known from 2 point locations representing two separate populations in the Study Area, both occurring in VT 2 (Appendix H; Figure 7.5).



Plate 3: ***Eremophila glabra*** **subsp. ?*carnosa* (C) (Photo: Woodman Environmental)**

Macarthuria keigheryi (T-DRF(VU)) is an erect or spreading perennial herb or shrub growing to 0.4 m high and 0.6 m wide, flowering from September to December or February to March (Plate 4) and generally occurs on white or grey sand (DPaW 2013a). It has a geographical distribution of approximately 180 km from Cooljarloo to Kenwick (Perth), with a total of 12 populations recorded in DPaW databases (Woodman Environmental 2013d). *Macarthuria keigheryi* is ranked as Endangered under both the WC Act and the EPBC Act.

At the completion of studies for this project, *Macarthuria keigheryi* is now known from 157 point locations representing 24 populations in the Study Area (Appendix H, Figure 7.1). The preferred habitat for this taxon is VTs 17 and 18, with 84 and 53 locations recorded in these VTs respectively.



Plate 4: ***Macarthuria keigheryi*** **(T-DRF) (Photo: DPaW 2013a)**

Paracaleana dixonii (T-DRF (VU)) is a tuberous, perennial herb growing to 0.2 m high, with 1-2 yellow-brown duck-like flowers from October to December or January (Plate 5). It generally occurs on grey sand over granite (DPaW 2013a), and has a geographical range of approximately 245 km with 26 populations recorded in DPaW databases (Woodman Environmental 2013b; with one additional population at Cooljarloo to that recorded in this report). *Paracaleana dixonii* is ranked as Vulnerable under the WC Act, and Endangered under the EPBC Act.

Paracaleana dixonii was recorded by Astron Environmental from a single point location (one population) in the Study Area in December 2012 (Appendix H, Figure 7.1). This timing is out of the normal flowering season for this taxon (late October – November), and this may be the reason why this taxon has not been recorded earlier, or in more localities at Cooljarloo, as many of the surveys for CS flora taxa in the Study Area have been undertaken during the prime surveying months in Spring (August – October).

The record of this taxon was collected in VT 17, which is characterised by mixed *Banksia* and *Eucalyptus todtiana* woodland on plains and undulating dunes of white sand. This taxon prefers deep sand in open areas, beneath dense tall shrubs including *Banksia*, or shallow sand over laterite in heathland (Brown *et al*. 2008). This taxon has the potential to be more widely distributed through the Study Area, primarily in VTs 7 (due to sand over lateritic influence), 17 and 18.



Plate 5: ***Paracaleana dixonii*** **(T-DRF) (Photo: DPaW 2013a)**

Andersonia gracilis, *Macarthuria keigheryii* and *Paracaleana dixonii* are also listed as Threatened – Endangered under the Commonwealth EPBC Act. Likewise, *Anigozanthos viridis* subsp. *terraspectans* is listed as Threatened – Vulnerable under the EPBC Act.

4.1.2 Range Extensions and Distribution Gaps

As the Study Area is situated near the junction of three IBRA subregions (Figure 5), a large number of taxa recorded in the Study Area correlate to range extensions, represent new localities (within the known ranges) or represent taxa with few vouchered collections at the WAHerb.

Table 10 presents the CS flora taxa where the collections or records from the Study Area represent extensions to the known distribution, or otherwise fill gaps within the known distribution of such taxa. Appendix J similarly presents common taxa recorded from the Study Area that represent extensions to the known distribution, or otherwise fill gaps within the known distribution of such taxa.

Table 10: Conservation Significant Taxa Where Collections/Records Represent Range Extensions to the Known Ranges of these Taxa, or Fill Distribution Gaps (DPaW 2013b)

Taxon	Description
Acacia benthamii (P2)	New locality record, but occurs outside of study area
Allocasuarina grevilleoides (P3)	New locality record
Angianthus micropodioides (P3)	Range extension to the West
Banksia dallanneyi subsp. *pollosta* (P3)	Slight range extension to the North West
Beaufortia eriocephala (P3)	New locality record
Beyeria cinerea subsp. *cinerea* (P3)	Range extension to the East
Desmocladus biformis (P3)	New locality record
Diuris ?eburnera (P1)	Significant range extension to the South if identification is correct
Eremophila glabra subsp.?*carnosa*	New record, species of interest

Taxon	Description
Eryngium pinnatifidum subsp. Palustre (G.J. Keighery 13459) (P3)	New locality record, additional location to Northern extent
Haloragis foliosa (P3)	Range extension to the South
Hypocalymma gardneri (P3)	Slight range extension to the South
Lepidobolus densus (P3)	New locality record; slight range extension to south-west
Ornduffia submersa (P4)	Significant range extension to the North
Paracaleana dixonii (T-DRF (VU))	New locality record
Platysace ramosissima (P3)	New locality record
Schoenus natans (P4)	Range extension to the North
Stenanthemum sublineare (P2)	Significant range extension to the North
Stylidium aceratum (P2)	Significant range extension to the North
Stylidium carnosum subsp. ?Narrow leaves (J.A. Wege 490) (P1)	New locality record if identification is correct
Stylidium longitubum (P3)	New locality record
Thysanotus glaucus (P4)	New locality record
Verticordia huegelii var. tridens (P3)	Range extension to the North West

4.1.3 Introduced Taxa

A total of 93 discrete introduced flora taxa have been recorded in the Study Area (Table 11). Table 11 also presents ratings for each of these taxa as per the Environmental Weed Strategy for Western Australia (Appendix D) (CALM 1999), as well as the number of locations and vegetation types which each taxon was recorded. Locations of each of these flora taxa are presented in Appendix K, and shown on Figure 8. The source data of these taxa and location records has been taken from all historical studies summarised in Table 3 (where specific locational data is available). A dash ('-') indicates that there was no point location data available and therefore the VT in which they occur is unknown.

While a large number of introduced taxa occur within the Study Area, many are common weeds of the Swan Coastal Plain (Hussey *et al.* 2007), and the majority were ranked as 'Moderate' or lower under the Environmental Weed Strategy for Western Australia (CALM 1999). A total of five taxa were ranked as 'High' under this strategy, and descriptions of these taxa are presented in Appendix L.

Table 11: Summary of Introduced Taxa Known from Within the Study Area

Taxon	Common Name	No. of Locations	VTs	Weed Ranking*
Aira caryophyllea	Silvery Hairgrass	21	1, 2, 6, 7, 9a, 9b, 17	'Moderate'
Aira cupaniana	Silvery Hairgrass	31	1, 2, 4, 8, 9a, 9b, 16, 18	'Moderate'
Arctotheca calendula	Cape Weed	12	1, 2, 4, 6, 9b, 13, 18	'Moderate'
Avellinia michelii	-	3	8, 9b, 18	TBA
Avena ?*barbata*	Bearded Oat	1	17	'Moderate'
Bartsia trixago	-	7	1,9a, 9b, R	TBA
Briza maxima	Blowfly Grass	18	1, 2, 4, 9a, 9b, 17, 18	'Moderate'

Taxon	Common Name	No. of Locations	VTs	Weed Ranking*
Briza minor	Shivery Grass	22	2, 4, 9a, 9b, 10, 11, 13, 16, R	'Moderate'
Bromus diandrus	Great Brome	1	17	'High'
Bromus sp.	-	-	-	-
Carpobrotus edulis	Hottentot Fig	5	2, 11, R	'Moderate'
Carpobrotus ?*edulis*	Hottentot Fig	1	15	'Moderate'
Centaurea melitensis	Maltese Cockspur	2	1, 9b	'Moderate'
Centaurium ?*tenuiflorum*	-	2	2	'Low'
Cerastium glomeratum	Mouse Ear Chickweed	3	9b	'Low'
Cicendia filiformis	Slender Cicendia	-	-	'Low'
Conyza bonariensis	Flaxleaf Fleabane	3	9b	'Low'
Conyza ?*bonariensis*	Flaxleaf Fleabane	1	9b	'Low'
Conyza sp.	-	1	9b	-
Corrigiola litoralis	Strapwort	-	-	TBA
Cotula bipinnata	Ferny Cotula	6	1, 9a, 13, 16	'Low'
Cotula coronopifolia	Waterbutton	10	1, 2, 9a, 9b, 18	-
Crassula glomerata	-	1	13	'Moderate'
Crassula natans var. *minus*	-	5	1, 9b, 13	'Moderate'
Cynodon dactylon	Couch	1	1	'Moderate'
?*Cynodon dactylon*	-	-	-	-
Cyperus tenellus	Tiny Flatsedge	15	1, 2, 8, 13, 17, 18	'Moderate'
Dischisma arenarium	-	2	13	TBA
Dittrichia graveolens	Stinkwort	2	16	'Mild'
Echium plantagineum	Patersons Curse	1	4	Declared Plant (P1 for the whole state and P3 for the shire of Dandaragan) TBA
Ehrharta ?*brevifolia*	Annual Veldt Grass	1	9b	'Moderate'
Ehrharta calycina	Perennial Veldt Grass	2	17	'High'
Ehrharta longiflora	Annual Veldt Grass	6	2, 3, 9b	'Moderate'
?*Ehrharta* sp.	-	3	6, 9b, 17	-
Erodium cicutarium	Common Storksbill	-	-	'Moderate'
Galium murale	Small Goosegrass	4	9b	'Moderate'
Gladiolus caryophyllaceus	Wild Gladiolus	4	1, 17, 18	'Moderate'

Taxon	Common Name	No. of Locations	VTs	Weed Ranking*
Hainardia cylindrica	Common Barbgrass	1	13	'Moderate'
Heliophila pusilla	-	10	1, 2, 8, 9a, 13, 17	'Moderate'
Hordeum hystrix	Mediterranean Region Barley Grass	5	2, 13, 16	'Low'
Hordeum leporinum	Barley Grass	-	-	'Moderate'
Hordeum ?leporinum	Barley Grass	2	2	'Moderate'
Hypochaeris glabra	Smooth Catsear	132	1, 2, 3, 4, 5, 6, 7, 8, 9a, 9b, 10, 13, 16, 17, 18, R	'Moderate'
Isolepis marginata	Coarse Club-rush	16	1, 2, 5, 9a, 9b, 13, 16, 17, 18	-
Isolepis ?prolifera	Budding Club-rush	1	2	'Moderate'
Juncus bufonius	Toad Rush	1	13	'Moderate'
Juncus capitatus	Capitate Rush	1	2	'Moderate'
Lolium rigidum	Wimmera Ryegrass	6	1, 2, 16	'Moderate'
Lotus angustissimus	Narrowleaf Trefoil	4	4, 9a, 16	'Low'
Lotus subbiflorus	-	3	2, 9b	'Low'
Lysimachia arvensis	Pimpernel	51	1, 2, 3, 4, 6, 9a, 9b, 13, 14, 16, 17, 18, R	'Moderate'
?*Lysimachia* sp.	-	1	9b	-
Medicago polymorpha	Burr Medic	1	13	'Mild'
Melilotus indicus	-	1	13	TBA
Mercurialis annua	Annual Mercury	1	17	'Mild'
Monopsis debilis	-	10	2, 4, 9a, 9b, 13, 14, 16	'Low'
Moraea flaccida	One-leaf Cape Tulip	2	2, 17	Declared Plant (P1; for the whole of the State) 'High'
Oenothera stricta	Common Evening Primrose	1	2	'Low'
Ornithopus compressus	Yellow Serradella	1	2	'Mild'
Ornithopus pinnatus	Slender Serradella	1	2	'Low'
Ornithopus sativus	French Serradella	4	2, 9b, 18	'Low'

Taxon	Common Name	No. of Locations	VTs	Weed Ranking*
Orobanche minor	Lesser Broomrape	1	1	'Moderate'
Oxalis sp.	-	1	9a	-
Parentucellia latifolia	Common Bartsia	10	1, 2, 4, 9a, 9b, 13	'Moderate'
Parentucellia viscosa	Sticky Bartsia	4	13, 16	'Moderate'
Pelargonium capitatum	Rose Pelargonium	1	15	'High'
Pentameris airoides	False Hairgrass	7	2, 3, 6, 9a, 9b, 18	'Moderate'
Pentameris airoides subsp. *airoides*	-	1	2	*P. airoides* 'Moderate'
Petrorhagia dubia	-	-	-	'Mild'
Polycarpon tetraphyllum	Fourleaf Allseed	3	9b	'Low'
Polypogon maritimus	Coast Beardgrass	2	2, 9a	'Low'
Polypogon monspeliensis	Annual Beardgrass	6	9a, 13	'Moderate'
Romulea rosea	Guildford Grass	2	1	'High'
Romulea rosea var. *australis*	Guildford Grass	1	16	TBA
Rostraria cristata	-	1	1	'Moderate'
Rostraria pumila	-	-	-	'Moderate'
Rumex crispus	Curled Dock	1	9b	'Mild'
Rumex ?crispus	Curled Dock	1	9b	'Mild'
Silene gallica	French Catchfly	2	4, 17	'Low'
Silene gallica var. *gallica*	-	3	1, 2, 9b	-
Solanum nigrum	Black Berry Nightshade	4	9b	'Moderate'
Sonchus oleraceus	Common Sowthistle	23	1, 2, 9a, 9b, 11, 13, 16, 17, 18	'Moderate'
Sonchus sp.	-	1	1	-
Spergularia marina	Salt Sand Spurry	1	13	TBA
Taraxacum officinale	Dandelion	2	9b, 18	'Low'
?*Taraxacum* sp.	-	1	9b	-
Trifolium arvense var. *arvense*	Hare's Foot Clover	5	1, 3, 9b, 17	*T. arvense* 'Moderate'
Trifolium campestre var. *campestre*	Hop Clover	1	9b	*T. campestre* 'Moderate'
Trifolium dubium	Suckling Clover	2	4, 13	'Moderate'
Trifolium glomeratum	Cluster Clover	2	9b	'Moderate'
Trifolium sp.	-	1	1	-
Urospermum picroides	False Hawkbit	1	13	'Moderate'

Taxon	Common Name	No. of Locations	VTs	Weed Ranking*
Ursinia anthemoides	-	98	1, 2, 3, 4, 5, 6, 7, 9a, 9b, 17, 18	'Moderate'
Vellereophyton dealbatum	White Cudweed	1	9a	'Moderate'
Vulpia bromoides	Squirrel Tail Fescue	5	2, 4, 9b, 13	'Moderate'
Vulpia myuros	Rat's Tail Fescue	16	1, 2, 6, 9a, 9b, 17, 18	'Low'
Vulpia ?*myuros*	Rat's Tail Fescue	4	2, 9a, 9b	'Low'
Vulpia sp.	-	15	1, 2, 3, 6, 9a, 9b, 16, 18	-
Wahlenbergia capensis	Cape Bluebell	34	1, 2, 3, 6, 7, 9b, 17, 18	'Moderate'

Note: R (in VT column) = rehabilitated land
Ranking as per CALM (1999)

Two Declared Pests have been recorded in the Study Area (*Echium plantagineum* and *Moraea flaccida*) (Department of Agriculture and Food 2013); however, none are listed as WoNS (Australian Weeds Committee 2013). Descriptions of the Declared Pests of introduced flora taxa recorded in the Study Area are provided below.

Echium plantagineum (Paterson's Curse) is an erect annual/biennial herb growing to 0.6 m high, with purple/blue flowers from September to December or January (Plate 6). It occurs on a wide range of soils. Large amounts of seed that can germinate at any time throughout the year is readily produced, however most germination occurs after substantial rains in autumn and winter (DPaW 2013a). Originating from Southern Europe, *Echium plantagineum* is now widespread in agricultural land, roadsides and reserves throughout the South-West of Western Australia (Hussey *et al.* 2007).

It is currently listed as a Declared Pest under Section 22 of the BAM Act with a prohibited keeping category, and ranked C3 as an established plant in Western Australia (including the Shire of Dandaragan) but it is feasible, or desirable, to manage them in order to limit their damage (Department of Agriculture and Food 2013). This species was recorded at a single point location in the Study Area (Appendix K, Figure 8).

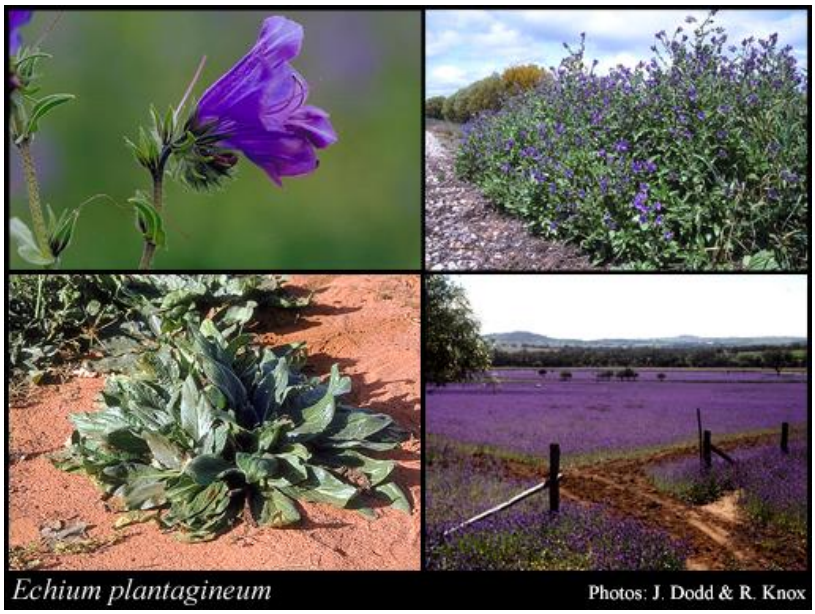


Plate 6: ***Echium plantagineum*** **(Paterson's Curse) (Photo: DEC 2013a)**

Moraea flaccida (One-leaf Cape Tulip) is a cormous, perennial herb growing to 0.75 m high, producing yellow and orange-yellow flowers from September to November (Plate 7) and occurs on white sand or grey sandy loam over limestone, lateritic clay or gravel (DPaW 2013a). It is a common weed of seasonally wet sites, pastures, woodlands, granite rocks and limestone heath throughout the South-West of Western Australia (Hussey *et al.* 2007).

Moraea flaccida was ranked as 'High' due to its high level of invasiveness, wide current or potential distribution and high level of environmental impact to structure, composition and function of ecosystems (CALM 1999). It is currently listed as a Declared Pest under Section 22 of the BAM Act with a prohibited keeping category and ranked C3 as an established plant in Western Australia but it is feasible, or desirable, to manage them in order to limit their damage (Department of Agriculture and Food 2013). This species was recorded at two point locations in the Study Area (Appendix K, Figure 9).



Plate 7: ***Moraea flaccida*** **(One-leaf Cape Tulip) (Photo: DEC 2013a)**

4.1.4 Significance of Conservation Significant Flora Populations

Table 12 presents the significance of local populations of CS flora taxa to the overall conservation significance of each taxon, as determined from Table 7. Regional population numbers are taken from reviews of regional data of CS flora taxa as undertaken by Woodman Environmental (2013b; 2013c) where available. These reviews included location data held by the DPaW (WAHerb and DEFL records), as well as location details held in the Tronox database, and associated consultant reports. Where this data was not available (i.e. for CS flora taxa which were not subject to these reviews), approximate regional population numbers as presented in NatureMap (DPaW 2013b) have been presented.

The local populations of a significant portion of these CS flora taxa (14 taxa; 20.6 % of CS taxa) were ranked as being of Low significance (to the overall conservation of the taxa). This was due to a combination of large numbers of known populations (>20), relatively large ranges (> 50 km) and the location of the Study Area being within the known range (Tables 7; 12). All of these taxa hold the rankings of P3 or P4 (DEC 2013c).

The significance of the local populations (in terms of their overall conservation) of the majority of the CS flora taxa were ranked Low-Moderate (41 taxa; 60.3 % of CS taxa). The majority of these taxa had relatively large ranges and large numbers of populations; however the Study Area is located at the edge of the known range (for example *Hypolaena robusta* and *Schoenus pennisetis*). Eleven of these taxa had relatively few populations (between 5 and 10), however large ranges (>100 km). The majority of these taxa have conservation rankings of P3 or P4, with some having higher rankings (e.g. *Arnocrinum gracillimum* (P2), *Calectasia palustris* (P1), *Loxocarya gigas* (P2) and *Schoenus pennistis* (P1)).

The local populations of fewer CS flora taxa were ranked Moderate, Moderate-High or High in terms of their significance (to the overall conservation of the taxa). Four CS taxa were ranked Moderate, these taxa having a combination of relatively restricted known ranges and fewer known populations; *Grevillea thelemanniana* subsp. Cooljarloo (B.J. Keighery 28 B) (P1), *Isopogon panduratus* subsp. *palustris* (P2), *Onychosepalum microcarpum* (P2) and *Onychosepalum nodatum* (P3)).

The local populations of two CS taxa were ranked Moderate-High, due to further restricted ranges, or few populations, including *Malleostemon* sp. Cooljarloo (B. Backhouse s.n. 16/11/88) (P1), and *Lyginia excelsa* (P1). These taxa correspondingly have higher priority rankings (P1 and P2) in comparison to those which have been ranked Low or Low-Moderate.

The local populations of six CS taxa were ranked High, with four of these taxa listed as Threatened (*Andersonia gracilis*, *Anigozanthos viridus* subsp. *terraspectans*, *Macarthuria keigheryi* and *Paracaleana dixonii*).

Table 12: Significance of Local Populations of Conservation Significant Flora to the Overall Conservation Significance of Each Taxon

Taxon	Conservation Code (DPaW 2013c)	Estimated Range	Location of Study Area within Range	Approximate Number of Regional Populations	Significance of Local Populations to the Overall Conservation Significance of Taxon
Allocasuarina grevilleoides	P3	300 km	Near western edge of range, new locality	13	Low-Moderate
Andersonia gracilis	T	110 km (based around Cooljarloo and Perth)	On northern edge of range	29 #	High
Angianthus micropodioides	P3	400 km	On western edge of range; range extension to West	17 #	Low-Moderate
Anigozanthos humilis subsp. *chrysanthus*	P4	200 km	On western edge of range	43 #	Low-Moderate
Anigozanthos viridis subsp. *terraspectans*	T	100 km	On northern edge of range	17 #	High
Arnocrinum gracillimum	P2	80 km	Near southern edge of range	15	Low-Moderate
Baeckea sp. Moora (R. Bone 1991/1)	P3	80 km	On western edge of range	14 #	Low-Moderate
Baeckea sp. Perth Region (R.J. Cranfield 444)	P3	250 km	On northern edge of range	12 #	Low-Moderate
Banksia dallanneyi subsp. *pollosta*	P3	140 km	On north-western edge of range; slight range extension to North-west	17 #	Low-Moderate
Beaufortia bicolor	P3	120 km	On western edge of range	15 #	Low-Moderate
Beaufortia eriocephala	P3	195 km	On southern edge of range	16 #	Low-Moderate
Beyeria cinerea subsp. *cinerea*	P3	550 km	On eastern edge of range; slight range extension to East	23	Low-Moderate
Boronia tenuis	P4	330 km	Near northern extent of range	29	Low-Moderate
Byblis gigantea	P3	290 km	Northern extent of range (main range Perth southwards, northern outlier at Cooljarloo)	23	Low-Moderate

Taxon	Conservation Code (DPaW 2013c)	Estimated Range	Location of Study Area within Range	Approximate Number of Regional Populations	Significance of Local Populations to the Overall Conservation Significance of Taxon
Calectasia palustris	P1	130 km	On southern edge of range	8 #	Low-Moderate
Calytrix affin. *eneabbensis*	P4	90 km	Cooljarloo represents southern range extension	> 20	Low-Moderate
Chordifex chaunocoleus	P4	200 km	Not on edge of range	10 #	Low-Moderate
Chordifex reseminans	P1	120 km	On southern edge of range	6 #	Low-Moderate
Conospermum scaposum	P3	270 km	Not on edge of range	30 #	Low
Conostephium magnum	P4	200 km	On southern edge of range	23 #	Low-Moderate
Desmocladus biformis	P3	190 km N-S (northern populations) 630 km N-S in total	On southern edge of range (of northern populations)	19 #	Low-Moderate
Diuris eburnea	P1	15 km (north of Eneabba)	Cooljarloo represents a large range extension to the south if identification correct	5	High
Eremophila glabra ?subsp. *carnosa*	C	375 km	Not on edge of range	6	Low-Moderate
Eryngium pinnatifidum subsp. Palustre (G.J. Keighery 13459)	P3	270 km	On northern edge of range	16 #	Low-Moderate
Eucalyptus macrocarpa subsp. *elachantha*	P4	200 km	On southern edge of range	54 #	Low-Moderate
Frankenia glomerata	P3	850 km	Not on edge of range	22 #	Low
Goodenia perryi	P3	250 km	Cooljarloo represents a western range extension	10 #	Low-Moderate
Grevillea saccata	P4	150 km; outlier extends this southwards to 300 km	Not on edge of range	37 #	Low
Grevillea thelemanniana subsp. Cooljarloo (B.J. Keighery 28 B)	P1	45 km	On edge of range	6 #	Moderate
Guichenotia alba	P3	198 km	On south-western edge of range	27 #	Low-Moderate
Hakea longiflora	P3	90 km	On south-western edge of range	14	Low-Moderate
Haloragis foliosa	P3	125 km	On southern edge of range; southern range extension	8	Low-Moderate

Taxon	Conservation Code (DPaW 2013c)	Estimated Range	Location of Study Area within Range	Approximate Number of Regional Populations	Significance of Local Populations to the Overall Conservation Significance of Taxon
Hensmannia stoniella	P3	260 km	Not on edge of range	41 #	Low
Hibbertia helianthemoides	P4	570 km	Not on edge of range	43	Low
Hibbertia spicata subsp. *leptotheca*	P3	250 km (and outlier to north)	On northern edge of range (excluding outlier)	30	Low
Hypocalymma gardneri	P3	125 km	On southern edge of range; slight southern range extension	20 #	Low-Moderate
Hypocalymma serrulatum	P3	65 km	Near southern edge of range	14 #	Low-Moderate
Hypocalymma sp. Cataby (G.J. Keighery 5151)	P2	180 km	On western edge of range	7 #	Low-Moderate
Hypolaena robusta	P4	460 km N-S	Cooljarloo represents a western range extension	> 30	Low-Moderate
Isopogon panduratus subsp. *palustris*	P2	50 km	On edge of range	11 #	Moderate
Jacksonia carduacea	P3	80 km	On southern edge of range	16 #	Low-Moderate
Lepidobolus densus ms	P3	1100 km	Cooljarloo represents a south-western range extension	20 #	Low-Moderate
Leucopogon sp. Yanchep (M. Hislop 1986)	P3	125 km	On northern edge of range	9 #	Low-Moderate
Loxocarya gigas	P2	140 km N-S; 70 km E-W	On western edge of range	> 18	Low-Moderate
Lyginia excelsa	P1	30 km	On edge of range	4 #	Moderate-High
Macarthuria keigheryi	(T-DRF (EN))	180 km	On northern edge of range	12 #	High
Malleostemon sp. Cooljarloo (B. Backhouse s.n. 16/11/88)	P1	40 km	On northern edge of range	6 #	Moderate-High
Meionectes tenuifolia	P3	450 km N-S; 230 km E-W	On northern edge of range	17	Low-Moderate
Onychosepalum microcarpum	P2	85 km	Near north-western edge of range	6 #	Moderate
Onychosepalum nodatum	P3	40 km	On northern edge of range	9 #	Moderate
Ornduffia submersa	P4	480 km	Cooljarloo represents northern range extension	50 #	Low-Moderate

Taxon	Conservation Code (DPaW 2013c)	Estimated Range	Location of Study Area within Range	Approximate Number of Regional Populations	Significance of Local Populations to the Overall Conservation Significance of Taxon
Paracaleana dixonii	T	245 km	Near southern edge of range	25 #	High
Persoonia rudis	P3	300 km	Not on edge of range	28 #	Low
Platysace ramosissima	P3	400 km	Not on edge of range	17 #	Low
Schoenus griffinianus	P3	340 km	Not on edge of range	25 #	Low
Schoenus natans	P4	470 km	Cooljarloo represents northern range extension	41 #	Low
Schoenus pennisetis	P1	410 km	On northern edge of range	30 #	Low-Moderate
Stenanthemum sublineare	P2	550 km	Cooljarloo represents northern range extension	8 #	Low-Moderate
Stylidium aceratum	P2	150 km (Cooljarloo 150 km north of other known population)	Cooljarloo represents northern range extension	2 #	High
Stylidium carnosum subsp. Narrow leaves (J.A. Wege 490)	P1	165 km	On south-western edge of range	7 #	Low-Moderate
Stylidium hymenocraspedum	P2	110 km	Not on edge of range	13 #	Low-Moderate
Stylidium longitubum	P3	500 km	Not on edge of range	37 #	Low
Stylidium maritimum	P3	375 km	Not on edge of range	>30	Low
Thysanotus glaucus	P4	620 km	Not on edge of range	24 #	Low
Verticordia amphigia	P3	80 km	Not on edge of range	10	Low-Moderate
Verticordia huegelii var. *tridens*	P3	500 km	On northern extent of range; range extension to north-west	30	Low-Moderate
Verticordia lindleyi subsp. *lindleyi*	P4	200 km	Not on edge of range	61 #	Low

Note: # = number of regional populations and range sourced from Woodman Environmental (2013b; d)

The conservation significance of the local population of *Diuris* ?*eburnea* (P1) has also been ranked as High, due to the few populations known of this taxon, its restricted range and the location of the Study Area in relation to this range. The known range of *D. eburnea* is restricted to between Eneabba and Three Springs, which results in a range extension for this taxon if the identification proves correct (see Appendix I). This possible taxon was recorded in one location within the Wongonderrah Nature Reserve (Figure 7.2).

The conservation significance of the local population of *Stylidium aceratum* (P2) has also been ranked High. This taxon is known from two DPaW records, located east of Wanneroo on the Great Northern Highway, approximately 150 km south of the Study Area. Three locations of this taxon have been recorded in the Study Area, two in proximity to one another, and a third recorded during a separate recent survey (October 2013) (Figure 7.3). A collection of this taxon was made and the identification was confirmed, however the form was noted to be somewhat different to the type specimen.

4.2 Vegetation of the Study Area

4.2.1 Vegetation Type Mapping

Statistical analysis of taxon presence/absence data was performed on 370 quadrats, using 487 perennial vascular taxa. Several taxa were either removed from the analysis or amalgamated with other taxa due to identification issues resulting from poor available material in the field; these are listed in Appendix M. Dissection of the resultant floristic classification of the 370 quadrats defined 18 VTs (including one VT being split into two subgroups), which comprise two super-groups.

During examination of the results of the floristic classification, it was discovered that a number of quadrats had grouped into particular VTs despite not possessing similar species composition, topographical and soil characters as the majority of quadrats they had grouped with. A number of potential reasons were identified as the cause of this, with common causes considered to be a combination of:

- fire history;
- seasonal influence;
- inadvertent positioning of quadrats on the boundaries of different plant communities (within ecotones); and
- the presence of minor expressions of the Guilderton System within broader vegetation types of the Bassendean System.

Low sampling in some representative vegetation types also made grouping of quadrats less reliable (e.g. VTs 11, 14, 15). These factors can drastically affect species richness and composition, and hence quadrat grouping. These quadrats were manually allocated to VTs that better reflected their topography, soil type and dominant vegetation composition. Sixty nine quadrats were moved within the resultant analysis, a list of these quadrats and the reasoning behind the moves provided in Appendix N. As a result a number of the original groups were dissolved with the manual movement of quadrats to other better suited groups (e.g. original group 4, 15, 17 and 18), with the group/VT number reallocated to new groups (also as a result of manual movement of quadrats) (see detail in Appendix Q and R).

Appendix O presents the raw data recorded within quadrats established in the Study Area during the 2012 survey. Appendix P presents a list of vascular plant taxa recorded in each VT within the Study Area from quadrats as per the analysis and species groupings based on analysis codes (i.e. excludes introduced, opportunistic, annual and singleton taxa). Appendix Q presents the summary dendrogram of relationships between each quadrat, showing the resultant groups of the analysis as well as the final groupings once quadrats had been manually moved. Appendix R presents the two-way table of the species and quadrats matrix produced from the analysis, also depicting the final groupings following manual quadrat movement. Appendix S presents significant indicator species for each VT. It should be noted that some VTs do not have any indicator species as they possess species represented in other VTs, and are either species rich or species poor with no taxa unique to that VT.

Figure 9 presents an overview of the VT mapping (coloured polygons) and Appendix T presents VT polygon boundaries overlying aerial photography of the vegetation at a more detailed scale (1:10 000). A detailed summary of each of the VTs including common taxa (based on lists in Appendix V), vegetation condition, mapped distribution of the VT across the Study Area, species richness, presence of CS flora and introduced taxa is presented in

Appendix U. Common taxa within each stratum (as presented in Appendix U) are defined as taxa that occurred in 30 % or greater of quadrats established within a particular VT. This may not include all taxa in the VT description, as the description is based on dominance within each stratum, as well as the frequency that a taxon was recorded within each VT. Appendix V presents the complete species list of each VT from quadrat data, including introduced, annual and singleton taxa recorded in the VT.

There are distinct differences in species composition between the two Super-groups, with the split based primarily on both the topographical location within the Study Area and the water-retention capacity of the associated soils. It was noted by Syrinx (2013) that the dominant factor influencing wetland and dunal vegetation is the available soil moisture and winter perching of water at the interface between the Bassendean Sands and Guildford Formation, with both the thickness of sand and the relative percentages of sand and clay within the Guildford Formation being important determinants of vegetation structure. Wetland areas located on the lowest points in the landscape are characterised by the thinnest layers of Bassendean Sands, whilst dunal areas and ridges are characterised by the thickest layers (Bassendean Sands are known to be over 7 m thick in dunal locations at Cooljarloo West) (Syrinx 2013).

4.2.1.1 Super-group 1

General Description: Comprised of various vegetation types, all related to conditions of greater water availability. Includes:

- Sedgelands over forbs on non-saline flats;
- Samphire Shrubland on saline flats;
- Open to Closed Heathlands to Shrublands on damp depressions and drainage lines to undulating plains, and areas with laterite or limestone influence;
- Woodlands dominated by mixed species including Banksia, Eucalyptus and Melaleuca on drainage lines, damp depressions and edges of claypans.

Super-group 1 is comprised of VTs 1 through to 16, and generally consists of vegetation associated with either wetland habitats (VT 1 to 5, 9a to 14, and 16), areas of higher moisture retention (i.e. soils with a clay content or impeding layer) (VT 6 and 7) or areas where limestone had been noted (VT 8 and 15). No particular Species Group was dominant within the VTs of Super-group 1 however there is a distinct lack of dominance by taxa from Species Group S, which are dominant in VTs of Super-group 2 (Appendix R). Species group N is fairly consistent throughout Super-group 1, including taxa such as *Banksia telmatiaea*, *Melaleuca seriata*, *Verticordia densiflora* and *Regelia ciliata*, which are typically found in wetter sites.

Super-group 1 has a much higher diversity of vegetation types in comparison to Super-group 2, despite it occupying a much smaller portion of the Study Area (26 %). This is due both to the more diverse landform and soil types in this Super-group in comparison to Super-group 2, and the higher diversity of species groupings of woodlands and heaths within these wetter areas in comparison to similar vegetation structures in drier areas. VTs typical to Super-group 1 included those mapped on broad depressions to undulating plains, claypans, drainage lines, ridges and dunes with limestone outcropping, saline flats, non-saline flats and areas with lateritic outcropping. Likewise, there is a high diversity of vegetation structure, ranging from Sedgelands, Open to Closed Heaths, Shrublands and Woodlands.

The average taxon richness of VTs within Super-group 1 was somewhat variable, ranging from 1 native perennial taxon per quadrat (VT 16; average over two quadrats) to 38.7 native taxa per quadrat (VT 8; averaged over three quadrats). VT 16 also recorded the lowest number of native perennial taxa (a total of 2) in Super-group 1, while VT 1 recorded the most native perennial taxa (a total of 190). On average species richness was generally lower than that of Super-group 2 (Appendix P, Appendix U).

VTs 1 through to 16 are described briefly below, with detailed information presented in Appendix U.

VT 1

Low Open Heathland to Mid Closed Heathland of *Acacia lasiocarpa* var. *lasiocarpa, Banksia telmatiaea, Melaleuca seriata, Hakea obliqua* subsp. *parviflora, Regelia ciliata* and/or *Verticordia densiflora* var. *densiflora,* often with Mid Isolated Clumps of Shrubs to Mid Sparse Shrubland of *Melaleuca rhaphiophylla* on white grey to grey brown sand, sandy loam or sandy clay in broad damp depressions on flat to gently undulating plains

VT 2

Mid Sparse Shrubland to Mid Closed Shrubland of *Melaleuca acutifolia, Melaleuca brevifolia, Melaleuca rhaphiophylla* and/or *Melaleuca viminea* subsp. *viminea* over Low Isolated Clumps of Shrubs to Low Shrubland of *Calothamnus hirsutus, Calothamnus sanguineus* and *Grevillea* ?*thelemanniana* subsp. Cooljarloo (B.J. Keighery 28 B) on grey to grey brown sand, sandy loam or sandy clay in broad damp to wet depressions and drainage lines on flat to gently undulating plains

VT 3

Low Isolated Clumps of Shrubs of *Regelia ciliata* and *Kunzea glabrescens* or Mid Shrubland of *Verticordia densiflora* subsp. *densiflora* over Low Isolated Clumps of Forbs of **Hypochaeris glabra* and *Trachymene pilosa* on white grey sandy clay or grey brown sand on the periphery of claypans

VT 4

Mid Open Shrubland of *Acacia saligna* subsp. *lindleyi* and *Calothamnus quadrifidus* over Mid Isolated Clumps of Sedges of *Lepidosperma longitudinale* over Low Open Grassland of **Briza maxima* and **Briza minor* on grey brown sandy clay in drainage lines

VT 5

Low Heathland to Mid Closed Heathland of *Banksia telmatiaea, Hakea obliqua* subsp. *parviflora, Melaleuca seriata* and/or *Regelia ciliata* on white grey to grey brown sand, sandy loam, sandy clay or clay loam in broad damp depressions on flat to gently undulating plains

VT 6

Low Isolated Clumps of Trees to Low Woodland of *Banksia attenuata, Banksia menziesii* and/or *Banksia ilicifolia* over Low Sparse Shrubland to Mid Closed Shrubland of *Adenanthos cygnorum* subsp. *cygnorum, Banksia telmatiaea, Beaufortia squarrosa, Hypocalymma*

angustifolium, Jacksonia nutans and/or *Melaleuca seriata* over Low Isolated Clumps of Sedges to Mid Sedgeland of *Anarthria laevis* and/or Low Isolated Clumps of Rushes of *Chordifex sinuosus* on white grey to grey brown sand in damp depressions

VT 7

Low Sparse Heathland to Low Closed Heathland of *Allocasuarina* spp., *Calothamnus quadrifidus, Calothamnus sanguineus, Hakea incrassata, Hakea lissocarpha, Hibbertia crassifolia* and/or *Melaleuca seriata* over Low Isolated Clumps of Sedges to Mid Sparse Sedgeland of *Mesomelaena pseudostygia* and *Schoenus clandestinus* on white grey to grey sand or white grey sandy loam to yellow brown clay loam with lateritic surface stones in broad dry depressions or gently undulating plains

VT 8

Mid Open Shrubland to Mid Shrubland of *Banksia leptophylla, Banksia sessilis* var. *cygnorum* and *Hakea trifurcata* over Low Open Shrubland to Low Shrubland of *Bossiaea eriocarpa, Calothamnus quadrifidus* subsp. *quadrifidus, Grevillea preissii* subsp. *preissii, Hibbertia racemosa, Melaleuca systena and Scholtzia leptantha* on yellow grey sand to yellow brown sandy loam on ridges and dunes with limestone outcropping

VT 9a

Mid Open Shrubland to Tall Closed Shrubland of *Melaleuca teretifolia, Melaleuca rhaphiophylla* and *Melaleuca viminea* subsp. *viminea*, occasionally with Mid Shrubs of *Melaleuca lateritia* and Low to Tall Sedges and Rushes of *Baumea juncea, Chorizandra enodis, Meeboldina coangustata* and *Schoenus subfascicularis* on grey to grey brown sandy loam or clay loam in broad shallow basins, wet flats and drainage lines

VT 9b

Low Woodland to Mid Open Forest of *Eucalyptus rudis* subsp. *rudis* over Low Isolated Clumps of Trees to Low Closed Forest of *Melaleuca rhaphiophylla,* often with Tall Sparse Shrubland to Tall Shrubland of *Acacia saligna* subsp. *lindleyi*, over Low Isolated Clumps of Forbs to Low Closed Forbland of **Galium murale, *Hypochaeris glabra, *Lysimachia arvensis* and *Trachymene pilosa* on grey to grey black sand, sandy loam, sandy clay or clayey sand in wetlands, broad shallow basins/depressions and drainage lines

VT 10

Low Isolated Clumps of Trees to Mid Woodland of *Banksia littoralis* and *Melaleuca preissiana* over Tall Isolated Clumps of Shrubs to *Acacia saligna* subsp. *lindleyi* and *Viminaria juncea* over Mid Sparse Shrubland to Mid Shrubland of *Hypocalymma angustifolium* and *Xanthorrhoea preissii* over Low Open Sedgeland to Mid Sedgeland of *Baumea juncea, Cyathochaeta avenacea* and/or *Lepidosperma longitudinale* on grey to grey black loamy sand in drainage lines, wet plains and edges of damp depressions

VT 11

Mid Isolated Clumps of Trees to Mid Open Forest of *Corymbia calophylla, Eucalyptus rudis* subsp. *rudis* and *Melaleuca preissiana* over Low Isolated Clumps of Trees to Low Open

Forest of *Melaleuca rhaphiophylla* over Tall Isolated Clumps of Shrubs to Tall Sparse Shrubland of *Acacia cyclops, Acacia saligna* and/or *Spyridium globulosum* over Mid Isolated Clumps of Shrubs to Mid Sparse Shrubland of *Xanthorrhoea preissii* with occasional Mid Clumps of Sedges of *Gahnia trifida* on white grey to grey brown sandy loam in drainage lines

VT 12

Tall Shrubland to Tall Closed Shrubland of *Acacia saligna* subsp. ?*lindleyi* and *Melaleuca rhaphiophylla* over Low Isolated Clumps of Sedges to Mid Open Sedgeland of *Lepidosperma* ?*longitudinale* on grey sand to dark brown loamy sand with ironstone outcropping in shallow basins

VT 13

Low Sparse Samphire Shrubland to Mid Samphire Shrubland of *Sarcocornia quinqueflora, Tecticornia* ?*halocnemoides* and/or *Tecticornia indica* subsp. *bidens* over Low Isolated Clumps of Shrubs to Low Open Shrubland of *Frankenia pauciflora* and/or *Lawrencia squamata* over Low Isolated Clumps of Forbs to Low Forbland of *Angianthus micropodioides, Angianthus pygmaeus* or *Angianthus preissianus, *Hypochaeris glabra, *Lysimachia arvensis, *Polypogon monspeliensis* and/or **Vulpia bromoides* on white grey to grey brown sandy clay to clay on saline flats

VT 14

Mid Woodland of *Casuarina obesa* over Mid Sparse Shrubland to Tall Closed Shrubland of *Melaleuca acutifolia, Melaleuca brevifolia* and/or *Melaleuca viminea* subsp. *viminea* over Mid Isolated to Tall Isolated Clumps of Sedges of *Baumea juncea* and *Gahnia trifida* or Low Isolated Clumps of Shrubs of *Calothamnus hirsutus, Grevillea thelemanniana* subsp. Cooljarloo (B.J. Keighery 28 B) and *Verticordia densiflora* on grey white to grey brown clayey sand on saline flats

VT 15

Low Woodland of *Eucalyptus decipiens* or Low Mallee Woodland of *Eucalyptus foecunda* over Mid Closed Shrubland of *Acacia spathulifolia* and *Banksia sessilis* over Low Sparse Shrubland of *Acacia lasiocarpa* var. *lasiocarpa, Calothamnus quadrifidus, Leucopogon parviflorus* and/or *Melaleuca systena* on grey brown to yellow grey sand or loamy sand on low rises or ridges with limestone surface stones; or Tall Isolated Clumps of Shrubs of *Allocasuarina lehmanniana* over Mid Open Shrubland of *Anthocercis ilicifolia* and *Spyridium globulosum* over Low Isolated Clumps of Shrubs of *Acacia lasiocarpa* var. *lasiocarpa* and *Leucopogon parviflorus* on yellow brown sand on the periphery of claypans

VT 16

Low Sedgeland of *Schoenus curvifolius* and/or Low Isolated Clumps of Forbs to Low Closed Forbland of **Dittrichia graveolens, *Lysimachia arvensis, Pogonolepis stricta, *Parentucellia viscosa, Brachyscome bellidioides, Calandrinia* sp. Kenwick (G.J. Keighery 10905), *Goodenia pulchella* subsp. Coastal Plain A (M. Hislop 634) and *Wurmbea* sp. on grey to grey brown sandy clay loam on non-saline flats

4.2.1.2 Super-group 2

General Description: Dominated by Low Isolated Clumps of Trees to Low Open Forest of mixed *Banksia attenuata*, *Banksia menziesii* and occasionally *Eucalyptus todtiana* and *Banksia prionotes*, over general species rich Low Shrubland dominated by mixed species including *Bossiaea eriocarpa*, *Eremaea pauciflora*, *Melaleuca clavifolia*, *Hibbertia hypericoides*, *Jacksonia nutans* and *Mesomelaena pseudostygia* on white, grey or yellow sand to sandy clay on dunes to undulating plains, to open depressions and flats; Heaths typically present on depressions and flats with greater levels of clay present.

Super-group 2 is comprised of VTs 17 and 18, occupying approximately 66% of the Study Area. This group consists of *Banksia* Woodland to Shrubland with emergent *Banksia* on undulating plains and dunes of deeper sand. The landforms and associated soils upon which VT 17 and 18 were mapped are relatively similar, with VT 17 generally associated with white sand and VT 18 with yellow sand and a laterite influence. The Woodland forms of VT 17 and 18 are difficult to interpret in the field and from aerial photography, without the confidence of quadrat data.

VTs within Super-group 2 generally grouped together due to the presence of taxa from Species Group S (Appendix R), which is dominated by taxa which typically inhabit dry sandy soils, including *Banksia menziesii*, *Banksia attenuata*, *Dasypogon obliquifolius*, *Bossiaea eriocarpa*, *Eremaea asterocarpa*, *Jacksonia nutans*, *Melaleuca clavifolia* and *Hibbertia hypericoides*. Other Species Groups which were represented included H and M, however these species were not consistently represented to the extent as those in Species Group S (Appendix R).

Super-group 2 was mapped in areas from open depressions (not water gaining), plains, and lowerslopes through to upperslopes and dune crests. A large portion of this Super-group was mapped on areas with deeper sands, and in these areas the vegetation structure was characterised by Woodlands dominated by a variety of *Banksia* species; however, areas of shallower sands with a higher clay content were also represented, where the structure of the vegetation consisted of species-rich mixed Heath, often with occasional emergent *Banksia* trees or *Nuytsia floribunda*.

The taxon richness of VTs within Super-group 2 was similar, with a mean richness of 37.3 native taxa per quadrat for VT 17 and 40.1 native taxa per quadrat for VT 18. The number of native taxa was also similar, with 233 species recorded in VT 17 and 234 species in VT 18. VT 18 had a greater variation in structure and species richness than VT 17. On average species richness was generally higher than that of Super-group 1.

VTs 17 and 18 are described briefly below, with detailed information presented in Appendix U:

VT 17

Low Isolated Clumps of Trees to Low Open Forest of *Banksia attenuata, Banksia menziesii* and *Eucalyptus todtiana* over Mid Isolated Clumps of Shrubs to Mid Shrubland of *Adenanthos cygnorum* subsp. *cygnorum, Eremaea pauciflora, Jacksonia floribunda, Jacksonia nutans, Stirlingia latifolia* and *Xanthorrhoea preissii* over Low Isolated Clumps of Shrubs to Low Shrubland of *Bossiaea eriocarpa, Dasypogon obliquifolius, Eremaea asterocarpa* subsp. *asterocarpa, Eremaea pauciflora, Hibbertia crassifolia, Hibbertia hypericoides, Jacksonia nutans, Melaleuca clavifolia, Patersonia occidentalis* var. ?*occidentalis* and *Petrophile linearis* over Low Isolated Clumps of Sedges to Mid Open

Sedgeland of *Mesomelaena pseudostygia* on white or grey sand on undulating plains and low dunes

VT 18

Low Isolated Clumps of Trees to Low Open Forest of *Banksia attenuata* and *Banksia menziesii* over Mid Isolated Clumps of Shrubs to Mid Shrubland of *Allocasuarina humilis, Conospermum stoechadis* subsp. *stoechadis, Eremaea pauciflora, Hakea costata* and/or *Xanthorrhoea preissii* over Low Isolated Clumps of Shrubs to Low Closed Shrubland of *Bossiaea eriocarpa, Calothamnus sanguineus, Dasypogon obliquifolius, Eremaea pauciflora, Hibbertia hypericoides, Jacksonia nutans* and/or *Melaleuca clavifolia* over Low Isolated Clumps of Sedges to Mid Open Sedgeland of *Mesomelaena pseudostygia* on grey to yellow grey sand on undulating plains and low dunes or white grey to grey brown sand, sandy loam or sandy clay loam on simple slopes, open depressions or flats within undulating plains

4.2.2 Other Areas Mapped

Other areas within the Study Area that did not possess naturally occurring native vegetation or were void of vegetation were mapped separately. These areas, detailed below, occupied approximately 8% (2 650 ha) of the Study Area.

Areas where no vegetation occurred because of human disturbance were mapped as 'Cleared Land' e.g. significant tracks and roads and open mining areas (approximately 1 300 ha, Figure 9). The numerous minor tracks throughout the Study Area were not mapped as Cleared Land due to their complexity.

Portions of the North and South mine occurring within the Study Area have been rehabilitated post-mining and were mapped as 'Rehabilitation Area' (approximately 1325 ha, Figure 9).

Wetlands with obvious areas of open water, visible on aerial photography were mapped as 'Water' (approximately 23 ha, Figure 9).

4.2.3 Vegetation Condition Mapping

The majority of the Study Area consists of large areas of intact native vegetation and was mapped as having a ranking of 2 (Excellent) (Keighery 1994; Table 5), with little to minor overall disturbance (for example historical drilling lines), and limited presence of introduced flora taxa (non-aggressive taxa). Although the vegetation in many individual quadrats had been ranked as 1 (Pristine), as a whole the majority of vegetation has been mapped as 2 due to the non-capture of disturbance such as tracks and historical drilling within the scale of individual quadrats.

Fewer areas have been mapped as having vegetation in either 3 (Very Good) or 4 (Good) condition; these lower condition scores are as a result of factors such as the presence of higher densities of introduced flora taxa and rabbit-related impacts (Figure 8). Wetland areas appear to be more degraded than vegetation on other landforms in the Study Area, particularly the naturally more open larger *Melaleuca rhaphiophylla* wetlands in the south (e.g. VT 9b) and the low-lying flats in the west (e.g. VT 13). Contributing factors include increasing weed covers leading to a loss of native understorey species, which may be a result of increasingly extensive periods of drying out and shorter periods of inundation due to changes in medium to long term rainfall patterns (Section 2.1), and edge effects from adjacent agricultural land. Areas that were mapped as Cleared for the purposes of vegetation mapping have been mapped

with a vegetation condition ranking of 6 (Completely Degraded). Areas that are currently under Rehabiltiation, or are represented by open Water have been mapped as such (Figure 8).

Significant (recent) vegetation stress was observed (but not mapped) across the Study Area during the 2013 May reconnaissance field trip, with deaths of a large number of trees of various *Banksia* species in the period since the Spring 2012 survey (approximately six months). The incidence of deaths was highest in proximity to vegetation occurring in wetter areas (VT 1, VT 5, VT 6), indicating that hydrological factors may be contributing to the decline in vegetation.

The Declared Weeds *Echium plantagineum* and *Moraea flaccida* are of limited distribution and low density at present within the Study Area (Figure 8). Scattered plants of *Gladiolus caryophyllaceus* were recorded/observed in the Study Area. This taxon is known to become prolific in Banksia woodlands in the southwest, particularly around Perth.

4.2.4 Local Significance of Vegetation

Table 13 presents the local significance of each VT, as defined in Table 7; all VTs were ranked Moderate, High or Very High. The local conservation significance of the majority of vegetation within the Study Area was ranked Moderate (78.1 % of the Study Area, composed of three VTs); although they were not restricted in distribution in the local area, they provide preferred habitat for one or more Threatened flora. The local conservation significance of a further eight VTs (comprising 11.03 % of the Study Area) was ranked High; these VTs are generally restricted in distribution, but often do not provide habitat for Threatened Flora taxa.

The local conservation significance of a further eight VTs mapped within the Study Area was ranked Very High as a result of their extremely restricted distributions in the Study Area (3.17 % of vegetation within the Study Area); although Threatened flora are known to occur in these, they do not provide preferred habitat for such flora. An explanation of the VTs ranked Very High is given:

- VT 4 was only mapped in one small pocket in the south-east corner of the Study Area. It provides habitat (although not preferred) for *Anigozanthos viridis* subsp. *terraspectans* (T-DRF) and occurs on a restricted landform (sandy clay depression);
- VT 6 was scattered across the Study Area but only occurred in very small patches. It provides habitat (although not preferred) for the Threatened Flora taxa *Andersonia gracilis* and *Anigozanthos viridis* subsp. *terraspectans*;
- VT 9a was mapped in small scattered areas in the central north, centre and central south of the Study Area (Figure 9). It does not represent preferred habitat for any Threatened flora taxa, but it does occur on a highly restricted landform (clay pans);
- VT 9b was also highly restricted in the Study Area, being only mapped along drainage lines and depressions predominantly in the southern part of the Study Area. It also provides habitat (but not preferred) for the Threatened flora taxa *Andersonia gracilis* and *Anigozanthos viridis* subsp. *terraspectans*;
- VT 10 was predominantly mapped in the northeast corner of the Study Area where the Bassendean_1030 and Lesueur_1031 vegetation system associations meet. It is highly restricted in the Study Area and represents preferred habitat for P1 and P2 flora taxa;
- VT 12 was mapped at one location within the Study Area. It occurs on a highly restricted landform (clay with ironstone outcropping) and provides habitat for *Isopogon panduratus* subsp. *palustris* (P2). VT 12 was known from two quadrats within the Study Area, however one has subsequently been cleared during mining activities in the North mine (Quadrat COOL-49);

Table 13: Local Conservation Significance of Vegetation Types

Vegetation Type	Extent in Study Area (ha) (% of Study Area)	Preferred Habitat / Presence of Significant Flora Taxa	Local Conservation Significance Ranking of VT	Local Conservation Significance Comments
1	4,151.5 (12.07)	Numerous CS taxa including T-DRF: *Andersonia gracilis*, *Anigozanthos viridis* subsp. *terraspectans*, *Anigozanthos viridis* subsp. ?*terraspectans;* Habitat (not preferred) for *Macarthuria keigherii*	Moderate	Occupies >10% of the Study Area; Not restricted in the Study Area; Contains preferred habitat for Threatened flora*
2	1,055.8 (3.07)	Numerous CS taxa including T-DRF: *Andersonia gracilis*; Habitat (not preferred) for *Anigozanthos viridis* subsp. *terraspectans*	High	Occupies <10% of the Study Area; Moderately restricted in the Study Area; Contains preferred habitat for Threatened Flora*
3	4.7 (0.01)	None	High	Occupies <1 % of the Study Area; Highly restricted in the Study Area; Does not provide habitat for conservation significant flora
4	13.7 (0.04)	Habitat (not preferred) for *Anigozanthos viridis* subsp. *terraspectans* (T-DRF)	Very High	Occupies <1 % of the Study Area; Highly restricted in the Study Area; Provides habitat (but not preferred*) for a Threatened flora taxon
5	1,887.7 (5.49)	Numerous CS taxa including T-DRF: *Andersonia gracilis*; Habitat (not preferred) for *Anigozanthos viridis* subsp. *terraspectans* and *Macarthuria keigheryi*	High	Occupies <10% of the Study Area; Contains preferred habitat for Threatened Flora*
6	338.5 (0.98)	Habitat (not preferred) for numerous CS taxa including T-DRF: *Andersonia gracilis* and *Anigozanthos viridis* subsp. *terraspectans*	Very High	Occupies <1 % of the Study Area; Restricted in the Study Area; Provides habitat (but not preferred*) habitat for Threatened flora taxa
7	409.2 (1.19)	Habitat (not preferred) for numerous CS taxa, including *Andersonia gracilis* (T-DRF)	High	Occupies <10 % of the Study Area; Moderately restricted in the Study Area; Provides habitat (but not preferred*) for Threatened flora taxa
8	234.6 (0.68)	Habitat (not preferred) for numerous CS taxa, including *Beyeria cinerea* subsp. *cinerea* (P3), *Conostephium magnum* (P4) and *Hibbertia spicata* subsp. *leptotheca* (P3)	High	Occupies <1 % of the Study Area; Restricted in the Study Area; Does not provide preferred habitat for Threatened, P1 or P2 flora taxa*

Vegetation Type	Extent in Study Area (ha) (% of Study Area)	Preferred Habitat / Presence of Significant Flora Taxa	Local Conservation Significance Ranking of VT	Local Conservation Significance Comments
9a	279.2 (0.81)	Habitat (not preferred) for numerous CS taxa, including *Baeckea* sp. Perth Region (R.J. Cranfield 444) (P3), *Isopogon panduratus* subsp. *palustris* (P2), *Ornduffia submersa* (P4), *Schoenus natans* (P4) and *Stylidium longitubum* (P3)	Very High	Occupies <1% of Study Area; Restricted in the Study Area; Located on very restricted landform (claypan)
9b	284.0 (0.83)	Habitat (not preferred) for numerous CS taxa, including *Andersonia gracilis* (T-DRF), *Anigozanthos viridis* subsp. *terraspectans* (T-DRF), *Baeckea* sp. Perth Region (R.J. Cranfield 444) (P3), *Isopogon panduratus* subsp. *palustris* (P2)	Very High	Occupies <1 % of the Study Area; Restricted in the Study Area; Provides habitat (not preferred*) for Threatened flora taxa
10	98.2 (0.29)	Habitat (not preferred) for CS taxa, including *Diuris* ?*eburnea* (P1) and *Hypocalymma serrulatum* (P3)	Very High	Occupies <1 % of the Study Area; Restricted in the Study Area; Provides habitat (not preferred*) for P1 and P3 flora taxa
11	21.7 (0.06)	None	High	Occupies <1 % of the Study Area; Highly Restricted in the Study Area; Does not provide habitat for conservation significant flora
12	12.1 (0.04)	*Isopogon panduratus* subsp. *palustris* (P2) and *Melaleuca clavifolia* (P3)	Very High	Occupies <1 % of the Study Area; Highly Restrictedin the Study Area; Located on very restricted landform (clay pan/ironstone) Does not provide habitat for Threatened, P1 or P2 flora taxa
13	167.7 (0.49)	*Baeckea* sp. Perth Region (R.J. Cranfield 444) (P3)	High	Occupies <1 % of the Study Area; Restricted in the Study Area; Does not provide habitat for Threatened, P1 or P2 flora taxa
14	15.7 (0.05)	*Grevillea thelemanniana* subsp. Cooljarloo (B.J. Keighery 28 B) (P1)	Very High	Occupies <1 % of the Study Area; Highly restricted in the Study Area; Provide habitat (not preferred*) for a P1 flora taxon
15	14.6 (0.04)	None	High	Occupies <1 % of the Study Area; Highly Restricted in the Study Area; Does not provide habitat for Threatened, P1 or P2 flora taxa

Vegetation Type	Extent in Study Area (ha) (% of Study Area)	Preferred Habitat / Presence of Significant Flora Taxa	Local Conservation Significance Ranking of VT	Local Conservation Significance Comments
16	46.0 (0.13)	Habitat (not preferred) for *Baeckea* sp. Perth Region (R.J. Cranfield 444) (P3), *Eryngium pinnatifidum* subsp. *palustre* (G.J. Keighery 13459) (P3) and *Grevillea thelemanniana* subsp. Cooljarloo (B.J. Keighery 28 B) (P1)	Very High	Occupies <1 % of the Study Area; Highly restricted in the Study Area; Provides habitat (but not preferred*) for a P1 flora taxon; Some areas occur on very a restricted landform (clay pans)
17	16,371.9 (47.59)	Provides preferred habitat for numerous CS flora taxa including T-DRF *Macarthuria keigherii* and *Paracaleana dixonii*. This VT also has records (not preferred habitat) for other T-DRF including *Andersonia gracilis*, *Anigozanthos viridis* subsp. *terraspectans*.	Moderate	Occupies >10% of the Study Area; Not restricted within the Study Area; Contains preferred habitat for Threatened flora*
18	6,344.4 (18.44)	Provides preferred habitat for numerous CS flora taxa including T-DRF *Macarthuria keigherii.* This VT also has records (not preferred habitat) for other T-DRF including *Andersonia gracilis*, *Anigozanthos viridis* subsp. *terraspectans*.	Moderate	Occupies >10% of the Study Area; Not restricted within the Study Area; Contains preferred habitat for Threatened flora*

* Note: Preferred habitat refers to the VTs in which the CS flora taxon had the majority of locations recorded in (Appendix H).

- VT 14 is highly restricted in the Study Area and was only mapped at two small locations in the western section, near the boundaries of the Bassendean_1030 and Guilderton_1026 vegetation system associations. It also provides habitat (not preferred) for *Grevillea thelemanniana* subsp. Cooljarloo (B.J. Keighery 28 B) (P1);
- VT 16 was mapped at one location near the centre of the Study Area, near Woolka Road. It is restricted in distribution within the Study Area, contains clay pans and provides habitat (not preferred) for *Grevillea thelemanniana* subsp. Cooljarloo (B.J. Keighery 28 B) (P1).

The Study Area contains two nature reserves, Wongonderrah and un-named reserve A40916. Table 14 lists the VTs present within each reserve.

Table 14: Vegetation Types present within nature reserves in the Study Area

Vegetation Type	Wongonderrah NR (ha)	Reserve A40916 (ha)	Percentage of Mapped Area Reserved
1	103.7	77.3	3.6
2	14.1	-	1.3
5	47.7	11.9	3.0
6	35.0	18.7	16.1
9a	-	50.6	18.2
9b	-	22.8	8.0
10	76.8	-	78.3
17	144.4	471.3	6.2
18	17.0	352.9	7.4

Of the eight VTs ranked with a Very High local conservation significance ranking, four (6, 9a, 9b and 10) are present within these reserves. Although the percentage of mapped area present in reserves for the most common VTs (1, 17, 18) is relatively low, the amount of area reserved is generally high, ranging from 77.3 ha (VT 1) to 471 ha (VT 17).

4.2.5 Regional Significance of Vegetation

The regional significance of vegetation is characterised by several factors, including:

- The possible representation of VTs in listed TECs and PECs (both at a State and Commonwealth level);
- The current extent of vegetation in relevant vegetation system associations in comparison with pre-european extents; and
- The occurrence and distribution of these VTs in the region, including correlation of VTs against Community Types as grouped in relevant regional datasets, and against descriptions of vegetation units in nearby reserves that have been listed in published data.

4.2.5.1 Presence of listed Threatened Ecological and Priority Ecological Communities in the Study Area

Results of the DPaW TEC and PEC Database search (DEC 2013d) indicate that no TECs or PECs are known from within the Study Area, however one TEC and one PEC are currently

known from within 2 km of the Study Area. A review of the data collected from the VTs within the Study Area indicates that none of the VTs are equivalent to any state-listed TECs or PECs (DEC 2013a; 2013c). VT16a contains some of the elements of TECs 32 and 33 (Herb rich shrublands in clay pans) but the majority of common and typical species listed for these communities were not recorded within the clay pans at Cooljarloo.

Review of the federally listed TECs (DoE 2013c) also indicates that none are known from within the Study Area. The EPBC listed TEC "Clay Pans of the Swan Coastal Plain" occurs approximately 15 km south of the Study Area. Although clay pans occur within the Study Area (VTs 4, 9a and 16) none contained the suites of clay pan specialist taxa listed as being common in this TEC (TSSC 2012). VT 9a contains some of the listed species but is dominated by *Melaleuca rhaphiophylla* and *Melaleuca teretifolia*, species not commonly known from this TEC.

4.2.5.2 Extent of Vegetation System Associations

Five vegetation system associations as defined by Shepherd *et al.* (2002) are located within the Study Area (Table 1); of these, the current extent of intact vegetation of three of them exceed 70 % of the pre-european mapped extents (Bassendean – 1030, Guilderton – 1026 and Jurien – 1029). Lesueur – 1031 is more restricted, with 32.8 % of the pre-european extent remaining; Bassendean – 1031 is further restricted, with only 8.3 % of the pre-european extent remaining (Government of Western Australia 2013). Both of these vegetation system associations are located on the far south-eastern extent of the Study Area (Figure 4).

The majority of the Study Area is located on the Bassendean_1030 Vegetation System. Reservation priorities are low for Bassendean_1030 (Desmond and Chant 2001), as 13.9% of the vegetation system is represented in Reserves (Shepherd *et al*. 2002). It is therefore possible that many of the VTs within the Study Area are present within the reserve system.

4.2.5.3 Comparison of Vegetation to Regional Studies

Historical surveys in the region give some indication of the distribution and therefore significance of the VTs mapped in the Study Area. Such regional studies include:

- Floristic Survey of the Southern Swan Coastal Plain (Gibson *et al.* 1994) (nearest regional vegetation dataset);
- Survey of nature reserves in the Shire of Dandaragan (Crook *et al*. 1984):
- Survey of the Southern Beekeepers Nature Reserve (Burbidge and Boscacci 1989);
- Biological surveys of the Lancelin Defence Training Area (DTA) which borders the southern boundary of the Study Area (*ecologia* 1998, 2000);
- Data from surveys carried out by Woodman Environmental for Western Power along the Pinjar to Cataby transmission line to determine regional distribution of the VTs (Woodman Environmental 2000, 2009c);
- Significant community searches by Woodman Environmental (2012b).

It must be noted that a comparison has been undertaken by examining community type descriptions (and species lists as appropriate) and comparing them with taxa recorded within VTs of the Study Area; quadrat installation (in many cases) and appropriate statistical analysis would be required to determine the similarity of VTs in the Study Area with the community types as described in these studies. A summary of the correlations between VTs and possible

occurrences of these VTs, or similarities to other community types noted in the region by various authors is presented in Table 15.

Gibson *et al.* (1994) provides the the closest publicly available standardized regional vegetation dataset; however, as that study area is located to the south of the current Study Area, the broader regional conservation significance of the Study Area is difficult to determine. An attempt has been made to correlate the VTs with the Community Types as presented by Gibson *et al.* (1994) as an aid in determining regional conservation significance (as presented in Appendix W); however, the majority of VTs mapped in the Study Area cannot be correlated with any of these Community Types. This is due to the high level of endemism and species turnover within the northern section of the Swan Coastal Plain and the Northern Sandplain regions (Griffin 1994). Some correlations were made:

- VT 4 has similarities to Community Type SCP5 (Mixed shrub damplands); this community type is considered to be well represented within the reserve system and at a Low conservation risk (Gibson *et al*. 1994).
- VT 6 has several species in common with Community Type SCP22 (*Banksia ilicifolia* woodlands); this community type is considered Poorly Reserved; that is, was only known from within one area of conservation estate and has a Susceptible conservation risk (Gibson *et al*. 1994). This VT was mappedin both Wongonderrah NR and Reserve A40916 (in the Study Area) during the current study.
- VTs 9b and 11 have species in common with Community Type SCP11 (Wet forests and woodlands); this community type is considered to be well represented within the reserve system and at a Low conservation risk (Gibson *et al*. 1994).
- VTs 9a and 16 contain some species present within several of the SCP communities but are lacking many of the species listed as typical and common to these communities (Gibson *et al*. 2005).
- VT 17 contains species common to both SCP23a (Central *Banksia attenuata – B. menziesii* woodlands) and 23b (Northern *Banksia attenuata – B. menziesii* woodlands). However, species from groups M and N (Gibson *et al*. 1994) which characterise these groups are largely absent from VT 17.
- VT 18 contains species common to both SCP20a (*Banksia attenuata* woodlands over species rich dense shrublands) and SCP28 (Spearwood *Banksia attenuata* or *Banksia attenuata – Eucalyptus* woodlands). However, *Eucalyptus marginata* and several of the species in Group O (Gibson *et al*. 1994) which characterise SCP20a are absent from the quadrats in the Study Area. VT 18 also contains many species found in SCP28 but lacking the species from Group A that characterise this SCP (Gibson *et al*. 1994).

Several broader scale surveys in the region have been undertaken, including that of the Moore River to Jurien Sandplain as undertaken by Griffin and Keighery (1989). This study divided vegetation within the region into Wet Heaths, Sand Heaths, Laterite Heaths and Banksia Woodland. Extensive areas of Laterite Heaths are present within Badgingarra National Park although the floristic composition is likely to differ between these heaths and those in the Study Area (VT 7). Griffin and Keighery (1989) also state that Wet Heaths and *Banksia* Woodlands are well represented within the Moore River National Park and Namming Nature Reserve, but that generally the Wet Heath type is poorly represented within the conservation reserves on the Bassendean system. VTs 1 and 5 are representative of Wet Heaths and VTs 17 and 18 are representative of Banksia Woodlands in the Study Area (Table 15).

No detailed vegetation mapping of the Nambung National Park, which borders the western boundary of the Study Area, has been undertaken (CALM 1998). The eastern side of the Nambung National Park is covered by Bassendean Dunes, characterised by grey over yellow sand on rides and hills, and with depressions containing grey siliceous sands sometimes with an organic or calcareous impeding layer at 2 m; seasonal swamps with grey sand over grey-brown and yellow-brown clay substrate (1 m below ground level) also occur, with some swamps having a dark loamy (diatomaceous earth) surface layer (CALM 1998). Further west of this, the Spearwood Dunes occur, and are characterised by varying thickness of yellow and brown siliceous sands over secondary caprock (calcite) over softer sandy limestone.

Based on these landforms and soil types, it is likely that VT 5 (mapped on white, grey, brown sand to clay loam in depressions), VT 8 (mapped on yellow grey to brown sand to loam on ridges and dunes with limestone), VT 11 (mapped on white to grey-brown sand in drainage lines), VT 15 (mapped on yellow brown sand near claypans) and VT 16 (mapped on grey to grey brown sandy clay loam on non-saline flats) are present on the eastern side of the Nambung National Park (Table 15).

Based on all of the available local and regional surveys, as presented in Table 15:

- VTs 1, 8, 17 and 18 are possibly well represented outside the Study Area both on UCL and in conservation reserves;
- VTs 2, 3, 4, 5, 6, 7, 9a, 9b, 10, 11, 12 and 15 all have, or are likely to have, some representation within conservation reserves or UCL outside the Study Area:
- VTs 12, 13, 14 and 16 have no known locations outside the Study Area. In particular, *Casuarina obesa* woodlands (VT 14) are noted by Keighery and Keighery (1992) as being highly restricted on the northern Swan Coastal Plain.

Table 15: Possible Regional Distribution of Vegetation Types based on Historical Regional Studies

VT	Broad Description	Reference	Possible Equivalent or Similar Community Type *	Location
1	Wet Heaths dominated by *Banksia*, *Melaleuca*, *Hakea*, and *Calothamnus* spp.	Crook *et al*. (1984)	Association grouping seasonal fresh water swamps	Namming NR
		Griffin and Keighery (1989)	Wet Heaths	Moore River National Park
				Namming Nature Reserve
2	Damp Shrublands dominated by *Melaleuca* spp.	Crook *et al*. (1984)	Seasonal swamps with variable vegetation including thicket to scrub of *Melaleuca* spp.	Eneminga NR
3	Occasional *Banksia prionotes* over damp Shrubland of *Regelia ciliata*, *Kunzea glabrescens* or *Verticordia densiflora* subsp. *densiflora*	Crook *et al*. (1984)	Heath association of *Regelia ciliata*, *Beaufortia squarrosa* and others with patches of Banksia woodland on higher ground	Eneminga NR
		ecologia (1998, 2000)	NA	DTA
4	Shrubland of *Acacia saligna* subsp. *lindleyi* and *Calothamnus quadrifidus* over sedges	Gibson *et al.* (1994)	SCP5 (Mixed Shrub Damplands)	Bassendean and Pinjarra Plain Landsystems; majority of quadrats in Nature Reserves
5	Damp Heaths dominated by *Banksia telmatiaea* and *Melaleuca seriata*	Griffin and Keighery (1989)	Wet Heaths	Moore River National Park
				Namming Nature Reserve
		CALM (1998)	Soil type possibly represented	Nambung National Park
6	Low Woodland of *Banksia attenuata*, *Banksia menziesii* and/or *Banksia ilicifolia* over shrubs on sand	Gibson *et al.* (1994)	SCP22 (*Banksia ilicifolia* Woodlands)	Mainly on Bassendean Sands; some quadrats in State Forest
		Crook *et al*. (1984)	Low Woodland A of *B. attenuata* and *B. menziesii* (occasional *B. ilicifolia* and *B. prionotes*)	Eneminga NR
			Low Woodland A of *B. attenuata* and *B. menziesii* (occasional *B. ilicifolia* and *E. todtiana*) over Low Heath D of mixed species	Namming NR
7	Heaths dominated by *Allocasuarina*, *Hakea*, *Calothamnus* spp. and *Xanthorrhoea preissii* on sand	Crook *et al*. (1984)	Reserve noted to contain low species-rich heathlands on sandy and gravelley soils	Minyulo NR

VT	Broad Description	Reference	Possible Equivalent or Similar Community Type *	Location
	over laterite		Reserve noted to contain sandy gravels on ridges supporting Xanthorrhoea spp. over Low Heathlands	Reserve 27216
		Griffin and Keighery (1989)	Laterite Heaths	Badgingarra National Park
8	Upper slope Shrublands on sand over limestone	Crook *et al*. (1984)	Inland Heaths; Open Dwarf Scrub C of *Melaleuca acerosa*, *Acacia cochlearis* and *Hakea prostrata*	Wanagarren NR
		ecologia (1998, 2000)	NA	DTA
		CALM (1998)	Soil type possibly represented	Nambung National Park
9a	Low Wet Shrublands dominated by *Melaleuca* spp. in clay pan	Woodman Environmental (2012b)	Tall Shrublands of a mix of *Melaleuca teretifolia* and *M. rhaphiophylla*	UCL both north and south of Study Area
9b	Damp Forest to Woodland of *Eucalyptus rudis* over *Melaleuca rhaphiophylla* and *Acacia saligna*	Gibson *et al.* (1994)	SCP11 (Wet Forests and Woodlands)	Sometimes on Bassendean Sands; some quadrats in Nature Reserve
		ecologia (1998,2000)	NA	DTA
10	Damp Woodland of *Banksia littoralis* and *Melaleuca preissiana* over sedges	NA	NA	NA
11	Open Damp Forest of *Eucalyptus rudis*, *Corymbia calophylla*, *Melaleuca* spp. over sparse *Acacia* spp. and coastal shrubs	Gibson *et al.* (1994)	SCP11 (Wet Forests and Woodlands)	Sometimes on Bassendean Sands; some quadrats in Nature Reserve
		Woodman Environmental (2000)	F2: Dense Low Forest of *Melaleuca rhaphiophylla* and *Corymbia calophylla*	Moore River NP
		Woodman Environmental (2012b)	*Eucalyptus rudis* and *Melaleuca* Forest to Woodland	UCL west of Study Area
		Woodman Environmental (2009d)	F1: Low Forest of *Melaleuca preissiana*, *Eucalyptus rudis*, *Melaleuca rhaphiophylla* and *Corymbia calophylla* on grey sandy clay.	Coomallo NR
		CALM (1998)	Soil type possibly represented	Nambung National Park
12	Shrubland of *Acacia saligna* and *Melaleuca rhaphiophylla* on sand with ironstone	NA	NA	NA
13	Samphire Shrublands on saline flats	NA	NA	NA

VT	Broad Description	Reference	Possible Equivalent or Similar Community Type *	Location
14	Woodland of *Casuarina obesa* over *Melaleuca* spp. on saline flats	NA	NA	NA
15	Low Woodland of *Eucalyptus decipiens* or *Eucalyptus foecunda* over *Acacia* spp. on sand over limestone	Burbidge and Boscacci (1989)	Site 5	Southern Beekeepers NR
		CALM (1998)	Soil type possibly represented	Nambung National Park
16	Sedgelands on non-saline flats	CALM (1998)	Soil type possibly represented	Nambung National Park
17	Low Forest to Woodland of *Bankia attenuata*, with occasional *Banksia menziesii* and *Eucalyptus todtiana* over shrubs dominated by *Adenanthos cygnorum* and *Eremaea pauciflora* on sand	Gibson *et al.* (1994)	SCP23a (Central *Banksia attenuata – B. menziesii* Woodlands) and 23b (Northern *Banksia attenuata – B. menziesii* Woodlands).	Mainly located on Bassendean Sands; quadrats in State Forest and Nature Reserve
		Crook *et al*. (1984)	Low Woodland A of *B. attenuata* over Thicket/Scrub of *Adenanthos cygnorum* and *Banksia burdettii* over Low Heath C/D of varied composition	Bundarra NR
		Crook *et al*. (1984)	Inland Woodlands: Open Low Woodland A of *B. attenuata* over Low Scrub B of mixed species	Wanagarren NR
		Gibson and Keighery (1989)	Banksia Woodlands	Moore River NP
				Namming NR
		ecologia (1998, 2000)		DTA
		Woodman Environmental (2000)	W5: Low Woodland of *B. attenuata* and *B. menziesii* over mixed low shrubs dominated by *Eremaea pauciflora* on grey sand	Moore River NP
18	Low Forest to Low Woodland of *Banksia attenuata* and *B. menziesii* with occasional *Eucalyptus todtiana* on yellow sand on mid-slopes	Gibson *et al.* (1994)	SCP20a (*Banksia attenuata* woodlands over species rich Dense Shrublands) and SCP28 (Spearwood *Banksia attenuata* or *Banksia attenuata – Eucalyptus* Woodlands).	Located on Spearwood and Bassendean Sands; quadrats on Crown Land
		Crook *et al*. (1984)	Low Woodland A of *B. attenuata* and *B. menziesii* (occasional *B. ilicifolia* and *E. todtiana*) over Low Heath D of mixed species	Namming NR
			Inland Woodlands: Open Low Woodland A of *B. attenuata* over Low Scrub B of mixed species	Wanagarren NR
		Gibson and Keighery (1989)	Banksia Woodlands	Moore River NP

VT	Broad Description	Reference	Possible Equivalent or Similar Community Type *	Location
				Namming Nature Reserve
		ecologia (1998, 2000)	NA	DTA
		Woodman Environmental (2000)	W5: Low Woodland of *B. attenuata* and *B. menziesii* over mixed low shrubs dominated by *Eremaea pauciflora* on grey sand	Moore River NP

*Note: Please see text in Section 4.2.5.3 for further explanation and possibility of VTs of the Study Area matching community descriptions in historical studies.

5 DISCUSSION AND CONCLUSIONS

5.1 Flora of the Study Area

A total of 1156 discrete vascular plant taxa (excluding hybrids) have been recorded within and immediately adjacent to the Cooljarloo West Study Area, including 1063 native taxa; 573 of these native taxa were recorded during surveys in 2012. By comparison, approximately 4165 vascular plant taxa (including 3322 native taxa) are noted by FloraBase (DPaW 2013a) to occur within the SWA02 (Swan Coastal Plain) subregion; approximately 32 % of the known native flora of this subregion is therefore known within the Study Area.

One of the main causes of the high floristic diversity within the Study Area may be the proximity to the Study Area of the GS03 and SWA01 subregions, reflecting differences in soil and underlying geology. As displayed in Appendix J, the location of the Study Area may represent extensions of the known ranges of approximately 70 flora taxa, including 10 CS flora taxa. Although none of the taxa recorded in the Study Area are endemic to the Study Area itself, several have relatively small ranges, including *Arnocrinum gracillimum* (P2), *Baeckea* sp. Moora (R. Bone 1991/1) (P3), *Grevillea thelemanniana* subsp. Cooljarloo (B.J. Keighery 28 B) (P1), *Hakea longiflora* (P3), *Hypocalymma serrulatum* (P3), *Malleostemon* sp. Cooljarloo (B. Backhouse s.n. 16/11/88) (P1), *Onychosepalum microcarpum* (P2), *Onychosepalum nodatum* (P3) and *Verticordia amphigia* (P3) (all less than 100 km).

A large number of CS flora taxa are known to occur within the Study Area, the majority of which were historically known from the area. Despite numerous surveys historically undertaken within the Study Area, five CS flora taxa were newly recorded for the Study Area during the 2012 studies. Collections of each of these taxa represent either range extensions (*Guichenotia alba* (P3), *Verticordia huegelii* var. *tridens* (P3)), further define their known ranges (*Allocasuarina grevillioides* (P3), *Beyeria cinerea* subsp. *cinerea* (P3)), or represent further collections of nearby known locations (*Hibbertia spicata* subsp. *leptotheca* (P3)).

Considerable numbers of populations of listed T – DRF taxa are known in the Study Area, likely as a result of the numerous intensive, historical surveys for these taxa within suitable habitat. A total of 39 *Andersonia gracilis*, 22 confirmed *Anigozanthos viridis* subsp. *terraspectans* and 24 *Macarthuria keigheryi* populations are known within the Study Area (Figure 7.1). The majority of all known populations of both *Andersonia gracilis* and *Anigozanthos viridis* subsp. *terraspectans* are located in the Cooljarloo area, however approximately half of the *Macarthuria keigheryi* populations are known outside of this area, including within the Perth metropolitan area. The record of *Paracaleana dixonii* in the Study Area is a new locality, with the majority of populations of this taxon known from sandplain areas north of the Study Area.

The preferred habitat of the four threatened flora taxa known within the Study Area covers the majority of the Study Area itself, due to the differing habitat requirements of these taxa. In total, approximately 75.5 % of the Study Area comprises preferred habitat for one or more Threatened (DRF) taxa. Both *Andersonia gracilis* and *Anigozanthos viridis* subsp. *terraspectans* (T-DRF) are very habitat specific, preferring seasonally damp (winter-wet), black sandy clay to grey sand to clay loam flats near or on the margins of swamps or in depressions. Although both of these taxa have been recorded in a variety of VTs in the Study Area, the preferred habitat of *Andersonia gracilis* is restricted to VTs 1, 2 and 5 (22.3 % of

the Study Area), and the preferred habitat of *Anigozanthos viridis* subsp. *terraspectans* is VT 1 (13.1 % of the Study Area).

Conversely, *Macarthuria keigheryi* (T-DRF) is historically recorded to grow in winter-damp sands under *Banksia* and *Kingia* (Brown *et al.* 1998), however it is more recently known to also occur on drier, sandy areas, usually found in areas recovering from fire or disturbance. The preferred habitat of this taxon (VTs 17 and 18) equates to 66.03 % of the Study Area. Likewise, the preferred habitat of *Paracaleana dixonii* equates to 72.8 % of the Study Area.

There are several poorly known flora taxa in the Study Area:

- *Eremophila glabra* subsp. ?*carnosa* is known from two locations in the Study Area, both in VT 2. This taxon was previously identified as *Eremophila glabra* subsp. *chlorella* (T-DRF); however, further examination of specimens taken from these locations by Andrew Brown has resulted in a new partial identification. This taxon is still of interest, as it does not fit *Eremophila glabra* subsp. *carnosa*, and may in fact represent a new taxon. The preferred habitat for this taxon is VT 2, which comprises 3.1 % of the Study Area.
- *Diurus* ?*eburnea* (P1) has been recorded in the Wongonderrah Nature Reserve. This taxon is known from between Eneabba and Three Springs and therefore if this identification were to prove correct this would result in a large range extension for this poorly known taxon. It was recorded in VT 10, which comprises of 0.3 % of the Study Area.
- A single collection of *Stylidium carnosum* subsp. ?Narrow leaves (J.A. Wege 490) (P1) was recorded within the existing Cooljarloo mining area during 2011;
- Three locations of *Stylidium aceratum* (P2) have also been recorded in the Study Area, two from VT 2 and a third from within VT 6 (4.05 % of the Study Area). Prior to this survey, this taxa was known from only one population, in the vicinity of Muchea (150 km south of the Study Area).
- A single specimen of *Schoenus badius* (P2) was identified from surveys in 2006 in the northern portion of the Study Area. The specimen has been lodged at the Western Australian Herbarium under this name, however subsequent survey in 2007 determined that this specimen was more likely to represent a slightly atypical form of the very similar *Schoenus pennisetus* (P1) (Helena Holdings 2007).

Despite the relatively well surveyed nature of the Study Area, the surveys in 2012 identified a significant number of new taxa for the area including five previously unrecorded CS flora taxa. This indicates the high species richness and diversity of the vegetation present at Cooljarloo and suggests that as yet unrecorded taxa are likely to be present.

5.2 Vegetation of the Study Area

Nineteen VTs have been mapped within the Study Area comprising of two VTs associated with the more common *Banksia* Woodlands on sandy dunal areas, and a further 17 VTs ranging from Heaths to Woodlands associated with several drainage systems and braided wetlands that transect the Study Area. The vegetation of the Study Area was found to be in primarily Pristine condition despite a very large number of introduced species being recorded.

Statistical analysis of the floristic quadrat data produced reasonably strong and distinct groupings in general. However, a large number of quadrats were manually allocated to

different groups as a result of inappropriate positioning in the field and other factors such as mosaics of soil and hydrological conditions.

Assessment of local conservation significance of the VTs of the Study Area assigned the majority of VTs a Moderate local conservation significance ranking, comprising 78.1 % of the Study Area. Eight VTs (comprising 11.0 % of the Study Area) were assigned a local conservation significance ranking of High, and a further eight VTs (3.2 % of the Study Area) were assigned a local conservation significance ranking of Very High. These rankings were based on a combination of preferred habitat for Threatened flora taxa and mapped extent through the Study Area. It must be noted that of the eight VTs with a local conservation significance of Very High, six of them (VTs 3, 4, 11, 14, 15 and 16) have highly restricted distributions within the Study Area (occupying <0.1 % of the Study Area). The presence of T-DRF taxa within some of the VTs increased the conservation significance, particularly where the VT formed preferred habitat for particular taxa. As stated previously, approximately 75.5 % of the Study Area comprises preferred habitat for one or more T-DRF taxa indicating that the vegetation of the Study Area in general is of relatively high conservation value.

There is no regional dataset against which to accurately compare the VTs of the Study Area in order to determine their regional extent and significance, as the closest relevant study was undertaken south of the Study Area. In reviewing the Swan Coastal Plain studies it was concluded that few similarities exist between the Study Area and the vegetation of the Southern Swan Coastal Plain and that additional work to resolve differences and similarities is required before a comprehensive understanding of regional representation of vegetation types can be reached.

Comparison of the VTs against several historical regional survey reports in the region indicates that many of these VTs are likely to be represented in conservation reserve outside of the Study Area. VTs 12, 13, 14 and 16 are not known in conservation estate outside of the Study Area, and therefore their regional conservation significance is assumed to be high. In particular, VT 14 is considered to be of high regional conservation status, as it shows affinities with *Casuarina obesa* woodlands which were noted by Keighery and Keighery (1992) as being highly restricted in the northern Swan Coastal Plain. There are no listed TECs or PECs known in the Study Area, and none of the VTs mapped in the Study Area can be correlated to listed TECs or PECs.

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Appendix A: Definitions, Categories and Criteria for Threatened and Priority Ecological Communities (DEC 2010)

DEFINITIONS, CATEGORIES AND CRITERIA FOR THREATENED AND PRIORITY ECOLOGICAL COMMUNITIES

1. GENERAL DEFINITIONS

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

Note: The scale at which ecological 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 DEC'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 (eg. 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" (eg. *Eucalyptus salmonophloia* woodland over scattered small shrubs over dense herbs; structure in a faunal assemblage could refer to trophic structure, eg. 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 microorganisms; 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

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.

Appendix B: Conservation Codes for Western Australia (DPaW 2013c)

Under the *Wildlife Conservation Act* (1950), the Minister for the Environment may declare species of flora to be protected if they are considered to be in danger of extinction, rare or otherwise in need of special protection. Schedules 1 and 2 deal with those that are threatened and those that are presumed extinct, respectively.

T: Threatened Flora (Declared Rare Flora – Extant)

Taxa which have been adequately searched for and are deemed to be in the wild either rare, in danger of extinction, or otherwise in need of special protection, and have been gazetted as such (Schedule 1 under the Wildlife Conservation Act 1950).

Threatened Flora (Schedule 1) are further ranked by the Department according to their level of threat using IUCN Red List Criteria:

- CR: Critically Endangered – considered to be facing an extremely high risk of extinction in the wild
- EN: Endangered – considered to be facing a very high risk of extinction in the wild
- VU: Vulnerable – considered to be facing a high risk of extinction in the wild

X: Presumed Extinct Flora (Declared Rare Flora – Extinct)

Taxa that have been adequately searched for and there is no reasonable doubt that the last individual has died, and have been gazetted as such (Schedule 2 under the Wildlife Conservation Act 1950).

Taxa that have not yet been adequately surveyed to be listed under Schedule 1 or 2 are added to the Priority Flora List 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 flora or fauna. Taxa 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 for other than taxonomic reasons, are placed in Priority 4. These species require regular monitoring. Conservation Dependent species are placed in Priority 5.

1: Priority One – Poorly-known Taxa

Taxa that are known from one or a few collections or sight records (generally less than 5), all on lands not managed for conservation, e.g. agricultural or pastoral lands, urban areas, Shire, Westrail and Main Roads WA road, gravel and soil reserves, and active mineral leases and under threat of habitat destruction or degradation. Taxa may be included if they are comparatively well known from one or more localities but do not meet adequacy of survey requirements and appear to be under immediate threat from known threatening processes.

2: Priority Two – Poorly-known Taxa

Taxa that are known from one or a few collections or sight records, some of which are on lands not under imminent threat of habitat destruction or degradation, e.g. national parks, conservation parks, nature reserves, State forest, vacant Crown land, water reserves, etc. Taxa may be included if they

are comparatively well known from one or more localities but do not meet adequacy of survey requirements and appear to be under immediate threat from known threatening processes.

3: Priority Three – Poorly-known Taxa

Taxa that are known from collections or sight records from several localities not under imminent threat, or from few but widespread localities with either large population size or significant remaining areas of apparently suitable habitat, much of it not under imminent threat. Taxa may be included if they are comparatively well known from several localities but do not meet adequacy of survey requirements and known threatening processes exist that could affect them.

4: Priority Four – Rare, Near Threatened and other taxa in need of monitoring

1. **Rare.** Taxa that are considered to be 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 taxa are usually represented on conservation lands

2. **Near Threatened.** Taxa that are considered to have been adequately surveyed and that do not qualify for Conservation Dependent, but that are close to qualifying for Vulnerable.

3. Taxa that have been removed from the list of threatened species during the past 5 years for reasons other than taxonomy.

5: Priority 5 – Conservation Dependent Taxa

Taxa that are not threatened but are subject to a specific conservation program, the cessation of which would result in the taxon becoming threatened within 5 years.

Appendix C: Conservation Significant Flora Known to Occur Within or in the Vicinity of the Study Area

Note – historical information only; does not include records noted during the 2012 study

Taxon	Status	Description (DPaW 2013a)	Flowering Time	Habitat (DPaW 2013a)	Source
Acacia benthamii	P2	Shrub, ca 1 m high. Fl. yellow, Aug to Sep.	Aug-Sep	Sand. Typically on limestone breakaways.	WA Herb, WEC
Acacia cummingiana	P3	Sprawling, straggly, rush-like shrub, 0.3-0.5 m high. Fl. yellow.	May-Jun or Aug	Grey or yellow sand, lateritic gravel. Sandplains, lateritic breakaways.	TP List
Acacia epacantha	P3	Dense, bushy, spiny shrub, 0.2-0.5(-0.7) m high. Fl. yellow.	Jul-Aug	Lateritic gravelly loam or clay.	TP List
Acacia plicata	P3	Erect shrub, (0.3-)0.9-2 m high. Fl. yellow.	Aug-Oct	Loamy & clayey soils, often over sandstone or siltstone. Along drainage lines.	TP List
Acacia wilsonii	T (EN)	Low spreading, wiry shrub, 0.2-0.5 m high. Fl. yellow	Dec?, Apr?, Aug?	White/yellow sand & lateritic gravel, sandy clay over laterite.	TP List
Allocasuarina ramosissima	P3	Dioecious, somewhat divaricate shrub, 0.3-1.2 m high.	Sep-Nov	Lateritic soils, gravel.	TP List
Andersonia gracilis	T (VU)	Slender, erect or open straggly shrub growing from 0.1-0.5 m high with white to pink to purple flowers.	Sep-Nov	White/grey sand, sandy clay or gravelly loam. Winter-wet areas, near swamps.	TPFL, TP List, WA Herb, WEC
Angianthus micropodioides	P3	Erect or decumbent annual, herb, 0.03-0.15 m high. Fl. yellow-white.	Nov-Dec or Jan-Feb	Saline sandy soils. River edges, saline depressions, claypans.	WEC
Anigozanthos humilis subsp. Badgingarra (S.D. Hopper 7114)	P2	Erect, hirsute rhizomatous, herb, to 0.9 m high.	Sep-Dec	Grey-white sand, rich brown sandy loam, sandy clay, alluvial soils. Low plains, river-banks, winter-wet swamps.	TPFL, TP List, WA Herb
Anigozanthos humilis subsp. *chrysanthus*	P4	Rhizomatous, perennial, herb, 0.2-0.4(-0.8) m high.	Jul-Oct	Grey or yellow sand.	WEC, Tronox Database (Mattiske)
Anigozanthos viridis subsp. *terraspectans*	T (VU)	Rhizomatous, perennial, herb, 0.05-0.2 m high. Fl. green/yellow-green.	Aug-Sep	Grey sand, clay loam. Winter-wet depressions.	Mattiske, TPFL, TP List, WA Herb, WEC
Arnocrinum gracillimum	P2	Rhizomatous, perennial, herb, 0.2-0.4 m high. Fl. purple.	Oct-Nov	White, grey, yellow or lateritic sand.	TPFL, TP List, WA Herb, WEC
Baeckea sp. Moora (R. Bone 1993/1)	P3	Open spreading or spindly shrub, 0.5-2 m high. Fl. white/pink.	Nov-Dec	Gravelly soils.	TP List, Tronox Database (Mattiske)
Baeckea sp. Perth Region (R.J. Cranfield 444)	P3	Erect, open straggly shrub, to 1.2 m high. Fl. pink/white.	Jan-Mar	Orange sand, brown loam, white sandy clay. Low flats, winter-wet swamps.	WA Herb, WEC

Taxon	Status	Description (DPaW 2013a)	Flowering Time	Habitat (DPaW 2013a)	Source
Banksia catoglypta	T (VU)		Jun-Jul	Lateritic breakaways.	TP List
Banksia dallanneyi subsp. *pollosta*	P3	Prostrate, lignotuberous shrub. Fl. yellow-brown.	Aug-Sep	Grey/yellow sand. Flats, lateritic rises.	WEC, Astron
Banksia fraseri var. *crebra*	P3	-		Grey/White sand, Sandplains, gravelly soils and Lateritic Hillslopes. Heath or Kwongan.	TP List
Banksia nobilis subsp. *fragrans*	P3	Erect, non-lignotuberous shrub, 0.6-2 m high. Fl. yellow-green/pink.	Jul-Sep	Lateritic rises.	TP List
Banksia platycarpa	P4	Erect, columnar, non-lignotuberous shrub, 0.2-1 m high. Fl. cream-yellow-orange.	May-Aug	White, grey/brown sand, often with gravel & over laterite.	TP List, WA Herb, WEC
Banksia prionophylla	P1	Lignotuberous, branching shrub, to 0.6 m high. Fl. yellow.	Jul	Dry grey sand over laterite with surface boulders, rises.	TP List
Banksia serratuloides subsp. *perissa*	T (CR)	Bushy, lignotuberous shrub, to 1 m high. Fl. yellow.	Aug-Sep	Gravelly lateritic soils.	TP List
Banksia sclerophylla	P4	Erect, lignotuberous shrub, 0.3-1 m high. Fl. yellow.	Sep-Oct	White or grey sand over laterite, gravel.	WA Herb
Banksia splendida subsp. *macrocarpa*	P3	Bushy, non-lignotuberous shrub, 0.3-1.5 m high. Fl. yellow/orange-red.	Jul-Aug	Lateritic gravel.	TP List
Banksia subulata	P3	Bushy, non-lignotuberous shrub, to 0.35 m high. Fl. yellow.	Sep	White/grey or yellow sand over laterite, gravelly laterite.	TP List
Beaufortia bicolor	P3	Dense shrub- low, compact, intricately branched, 0.3-1 m high. Fl. red & yellow & orange.	Nov-Dec	White sand over laterite, sandplains.	Mattiske, TPFL, WA Herb, WEC
Beaufortia eriocephala	P3	Erect, compact shrub, 0.3-0.6 m high. Fl. red.	Sep-Nov	Lateritic sandy soils, slopes.	TP List, WEC
Beyeria gardneri	P3	Shrub, 0.25-0.5 m high. Fl. yellow.	Aug-Sep	Yellow sand.	TP List
Beyeria similis	P2	Erect, compact shrub, 0.25-0.7 m high. Fl. yellow.	Aug-Sep	Yellow or red clayey sand, sandplains.	TP List
Boronia scabra subsp. *condensata*	P2	Erect shrub, 0.25-0.7 m high, flowers 4-merous, cymes sessile, staminal filaments tuberculate. Fl. pink.	Aug	Sandy clay or gravel, Upper slopes, Edges of lateritic breakaways.	TP List
Boronia tenuis	P4	Procumbent or erect & slender shrub, 0.1-0.5 m high. Fl. blue/pink-white.	Aug-Nov	Laterite, stony soils, granite.	Mattiske, TPFL
Byblis gigantea	P3	Small, branched perennial, herb (or sub-shrub), to 0.45 m high. Fl. pink-purple/white.	Sep-Jan	Sandy-peat swamps, Seasonally wet areas.	WA Herb
Calectasia palustris	P1	Stilt-rooted herb (undershrub), stems to 0.7 m high. Fl. blue.	Jul-Oct	White or grey sand, Seasonally inundated swamplands.	TPFL, TP List, WA Herb, WEC

Taxon	Status	Description (DPaW 2013a)	Flowering Time	Habitat (DPaW 2013a)	Source
Catacolea enodis	P2	Rhizomatous, perennial, herb, 0.1-0.3 m high, spikelets many-flowered, on slender peduncles; culms broad, 1.2-2 mm wide, compressed; style single. Fl. brown.		Deep white sand over laterite, Tall heath	TP List
Chamelaucium sp. Cataby (G.J. Keighery 11009)	T (VU)	-	Jun-Oct	Yellow to Grey sands, and sandy-clay to loamy soils over laterite. Sandplains, Heath, Breakaways.	TP List
Chordifex chaunocoleus	P4	Rhizomatous, erect perennial, herb, 0.15-0.5 m high. Fl. brown.	Sep	Grey, siliceous or peaty sand (well to poorly drained) Drainage lines, depressions.	Mattiske, TPFL, TP List, WA Herb, WEC
Chordifex reseminans	P1	Rhizomatous, erect, tufted, dioecious herb, 0.6-0.9 m high.	Mar-May	Dry sand, heath.	TPFL, TP List, WA Herb, WEC
Comesperma rhadinocarpum	P2	Perennial, herb. Fl. blue.	Oct-Nov	Sandy soils.	TP List
Conospermum scaposum	P3	Erect shrub, 0.2-0.45(-0.75) m high. Fl. blue.	Oct-Dec, or Jan-Feb	White-grey sand, sandy clay, Low swampy areas, Road verges.	TP List, WA Herb, WEC
Conostephium magnum	P4	Erect, compact, many-stemmed shrub, to 2 m high. Fl. pink-purple.	Jul-Sep	White-grey sands sometimes associated with laterite gravels, Sand dunes, swampland, disturbed roadside, drainage channels, open woodland.	TP List, WA Herb WEC
Desmocladus biformis	P3	Rhizomatous, densely tufted perennial, herb (sedge-like), 0.1-0.2 m high.	Sep-Oct	Sand, sandy clay, lateritic soils, Dry sites.	TP List, WEC
Desmocladus elongatus	P4	Rhizomatous, perennial, herb (sedge-like), 0.25-0.5 m high.	Aug-Dec	White or grey sand, Dry kwongan.	TP List
Diuris ?eburnea	P1	-	-	-	WEC
Drosera marchantii subsp. *prophylla*	P3	Erect tuberous, perennial, herb, 0.1-0.3 m high. Fl. white.	Jun-Jul	Laterite-silica sand soils, Hilltops.	TPFL, WA Herb, TP List
Eleocharis keigheryi	T (VU)	Rhizomatous, clumped perennial, grass-like or herb (sedge), to 0.4 m high. Fl. green.	Aug-Nov	Clay, sandy loam, Emergent in freshwater: creeks, claypans.	TP List
Eremophila glabra subsp. *chlorella*	T (CR)	Prostrate & spreading or sprawling shrub, 0.2-1 m high. Fl. green-yellow.	Jul-Nov	Sandy clay. Winter-wet depressions	TP List, WEC
Eryngium pinnatifidum subsp. Palustre (G.J. Keighery 13459)	P3	Erect perennial, herb, 0.15-0.5 m high. Fl. white/blue.	Oct-Nov	Clay, sandy clay. Claypans, seasonally wet flats.	WA Herb, WEC

Taxon	Status	Description (DPaW 2013a)	Flowering Time	Habitat (DPaW 2013a)	Source
Eucalyptus absita	T (CR)	Mallee or tree, 2.3-10 m high, bark rough, fibrous. Fl. white.	Apr-Jul	White lateritic sand. Paddocks	TP List
Eucalyptus absita x *loxophleba*	P1	Mallee, to 10 m high, bark fibrous, box-like.	-	Lateritic sand	TP List
Eucalyptus balanites	T (CR)	Mallee, to 5 m high, bark rough, flaky. Fl. white.	Oct-Dec, or Jan-Feb	Sandy soils with lateritic gravel	TP List
Eucalyptus macrocarpa subsp. *elachantha*	P4	Spreading or sprawling mallee, 0.8-4 m high, bark smooth, grey over salmon pink. Fl. red-pink.	Aug-Sep, or Nov-Dec	White or grey sand over laterite. Hillslopes, ridges, sandplains	Mattiske, TPFL, TP List, WA Herb
Eucalyptus pendens	P4	Slender, pendulous mallee, 2-5 m high, bark smooth. Fl. white.	Aug-Nov	White or grey sand with lateritic gravel. Hillsides, breakaways, sandplains	TPFL, WA Herb, TP List
Eucalyptus x *carnabyi*	P4	Mallee, 1.5-6 m high, bark smooth, grey over cream. Fl. pink-cream.	Oct-Nov	Grey sand, sandy loam. Lateritic ridges	TP List
Frankenia glomerata	P3	Prostrate shrub. Fl. pink-white.	Nov	White sand	TPFL, Tronox Database (N. Evelegh)
Gastrolobium nudum	P2	Spreading, twiggy shrub, to 0.8 m high. Fl. orange & red.	Feb	Red-brown clay, brown loam, gravel, laterite, granite. Flats, slopes, hilltops, ridges, valleys, breakaways	TP List
Gompholobium gairdnerianum	P3	Erect, slender, multi-stemmed shrub, to 0.5 m high. Fl. yellow.	Sep-Nov	White, cream or brown sandy clay, white sand over sandstone, brown or grey sand over laterite, gravel. Hill summits and slopes, ridges	TP List
Goodenia perryi	P3	Herb or shrub, 0.15-0.3 m high. Fl. blue.	Oct-Nov	Yellow sand	Tronox Database (Western Botanical)
Grevillea calliantha	T (CR)	Spreading, flat-topped shrub, 0.9-2.5 m high. Fl. red-brown.	Apr or Jun or Aug	Grey or yellow sand over laterite, with gravel	TP List
Grevillea florida	P3	Erect shrub, to 0.9 m high. Fl. cream-yellow.	Jul-Sep	Sand, sandy clay, gravel, laterite. Sandplain, slopes, road verges	TP List
Grevillea saccata	P4	Diffuse scrambling or trailing shrub, 0.25-0.5 m high, 1-2 m wide. Fl. red.	Apr-Nov	Yellow or brown sand, often with lateritic gravel	Mattiske, TPFL, TP List, WA Herb
Grevillea synapheae subsp. *minyulo*	P1	Spreading to sprawling, lignotuberous shrub, 0.2-0.5 m high. Fl. white-cream-yellow.	Aug-Sep	Gravel, laterite	TP List, WA Herb

Taxon	Status	Description (DPaW 2013a)	Flowering Time	Habitat (DPaW 2013a)	Source
Grevillea thelemanniana subsp. Coojarloo (B.J. Keighery 28 B)	P1	Open, spreading, shrub to 0.4 m high. Flowers red.	Jun-Nov	Sand and sandy clays, in low-lying areas and winter wet flats	TP List, WA Herb, WEC
Grevillea thyrsoides subsp. *thyrsoides*	P3	Spreading or procumbent shrub, 0.3-0.7 m high, up to 1.5 m wide. Fl. red-pink.	Feb or Aug-Sep	Sand or sandy lateritic gravel	TP List
Guichenotia alba	P3	Slender, lax, few-branched shrub, 0.1-0.45 m high. Fl. white.	Jul-Aug	Sandy & gravelly soils. Low-lying flats, depressions	TP List, WA Herb
Hakea longiflora	P3	Erect, pungent shrub, 0.6-0.75 m high. Fl. yellow.	Jun-Sep	White sand, loam, gravel, laterite. Breakaways	TP List, Mattiske (*H.?longiflora*)
Hakea megalosperma	T (VU)	Spreading, lignotuberous shrub, 1-2 m high. Fl. white-cream/pink.	May-Jun	Grey sand, loam. Lateritic hills & rocks	TP List
Haloragis foliosa	P3	Perennial, herb or shrub, 0.2-0.5 m high.	Oct-Nov	White/grey sand over limestone	WEC
Hensmania stoniella	P3	Tufted, stilt-rooted, perennial herb, 0.1–0.2 m high, without rhizomes and with fibrous roots. Leaves circular in cross-section, 5-10 cm long, 1-1.5 mm in diameter. Yellow to white flowers.	Sep-Nov	White, grey or lateritic sand, often in winter-wet areas	TP List, WA Herb, WEC
Hibbertia helianthemoides	P3	Spreading to erect, low or prostrate shrub, to 0.3 m high. Fl. yellow.	Jul, or Sep-Oct	Clayey sand over sandstone or loam over quartzite. Hills and scree slopes	TPFL, WA Herb, WEC
Hibbertia propinqua	P4	-	Aug-Sep	Yellow/grey sand, Gravelly or lateritic soils. Breakaways and slopes	TP List
Hibbertia spicata subsp. *leptotheca*	P3	Erect or spreading shrub, 0.2-0.5 m high. Fl. yellow.	Jul-Oct	Sand. Near-coastal limestone ridges, outcrops & cliffs	TPFL, TP List, WA Herb
Hypocalymma gardneri	P3	Shrub, to 0.3 m high. Fl. yellow.	Aug-Sep	Grey-brown sand, laterite. Sandplains, upper slopes, heathland	WEC
Hypocalymma serrulatum	P3	Erect shrub, 0.45-1.7 m high. Fl. white-pink.	Apr-May	Grey or white sand. Along drainage lines	TPFL, TP List, WA Herb, WEC
Hypocalymma sp. Cataby (G.J. Keighery 5151)	P2	Erect, spreading shrub, 0.5-1 m high, to 1 m wide. Fl. white.	Aug	Grey sand	TP List, Tronox Database (Mattiske)
Hypocalymma sp. Dandaragan (C.A. Gardner 9014)	P1	-	Sep	Grey Sand	TP List

Taxon	Status	Description (DPaW 2013a)	Flowering Time	Habitat (DPaW 2013a)	Source
Hypocalymma tetrapterum	P3	Shrub, 0.4-0.9 m high. Fl. white.	Aug	Grey sand, loam, lateritic gravel. Riverbanks, breakaways	Mattiske, TPFL, TP List, WA Herb, WEC
Hypolaena robusta	P4	Dioecious rhizomatous, perennial, herb, ca 0.5 m high.	Sep-Oct	White sand. Sandplains	TP List, WA Herb
Isopogon drummondii	P3	Erect, lignotuberous shrub, 0.4-1 m high. Fl. yellow/cream-yellow.	Feb-Jun	White, grey or yellow sand, often over laterite	TPFL, WA Herb
Isopogon panduratus subsp. *palustris*	P2	Erect, robust, multi-stemmed shrub to 1.5 m high, 1.5 m wide. Deeply concaved glaucous leaves, often glabrous just below flower-heads. Flowers pink.	Sep-Oct	Sands and sandy soils in winter-wet areas and low-lying flats	TP List, WA Herb
Jacksonia anthoclada	P3	Erect shrub, 1.5-2.5 m high. Fl. yellow & red.	April	White or grey sand. Sandplains	TPFL, WA Herb
Jacksonia carduacea	P3	Bushy shrub, 0.2-0.5 m high. Fl. yellow & red.	Aug-Dec	Grey sand, sandy clay	TPFL, TP List, WEC
Jacksonia rubra	P2	Tangled dwarf shrub, ca 0.2 m high. Fl. orange.	Oct	Clayey sand	TP List
Lasiopetalum lineare	P3	Erect, multi-stemmed shrub, 0.2-0.4 m high. Fl. pink-blue-purple.	Aug-Nov	White/grey sand. Lateritic breakaways, rises, sandplains	WA Herb, WEC, Astron
Lepidobolus densus	P3	Rhizomatous, caespitose perennial, herb (sedge-like), to 0.4 m high. Pale chestnut coloured flowers.	Sep-Nov	Yellow lateritic sand, lateritic gravel. Dry kwongan	WEC
Lepidobolus quadratus	P3	Rhizomatous, caespitose perennial, herb (sedge-like), 0.15-0.3 m high. Fl. brown/red.	Aug-Sep	Lateritic gravel, grey/white sand. Dry kwongan	TP List
Lepyrodia curvescens	P2	Dioecious, shortly creeping, tufted rhizomatous, herb, 0.24-0.4 m high, rhizomes on surface or to 1 cm deep.	Sep-Nov	Sand, laterite. Seasonally inundated swampland	WEC
Leucopogon sp. Badgingarra (R. Davis 421)	P2	Open, erect shrub, 0.7-1 m high. Fl. white.	Dec	Grey sand, dry white sand. Hills, plains	TP List, WA Herb
Leucopogon sp. Yanchep (M. Hislop 1986)	P3	Erect shrub, 0.15-1 m high, to 0.6 m wide. Fl. white/pink.	Apr-Jun, or Sep	Light grey-yellow sand, brown loam, limestone, laterite, granite. Coastal plain, breakaways, valley slopes, low hills	WA Herb, WEC
Loxocarya gigas	P2	Rhizomatous, clumped perennial, herb (sedge-like), 0.8-2 m high.	Oct	Sandy gravelly lateritic soils. Low hills & ridges, sandplains	WA Herb, WEC

Taxon	Status	Description (DPaW 2013a)	Flowering Time	Habitat (DPaW 2013a)	Source
Lyginia excelsa	P1	Rhizomatous, erect, tufted herb with rhizomes on surface. Dioecious, with bright green culms, 0.6 - 1.5 m.	Mar-Nov	Sands. Sandy flats and sandplains, Dry heath & Banksia woodland	TP List, WA Herb, WEC
Macarthuria keigheryi	T (EN)	Perennial herb or shrub with either erect or spreading form. Growing 0.2 - 0.4 m high, 0.3 - 0.6 m wide.	Sep-Dec, or Feb-Mar	White or grey sand	TPFL, TP List, WA Herb, WEC
Malleostemon sp. Cooljarloo (B. Backhouse s.n. 16/11/88)	P1	Erect shrub, ca 0.4 m high. Fl. pink.	Nov	Sand. Low-lying areas	TPFL, TP List, WA Herb, WEC
Meionectes tenuifolia	P3	Suckering spreading decumbent erect annual herb with cream-green flowers - red style. Height 0.5 m and width 0.05 m.	Oct-Dec	Brown/grey clay. Swamps, seasonal wetlands, sometimes with ironstone outcrop/gravel	TPFL, TP List, WEC
Melaleuca clavifolia	P3	Erect shrub, to 1 m high. Fl. pink-purple.	Oct-Dec	White-grey sand, brown sandy brown, gravel, laterite. Flats, slopes, hillsides	TPFL, TP List, WA Herb, WEC, Astron
Onychosepalum microcarpum	P2	Rhizomatous, tufted perennial, herb, 0.07-0.15 m high.	Aug-Oct	White or yellow sand. Dry heath, low woodland	TP List, WA Herb, WEC
Onychosepalum nodatum	P3	Caespitose, perennial species with a grass-like or herbaceous habit forming small, many-culmed tussocks. Flowers brown.	Oct	Sand and sandy clay in low-lying areas	TP List, WA Herb, WEC
Ornduffia submersa	P4	Tuberous, perennial, emergent aquatic herb. Height to 1 m, leaves and flowers float on water surface. Flowers white.	Aug-Nov	Aquatic systems over clay or sandy clay soils. Seasonally inundated claypans	WEC
Paracaleana dixonii	T (VU)	Tuberous, perennial herb, 0.09-0.2cm high. Fl. Yellow-brown.	Oct to Dec or Jan	Grey sand over granite	Astron
Patersonia spirifolia	T (EN)	Spreading, woody, tussock-forming rhizomatous, herb, to 0.3 m high, to 0.4 m across.	Aug-Nov	Sand over laterite. Low hills	TP List
Phlebocarya pilosissima subsp. *pilosissima*	P3	Shortly rhizomatous, compactly tufted perennial, grass-like or herb, 0.15-0.4 m high. Fl. cream-white.	Aug-Oct	White or grey sand, lateritic gravel	TP List, WA Herb
Platysace ramosissima	P3	Perennial, herb, to 0.3 m high. Fl. white-cream.	Oct-Nov	Sandy soils	WA Herb, WEC
Ptychosema pusillum	T (VU)	Perennial, herb, mostly 0.05-0.1 m high. Fl. red & brown & yellow.	Aug-Oct	Sand. Rises	TP List

Taxon	Status	Description (DPaW 2013a)	Flowering Time	Habitat (DPaW 2013a)	Source
Rhetinocarpha suffruticosa	P1	Woody perennial, herb (with slender erect branches), to 0.8 m high.	Nov-Dec, and Apr	Red-brown loamy clay, gravelly loam or clay loam over laterite. Slopes, small ridges	TP List
Schoenus griffinianus	P3	Small, tufted perennial, grass-like or herb (sedge), to 0.1 m high.	Sep-Oct	White sand	TPFL, WA Herb, WEC
Schoenus natans	P4	Aquatic annual with a grass-like or herbaceous (sedge) habit. This species grows to 0.3 m high. Brown flowers.	Oct	Seasonal wetlands over clay or sandy clay, winter-wet claypans	WEC
Schoenus pennisetis	P1	Tufted annual, grass-like or herb (sedge), 0.05-0.15 m high. Fl. purple-black.	Aug-Sep	Grey or peaty sand, sandy clay. Swamps, winter-wet depressions	TPFL, WA Herb, WEC
Stenanthemum sublineare	P2	Erect, lignotuberous shrub to 0.1 m high with green - cream flowers.	Oct-Dec	Sand and sandy loam	WEC
Stylidium aceratum	P2	Fibrous rooted annual, herb, 0.05-0.09 m high, leaves spathulate. Fl. pink/white.	Oct-Nov	Sandy soils. Swamp heathland	WEC
Stylidium aeonioides	P4	Rosetted perennial, herb, 0.05-0.4 m high, Leaves adpressed to soil, oblanceolate, 0.7-3 cm long, 1.5-5 mm wide, apex subacute, margin hyaline, glabrous. Scape glabrous. Inflorescence paniculate. Fl. cream-yellow.	Sep-Nov	Sandy clay loam over laterite. Hillsides and breakaways. Low heath, open woodland	TPFL, TP List, WA Herb
Stylidium hymenocraspedum	P2	Rosetted perennial, herb, 0.27-0.7 m high, Leaves adpressed to soil, spathulate, 1.5-7 cm long, 6-13 mm wide, apex subacute, margin hyaline, glabrous. Scape mostly glabrous, sparingly glandular near bract and pedicel axils. Inflorescence racemose. Fl. yellow.	Sep-Oct	Sand over laterite. Hillslopes. Heath, Banksia and Eucalyptus low open woodland	TP List, WA Herb, WEC
Stylidium inversiflorum	P4	Rosetted perennial, herb, 0.08-0.25 m high, Leaves erect to spreading, linear, 1-4 cm long, 0.4-1 mm wide, apex subacute, margin entire, glabrous. Scape glandular on inflorescence axis, glabrous below. Inflorescence racemose. Fl. yellow.	Sep-Nov	White or grey sand over laterite. Sandplains, hillslopes and gullies. Heath, open woodland	TP List

Taxon	Status	Description (DPaW 2013a)	Flowering Time	Habitat (DPaW 2013a)	Source
Stylidium longitubum	P3	Erect annual (ephemeral), herb, 0.05-0.12 m high. Fl. pink.	Oct-Dec	Sandy clay, clay. Seasonal wetlands	TPFL, WA Herb, WEC
Stylidium maritimum	P3	Caespitose perennial, herb, 0.3-0.7 m high, Leaves tufted, linear to narrowly oblanceolate, 10-40 cm long, 1-5.5 mm wide, apex acute to mucronate, margin involute, glabrous. Membraneous scale leaves present at base of mature leaves. Scape glandular throughout. Inflorescence paniculate. Fl. white/purple.	Sep-Nov	Sand over limestone. Dune slopes and flats. Coastal heath and shrubland, open Banksia woodland	TPFL
Stylidium tinkeri	P1	Erect annual, herb, 0.03-0.07 m high. Fl. white & pink.	Oct	Grey sandy soil. Seasonal wetlands	WA Herb
Synaphea endothrix	P2	Erect, clumped shrub, to 0.6 m high. Fl. yellow.	Aug-Sep	Gravelly loam, sand. Lateritic rises	TP List
Tetratheca angulata	P3	Lax to erect, slender shrub (subshrub), 0.2-0.3 m high.	Sep-Dec	Sandy to gravelly laterite soils. Low hill crests, breakaways with massive laterite boulders	TP List
Thelymitra apiculata	P4	Tuberous, perennial, herb, 0.2-0.35 m high. Fl. purple & yellow.	May-Jul	Grey sand, lateritic gravel	TP List
Thysanotus glaucus	P4	Caespitose, glaucose perennial, herb, 0.1-0.2 m high. Fl. purple.	Oct-Mar	White, grey or yellow sand, sandy gravel.	TPFL, WEC
Thysanotus sp. Badgingarra (E.A. Griffin 2511)	P2	Perennial, herb (with tuberous roots), ca 0.35 m high. Fl. blue.	Dec	Grey sand with lateritic gravel	TP List
Thysanotus vernalis	P3	Perennial, herb (with tuberous roots), to 0.3 m high. Fl. purple.	Sep-Oct	Sandy loam	TP List
Verticordia amphigia	P3	Shrub, 0.6-1.3 m high. Fl. yellow.	Oct-Nov	Sandy loam, clay & rocky loam. Winter-wet depressions	WA Herb, WEC
Verticordia lindleyi subsp. *lindleyi*	P4	Erect shrub, 0.2-0.75 m high. Fl. pink.	May, or Nov-Jan	Sand, sandy clay. Winter-wet depressions	WA Herb, WEC

Appendix D: Environmental Weed Strategy - Criteria for the Assessment and Rating of Weeds in Terms of their Environmental Impact on Biodiversity (Department of Conservation and Land Management 1999)

ENVIRONMENTAL WEEDS RATING

- **Invasiveness-** ability to invade bushland in good to excellent condition or ability to invade waterways (Score as yes or no).
- **Distribution** – wide current or potential distribution including consideration of known history of wide spread distribution elsewhere in the world (Score as yes or no).
- **Environmental Impacts** – ability to change the structure, composition and function of ecosystems; in particular an ability to form a monoculture in a vegetation community (Score as yes or no).

The Rating System used in the Environmental Weed Strategy for Western Australia

High	A weed species would have to score yes for all three criteria. Rating a weed species as high would indicate prioritising this weed for control and/or research.
Moderate	A weed species would have to score yes for two of the above criteria. Rating a weed species as moderate would indicate that control or research effort should be directed to it if funds are available; however it should be monitored (possibly a reasonably high level of monitoring).
Mild	A weed species scoring one of the criteria. A mild rating would indicate monitoring of the weed and control where appropriate.
Low	A weed species would score none of the criteria. A low ranking would mean that this species would require a low level of monitoring.

Appendix E: Vascular Plant Taxa Recorded in the Cooljarloo West Study Area (as depicted in Figure 1)

Family	**Species and Conservation Code** (where Applicable - (#))	◊Cooljarloo West Flora and Veg Assessment 2012	Cooljarloo Baseline Quadrats 2008 (WEC 2010)	Cooljarloo West Mapping 2008 (WEC 2009d)	Mullering Survey (WEC 2006b)	◊Mulch Monitoring (WEC 2011b)	Falcon Drawdown Monitoring 2008 (WEC 2009b)	◊Falcon Extension 2008 (WEC 2009a)	◊Falcon Regional Survey 2006 (WEC 2007b)	◊Falcon Survey 2006 (WEC 2007b)	Falcon Survey 2005 (WEC 2006c)	Vegetation Stress Monitor. 2012 (WEC 2013a)	Search Access Lines 2012 (Astron 2013)	Vegetation Survey 27000 South (Mattiske 1997)	Vegetation Survey VCL Cooljarloo (Mattiske 1996)
Aizoaceae	**Carpobrotus edulis*			X							X				
	**Carpobrotus ?edulis*	X													
	Carpobrotus modestus	X													
	Carpobrotus ?modestus	X													
	Carpobrotus ?virescens				X										
	Carpobrotus sp.				X							X			
Amaranthaceae	*Ptilotus divaricatus*			X											
	Ptilotus manglesii	X	X	X	X				X		X				X
	Ptilotus polystachyus	X			X										
	Ptilotus stirlingii				X										
	Ptilotus stirlingii subsp. *stirlingii*	X			X										
Anarthriaceae	*Anarthria gracilis*	X	X				X		X	X					
	Anarthria aff. *gracilis*													X	
	Anarthria humilis					X				X		X			
	Anarthria ?humilis		X				X								
	Anarthria laevis	X	X	X	X	X		X	X		X			X	X
	Lyginia barbata	X	X											X	X
	Lyginia excelsa (P1)			X											
	Lyginia imberbis	X	X	X	X	X	X	X	X	X	X	X			
	?Lyginia imberbis				X										
	Lyginia sp.											X			
	?Lyginia sp.											X			
Apiaceae	*Actinotus leucocephalus*	X	X	X	X	X					X				
	Apium annuum			X											
	Apium prostratum var. *prostratum*	X													
	Daucus glochidiatus	X		X	X							X			
	Eryngium pinnatifidum subsp. Palustre (G.J. Keighery 13459) (P3)								X						
	Eryngium pinnatifidum subsp. *pinnatifidum* ms	X		X											
	Eryngium pinnatifidum subsp. *?pinnatifidum* ms					X									
	Platysace haplosciadia				X										
	Platysace juncea									X					X
	Platysace juncea sens. lat.							X							
	Platysace ramosissima (P3)									X	X				
	Platysace xerophila	X	X	X											X
	Platysace ?xerophila				X										
	Platysace sp. Eneabba (R. Hnatiuk 770001)	X	X		X		X	X	X						
	Platysace sp.						X								
	?Platysace sp.	X													
	Schoenolaena juncea										X				
	?Schoenolaena juncea									X					
	Xanthosia huegelii	X	X	X	X	X	X	X	X	X	X	X			
Araliaceae	*Hydrocotyle alata*	X													
	Hydrocotyle blepharocarpa	X													
	Hydrocotyle callicarpa	X													
	Trachymene coerulea subsp. *coerulea*	X			X										
	Trachymene pilosa	X	X	X	X	X	X		X	X	X				
	Trachymene sp.						X								
Asparagaceae	*Acanthocarpus canaliculatus*			X	X										
	Acanthocarpus preissii			X	X										
	Chamaescilla corymbosa	X			X										
	Laxmannia ramosa						X								
	Laxmannia ramosa subsp. *ramosa*	X	X	X	X		X	X		X	X	X			

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Family	**Species and Conservation Code** (where Applicable - (#))	◊Cooljarloo West Flora and Veg Assessment 2012	Cooljarloo Baseline Quadrats 2008 (WEC 2010)	Cooljarloo West Mapping 2008 (WEC 2009d)	Mullering Survey (WEC 2006b)	◊Mulch Monitoring (WEC 2011b)	Falcon Drawdown Monitoring 2008 (WEC 2009b)	◊Falcon Extension 2008 (WEC 2009a)	◊Falcon Regional Survey 2006 (WEC 2007b)	◊Falcon Survey 2006 (WEC 2007b)	Falcon Survey 2005 (WEC 2006c)	Vegetation Stress Monitor. 2012 (WEC 2013a)	Search Access Lines 2012 (Astron 2013)	Vegetation Survey 27000 South (Mattiske 1997)	Vegetation Survey VCL Cooljarloo (Mattiske 1996)
Asparagaceae cont'd	*Laxmannia sessiliflora*				X			X			X				
	Laxmannia sessiliflora subsp. ?*australis*	X													
	Laxmannia ?sessiliflora subsp. *australis*									X					
	Laxmannia sessiliflora subsp. *drummondii*														X
	Laxmannia sessiliflora subsp. *sessiliflora*				X										
	Laxmannia sessiliflora subsp. ?*sessiliflora*				X										
	Laxmannia squarrosa		X				X								
	Lomandra caespitosa	X	X	X		X	X	X							
	Lomandra hastilis		X				X	X			X				
	Lomandra hermaphrodita	X	X	X	X	X	X	X	X	X	X	X		X	X
	Lomandra ?hermaphrodita								X						
	Lomandra maritima	X			X										
	Lomandra ?maritima		X												
	?*Lomandra maritima*			X											
	Lomandra ?micrantha	X													
	Lomandra micrantha subsp. *micrantha*	X	X	X	X					X					
	Lomandra ?micrantha subsp. *micrantha*							X							
	Lomandra ?nigricans	X													
	Lomandra preissii	X	X		X	X	X	X	X		X	X			X
	Lomandra ?preissii											X			
	Lomandra sericea		X			X	X	X				X			
	Lomandra ?sonderi		X				X								
	Lomandra suaveolens				X										
	Lomandra sp.	X	X									X			
	?*Lomandra* sp.	X										X			
	Sowerbaea laxiflora				X									X	
	Thysanotus arbuscula	X													
	Thysanotus ?arbuscula	X													
	Thysanotus arenarius				X					X					
	Thysanotus ?arenarius				X										
	Thysanotus asper				X										
	Thysanotus dichotomus		X	X	X					X				X	
	Thysanotus glaucus (P4)		X			X			X		X				
	Thysanotus manglesianus	X	X	X			X							X	
	Thysanotus ?manglesianus	X					X					X			
	Thysanotus multiflorus			X	X				X	X	X			X	
	Thysanotus ?multifllorus		X				X								
	?*Thysanotus multiflorus*								X						
	Thysanotus patersonii	X			X					X	X				
	Thysanotus ?patersonii											X			
	Thysanotus sparteus	X	X	X		X									X
	Thysanotus ?sparteus	X								X					
	Thysanotus spiniger	X			X						X				
	Thysanotus tenellus									X					
	Thysanotus ?tenellus			X											
	Thysanotus teretifolius	X	X						X						
	Thysanotus thyrsoideus	X	X	X	X	X					X	X			
	Thysanotus ?thyrsoideus	X										X			
	Thysanotus triandrus	X		X	X										
	Thysanotus sp.		X					X				X			
	?*Thysanotus* sp.	X						X							
	Asparagaceae sp.	X									X				

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Asphodelaceae	*Bulbine semibarbata*	X													
	?Asphodelaceae sp.			X											
Asteraceae	*Angianthus micropodioides* (P3)			X						X	X				
	Angianthus preissianus	X													
	Angianthus ?preissianus									X					
	Angianthus pygmaeus	X		X											
	Angianthus tomentosus	X													
	**Arctotheca calendula*	X	X		X					X				X	
	Asteridea pulverulenta	X		X	X										
	Blennospora drummondii			X		X			X						
	Brachyscome bellidioides	X		X											
	Brachyscome ?bellidioides				X										
	Brachyscome iberidifolia									X	X				
	Brachyscome ?iberidifolia			X	X						X				
	Brachyscome pusilla	X													
	Brachyscome sp.	X													
	**Centaurea melitensis*	X													
	**Conyza bonariensis*	X		X											
	**Conyza ?bonariensis*	X													
	**Conyza* sp.			X											
	Cotula australis	X													
	**Cotula bipinnata*	X													
	**Cotula coronopifolia*	X		X	X					X	X				
	Cotula cotuloides	X		X											
	Cotula sp.								X						
	**Dittrichia graveolens*	X													
	Erymophyllum tenellum					X									
	Euchiton sphaericus	X		X	X										
	Gnephosis drummondii	X													
	Gnephosis tenuissima	X		X		X									
	Gnephosis uniflora									X					
	Gnephosis sp.														X
	Hyalosperma cotula	X	X	X		X								X	
	**Hypochaeris glabra*	X	X	X	X	X	X	X	X	X	X	X		X	
	Lagenophora huegelii	X			X				X						
	Leptorhynchos scaber				X										
	Millotia myosotidifolia				X										
	Millotia tenuifolia var. *tenuifolia*	X													X
	Myriocephalus appendiculatus	X		X											
	Myriocephalus helichrysoides			X											
	Myriocephalus occidentalis	X													
	Olearia axillaris			X	X										
	Olearia lehmanniana	X			X										
	Olearia rudis				X										
	Olearia sp. Kennedy Range (G. Byrne 66)				X										
	Podolepis ?canescens	X													
	Podolepis gracilis	X	X	X	X	X			X		X				
	Podotheca angustifolia	X				X									
	Podotheca chrysantha	X			X										
	Podotheca ?chrysantha			X											
	Podotheca gnaphalioides	X	X	X	X	X									X
	Pogonolepis stricta	X		X		X			X						

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Asteraceae cont'd	*Pterochaeta paniculata*	X	X	X	X	X		X		X	X				X
	Quinetia urvillei	X													
	Rhodanthe citrina	X			X										
	Senecio ?lacustrinus	X													
	Senecio pinnatifolius	X		X	X										
	Senecio pinnatifolius var. *latilobus*								X						
	Senecio pinnatifolius var. *pinnatifolius*				X										
	Siloxerus humifusus	X	X	X		X				X					X
	Siloxerus ?humifusus	X			X						X				
	Sonchus hydrophilus	X													
	**Sonchus oleraceus*	X		X	X	X				X	X				
	**Sonchus* sp.		X												
	**Taraxacum officinale*	X													
	**?Taraxacum* sp.	X													
	**Urospermum picroides*	X													
	**Ursinia anthemoides*	X	X	X	X	X		X	X		X	X		X	X
	**Vellereophyton dealbatum*	X													
	Waitzia acuminata var. *albicans*	X			X										
	Waitzia ?podolepis		X												
	Waitzia suaveolens var. *suaveolens*	X	X	X	X	X			X		X				
	Asteraceae sp.	X													
	?Asteraceae sp.	X													
Boraginaceae	**Echium plantagineum*	X													
Boryaceae	*Borya sphaerocephala*	X			X									X	
Brassicaceae	**Heliophila pusilla*	X			X										
	Stenopetalum gracile				X										
	Stenopetalum ?gracile	X													
Byblidaceae	*Byblis gigantea* (P3)														X
	Byblis lamellata	X			X	X				X	X				
Campanulaceae	*Isotoma hypocrateriformis*	X		X	X	X					X				
	Isotoma hypocrateriformis var. *trichogramma* ms					X									
	Isotoma pusilla	X		X											
	Isotoma scapigera			X											
	Lobelia anceps			X											
	Lobelia heterophylla										X				
	Lobelia ?rarifolia		X												
	Lobelia rhombifolia													X	
	Lobelia rhytidosperma	X													
	Lobelia ?rhytidosperma				X										
	?Lobelia sp.	X													
	**Monopsis debilis*	X		X							X				
	**Wahlenbergia capensis*	X	X	X	X	X			X					X	
	Wahlenbergia gracilenta	X													
	Wahlenbergia stricta														X
Caryophyllaceae	**Cerastium glomeratum*	X													
	**Corrigiola litoralis*													X	
	**Petrorhagia dubia*				X										
	**Polycarpon tetraphyllum*	X													
	**Silene gallica*	X													
	**Silene gallica* var. *gallica*	X													
	**Spergularia marina*	X													

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Casuarinaceae	*Allocasuarina grevilleoides* (P3)	X													
	Allocasuarina humilis	X	X	X	X	X	X	X	X	X	X	X		X	X
	Allocasuarina lehmanniana	X			X										
	Allocasuarina lehmanniana subsp. *lehmanniana*	X		X	X										
	Allocasuarina microstachya	X	X	X	X			X						X	X
	Allocasuarina thuyoides	X		X				X						X	X
	Casuarina obesa	X		X	X										
Celastraceae	*Stackhousia monogyna*	X	X	X	X	X	X		X	X	X			X	X
	Stackhousia ?monogyna	X													
	Tripterococcus brunonis	X	X	X	X	X				X	X			X	
Centrolepidaceae	*Aphelia cyperoides*	X			X										
	Centrolepis aristata	X		X						X					X
	Centrolepis ?aristata		X												
	Centrolepis drummondiana	X													
	Centrolepis mutica	X													
	Centrolepis pilosa	X													
	Centrolepis polygyna	X		X	X					X	X				
Chenopodiaceae	*Rhagodia baccata*	X		X											
	Rhagodia baccata subsp. *baccata*	X													
	Rhagodia preissii subsp. *preissii*				X										
	Sarcocornia ?blackiana			X											
	Sarcocornia quinqueflora	X													
	Tecticornia disarticulata			X											
	Tecticornia ?halocnemoides	X													
	Tecticornia ?halocnemoides subsp. *halocnemoides*			X											
	Tecticornia indica subsp. *bidens*	X		X	X						X				
	Tecticornia ?indica subsp. *bidens*			X											
Colchicaceae	*Burchardia ?bairdiae*				X										
	Burchardia congesta	X	X	X	X	X		X		X	X	X		X	X
	Burchardia ?congesta						X								
	?Burchardia congesta						X								
	Burchardia multiflora			X											
	Burchardia sp.				X				X						
	?Burchardia sp.	X													
	Wurmbea dilatata				X										
	Wurmbea dioica	X													
	Wurmbea sp.	X													
Convolvulaceae	*Wilsonia backhousei*			X											
	Wilsonia humilis	X													
	Wilsonia rotundifolia	X													
Crassulaceae	*Crassula closiana*	X													
	Crassula colorata			X	X	X					X				
	Crassula ?colorata			X											
	Crassula colorata var. *acuminata*	X													
	Crassula ?colorata var. *acuminata*	X													
	Crassula colorata var. *colorata*		X				X								
	Crassula ?colorata var. *colorata*	X													
	**Crassula glomerata*	X			X										
	**Crassula natans* var. *minus*	X			X										
	Crassula sp.	X													
Cupressaceae	*Callitris arenaria*	X			X										
	Callitris pyramidalis			X											

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Cyperaceae	*Baumea articulata*		X				X								
	Baumea juncea	X	X	X	X	X	X	X	X	X					
	Baumea preissii subsp. ?*laxa*		X				X								
	?*Baumea articulata*				X										
	?*Baumea juncea*						X								
	Bolboschoenus caldwellii			X											
	Caustis dioica	X	X	X	X	X	X	X	X	X	X	X		X	X
	Chorizandra enodis	X		X	X	X									
	Cyathochaeta avenacea		X	X			X	X	X		X				
	Cyathochaeta ?*avenacea*							X							
	?*Cyathochaeta avenacea*											X			
	Cyperus gymnocaulos			X											
	**Cyperus tenellus*		X		X						X				
	Ficinia nodosa				X										
	Gahnia ?*australis*							X							
	Gahnia trifida	X	X	X	X	X	X		X	X	X				X
	Isolepis cernua var. *setiformis*	X		X					X	X					
	**Isolepis marginata*	X	X	X			X			X					
	**?Isolepis prolifera*			X											
	Lepidosperma angustatum		X												X
	Lepidosperma brunonianum		X		X		X								
	Lepidosperma ?*brunonianum*						X								
	Lepidosperma longitudinale	X	X	X	X		X	X	X		X				X
	Lepidosperma ?*longitudinale*	X		X			X	X							
	Lepidosperma pubisquameum	X	X	X	X	X	X	X	X	X	X	X			
	Lepidosperma ?*pubisquameum*	X				X	X							X	
	?*Lepidosperma pubisquameum*							X				X			
	Lepidosperma aff. *pubisquameum*				X										
	Lepidosperma scabrum														X
	Lepidosperma aff. *scabrum*	X	X	X		X	X	X		X	X				
	Lepidosperma squamatum		X	X			X							X	X
	Lepidosperma ?*squamatum*														X
	Lepidosperma tenue	X	X					X						X	X
	Lepidosperma sp.	X	X		X	X	X					X			
	?*Lepidosperma* sp.	X				X	X	X				X			
	Mesomelaena pseudostygia	X	X	X	X	X		X	X	X	X	X		X	X
	Mesomelaena stygia													X	
	Mesomelaena tetragona	X	X	X	X			X		X	X			X	X
	Schoenus andrewsii	X		X											
	Schoenus asperocarpus				X				X	X	X				
	?*Schoenus asperocarpus*				X										
	Schoenus badius (P2)										X				
	Schoenus brevisetis	X	X	X	X	X	X	X		X				X	X
	Schoenus ?*brevisetis*	X													
	Schoenus caespititius		X	X						X					
	Schoenus ?*caespititius*					X		X							
	Schoenus aff. *caespititius*								X						
	Schoenus clandestinus	X	X	X	X	X	X	X	X	X	X	X		X	X
	Schoenus curvifolius	X	X	X	X	X	X	X	X	X	X	X		X	X
	?*Schoenus curvifolius*											X			
	Schoenus efoliatus								X	X	X				
	Schoenus ?*efoliatus*		X				X								

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Cyperaceae cont'd	*Schoenus grandiflorus*	X		X	X										
	Schoenus ?*grandiflorus*				X										
	Schoenus griffinianus (P3)	X				X				X		X			
	Schoenus hexandrus														X
	Schoenus insolitus					X		X							
	Schoenus laevigatus								X						
	Schoenus nanus														X
	Schoenus natans (P4)			X											
	Schoenus odontocarpus				X										
	Schoenus pedicellatus	X	X	X	X		X	X	X	X				X	X
	Schoenus ?*pedicellatus*							X							
	Schoenus aff. *pedicellatus*										X				
	Schoenus pennisetis (P1)				X					X					
	Schoenus pleiostemoneus	X	X	X	X	X	X	X		X	X	X			
	Schoenus ?*pleiostemoneus*				X		X					X			
	Schoenus rigens	X	X		X	X	X		X	X	X	X			
	Schoenus ?*rigens*			X				X							
	Schoenus sculptus	X													
	Schoenus subfascicularis	X	X	X	X	X	X	X	X	X	X	X			X
	Schoenus ?*subfascicularis*	X					X								
	Schoenus subflavus subsp. *subflavus*				X										
	Schoenus unispiculatus	X			X										
	Schoenus ?*unispiculatus*	X	X												
	Schoenus variicellae	X													
	Schoenus ?sp. smooth culms (K.R. Newbey 7823)		X				X					X			
	Schoenus sp.	X	X		X		X					X			X
	?*Schoenus* sp.	X										X			
	Tetraria capillaris		X		X										
	Tetraria microcarpa	X													
	Tetraria octandra		X				X	X						X	X
	?*Tetraria octandra*	X													
	Tricostularia neesii			X		X									
	Tricostularia neesii var. *neesii*	X	X	X				X	X	X					
	?*Tricostularia neesii* var. *neesii*					X									
	Cyperaceae sp.		X				X								
	Cyperaceae sp. 1		X				X								
	Cyperaceae sp. 2		X				X								
Dasypogonaceae	*Calectasia grandiflora*									X					
	Calectasia narragara	X	X	X	X	X	X	X		X	X			X	
	Calectasia ?*narragara*														X
	Calectasia palustris (P1)							X							
	Dasypogon bromeliifolius				X										
	Dasypogon obliquifolius	X	X	X	X	X	X	X	X	X	X	X		X	X
	Kingia australis		X				X	X		X	X				
Dilleniaceae	*Hibbertia acerosa*			X				X			X				
	Hibbertia aurea		X	X							X				
	Hibbertia crassifolia	X	X	X	X	X	X	X			X	X			
	Hibbertia ?*crassifolia*	X					X	X							
	Hibbertia aff. *crassifolia*							X		X					
	Hibbertia desmophylla	X													
	Hibbertia aff. *furfuracea*													X	
	Hibbertia helianthemoides (P4) #														

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Dilleniaceae cont'd	*Hibbertia huegelii*	X	X	X	X	X	X	X	X		X	X		X	X
	Hibbertia hypericoides	X	X	X	X	X	X	X	X	X	X	X		X	X
	Hibbertia ?leucocrossa		X	X			X								
	Hibbertia polystachya														X
	Hibbertia racemosa	X	X	X	X		X	X							X
	Hibbertia spicata				X										
	Hibbertia ?spicata	X							X						
	Hibbertia spicata subsp. *leptotheca* (P3)	X													
	Hibbertia spicata subsp. *spicata*				X					X					
	Hibbertia ?spicata subsp. *spicata*				X										
	Hibbertia stellaris	X		X	X	X			X	X	X				
	Hibbertia subvaginata	X	X	X	X	X	X	X	X	X	X	X		X	X
	Hibbertia sp. Gnangara (J.R. Wheeler 2329)	X	X	X		X		X	X	X	X	X			
	Hibbertia ?sp. Gnangara (J.R. Wheeler 2329)					X		X							
	Hibbertia sp.		X				X			X					
Droseraceae	*Drosera closterostigma*			X	X				X						
	Drosera ?closterostigma				X	X					X	X			
	Drosera eneabba	X	X												
	Drosera ?eneabba	X				X									
	Drosera erythrorhiza		X		X	X	X					X		X	
	Drosera erythrorhiza subsp. *magna*	X													
	Drosera erythrorhiza subsp. ?*magna*	X													
	Drosera gigantea		X	X	X					X	X			X	X
	Drosera gigantea subsp. *gigantea*	X													
	Drosera glanduligera	X	X				X								
	Drosera heterophylla	X													
	Drosera humilis	X			X										
	Drosera leucoblasta													X	X
	Drosera macrantha		X									X			
	Drosera macrantha subsp. *macrantha*								X						
	Drosera menziesii	X			X	X					X			X	
	Drosera ?menziesii	X										X			
	?Drosera menziesii											X			
	Drosera menziesii subsp. *menziesii*	X	X		X		X				X				
	Drosera menziesii subsp. ?*menziesii*				X		X					X			
	Drosera menziesii subsp. *penicillaris*		X	X	X	X									
	Drosera pallida	X													
	Drosera parvula	X	X	X				X							
	Drosera platystigma													X	
	Drosera porrecta		X												
	Drosera spilos	X													
	Drosera ?spilos		X				X								
	Drosera stolonifera	X												X	
	Drosera stolonifera subsp. ?*porrects*						X								
	Drosera sp.	X			X				X						
	Drosera sp. (button)									X					
	Drosera sp. (climbing)				X					X					
Ecdeiocoleaceae	*Ecdeiocolea monostachya*		X			X								X	X
Ericaceae	*Andersonia gracilis* (T-DRF (VU))	X		X	X			X	X	X	X				
	Andersonia heterophylla	X	X	X	X	X	X	X	X	X	X			X	X
	Andersonia ?heterophylla					X									
	Andersonia lehmanniana			X			X					X			X

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Eriaceae cont'd	*Andersonia lehmanniana* subsp. *lehmanniana*	X	X	X				X		X					
	Astroloma glaucescens	X	X	X	X	X	X	X		X	X	X			
	Astroloma microcalyx				X										X
	Astroloma microdonta	X	X	X	X	X									
	Astroloma pallidum				X									X	
	Astroloma xerophyllum	X	X	X		X	X	X		X	X	X		X	X
	Astroloma sp.											X			
	?*Astroloma* sp.											X			
	Conostephium magnum (P4)	X	X												
	Conostephium minus		X		X									X	
	Conostephium pendulum	X	X	X		X	X	X	X	X	X			X	X
	Conostephium ?pendulum					X									
	Conostephium preissii	X	X	X	X	X			X						X
	Croninia kingiana	X												X	
	Leucopogon cochlearifolius	X		X											
	Leucopogon conostephioides	X	X	X	X	X	X	X	X	X	X	X		X	X
	Leucopogon ?conostephioides										X				
	Leucopogon conostephioides sens. lat.							X							
	Leucopogon glaucifolius	X	X	X						X	X				
	Leucopogon leptanthus	X						X							
	Leucopogon nutans				X										
	Leucopogon oldfieldii	X	X	X		X	X	X	X	X	X	X			
	Leucopogon ?oldfieldii								X	X					
	Leucopogon oliganthus	X												X	X
	Leucopogon parviflorus	X		X	X										
	Leucopogon planifolius			X											
	Leucopogon ?planifolius		X												
	Leucopogon polymorphus	X			X						X				
	Leucopogon ?polymorphus				X										
	Leucopogon propinquus	X			X									X	
	Leucopogon sprengelioides	X	X		X	X	X	X	X			X			
	Leucopogon ?sprengelioides	X													
	Leucopogon aff. *sprengelioides*			X											
	Leucopogon sp. Coujinup (M.A. Burgman 1085)	X										X			
	Leucopogon sp. Lesueur (B. Evans 530)	X	X	X		X	X	X	X	X	X	X			
	Leucopogon sp. Moore River (M. Hislop 1695)	X	X												
	Leucopogon sp. Murdoch (M. Hislop 1037)		X												
	Leucopogon sp. Yanchep (M. Hislop 1986) (P3)			X											
	Leucopogon sp.	X	X			X						X		X	
	?*Leucopogon sp.*											X			
	Lysinema ciliatum		X	X	X		X	X		X	X	X		X	X
	Lysinema pentapetalum	X				X						X			
Euphorbiaceae	*Adriana quadripartita*	X			X										
	?*Adriana* sp.	X													
	Beyeria cinerea subsp. *cinerea* (P3)	X													
	**Mercurialis annua*				X										
	Monotaxis grandiflora				X										X
	Monotaxis grandiflora var. *grandiflora*	X		X	X										
	Monotaxis occidentalis								X						
	Ricinocarpos undulatus	X		X											
	Stachystemon axillaris							X							

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Fabaceae	*Acacia acuaria*								X						
	Acacia auronitens	X	X								X				
	Acacia barbinervis														X
	Acacia aff. *barbinervis*														X
	Acacia benthamii (P2)				X										
	Acacia blakelyi		X			X									
	Acacia cochlearis			X	X										
	Acacia ?cochlearis				X										
	Acacia cyclops	X		X	X										
	Acacia dilatata	X		X	X			X	X	X	X				X
	Acacia huegelii		X												
	Acacia lasiocarpa	X		X	X	X	X								
	Acacia ?lasiocarpa											X			
	Acacia lasiocarpa var. *?bracteolata*	X													
	Acacia lasiocarpa var. *lasiocarpa*	X	X	X	X	X	X	X		X	X				X
	Acacia lasiocarpa var. *?lasiocarpa*							X							
	Acacia pulchella	X	X	X	X	X	X	X		X		X		X	X
	Acacia pulchella var. *glaberrima*	X		X	X		X	X		X	X				
	Acacia pulchella var. *pulchella*			X	X			X	X	X					
	Acacia pulchella var. *?pulchella*	X													
	Acacia pulchella var. *reflexa*	X													
	Acacia rostellifera			X	X									X	
	Acacia saligna		X	X	X	X	X		X		X			X	X
	Acacia saligna subsp. *lindleyi* ms	X		X				X							
	Acacia saligna subsp. *?lindleyi*							X							
	Acacia saligna subsp. *saligna* ms			X			X								
	Acacia sessilis	X	X	X	X		X				X				
	Acacia spathulifolia	X		X	X										
	Acacia sphacelata													X	X
	Acacia sphacelata subsp. *verticillata*	X	X	X		X									
	Acacia stenoptera	X	X	X		X		X	X	X	X	X		X	X
	Acacia truncata	X													
	Acacia xanthina				X										
	Acacia sp.	X													X
	Aotus procumbens	X													
	Bossiaea eriocarpa	X	X	X	X	X	X	X	X	X	X	X		X	X
	Chorizema aciculare subsp. *laxum*			X		X									
	Cristonia biloba		X						X						
	Daviesia angulata	X		X											X
	Daviesia decurrens	X	X	X	X	X	X		X		X	X		X	
	Daviesia decurrens subsp. *decurrens* ms							X							
	Daviesia divaricata	X		X	X	X	X	X	X					X	X
	Daviesia divaricata subsp. *divaricata* ms	X	X		X		X	X			X				
	Daviesia hakeoides subsp. *hakeoides*		X												
	Daviesia incrassata	X	X	X		X		X			X	X			X
	Daviesia ?incrassata											X			
	Daviesia incrassata subsp. *incrassata*	X			X	X				X	X				
	Daviesia incrassata subsp. *teres*													X	
	Daviesia ?oxyclada				X										
	Daviesia nudiflora	X		X				X						X	X
	Daviesia nudiflora subsp. *hirtella*		X												
	Daviesia podophylla	X	X	X	X	X	X	X				X		X	X

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Fabaceae cont'd	*Daviesia polyphylla*		X												
	Daviesia preissii	X													
	Daviesia quadrilatera														X
	Daviesia triflora	X	X				X		X						
	Daviesia sp.		X												
	Gastrolobium capitatum	X							X	X					
	Gastrolobium ?ebracteolatum		X				X								
	Gastrolobium linearifolium	X	X				X					X			
	Gastrolobium ?linearifolium			X											
	Gastrolobium microcarpum													X	
	Gastrolobium oxylobioides	X	X	X						X					X
	Gastrolobium plicatum	X	X		X			X						X	X
	Gastrolobium ?plicatum		X								X				
	Gastrolobium spinosum			X											
	Gompholobium aristatum			X											
	Gompholobium knightianum		X				X	X		X	X	X			
	Gompholobium ?knightianum									X					
	Gompholobium tomentosum	X	X	X	X	X	X	X	X	X	X	X			X
	Gompholobium sp.											X			
	Hardenbergia comptoniana	X		X	X										
	Hovea pungens	X													
	?Hovea pungens				X										
	Hovea stricta														X
	Hovea trisperma	X			X										
	Isotropis cuneifolia			X	X	X	X				X			X	
	Isotropis cuneifolia subsp. *cuneifolia*	X	X	X											
	Jacksonia carduacea (3)		X				X	X			X	X			
	?Jacksonia carduacea (P3)											X			
	Jacksonia condensata	X													
	Jacksonia floribunda	X	X	X	X	X	X	X		X	X	X		X	X
	Jacksonia ?floribunda										X				
	Jacksonia furcellata			X										X	X
	Jacksonia hakeoides	X	X	X	X	X	X	X	X	X	X	X		X	
	Jacksonia nutans	X	X	X	X	X	X	X	X	X	X	X			X
	Jacksonia ramulosa	X													
	Jacksonia sternbergiana	X		X	X						X			X	X
	Jacksonia sp.	X													
	Kennedia prostrata	X		X	X	X					X			X	
	Kennedia ?prostrata		X												
	**Lotus angustissimus*	X													
	**Lotus subbiflorus*	X								X					
	**Medicago polymorpha*	X													
	**Melilotus indicus*	X			X										
	Mirbelia floribunda	X													
	Mirbelia spinosa	X												X	X
	Mirbelia ?spinosa		X	X											
	Mirbelia trichocalyx	X	X		X										
	**Ornithopus compressus*								X						
	**Ornithopus pinnatus*										X				
	**Ornithopus sativus*	X													
	Sphaerolobium drummondii				X					X					
	Sphaerolobium linophyllum										X				

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Fabaceae cont'd	*Sphaerolobium medium*		X				X								
	Templetonia retusa	X													
	**Trifolium arvense* var. *arvense*	X													
	**Trifolium campestre* var. *campestre*	X													
	**Trifolium dubium*	X													
	**Trifolium glomeratum*	X													
	**Trifolium* sp.				X				X						
	Viminaria juncea	X	X	X	X	X	X	X	X	X	X			X	X
Frankeniaceae	*Frankenia glomerata* (P3) #														
	Frankenia pauciflora	X	X	X	X		X	X		X	X				
Gentianaceae	**Centaurium ?tenuiflorum*										X				
	**Cicendia filiformis*				X										
	Schenkia australis	X													
	Schenkia ?australis			X											
Geraniaceae	**Erodium cicutarium*				X										
	Erodium cygnorum	X		X											
	Erodium sp.	X													
	**Pelargonium capitatum*	X													
	Pelargonium littorale	X			X										
Goodeniaceae	*Dampiera alata*			X	X			X	X	X	X				
	Dampiera ?coronata		X												
	Dampiera juncea													X	
	Dampiera lindleyi	X		X					X	X					
	Dampiera linearis	X	X	X	X		X	X	X	X	X			X	
	Dampiera ?linearis					X						X			
	Dampiera spicigera	X	X	X											
	Dampiera teres	X			X			X							
	Dampiera sp.		X				X								
	Goodenia coerulea	X	X	X					X	X	X				X
	Goodenia ?coerulea	X		X				X							
	?Goodenia coerulea							X							
	Goodenia aff. *coerulea*			X											
	Goodenia perryi (P3) #														
	Goodenia pulchella subsp. Coastal Plain A (M. Hislop 634)	X	X	X	X	X			X	X	X				
	Goodenia ?pulchella subsp. Coastal Plain A (M. Hislop 634)	X													
	Goodenia sp.	X													
	Lechenaultia biloba		X		X		X				X				
	Lechenaultia floribunda		X	X		X			X			X			
	Lechenaultia linarioides	X	X	X	X					X	X			X	
	Lechenaultia stenosepala	X	X	X		X				X	X				X
	Lechenaultia ?stenosepala											X			
	Lechenaultia sp.	X				X									
	Scaevola anchusifolia	X	X		X			X	X	X	X				
	Scaevola ?anchusifolia	X			X										
	Scaevola canescens	X	X	X	X	X								X	X
	Scaevola glandulifera			X											
	Scaevola ?globulifera	X													
	Scaevola lanceolata	X	X		X		X			X					
	Scaevola ?lanceolata			X			X	X							
	Scaevola phlebopetala	X	X	X	X						X	X			
	Scaevola repens		X	X	X	X	X			X		X			
	Scaevola repens subsp. Northern Sandplains (R.J. Cranfield & P.J. Spencer 8445)	X								X					

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Goodeniaceae cont'd	*Scaevola repens* var. *repens*	X		X	X	X		X	X	X	X				X
	Scaevola spinescens		X												
	Scaevola thesioides subsp. *thesioides*	X		X	X										
	?*Scaevola* sp.	X													
	Velleia trinervis	X		X	X	X			X	X					
	Verreauxia reinwardtii	X	X	X	X	X	X	X	X		X	X		X	X
	Goodeniaceae sp.	X								X					
Gyrostemonaceae	*Gyrostemon racemiger*		X		X							X			
	Gyrostemon ramulosus													X	
	Gyrostemon subnudus			X											
	Tersonia cyathiflora				X						X				
	?*Tersonia cyathiflora*										X				
Haemodoraceae	*Anigozanthos humilis*	X	X	X	X	X	X		X	X	X	X		X	
	Anigozanthos humilis subsp. *humilis*						X					X			
	Anigozanthos ?*humilis* subsp. *humilis*											X			
	Anigozanthos humilis subsp. *chrysanthus* (P4) #														
	Anigozanthos manglesii	X		X											
	Anigozanthos ?*manglesii*		X												
	Anigozanthos manglesii subsp. *quadrans*				X										
	Anigozanthos pulcherrimus	X	X	X	X			X		X	X	X			X
	Anigozanthos ?*pulcherrimus*	X										X			
	Anigozanthos viridis subsp. Cataby (S.D. Hopper 1786)			X	X				X		X			X	
	Anigozanthos viridis subsp. *terraspectans* (T-DRF (VU))	X							X	X				X	
	Anigozanthos viridis subsp. ?*terraspectans* (T-DRF (VU))				X										
	Anigozanthos viridis subsp. *viridis*				X						X				
	Anigozanthos sp.								X			X			
	?*Anigozanthos* sp.					X									
	Blancoa canescens	X	X	X	X	X	X	X	X	X	X	X		X	X
	Conostylis aculeata		X	X		X	X					X		X	X
	Conostylis ?*aculeata*				X			X							
	Conostylis aculeata subsp. *aculeata*		X												
	Conostylis aculeata subsp. ?*aculeata*				X										
	Conostylis ?*aculeata* subsp. *aculeata*			X											
	Conostylis aculeata subsp. *breviflora*	X				X			X	X					X
	Conostylis aculeata subsp. ?*breviflora*										X				
	Conostylis aculeata subsp. *preissii*		X												
	Conostylis aculeata subsp. *spinuligera*	X	X	X	X	X	X	X	X		X	X			
	Conostylis aculeata subsp. ?*spinuligera*				X										
	Conostylis ?*aculeata* subsp. *spinuligera*			X											
	Conostylis angustifolia	X	X	X		X	X				X			X	
	Conostylis ?*angustifolia*				X										
	Conostylis aurea	X	X	X	X	X	X	X	X	X	X	X			
	Conostylis ?*aurea*	X					X					X			
	Conostylis candicans	X	X		X										
	Conostylis candicans subsp. *calcicola*	X		X	X										
	Conostylis candicans subsp. *candicans*			X	X										
	Conostylis candicans subsp. ?*candicans*				X										
	Conostylis canteriata				X										
	Conostylis crassinervia						X								
	Conostylis ?*crassinervia*							X							
	Conostylis crassinervia subsp. *absens*	X	X	X	X	X				X					

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Haemodoraceae cont'd	*Conostylis crassinervia* subsp. ?*absens*	X					X								
	Conostylis crassinervia subsp. *crassinervia*		X		X					X					
	Conostylis ?*crassinervia* subsp. *crassinervia*										X	X			
	Conostylis festucacea subsp. *festucacea*	X			X					X					
	Conostylis ?*festucacea* subsp. *festucacea*		X		X		X	X							
	Conostylis hiemalis				X										
	Conostylis juncea	X	X	X	X	X	X		X	X	X			X	X
	Conostylis latens		X		X										
	Conostylis neocymosa				X										
	Conostylis prolifera			X						X					
	Conostylis ?*seminuda*							X							
	Conostylis serrulata														X
	Conostylis setigera		X					X						X	X
	Conostylis teretifolia			X	X	X	X					X			
	Conostylis teretifolia subsp. *teretifolia*	X	X	X	X	X		X	X	X	X				
	Conostylis sp.	X	X	X	X		X	X			X	X			X
	Haemodorum discolor			X											
	Haemodorum ?*discolor*	X	X												
	Haemodorum paniculatum	X													
	Haemodorum simplex		X												
	Haemodorum simulans														X
	Haemodorum sparsiflorum		X												
	Haemodorum spicatum	X	X	X	X	X		X		X	X				X
	Haemodorum ?*spicatum*								X						
	Haemodorum venosum	X			X										
	Haemodorum ?*venosum*				X										
	Haemodorum sp.	X	X			X	X	X	X						
	Macropidia fuliginosa													X	
	Phlebocarya ciliata	X	X	X	X	X	X	X	X	X	X	X		X	
	?*Phlebocarya ciliata*											X			
	Phlebocarya filifolia	X	X	X	X	X	X	X	X	X	X	X			X
	?*Phlebocarya* sp.	X													
	Tribonanthes australis	X	X		X		X			X	X			X	
	Haemodoraceae sp.		X				X								
Haloragaceae	*Glischrocaryon angustifolium*				X										
	Glischrocaryon ?*angustifolium*				X										
	Glischrocaryon aureum		X					X							X
	Gonocarpus cordiger	X	X			X	X		X		X				
	Gonocarpus pithyoides	X	X	X						X	X				X
	Gonocarpus ?*pithyoides*						X		X			X			
	?*Gonocarpus pithyoides*											X			
	?*Gonocarpus* sp.	X					X					X			
	Haloragis foliosa (P3)				X										
	Haloragis ?*foliosa* (P3)							X							
	Meionectes brownii	X													
	Meionectes tenuifolia (P3)[#]														
	Haloragaceae sp.														X
Hemerocallidaceae	*Agrostocrinum scabrum*														X
	Arnocrinum gracillimum (P2)[#]														
	Arnocrinum preissii	X	X	X	X	X		X	X	X	X				X
	?*Arnocrinum* sp.	X													
	Corynotheca micrantha	X		X	X					X	X				

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Hemerocallidaceae cont'd	?*Corynotheca micrantha*				X										
	Corynotheca micrantha var. ?*elongata*	X						X							
	Corynotheca micrantha var. *micrantha*								X						
	Dianella revoluta	X			X										
	Dianella revoluta var. *divaricata*	X		X											
	Hensmania stoniella (P3)		X			X	X	X	X	X	X	X			
	Hensmania turbinata	X		X					X						
	Hensmania ?*turbinata*		X				X					X			
	Hensmania sp.						X					X			
	?*Hensmania* sp.											X			
	Johnsonia pubescens			X	X	X	X	X		X	X	X		X	
	Johnsonia pubescens subsp. *pubescens*	X	X			X	X		X			X			
	Tricoryne elatior		X	X	X						X				X
	Tricoryne ?*elatior*	X													
	?*Tricoryne elatior*			X											
	Tricoryne ?*humilis*					X									
	Tricoryne sp.		X		X										
	?*Tricoryne* sp.	X													
Iridaceae	**Gladiolus caryophyllaceus*	X													
	**Moraea flaccida*	X			X										
	Orthrosanthus laxus														X
	Orthrosanthus laxus var. *laxus*	X			X										
	Patersonia ?*juncea*							X							
	Patersonia occidentalis		X	X	X	X	X		X	X	X	X		X	X
	Patersonia occidentalis var. *occidentalis*			X				X							
	Patersonia occidentalis var. ?*occidentalis*	X													
	?*Patersonia* sp.	X										X			
	**Romulea rosea*				X										
	**Romulea rosea* var. *australis*	X													
Juncaceae	**Juncus bufonius*	X			X										
	**Juncus capitatus*	X													
	Juncus pallidus	X			X										
Juncaginaceae	*Cycnogeton lineare*	X			X										
	Triglochin mucronata	X		X	X										
	Triglochin nana	X													
	Triglochin sp. A Flora of Australia (G.J. Keighery 2477)				X										
Lamiaceae	*Hemiandra* ?*glabra*							X		X					
	Hemiandra glabra subsp. *glabra* ms	X		X	X										
	Hemiandra aff. *glabra*				X										
	Hemiandra linearis	X		X						X	X				
	Hemiandra ?*linearis*		X	X		X	X	X	X						
	?*Hemiandra linearis*											X			
	Hemiandra pungens	X		X	X										X
	Hemiandra rubriflora	X												X	
	Hemiandra sp.														X
	Hemiphora bartlingii	X	X	X	X	X	X	X			X	X		X	X
	Hemiphora uncinata										X				
	Quoya verbascina														X
Lauraceae	*Cassytha aurea*	X													X
	Cassytha aurea var. *hirta*	X	X			X									
	Cassytha aurea var. ?*hirta*			X											
	Cassytha ?*aurea*	X													

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Lauraceae cont'd	*Cassytha flava*	X	X	X		X	X	X		X		X			X
	Cassytha ?flava	X										X			
	Cassytha glabella		X	X	X	X	X				X	X			
	Cassytha glabella forma *bicallosa*							X		X					
	Cassytha glabella forma ?*bicallosa*								X	X					
	Cassytha glabella forma *dispar*	X			X					X					
	Cassytha glabella forma ?*glabella*					X				X					
	Cassytha nodiflora														X
	Cassytha pomiformis		X						X						
	Cassytha racemosa	X	X			X	X								X
	Cassytha ?racemosa	X					X					X			
	Cassytha racemosa forma *racemosa*	X						X							
	Cassytha sp.	X	X		X				X	X		X		X	X
Lentibulariaceae	*Utricularia menziesii*			X											
Loganiaceae	*Logania campanulata*										X				X
	Logania spermacocea	X	X	X				X			X				X
	Phyllangium divergens	X									X				
	Phyllangium ?divergens				X										
Loranthaceae	*Nuytsia floribunda*	X	X	X	X	X	X	X	X		X	X		X	X
Malvaceae	*Androcalva pulchella*				X										
	Guichenotia alba (P3)	X													
	Lasiopetalum drummondii		X				X								X
	Lasiopetalum lineare (P3)	X	X	X		X		X		X	X	X	X		
	?Lasiopetalum lineare (P3)							X							
	Lasiopetalum sp. Watheroo (K. Shepherd & C. Wilkins KS 220)					X									
	Lawrencia spicata							X			X				
	Lawrencia squamata	X		X							X				
Marsileaceae	*Marsilea costulifera*			X											
Menyanthaceae	*Liparophyllum capitatum*	X		X	X						X				
	Ornduffia submersa (P4)			X											
Molluginaceae	*Macarthuria apetala*	X	X	X	X			X	X	X	X				X
	Macarthuria australis	X	X	X	X	X	X		X		X	X			X
	Macarthuria keigheryi (T-DRF (EN))			X	X				X						
Myrtaceae	*Astartea scoparia*		X	X			X	X							
	Babingtonia camphorosmae	X													X
	Baeckea crispiflora			X											
	Baeckea grandiflora	X	X	X		X									
	Baeckea sp. Moora (R. Bone 1991/1) (P3) #														
	Baeckea sp. Perth Region (R.J. Cranfield 444) (P3)	X		X	X			X	X		X	X			
	Baeckea sp.											X		X	
	?Baeckea sp.								X			X			
	Beaufortia bicolor (P3)			X											X
	Beaufortia elegans	X	X	X		X	X							X	X
	Beaufortia ?elegans					X									
	Beaufortia eriocephala (P3)			X											
	Beaufortia squarrosa	X	X	X	X	X	X	X	X	X	X	X		X	X
	Beaufortia ?squarrosa											X			
	Calothamnus blepharospermus			X											
	Calothamnus hirsutus	X	X	X	X	X	X	X	X	X					X
	Calothamnus ?hirsutus						X								
	Calothamnus quadrifidus	X	X	X	X		X	X		X	X			X	X
	Calothamnus quadrifidus subsp. *angustifolius*	X													

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Myrtaceae cont'd	*Calothamnus quadrifidus* subsp. *quadrifidus*	X													
	Calothamnus sanguineus	X	X	X	X	X		X		X	X			X	X
	Calothamnus ?sanguineus										X				
	Calothamnus sp.														X
	Calytrix angulata	X		X	X									X	X
	Calytrix aurea	X	X	X	X	X	X	X		X	X	X		X	X
	Calytrix depressa	X									X				X
	Calytrix ?depressa		X						X						
	Calytrix drummondii														X
	Calytrix affin. *eneabbensis* (P4) #														
	Calytrix flavescens	X	X	X	X	X	X	X		X	X	X		X	X
	Calytrix ?flavescens	X		X	X	X	X					X			
	Calytrix fraseri	X	X	X	X	X		X			X	X		X	X
	Calytrix ?fraseri	X		X	X										
	Calytrix leschenaultii	X				X								X	
	Calytrix sapphirina	X		X		X								X	
	Calytrix strigosa			X											
	Calytrix sp.				X							X			X
	?Calytrix sp.		X									X			
	Chamelaucium uncinatum			X	X									X	
	Conothamnus trinervis	X												X	X
	Corymbia calophylla			X											
	Darwinia neildiana		X											X	
	Darwinia pinifolia	X		X	X									X	
	Darwinia sanguinea		X												X
	Darwinia sp. Watheroo (I.R. McGill 20)	X													
	Eremaea asterocarpa			X	X	X	X	X	X		X	X			
	Eremaea asterocarpa subsp. *asterocarpa*	X	X	X		X	X	X		X		X		X	X
	Eremaea ?asterocarpa subsp. *asterocarpa*	X													
	Eremaea asterocarpa subsp. *histoclada*														X
	Eremaea ?asterocarpa subsp. *histoclada*				X										
	Eremaea beaufortioides			X		X	X	X				X			
	Eremaea ?beaufortioides											X			
	Eremaea beaufortioides var. *beaufortioides*	X	X								X				X
	Eremaea ectadioclada		X	X			X			X					
	Eremaea pauciflora	X	X	X	X	X	X	X		X	X	X		X	X
	Eremaea ?pauciflora					X									
	?Eremaea pauciflora											X			
	Eremaea pauciflora var. *lonchophylla*								X						
	Eremaea pauciflora var. *?lonchophylla*	X						X							
	Eremaea pauciflora var. *pauciflora*				X		X								
	Eremaea sp.	X			X							X			
	Eucalyptus decipiens	X												X	
	Eucalyptus decipiens subsp. *decipiens*				X										
	Eucalyptus ?decipiens subsp. *decipiens*										X				
	Eucalytpus foecunda	X													
	Eucalyptus gomphocephala				X										
	Eucalyptus incrassata	X		X											
	Eucalyptus macrocarpa subsp. *elachantha* (P4)													X	X
	Eucalyptus obtusiflora subsp. *dongarraensis*				X										
	Eucalyptus rudis			X	X										
	Eucalyptus ?rudis			X											

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Myrtaceae cont'd	*Eucalyptus rudis* subsp. *rudis*	X													
	Eucalyptus rudis ?x camaldulensis													X	
	Eucalyptus todtiana	X	X	X	X	X	X	X	X	X	X	X		X	X
	Hypocalymma angustifolium	X	X	X	X	X	X	X	X	X	X	X		X	X
	Hypocalymma gardneri (P3)		X				X								
	Hypocalymma robusta (P4) #														
	Hypocalymma serrulatum (P3)							X							
	Hypocalymma tetrapterum (P3)														X
	Hypocalymma xanthopetalum	X	X	X	X	X	X	X	X	X	X	X		X	
	Hypocalymma ?xanthopetalum						X								
	Hypocalymma sp. Cataby G.J. Keighery 5151) (P2) #														
	Hypocalymma sp. Nambung (R. Spjut & R. Smith s.n. 22/09/1992)	X													
	*Hypocalymma ?*sp. Nambung (R. Spjut & R. Smith s.n. 22/09/1992)	X													
	Kunzea glabrescens	X													
	Kunzea ?glabrescens										X				
	?Kunzea glabrescens				X										
	Kunzea micrantha					X									
	Kunzea micrantha subsp. *petiolata*	X	X	X	X	X		X	X						
	Kunzea micrantha subsp. *?petiolata*			X											
	Kunzea ?micrantha subsp. *petiolata*							X							
	Kunzea recurva													X	X
	Kunzea sp.								X						
	Leptospermum erubescens	X	X	X	X	X								X	X
	Leptospermum spinescens	X	X	X	X	X	X	X	X		X			X	X
	Leptospermum sp.		X				X								
	Malleostemon sp. Cooljarloo (B. Backhouse s.n. 16/11/88) (P1) #														
	*Malleostemon ?*sp. Cooljarloo (B. Backhouse s.n. 16/11/88) (P1) #														
	?Malleostemon sp. Cooljarloo (B. Backhouse s.n. 16/11/88) (P1)									X					
	Melaleuca acutifolia	X	X	X	X	X	X	X	X	X	X				
	Melaleuca ?acutifolia	X													
	Melaleuca brevifolia	X	X	X	X	X	X		X	X					X
	Melaleuca carrii							X							
	Melaleuca ciliosa	X		X											
	Melaleuca clavifolia (P3)	X	X	X	X	X		X	X	X	X	X	X		
	Melaleuca ?clavifolia (P3)			X			X	X		X		X			
	Melaleuca depressa														X
	Melaleuca hamulosa														X
	Melaleuca huegelii subsp. *huegelii*	X													
	Melaleuca incana														X
	Melaleuca incana subsp. *incana*	X		X		X		X	X						
	Melaleuca lateriflora						X								
	Melaleuca lateritia	X	X	X	X		X	X							
	Melaleuca ?lateritia							X			X				
	Melaleuca leuropoma			X											
	Melaleuca ?leuropoma					X									
	Melaleuca preissiana	X	X	X	X		X	X			X			X	X
	Melaleuca radula	X													
	Melaleuca rhaphiophylla	X	X	X	X	X	X	X	X	X	X			X	X
	Melaleuca ?rhaphiophylla	X						X							
	Melaleuca scabra													X	X
	Melaleuca seriata	X	X	X	X	X		X	X	X	X	X			
	Melaleuca ?seriata			X	X							X			

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Myrtaceae cont'd	*Melaleuca strobophylla*														X
	Melaleuca systena	X	X	X	X		X		X					X	X
	Melaleuca ?*systena*	X					X								
	Melaleuca teretifolia	X	X	X	X	X	X	X		X	X				
	Melaleuca trichophylla			X											
	Melaleuca viminea			X		X	X	X		X				X	X
	Melaleuca viminea subsp. *viminea*	X	X	X	X	X	X	X	X	X	X				
	Melaleuca ?*viminea* subsp. *viminea*			X											
	Melaleuca sp.							X			X				
	Melaleuca sp. 1				X										
	Melaleuca sp. 2				X										
	Pericalymma ellipticum		X		X	X	X	X							X
	Pericalymma ellipticum var. *ellipticum*	X							X						X
	Pericalymma ellipticum var. ?*ellipticum*							X							
	Pericalymma ?*ellipticum* var. *floridum*			X											
	Pericalymma spongiocaule							X							
	Pileanthus filifolius	X	X	X		X	X	X				X			X
	?*Pileanthus filifolius*										X				
	?*Pileanthus* sp.	X													
	Regelia ciliata	X	X	X	X	X	X	X	X	X		X		X	
	Scholtzia involucrata	X	X		X	X	X	X		X	X	X		X	X
	Scholtzia ?*involucrata*			X								X			
	Scholtzia laxiflora		X	X		X	X					X			
	Scholtzia ?*laxiflora*					X	X								
	Scholtzia leptantha	X													
	Scholtzia parviflora													X	
	Scholtzia umbellifera	X		X						X	X				
	Scholtzia sp. Wongonderrah (M.E. & M.R. Trudgen MET 12000)			X		X									
	Scholtzia sp.	X													
	?*Scholtzia* sp.	X													
	Thryptomene baeckeacea				X										
	Thryptomene mucronulata		X		X										
	Verticordia amphigia (P3) #														
	Verticordia blepharophylla		X		X			X	X	X					
	Verticordia ?*blepharophylla*			X											
	Verticordia chrysanthella		X												
	Verticordia densiflora	X	X	X	X	X	X	X		X	X	X		X	X
	Verticordia ?*densiflora*				X		X								
	Verticordia densiflora var. *cespitosa*	X													
	Verticordia densiflora var. *densiflora*	X						X	X						
	Verticordia drummondii	X												X	X
	Verticordia ?*drummondii*										X				
	Verticordia endlicheriana var. *manicula*	X													
	Verticordia grandis	X								X	X			X	X
	Verticordia huegelii var. *tridens* (P3)	X													
	Verticordia lindleyi subsp. *lindleyi* (P4)	X			X	X				X					
	Verticordia ?*lindleyi* subsp. *lindleyi* (P4)	X				X									
	Verticordia ovalifolia					X					X			X	
	Verticordia patens													X	
	Verticordia pennigera	X		X	X	X		X			X				
	Verticordia ?*pennigera*				X										
	Verticordia plumosa			X							X				

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Myrtaceae cont'd	*Verticordia plumosa* var. *brachyphylla*	X	X	X							X				
	Verticordia sp.		X		X		X				X				
	Myrtaceae sp.	X													
Olacaceae	*Olax benthamiana*														X
	Olax scalariformis	X	X	X	X		X	X		X	X	X			
Onagraceae	**Oenothera stricta*									X					
Orchidaceae	*Caladenia flava*		X		X	X	X			X		X			
	Caladenia ?flava											X			
	Caladenia flava subsp. *flava*	X			X									X	
	Caladenia ?flava subsp. *flava*	X													
	Caladenia longicauda	X			X										
	Caladenia ?longicauda	X													
	Caladenia longicauda subsp. *?albella*				X										
	Caladenia ?longicauda subsp. *borealis*				X										
	Caladenia vulgata				X									X	
	Caladenia ?vulgata				X										
	Caladenia sp.		X		X										
	?Caladenia sp.						X								
	Diuris corymbosa				X										
	Diuris ?eburnea (P1)								X						
	Diuris laxiflora				X					X					
	Diuris sp.				X										
	Elythranthera brunonis	X	X		X							X		X	
	Eriochilus sp.				X										
	Leporella fimbriata	X			X							X			
	Microtis ?alba			X											
	Microtis media			X											
	Microtis media subsp. *media*	X			X										
	Microtis orbicularis	X													
	Microtis sp.				X										
	?Microtis sp.	X													
	Paracaleana dixonii (T-DRF (VU))												X		
	Paracaleana nigrita	X													
	Prasophyllum gracile				X										
	Pterostylis ?pyramidalis	X													
	Pterostylis vittata	X													
	Pterostylis ?vittata	X													
	Pterostylis sp.		X	X	X		X					X		X	
	Pyrorchis nigricans	X	X		X		X			X		X		X	
	Thelymitra antennifera				X									X	
	Thelymitra benthamiana									X					
	Thelymitra ?benthamiana										X				
	Thelymitra campanulata	X												X	
	Thelymitra sp.				X										
	Orchidaceae sp.	X													
Orobanchaceae	**Bartsia trixago*	X		X		X					X				
	**Orobanche minor*			X	X										
	**Parentucellia latifolia*	X	X		X										
	**Parentucellia viscosa*	X			X										
Oxalidaceae	**Oxalis* sp.		X				X								
	Oxalis sp. (possibly native taxon, sterile)	X													

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Philydraceae	*Philydrella ?drummondii*				X										
	Philydrella pygmaea subsp. *pygmaea*	X													
Phyllanthaceae	*Phyllanthus calycinus*			X	X										
	Poranthera drummondii	X													
	Poranthera microphylla		X	X	X	X									
	Poranthera ?microphylla	X													
Pittosporaceae	*?Billardiera* sp.	X													
Plantaginaceae	*Plantago hispida*	X													
Poaceae	**Aira caryophyllea*		X	X	X	X					X				
	**Aira cupaniana*	X		X					X						
	Amphipogon ?caricinus		X												
	Amphipogon debilis		X							X					
	Amphipogon ?debilis	X													
	Amphipogon turbinatus	X	X			X	X	X	X	X				X	X
	Amphipogon ?turbinatus	X	X			X	X	X	X	X		X			
	Amphipogon sp.	X	X	X											
	?Amphipogon sp.	X													
	?Anthosachne sp.	X													
	Austrostipa compressa	X		X	X				X		X				
	Austrostipa elegantissima	X													
	Austrostipa flavescens	X	X	X	X					X					
	Austrostipa hemipogon										X				
	Austrostipa macalpinei	X	X	X	X	X									
	Austrostipa tenuifolia					X									X
	Austrostipa sp.	X						X							X
	**Avellinia michelii*	X													
	**Avena ?barbata*	X													
	**Briza maxima*	X	X	X	X	X			X						
	**Briza minor*	X		X	X				X	X	X				
	Bromus arenarius				X										
	**Bromus diandrus*	X													
	**Bromus* sp.				X										
	**Cynodon dactylon*										X				
	**?Cynodon dactylon*				X										
	**Ehrharta ?brevifolia*	X													
	**Ehrharta calycina*	X													
	**Ehrharta longiflora*	X													
	**?Ehrharta* sp.	X													
	Eragrostis dielsii	X													
	**Hainardia cylindrica*	X													
	**Hordeum hystrix*	X								X					
	**Hordeum leporinum*				X										
	**Hordeum ?leporinum*										X				
	Lachnagrostis plebeia	X													
	Lachnagrostis preissii									X					
	**Lolium rigidum*	X								X					
	Neurachne alopecuroidea	X	X	X	X	X	X	X	X	X	X	X		X	
	?Neurachne alopecuroidea											X			
	**Pentameris airoides*	X								X					
	**Pentameris airoides* subsp. *airoides*	X													
	Poa drummondiana				X										
	Poa porphyroclados	X													

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Poaceae cont'd	**Polypogon maritimus*			X											
	**Polypogon monspeliensis*	X													
	Polypogon tenellus				X				X		X				
	**Rostraria cristata*	X													
	**Rostraria pumila*				X										
	Rytidosperma acerosum	X													
	Rytidosperma occidentale	X			X	X				X					
	Rytidosperma ?occidentale	X													
	Rytidosperma setaceum	X		X						X	X				
	Rytidosperma ?setaceum					X									
	Rytidosperma sp.	X						X							X
	?Rytidosperma sp.	X							X						
	**Vulpia bromoides*	X													
	**Vulpia myuros*	X				X									X
	**Vulpia ?myuros*			X											
	**Vulpia* sp.	X	X				X	X							
	Poaceae sp.	X													
Polygalaceae	*Comesperma acerosum*	X	X	X						X	X				
	Comesperma calymega	X	X	X	X	X			X	X	X	X			
	Comesperma ?calymega									X					
	Comesperma ciliatum	X													
	Comesperma confertum	X	X	X											
	Comesperma integerrimum	X		X							X				
	Comesperma ?integerrimum							X							
	Comesperma virgatum			X											
	Comesperma volubile	X		X											
	Comesperma sp.									X					
	?Comesperma sp.					X									
	Muehlenbeckia adpressa	X		X	X									X	
Portulacaceae	*Calandrinia corrigioloides*	X			X						X				
	Calandrinia granulifera	X								X					
	Calandrinia ?liniflora				X										
	Calandrinia tholiformis	X			X										
	Calandrinia sp. Kenwick (G.J. Keighery 10905)	X	X	X			X			X					
	Calandrinia sp. Two Rocks (K. Richardson 211)	X													
	Calandrinia ?sp. Two Rocks (K. Richardson 211)	X													
	Calandrinia sp.				X						X				
	**Rumex crispus*	X													
	**Rumex ?crispus*	X													
Potamogetonaceae	*Potamogeton drummondii*				X										
Primulaceae	**Lysimachia arvensis*	X	X	X	X	X	X				X			X	
	*?*Lysimachia* sp.	X													
	Samolus junceus	X		X	X	X				X	X				
	Samolus repens		X	X			X								
	Samolus repens var. *paucifolius*	X			X										
	Samolus repens var. *?paucifolius*			X	X										
Proteaceae	*Adenanthos cygnorum*		X	X	X		X			X	X	X		X	X
	Adenanthos cygnorum subsp. *cygnorum*	X		X		X		X	X			X			
	Adenanthos drummondii													X	
	Banksia armata var. *armata*	X		X	X										

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Proteaceae cont'd	*Banksia attenuata*	X	X	X	X	X	X	X	X	X	X	X		X	X
	Banksia bipinnatifida														X
	Banksia candolleana			X											X
	Banksia carlinoides														X
	Banksia dallanneyi		X	X	X	X	X	X				X			X
	Banksia dallanneyi var. *dallanneyi*	X		X	X			X	X	X	X				
	Banksia dallanneyi var. ?*dallanneyi*							X							
	Banksia dallanneyi subsp. *media*								X	X				X	X
	Banksia dallanneyi subsp. ?*media*							X							
	Banksia ?dallanneyi subsp. *media*					X									
	Banksia dallanneyi subsp. *pollosta* (P3)				X								X		
	Banksia grandis							X						X	
	Banksia ilicifolia	X	X	X	X	X	X	X	X	X	X	X		X	X
	Banksia ?ilicifolia											X			
	Banksia incana													X	
	Banksia leptophylla	X			X										
	Banksia lindleyana		X												X
	Banksia littoralis	X	X	X	X		X	X	X		X				X
	Banksia menziesii	X	X	X	X	X	X	X	X	X	X	X		X	X
	Banksia nivea			X	X										
	Banksia nivea subsp. *nivea*	X	X	X	X	X	X	X		X	X			X	
	Banksia ?nivea subsp. *nivea*			X	X										
	Banksia platycarpa	X	X	X	X	X	X	X		X	X	X			
	Banksia prionotes	X	X	X	X	X	X	X	X	X	X	X		X	X
	Banksia ?prionotes											X			
	Banksia sessilis		X	X	X									X	
	Banksia sessilis var. *cygnorum*	X			X										
	Banksia shuttleworthiana	X	X	X										X	X
	Banksia sphaerocarpa var. *sphaerocarpa*														X
	Banksia strictifolia				X										
	Banksia telmatiaea	X	X	X	X	X	X	X	X	X	X	X			
	Banksia tortifolia	X	X	X	X	X	X	X			X	X		X	X
	Banksia sp.											X			X
	Conospermum acerosum subsp. *acerosum*	X												X	
	Conospermum crassinervium	X	X	X		X	X	X		X	X			X	X
	Conospermum incurvum	X				X						X		X	X
	Conospermum ?incurvum											X			
	Conospermum scaposum (P3)	X		X					X	X	X	X			
	Conospermum stoechadis			X		X	X	X				X		X	X
	Conospermum stoechadis subsp. *sclerophyllum*		X						X						
	Conospermum stoechadis subsp. *stoechadis*	X	X	X	X	X	X	X		X	X				
	Conospermum ?stoechadis subsp. *stoechadis*							X							
	Conospermum unilaterale		X			X									
	Conospermum sp.							X							
	?*Conospermum* sp.				X										
	Grevillea eriostachya													X	X
	Grevillea preissii				X										
	Grevillea preissii subsp. *glabrilimba*				X					X					
	Grevillea preissii subsp. ?*glabrilimba*				X										
	Grevillea preissii subsp. *preissii*				X				X		X				
	Grevillea preissii subsp. ?*preissii*	X													
	Grevillea saccata (P4)	X												X	

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Proteaceae cont'd	*Grevillea shuttleworthiana*		X												
	Grevillea shuttleworthiana subsp. *canarina*	X													X
	Grevillea shuttleworthiana subsp. *shuttleworthiana*													X	
	Grevillea thelemanniana subsp. Cooljarloo (B.J. Keighery 28 B) (P1)			X				X							
	Grevillea ?thelemanniana subsp. Cooljarloo (B.J. Keighery 28 B) (P1)	X						X							
	?*Grevillea* sp.	X													
	Hakea auriculata	X		X											X
	Hakea candolleana	X	X		X										
	Hakea aff. *candolleana*														X
	Hakea conchifolia	X	X	X				X						X	X
	Hakea costata	X	X	X	X	X	X	X		X		X		X	X
	Hakea flabellifolia	X		X											X
	Hakea incrassata	X	X	X	X			X		X	X			X	X
	Hakea lissocarpha	X	X	X	X	X		X	X	X	X			X	X
	Hakea longiflora (P3) #														
	Hakea ?longiflora (P3)														X
	Hakea obliqua			X										X	X
	Hakea obliqua subsp. *parviflora*	X	X	X	X	X	X	X	X	X	X	X			
	Hakea prostrata	X	X	X	X			X			X			X	X
	Hakea psilorrhyncha	X	X	X		X	X	X				X			
	Hakea ruscifolia	X	X	X	X	X	X				X			X	X
	Hakea smilacifolia	X	X	X										X	X
	Hakea spathulata							X						X	X
	Hakea stenocarpa									X					X
	Hakea sulcata	X		X	X			X		X	X				
	Hakea ?sulcata		X												X
	Hakea trifurcata	X	X	X	X	X		X		X				X	X
	Hakea varia	X	X	X	X	X	X	X	X	X	X			X	
	Hakea aff. *varia*														X
	Isopogon asper		X					X		X					
	Isopogon linearis	X	X	X			X							X	
	Isopogon panduratus subsp. *palustris* (P2)	X	X	X		X	X	X				X			
	Isopogon panduratus subsp. *panduratus*				X				X	X	X				X
	Lambertia multiflora							X							X
	Lambertia multiflora var. *multiflora*	X		X										X	
	Persoonia comata	X	X	X	X	X		X	X		X				X
	Persoonia rudis (P3) #														
	Persoonia saccata	X													
	Persoonia trinervis		X												
	Persoonia ?trinervis			X											
	Petrophile axillaris	X													
	Petrophile brevifolia	X	X	X	X	X	X	X	X	X	X	X		X	X
	Petrophile conifera														X
	Petrophile drummondii		X	X			X			X		X		X	X
	Petrophile linearis	X	X	X	X	X	X	X	X	X	X	X		X	X
	Petrophile macrostachya	X	X	X	X	X	X	X	X		X	X		X	X
	Petrophile ?macrostachya				X										
	Petrophile pilostyla subsp. *austrina*				X										
	Petrophile recurva	X	X	X		X								X	
	Petrophile rigida	X		X		X		X		X	X	X			X
	Petrophile scabriuscula														X
	Petrophile seminuda	X	X	X	X	X		X	X		X			X	

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Proteaceae cont'd	*Petrophile ?seminuda*					X				X					
	Petrophile serruriae		X	X			X								
	Petrophile shuttleworthiana								X						
	Petrophile striata														X
	?Petrophile linearis					X									
	Stirlingia abrotanoides	X	X	X	X					X	X				
	Stirlingia ?abrotanoides						X	X							
	Stirlingia latifolia	X	X	X	X	X	X	X	X	X	X	X		X	X
	Stirlingia simplex														X
	Strangea cynanchicarpa			X										X	
	Synaphea spinulosa			X	X	X	X	X	X	X	X	X		X	
	Synaphea spinulosa subsp. *spinulosa*	X	X	X											X
	Xylomelum angustifolium		X				X					X			
	Proteaceae sp.	X													
Ranunculaceae	*Clematis linearifolia*	X		X	X										
Restionaceae	*Alexgeorgea nitens*	X	X	X	X	X	X	X	X	X	X	X		X	X
	Alexgeorgea subterranea	X													X
	?Alexgeorgea nitens											X			
	Chaetanthus aristatus	X	X	X	X		X	X		X	X				X
	Chordifex chaunocoleus (P4)	X							X						X
	Chordifex reseminans (P1)		X		X										
	Chordifex sinuosus	X	X	X	X	X	X	X	X	X	X	X		X	X
	Chordifex ?sinuosus	X			X		X								
	?Chordifex sinuosus						X								
	?Chordifex sp.	X													
	Chordifex sp.														X
	Desmocladus asper	X		X	X			X			X				
	Desmocladus biformis (3)			X											
	Desmocladus fasciculatus	X									X				
	Desmocladus flexuosus	X	X				X			X		X			
	Desmocladus ?flexuosus							X							
	Desmocladus lateriticus	X													
	Desmocladus ?lateriticus	X				X									
	Desmocladus parthenicus											X			
	Desmocladus semiplanus														X
	Desmocladus virgatus	X	X	X											
	Desmocladus sp.				X										
	Dielsia stenostachya							X							
	Harperia lateriflora	X	X	X		X		X		X					
	Hypolaena exsulca	X	X	X	X	X	X	X	X	X	X	X		X	
	Hypolaena pubescens		X	X			X		X	X					
	Hypoalena robusta (P4)[#]														
	Lepidobolus chaetocephalus		X				X		X						
	Lepidobolus densus ms (P3)									X					
	Lepidobolus preissianus	X		X		X	X	X				X		X	
	Lepidobolus preissianus subsp. *preissianus*	X	X	X		X	X					X			
	Lepidobolus ?preissianus				X										
	Loxocarya gigas (P2)[#]														
	Meeboldina cana	X		X	X			X	X	X	X			X	X
	Meeboldina coangustata	X	X	X	X	X	X		X		X				X
	Meeboldina ?coangustata			X	X			X							
	Meeboldina sp.				X										X

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Restionaceae cont'd	*Onychosepalum microcarpum* (P2)				X										X
	Onychosepalum nodatum (P3)	X	X	X		X	X	X		X	X	X			
	Onychosepalum ?*nodatum* (P3)											X			
	?*Onychosepalum nodatum* (P3)											X			
	Onychosepalum sp.														X
	Restionaceae sp.	X													X
Rhamnaceae	*Cryptandra mutila*	X			X										
	Cryptandra myriantha	X													
	Cryptandra ?*myriantha*		X					X							
	Cryptandra nutans	X												X	
	Cryptandra pungens		X	X	X		X		X						
	Cryptandra scoparia	X		X											
	Cryptandra sp.														X
	Spyridium globulosum	X		X											
	Stenanthemum complicatum													X	X
	Stenanthemum humile			X											
	Stenanthemum notiale	X													
	Stenanthemum notiale subsp. *chamelum*	X	X	X	X						X				
	Stenanthemum notiale subsp. *notiale*							X			X				
	Stenanthemum sublineare (P2)			X											
	Trymalium ledifolium var. *rosmarinifolium*	X													
	Trymalium odoratissimum subsp. *odoratissimum*				X										
Rubiaceae	**Galium murale*	X													
	Opercularia spermacocea		X			X								X	
	Opercularia vaginata	X	X	X	X	X	X	X	X	X	X				
	Opercularia ?*vaginata*					X									
	Opercularia sp.										X				
	?*Opercularia* sp.											X			
Rutaceae	*Boronia ramosa*			X			X					X			X
	Boronia ramosa subsp. *anethifolia*	X	X	X	X	X	X	X	X	X		X		X	
	Boronia ramosa subsp. *ramosa*				X						X				
	Boronia subsessilis	X													
	Boronia tenuis (P4)														X
	Diplolaena obovata	X													
	Philotheca spicata	X	X	X	X	X	X	X	X	X	X	X		X	X
	Philotheca spicata subsp. Moore River National Park (G. & D. Woodman Op 47)											X			
Santalaceae	*Anthobolus foveolatus*				X										
	Exocarpos aphyllus				X										
	Exocarpos sparteus	X		X	X				X					X	
	Leptomeria empetriformis	X	X	X	X		X	X	X		X				
	Leptomeria pauciflora				X										
	Leptomeria preissiana				X			X		X	X				
	?*Leptomeria empetriformis*				X										
	Santalum acuminatum	X		X											
Sapindaceae	*Diplopeltis huegelii* subsp. *lehmannii*				X										
	Diplopeltis huegelii subsp. ?*huegelii*	X			X										
Scrophulariaceae	**Dischisma arenarium*	X			X										
	Eremophila glabra subsp. ?*carnosa* (C)	X		X^	X^										
	Myoporum insulare			X											
	?*Myoporum* sp.	X													
Selaginellaceae	*Selaginella gracillima*	X		X											

Appendix E: Vascular Plant Taxa Recorded in the Cooljarloo West Study Area (as depicted in Figure 1)

Family	**Species and Conservation Code** (where Applicable - (#))	◊Cooljarloo West Flora and Veg Assessment 2012	Cooljarloo Baseline Quadrats 2008 (WEC 2010)	Cooljarloo West Mapping 2008 (WEC 2009d)	Mullering Survey (WEC 2006b)	◊Mulch Monitoring (WEC 2011b)	Falcon Drawdown Monitoring 2008 (WEC 2009b)	◊Falcon Extension 2008 (WEC 2009a)	◊Falcon Regional Survey 2006 (WEC 2007b)	◊Falcon Survey 2006 (WEC 2007b)	Falcon Survey 2005 (WEC 2006c)	Vegetation Stress Monitor. 2012 (WEC 2013a)	Search Access Lines 2012 (Astron 2013)	Vegetation Survey 27000 South (Mattiske 1997)	Vegetation Survey VCL Cooljarloo (Mattiske 1996)
Solanaceae	*Anthocercis ilicifolia*	X		X											
	Anthocercis ilicifolia subsp. *ilicifolia*				X										
	Anthocercis ?*ilicifolia* subsp. *ilicifolia*			X											
	Anthocercis littorea	X		X	X										
	**Solanum nigrum*	X													
	Solanum symonii	X			X										
Stylidiaceae	*Levenhookia dubia*			X											X
	Levenhookia preissii										X				X
	Levenhookia pusilla	X									X				X
	Levenhookia stipitata	X	X	X							X				X
	Stylidium aceratum (P2)		X	X											
	Stylidium adpressum	X		X		X									X
	Stylidium ?*albolilacinum*				X										
	Stylidium araeophyllum ms	X	X	X								X			
	Stylidium ?*araeophyllum* ms											X			
	Stylidium bicolor		X	X											
	Stylidium brunonianum		X	X	X	X								X	
	Stylidium ?*brunonianum*				X										
	Stylidium calcaratum										X			X	X
	Stylidium ?*calcaratum*				X										
	Stylidium carnosum subsp. ?Narrow leaves (J.A. Wege 490) (P1)					X									
	Stylidium crossocephalum	X	X	X	X	X	X	X	X	X	X	X			X
	Stylidium cygnorum	X		X	X						X				
	Stylidium ?*cygnorum*		X												
	Stylidium dichotomum	X	X	X	X	X		X	X	X	X				X
	Stylidium aff. *dichotomum*								X						
	Stylidium diuroides					X									
	Stylidium diuroides subsp. *diuroides*	X			X	X			X	X	X				
	Stylidium ?*diuroides* subsp. *diuroides*				X										
	Stylidium diuroides subsp. *paucifoliatum*			X		X									
	Stylidium divaricatum		X	X	X				X	X	X				
	Stylidium ecorne			X											
	Stylidium flagellum		X				X	X							
	Stylidium hymenocraspedum (P2)	X	X	X		X				X					
	Stylidium ?*hymenocraspedum* (P2)	X			X										
	Stylidium inundatum	X													
	Stylidium ?*inundatum*		X				X								
	Stylidium kalbarriense					X			X						
	Stylidium longitubum (P3)			X											
	Stylidium maritimum (P3) [#]														
	Stylidium miniatum									X					
	Stylidium ?*miniatum*														X
	Stylidium neurophyllum ms			X											
	Stylidium obtusatum	X													
	Stylidium petiolare	X	X												
	Stylidium piliferum	X	X	X	X	X	X	X		X	X	X		X	
	Stylidium pubigerum									X					
	Stylidium purpureum ms	X	X	X	X	X		X	X	X					
	Stylidium ?*purpureum* ms				X						X	X			
	Stylidium repens	X	X	X	X	X	X	X	X	X		X		X	X
	Stylidium ?*repens*			X											
	Stylidium aff. *repens*				X						X				

Appendix E: Vascular Plant Taxa Recorded in the Cooljarloo West Study Area (as depicted in Figure 1)

Family	**Species and Conservation Code** (where Applicable - (#))	◊Cooljarloo West Flora and Veg Assessment 2012	Cooljarloo Baseline Quadrats 2008 (WEC 2010)	Cooljarloo West Mapping 2008 (WEC 2009d)	Mullering Survey (WEC 2006b)	◊Mulch Monitoring (WEC 2011b)	Falcon Drawdown Monitoring 2008 (WEC 2009b)	◊Falcon Extension 2008 (WEC 2009a)	◊Falcon Regional Survey 2006 (WEC 2007b)	◊Falcon Survey 2006 (WEC 2007b)	Falcon Survey 2005 (WEC 2006c)	Vegetation Stress Monitor. 2012 (WEC 2013a)	Search Access Lines 2012 (Astron 2013)	Vegetation Survey 27000 South (Mattiske 1997)	Vegetation Survey VCL Cooljarloo (Mattiske 1996)
Stylidiaceae cont'd	*Stylidium rigidulum*	X	X	X		X						X			X
	Stylidium ?*rigidulum*											X			
	Stylidium roseoalatum	X									X				
	Stylidium scariosum	X		X											
	Stylidium schoenoides	X													X
	Stylidium spiciforme ms					X				X					
	Stylidium ?sp. Kalbarri (A. Carr 145)	X													
	Stylidium sp.	X	X		X		X	X			X	X			
Thymelaeaceae	*Pimelea angustifolia*	X	X		X						X				
	Pimelea floribunda		X												
	Pimelea imbricata var. *piligera*	X	X	X					X	X					X
	Pimelea imbricata var. ?*piligera*			X	X		X	X		X					
	Pimelea ?*leucantha*	X													
	Pimelea suaveolens				X										
	Pimelea suaveolens subsp. *suaveolens*				X										
	Pimelea sulphurea	X	X	X	X	X	X	X	X	X	X			X	X
	Pimelea ?*sulphurea*	X						X							
	Pimelea sp.	X					X				X	X			
Violaceae	*Hybanthus calycinus*	X		X	X										
Xanthorrhoeaceae	*Xanthorrhoea drummondii*			X				*							
	Xanthorrhoea ?*drummondii*										X				
	Xanthorrhoea preissii	X	X	X	X	X	X	X	X**	X	X	X		X	X
	?*Xanthorrhoea* sp.											X			
Zamiaceae	*Macrozamia fraseri*	X		X	X	X			X	X	X***				
	Macrozamia riedlei													X***	X***
Zygophyllaceae	*Zygophyllum* sp.	X													
No family name	Indet. sp.	X	X	X	X		X		X						

◊ Denotes project data used in statistical analysis for current report; note: only data from the mulch 'controls' was used, however species list incorporates all taxa recorded from both mulched and control quadrats
^ Originally determined to be *Eremophila glabra* subsp. *chlorella* (T-DRF) (was only recorded as *Eremophila glabra* in the Mullering Survey)
* Was recorded during this study, subsequently reviewed in 2013 and determined to be *X. preissii*
** *Xanthorrhoea* sp. recorded during this study, reviewed 2013 and determined to be *X. preissii* based on habitat
*** *Macrozamia riedlei* was recorded during this study, however this taxon does not occur in the northern Swan Coastal Plain; changed to *M. fraseri* for 2013 analysis
Taxon known from records in the Tronox database, belonging to surveys other than those listed above

Appendix F: Summary Data of Quadrats Used in the Statistical Analysis

Quadrat	DatumCode	Zone	Easting	Northing	SurveyDate	Vegetation Type
COOL-22	WGS84	50	339281	6615612	31/10/2006	1
COOL-23	WGS84	50	338564	6615637	31/10/2006	1
COOL35	GDA94	50	341154	6618403	10/03/2008	1
COOL39	GDA94	50	342877	6616469	13/03/2008	1
COOL40	GDA94	50	342700	6607268	13/03/2008	1
COOL44	GDA94	50	340930	6614280	12/03/2008	1
COOL45	GDA94	50	340448	6613715	12/03/2008	1
COOL58	GDA94	50	340876	6613112	11/03/2008	1
COOL59	GDA94	50	338417	6615478	11/03/2008	1
COOL67	GDA94	50	341519	6617203	13/03/2008	1
COOL68	GDA94	50	344704	6605992	14/03/2008	1
COOL71	GDA94	50	343005	6616872	13/03/2008	1
COOL73	GDA94	50	343719	6613447	12/03/2008	1
COOL77	GDA94	50	344800	6604805	14/03/2008	1
COOL78	GDA94	50	347414	6605714	14/03/2008	1
COOL83	GDA94	50	342912	6614104	13/03/2008	1
ENEM-02	WGS84	50	356765	6591051	2/11/2006	1
M03-C	GDA94	50	344186	6612935	20/10/2010	1
M04-C	GDA94	50	343577	6613587	20/10/2010	1
M11-C	GDA94	50	347237	6611082	20/10/2010	1
M19-C	GDA94	50	347136	6610352	21/10/2010	1
M22-C	GDA94	50	344197	6612731	21/10/2010	1
NEW015	WGS84	50	334593	6616360	23/10/2012	1
NEW019	WGS84	50	336253	6615949	25/10/2012	1
NEW020	WGS84	50	337006	6615099	25/10/2012	1
NEW024	WGS84	50	338189	6613838	26/10/2012	1
NEW025	WGS84	50	336713	6613496	25/10/2012	1
NEW052	WGS84	50	332569	6613223	24/10/2012	1
NEW060	WGS84	50	333799	6607666	12/10/2012	1
NEW064	WGS84	50	336194	6612301	25/10/2012	1
NEW072	GDA94	50	340307	6611370	8/11/2012	1
NEW074	GDA94	50	339656	6610739	8/11/2012	1
NEW076	GDA94	50	336320	6610601	9/11/2012	1
NEW078	GDA94	50	337469	6608757	6/11/2012	1
NEW081	GDA94	50	340962	6609571	7/11/2012	1
NEW091	WGS84	50	338929	6606965	17/10/2012	1
NEW099	WGS84	50	340534	6605502	17/10/2012	1
NEW101	WGS84	50	340079	6605897	17/10/2012	1
NEW108	GDA94	50	342918	6612030	8/11/2012	1
NEW109	GDA94	50	344175	6610906	7/11/2012	1
NEW119	WGS84	50	344309	6606894	19/10/2012	1
NEW120	WGS84	50	345809	6606833	19/10/2013	1
NEW129	WGS84	50	347148	6603818	28/09/2012	1
NEW150	WGS84	50	353299	6603909	20/11/2012	1
NEW166	WGS84	50	341765	6601059	11/10/2012	1
NEW198	WGS84	50	346432	6599864	9/10/2012	1
NEW208	WGS84	50	342772	6600383	11/10/2012	1

Appendix F: Summary Data of Quadrats Used in the Statistical Analysis

Quadrat	DatumCode	Zone	Easting	Northing	SurveyDate	Vegetation Type
NEW209	WGS84	50	344568	6598385	10/10/2012	1
NEW210	WGS84	50	343348	6597290	10/10/2012	1
NEW215	WGS84	50	345893	6597222	9/10/2012	1
NEW219	WGS84	50	347962	6596226	10/10/2012	1
NEW220	WGS84	50	348644	6596296	10/10/2012	1
NEW226	WGS84	50	351722	6602725	27/09/2012	1
NEW279	WGS84	50	344800	6602595	12/10/2012	1
NEW280	WGS84	50	344506	6602613	12/10/2012	1
NEW281	WGS84	50	342435	6602606	12/10/2012	1
NEW285	WGS84	50	334052	6607739	12/10/2012	1
NEW288	GDA94	50	337335	6610065	8/11/2012	1
NEW290	GDA94	50	341345	6607891	6/11/2012	1
VCL-02	WGS84	50	346549	6599773	2/11/2006	1
WONG-05	WGS84	50	341358	6617338	31/10/2006	1
COO-01	WGS84	50	345362	6608699	1/11/2006	2
COO-02	WGS84	50	343960	6608665	1/11/2006	2
COOL-07	WGS84	50	337990	6618414	12/10/2006	2
COOL-10	WGS84	50	337875	6617824	12/10/2006	2
COOL-12	WGS84	50	336771	6617868	12/10/2006	2
COOL-16	WGS84	50	338489	6616169	13/10/2006	2
COOL-21	WGS84	50	339368	6615157	31/10/2006	2
COOL-27	WGS84	50	338486	6617457	1/11/2006	2
COOL29	GDA94	50	339573	6617470	11/03/2008	2
COOL41	GDA94	50	339675	6614126	12/03/2008	2
COOL60	GDA94	50	338720	6615034	11/03/2008	2
M24-C	GDA94	50	346616	6609935	21/10/2010	2
MULL-06	WGS84	50	338342	6604000	2/11/2006	2
NEW006	WGS84	50	334416	6616470	23/10/2012	2
NEW007	WGS84	50	335134	6617263	23/10/2012	2
NEW022	WGS84	50	339017	6613886	26/10/2012	2
NEW023	WGS84	50	339449	6613634	26/10/2012	2
NEW029	WGS84	50	344159	6615738	21/11/2012	2
NEW050	WGS84	50	346173	6611677	20/11/2012	2
NEW063	GDA94	50	336648	6612732	9/11/2012	2
NEW068	WGS84	50	338796	6612739	26/10/2012	2
NEW114	WGS84	50	343358	6608880	18/10/2012	2
NEW115	WGS84	50	342537	6608282	18/10/2012	2
NEW128	WGS84	50	346454	6604842	28/09/2012	2
NEW283	WGS84	50	338268	6604121	12/10/2012	2
NEW284	WGS84	50	338032	6605364	12/10/2012	2
WONG-07	WGS84	50	340461	6617466	31/10/2006	2
NEW058	WGS84	50	331275	6608789	22/11/2012	3
NEW277	WGS84	50	342146	6607071	18/10/2012	3
NEW267	WGS84	50	350218	6595145	9/10/2012	4
COOL-03	WGS84	50	342384	6616217	11/10/2006	5
COOL-09	WGS84	50	337473	6617963	12/10/2006	5
COOL-11	WGS84	50	338305	6617942	12/10/2006	5

Appendix F: Summary Data of Quadrats Used in the Statistical Analysis

Quadrat	DatumCode	Zone	Easting	Northing	SurveyDate	Vegetation Type
COOL-13	WGS84	50	338276	6616911	13/10/2006	5
COOL-15	WGS84	50	337122	6617263	13/10/2006	5
COOL-18	WGS84	50	339833	6615665	30/10/2006	5
COOL-24	WGS84	50	338721	6615931	31/10/2006	5
COOL30	GDA94	50	340452	6617887	11/03/2008	5
COOL33	GDA94	50	340327	6614543	12/03/2008	5
COOL34	GDA94	50	339137	6618043	10/03/2008	5
COOL47	GDA94	50	339348	6614460	12/03/2008	5
COOL52	GDA94	50	343624	6616334	11/03/2008	5
MULL-01	WGS84	50	341199	6603470	1/11/2006	5
MULL-03	WGS84	50	339485	6605080	1/11/2006	5
NEW004	WGS84	50	333471	6616959	22/10/2012	5
NEW013	WGS84	50	330266	6613425	21/11/2012	5
NEW016	WGS84	50	336062	6617761	22/10/2012	5
NEW030	WGS84	50	345253	6614752	19/11/2012	5
NEW038	WGS84	50	346674	6614045	20/11/2012	5
NEW044	WGS84	50	348943	6611245	20/11/2012	5
NEW071	GDA94	50	341726	6610903	8/11/2012	5
NEW082	GDA94	50	341827	6609374	7/11/2012	5
NEW105	WGS84	50	340637	6604005	15/10/2012	5
NEW107	WGS84	50	338859	6603808	12/10/2012	5
NEW111	GDA94	50	342388	6610163	7/11/2012	5
NEW123	WGS84	50	348823	6604942	24/09/2012	5
NEW143	WGS84	50	349175	6605039	26/09/2012	5
NEW188	WGS84	50	346188	6603189	28/09/2012	5
NEW241	WGS84	50	349304	6600731	26/09/2012	5
NEW274	WGS84	50	340187	6602692	11/10/2012	5
NEW286	WGS84	50	338052	6605237	12/10/2012	5
WONG-02	WGS84	50	342585	6616465	30/10/2006	5
WONG-06	WGS84	50	341469	6618063	31/10/2006	5
WONG-09	WGS84	50	334128	6617139	31/10/2006	5
COOL-04	WGS84	50	341438	6615248	11/10/2006	6
COOL-20	WGS84	50	340670	6615082	31/10/2006	6
COOL-25	WGS84	50	337370	6616335	31/10/2006	6
COOL38	GDA94	50	343425	6617935	11/03/2008	6
M07-C	GDA94	50	344565	6611770	18/10/2010	6
M10-C	GDA94	50	344562	6612294	19/10/2010	6
M12-C	GDA94	50	346422	6610552	20/10/2010	6
NEW079	GDA94	50	338596	6608880	5/11/2012	6
NEW139	WGS84	50	342416	6604437	15/10/2012	6
NEW140	WGS84	50	342207	6604646	15/10/2012	6
NEW168	WGS84	50	340354	6600957	11/10/2012	6
NEW231	WGS84	50	351375	6601650	27/09/2012	6
NEW243	WGS84	50	350082	6600483	25/09/2012	6
NEW251	WGS84	50	350858	6601392	26/09/2012	6
NEW253	WGS84	50	350257	6599723	25/09/2012	6
NEW269	WGS84	50	348285	6600245	8/10/2012	6

Appendix F: Summary Data of Quadrats Used in the Statistical Analysis

Quadrat	DatumCode	Zone	Easting	Northing	SurveyDate	Vegetation Type
VCL-03	WGS84	50	349703	6598942	2/11/2006	6
COOL-19	WGS84	50	340468	6614683	30/10/2006	7
COOL42	GDA94	50	340322	6614610	12/03/2008	7
COOL43	GDA94	50	340750	6614030	12/03/2008	7
COOL57	GDA94	50	341149	6613530	11/03/2008	7
COOL62	GDA94	50	342769	6612491	13/03/2008	7
COOL64	GDA94	50	341850	6613231	12/03/2008	7
COOL65	GDA94	50	342506	6613411	13/03/2008	7
COOL66	GDA94	50	342098	6613394	13/03/2008	7
NEW008	WGS84	50	331340	6614376	21/11/2012	7
NEW097	WGS84	50	337830	6604154	22/11/2012	7
NEW106	WGS84	50	341000	6603679	16/10/2012	7
NEW171	WGS84	50	338616	6601938	11/10/2012	7
NEW185	WGS84	50	344657	6602684	28/09/2012	7
NEW268	WGS84	50	349543	6598113	27/09/2012	7
NEW270	WGS84	50	345250	6600800	8/10/2012	7
NEW271	WGS84	50	345100	6600812	8/10/2012	7
NEW273	WGS84	50	338554	6601731	11/10/2012	7
NEW180	WGS84	50	340409	6596846	10/10/2012	8
NEW181	WGS84	50	340865	6596266	10/10/2012	8
NEW183	WGS84	50	341059	6595414	10/10/2012	8
COOL-17	WGS84	50	338271	6615676	13/10/2006	9a
COOL56	GDA94	50	338258	6615595	11/03/2008	9a
M09-C	GDA94	50	345927	6611725	21/10/2010	9a
NEW090	WGS84	50	339031	6606831	17/10/2012	9a
NEW112	GDA94	50	345516	6609455	7/11/2012	9a
NEW116	WGS84	50	342694	6607129	18/10/2012	9a
NEW117	WGS84	50	342271	6607070	18/10/2012	9a
NEW197	WGS84	50	346354	6600380	9/10/2012	9a
NEW204	WGS84	50	344628	6600497	9/10/2012	9a
NEW225	WGS84	50	350813	6603719	26/09/2012	9a
NEW275	WGS84	50	340323	6602718	11/10/2012	9a
NEW045	WGS84	50	345510	6610442	20/11/2012	9b
NEW092	GDA94	50	340518	6607262	6/11/2012	9b
NEW130	WGS84	50	347041	6603933	28/09/2012	9b
NEW165	WGS84	50	341522	6601187	11/10/2012	9b
NEW190	WGS84	50	346969	6603960	22/11/2012	9b
NEW206	WGS84	50	344948	6601690	8/10/2012	9b
NEW211	WGS84	50	342893	6597172	10/10/2012	9b
NEW213	WGS84	50	343618	6596552	10/10/2012	9b
NEW249	WGS84	50	351184	6601390	26/09/2012	9b
NEW250	WGS84	50	350857	6600791	26/09/2012	9b
NEW254	WGS84	50	349842	6599504	27/09/2012	9b
NEW255	WGS84	50	350567	6599392	25/09/2012	9b
VCL-01	WGS84	50	345122	6601591	2/11/2006	9b
COOL28	GDA94	50	341969	6618372	11/03/2008	10
COOL51	GDA94	50	342950	6617316	11/03/2008	10

Appendix F: Summary Data of Quadrats Used in the Statistical Analysis

Quadrat	DatumCode	Zone	Easting	Northing	SurveyDate	Vegetation Type
COOL72	GDA94	50	343096	6616903	13/03/2008	10
NEW014	WGS84	50	332639	6613420	24/10/2012	10
WONG-04	WGS84	50	342414	6617768	31/10/2006	10
NEW056	WGS84	50	334652	6609540	22/11/2012	11
COOL49	GDA94	50	343654	6613566	12/03/2008	12
NQ01	GDA94	50	340564	6613762	12/03/2008	12
NEW005	WGS84	50	334257	6617228	22/10/2012	13
NEW040	WGS84	50	329934	6612966	22/10/2012	13
NEW095	WGS84	50	337995	6604524	12/10/2012	13
NEW282	WGS84	50	338288	6604231	12/10/2012	13
NEW094	WGS84	50	337240	6604290	22/11/2012	14
NEW170	WGS84	50	339442	6600036	11/10/2012	15
SITE291	WGS84	50	331113	6608482	29/05/2013	15
NEW089	WGS84	50	339108	6606692	17/10/2012	16
NEW278	WGS84	50	342300	6607630	18/10/2012	16
COOL-01	WGS84	50	340600	6616334	11/10/2006	17
COOL-02	WGS84	50	341251	6616263	11/10/2006	17
COOL-05	WGS84	50	341544	6614426	11/10/2006	17
COOL-08	WGS84	50	337686	6617995	12/10/2006	17
COOL-14	WGS84	50	337138	6616935	13/10/2006	17
COOL-26	WGS84	50	337645	6616347	31/10/2006	17
COOL31	GDA94	50	344492	6615661	11/03/2008	17
COOL32	GDA94	50	339170	6617867	10/03/2008	17
COOL36	GDA94	50	340841	6617028	10/03/2008	17
COOL46	GDA94	50	340500	6614220	12/03/2008	17
COOL48	GDA94	50	343671	6617417	13/03/2008	17
COOL50	GDA94	50	343471	6618282	13/03/2008	17
COOL53	GDA94	50	342497	6615948	11/03/2008	17
COOL54	GDA94	50	343194	6616414	11/03/2008	17
COOL55	GDA94	50	341391	6613043	11/03/2008	17
COOL61	GDA94	50	341677	6615094	13/03/2008	17
COOL63	GDA94	50	342501	6613794	12/03/2008	17
COOL74	GDA94	50	340006	6614697	13/03/2008	17
COOL75	GDA94	50	341419	6613889	13/03/2008	17
COOL84	GDA94	50	343237	6614187	12/03/2008	17
COOL86	GDA94	50	343336	6613314	12/03/2008	17
ENEM-01	WGS84	50	358138	6590542	2/11/2006	17
M01-C	GDA94	50	347789	6610092	18/10/2010	17
M02-C	GDA94	50	344333	6613369	19/10/2010	17
M05-C	GDA94	50	343849	6612374	20/10/2010	17
M06-C	GDA94	50	348391	6609629	20/10/2010	17
M13-C	GDA94	50	346689	6609774	19/10/2010	17
M14-C	GDA94	50	349693	6609303	20/10/2010	17
M15-C	GDA94	50	348724	6609583	19/10/2010	17
M16-C	GDA94	50	350165	6609705	18/10/2010	17
M17-C	GDA94	50	350170	6609105	20/10/2010	17
M18-C	GDA94	50	347754	6610628	21/10/2010	17

Appendix F: Summary Data of Quadrats Used in the Statistical Analysis

Quadrat	DatumCode	Zone	Easting	Northing	SurveyDate	Vegetation Type
M20-C	GDA94	50	347267	6610618	21/10/2010	17
MULL-02	WGS84	50	340629	6603416	1/11/2006	17
MULL-04	WGS84	50	339287	6605377	1/11/2006	17
MULL-05	WGS84	50	342805	6605371	1/11/2006	17
NEW001	WGS84	50	330961	6616385	21/11/2012	17
NEW003	WGS84	50	332988	6615134	23/10/2012	17
NEW011	WGS84	50	329975	6614427	22/11/2012	17
NEW017	WGS84	50	336240	6615695	25/10/2012	17
NEW018	WGS84	50	335317	6615624	24/10/2012	17
NEW021	WGS84	50	338198	6614278	26/10/2012	17
NEW028	WGS84	50	344569	6616489	21/11/2012	17
NEW031	WGS84	50	344993	6614863	19/11/2012	17
NEW033	WGS84	50	343994	6614446	19/11/2012	17
NEW034	WGS84	50	343693	6613220	19/11/2012	17
NEW036	WGS84	50	345121	6614377	19/11/2012	17
NEW039	WGS84	50	346738	6613551	20/11/2012	17
NEW042	WGS84	50	348420	6611792	19/11/2012	17
NEW053	WGS84	50	333881	6613180	24/10/2012	17
NEW061	WGS84	50	334764	6607499	12/10/2012	17
NEW065	GDA94	50	335791	6612188	9/11/2012	17
NEW067	GDA94	50	338273	6612666	9/11/2012	17
NEW070	GDA94	50	341908	6612622	8/11/2012	17
NEW080	GDA94	50	339375	6609081	6/11/2012	17
NEW085	GDA94	50	340798	6607752	6/11/2012	17
NEW088	WGS84	50	338160	6606077	16/10/2012	17
NEW093	GDA94	50	339401	6606395	5/11/2012	17
NEW102	WGS84	50	340032	6604815	16/10/2012	17
NEW104	WGS84	50	341845	6605358	15/10/2012	17
NEW118	WGS84	50	343381	6606775	18/10/2012	17
NEW121	WGS84	50	347445	6607167	19/10/2012	17
NEW124	WGS84	50	348685	6604236	28/09/2012	17
NEW126	WGS84	50	347285	6605140	28/09/2012	17
NEW134	WGS84	50	342821	6604016	16/10/2012	17
NEW138	WGS84	50	342679	6605668	19/10/2012	17
NEW145	WGS84	50	349994	6603741	26/09/2012	17
NEW149	WGS84	50	353475	6604535	20/11/2012	17
NEW152	WGS84	50	354196	6604606	21/11/2012	17
NEW153	WGS84	50	354376	6603947	21/11/2012	17
NEW156	WGS84	50	354860	6603933	21/11/2012	17
NEW158	WGS84	50	339658	6603092	11/10/2012	17
NEW159	WGS84	50	338965	6602868	11/10/2012	17
NEW169	WGS84	50	339596	6600918	11/10/2012	17
NEW177	WGS84	50	340933	6598284	11/10/2012	17
NEW187	WGS84	50	345201	6602298	28/09/2012	17
NEW191	WGS84	50	347923	6602772	28/09/2012	17
NEW200	WGS84	50	346014	6601308	9/10/2012	17
NEW203	WGS84	50	342398	6599970	11/10/2012	17

Appendix F: Summary Data of Quadrats Used in the Statistical Analysis

Quadrat	DatumCode	Zone	Easting	Northing	SurveyDate	Vegetation Type
NEW207	WGS84	50	344178	6601775	8/10/2012	17
NEW216	WGS84	50	346021	6597584	10/10/2012	17
NEW218	WGS84	50	347296	6596320	10/10/2012	17
NEW222	WGS84	50	348636	6597133	9/10/2012	17
NEW224	WGS84	50	348717	6598089	9/10/2012	17
NEW227	WGS84	50	351292	6602264	26/09/2012	17
NEW228	WGS84	50	350951	6602646	26/09/2012	17
NEW229	WGS84	50	352557	6601713	27/09/2012	17
NEW230	WGS84	50	351687	6601938	26/09/2012	17
NEW234	WGS84	50	354392	6602634	21/11/2012	17
NEW236	WGS84	50	353907	6603091	21/11/2012	17
NEW238	WGS84	50	350785	6601766	25/09/2012	17
NEW240	WGS84	50	349907	6601579	26/09/2012	17
NEW244	WGS84	50	349738	6600653	26/09/2012	17
NEW245	WGS84	50	350744	6600161	26/09/2012	17
NEW252	WGS84	50	350570	6599530	25/09/2012	17
NEW257	WGS84	50	349961	6598455	27/09/2012	17
NEW287	GDA94	50	337414	6608455	6/11/2012	17
NR-01	WGS84	50	350547	6599750	2/11/2006	17
WONG-01	WGS84	50	341827	6616529	30/10/2006	17
WONG-08	WGS84	50	340910	6617796	31/10/2006	17
WONG-10	WGS84	50	332054	6616727	31/10/2006	17
COOL-06	WGS84	50	338740	6618483	12/10/2006	18
COOL37	GDA94	50	340340	6618510	10/03/2008	18
M08-C	GDA94	50	346675	6611206	19/10/2010	18
M21-C	GDA94	50	352895	6604728	22/10/2010	18
M23-C	GDA94	50	346849	6610785	21/10/2010	18
NEW032	WGS84	50	345815	6610880	20/11/2012	18
NEW037	WGS84	50	346472	6614394	20/11/2012	18
NEW041	WGS84	50	347305	6612871	19/11/2012	18
NEW051	WGS84	50	343726	6611242	20/11/2012	18
NEW054	WGS84	50	343731	6609613	20/11/2012	18
NEW069	GDA94	50	340152	6612223	8/11/2012	18
NEW096	WGS84	50	336977	6604159	22/11/2012	18
NEW100	WGS84	50	340217	6605755	17/10/2012	18
NEW113	GDA94	50	346203	6608881	7/11/2012	18
NEW122	WGS84	50	348863	6605454	24/09/2012	18
NEW125	WGS84	50	347905	6604605	28/09/2012	18
NEW127	GDA94	50	346979	6605813	5/11/2012	18
NEW131	WGS84	50	345981	6603847	28/09/2012	18
NEW132	WGS84	50	345052	6603748	28/09/2012	18
NEW133	WGS84	50	345481	6604986	25/09/2012	18
NEW135	WGS84	50	344295	6604717	25/09/2012	18
NEW136	WGS84	50	344310	6605345	25/09/2012	18
NEW137	WGS84	50	343252	6605330	25/09/2012	18
NEW142	WGS84	50	349234	6605336	26/09/2012	18
NEW144	WGS84	50	350350	6604197	27/09/2012	18

Appendix F: Summary Data of Quadrats Used in the Statistical Analysis

Quadrat	DatumCode	Zone	Easting	Northing	SurveyDate	Vegetation Type
NEW146	WGS84	50	350049	6604916	28/09/2012	18
NEW147	WGS84	50	349845	6604556	26/09/2012	18
NEW155	WGS84	50	354722	6603692	21/11/2012	18
NEW162	WGS84	50	341285	6601807	12/10/2012	18
NEW173	WGS84	50	339975	6599261	11/10/2012	18
NEW174	WGS84	50	340565	6599557	11/10/2012	18
NEW175	WGS84	50	340981	6598991	11/10/2012	18
NEW176	WGS84	50	340638	6597433	11/10/2012	18
NEW178	WGS84	50	341806	6597030	10/10/2012	18
NEW179	WGS84	50	341903	6597814	10/10/2012	18
NEW182	WGS84	50	341201	6595803	10/10/2012	18
NEW184	WGS84	50	343128	6602587	11/10/2012	18
NEW189	WGS84	50	346529	6602639	28/09/2012	18
NEW192	WGS84	50	348418	6602537	28/09/2012	18
NEW193	WGS84	50	348707	6601877	28/09/2012	18
NEW195	WGS84	50	348467	6600110	8/10/2012	18
NEW196	WGS84	50	346518	6600707	9/10/2012	18
NEW202	WGS84	50	344047	6599742	8/10/2012	18
NEW205	WGS84	50	344872	6601118	9/10/2012	18
NEW214	WGS84	50	344391	6596535	10/10/2012	18
NEW217	WGS84	50	346469	6596136	10/10/2012	18
NEW221	WGS84	50	348822	6596742	9/10/2012	18
NEW235	WGS84	50	354322	6603561	21/11/2012	18
NEW239	WGS84	50	349709	6603003	27/09/2012	18
NEW242	WGS84	50	350472	6601279	25/09/2012	18
NEW258	WGS84	50	349561	6598398	27/09/2012	18
NEW259	WGS84	50	349588	6597464	27/09/2012	18
NEW260	WGS84	50	350104	6597487	27/09/2012	18
NEW261	WGS84	50	349391	6596725	9/10/2012	18
NEW262	WGS84	50	349980	6595895	27/09/2012	18
NEW263	WGS84	50	349846	6595042	27/09/2012	18
NEW264	WGS84	50	349495	6594521	9/10/2012	18
NEW276	WGS84	50	339612	6603809	11/10/2012	18
WONG-03	WGS84	50	343184	6616631	31/10/2006	18

Appendix G: Species Area Curves (PC-Ord)

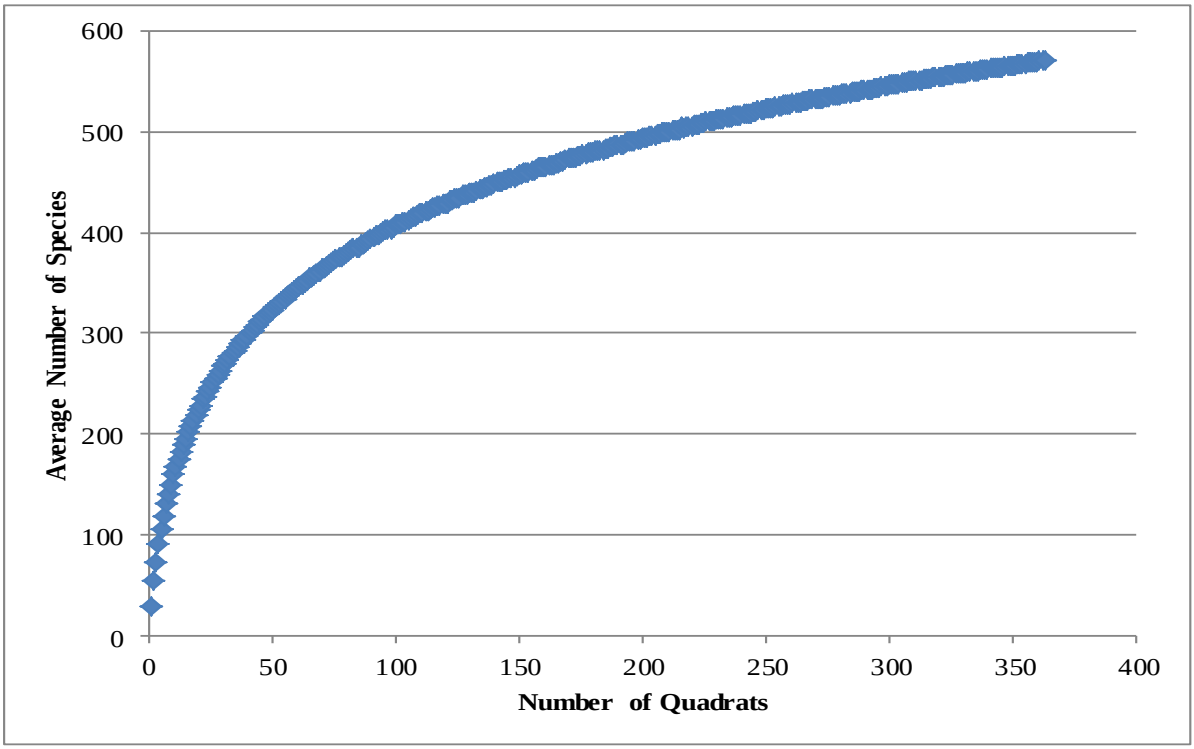


Chart 1: Species Area Curve for Quadrats established throughout the Study Area

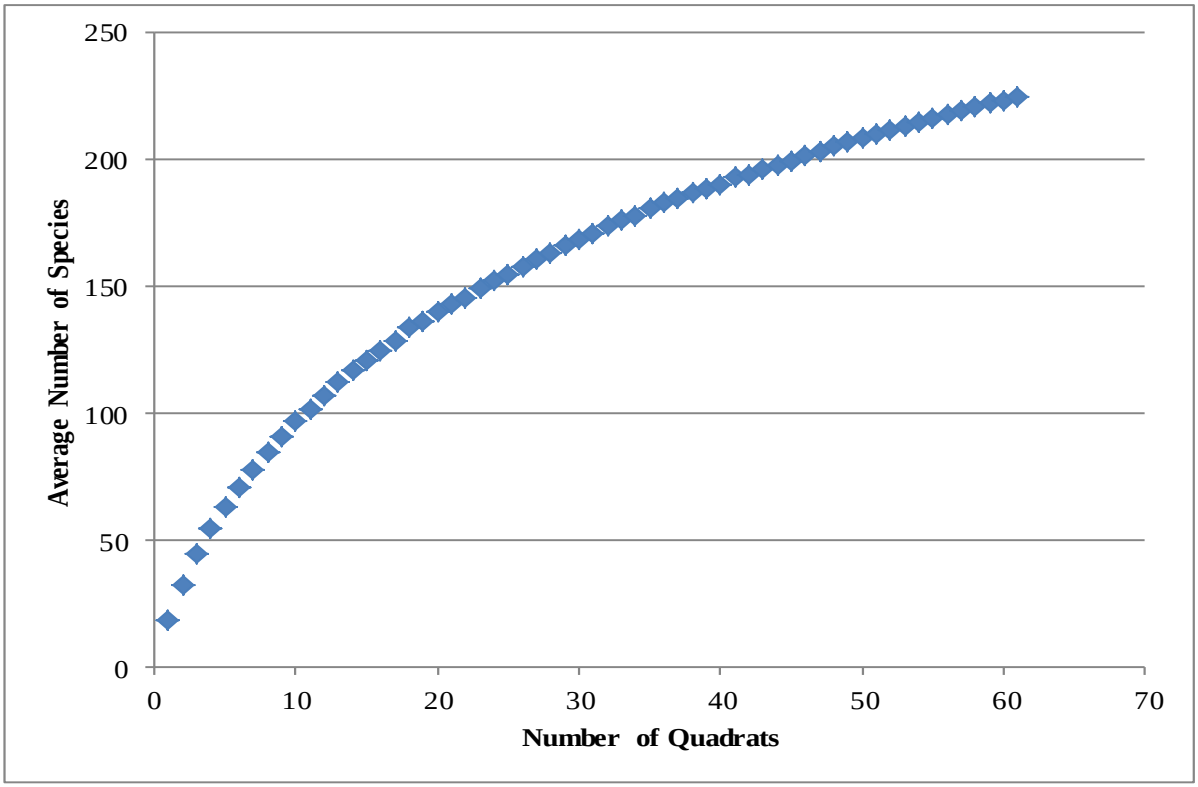


Chart 2: Species Area Curve for Quadrats established in VT01

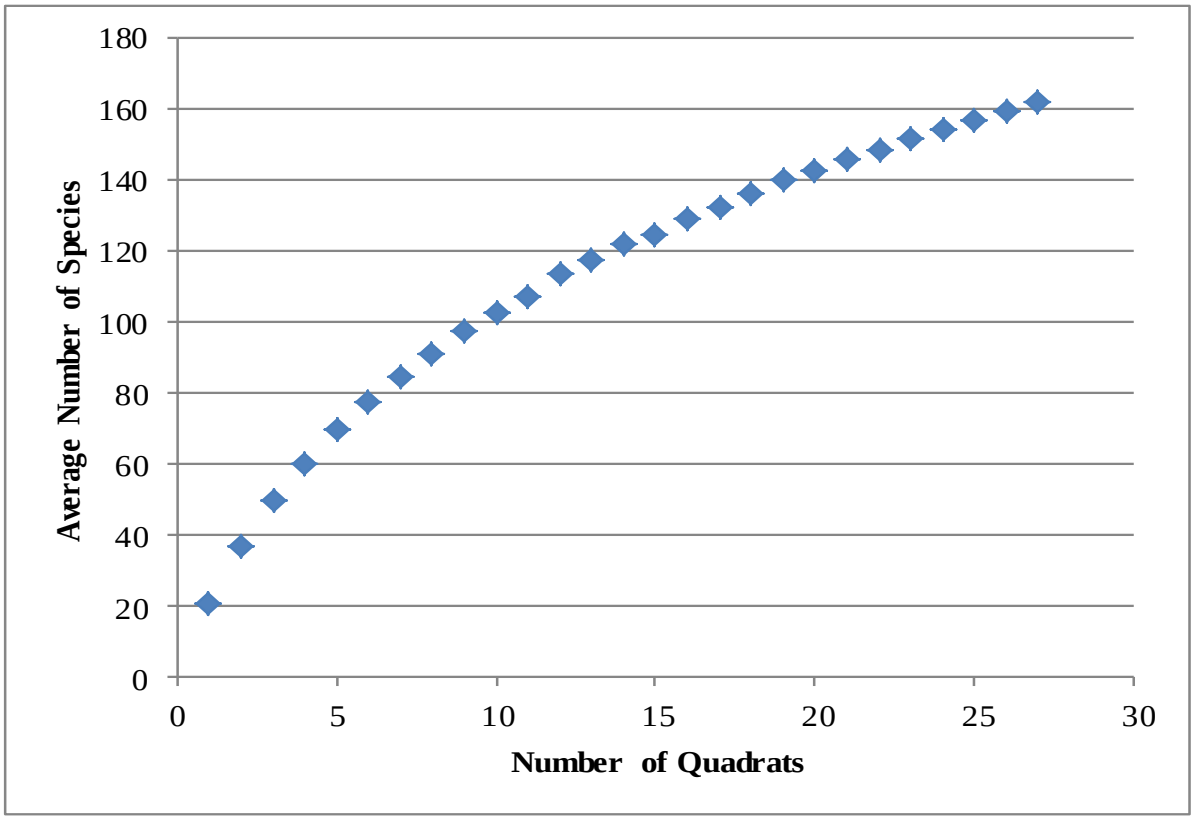


Chart 3: **Species Area Curve for Quadrats established in VT02**

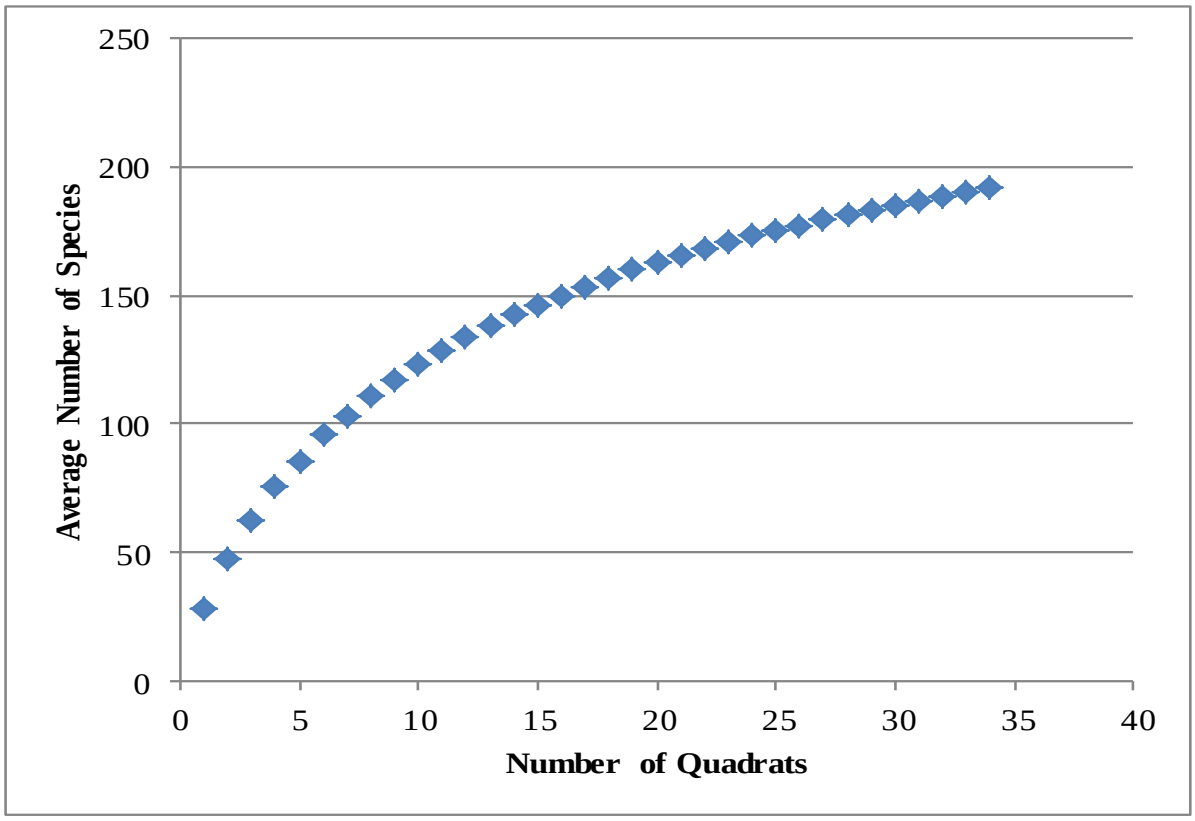


Chart 4: **Species Area Curve for Quadrats established in VT05**

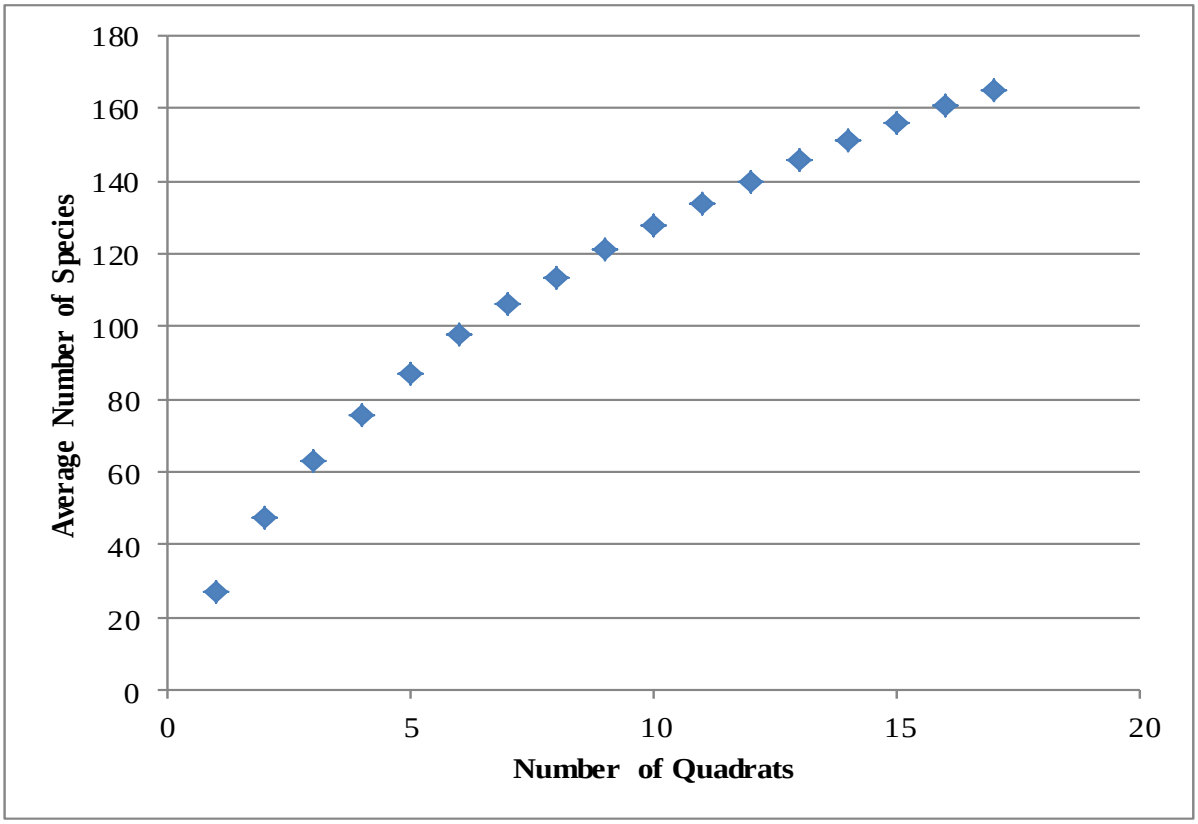


Chart 5: Species Area Curve for Quadrats established in VT06

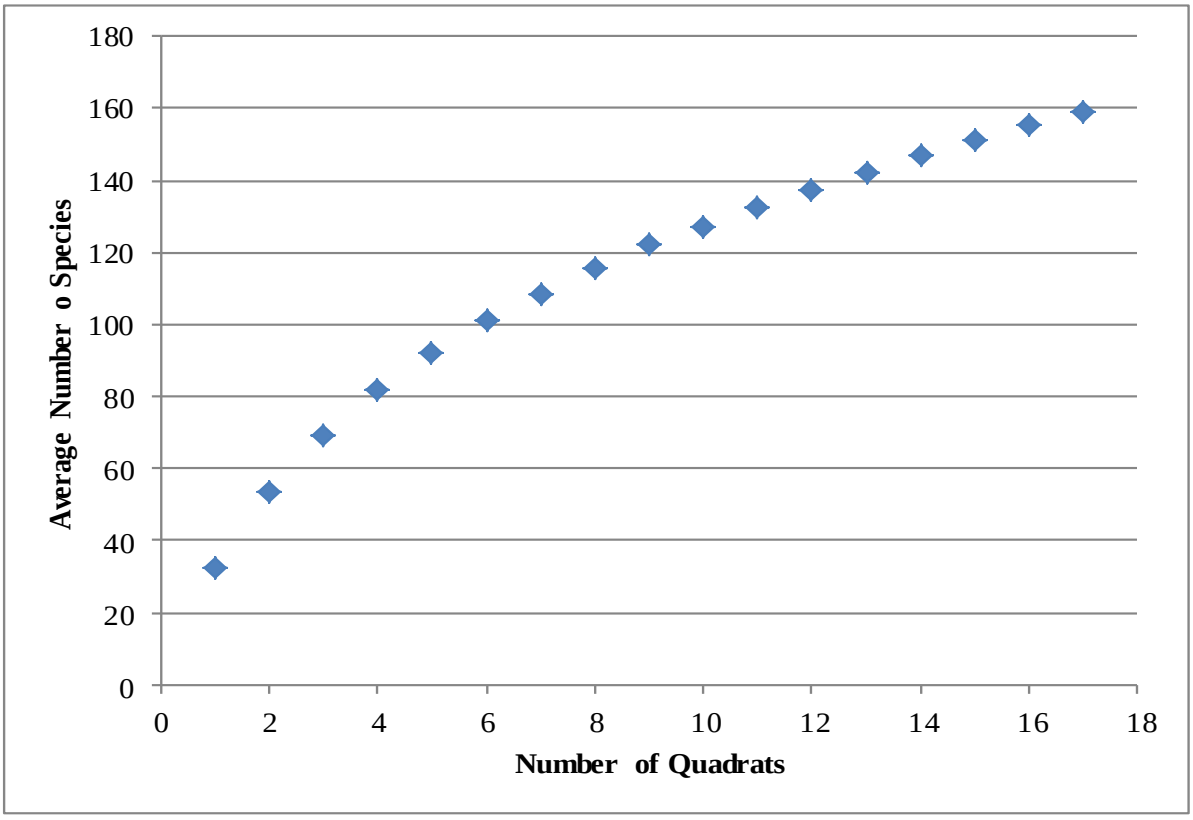


Chart 6: Species Area Curve for Quadrats established in VT07

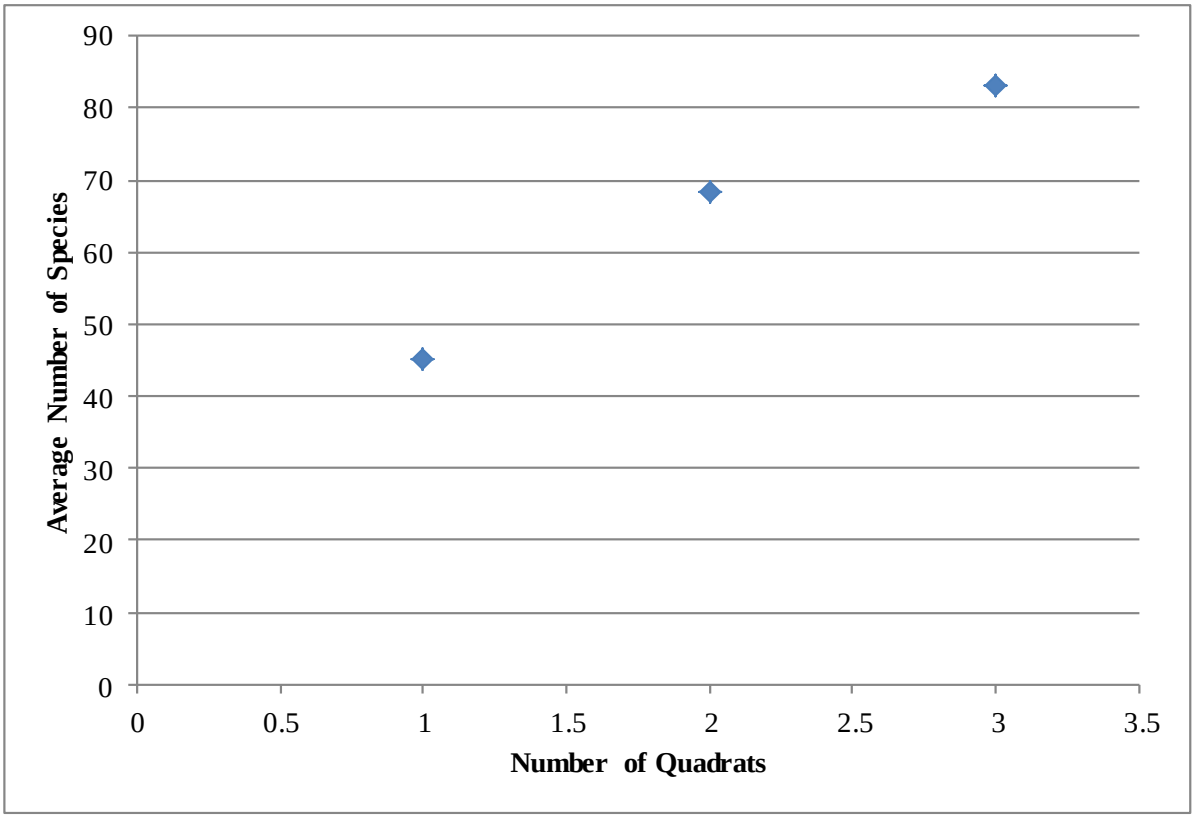


Chart 7: Species Area Curve for Quadrats established in VT08

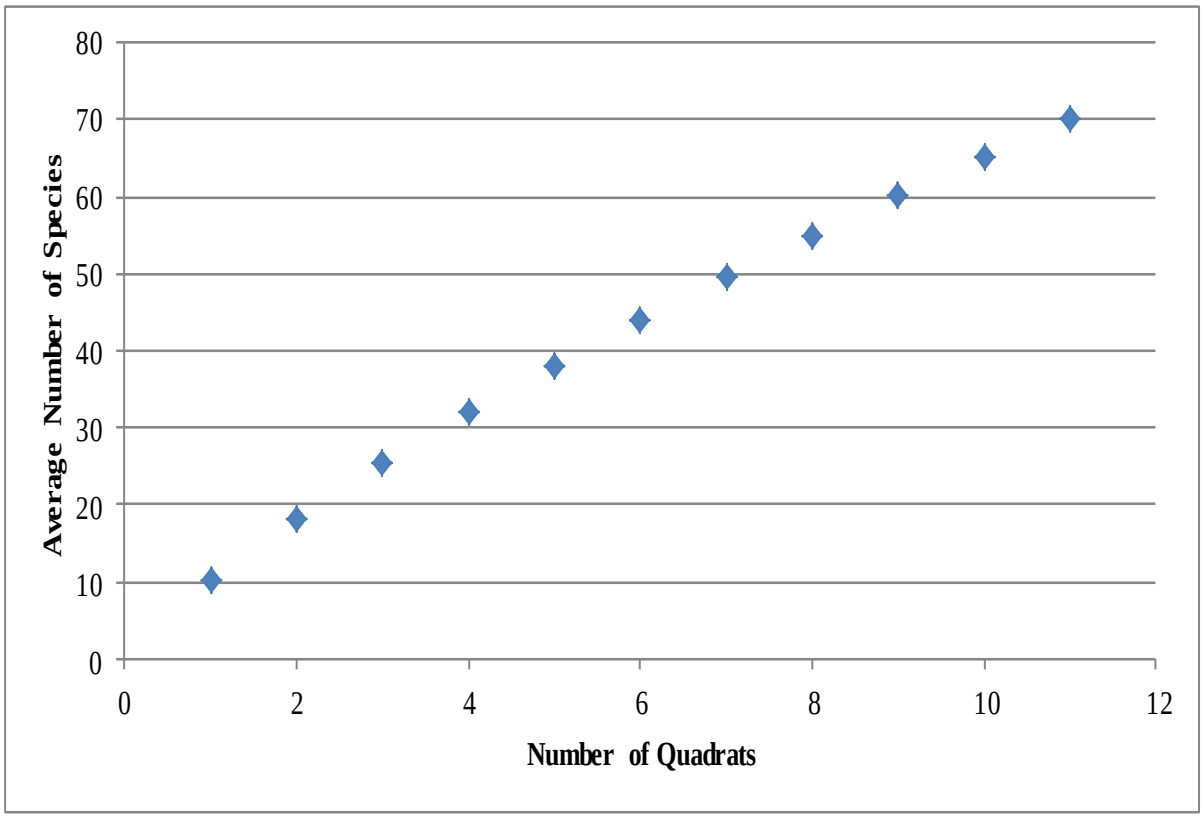


Chart 8: Species Area Curve for Quadrats established in VT09a

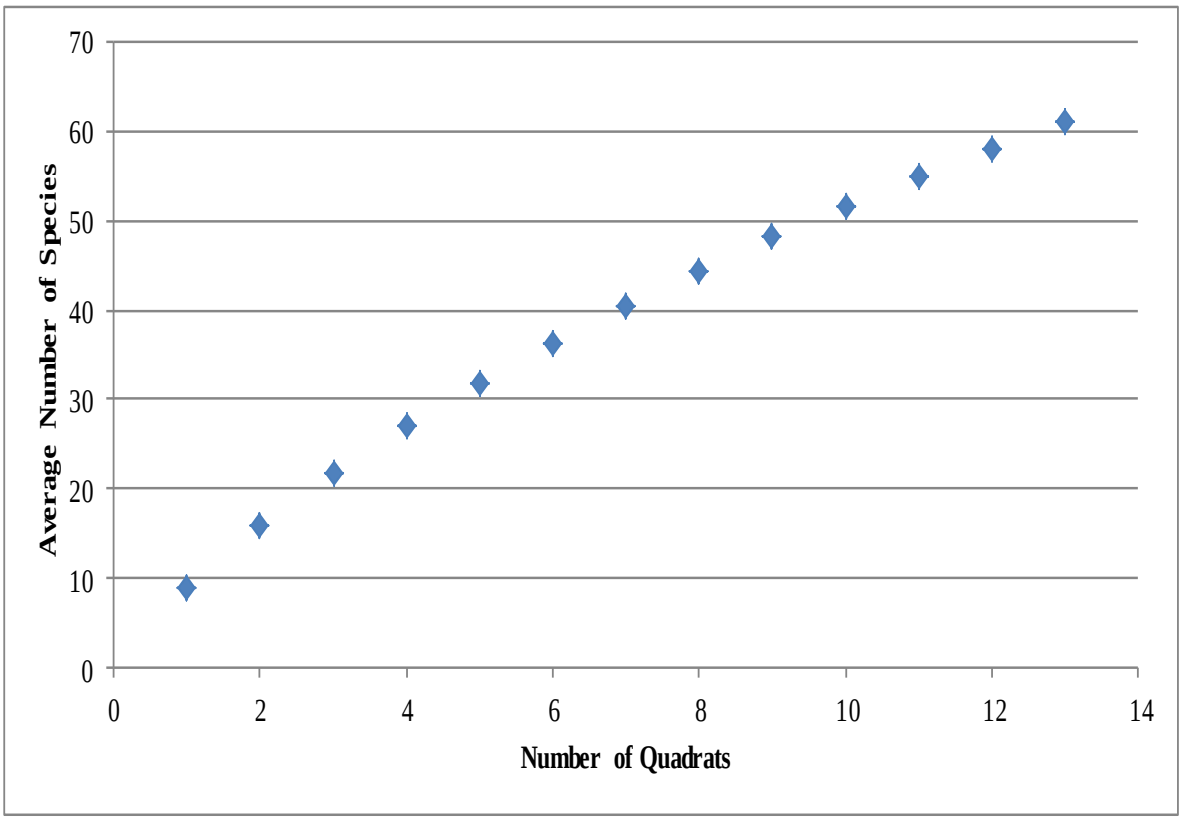


Chart 9: Species Area Curve for Quadrats established in VT09b

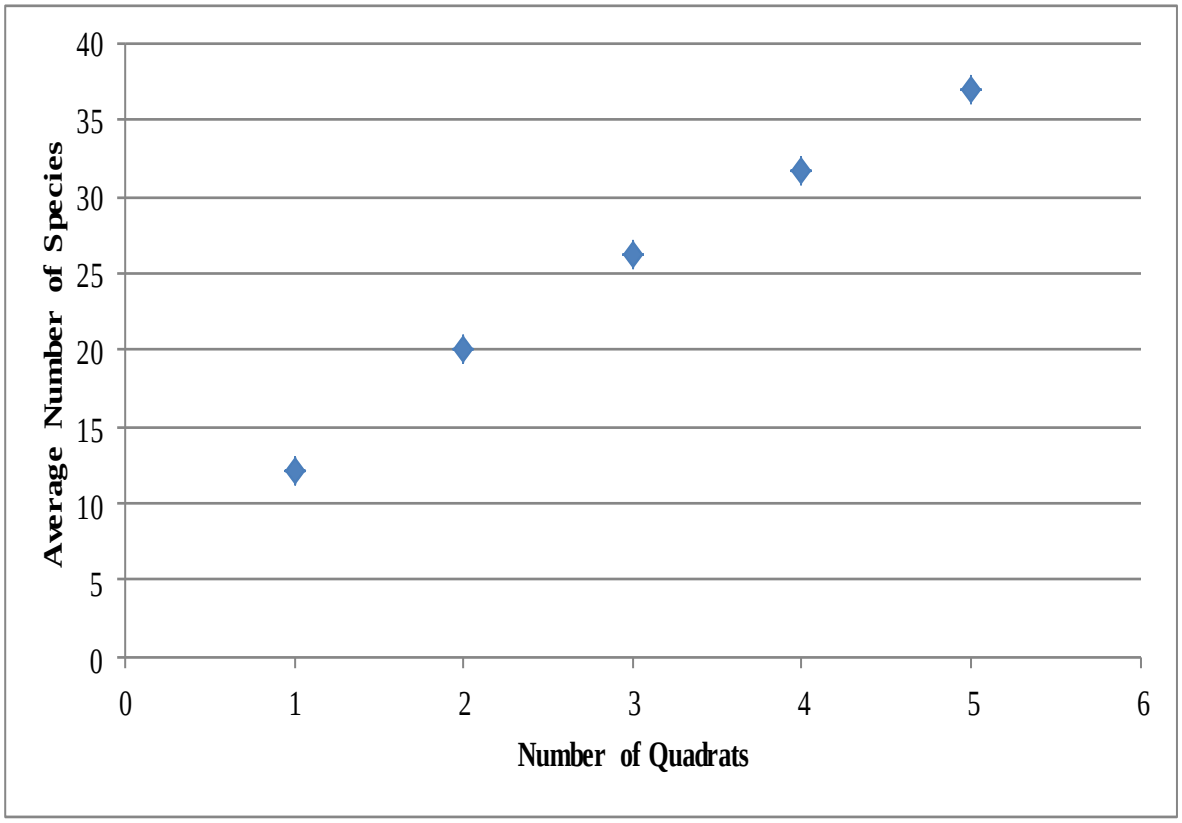


Chart 10: Species Area Curve for Quadrats established in VT10

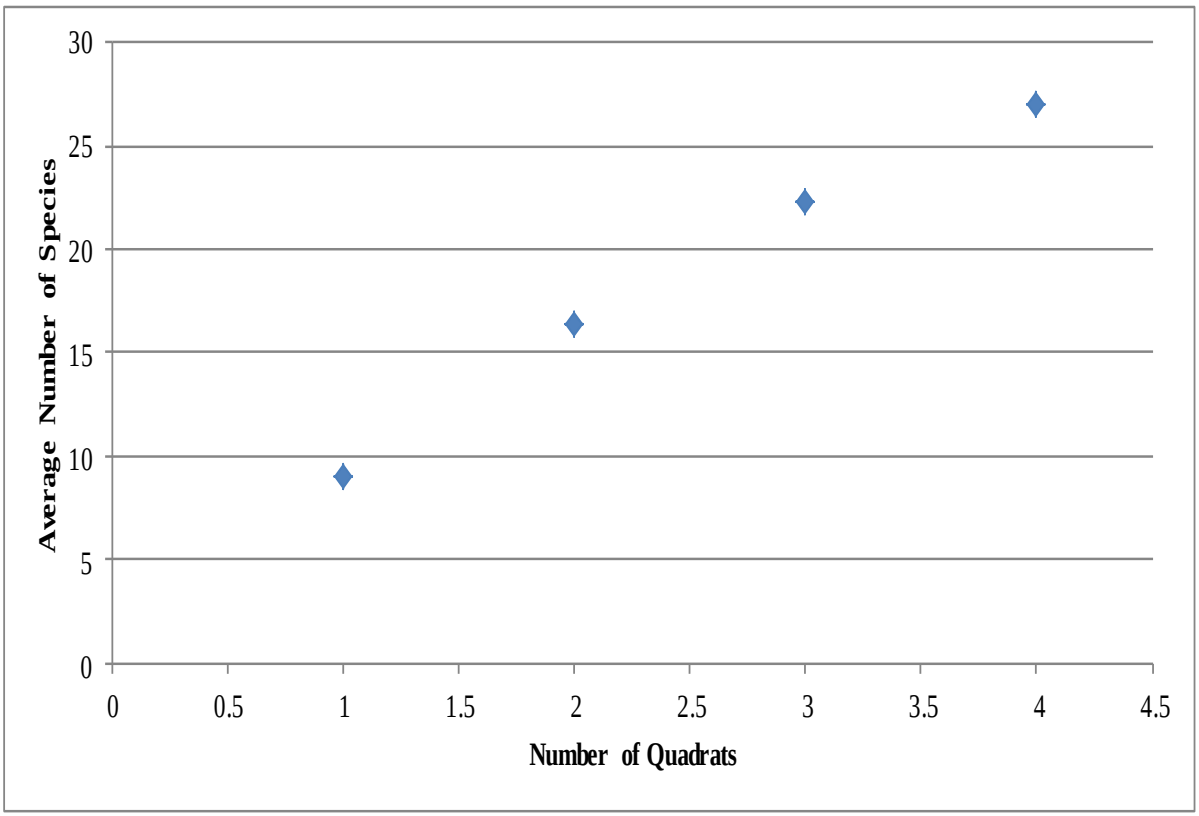


Chart 11: Species Area Curve for Quadrats established in VT13

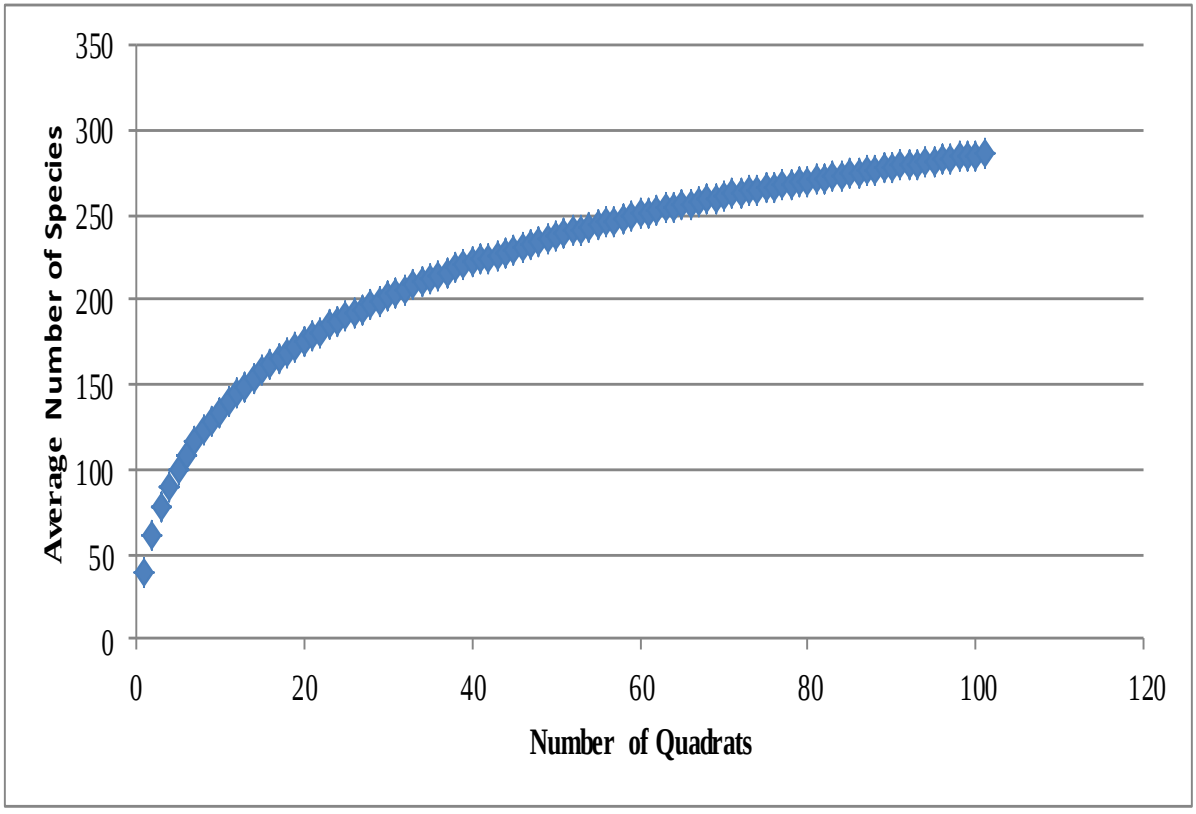


Chart 12: Species Area Curve for Quadrats established in VT17

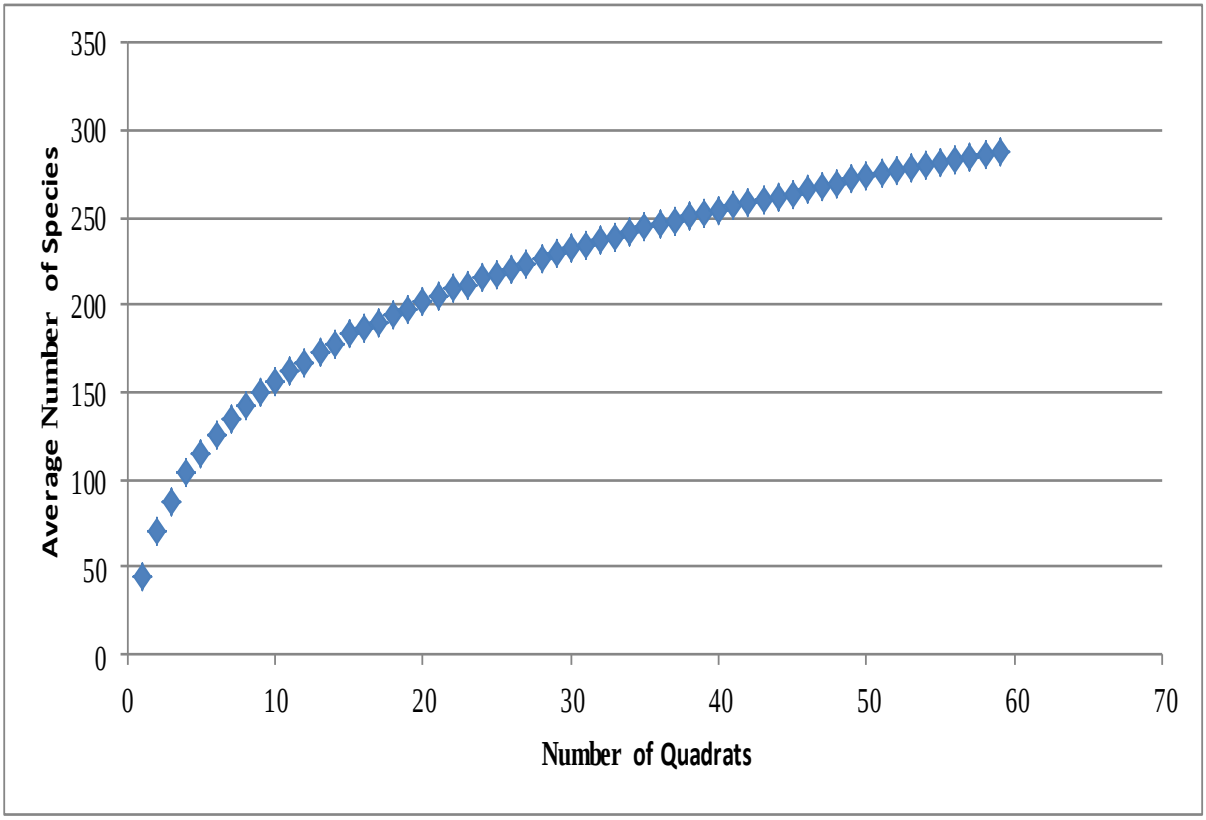


Chart 13: Species Area Curve for Quadrats established in VT18

Table 1: Percentage of Reduction in Number of New Species

Quadrat	Percentage of Reduction	Satisfies Criterium
All Quadrats	2.16	Yes
VT01	4.19	Yes
VT02	3.91	Yes
VT03	8.57	No
VT04	NA*	NA*
VT05	2.84	Yes
VT06	4.22	Yes
VT07	3.88	Yes
VT08	4.29	Yes
VT09a	7.39	No
VT09b	6.03	N
VT10	6.54	No
VT11	NA*	NA*
VT12	3.85	Yes
VT13	6.40	No
VT14	NA*	NA*
VT15	8.00	No
VT16	5.29	No
VT17	2.45	Yes
VT18	3.15	Yes

*Note: cannot be calculated with only one quadrat

Please note Appendix H has been omitted due to confidentiality requirements.

Appendix I: Descriptions of Conservation Significant Flora Recorded in the Cooljarloo West Study Area (Priority Taxa Only)

Allocasuarina grevilleoides (P3) is a dioecious, lignotuberous shrub growing to 0.4 m high. It generally occurs on sand over laterite and gravel (DPaW 2013a). This taxon has a known geographical distribution of approximately 260 km with records near Eneabba, North of Dandaragan, East of Lancelin and North-East of Armadale. It is known from 28 WA Herb records and approximately 15 populations (DPaW 2013b), and is only known from Western Australia (CHAH 2013).

Allocasuarina grevilleoides has been recorded at two point locations within the Study Area, both within VT 7 (Appendix H, Figure 7.4).

Angianthus micropodioides (P3) is an erect or decumbent annual herb growing to 0.15 m high. It produces yellow-white flowers from November to December or January to February and occurs on saline sandy soils upon river edges, saline depressions and claypans (DPaW 2013a). This taxon has a wide known geographical range of approximately 400 km with 21 WA Herb records and 17 populations (DPaW 2013b; Woodman Environmental 2013d). Records are known from Cooljarloo West, east of Esperance, north-west of Walpole, east of Geraldton and in the Perth region, and is only known from Western Australia (CHAH 2013).

Angianthus micropodioides has been recorded at 30 point locations within the Study Area (Appendix H, Figure 7.4). The preferred habitat for this taxon is VT 2, with 25 of 30 records within areas mapped as VT 2. Other VTs in which this taxon was mapped include VTs 5 and 13.

Anigozanthos humilis subsp. *chrysanthus* (P4) is a rhizomatous perennial herb growing to 0.4 m high (Plate 8). It produces yellow flowers from July to October and occurs on grey or yellow sand (DPaW 2013a). This taxon has a wide known geographical range of approximately 200 km with 104 WA Herb records and approximately 43 populations (DPaW 2013b), and is only known from Western Australia (CHAH 2013).

Anigozanthos humilis subsp. *chrysanthus* has been recorded at three point locations within the Study Area, in VTs 17 and 18 (Appendix H, Figure 7.5).

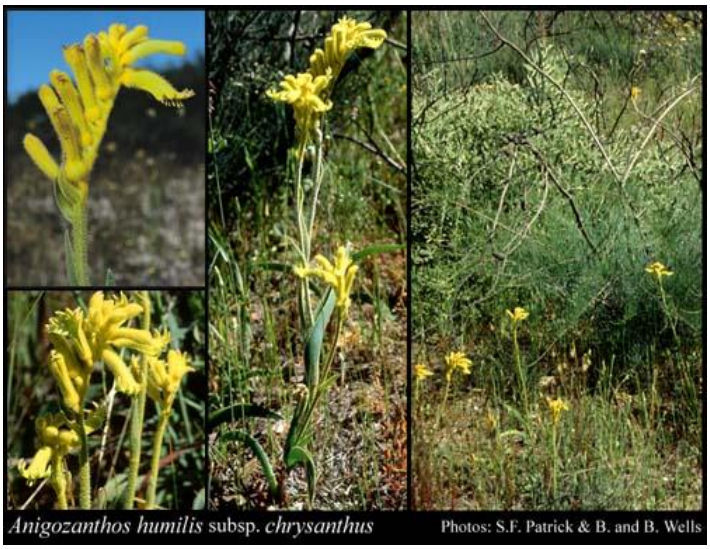


Plate 8: *Anigozanthos viridis* subsp. *chrysanthus* (P4) (Photo: DPaW 2013a)

Arnocrinum gracillimum (P2) is a rhizomatous perennial herb growing to 0.4 m high. Purple flowers are produced from October to November (Plate 9). This taxon occurs on white, grey, yellow or lateritic sand (DPaW 2013a). *Arnocrinum gracillimum* (P2) has a geographical range of approximately 80 km with 21 WA Herb records and approximately 15 populations (DPaW 2013b), and is only known from Western Australia (CHAH 2013).

Arnocrinum gracillimum has been recorded at three point locations within the Study Area, two within VT 17 and the third in an area which has since been cleared and rehabilitated (Appendix H, Figure 7.3).



Plate 9: *Arnocrinum gracillimum* (P2) (Photo: DPaW 2013a)

Baeckea sp. Moora (R. Bone 1993/1) (P3) is an open spreading or spindly shrub growing to 2 m high (Plate 10). It produces white-pink flowers from November to December and occurs on gravelly soils (DPaW 2013a). This taxon has a known geographical range of approximately 80 km with 25 WA Herb records and 14 populations (DPaW 2013b). Records are known from Cooljarloo West, east of Dandaragan, Badgingarra and North of Moora, and this taxon is only known from Western Australia (CHAH 2013).

Baeckea sp. Moora (R. Bone 1993/1) has been recorded at one point location within the Study Area in VT 1 (Appendix H, Figure 7.4).



Plate 10: *Baeckea* sp. Moora (R. Bone 1993/1) (P3) (Photo: DPaW 2013a)

Baeckea sp. Perth Region (R.J. Cranfield 444) (P3) is an erect, open, straggly shrub growing to 1.2 m high (Plate 11). Pink to white flowers occur from January to March. This taxon occurs on orange sand, brown loam and white sandy clay on low flats and winter-wet swamps (DPaW 2013a). *Baeckea* sp. Perth Region (R.J. Cranfield 444) has a geographical range of approximately 250 km with records near Mundijong, in the Perth region, near Lancelin, in the vicinity of Cooljarloo West and north-east of Dandaragan. There are 20 vouchered specimens (at the WA Herb) and approximately 12 populations for this taxon (DPaW 2013b), and it is only known from Western Australia (CHAH 2013).

Baeckea sp. Perth Region (R.J. Cranfield 444) has been recorded at 70 point locations within the Study Area (Appendix H, Figure 7.4). Although it was recorded in a wide variety of VTs (Table 9), the preferred habitat was VT 1 (33 records), and to a lesser extent VT 2 (10 records).



Plate 11: *Baeckea* sp. Perth Region (R.J. Cranfield 444) (P3) (Photo: DPaW 2013a)

Banksia dallanneyi subsp. *pollosta* (P3) is a prostrate, lignotuberous shrub (Plate 12). It produces yellow-brown flower heads from August to September and occurs on grey/yellow sand over flats and lateritic rises (DPaW 2013a). This taxon has a known geographical range of approximately 140 km with 27 WA Herb records and 17 populations. Records are known from Cooljarloo West, Lancelin, Wongan Hills and south of Coorow (DPaW 2013b), and is only known from Western Australia (CHAH 2013).

Banksia dallanneyi subsp. *pollosta* has been recorded at 75 point locations within the Study Area (Appendix H, Figure 7.4). It was recorded across VTs 1 (26 records), 5 (17 records), 17 (13 records) and 18 (18 records), which are all preferred habitat for this taxon, and was also recorded in one location which has subsequently been Cleared.



Plate 12: *Banksia dallanneyi* subsp. *pollosta* (P3) (Photo: DPaW 2013a)

Beaufortia bicolor (P3) is a dense shrub growing to 1 m high (Plate 13). It produces red, yellow and orange flowers from November to December and generally occurs on white sand over lateritic sandplains (DPaW 2013a). This taxon has a known geographical range of approximately 120 km with records near Dandaragan, Moora, Cooljarloo West, and Eneabba. It is known from 23 WA Herb records and 15 populations (DPaW 2013b), and is only known from Western Australia (CHAH 2013).

Beaufortia bicolor has been recorded at seven point locations within the Study Area (Appendix H, Figure 7.4). The preferred habitat of this taxon is VT 17 (5 records), with one record in VT 7 and another in an area which has been cleared and rehabilitated.



Plate 13: *Beaufortia bicolor* (P3) (Photo: DPaW 2013a)

Beaufortia eriocephala (P3) is an erect, compact shrub growing to 0.6 m high (Plate 14). It produces red flowers from September to November and generally occurs on sandy soils upon lateritic slopes (DPaW 2013a). This taxon has a known geographical range of approximately 195 km with records near Gingin, Dandaragan, Moora, Cooljarloo West, and Eneabba. It is known from 20 WA Herb specimens and 16 populations (DPaW 2013b), and is only known from Western Australia (CHAH 2013).

Beaufortia eriocephala has been recorded at one point location within the Study Area (Appendix H, Figure 7.4), in VT 7.



Plate 14: *Beaufortia eriocephala* (P3) (Photo: DPaW 2013a)

Beyeria cinerea subsp. *cinerea* (P3) is a prostrate, erect or spreading shrub, growing to 0.5 m in height (Plate 15) (DPaW 2013a). This taxon has range of over 1020 km occurring only in coastal areas including Mandurah, North Fremantle, Jurien Bay, Illawong, Kalbarri, south of Denham and north of Lake Macleod. *Beyeria cinerea* subsp. *cinerea* is known from 46 WA

Herb records and approximately 24 populations (DPaW 2013b), and is only known from Western Australia (CHAH 2013).

Beyeria cinerea subsp. *cinerea* has been recorded at one point location within the Study Area (Appendix H, Figure 7.4), in VT 8.



Plate 15: *Beyeria cinerea* subsp. *cinerea* (P3) (Photo: DPaW 2013a)

Boronia tenuis (P4) is a procumbent or erect slender shrub growing to 0.5 m high (Plate 16). It produces blue/pink-white flowers from August to November and occurs on lateritic stony soils and around granite (DPaW 2013a). This taxon has a known geographical range of approximately 330 km with 78 WA Herb records representing approximiately 29 populations (DEC 2013b). Records are known from Yallingup, Dunsborough, Harvey, Pinjarra, Dwellingup, North Dandalup, the Perth Region, Mundaring, Kalamunda, Bickley, Chittering, Dandaragan and Cooljarloo West, and this taxon is only known from Western Australia (CHAH 2013). *Boronia tenuis* has been recorded at three point locations within the Study Area (Appendix H, Figure 7.5), including VTs 1 and 17, and one record from within an area which has subsequently been cleared and rehabilitated.



Plate 16: *Boronia tenuis* (P4) (Photo: DEC 2013a)

Byblis gigantea (P3) is a small, branched perennial herb (or sub-shrub) growing to 0.45 m high (Plate 17). It produces pink-purple/white flowers from September to December or January and occurs on sandy-peat swamps in seasonally wet areas (DPaW 2013a). This taxon has a known geographical range of approximately 290 km with 53 WA Herb records and 23 populations (DPaW 2013b). Records are known from Cooljarloo West, the Perth Region, Boddington and the Flynn area, and is only known from Western Australia (CHAH 2013).

Byblis gigantea was recorded at Cooljarloo West by Mattiske (1996) however the genus has since been reviewed with most collections from the Cooljarloo and Cataby area being renamed as *Byblis lamellata*, a common taxon. There is only one collection at the WAHerb from Cooljarloo, with this specimen being under a Temporary Sorting Slip dated 16 October 2008 (DPaW 2013a). This location is in VT 2.



Plate 17: *Byblis gigantea* (P3) (Photo: DPaW 2013a)

Calectasia palustris (P1) is a stilt-rooted herb (undershrub) with stems to 0.7 m high (Plate 18). It produces blue flowers from July to October and occurs on white or grey sand in seasonally inundated swamplands (DPaW 2013a). It has a geographical distribution of approximately 130 km known from 13 specimens and approximately eight populations. Records are known from Cooljarloo West, Eneabba, Coorow and south-east of Dongara (DPaW 2013b), and is only known from Western Australia (CHAH 2013).

Calectasia palustris has been recorded at nine point locations within the Study Area (Appendix H, Figure 7.2), in VTs 2 and 7 (preferred habitat), with one record also from VT 5.

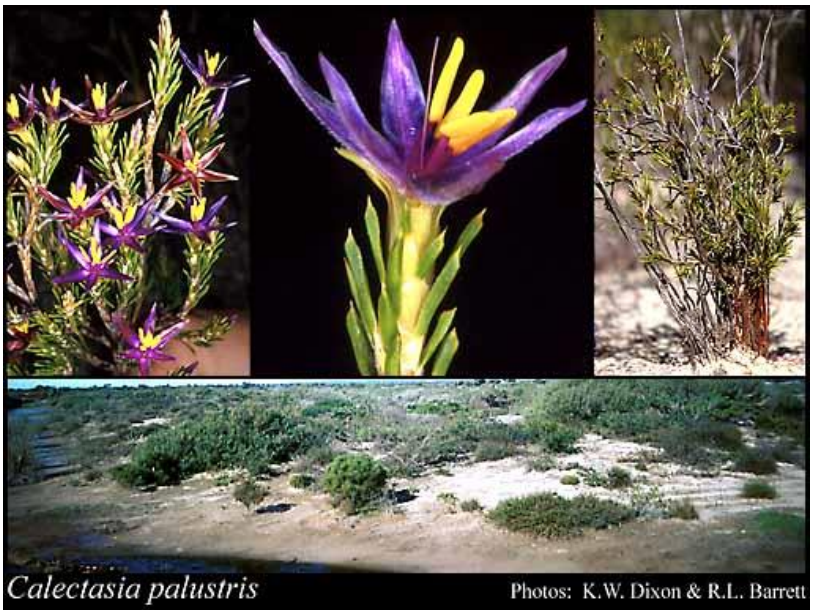


Plate 18: *Calectasia palustris* (P1) (Photo: DPaW 2013a)

Chordifex chaunocoleus (P4) is a rhizomatous, erect, perennial herb growing to 0.5 m high (Plate 19). This taxon has brown flowers which occur in September. It occurs on grey, siliceous or peaty sand in drainage lines or depressions (DPaW 2013a). It has a geographical distribution of approximately 200 km with records near Clackline, Toodyay, Cooljarloo West, west of Badgingarra and south of the Corrow - Greenhead Road. This taxon is known from 39 records and approximately 10 populations (DPaW 2013b), and is only known from Western Australia (CHAH 2013).

Chordifex chaunocoleus has been recorded at 31 point locations within the Study Area (Appendix H, Figure 7.5). The majority of locations were in VTs 5 and 2 (11 and 7 locations respectively, which form preferred habitat), with other locations in VTs 2, 6, 7, 17 and 18.



Plate 19: *Chordifex chaunocoleus* (P4) (Photo: DPaW 2013a)

Chordifex reseminans (P1) is a rhizomatous, erect, tufted, dioecious herb growing to 0.9 m high. It produces flowers from March to May and occurs in dry sandy heathlands (DPaW 2013a). It has a geographical distribution of approximately 120 km known from 10 specimens and approximately six populations. Records are known from Cooljarloo West, Eneabba, and Badgingarra (DPaW 2013b), and is only known from Western Australia (CHAH 2013).

Chordifex reseminans has been recorded at 20 point locations within the Study Area (Appendix H, Figure 7.2), across VTs 1, 2, 5, 17 and 18, the most dominant being VTs 1 and 5 (8 and 5 locations respectively); however, each of these VTs could form preferred habitat.

Conospermum scaposum (P3) is an erect shrub growing to 0.45 m in height (Plate 20). Blue flowers occur from October to December or January to February. This taxon occurs on white to grey sand and sandy clay, often found in low swampy areas (DPaW 2013a). It has a geographical range of approximately 270 km known from 39 WA Herb records and approximately 30 populations. Records are known from Toolbin, Corrigin, south of Pingelly, north of Wannamal, Cooljarloo West, Badgingarra and south of Eneabba (DPaW 2013b), and this taxon is only known from Western Australia (CHAH 2013).

This taxon has been recorded at 134 point locations within the Study Area (Appendix H, Figure 7.4), with preferred habitat including VTs 1, 17, 5 and 18 (50, 42, 22 and 14 locations respectively).

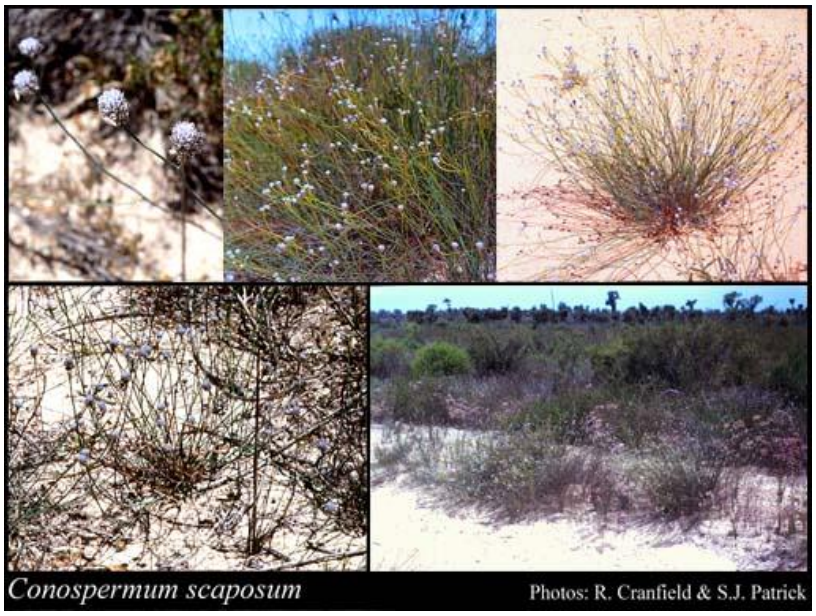


Plate 20: *Conospermum scaposum* (P3) (Photo: DPaW 2013a)

Conostephium magnum (P4) is an erect, compact, many-stemmed shrub growing to 2 m in height (Plate 21). It has pink to purple flowers which are generally present from July to September. This taxon occurs on white-grey sands and is sometimes associated with laterite gravels. It is found on sand dunes, in swampland, in disturbed roadside areas, drainage channels and in open woodland (DPaW 2013a). It has a geographical range of approximately 200 km with locations at Cooljarloo West, west of Badgingarra and south of Eneabba (DPaW 2013b). *Conostephium magnum* is known from 24 WA Herb records and 23 populations, and is only known from Western Australia (CHAH 2013).

Conostephium magnum has been recorded at 180 point locations within the Study Area (Appendix H, Figure 7.5). Preferred habitat for this taxon is VT 17, with 152 of the records from areas mapped as this VT.



Plate 21: *Conostephium magnum* (P4) (Photo: DPaW 2013a)

Desmocladus biformis (P3) is a rhizomatous, densely tufted, perennial herb (sedge-like) growing to 0.2 m high. It produces flowers from September to October and occurs on dry sand or sandy clay on laterite (DPaW 2013a). This taxon has a wide geographical range of approximately 630 km with known locations near Mt Barker, West Fitzgerald River National Park, Cooljarloo West, Badgingarra, and Eneabba. This taxon is known from 28 WA Herb records and 19 populations (DPaW 2013b), and is only known from Western Australia (CHAH 2013).

Desmocladus biformis has been recorded at one point location within the Study Area (Appendix H, Figure 7.4), in VT 17.

Diuris eburnea (P1) grows to 50 cm in height, and has one to eight pale yellow and cream flowers to 2 cm across (Hopper *et al.* 2008). It has a restricted geographical range of approximately 15 km with limited locations between Eneabba and Three Springs, growing in winter-wet areas along the banks of the Arrowsmith River (Hopper *et al.* 2008). This taxon is known from 8 WA Herb records and 5 populations (DPaW 2013b), and is only known from Western Australia (CHAH 2013).

Diuris ?*eburnea* has been recorded at one point location within the Study Area (Appendix H, Figure 7.2), in VT 10. A specimen of *Diuris* ?sp. Arrowsmith K.W. Dixon 924) was collected within the Wongonderrah Nature Reserve during surveys by Woodman Environmental (2007b), and was subsequently renamed *D. eburnea* (P1). This taxon has not been subsequently recollected for complete identification.

Eryngium pinnatifidum subsp. Palustre (G.J. Keighery 13459) (P3) is an erect perennial herb growing to 0.5 m producing blue flowers (Plate 22) (DPaW 2013a). This taxon has a geographical range of approximately 270 km with locations at Cooljarloo West, west of Badgingarra, north of Muchea and south of Perth. This taxon is known from 10 WA Herb

records and 16 populations (DPaW 2013b), and is only known from Western Australia (CHAH 2013).

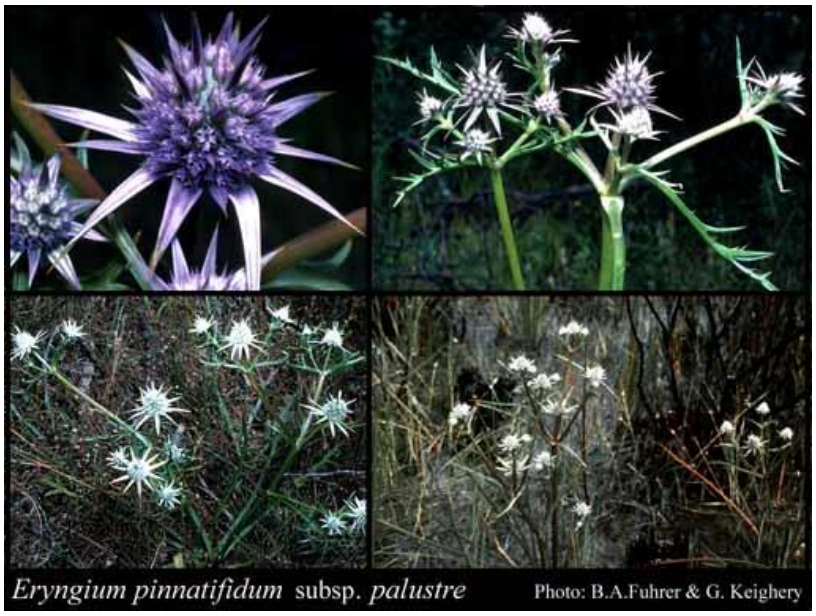


Plate 22: ***Eryngium pinnatifidum*** **subsp. Palustre (G.J. Keighery 13459) (P3) (Photo: DPaW 2013a)**

Eryngium pinnatifidum subsp. Palustre (G.J. Keighery 13459) has been recorded at six point locations within the Study Area, with preferred habitat being VT 2 (5 records) (Appendix H, Figure 7.4).

Eucalyptus macrocarpa subsp. *elachantha* (P4) is a spreading or sprawling mallee with smooth, grey over salmon pink bark and growing to 4 m high (Plate 23). It produces red-pink flowers from August to September or November to December and occurs on white or grey sand over laterite on hillslopes, ridges, or sandplains (DPaW 2013a). It has a geographical range of approximately 200 km with locations at Dongara, Eneabba, Cooljarloo West, Badgingarra and Jurien Bay. *Eucalyptus macrocarpa* subsp. *elachantha* is known from 69 WA Herb records and 54 populations (DPaW 2013b), and is only known from Western Australia (CHAH 2013).

Eucalyptus macrocarpa subsp. *elachantha* has been recorded at seven point locations within the Study Area (Appendix H, Figure 7.5). However, six of these records have come from areas which have subsequently been cleared, or cleared and rehabilitated; the remaining location is in VT 18.



Plate 23: *Eucalyptus macrocarpa* subsp. *elachantha* (P4) (Photo: CHAH 2013)

Frankenia glomerata (P3) is a prostrate shrub which produces pink-white flowers in November and occurs on white sand (DPaW 2013a). It has a wide geographical range of approximately 850 km with locations as far north as Meekatharra, south as Esperance and Norseman, east to Laverton and west to Northam and Geraldton. *Frankenia glomerata* is known from 55 WA Herb records and 22 populations (DPaW 2013b), and is only known from Western Australia (CHAH 2013).

Frankenia glomerata has been recorded at 12 point locations within the Study Area (Appendix H, Figure 7.4). The preferred habitat of this taxon is VT 2, with 10 locations.

Goodenia perryi (P3) is a herb or shrub growing to 0.3 m high. It produces blue flowers from October to November and occurs on yellow sand (DPaW 2013a). It has a geographical range of approximately 250 km with locations south of Perenjori, Yalgoo and south of Dalwallinu. *Goodenia perryi* is known from 11 WA Herb records and ten populations (DPaW 2013b), and is only known from Western Australia (CHAH 2013).

Goodenia perryi has been recorded at three point locations within the Study Area (Appendix H, Figure 7.4), in VTs 17 and 18.

Grevillea saccata (P4) (Pouched Grevillea) is a diffuse scrambling or trailing shrub growing to 0.5 m high (Plate 24). This taxon has red flowers which are present in April or from July to November. It generally occurs on yellow or brown sand, often with lateritic gravel (DPaW 2013a). *Grevillea saccata* has a geographical range of approximately 150 km, with a southern outlier extending this range to 300 km, and is known from 108 records and approximately 37 populations. Records are known from north-west of Wandering, north-west of Gingin, in the vicinity of Cooljarloo West and north of Badgingarra (DPaW 2013b). This taxon is known from three locations outside of Western Australia; as these locations occur within residential areas it is likely that these refer to individuals that have been planted in these areas.

Grevillea saccata has been recorded at four point locations within the Study Area (Appendix H, Figure 7.5), with three records from VT 18, and one in an area which has been Cleared.



Plate 24: *Grevillea saccata* (P4) (Photo: DPaW 2013a)

Grevillea thelemanniana subsp. Cooljarloo (B.J. Keighery 28 B) (P1) is an open, spreading shrub growing to 0.4 m high (Plate 25). Red flowers are present from June to November. This taxon occurs on sand and sandy clays, in low-lying areas and winter wet flats (DPaW 2013a). This taxon has a geographical distribution of 45 km occurring in the vicinity of Cooljarloo West near Woolka and Wongonderrah roads, and east of Jurien Bay. This taxon is known from just five WA Herb records and six populations (DPaW 2013b), and is not known to occur outside of Western Australia (CHAC 2013).

Grevillea thelemanniana subsp. Cooljarloo (B.J. Keighery 28 B) has been recorded at 59 point locations within the Study Area (Appendix H, Figure 7.2). The preferred habitat for this taxon is VTs 2 and 1, with 31 and 11 locations in each VT respectively. Unconfirmed recordings of this taxon were recorded at a further 11 point locations within the Study Area (Appendix H, Figure 7.2), also within VTs 2 and 1.



Plate 25: *Grevillea* ? *thelemanniana* subsp. Cooljarloo (B.J. Keighery 28 B) (P1) (Photo: Woodman Environmental)

Guichenotia alba (P3) is a slender, lax, few-branched shrub growing to 0.45 m high. This taxon has white flowers which occur from July to August. It occurs on sandy and gravelly soils, on low lying flats and depressions (DPaW 2013a). It occurs over a geographical distribution of approximately 198 km known from 37 records and approximately 27 populations. Records are known from south-east of Dandaragan, Badgingarra, the vicinity of Cooljarloo West, Jurien Bay, east of Green Head, Eneabba and south-east of Dongara (DPaW 2013b), and this taxon is known only from Western Australia (CHAH 2013).

Guichenotia alba has been recorded at three point locations within the Study Area (Appendix H, Figure 7.4), in VTs 1 and 7.

Hakea longiflora (P3) is an erect, pungent shrub growing to 0.75 m high (Plate 26). It produces yellow flowers from June to September and occurs on white sand, loam, and gravel upon lateritic breakaways (DPaW 2013a). It occurs over a geographical distribution of approximately 90 km known from 16 records and approximately 14 populations. Records are known from Dandaragan to north of Badgingarra (DPaW 2013b); this taxon is known only from Western Australia (CHAH 2013).

Hakea longiflora has been recorded at 13 point locations within the Study Area (Appendix H, Figure 7.4), with preferred habitat being VTs 18 (9 locations) and VT 1 (4 locations). Unconfirmed specimens have also been recorded within the Study Area.



Plate 26: *Hakea longiflora* (P3) (Photo: DPaW 2013a)

Haloragis foliosa (P3) is a perennial herb or shrub growing to 0.5 m high generally occurring on white/grey sand over limestone (Plate 27) (DPaW 2013a). This taxon has a geographical range of approximately 125 km with locations at Cooljarloo West, Coorow, west of Eneabba and south of Dongara. This taxon is known from nine WA Herb records and eight populations (DPaW 2013b) and does not occur outside of Western Australia (CHAH 2013).

An unconfirmed specimen of *Haloragis foliosa* has been recorded at one point location within the Study Area in VT 2 (Appendix H, Figure 7.4).



Plate 27: *Haloragis foliosa* (P3) (Photo: DPaW 2013a)

Hensmania stoniella (P3) is a short, tufted, stilt-rooted, perennial herb growing to 0.2 m high (Plate 28). It produces yellow-cream-white flowers from September to November and occurs on white or grey lateritic sand, often winter-wet (DPaW 2013a). This taxon has a geographical range of approximately 260 km with locations at Cooljarloo West, Jurien Bay, east of Lancelin, south of Coorow and south-east of Dongara. This taxon is known from 39 WA Herb records and 41 populations (DPaW 2013b), and does not occur outside of Western Australia (CHAH 2013).

Hensmania stoniella has been recorded at 79 point locations within the Study Area (Appendix H, Figure 7.4). The preferred habitat for this taxon is VT 18, with 36 records located in this VT. It has also been recorded in 37 locations which have since been cleared, or cleared and rehabilitated.



Plate 28: *Hensmania stoniella* (P3) (Photo: DPaW 2013a)

Hibbertia helianthemoides (P4) is a spreading to erect, low or prostrate shrub growing to 0.3 m high. It produces yellow flowers from July or September to October and occurs on clayey sand over sandstone or loam over quartzite on hills and scree slopes (DPaW 2013a). This taxon has a geographical range of approximately 570 km with locations as far south as Mt Barker and north to Eneabba. This taxon is known from 75 WA Herb records and 43 populations (DPaW 2013b), and does not occur outside of Western Australia (CHAH 2013).

Hibbertia helianthemoides has been recorded at two point locations within the Study Area in VTs 2 and 5 (Appendix H, Figure 7.5).

Hibbertia spicata subsp. *leptotheca* (P3) is an erect or spreading shrub growing to 0.5 m high. It has yellow flowers which are present from July to October. This taxon occurs on sand generally near-coastal limestone ridges, outcrops and cliffs (DPaW 2013a). It has a geographical range of approximately 590 km known from 64 WA Herb records and approximately 40 populations. Records for this taxon are known from around Preston Beach, around the Perth region, Seabird, Lancelin and in the vicinity of Cooljarloo West (DPaW 2013b), and it does not occur outside of Western Australia (CHAH 2013).

Hibbertia spicata subsp. *leptotheca* has been recorded at one point location within the Study Area in VT 8 (Appendix H, Figure 7.4).

Hypocalymma gardneri (P3) is a shrub growing to 0.3 m high and producing yellow flowers from August to September. It generally occurs on grey-brown sand upon lateritic sandplains, upper slopes, and heathland (DPaW 2013a). This taxon has a geographical range of approximately 125 km with locations at Cooljarloo West, Cataby, Eneabba, Jurien Bay and south-east of Dongara. This taxon is known from 17 WA Herb records and 20 populations (DPaW 2013b), and this taxon does not occur outside of Western Australia (CHAH 2013).

Hypocalymma gardneri has been recorded at two point locations within the Study Area, both within VT 17 (Appendix H, Figure 7.4).

Hypocalymma serrulatum (P3) is an erect shrub growing to 1.7 m high producing white-pink flowers from April to May. It occurs on grey or white sand along drainage lines (DPaW 2013a). This taxon has a geographical range of approximately 65 km with locations at Cooljarloo West, Cataby, Dandaragan and east of Lancelin. This taxon is known from 22 WA Herb records and 14 populations (DPaW 2013b), and does not occur outside of Western Australia (CHAH 2013).

Hypocalymma serrulatum has been recorded at two point locations within the Study Area in VTs 7 and 10 (Appendix H, Figure 7.4).

Hypocalymma sp. Cataby (G.J. Keighery 5151) (P2) is an erect, spreading shrub growing to 1 m high and 1 m wide. It produces white flowers in August and occurs on grey sand (DPaW 2013a). This taxon has a geographical range of approximately 180 km with locations in the Perth Region, Gingin, Cooljarloo West, Dandaragan and east of Lancelin. This taxon is known from 21 WA Herb records and seven populations (DPaW 2013b), and does not occur outside of Western Australia (CHAH 2013).

Hypocalymma sp. Cataby (G.J. Keighery 5151) has been recorded at one point location within the Study Area in VT 17 (Appendix H, Figure 7.3).

Hypolaena robusta (P4) is a dioecious, rhizomatous, perennial herb growing to 0.5 m high (Plate 29). It flowers from September to October and occurs on white sand on sandplains (DPaW 2013a). This taxon has a geographical range of approximately 460 km with locations near Augusta, Collie, the Perth Region, Gingin, Cooljarloo West, Dandaragan and south of Eneabba. This taxon is known from 42 WA Herb records and in excess of 30 populations (DPaW 2013b), and does not occur outside of Western Australia (CHAH 2013).

Hypolaena robusta has been historically recorded at one point location within the Study Area (Appendix H, Figure 7.5); this area has been subsequently cleared.



Plate 29: *Hypolaena robusta* (P4) (Photo: DPaW 2013a)

Isopogon panduratus subsp. *palustris* (P2) is an erect, robust, multi-stemmed shrub growing to 1.5 m in height. Pink flowers generally occur from August to November. This taxon occurs on sands and sandy soils in winter-wet areas and low-lying flats (DPaW 2013a). *Isopogon panduratus* subsp. *palustris* has a geographical range of approximately 50 km with records to the north and south of Wongonderrah Road in the vicinity of Cooljarloo West. This taxon is known from 16 WA Herb records and 11 populations (DPaW 2013b), and is only known from Western Australia (CHAH 2013).

Isopogon panduratus subsp. *palustris* was recorded at 359 point locations within the Study Area (Appendix H, Figure 7.3). The preferred habitat of this taxon is VTs 1 and 5 (195 and 87 locations respectively), with six records in areas which have since been cleared, or cleared and rehabilitated.

Jacksonia carduacea (P3) is a bushy shrub growing to 0.5 m high (Plate 30). It produces yellow and red flowers from August to December and occurs on grey sand or sandy clay (DPaW 2013a). This taxon has a geographical range of approximately 80 km with locations at Cooljarloo West, south of Eneabba and north of Moora. This taxon is known from 27 WA Herb records and 16 populations (DPaW 2013b), and does not occur outside of Western Australia (CHAH 2013).

Jacksonia carduacea has been recorded at 20 point locations within the Study Area (Appendix H, Figure 7.4). These locations were in a variety of VTs, including 1, 2, 5, 17 and

18, as well as two records in areas which have since been cleared, or cleared and rehabilitated. Unconfirmed specimens were also recorded within the Study Area.



Plate 30: *Jacksonia carduacea* (P3) (Photo: DPaW 2013a)

Lepidobolus densus (P3) is a rhizomatous, caespitose, perennial herb (sedge-like) growing to 0.4 m high (Plate 31). It occurs on yellow lateritic sands and gravel in dry heath (DPaW 2013a). It has a wide geographical range of approximately 1100 km known from 34 records and approximately 20 populations. Records are known from Dirk Hartog Island, the upper Gascoyne, Kalbarri, Cooljarloo West, Dalwallinu, Morawa, Coorow, Eneabba, and Jerramungup (DPaW 2013b), and this taxon is only known from Western Australia (CHAH 2013). *Lepidobolus densus* has been recorded at two point locations within the Study Area in VTs 1 and 18 (Appendix H, Figure 7.4).



Plate 31: *Lepidobolus densus* (P3) (Photo: DPaW 2013a)

Leucopogon sp. Yanchep (M. Hislop 1986) (P3) is an erect shrub growing to 1 m high (Plate 32). It produces white/pink flowers from April to June or September and occurs on light grey-yellow sand, brown loam, limestone, laterite or granite in coastal plains, breakaways, valley slopes, or low hills (DPaW 2013a). It has a geographical range of approximately 125 km known from 20 records and approximately 9 populations. Records are known from Cooljarloo West, Yanchep and south of Lancelin (DPaW 2013b), and this taxon is only known from Western Australia (CHAH 2013).

Leucopogon sp. Yanchep (M. Hislop 1986) was recorded at one point location within the Study Area in VT 1 (Appendix H, Figure 7.4).



Plate 32: *Leucopogon* sp. Yanchep (M. Hislop 1986) (P3) (Photo: DPaW 2013a)

Loxocarya gigas (P2) is a rhizomatous, clumped, perennial herb (sedge-like) growing to 2 m high (Plate 33). It occurs on sandy, gravelly lateritic soils on low hills and ridges upon sandplains (DPaW 2013a). It has a geographical distribution of approximately 150 km known from 39 WA Herb records and in excess of 18 populations. Records are known from Gingin, Cooljarloo West and south of Eneabba (DPaW 2013b), and this taxon is only known from Western Australia (CHAH 2013).

Loxocarya gigas was recorded at one point location within the Study Area in VT 1 (Appendix H, Figure 7.3).

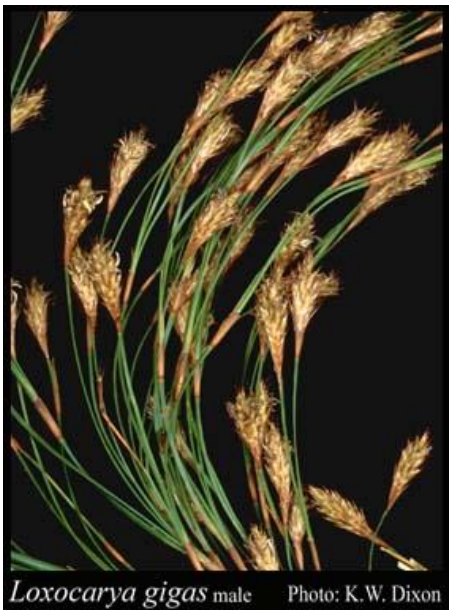


Plate 33: *Loxocarya gigas* (P2) (Photo: DPaW 2013a)

Lyginia excelsa (P1) is a dioecious rhizomatous (with rhizomes visible at soil surface) erect tufted herb to 1.5 m high flowering from March to November. This taxon occurs on sand within dry heath and *Banksia* woodland (DPaW 2013a). It has a restricted geographical distribution of approximately 30 km known from just four WA Herb records and approximately four populations (DPaW 2013b). Records are known from south of Badgingarra, Cooljarloo West and west of Cataby, and this taxon is only known from Western Australia (CHAH 2013).

Lyginia excelsa has been recorded at one point location within the Study Area in VT 1 (Appendix H, Figure 7.2).

Malleostemon sp. Cooljarloo (B. Backhouse s.n. 16/11/88) (P1) is an erect shrub growing to 0.4 m high (Plate 34). It produces pink flowers from November and occurs on sand over low-lying areas (DPaW 2013a). It has a geographical distribution of approximately 40 km known from nine WA Herb records and approximately six populations (DPaW 2013b). Records are known from Cooljarloo West and south of Cataby. This taxon is only known from Western Australia (CHAH 2013).

Malleostemon sp. Cooljarloo (B. Backhouse s.n. 16/11/88) has been recorded at three point locations within the Study Area in VTs 5 and 17 (Appendix H, Figure 7.2). Unconfirmed recordings were also taken at two point locations within the Study Area in VTs 1 and 5.



Plate 34: *Malleostemon* sp. Cooljarloo (B. Backhouse s.n. 16/11/88) (P1) (Photo: DPaW 2013a)

Meionectes tenuifolia (P3) is an annual erect or prostrate herb with alternate, sessile leaves. This taxon has a geographical distribution of approximately 515 km known from 31 WA Herb records and approximately 17 populations (DPaW 2013b). Records are known from Mt Barker, Capel, Collie, Harvey, Boddington, Bunbury, Mandurah, the Perth Region, Dandaragan, Cooljarloo West and Gingin, and this taxon is only known from Western Australia (CHAH 2013).

Meionectes tenuifolia has been recorded at one point location within the Study Area in VT 1 (Appendix H, Figure 7.4).

Onychosepalum microcarpum (P2) is a rhizomatous, tufted, perennial herb growing to 0.15 m high (Plate 35). It produces flowers from August to October and generally occurs on white or yellow sand within dry heath or low woodland (DPaW 2013a). It has a geographical distribution of approximately 85 km known from nine WA Herb records and approximately six populations (DPaW 2013b). Records are known from Cooljarloo West, Cataby, Eneabba, Badgingarra and Gingin, and this taxon is only known from Western Australia (CHAH 2013).

Onychosepalum microcarpum was recorded at eight point locations within the Study Area, with records in VT 1 (3 records), VT 5 (4 records) and VT 17 (1 record) (Appendix H, Figure 7.3).



Plate 35: *Onychosepalum microcarpum* (P2) (Photo: DPaW 2013a)

Onychosepalum nodatum (P3) is a caespitose grass-like herb, forming small, many-culmed tussocks (Plate 36). This taxon generally occurs on sand (DPaW 2013a). It has a very limited geographical range of just 40 km with all records occurring in the vicinity of Cooljarloo West. *Onychosepalum nodatum* is known from 11 WA Herb records and approximately nine populations (DPaW 2013b), and is only known from Western Australia (CHAH 2013).

Onychosepalum nodatum was recorded at 43 point locations within the Study Area, with preferred habitat including VT 5 (19 records), and to a lesser extent VT 1 (9 records) and VT 2 (5 records) (Appendix H, Figure 7.4).



Plate 36: *Onychosepalum nodatum* (P3) (Photo: Woodman Environmental)

Ornduffia submersa (P4) is an aquatic, slender, perennial herb (Plate 37) (note: this taxon was historically called *Villarsia submersa*). It produces white flowers from August to November and occurs in freshwater pools, lakes, swamps, winter-wet depressions, and claypans; 0.05-

0.6 m deep (DPaW 2013a). This taxon has a known geographical range of approximately 480 km with records as far south as Denmark, north to Perth, and west to Busselton. It is known from 80 WA Herb records (DPaW 2013b), and 50 populations, and this taxon is only known from Western Australia (CHAH 2013).

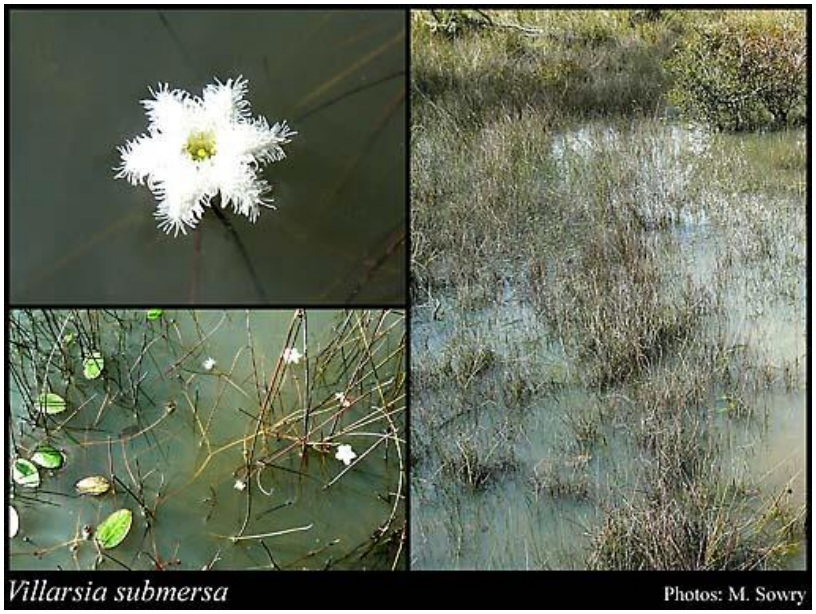


Plate 37: *Ornduffia submersa* (P3) (Photo: DPaW 2013a)

Ornduffia submersa has been recorded at one point location within the Study Area in VT 9a (Appendix H, Figure 7.5).

Persoonia rudis (P3) is an erect shrub growing to 1 m in height, with yellow flowers appearing from September through to December (sometimes January). It occurs on white, grey or yellow sands, often over laterite (DPaW 2013a). This taxon has a geographical range of approximately 300 km, from approximately 28 populations between (DPaW 2013b). This taxon is known only from Western Australia (CHAH 2013).

Persoonia rudis (P3) has been recorded at a single location in VT 17 within the Study Area (Appendix H; Figure 7.4).

Platysace ramosissima (P3) is a perennial herb growing to 0.3 m high with white-cream flowers from October to November. This taxon generally occurs on sandy soils (DPaW 2013a). It has a geographical range of approximately 400 km known from 19 records and approximately 17 populations. Records are known from the Perth area, Bunbury, Cooljarloo West, north-west of Badgingarra, and south of Eneabba (DPaW 2013b), and this taxon is only known from Western Australia (CHAH 2013).

Platysace ramosissima has been recorded at 79 point locations within the Study Area, with preferred habitat being VT 17 (33 records) (Appendix H, Figure 7.3). A total of 30 records are also located in areas which have been subsequently cleared, or cleared and rehabilitated.

There is some dispute regarding the presence of *Schoenus badius* (P2) within the Study Area. Original collections were taken by Woodman Environmental near the North Mine, however subsequent studies found that it was more likely to be *Schoenus pennisetis* (P1). However,

there is currently a specimen lodged at the Western Australian Herbarium which is under the identification of *S. badius*. This specimen was taken at one location in the Study however this area has been cleared and rehabilitated since this collection was taken.

Schoenus griffinianus (P3) is a small, tufted perennial, sedge growing to 0.1 m high flowering from September to October. This taxon occurs on white sand. It has a geographical range of approximately 340 km known from 37 records and approximately 25 populations. Records are known from the Perth area, Wongan Hills, in the vicinity of Cooljarloo West, north of Watheroo, around Eneabba and south-east of Geraldton (DPaW 2013b), and this taxon is only known from Western Australia (CHAH 2013).

Schoenus griffinianus was recorded at 47 point locations within the Study Area (Appendix H, Figure 7.4). 24 of these records are in areas which have been cleared and rehabilitated; the remaining records are concentrated mainly on VTs 17 and 18 (8 and 9 records respectively).

Schoenus natans (P4) is an aquatic, annual, grass-like herb (sedge) growing to 0.3 m high (Plate 38). It produces brown flowers in October and occurs in winter-wet depressions (DPaW 2013a). It has a geographical range of approximately 470 km known from 74 records and approximately 41 populations. Records are known from the Cooljarloo West, west of York, east of Augusta, and north of Walpole (DPaW 2013b), and taxon is only known from Western Australia (CHAH 2013).

Schoenus natans was recorded at one point location within the Study Area in VT 9a (Appendix H, Figure 7.5).



Plate 38: *Schoenus natans* (P4) (Photo: DPaW 2013a)

Schoenus pennisetis (P1) is a tufted, annual, grass-like herb (sedge) growing to 0.15 m high. It produces purple-black flowers from August to September and occurs on grey sand, peaty sand or sandy clay within swamps or winter-wet depressions (DPaW 2013a). It has a geographical range of approximately 410 km known from 46 records and approximately 30 populations. Records are known from the Perth area, Busselton, Cooljarloo West, and north of Northam (DPaW 2013b), and this taxon is only known from Western Australia (CHAH 2013).

Schoenus pennisetis was recorded at 45 point locations within the Study Area, with preferred habitat being VT 1 (16 records) and VT 5 (13 records) (Appendix H, Figure 7.2).

Stenanthemum sublineare (P2) is an erect shrub growing to 0.1 m high. It produces green flowers from October to December and generally occurs on white sand upon coastal plains (DPaW 2013a). It has a geographical range of approximately 550 km known from 16 records and approximately eight populations. Records are known from the Perth area, Bunbury, Augusta, and Albany (DPaW 2013b), and this taxon is only known from Western Australia (CHAH 2013).

Stenanthemum sublineare has been recorded at one point location within the Study Area in VT 17 (Appendix H, Figure 7.3).

Stylidium aceratum (P2) is a fibrous rooted annual herb, with spathulate leaves, growing to 0.09 m high. It produces pink/white flowers from October to November and generally occurs on sandy soils in swampy heathland (DPaW 2013a). The only other records of this taxon are known from the Muchea area, approximately 150 km to the south of Cooljarloo West (DPaW 2013b); this taxon is only known from Western Australia (CHAH 2013).

Stylidium aceratum has been recorded at three point locations, representing two populations, in the Study Area, VTs 2 and 6 (Appendix H, Figure 7.3).

Stylidium carnosum subsp. Narrow leaves (J.A. Wege 490) (P1) has a known geographical range of approximately 165 km with records near Dandaragan, Badgingarra, Eneabba and south of Dongara (DPaW 2013a; 2013b). This taxon is known from 5 WA Herb records from 7 populations (DPaW 2013b), and does not occur outside of Western Australia (CHAH 2013).

An unconfirmed specimen of *Stylidium carnosum* subsp. Narrow leaves (J.A. Wege 490) was recorded at one point location within the Study Area in VT 18 (Appendix H, Figure 7.2).

Stylidium hymenocraspedum (P2) is a rosetted perennial herb growing to 0.7 m high (Plate 39). It produces yellow flowers present from September to October. It grows on sand over laterite on hillslopes, heath and in low open woodland (DPaW 2013a). It has a relatively limited geographical range of just 110 km occurring in the vicinity of Cooljarloo West and Eneabba. This taxon is known from nine records and approximately thirteen populations (DPaW 2013b), and this not known to occur outside of Western Australia (CHAH 2013).

Stylidium hymenocraspedum has been recorded at 133 point locations within the Study Area, with preferred habitat being VTs 17 (97 records) and VT 8 (30 records) (Appendix H, Figure 7.3).



Plate 39: *Stylidium hymenocraspedum* (P2) (Photo: Woodman Environmental)

Stylidium longitubum (P3) is an erect, annual (ephemeral) herb growing to 0.12 m high (Plate 40). It produces pink flowers from October to December and generally occurs on sandy clay or clay in seasonal wetlands (DPaW 2013a). This taxon has a range of approximately 500 km known from 67 records and approximately 37 populations. Records are known from the Perth Region, Busselton, Bunbury, Arthur River, Mandurah, Beverley, Gingin, Chittering, Bolgart, south of Moora, and north of Eneabba (DPaW 2013b), and this taxon is not known to occur outside of Western Australia (CHAH 2013).

Stylidium longitubum has been recorded at four point locations within the Study Area in VTs 1, 9a and 13 (Appendix H, Figure 7.4).



Plate 40: *Stylidium longitubum* (P3) (Photo: DPaW 2013a)

Stylidium maritimum (P3) is a caespitose perennial herb growing to 0.7 m high (Plate 41). It produces white/purple flowers from September to November and occurs on sand over

limestone upon dune slopes and flats within coastal heath and open *Banksia* woodland (DPaW 2013a). This taxon has a range of approximately 375 km known from 79 WA Herb records, and in excess of 30 populations. Records are known from coastal areas as far south as Bunbury and North to Illawong (DPaW 2013b), and this taxon is not known to occur outside of Western Australia (CHAH 2013).

Stylidium maritimum was recorded at one point location within the Study Area in VT 17 (Appendix H, Figure 7.4).



Plate 41: *Stylidium maritimum* (P3) (Photo: DPaW 2013a)

Thysanotus glaucus (P4) is a caespitose, glaucose, perennial herb growing to 0.2 m high (Plate 42). This taxon produces purple flowers from October to December or January to March and occurs on white, grey or yellow sand or sandy gravel (DPaW 2013a). This taxon has a range of approximately 620 km known from 32 records and approximately 24 populations. Records are known from north of Ravensthorpe, north-east of Bremer Bay, south of Dunsborough, south of Dongara, and in the Perth Region (DPaW 2013b), and this taxon is not known to occur outside of Western Australia (CHAH 2013).

Thysanotus glaucus has been recorded at 21 point locations within the Study Area, this majority of which are from areas which have been cleared and rehabilitated (12 locations). A further 8 locations are in VT 17, with a single location in VT 18 (Appendix H, Figure 7.5).



Plate 42: *Thysanotus glaucus* (P4) (Photo: DPaW 2013a)

Verticordia amphigia (P3) is a shrub growing to 1.3 m high (Plate 43). It produces yellow flowers from October to November and occurs on sandy loam, clay and rocky loam in winter-wet depressions (DPaW 2013a). This taxon has a range of approximately 80 km known from 16 WA Herb records and approximately 10 populations. Records are known from Cooljarloo West, Badgingarra, Jurien Bay and Eneabba (DPaW 2013b). This taxon is not known to occur outside of Western Australia (CHAH 2013).

Verticordia amphigia has been was recorded at one point location within the Study Area in VT 18 (Appendix H, Figure 7.4).



Plate 43: *Verticordia amphigia* (P3) (Photo: DPaW 2013a)

Verticordia huegelii var. *tridens* (P3) is a shrub growing to 0.6 m high with green and yellow-red flowers occurring from September to November (Plate 44). It occurs on sandy or gravelly loam in winter wet areas and on low hills (DPaW 2013a). This taxon has a range of approximately 500 km known from 35 WA Herb records and approximately 30 populations.

Records are known from Albany, Mount Barker, north-east of Katanning, Narrogin, near Toodyay, Wongan Hills and Dandaragan (DPaW 2013b); this taxon is not known to occur outside of Western Australia (CHAH 2013).

Verticordia huegelii var. *tridens* has been recorded at one point location within the Study Area in VT 7 (Appendix H, Figure 7.4).



Plate 44: *Verticordia huegelii* var. *tridens* (P3) (Photo: DPaW 2013a)

Verticordia lindleyi subsp. *lindleyi* (P4) is an erect shrub growing to 0.75 m high (Plate 45). Pink flowers are present in May or from November to December/January. It occurs on sand or sandy clay in winter wet depressions (DPaw 2013a). *Verticordia lindleyi* subsp. *lindleyi* has a range of approximately 200 km with records north-east of Busselton, north-east of Beverley, Serpentine, Forrestdale, east of Perth, Gingin, in the vicinity of Cooljarloo West and Dandaragan. This taxon is known from 111 WAHerb records and approximately 61 populations (DPaW 2013b), and is not known to occur outside of Western Australia (CHAH 2013).

Verticordia lindleyi subsp. *lindleyi* has been recorded at 52 point locations within the Study Area, with preferred habitat being VTs 1 and 5 (18 locations recorded in each), with lesser numbers recorded in VTs 17 and 18 (6 locations in each) (Appendix H, Figure 7.5).



Plate 45: ***Verticordia lindleyi*** **subsp*. lindleyi*** **(P4) (Photo: DPaW 2013a)**

Appendix J: Common Taxa Where Collections/Records Represent Range Extensions to the Known Ranges of these Taxa, or Fill Distribution Gaps (DPaW 2013b)

Taxon	Description
Acacia acuaria	Range extension to the South West
Acacia cochlearis	New locality record
Acacia huegelii	Range extension to the North
Acacia lasiocarpa var. ?*bracteolata*	New locality record
Acacia spathulifolia	New locality record
Acacia truncata	Slight range extension to the East
Acacia xanthina	New locality record
Acanthocarpus canaliculatus	New locality record
Adriana quadripartita	New locality record
Agrostocrinum scabrum	Range extension to the North
Amphipogon debilis	New locality record
Andersonia lehmanniana subsp. *lehmanniana*	New locality record
Angianthus preissianus	New locality record
Angianthus pygmaeus	Range extension to the North
Angianthus tomentosus	New locality record
Anigozanthos manglesii	New locality record
Anthobolus foveolatus	Significant range extension to the South West
?*Anthosachne* sp. (possibly *scabra*)	Range extension if identification is correct
Aphelia cyperoides	New locality record
Apium annuum	New locality record
Apium prostratum var. *prostratum*	New locality record, additional location to Northern extent
Astartea scoparia	Range extension to the North
Asteridea pulverulenta	New locality record
Astroloma microcalyx	New locality record
Austrostipa tenuifolia	Significant locality hole
Banksia dallanneyi subsp. *media*	Slight range extension to the South
Banksia grandis	New locality record
Banksia ilicifolia	New locality record
Baumea articulata	New locality record
Blennospora drummondii	New locality record
Boronia subsessilis	New locality record
Brachyscome bellidioides	New locality record
Bulbine semibarbata	New locality record
Caladenia longicauda subsp.?*albella*	New locality record if identification is correct
Calandrinia granulifera	New locality record
Calectasia grandiflora	Significant range extension to the North
Calothamnus blepharospermus	Range extension to the South
Carpobrotus modestus	New locality record
Cassytha glabella forma *bicallosa*	New locality record
Cassytha glabella forma *dispar*	New locality record
Cassytha glabella forma ?*glabella*	New locality record, significant locality hole if identification correct
Cassytha nodiflora	Significant range extension to the West
Casuarina obesa	New locality record
Centrolepis pilosa	New locality record
Chamaescilla corymbosa	New locality record

Taxon	Description
Chorizandra enodis	New locality record
Comesperma integerrimum	New locality record
Comesperma virgatum	New locality record, significant locality hole
Conospermum unilaterale	New locality record
Conostylis canteriata	Significant range extension to the South
Conostylis latens	New locality record
Conostylis neocymosa	Range extension to the South West
Conostylis prolifera	New locality record
Conostylis ?*seminuda*	New locality record
Conostylis serrulata	New locality record, additional location to Northern extent
Conostylis setigera	New locality record
Corymbia calophylla	New locality record
Corynotheca micrantha var. ?*elongata*	New locality record if identification is correct
Cotula australis	New locality record
Crassula closiana	New locality record
Crassula colorata var. *colorata*	New locality record
Cristonia biloba	New locality record
Cryptandra mutila	Range extension to the East
Cryptandra scoparia	New locality record
Cycnogeton lineare	New locality record
Cyperus gymnocaulos	New locality record
Dampiera juncea	New locality record
Daviesia polyphylla	New locality record
Daviesia quadrilatera	New locality record
Desmocladus flexuosus	New locality record
Dianella revoluta var. *divaricata*	New locality record
Diplolaena obovata	New locality record
Diuris laxiflora	New locality record
Drosera closterostigma	Range extension to the North
Drosera humilis	New locality record
Drosera leucoblasta	New locality record
Drosera platystigma	Range extension to the North
Drosera stolonifera	New locality record
Eragrostis dielsii	New locality record
Eremaea beaufortioides var. *beaufortioides*	Range extension to the South
Eremaea ectadioclada	Range extension to the South
Erymophyllum tenellum	New locality record
Eryngium pinnatifidum subsp. *pinnatifidum* ms	New locality record
Eucalyptus decipiens subsp. *decipiens*	New locality record
Eucalyptus gomphocephala	New locality record
Eucalyptus incrassata	New locality record, slight range extension
Eucalyptus obtusiflora subsp. *dongarraensis*	Range extension to the South
Exocarpus aphyllus	New locality record
Ficinia nodosa	New locality record
Frankenia pauciflora	New locality record
Gahnia ?*australis*	New locality record
Gastrolobium ?*ebracteolatum*	New locality record
Gastrolobium microcarpum	Range extension to the North
Glischrocaryon angustifolium	New locality record
Gnephosis drummondii	New locality record

Taxon	Description
Gnephosis uniflora	New locality record
Gonocarpus cordiger	New locality record
Grevillea preissii subsp. *glabrilimba*	Range extension to the South
Grevillea shuttleworthiana	Range extension to the West
Gyrostemon subnudus	New locality record
Haemodorum discolor	New locality record
Haemodorum simplex	New locality record
Haemodorum sparsiflorum	New locality record, significant locality hole
Hakea obliqua	New locality record
Hakea ruscifolia	New locality record
Hakea sulcata	Range extension to the North
Hemiandra rubriflora	New locality record
Hemiphora uncinata	New locality record
Hensmania turbinata	Range extension to the North West
Hydrocotyle blepharocarpa	New locality record
Hydrocotyle callicarpa	New locality record
Hypochaeris glabra	New locality record
Isopogon panduratus subsp. *panduratus*	Slight range extension to the South
Isotoma scapigera	New locality record
Jacksonia condensata	New locality record
Jacksonia furcellata	New locality record
Jacksonia ramulosa	New locality record
Kingia australis	New locality record
Kunzea glabrescens	New locality record
Kunzea recurva	New locality record, significant locality hole
Lachnagrostis plebeia	New locality record
Lachnagrostis preissii	New locality record
Lasiopetalum sp. Watheroo (K. Shepherd & C. Wilkins KS 220)	Range extension to the South
Lawrencia spicata	New locality record
Laxmannia ramosa	New locality record
Laxmannia ramose subsp. *ramosa*	Slight range extension to the North
Laxmannia sessiliflora subsp. *drummondii*	New locality record
Lepidosperma angustatum	Range extension of Southern extent
Lepidosperma brunonianum	New locality record
Lepidosperma tenue	New locality record
Leporella fimbriata	New locality record
Leucopogon leptanthus	Extension of known distribution to the South
Leucopogon nutans	Range extension to the North West, but occurs outside of study area
Leucopogon propinquus	New locality record
Leucopogon sp. Coujinup (M.A. Burgman 1085)	New locality record
Leucopogon sp. Moore River (M. Hislop 1695)	New locality record
Leucopogon sp. Murdoch (M. Hislop 1037)	New locality record
Leucopogon sp. Yanchep (M. Hislop 1986)	Range extension to the East
Levenhookia dubia	New locality record
Levenhookia preissii	Significant range extension to the North
Lobelia heterophylla	New locality record
Lobelia ?*rarifolia*	New locality record if identification is correct
Lobelia rhytidosperma	New locality record

Taxon	Description
Lomandra caespitosa	New locality record
Lomandra hermaphrodita	New locality record
Lomandra maritima	Slight range extension to the East
Lomandra micrantha subsp. *micrantha*	New locality record
Lomandra nigricans	New locality record
Lomandra ?*sonderi*	Range extension if identification is correct
Lomandra suaveolens	New locality record, but occurs outside of study area
Lysinema ciliatum	New locality record
Macrozamia riedlei	New locality record
Marsilea costulifera	Range extension to the West
Meionectes brownii	New locality record
Melaleuca brevifolia	New locality record
Melaleuca hamulosa	New locality record
Melaleuca incana	New locality record
Melaleuca incana subsp. *incana*	New locality record
Melaleuca lateriflora	Slight range extension to the West
Melaleuca lateritia	New locality record
Melaleuca scabra	New locality record, significant locality hole
Melaleuca strobophylla	New locality record
Mesomelaena stygia	Range extension to the North West
Microtis ?*alba*	New locality record if identification is correct
Microtis orbicularis	New locality record
Monotaxis occidentalis	New locality record
Myoporum insulare	New locality record
Myriocephalus appendiculatus	New locality record
Myriocephalus helichrysoides	New locality record
Myriocephalus occidentalis	New locality record
Olearia axillaris	New locality record
Olearia sp. Kennedy Range (G. Byrne 66)	New locality record
Paracaleana nigrita	New locality record
Pelargonium littorale	New locality record
Persoonia saccata	Range extension to the North
Petrophile conifera	Range extension to the South
Petrophile drummondii	New locality record
Philotheca spicata subsp. Moore River National Park (G. & D. Woodman Op 47)	New locality record
Philydrella ?*drummondii*	Significant range extension to the North if identification is correct
Phyllangium divergens	New locality record
Pimelea suaveolens	Significant range extension to the North
Pimelea suaveolens subsp. *suaveolens*	New locality record
Plantago hispida	New locality record
Platysace haplosciadia	Range extension if identification is correct, occurs on Southern coast
Platysace sp. Eneabba (R. Hnatiuk 770001)	Slight range extension to the South, additional location to southern extent
Podolepis canescens	New locality record
Podolepis gracilis	New locality record
Polypogon tenellus	New locality record
Poranthera drummondii	New locality record
Potamogeton drummondii	New locality record
Prasophyllum gracile	New locality record

Taxon	Description
Pterostylis ?*pyramidalis*	Significant range extension to the North
Ptilotus divaricatus	New locality record, slight range extension
Ptilotus stirlingii subsp. *stirlingii*	New locality record
Pyrorchis nigricans	New locality record
Rytidosperma acerosum	New locality record
Rytidosperma occidentale	New locality record
Rytidosperma setaceum	New locality record, significant locality hole
Sarcocornia ?*blackiana*	New locality record, if identification is correct
Scaevola repens subsp. Northern Sandplains (R.J. Cranfield & P.J. Spencer 8445)	New locality record
Scaevola spinescens	Range extension to the South West
Scaevola thesioides subsp. *thesioides*	Range extension to the East
Schenkia australis	New locality record
Schoenolaena juncea	Range extension to the North
Schoenus asperocarpus	New locality record
Schoenus efoliatus	Slight range extension
Schoenus grandiflorus	Range extension to the East
Schoenus laevigatus	New locality record
Schoenus nanus	New locality record
Schoenus pedicellatus	New locality record
Schoenus sculptus	New locality record
Schoenus subflavus subsp. *subflavus*	New locality record
Schoenus variicellae	New locality record
Schoenus ?sp. smooth culms (K.R. Newbey 7823)	New locality record
Scholtzia leptantha	Range extension to the South
Senecio ?*lacustrinus*	Range extension if identification is correct
Senecio pinnatifolius var. *pinnatifolius*	New locality record
Spyridium globulosum	New locality record
Stenanthemum complicatum	Significant range extension to the South West
Stylidium ?*albolilacinum*	New locality record if identification is correct
Stylidium brunonianum	New locality record, significant locality hole
Stylidium diuroides subsp. *paucifoliatum*	New locality record
Stylidium pubigerum	Range extension to the North
Stylidium roseoalatum	New locality record
Tecticornia disarticulata	Range extension to the West
Tecticornia ?*halocnemoides*	New locality record
Tecticornia ?*halocnemoides* subsp. *halocnemoides*	Significant range extension to the North
Tetraria capillaris	New locality record
Tetraria microcarpa	New locality record
Thelymitra benthamiana	New locality record
Thryptomene baeckeacea	New locality record
Thysanotus asper	New locality record, but occurs outside of the study area
Thysanotus sparteus	New locality record
Thysanotus spiniger	New locality record
Triglochin sp. A Flora of Australia (G.J. Keighery 2477)	New locality record
Tricoryne ?*humilis*	New locality record if identification is correct
Utricularia menziesii	New locality record, significant locality hole

Taxon	Description
Wahlenbergia stricta	Range extension if identification is correct, occurs on Southern coast
Waitzia acuminate var. *albicans*	New locality record
Wilsonia backhousei	New locality record
Wilsonia humilis	New locality record
Wilsonia rotundifolia	New locality record
Wurmbea dilatata	New locality record
Wurmbea dioica	New locality record
Xylomelum angustifolium	New locality record
**Aira caryophyllea*	New locality record
**Avellinia michelii*	New locality record
**Bartsia trixago*	New locality record
**Centaurea melitensis*	New locality record
**Cerastium glomeratum*	New locality record
**Cicendia filiformis*	New locality record
**Conyza bonariensis*	New locality record
**Corrigiola littoralis*	New locality record
**Cotula bipinnata*	New locality record
**Cotula coronopifolia*	New locality record
**Crassula glomerata*	New locality record
**Crassula natans* var. *minus*	New locality record
**Cynodon dactylon*	New locality record
**Cyperus tenellus*	New locality record
**Dittrichia graveolens*	New locality record
**Echium plantagineum*	Slight range extension
**Ehrharta* ?*brevifolia*	New locality record if identification is correct
**Erodium cicutarium*	New locality record
**Gladiolus caryophyllaceus*	Range extension to the North
**Hainardia cylindrica*	New locality record
**Heliophila pusilla*	New locality record
**Hordeum hystrix*	New locality record
**Hordeum leporinum*	New locality record
**Juncus capitatus*	New locality record
**Lolium rigidum*	New locality record
**Medicago polymorpha*	New locality record
**Melilotus indicus*	New locality record
**Mercurialis annua*	Range extension to the North if identification is correct
**Monopsis debilis*	New locality record
**Oenothera stricta*	Significant range extension to the North
**Ornithopus pinnatus*	New locality record
**Ornithopus sativus*	New locality record
**Parentucellia viscosa*	New locality record, range extension of central distribution
**Pelargonium capitatum*	New locality record
**Pentameris airoides* subsp. *airoides*	New locality record
**Petrorhagia dubia*	New locality record, but occurs outside of study area
**Polycarpon tetraphyllum*	New locality record
**Romulea rosea*	New locality record
**Romulea rosea* var. *australis*	New locality record
**Rostraria cristata*	New locality record
**Rostraria pumila*	New locality record
**Silene gallica*	New locality record

Taxon	**Description**
**Silene gallica* var. *gallica*	New locality record
**Sonchus oleraceus*	New locality record
**Spergularia marina*	New locality record
**Taraxacum officinale*	Range extension to the West
**Templetonia retusa*	New locality record
**Trifolium campestre* var. *campestre*	New locality record
**Trifolium dubium*	New locality record
**Trifolium glomeratum*	New locality record
**Urospermum picroides*	New locality record
**Vellereophyton dealbatum*	New locality record
**Vulpia bromoides*	New locality record
**Wahlenbergia capensis*	New locality record

Appendix K: GPS Locations of Introduced Flora Taxa Recorded in the Cooljarloo West Study Area

Note: All GPS co-ordinates in WGS84 Zone 50

Taxon	Easting	Northing	Record Location	Abundance (% cover or plant no.'s)
Aira caryophyllea	337916	6617057		
Aira caryophyllea	338031	6601842		
Aira caryophyllea	338171	6603779		
Aira caryophyllea	338263	6615675		
Aira caryophyllea	338306	6602415		
Aira caryophyllea	340943	6600815		
Aira caryophyllea	341529	6607997		
Aira caryophyllea	342370	6611109		
Aira caryophyllea	345596	6609533		
Aira caryophyllea	345733	6609578		
Aira caryophyllea	345800	6611955		
Aira caryophyllea	345927	6611849		
Aira caryophyllea	345927	6611725	M09-C	0.1%
Aira caryophyllea	345992	6611820		
Aira caryophyllea	346616	6609935	M24-C	0.1%
Aira caryophyllea	346619	6609972		
Aira caryophyllea	346668	6610028		
Aira caryophyllea	346751	6610105		
Aira caryophyllea	350870	6608845		20
Aira caryophyllea	351811	6601643		50
Aira caryophyllea	354298	6602564		
Aira cupaniana	334416	6616470	NEW006	0.1%
Aira cupaniana	337006	6615099	NEW020	0.1%
Aira cupaniana	338268	6604121	NEW283	0.1%
Aira cupaniana	338796	6612739	NEW068	0.1%
Aira cupaniana	338929	6606965	NEW090	0.5%
Aira cupaniana	339017	6613886	NEW022	0.1%
Aira cupaniana	339031	6606831		
Aira cupaniana	340079	6605897	NEW101	0.1%
Aira cupaniana	340865	6596266	NEW181	0.1%
Aira cupaniana	340962	6609571	NEW081	0.5%
Aira cupaniana	341345	6607891	NEW290	1%
Aira cupaniana	341903	6597814	NEW179	0.1%
Aira cupaniana	342271	6607070	NEW117	0.1%
Aira cupaniana	342300	6607630	NEW278	0.5%
Aira cupaniana	342694	6607129	NEW116	0.5%
Aira cupaniana	342893	6597172	NEW211	0.5%
Aira cupaniana	343358	6608880	NEW114	0.1%
Aira cupaniana	343481	6604622		
Aira cupaniana	343618	6596552	NEW213	0.1%
Aira cupaniana	344628	6600497	NEW204	0.6%
Aira cupaniana	344948	6601690	NEW206	0.1%
Aira cupaniana	345177	6601639		
Aira cupaniana	345362	6608699	COO-01	0.1%

Taxon	Easting	Northing	Record Location	Abundance (% cover or plant no.'s)
Aira cupaniana	345510	6610442	NEW045	0.1%
Aira cupaniana	345516	6609455	NEW112	0.5%
Aira cupaniana	346354	6600380	NEW197	0.2%
Aira cupaniana	346529	6602639	NEW189	0.1%
Aira cupaniana	347041	6603933	NEW130	0.1%
Aira cupaniana	347962	6596226	NEW219	0.1%
Aira cupaniana	350218	6595145	NEW267	0.1%
Aira cupaniana	350813	6603719	NEW225	0.1%
Arctotheca calendula	337990	6618414	COOL-07	0.2%
Arctotheca calendula	337995	6604524	NEW095	0.1%
Arctotheca calendula	338288	6604231	NEW282	1%
Arctotheca calendula	340518	6607262	NEW092	0.5%
Arctotheca calendula	343197	6607102		
Arctotheca calendula	343618	6596552	NEW213	0.5%
Arctotheca calendula	344948	6601690	NEW206	0.1%
Arctotheca calendula	348285	6600245	NEW269	0.1%
Arctotheca calendula	349588	6597464	NEW259	0.1%
Arctotheca calendula	349842	6599504	NEW254	0.1%
Arctotheca calendula	350218	6595145	NEW267	0.1%
Arctotheca calendula	353192	6603931		1
Avellinia michelii	340409	6596846	NEW180	0.1%
Avellinia michelii	342893	6597172	NEW211	0.1%
Avellinia michelii	343128	6602587	NEW184	0.1%
Avena ?barbata	329975	6614427	NEW011	0.1%
Bartsia trixago	339295	6615620		
Bartsia trixago	340962	6609571	NEW081	0.1%
Bartsia trixago	345177	6601639		
Bartsia trixago	345800	6611955		
Bartsia trixago	345927	6611849		
Bartsia trixago	345927	6611725	M09-C	0.1%
Bartsia trixago	345992	6611820		
Briza maxima	334416	6616470	NEW006	0.1%
Briza maxima	338900	6612700		
Briza maxima	340250	6607335		
Briza maxima	341529	6607997		
Briza maxima	342537	6608282	NEW115	0.5%
Briza maxima	343358	6608880	NEW114	0.5%
Briza maxima	345362	6608699	COO-01	0.2%
Briza maxima	345516	6609455	NEW112	0.5%
Briza maxima	345574	6608766		
Briza maxima	345596	6609533		
Briza maxima	346619	6609972		
Briza maxima	346668	6610028		
Briza maxima	346751	6610105		
Briza maxima	349846	6595042	NEW263	0.1%
Briza maxima	350022	6594550		10
Briza maxima	350218	6595145	NEW267	20%
Briza maxima	351811	6601643		
Briza maxima	358138	6590542	ENEM-01	0.1%

Taxon	Easting	Northing	Record Location	Abundance (% cover or plant no.'s)
Briza minor	332639	6613420	NEW014	0.1%
Briza minor	334416	6616470	NEW006	0.1%
Briza minor	334652	6609540	NEW056	0.1%
Briza minor	335134	6617263	NEW007	0.1%
Briza minor	336952	6617754		
Briza minor	337990	6618414	COOL-07	0.1%
Briza minor	338288	6604231	NEW282	0.5%
Briza minor	338796	6612739	NEW068	0.2%
Briza minor	339295	6615620		
Briza minor	340943	6600815		
Briza minor	341529	6607997		
Briza minor	342300	6607630	NEW278	0.1%
Briza minor	342537	6608282	NEW115	0.5%
Briza minor	343358	6608880	NEW114	0.1%
Briza minor	343618	6596552	NEW213	0.1%
Briza minor	343960	6608665	COO-02	0.1%
Briza minor	344948	6601690	NEW206	0.1%
Briza minor	345362	6608699	COO-01	0.2%
Briza minor	345516	6609455	NEW112	0.1%
Briza minor	345574	6608766		
Briza minor	347041	6603933	NEW130	0.1%
Briza minor	350218	6595145	NEW267	5%
Bromus diandrus	329975	6614427	NEW011	0.8%
Carpobrotus edulis	334110	6609906		
Carpobrotus edulis	334136	6610831		
Carpobrotus edulis	334183	6610700		
Carpobrotus edulis	338900	6612700		
Carpobrotus edulis	339295	6615620		
Carpobrotus ?edulis	331113	6608482	SITE291	
Centaurea melitensis	343618	6596552	NEW213	0.5%
Centaurea melitensis	347962	6596226	NEW219	0.1%
Centaurium ?tenuiflorum	338024	6618418		
Centaurium ?tenuiflorum	339524	6615215		
Cerastium glomeratum	345510	6610442	NEW045	0.1%
Cerastium glomeratum	347041	6603933	NEW130	0.1%
Cerastium glomeratum	349842	6599504	NEW254	0.1%
Conyza ?bonariensis	349842	6599504	NEW254	0.1%
Conyza bonariensis	347041	6603933	NEW130	3%
Conyza bonariensis	350200	6601080		
Conyza bonariensis	350567	6599392	NEW255	0.1%
Conyza sp.	347052	6603910		
Cotula bipinnata	334257	6617228	NEW005	0.1%
Cotula bipinnata	337995	6604524	NEW095	1%
Cotula bipinnata	341765	6601059	NEW166	0.1%
Cotula bipinnata	342300	6607630	NEW278	0.5%
Cotula bipinnata	344628	6600497	NEW204	0.5%
Cotula bipinnata	346354	6600380	NEW197	0.1%
Cotula coronopifolia	336771	6617868	COOL-12	0.1%
Cotula coronopifolia	337875	6617824	COOL-10	0.2%

Taxon	Easting	Northing	Record Location	Abundance (% cover or plant no.'s)
Cotula coronopifolia	337990	6618414	COOL-07	2%
Cotula coronopifolia	338024	6618418		
Cotula coronopifolia	338067	6617781		
Cotula coronopifolia	341703	6601415		
Cotula coronopifolia	343197	6607102		
Cotula coronopifolia	344500	6600500		
Cotula coronopifolia	349398	6600152		
Cotula coronopifolia	349842	6599504	NEW254	3%
Crassula glomerata	334257	6617228	NEW005	0.1%
Crassula natans var. *minus*	334257	6617228	NEW005	0.1%
Crassula natans var. *minus*	337995	6604524	NEW095	0.5%
Crassula natans var. *minus*	338044	6604451		
Crassula natans var. *minus*	341656	6601299		
Crassula natans var. *minus*	341765	6601059	NEW166	
Cynodon dactylon	337916	6617057		
Cyperus tenellus	338013	6605409		
Cyperus tenellus	338024	6618418		
Cyperus tenellus	338044	6604451		
Cyperus tenellus	338067	6617781		
Cyperus tenellus	338412	6615660		
Cyperus tenellus	338730	6601172		
Cyperus tenellus	339165	6600077		
Cyperus tenellus	340148	6598881		
Cyperus tenellus	340156	6600485		
Cyperus tenellus	341703	6601415		
Cyperus tenellus	342217	6606862		
Cyperus tenellus	343159	6607045		
Cyperus tenellus	343197	6607102		
Cyperus tenellus	347983	6612262		
Cyperus tenellus	354298	6602564		
Dischisma arenarium	334257	6617228	NEW005	0.1%
Dischisma arenarium	338288	6604231	NEW282	0.1%
Dittrichia graveolens	339108	6606692	NEW089	0.5%
Dittrichia graveolens	342300	6607630	NEW278	0.1%
Echium plantagineum	350294	6595204		100
Ehrharta ?brevifolia	347041	6603933	NEW130	0.1%
Ehrharta calycina	350744	6600161	NEW245	0.1%
Ehrharta calycina	354436	6602570		30
Ehrharta longiflora	338796	6612739	NEW068	0.2%
Ehrharta longiflora	342146	6607071	NEW277	0.1%
Ehrharta longiflora	345510	6610442	NEW045	0.1%
Ehrharta longiflora	349842	6599504	NEW254	45%
Ehrharta longiflora	350567	6599392	NEW255	0.4%
Ehrharta longiflora	350857	6600791	NEW250	0.1%
?Ehrharta sp.	342416	6604437	NEW139	0.5%
?Ehrharta sp.	343618	6596552	NEW213	0.5%
?Ehrharta sp.	347923	6602772	NEW191	0.5%
Galium murale	343618	6596552	NEW213	0.1%
Galium murale	347041	6603933	NEW130	9%

Taxon	Easting	Northing	Record Location	Abundance (% cover or plant no.'s)
Galium murale	349842	6599504	NEW254	0.2%
Galium murale	350567	6599392	NEW255	2%
Gladiolus caryophyllaceus	345140	6607114		1
Gladiolus caryophyllaceus	348010	6596350		2
Gladiolus caryophyllaceus	350192	6595580		1
Gladiolus caryophyllaceus	350193	6595708		1
Hainardia cylindrica	334257	6617228	NEW005	0.1%
Heliophila pusilla	334416	6616470	NEW006	0.1%
Heliophila pusilla	336648	6612732	NEW063	0.1%
Heliophila pusilla	337335	6610065	NEW288	0.1%
Heliophila pusilla	338268	6604121	NEW283	0.5%
Heliophila pusilla	338288	6604231	NEW282	0.5%
Heliophila pusilla	338730	6601172		
Heliophila pusilla	340409	6596846	NEW180	0.1%
Heliophila pusilla	340865	6596266	NEW181	0.1%
Heliophila pusilla	340943	6600815		
Heliophila pusilla	341345	6607891	NEW290	0.1%
Hordeum ?leporinum	338024	6618418		
Hordeum ?leporinum	338067	6617781		
Hordeum hystrix	329934	6612966		
Hordeum hystrix	329934	6612966	NEW040	0.1%
Hordeum hystrix	337875	6617824	COOL-10	0.1%
Hordeum hystrix	337990	6618414	COOL-07	0.1%
Hordeum hystrix	342300	6607630	NEW278	0.5%
Hypochaeris glabra	331552	6611593		
Hypochaeris glabra	332639	6613420	NEW014	0.1%
Hypochaeris glabra	334052	6607739	NEW285	0.1%
Hypochaeris glabra	334416	6616470	NEW006	0.1%
Hypochaeris glabra	335134	6617263	NEW007	0.1%
Hypochaeris glabra	335791	6612188	NEW065	0.5%
Hypochaeris glabra	336194	6612301	NEW064	0.1%
Hypochaeris glabra	336648	6612732	NEW063	0.5%
Hypochaeris glabra	336977	6604159	NEW096	0.1%
Hypochaeris glabra	337006	6615099	NEW020	0.1%
Hypochaeris glabra	337335	6610065	NEW288	0.5%
Hypochaeris glabra	337875	6617824	COOL-10	0.1%
Hypochaeris glabra	337990	6618414	COOL-07	0.1%
Hypochaeris glabra	337998	6612469		
Hypochaeris glabra	338031	6601842		
Hypochaeris glabra	338171	6603779		
Hypochaeris glabra	338198	6614278	NEW021	0.1%
Hypochaeris glabra	338210	6615562		20
Hypochaeris glabra	338268	6604121	NEW283	0.1%
Hypochaeris glabra	338288	6604231	NEW282	20%
Hypochaeris glabra	338424	6615470		1
Hypochaeris glabra	338796	6612739	NEW068	0.1%
Hypochaeris glabra	338859	6603808	NEW107	0.5%
Hypochaeris glabra	338900	6612700		
Hypochaeris glabra	339017	6613886	NEW022	0.1%

Taxon	Easting	Northing	Record Location	Abundance (% cover or plant no.'s)
Hypochaeris glabra	339108	6606692	NEW089	0.1%
Hypochaeris glabra	339295	6615620		
Hypochaeris glabra	339449	6613634	NEW023	0.1%
Hypochaeris glabra	339524	6615215		
Hypochaeris glabra	339596	6600918	NEW169	0.1%
Hypochaeris glabra	339612	6603809	NEW276	0.1%
Hypochaeris glabra	339658	6603092	NEW158	0.1%
Hypochaeris glabra	339706	6605170		
Hypochaeris glabra	339739	6614145		36
Hypochaeris glabra	339803	6613340		
Hypochaeris glabra	339975	6599261	NEW173	0.1%
Hypochaeris glabra	340079	6605897	NEW101	0.5%
Hypochaeris glabra	340120	6607381		
Hypochaeris glabra	340156	6600485		
Hypochaeris glabra	340217	6605755	NEW100	0.5%
Hypochaeris glabra	340323	6602718	NEW275	0.1%
Hypochaeris glabra	340354	6600957	NEW168	0.1%
Hypochaeris glabra	340448	6607218		
Hypochaeris glabra	340451	6604063		
Hypochaeris glabra	340638	6597433	NEW176	0.1%
Hypochaeris glabra	340865	6596266	NEW181	0.1%
Hypochaeris glabra	340933	6598284	NEW177	0.1%
Hypochaeris glabra	340943	6600815		
Hypochaeris glabra	340962	6609571	NEW081	0.5%
Hypochaeris glabra	341059	6595414	NEW183	0.1%
Hypochaeris glabra	341154	6618403	COOL35	0.1%
Hypochaeris glabra	341201	6595803	NEW182	0.1%
Hypochaeris glabra	341345	6607891	NEW290	0.5%
Hypochaeris glabra	341470	6611256		
Hypochaeris glabra	341522	6601187	NEW165	0.1%
Hypochaeris glabra	341589	6614222		1
Hypochaeris glabra	341765	6601059	NEW166	0.2%
Hypochaeris glabra	341903	6597814	NEW179	0.5%
Hypochaeris glabra	342146	6607071	NEW277	2%
Hypochaeris glabra	342267	6604560		
Hypochaeris glabra	342271	6607070	NEW117	0.5%
Hypochaeris glabra	342370	6611109		
Hypochaeris glabra	342537	6608282	NEW115	3%
Hypochaeris glabra	342694	6607129	NEW116	10%
Hypochaeris glabra	342826	6608750		
Hypochaeris glabra	342893	6597172	NEW211	1%
Hypochaeris glabra	343358	6608880	NEW114	0.5%
Hypochaeris glabra	343381	6606775	NEW118	0.5%
Hypochaeris glabra	343481	6604622		
Hypochaeris glabra	343514	6611595		
Hypochaeris glabra	343618	6596552	NEW213	2%
Hypochaeris glabra	343960	6608665	COO-02	0.1%
Hypochaeris glabra	344310	6605345	NEW136	0.1%
Hypochaeris glabra	344587	6602971		

Taxon	Easting	Northing	Record Location	Abundance (% cover or plant no.'s)
Hypochaeris glabra	344628	6600497	NEW204	0.5%
Hypochaeris glabra	344948	6601690	NEW206	3%
Hypochaeris glabra	345177	6601639		
Hypochaeris glabra	345201	6602298	NEW187	0.5%
Hypochaeris glabra	345362	6608699	COO-01	0.1%
Hypochaeris glabra	345516	6609455	NEW112	1.0%
Hypochaeris glabra	345733	6609578		
Hypochaeris glabra	345800	6611955		
Hypochaeris glabra	345927	6611849		
Hypochaeris glabra	345927	6611725	M09-C	0.1%
Hypochaeris glabra	345980	6607148		
Hypochaeris glabra	345981	6603847	NEW131	0.1%
Hypochaeris glabra	345992	6611820		
Hypochaeris glabra	346188	6603189	NEW188	0.1%
Hypochaeris glabra	346203	6608881	NEW113	0.1%
Hypochaeris glabra	346354	6600380	NEW197	0.1%
Hypochaeris glabra	346454	6604842	NEW128	0.1%
Hypochaeris glabra	346529	6602639	NEW189	0.1%
Hypochaeris glabra	346578	6608728		4
Hypochaeris glabra	346950	6604022		
Hypochaeris glabra	346969	6603960	NEW190	0.1%
Hypochaeris glabra	347041	6603933	NEW130	0.1%
Hypochaeris glabra	347052	6603910		
Hypochaeris glabra	347136	6610352	M19-C	0.1%
Hypochaeris glabra	347148	6603818	NEW129	0.1%
Hypochaeris glabra	347158	6610278		
Hypochaeris glabra	347545	6603489		
Hypochaeris glabra	347923	6602772	NEW191	0.5%
Hypochaeris glabra	347962	6596226	NEW219	0.5%
Hypochaeris glabra	348285	6600245	NEW269	1%
Hypochaeris glabra	348467	6600110	NEW195	0.1%
Hypochaeris glabra	348701	6605523		1
Hypochaeris glabra	349175	6605039	NEW143	0.1%
Hypochaeris glabra	349234	6605336	NEW142	0.1%
Hypochaeris glabra	349391	6596725	NEW261	0.1%
Hypochaeris glabra	349495	6594521	NEW264	0.1%
Hypochaeris glabra	349561	6598398	NEW258	0.1%
Hypochaeris glabra	349588	6597464	NEW259	0.1%
Hypochaeris glabra	349738	6600653	NEW244	0.1%
Hypochaeris glabra	349846	6595042	NEW263	0.1%
Hypochaeris glabra	349907	6601579	NEW240	0.1%
Hypochaeris glabra	349961	6598455	NEW257	0.1%
Hypochaeris glabra	349980	6595895	NEW262	0.1%
Hypochaeris glabra	350049	6604916	NEW146	0.1%
Hypochaeris glabra	350104	6597487	NEW260	0.1%
Hypochaeris glabra	350200	6601080		
Hypochaeris glabra	350218	6595145	NEW267	0.1%
Hypochaeris glabra	350254	6599165		
Hypochaeris glabra	350257	6599723	NEW253	1%

Taxon	Easting	Northing	Record Location	Abundance (% cover or plant no.'s)
Hypochaeris glabra	350567	6599392	NEW255	4%
Hypochaeris glabra	350570	6599530	NEW252	0.1%
Hypochaeris glabra	350744	6600161	NEW245	0.1%
Hypochaeris glabra	350785	6601766	NEW238	0.1%
Hypochaeris glabra	350813	6603719	NEW225	0.5%
Hypochaeris glabra	351687	6601938	NEW230	0.1%
Hypochaeris glabra	351722	6602725	NEW226	0.1%
Hypochaeris glabra	352557	6601713	NEW229	0.1%
Hypochaeris glabra	354298	6602564		2
Isolepis marginata	337875	6617824	COOL-10	0.1%
Isolepis marginata	337995	6604524	NEW095	0.1%
Isolepis marginata	338198	6614278	NEW021	0.1%
Isolepis marginata	338796	6612739	NEW068	0.1%
Isolepis marginata	338900	6612700		
Isolepis marginata	339275	6612683		
Isolepis marginata	339739	6614145		8
Isolepis marginata	341765	6601059	NEW166	0.1%
Isolepis marginata	342300	6607630	NEW278	0.5%
Isolepis marginata	343358	6608880	NEW114	0.1%
Isolepis marginata	343618	6596552	NEW213	0.1%
Isolepis marginata	344178	6601775	NEW207	0.1%
Isolepis marginata	344500	6600500		
Isolepis marginata	347041	6603933	NEW130	1%
Isolepis marginata	349495	6594521	NEW264	0.1%
Isolepis marginata	350570	6599530	NEW252	0.1%
?Isolepis prolifera	340250	6607335		
Juncus bufonius	334257	6617228	NEW005	0.1%
Juncus capitatus	339017	6613886	NEW022	0.1%
Lolium rigidum	336194	6612301	NEW064	0.1%
Lolium rigidum	336771	6617868	COOL-12	0.1%
Lolium rigidum	337990	6618414	COOL-07	0.8%
Lolium rigidum	341765	6601059	NEW166	0.1%
Lolium rigidum	342300	6607630	NEW278	0.1%
Lolium rigidum	342537	6608282	NEW115	0.5%
Lotus angustissimus	342271	6607070	NEW117	0.5%
Lotus angustissimus	342300	6607630	NEW278	1%
Lotus angustissimus	342694	6607129	NEW116	10%
Lotus angustissimus	350218	6595145	NEW267	0.1%
Lotus subbiflorus	337990	6618414	COOL-07	8%
Lotus subbiflorus	349842	6599504	NEW254	20%
Lotus subbiflorus	350567	6599392	NEW255	0.1%
Lysimachia arvensis	329975	6614427	NEW011	0.2%
Lysimachia arvensis	330353	6612668		
Lysimachia arvensis	331134	6611714		
Lysimachia arvensis	331552	6611593		
Lysimachia arvensis	331825	6608629		
Lysimachia arvensis	332232	6613550		
Lysimachia arvensis	332259	6608285		
Lysimachia arvensis	334107	6608694		

Taxon	Easting	Northing	Record Location	Abundance (% cover or plant no.'s)
Lysimachia arvensis	334110	6609906		
Lysimachia arvensis	334416	6616470	NEW006	0.1%
Lysimachia arvensis	335134	6617263	NEW007	0.1%
Lysimachia arvensis	336284	6607270		
Lysimachia arvensis	336648	6612732	NEW063	0.1%
Lysimachia arvensis	337995	6604524	NEW095	0.6%
Lysimachia arvensis	338288	6604231	NEW282	15%
Lysimachia arvensis	338401	6604004		
Lysimachia arvensis	338900	6612700		
Lysimachia arvensis	338929	6606965	NEW090	0.5%
Lysimachia arvensis	339031	6606831		
Lysimachia arvensis	339108	6606692	NEW089	0.5%
Lysimachia arvensis	339295	6615620		
Lysimachia arvensis	339524	6615215		
Lysimachia arvensis	339739	6614145		11
Lysimachia arvensis	339803	6613340		
Lysimachia arvensis	340448	6607218		
Lysimachia arvensis	340518	6607262	NEW092	15%
Lysimachia arvensis	340962	6609571	NEW081	0.1%
Lysimachia arvensis	342146	6607071	NEW277	0.5%
Lysimachia arvensis	342271	6607070	NEW117	1%
Lysimachia arvensis	342300	6607630	NEW278	0.1%
Lysimachia arvensis	342370	6611109		
Lysimachia arvensis	342893	6597172	NEW211	0.1%
Lysimachia arvensis	343618	6596552	NEW213	1%
Lysimachia arvensis	344500	6600500		
Lysimachia arvensis	344948	6601690	NEW206	1%
Lysimachia arvensis	345177	6601639		
Lysimachia arvensis	345510	6610442	NEW045	0.1%
Lysimachia arvensis	345596	6609533		
Lysimachia arvensis	345733	6609578		
Lysimachia arvensis	345800	6611955		
Lysimachia arvensis	345927	6611849		
Lysimachia arvensis	345992	6611820		
Lysimachia arvensis	346950	6604022		
Lysimachia arvensis	347041	6603933	NEW130	2%
Lysimachia arvensis	347052	6603910		
Lysimachia arvensis	347148	6603818	NEW129	0.1%
Lysimachia arvensis	347962	6596226	NEW219	0.1%
Lysimachia arvensis	348285	6600245	NEW269	0.1%
Lysimachia arvensis	349842	6599504	NEW254	1%
Lysimachia arvensis	349846	6595042	NEW263	0.1%
Lysimachia arvensis	350218	6595145	NEW267	0.1%
?Lysimachia sp.	349842	6599504	NEW254	3%
Medicago polymorpha	338288	6604231	NEW282	0.1%
Melilotus indicus	338288	6604231	NEW282	0.5%
Mercurialis annua	339165	6600077		
Monopsis debilis	330965	6611628		
Monopsis debilis	331552	6611593		

Taxon	Easting	Northing	Record Location	Abundance (% cover or plant no.'s)
Monopsis debilis	337995	6604524	NEW095	0.1%
Monopsis debilis	338067	6617781		
Monopsis debilis	338288	6604231	NEW282	0.5%
Monopsis debilis	342300	6607630	NEW278	0.1%
Monopsis debilis	342694	6607129	NEW116	0.5%
Monopsis debilis	344500	6600500		
Monopsis debilis	349842	6599504	NEW254	0.1%
Monopsis debilis	350218	6595145	NEW267	0.1%
Moraea flaccida	338051	6607453		100
Moraea flaccida	342771	6607929		10
Oenothera stricta	337990	6618414	COOL-07	0.1%
Ornithopus compressus	345362	6608699	COO-01	0.1%
Ornithopus pinnatus	336952	6617754		
Ornithopus sativus	338796	6612739	NEW068	0.1%
Ornithopus sativus	349842	6599504	NEW254	0.1%
Ornithopus sativus	349846	6595042	NEW263	0.1%
Ornithopus sativus	350567	6599392	NEW255	0.1%
Orobanche minor	345980	6607148		
Oxalis sp.	338210	6615562		40
Parentucellia latifolia	334416	6616470	NEW006	0.1%
Parentucellia latifolia	337006	6615099	NEW020	0.1%
Parentucellia latifolia	338288	6604231	NEW282	0.5%
Parentucellia latifolia	340518	6607262	NEW092	5%
Parentucellia latifolia	342537	6608282	NEW115	0.5%
Parentucellia latifolia	342893	6597172	NEW211	0.1%
Parentucellia latifolia	343358	6608880	NEW114	0.5%
Parentucellia latifolia	345516	6609455	NEW112	0.1%
Parentucellia latifolia	350218	6595145	NEW267	0.1%
Parentucellia latifolia	350520	6602954		9
Parentucellia viscosa	337995	6604524	NEW095	0.5%
Parentucellia viscosa	338288	6604231	NEW282	0.1%
Parentucellia viscosa	339108	6606692	NEW089	0.5%
Parentucellia viscosa	342300	6607630	NEW278	0.1%
Pelargonium capitatum	331113	6608482	SITE291	0.1%
Pentameris airoides	338271	6615676	COOL-17	0.1%
Pentameris airoides	342146	6607071	NEW277	0.1%
Pentameris airoides	342537	6608282	NEW115	0.5%
Pentameris airoides	343358	6608880	NEW114	0.1%
Pentameris airoides	345516	6609455	NEW112	0.5%
Pentameris airoides	348285	6600245	NEW269	0.1%
Pentameris airoides	349495	6594521	NEW264	0.1%
Pentameris airoides subsp. *airoides*	339017	6613886	NEW022	0.1%
Polycarpon tetraphyllum	340518	6607262	NEW092	10%
Polycarpon tetraphyllum	343618	6596552	NEW213	0.1%
Polycarpon tetraphyllum	344948	6601690	NEW206	0.1%
Polypogon maritimus	338900	6612700		
Polypogon maritimus	344500	6600500		
Polypogon monspeliensis	329934	6612966	NEW040	0.1%
Polypogon monspeliensis	334257	6617228	NEW005	7%

Taxon	Easting	Northing	Record Location	Abundance (% cover or plant no.'s)
Polypogon monspeliensis	337995	6604524	NEW095	0.1%
Polypogon monspeliensis	338288	6604231	NEW282	0.5%
Polypogon monspeliensis	344628	6600497	NEW204	0.5%
Polypogon monspeliensis	346354	6600380	NEW197	0.1%
Romulea rosea	342879	6607036		
Romulea rosea	343197	6607102		
Romulea rosea var. *australis*	342300	6607630	NEW278	0.5%
Rostraria cristata	340962	6609571	NEW081	
Rumex ?crispus	349842	6599504	NEW254	0.2%
Rumex crispus	350857	6600791	NEW250	
Silene gallica	329975	6614427	NEW011	0.1%
Silene gallica	350218	6595145	NEW267	0.1%
Silene gallica var. *gallica*	341345	6607891	NEW290	0.1%
Silene gallica var. *gallica*	343358	6608880	NEW114	0.1%
Silene gallica var. *gallica*	350567	6599392	NEW255	0.1%
Solanum nigrum	340518	6607262	NEW092	0.5%
Solanum nigrum	343618	6596552	NEW213	0.1%
Solanum nigrum	347041	6603933	NEW130	0.1%
Solanum nigrum	349842	6599504	NEW254	0.1%
Sonchus oleraceus	329975	6614427	NEW011	0.5%
Sonchus oleraceus	334257	6617228	NEW005	0.1%
Sonchus oleraceus	334652	6609540	NEW056	0.1%
Sonchus oleraceus	336952	6617754		
Sonchus oleraceus	337916	6617057		
Sonchus oleraceus	337990	6618414	COOL-07	0.3%
Sonchus oleraceus	337995	6604524	NEW095	0.2%
Sonchus oleraceus	338288	6604231	NEW282	0.1%
Sonchus oleraceus	339108	6606692	NEW089	0.1%
Sonchus oleraceus	340448	6607218		
Sonchus oleraceus	340518	6607262	NEW092	0.1%
Sonchus oleraceus	340962	6609571	NEW081	
Sonchus oleraceus	341529	6607997		
Sonchus oleraceus	342271	6607070	NEW117	1%
Sonchus oleraceus	343618	6596552	NEW213	0.1%
Sonchus oleraceus	345510	6610442	NEW045	0.1%
Sonchus oleraceus	345516	6609455	NEW112	0.1%
Sonchus oleraceus	345800	6611955		
Sonchus oleraceus	345980	6607148		
Sonchus oleraceus	347962	6596226	NEW219	0.1%
Sonchus oleraceus	349846	6595042	NEW263	0.1%
Sonchus oleraceus	350567	6599392	NEW255	0.4%
Sonchus oleraceus	350857	6600791	NEW250	0.1%
Sonchus sp.	345346	6610781		1
Spergularia marina	334257	6617228	NEW005	0.1%
Taraxacum officinale	347041	6603933	NEW130	1%
Taraxacum officinale	349846	6595042	NEW263	0.1%
?Taraxacum sp.	350567	6599392	NEW255	0.3%
Trifolium arvense var. *arvense*	329975	6614427	NEW011	0.1%
Trifolium arvense var. *arvense*	341522	6601187	NEW165	0.1%

Taxon	Easting	Northing	Record Location	Abundance (% cover or plant no.'s)
Trifolium arvense var. *arvense*	341765	6601059	NEW166	0.1%
Trifolium arvense var. *arvense*	342146	6607071	NEW277	0.5%
Trifolium arvense var. *arvense*	344948	6601690	NEW206	0.1%
Trifolium campestre var. *campestre*	350567	6599392	NEW255	0.3%
Trifolium dubium	338288	6604231	NEW282	0.1%
Trifolium dubium	350218	6595145	NEW267	0.1%
Trifolium glomeratum	347041	6603933	NEW130	0.1%
Trifolium glomeratum	349842	6599504	NEW254	0.1%
Trifolium sp.	343197	6607102		
Urospermum picroides	334257	6617228	NEW005	0.1%
Ursinia anthemoides	329975	6614427	NEW011	0.8%
Ursinia anthemoides	330961	6616385	NEW001	0.2%
Ursinia anthemoides	334416	6616470	NEW006	0.1%
Ursinia anthemoides	335134	6617263	NEW007	0.1%
Ursinia anthemoides	336809	6616912		
Ursinia anthemoides	337006	6615099	NEW020	0.1%
Ursinia anthemoides	337335	6610065	NEW288	0.5%
Ursinia anthemoides	338171	6603779		
Ursinia anthemoides	338268	6604121	NEW283	0.5%
Ursinia anthemoides	338554	6601731	NEW273	0.1%
Ursinia anthemoides	338616	6601938	NEW171	0.5%
Ursinia anthemoides	338796	6612739	NEW068	0.1%
Ursinia anthemoides	338859	6603808	NEW107	0.5%
Ursinia anthemoides	338900	6612700		
Ursinia anthemoides	339524	6615215		
Ursinia anthemoides	339612	6603809	NEW276	0.1%
Ursinia anthemoides	340079	6605897	NEW101	0.1%
Ursinia anthemoides	340156	6600485		
Ursinia anthemoides	340217	6605755	NEW100	0.1%
Ursinia anthemoides	340340	6618510	COOL37	0.1%
Ursinia anthemoides	340354	6600957	NEW168	0.1%
Ursinia anthemoides	341154	6618403	COOL35	
Ursinia anthemoides	341285	6601807	NEW162	0.1%
Ursinia anthemoides	341345	6607891	NEW290	0.5%
Ursinia anthemoides	341470	6611256		
Ursinia anthemoides	341765	6601059	NEW166	0.1%
Ursinia anthemoides	341827	6609374	NEW082	0.1%
Ursinia anthemoides	342146	6607071	NEW277	1%
Ursinia anthemoides	342267	6604560		
Ursinia anthemoides	342370	6611109		
Ursinia anthemoides	342416	6604437	NEW139	0.5%
Ursinia anthemoides	342435	6602606	NEW281	0.1%
Ursinia anthemoides	342537	6608282	NEW115	0.5%
Ursinia anthemoides	342826	6608750		
Ursinia anthemoides	343050	6600117		
Ursinia anthemoides	343197	6607102		
Ursinia anthemoides	343255	6604683		
Ursinia anthemoides	343358	6608880	NEW114	0.5%
Ursinia anthemoides	343381	6606775	NEW118	0.5%

Taxon	Easting	Northing	Record Location	Abundance (% cover or plant no.'s)
Ursinia anthemoides	343481	6604622		
Ursinia anthemoides	343514	6611595		
Ursinia anthemoides	343726	6611242	NEW051	0.1%
Ursinia anthemoides	343895	6612666		
Ursinia anthemoides	343960	6608665	COO-02	0.1%
Ursinia anthemoides	344078	6612653		
Ursinia anthemoides	344292	6613230		
Ursinia anthemoides	344295	6604717	NEW135	0.1%
Ursinia anthemoides	344360	6613183		
Ursinia anthemoides	344565	6611770	M07-C	0.1%
Ursinia anthemoides	344587	6602971		
Ursinia anthemoides	344670	6612097		
Ursinia anthemoides	344733	6611787		
Ursinia anthemoides	344737	6605457		
Ursinia anthemoides	344777	6611938		
Ursinia anthemoides	344993	6614863	NEW031	0.1%
Ursinia anthemoides	345177	6601639		
Ursinia anthemoides	345346	6610781		1
Ursinia anthemoides	345516	6609455	NEW112	0.5%
Ursinia anthemoides	345574	6608766		
Ursinia anthemoides	345596	6609533		
Ursinia anthemoides	345927	6611849		
Ursinia anthemoides	345927	6611725	M09-C	0.1%
Ursinia anthemoides	345992	6611820		
Ursinia anthemoides	346138	6609336		1
Ursinia anthemoides	346454	6604842	NEW128	0.1%
Ursinia anthemoides	346578	6608728		
Ursinia anthemoides	346616	6609935	M24-C	0.1%
Ursinia anthemoides	346699	6602916		
Ursinia anthemoides	346751	6610105		
Ursinia anthemoides	347112	6610210		
Ursinia anthemoides	347136	6610352	M19-C	0.1%
Ursinia anthemoides	347158	6610278		
Ursinia anthemoides	347962	6596226	NEW219	0.1%
Ursinia anthemoides	348285	6600245	NEW269	0.1%
Ursinia anthemoides	348644	6596296	NEW220	0.1%
Ursinia anthemoides	349391	6596725	NEW261	0.1%
Ursinia anthemoides	349495	6594521	NEW264	0.1%
Ursinia anthemoides	349561	6598398	NEW258	0.1%
Ursinia anthemoides	349846	6595042	NEW263	0.1%
Ursinia anthemoides	349961	6598455	NEW257	0.1%
Ursinia anthemoides	349980	6595895	NEW262	0.1%
Ursinia anthemoides	350022	6594550		10
Ursinia anthemoides	350104	6597487	NEW260	0.1%
Ursinia anthemoides	350192	6595580		1
Ursinia anthemoides	350193	6595708		1
Ursinia anthemoides	350218	6595145	NEW267	0.1%
Ursinia anthemoides	350254	6599165		
Ursinia anthemoides	350257	6599723	NEW253	0.3%

Taxon	Easting	Northing	Record Location	Abundance (% cover or plant no.'s)
Ursinia anthemoides	350546	6601089		
Ursinia anthemoides	350547	6599750	NR-01	0.1%
Ursinia anthemoides	350567	6599392	NEW255	0.1%
Ursinia anthemoides	350570	6599530	NEW252	0.1%
Ursinia anthemoides	350744	6600161	NEW245	0.2%
Ursinia anthemoides	350813	6603719	NEW225	0.1%
Ursinia anthemoides	351811	6601643		
Ursinia anthemoides	354298	6602564		1
Ursinia anthemoides	354427	6602588		50
Ursinia anthemoides	358138	6590542	ENEM-01	0.1%
Vellereophyton dealbatum	344628	6600497	NEW204	0.1%
Vulpia ?myuros	342370	6611109		
Vulpia ?myuros	345596	6609533		
Vulpia ?myuros	345733	6609578		
Vulpia ?myuros	346950	6604022		
Vulpia bromoides	337995	6604524	NEW095	0.1%
Vulpia bromoides	338268	6604121	NEW283	0.5%
Vulpia bromoides	338288	6604231	NEW282	25%
Vulpia bromoides	344948	6601690	NEW206	0.1%
Vulpia bromoides	350218	6595145	NEW267	0.1%
Vulpia myuros	334416	6616470	NEW006	0.1%
Vulpia myuros	335134	6617263	NEW007	0.1%
Vulpia myuros	341522	6601187	NEW165	0.1%
Vulpia myuros	341765	6601059	NEW166	0.1%
Vulpia myuros	345800	6611955		
Vulpia myuros	345927	6611849		
Vulpia myuros	345927	6611725	M09-C	0.1%
Vulpia myuros	345992	6611820		
Vulpia myuros	347041	6603933	NEW130	4%
Vulpia myuros	347158	6610278		
Vulpia myuros	349234	6605336	NEW142	0.1%
Vulpia myuros	349588	6597464	NEW259	0.1%
Vulpia myuros	350049	6604916	NEW146	0.1%
Vulpia myuros	350257	6599723	NEW253	1%
Vulpia myuros	350567	6599392	NEW255	0.1%
Vulpia myuros	352557	6601713	NEW229	0.1%
Vulpia sp.	336648	6612732	NEW063	0.5%
Vulpia sp.	338210	6615562		13
Vulpia sp.	341345	6607891	NEW290	0.1%
Vulpia sp.	342146	6607071	NEW277	0.1%
Vulpia sp.	342300	6607630	NEW278	0.5%
Vulpia sp.	342537	6608282	NEW115	0.5%
Vulpia sp.	342694	6607129	NEW116	0.5%
Vulpia sp.	343358	6608880	NEW114	2%
Vulpia sp.	343719	6613447	COOL73	0.3%
Vulpia sp.	343726	6611242	NEW051	0.1%
Vulpia sp.	344628	6600497	NEW204	0.1%
Vulpia sp.	345346	6610781		10
Vulpia sp.	345510	6610442	NEW045	0.1%

Taxon	Easting	Northing	Record Location	Abundance (% cover or plant no.'s)
Vulpia sp.	345516	6609455	NEW112	1%
Vulpia sp.	350870	6608845		20
Wahlenbergia capensis	330961	6616385	NEW001	0.1%
Wahlenbergia capensis	335791	6612188	NEW065	0.1%
Wahlenbergia capensis	336977	6604159	NEW096	0.1%
Wahlenbergia capensis	337335	6610065	NEW288	0.1%
Wahlenbergia capensis	338554	6601731	NEW273	0.1%
Wahlenbergia capensis	338965	6602868	NEW159	0.1%
Wahlenbergia capensis	339589	6598850		
Wahlenbergia capensis	340079	6605897	NEW101	0.1%
Wahlenbergia capensis	340217	6605755	NEW100	0.5%
Wahlenbergia capensis	340518	6607262	NEW092	0.1%
Wahlenbergia capensis	341201	6595803	NEW182	0.1%
Wahlenbergia capensis	341345	6607891	NEW290	0.5%
Wahlenbergia capensis	342146	6607071	NEW277	0.1%
Wahlenbergia capensis	343358	6608880	NEW114	0.1%
Wahlenbergia capensis	343381	6606775	NEW118	0.1%
Wahlenbergia capensis	343726	6611242	NEW051	0.1%
Wahlenbergia capensis	343731	6609613	NEW054	0.2%
Wahlenbergia capensis	343960	6608665	COO-02	0.1%
Wahlenbergia capensis	344178	6601775	NEW207	0.1%
Wahlenbergia capensis	344513	6612016		
Wahlenbergia capensis	344645	6611848		
Wahlenbergia capensis	344670	6612097		
Wahlenbergia capensis	344777	6611938		
Wahlenbergia capensis	345980	6607148		
Wahlenbergia capensis	346203	6608881	NEW113	0.5%
Wahlenbergia capensis	347445	6607167	NEW121	0.5%
Wahlenbergia capensis	347962	6596226	NEW219	0.1%
Wahlenbergia capensis	348285	6600245	NEW269	0.1%
Wahlenbergia capensis	349391	6596725	NEW261	0.1%
Wahlenbergia capensis	349495	6594521	NEW264	0.1%
Wahlenbergia capensis	349961	6598455	NEW257	0.1%
Wahlenbergia capensis	350546	6601089		
Wahlenbergia capensis	350570	6599530	NEW252	0.1%
Wahlenbergia capensis	354298	6602564		3

Appendix L: Descriptions of Introduced Flora Taxa Recorded in the Cooljarloo West Study Area (Ranked as High or Declared Weeds)

Bromus diandrus (Great Brome) is a tufted annual grass growing to 0.7 m high (Plate 46). Purple, yellow to green and cream flowers are present from August to November. It occurs on yellow or grey to black sand, loam or red to brown clay. This species is naturalised across southern Australia due to aggressive spread and pre-adaptation to temperate Mediterranean climates. It is highly competitive for water, nutrients and space and is adapted to a range of soil types. *Bromus diandrus* is drought tolerant and produces prolific seed which are highly germinable when conditions become suitable (rainfall is the biggest determinant for germination) (DPaW 2013a).

This taxon was rated as 'High' under the Environmental Weed Strategy for Western Australia, due to its high level of invasiveness, wide current or potential distribution and high level of environmental impact to structure, composition and function of ecosystems (CALM 1999). This species was recorded at one point location in the Study Area (Figure 8).



Plate 46: *Bromus diandrus* (Great Brome) (Photo: DPaW 2013a)

Ehrharta calycina (Perennial Veldt Grass) is a caespitose perennial grass growing to 0.7 m high (Plate 47). Green and purple to red flowers are present in March to April or August to September. This species occurs on white, grey or yellow sand or loam (DPaW 2013a). *Ehrharta calycina* is a widespread weed of roadsides and bushland on sandy soils from Geraldton to Esperance. *Ehrharta calycina* is common on the Swan Coastal Plain where it is a serious bushland weed and a significant fire hazard (Hussey *et al* 2007); it is a fast growing species which is highly drought/frost resistant and is capable of invading both disturbed and undisturbed ecosystems including heathland, woodland and forest. It also represents a major threat to the conservation values of *Banksia* woodlands on sandy soils near Perth.

This species was rated as 'High' under the Environmental Weed Strategy for Western Australia, due to its high level of invasiveness, wide current or potential distribution and high level of environmental impact to structure, composition and function of ecosystems (CALM 1999). This species was recorded at two point locations in the Study Area (Figure 8).



Plate 47: *Ehrharta calycina* (Perennial Veldt Grass) (Photo: DPaW 2013a)

Pelargonium capitatum (Rose Pelargonium) is a straggling, shrubby, perennial herb growing to 1 m high (Plate 48). It produces pink-purple/white flowers from February to April or August to December and occurs on sandy soils on coastal sand dunes and limestone (DPaW 2013a). Originating from South Africa, this species is a major weed of SW Western Australian *Banksia* woodland and coastal heathland from as far north as Jurien Bay and south to Esperance. Invasion in *Banksia* woodland can be facilitated by disturbance including frequent fire. The seed is elliptically shaped, with a feathered, tail-like coiled spiral structure which allows the seed to drill and secure itself in soil if twisted by wind or affected by movement of animals (DPaW 2013a).

Pelargonium capitatum was rated as 'High' under the Environmental Weed Strategy for Western Australia, due to its high level of invasiveness, wide current or potential distribution and high level of environmental impact to structure, composition and function of ecosystems (CALM 1999). This species was recorded at one point location in the Study Area (Figure 8).

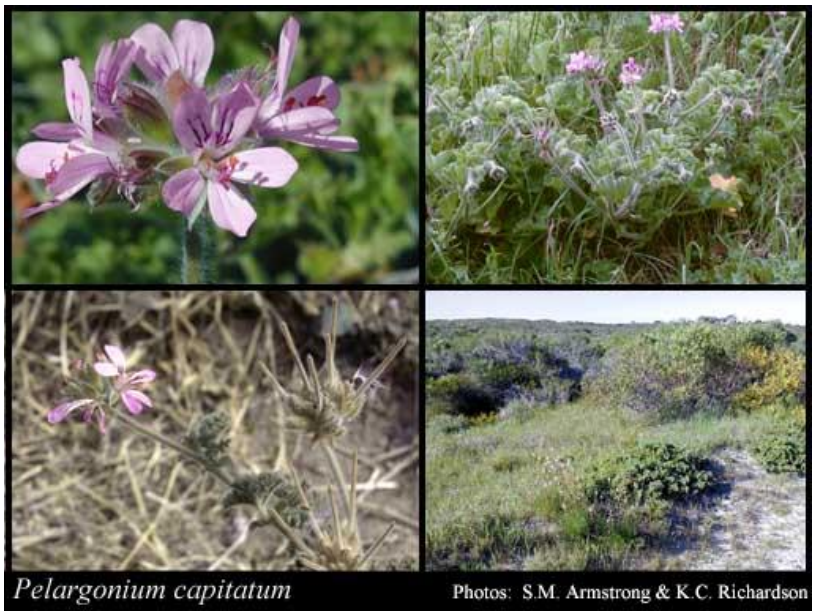


Plate 48: *Pelargonium capitatum* (Rose Pelargonium) (Photo: DPaW 2013a)

Romulea rosea var. *australis* (Guildford Grass) is a cormous, perennial herb growing to 0.4 m high (Plate 49). Blue-pink flowers are present from August to November (DPaW 2013a). Much like *R. rosea*, this Southern African originator is a common weed of lawns, pastures, roadsides and other disturbed areas. It will also readily invade most woodlands, granite rocks, limestone heath and clay wetlands throughout the South-West of Western Australia. Records of *Romulea rosea* in the Study Area are most likely to also be this subspecies, with *R. rosea* var. *communis* not known from locations near the Study Area (DPaW 2013a).

Romulea rosea var. *australis* has not yet been ranked in the Environmental Weed Strategy for Western Australia. However, *Romulea rosea* is ranked as 'High' due to its high level of invasiveness, wide current or potential distribution and high level of environmental impact to structure, composition and function of ecosystems (CALM 1999). This species was recorded at one point location in the Study Area (Figure 8).



Plate 49: *Romulea rosea* var. *australis* (Guildford Grass) (Photo: DPaW 2013a)

Appendix M: Vascular Plant Taxa Amalgamated and Omitted During Statistical Analysis

Taxon	Amalgamation/Deletion
Acacia lasiocarpa	Amalgamated
Acacia lasiocarpa var. ?*bracteolata*	
Acacia lasiocarpa var. *lasiocarpa*	
Acacia lasiocarpa var. ?*lasiocarpa*	
Acacia pulchella	Amalgamated
Acacia pulchella var. *glaberrima*	
Acacia pulchella var. ?*pulchella*	
Acacia pulchella var. *pulchella*	
Acacia pulchella var. *reflexa*	
Acacia saligna	Amalgamated
Acacia saligna subsp. *lindleyi* ms	
Acacia saligna subsp. ?*lindleyi*	
Adenanthos cygnorum	Amalgamated
Adenanthos cygnorum subsp. *cygnorum*	
Allocasuarina lehmanniana	Amalgamated
Allocasuarina lehmanniana subsp. *lehmanniana*	
Amphipogon ?*debilis*	Amalgamated
Amphipogon debilis	
Angianthus preissianus	Amalgamated
Angianthus ?*preissianus*	
Anigozanthos ?*pulcherrimus*	Amalgamated
Anigozanthos pulcherrimus	
Banksia dallanneyi	Amalgamated
Banksia dallanneyi subsp. ?*media*	
Banksia dallanneyi var. *dallanneyi*	
Banksia ?*dallanneyi* subsp. *media*	
Banksia dallanneyi var. ?*dallanneyi*	
Banksia dallanneyi subsp. *media*	
Calytrix depressa	Amalgamated
Calytrix ?*depressa*	
Calytrix ?*flavescens*	Amalgamated
Calytrix flavescens	
Calytrix fraseri	Amalgamated
Calytrix ?*fraseri*	
Calothamnus quadrifidus	Amalgamated
Calothamnus quadrifidus subsp. *angustifolius*	
Calothamnus quadrifidus subsp. *quadrifidus*	
Calandrinia ?sp. Two Rocks (K. Richardson 211)	Amalgamated
Calandrinia sp. Two Rocks (K. Richardson 211)	

Taxon	Amalgamation/Deletion
Carpobrotus modestus	Amalgamated
Carpobrotus ?*modestus*	
Cassytha aurea	Amalgamated
Cassytha ?*aurea*	
Cassytha aurea var. *hirta*	
Cassytha flava	Amalgamated
Cassytha ?*flava*	
Cassytha glabella	Amalgamated
Cassytha glabella forma *bicallosa*	
Cassytha glabella forma ?*bicallosa*	
Cassytha glabella forma *dispar*	
Cassytha glabella forma ?*glabella*	
Cassytha racemosa	Amalgamated
Cassytha ?*racemosa*	
Cassytha racemosa forma *racemosa*	
Chordifex ?*sinuosus*	Amalgamated
Chordifex sinuosus	
Comesperma calymega	Amalgamated
Comesperma ?*calymega*	
Comesperma ?*integerrimum*	Amalgamated
Comesperma integerrimum	
Conostylis ?*aculeata*	Amalgamated
Conostylis aculeata	
Conostylis aculeata subsp. *breviflora*	
Conostylis aculeata subsp. *spinuligera*	
Conostylis aurea	Amalgamated
Conostylis ?*aurea*	
**Conyza* ?*bonariensis*	Amalgamated
**Conyza bonariensis*	
Conostylis candicans	Amalgamated
Conostylis candicans subsp. *calcicola*	
Conostylis ?*crassinervia*	Amalgamated
Conostylis crassinervia subsp. *absens*	
Conostylis crassinervia subsp. ?*absens*	
Conostylis crassinervia subsp. *crassinervia*	
Conostylis ?*festucacea* subsp. *festucacea*	Amalgamated
Conostylis festucacea subsp. *festucacea*	
Conostephium ?*pendulum*	Amalgamated
Conostephium pendulum	
Conospermum stoechadis	Amalgamated
Conospermum stoechadis subsp. *sclerophyllum*	

Taxon	Amalgamation/Deletion
Conospermum stoechadis subsp. *stoechadis*	
Conospermum ?*stoechadis* subsp. *stoechadis*	
Corynotheca micrantha	Amalgamated
Corynotheca micrantha var. ?*elongata*	
Corynotheca micrantha var. *micrantha*	
Crassula colorata var. *acuminata*	Amalgamated
Crassula ?*colorata* var. *acuminata*	
Crassula ?*colorata* var. *colorata*	
Cryptandra ?*myriantha*	Amalgamated
Cryptandra myriantha	
Cyathochaeta avenacea	Amalgamated
Cyathochaeta ?*avenacea*	
Daviesia decurrens	Amalgamated
Daviesia decurrens subsp. *decurrens* ms	
Daviesia divaricata	Amalgamated
Daviesia divaricata subsp. *divaricata* ms	
Daviesia incrassata	Amalgamated
Daviesia incrassata subsp. *incrassata*	
Desmocladus ?*flexuosus*	Amalgamated
Desmocladus flexuosus	
Desmocladus lateriticus	Amalgamated
Desmocladus ?*lateriticus*	
Dianella revoluta	Amalgamated
Dianella revoluta var. *divaricata*	
Eremaea asterocarpa	Amalgamated
Eremaea asterocarpa subsp. *asterocarpa*	
Eremaea ?*asterocarpa* subsp. *asterocarpa*	
Eremaea beaufortioides	Amalgamated
Eremaea beaufortioides var. *beaufortioides*	
Eremaea pauciflora	Amalgamated
Eremaea ?*pauciflora*	
Eremaea pauciflora var. *lonchophylla*	
Eremaea pauciflora var. ?*lonchophylla*	
Gompholobium ?*knightianum*	Amalgamated
Gompholobium knightianum	
Gonocarpus ?*pithyoides*	Amalgamated
Gonocarpus pithyoides	
Goodenia ?*coerulea*	Amalgamated
Goodenia coerulea	
Goodenia pulchella subsp. Coastal Plain A (M. Hislop 634)	Amalgamated

Taxon	**Amalgamation/Deletion**
Goodenia ?*pulchella* subsp. Coastal Plain A (M. Hislop 634)	
Grevillea preissii subsp. *glabrilimba*	Amalgamated based on habitat
Grevillea preissii subsp. *preissii*	
Grevillea thelemanniana subsp. Cooljarloo (B.J. Keighery 28 B)	
Grevillea ?*thelemanniana* subsp. Cooljarloo (B.J. Keighery 28 B)	
Haemodorum spicatum	Amalgamated
Haemodorum ?*spicatum*	
Hemiandra ?*glabra*	Amalgamated
Hemiandra glabra subsp. *glabra* ms	
Hemiandra ?*linearis*	Amalgamated
Hemiandra linearis	
Hibbertia ?*crassifolia*	Amalgamated
Hibbertia aff.*crassifolia*	
Hibbertia crassifolia	
Hibbertia ?sp. Gnangara (J.R. Wheeler 2329)	Amalgamated
Hibbertia sp. Gnangara (J.R. Wheeler 2329)	
Hibbertia ?*spicata*	Amalgamated, occupy similar habitat
Hibbertia spicata subsp. *leptotheca*	
Hibbertia spicata subsp. *spicata*	
Hypocalymma sp. Nambung (R. Spjut & R. Smith s.n. 22/09/1992)	Amalgamated
Hypocalymma ?sp. Nambung (R. Spjut & R. Smith s.n. 22/09/1992)	
Isotropis cuneifolia	Amalgamated
Isotropis cuneifolia subsp. *cuneifolia*	
Isotoma hypocrateriformis	Amalgamated
Isotoma hypocrateriformis var. *trichogramma* ms	
Johnsonia pubescens	Amalgamated
Johnsonia pubescens subsp. *pubescens*	
Kunzea micrantha	Amalgamated
Kunzea micrantha subsp. *petiolata*	
Kunzea ?*micrantha* subsp. *petiolata*	
Lambertia multiflora	Amalgamated
Lambertia multiflora var. *multiflora*	
Laxmannia sessiliflora	Amalgamated
Laxmannia ?*sessiliflora* subsp. *australis*	
Laxmannia sessiliflora subsp. ?*australis*	
Lepidosperma ?*longitudinale*	Amalgamated
Lepidosperma longitudinale	
Lepidobolus preissianus	Amalgamated

Taxon	**Amalgamation/Deletion**
Lepidobolus preissianus subsp. *preissianus*	
Lepidosperma pubisquameum	Amalgamated
Lepidosperma ?pubisquameum	
Leucopogon conostephioides	Amalgamated
Leucopogon conostephioides sens. lat.	
Leucopogon oldfieldii	Amalgamated
Leucopogon ?oldfieldii	
Leucopogon sprengelioides	Amalgamated
Leucopogon ?sprengelioides	
Lomandra ?hermaphrodita	Amalgamated
Lomandra hermaphrodita	
Lomandra ?micrantha	Amalgamated
Lomandra ?micrantha subsp. *micrantha*	
Lomandra micrantha subsp. *micrantha*	
Meeboldina ?coangustata	Amalgamated
Meeboldina coangustata	
Melaleuca ?acutifolia	Amalgamated
Melaleuca acutifolia	
Melaleuca clavifolia	Amalgamated
Melaleuca ?clavifolia	
Melaleuca ?lateritia	Amalgamated
Melaleuca lateritia	
Melaleuca rhaphiophylla	Amalgamated
Melaleuca ?rhaphiophylla	
Melaleuca ?systena	Amalgamated
Melaleuca systena	
Melaleuca viminea	Amalgamated
Melaleuca viminea subsp. *viminea*	
Opercularia vaginata	Amalgamated
Opercularia ?vaginata	
Patersonia occidentalis	Amalgamated
Patersonia occidentalis var. *occidentalis*	
Patersonia occidentalis var. ?*occidentalis*	
**Pentameris airoides*	Amalgamated
**Pentameris airoides* subsp. *airoides*	
Pericalymma ellipticum	Amalgamated
Pericalymma ellipticum var. ?*ellipticum*	
Pericalymma ellipticum var. *ellipticum*	
Petrophile seminuda	Amalgamated
Petrophile ?seminuda	
Pimelea imbricata var. *piligera*	Amalgamated

Taxon	Amalgamation/Deletion
Pimelea imbricata var. ?*piligera*	
Pimelea sulphurea	Amalgamated
Pimelea ?*sulphurea*	
Platysace juncea	Amalgamated
Platysace juncea sens. lat.	
Poranthera microphylla	Amalgamated
Poranthera ?*microphylla*	
Rhagodia baccata	Amalgamated
Rhagodia baccata subsp. *baccata*	
**Rumex* ?*crispus*	Amalgamated
**Rumex crispus*	
Rytidosperma ?*occidentale*	Amalgamated
Rytidosperma occidentale	
Scaevola anchusifolia	Amalgamated
Scaevola ?*anchusifolia*	
Scaevola ?*lanceolata*	Amalgamated
Scaevola lanceolata	
Scaevola repens	Amalgamated, occupy similar habitat
Scaevola repens subsp. Northern Sandplains (R.J. Cranfield & P.J. Spencer 8445)	
Scaevola repens var. *repens*	
Schoenus brevisetis	Amalgamated
Schoenus ?*brevisetis*	
Schoenus ?*caespititius*	Amalgamated
Schoenus aff.*caespititius*	
Schoenus caespititius	
Scholtzia laxiflora	Amalgamated
Scholtzia ?*laxiflora*	
Schoenus ?*pedicellatus*	Amalgamated
Schoenus pedicellatus	
Schoenus rigens	Amalgamated
Schoenus ?*rigens*	
Schoenus ?*subfascicularis*	Amalgamated
Schoenus subfascicularis	
Schoenus ?*unispiculatus*	Amalgamated
Schoenus unispiculatus	
Senecio pinnatifolius	Amalgamated
Senecio pinnatifolius var. *latilobus*	
**Silene gallica*	Amalgamated
**Silene gallica* var. *gallica*	
Siloxerus humifusus	Amalgamated

Taxon	**Amalgamation/Deletion**
Siloxerus ?*humifusus*	
Stackhousia ?*monogyna*	Amalgamated
Stackhousia monogyna	
Stenanthemum notiale	Amalgamated
Stenanthemum notiale subsp. *chamelum*	
Stenanthemum notiale subsp. *notiale*	
Stirlingia abrotanoides	Amalgamated
Stirlingia ?*abrotanoides*	
Stylidium dichotomum	Amalgamated
Stylidium aff.*dichotomum*	
Stylidium diuroides	Amalgamated
Stylidium diuroides subsp. *diuroides*	
Stylidium diuroides subsp. *paucifoliatum*	
Synaphea spinulosa	Amalgamated
Synaphea spinulosa subsp. *spinulosa*	
Thysanotus arbuscula	Amalgamated
Thysanotus ?*arbuscula*	
Thysanotus manglesianus	Amalgamated
Thysanotus ?*manglesianus*	
Thysanotus ?*sparteus*	Amalgamated
Thysanotus sparteus	
Thysanotus ?*thyrsoideus*	Amalgamated
Thysanotus thyrsoideus	
Verticordia densiflora	Amalgamated
Verticordia densiflora var. *cespitosa*	
Verticordia densiflora var. *densiflora*	
Verticordia lindleyi subsp. *lindleyi*	Amalgamated
Verticordia ?*lindleyi* subsp. *lindleyi*	
Acacia sp.	Deleted – insufficient material for identification
?Adriana sp.	Deleted – insufficient material for identification
?Amphipogon sp.	Deleted – insufficient material for identification
Amphipogon sp.	
?Anigozanthos sp.	Deleted – insufficient material for identification
Anigozanthos sp.	
?Anthosache sp.	Deleted – insufficient material for identification
?Arnocrinum sp.	Deleted – insufficient material for identification
Asparagaceae sp.	Deleted – insufficient material for identification
?Asteraceae sp.	Deleted – insufficient material for identification
Asteraceae sp.	
Austrostipa sp.	Deleted – insufficient material for identification
?Baeckea sp.	Deleted – insufficient material for identification

Taxon	**Amalgamation/Deletion**
?Billardiera sp.	Deleted – insufficient material for identification
Brachyscome sp.	Deleted – insufficient material for identification
?Burchardia sp.	Deleted – insufficient material for identification
Burchardia sp.	
Caladenia flava	Deleted – ephemeral
Caladenia flava subsp. *flava*	
Caladenia ?flava subsp. *flava*	
Caladenia ?longicauda	Deleted – ephemeral
Caladenia longicauda	
Cassytha sp.	Deleted – insufficient material for identification
Chamaescilla corymbosa	Deleted – ephemeral
?Chordifex sp.	Deleted – insufficient material for identification
Comesperma sp.	Deleted – insufficient material for identification
?Comesperma sp.	
Conospermum sp.	Deleted – insufficient material for identification
Conostylis sp.	Deleted – insufficient material for identification
Cotula sp.	Deleted – insufficient material for identification
Crassula sp.	Deleted – insufficient material for identification
Diuris ?eburnea	Deleted – ephemeral
Diuris laxiflora	Deleted – ephemeral
Drosera closterostigma	Deleted – ephemeral
Drosera ?closterostigma	
Drosera eneabba	Deleted – ephemeral
Drosera ?eneabba	
Drosera erythrorhiza	Deleted – ephemeral
Drosera erythrorhiza subsp. *magna*	
Drosera erythrorhiza subsp. *?magna*	
Drosera gigantea	Deleted – ephemeral
Drosera gigantea subsp. gigantea	
Drosera glanduligera	Deleted – ephemeral
Drosera heterophylla	Deleted – ephemeral
Drosera humilis	Deleted – ephemeral
Drosera macrantha subsp. *macrantha*	Deleted – ephemeral
Drosera menziesii	Deleted – ephemeral
Drosera ?menziesii	
Drosera menziesii subsp. *menziesii*	
Drosera menziesii subsp. *penicillaris*	
Drosera pallida	Deleted – ephemeral
Drosera parvula	Deleted – ephemeral
Drosera sp.	Deleted – ephemeral
Drosera sp. (button)	Deleted – ephemeral

Taxon	Amalgamation/Deletion
Drosera sp. climbing	Deleted – ephemeral
Drosera spilos	Deleted – ephemeral
Drosera stolonifera	Deleted – ephemeral
**?Ehrharta* sp.	Deleted – insufficient material for identification
Elythranthera brunonis	Deleted – ephemeral
Eremaea sp.	Deleted – insufficient material for identification
Erodium sp.	Deleted – insufficient material for identification
Eryngium pinnatifidum subsp. Palustre (G.J. Keighery 13459)	Deleted – ephemeral
Eryngium pinnatifidum subsp. *pinnatifidum*	Deleted – ephemeral
?Gonocarpus sp.	Deleted – insufficient material for identification
?Goodenia coerulea	Deleted – insufficient material for identification
Goodenia sp.	Deleted – insufficient material for identification
Goodeniaceae sp.	Deleted – insufficient material for identification
?Grevillea sp.	Deleted – insufficient material for identification
Haemodorum sp.	Deleted – insufficient material for identification
Hibbertia sp.	Deleted – insufficient material for identification
Indet. sp.	Deleted – insufficient material for identification
Jacksonia sp.	Deleted – insufficient material for identification
Kunzea sp.	Deleted – insufficient material for identification
?Lasiopetalum lineare	Deleted – insufficient material for identification
Lechenaultia sp.	Deleted – insufficient material for identification
?Lepidosperma pubisquameum	Deleted – insufficient material for identification
?Lepidosperma sp.	Deleted – insufficient material for identification
Lepidosperma sp.	
Leporella fimbriata	Deleted – ephemeral
Leucopogon sp.	Deleted – insufficient material for identification
?Lobelia sp.	Deleted – insufficient material for identification
?Lomandra sp.	Deleted – insufficient material for identification
Lomandra sp.	
?Lysimachia sp.	Deleted – insufficient material for identification
?Malleostemon sp. Cooljarloo (B. Backhouse s.n. 16/11/88)	Deleted – insufficient material for identification
Melaleuca sp.	Deleted – insufficient material for identification
Microtis media subsp. *media*	Deleted – ephemeral
Microtis orbicularis	Deleted – ephemeral
?Microtis sp.	Deleted – ephemeral, insufficient material for id
?Myoporum sp.	Deleted – insufficient material for identification
Myrtaceae sp.	Deleted – insufficient material for identification
Orchidaceae sp.	Deleted – insufficient material for identification
Paracaleana nigrita	Deleted – ephemeral
?Patersonia sp.	Deleted – insufficient material for identification

Taxon	**Amalgamation/Deletion**
?Phlebocarya sp.	Deleted – insufficient material for identification
?Pileanthus sp.	Deleted – insufficient material for identification
Pimelea sp.	Deleted – insufficient material for identification
?Platysace sp.	Deleted – insufficient material for identification
Poaceae sp.	Deleted – insufficient material for identification
Proteaceae sp.	Deleted – insufficient material for identification
Pterostylis ?pyramidalis	Deleted – ephemeral
Pterostylis ?vittata	Deleted – ephemeral
Pterostylis vittata	
Pyrorchis nigricans	Deleted – ephemeral
Restionaceae sp.	Deleted – insufficient material for identification
?Rytidosperma sp.	Deleted – insufficient material for identification
Rytidosperma sp.	
?Scaevola sp.	Deleted – insufficient material for identification
?Schoenolaena juncea	Deleted – insufficient material for identification
Schoenus sp.	Deleted – insufficient material for identification
?*Schoenus* sp.	Deleted – insufficient material for identification
?Scholtzia sp.	Deleted – insufficient material for identification
Scholtzia sp.	Deleted – insufficient material for identification
Stylidium sp.	Deleted – insufficient material for identification
**?Taraxacum* sp.	Deleted – insufficient material for identification
?Tetraria octandra	Deleted – insufficient material for identification
Thelymitra benthamiana	Deleted – ephemeral
Thelymitra campanulata	Deleted – ephemeral
?Thysanotus multiflorus	Deleted – insufficient material for identification
?Thysanotus sp.	Deleted – insufficient material for identification
Thysanotus sp.	
?Tricoryne sp.	Deleted – insufficient material for identification
Trifolium sp.	Deleted – insufficient material for identification
Unidentified sp. 1	Deleted – insufficient material for identification
*Vulpia sp.	Deleted – insufficient material for identification
Wurmbea dioica	Deleted – ephemeral
Wurmbea sp.	Deleted – insufficient material for identification, ephemeral

Appendix N: Quadrats Moved Within the Analysis Output

Quadrat	Vegetation Type Moved From/To	Reasoning
COO-01	1 to 2	Quadrat is in an ecotone
COOL-22	2 to 1	Quadrat is in an ecotone and burnt, on the edge of 2
COOL-23	2 to 1	Quadrat is burnt and is an ecotone/mosaic of 2 and 1
COOL-27	5 to 2	Quadrat is in an ecotone
COOL29	1 to 2	Quadrat is in an ecotone
COOL37	6 to 18	Quadrat is in an ecotone
COOL38	10 to 6	Contains indicator species of VT10 but lacks *Melaleuca preissiana*. Is wet woodland heath more closely associated with VT6; Quadrat is in an ecotone between these two vegetation types
COOL40	3 to 1	Quadrat is burnt and in a slight ecotone
COOL41	4 to 2	Quadrat was in original group 4, redistributed to VT2 based on the presence of *Melaleuca viminea*, *Banksia telmatiaea* and *Frankenia pauciflora*. Slight ecotone
COOL58	3 to 1	Quadrat is species poor and possibly responding to historical fire regime
COOL59	2 to 1	Quadrat is in an ecotone, predominantly 1, edge of 2
COOL60	4 to 2	Quadrat was in original group 4, redistributed to VT2 based on the presence of *Melaleuca viminea*, *M. rhaphiophylla* and *Banksia telmatiaea*. Quadrat on the edge of VT1 and VT2. Possibly fairly recently burnt at time of survey.
COOL67	3 to 1	Quadrat is burnt and is an ecotone
COOL68	3 to 1	Quadrat is burnt and in a slight ecotone
COOL71	4 to 1	Quadrat was in original group 4, redistributed to VT1 based on the presence of *Banksia telmatiaea* and other wet heath species. Ecotone
M24-C	4 to 2	Quadrat was in original group 4, redistributed to VT2 based on the presence of *Melaleuca viminea*, *M. acutifolia* and *M. rhaphiophylla*. Possible ecotone
MULL-01	6 to 5	Quadrat is in an ecotone/edge
MULL-03	6 to 5	Quadrat is in an ecotone
NEW004	6 to 5	Quadrat is in an ecotone
NEW011	14 to 17	Quadrat is disturbed and species poor
NEW014	11 to 10	Quadrat is burnt, possibly a small area with *Banksia littoralis* absent
NEW016	6 to 5	Quadrat is in an ecotone/edge
NEW022	14 to 2	Quadrat is species poor
NEW023	3 to 2	Quadrat is species poor and is an ecotone
NEW045	15 to 9b	Was in original group 15 which was redistributed to VT9b. Quadrat is in an ecotone with 1 and 2
NEW050	4 to 2	Quadrat was in original group 4, redistributed to VT2 based on the presence of *Melaleuca* ?*acutifolia*. Quadrat is in an ecotone with VT1
NEW068	14 to 2	Quadrat is in an ecotone
NEW071	6 to 5	Quadrat is in an ecotone

Quadrat	Vegetation Type Moved From/To	Reasoning
NEW074	6 to 1	Quadrat is in an ecotone
NEW081	4 to 1	Quadrat was in original group 4, redistributed to VT1 based on the presence of *Banksia telmatiaea* and *Melaleuca* species. Quadrat minor expression of limestone. Ecotone
NEW082	6 to 5	Quadrat is in an ecotone
NEW089	17 to 16	Original group 17 and 18 combined to form new group 16. Quadrat is a non-saline claypan
NEW091	6 to 1	Quadrat is on community edge
NEW092	15 to 9b	Was in original group 15 which was redistributed to VT9b. Quadrat is degraded and on edge of community
NEW095	14 to 13	Quadrat is a saline claypan that is species poor
NEW105	6 to 5	Quadrat is in an ecotone
NEW107	6 to 5	Quadrat is in an ecotone
NEW108	11 to 1	Quadrat is species poor
NEW111	6 to 5	Quadrat is in an ecotone
NEW112	11 to 9a	Quadrat is in a disturbed ecotone with *Melaleuca rhaphiophylla*
NEW123	6 to 5	Quadrat is in an ecotone and dry
NEW128	1 to 2	Quadrat is in an ecotone
NEW129	15 to 1	Was in original group 15 which was redistributed to VT1 due to the presence of *Banksia telmatiaea*. Presence of *Eucalyptus rudis* indicates moisture. Ecotone
NEW143	6 to 5	Quadrat is in an ecotone and dry
NEW150	12 to 1	Quadrat is in large wide ecotone
NEW166	4 to 1	Quadrat was in original group 4, redistributed to VT1 based on the presence of *Banksia telmatiaea*, *Regelia ciliata* and *Melaleuca* species. Quadrat on edge between two VTs
NEW168	11 to 6	Quadrat is in an ecotone
NEW170	16 to 15	Was in original group 16 which was reallocated to new group 15
NEW188	6 to 5	Quadrat is in an ecotone
NEW190	12 to 9b	Quadrat is slightly degraded and species poor, *Melaleuca rhaphiophylla* present
NEW204	4 to 9a	Quadrat was in original group 4, redistributed to VT9a based on the presence of (low dense) *Melaleuca viminea* and *M. rhaphiophylla*; quadrat in ecotone of (9a and 1)
NEW206	12 to 9b	Quadrat is species poor, *Eucalyptus rudis* and *Acacia saligna* present
NEW211	12 to 9b	Quadrat is in an ecotone, *Melaleuca rhaphiophylla*, *Eucalyptus rudis* and *Acacia saligna* present
NEW225	1 to 9a	Quadrat is in an ecotone surrounding 1
NEW241	6 to 5	Quadrat is in dry *Banksia telmatiaea* heath, not wet woodland heath
NEW250	12 to 9b	Quadrat is species poor, *Melaleuca rhaphiophylla* present
NEW253	11 to 6	Quadrat is in an ecotone
NEW254	12 to 9b	Quadrat is species poor, *Melaleuca rhaphiophylla* present
NEW255	12 to 9b	Quadrat is species poor, *Melaleuca rhaphiophylla* present

Quadrat	Vegetation Type Moved From/To	Reasoning
NEW267	1 to 4	Originally in group 1, split off into its' own group which has become group 4. Quadrat is a shrubby non-saline claypan without *Melaleuca* species or *Banksia telmatiaea*
NEW269	1 to 6	Quadrat is species poor
NEW274	6 to 5	Quadrat is in an ecotone and dry
NEW278	18 to 16	Original group 17 and 18 combined to form new group 16. Quadrat is a non-saline claypan
NEW283	14 to 2	Quadrat is in an ecotone
NEW285	6 to 1	Quadrat is in an ecotone/transition
NEW286	6 to 5	Quadrat is in an ecotone
NEW288	4 to 1	Quadrat was in original group 4, redistributed to VT1 based on the presence of *Banksia telmatiaea* and other wet heath species. Ecotone
VCL-01	1 to 9b	Quadrat is in an ecotone with *Melaleuca rhaphiophylla* and *Acacia saligna* present, is the same as NEW 206
WONG-05	4 to 1	Quadrat was in original group 4, redistributed to VT1 based on the presence of *Banksia telmatiaea*, *Regelia ciliata* and *Melaleuca* species. Slight ecotone. Contains more wet species than VT5.

Appendix O: Raw Data Recorded in Quadrats established within the Cooljarloo West Study Area during 2012

Site Name: NEW001
Site Type: QUADRAT
Dimensions: 10m x 10m
Survey Date: 21/11/2012
GPS Location: WGS84 (Zone 50) 330961E 6616385N
Vegetation Type: 17
Landform Type: Undulating Plain (other)
Slope Class: Very Gently Inclined (1 degree)
Soil Type: Sand
Soil Colour: Grey
Rock Outcrop: No bedrock exposed
CF Abundance: 0%
Vegetation Condition: 1 - Pristine
Disturbance: None
Fire: >5 years

DOMINANT TAXA IN VEGETATION STRATA

Upper Stratum 1: *Banksia attenuata, B. menziesii* (3 m, 25%)
Upper Stratum 2: *Adenanthos cygnorum* subsp. *cygnorum* (2.5m, 35%)
Mid Stratum 1: *Stirlingia latifolia* (1.2 m, 5%)
Lower Stratum 1: *Hibbertia hypericoides, Melaleuca clavifolia* (0.5 m, 8%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Adenanthos cygnorum subsp. *cygnorum*	2.5	35
Alexgeorgea nitens	0.1	0.3
Amphipogon turbinatus	0.1	0.1
Anigozanthos humilis subsp. *humilis*	0.1	0.1
Austrostipa compressa	0.1	0.1
Banksia attenuata	3	20
Banksia menziesii	3	5
Bossiaea eriocarpa	0.3	0.3
Conostephium pendulum	0.3	0.8
Conostylis teretifolia subsp. *teretifolia*	0.1	0.1
Dasypogon obliquifolius	0.3	0.8
Hibbertia hypericoides	0.5	5
Hypocalymma xanthopetalum	0.2	0.1
Jacksonia floribunda	0.5	0.3
Jacksonia nutans	0.3	0.1
Leptomeria empetriformis	0.3	0.3
Melaleuca clavifolia (3)	0.5	3

Mesomelaena pseudostygia	0.3	0.3
Opercularia vaginata	0.4	0.2
Patersonia occidentalis var. ?*occidentalis*	0.4	1.5
Petrophile linearis	0.3	0.8
Pimelea sulphurea	0.4	0.2
Podotheca gnaphalioides	0.1	0.1
Stirlingia latifolia	1.2	5
Stylidium cygnorum	0.1	0.1
Stylidium rigidulum	0.1	0.1
Trachymene pilosa	0.1	0.1
Tricoryne ?elatior	0.1	0.1
**Ursinia anthemoides*	0.1	0.2
**Wahlenbergia capensis*	0.2	0.1

PHOTO



Site Name:	NEW003
Site Type:	QUADRAT
Dimensions:	10m x 10m
Survey Date:	23/10/2012
GPS Location:	WGS84 (Zone 50) 332988E 6615134N
Vegetation Type:	17
Landform Type:	Mid Slope
Slope Class:	Very Gently Inclined (1 degree)
Aspect:	SW
Soil Type:	Sand
Soil Colour:	White
Rock Outcrop:	No bedrock exposed
CF Abundance:	0%
Vegetation Condition:	1 - Pristine
Disturbance:	None
Fire:	>5 years

DOMINANT TAXA IN VEGETATION STRATA

Upper Stratum 1:	*Banksia attenuata*, *B. menziesii* (5 m, 11%)
Mid Stratum 1:	*Jacksonia nutans*, *Stirlingia latifolia* (1.4 m, 8%)
Lower Stratum 1:	*Bossiaea eriocarpa*, *Eremaea asterocarpa* subsp. *asterocarpa*, *Hibbertia* sp. Gnangara (J.R. Wheeler 2329), *Melaleuca clavifolia* (0.8 m, 14%)
Lower Stratum 2:	*Phlebocarya filifolia* (0.4 m, 2%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Alexgeorgea nitens	0.1	0.1
Amphipogon turbinatus	0.1	0.1
Andersonia lehmanniana subsp. *lehmanniana*	0.3	1
Astroloma glaucescens	0.3	0.1
Austrostipa compressa	0.2	0.1
Banksia attenuata	5	8
Banksia ilicifolia	2	1
Banksia menziesii	4	3
Blancoa canescens	0.1	1
Boronia ramosa subsp. *anethifolia*	0.2	0.1
Bossiaea eriocarpa	0.3	4
Conostephium pendulum	0.4	0.1
Conostylis juncea	0.3	0.1
Dasypogon obliquifolius	0.3	0.5
Drosera glanduligera	0.2	0.1
Drosera sp.	0.3	0.1
Eremaea asterocarpa subsp. *asterocarpa*	0.6	2.5
Gompholobium tomentosum	0.4	0.1
Hibbertia crassifolia	0.4	0.5

Hibbertia sp. Gnangara (J.R. Wheeler 2329)	0.3	4
Hypocalymma xanthopetalum	0.2	0.5
Jacksonia nutans	1.4	5
Jacksonia ramulosa	0.4	0.1
Lepidosperma longitudinale	0.3	0.1
Leucopogon cochlearifolius	0.3	0.1
Leucopogon conostephioides	0.3	1
Leucopogon sp. Lesueur (B. Evans 530)	0.5	0.1
Lomandra hermaphrodita	0.2	0.1
Lyginia imberbis	0.9	0.1
Melaleuca clavifolia (3)	0.8	4
Patersonia occidentalis var. ?*occidentalis*	0.4	0.5
Petrophile linearis	0.3	0.5
Petrophile rigida	0.8	0.5
Philotheca spicata	0.3	0.5
Phlebocarya ciliata	0.3	0.1
Phlebocarya filifolia	0.4	2
Schoenus curvifolius	0.3	0.1
Stirlingia latifolia	1	3
Stylidium crossocephalum	0.3	0.1
Stylidium cygnorum	0.6	0.1
Stylidium purpureum ms	0.3	0.1
Thysanotus thyrsoideus	0.2	0.1
Verticordia densiflora var. *densiflora*	0.3	0.1
Xanthorrhoea preissii	0.1	0.1
Xanthosia huegelii	0.2	0.1

PHOTO



Site Name:	NEW004
Site Type:	QUADRAT
Dimensions:	10m x 10m
Survey Date:	22/10/2012
GPS Location:	WGS84 (Zone 50) 333471E 6616959N
Vegetation Type:	5
Landform Type:	Open Depression
Slope Class:	Very Gently Inclined (1 degree)
Aspect:	S
Soil Type:	Sandy Loam
Soil Colour:	Grey
Rock Outcrop:	No bedrock exposed
CF Abundance:	0%
Vegetation Condition:	1 - Pristine
Disturbance:	None
Fire:	>5 years

DOMINANT TAXA IN VEGETATION STRATA

Lower Stratum 1: *Banksia telmatiaea, Hakea obliqua* subsp. *parviflora, Jacksonia ramulosa, Leucopogon* ?*sprengelioides, Melaleuca seriata* (0.6 m, 95%)

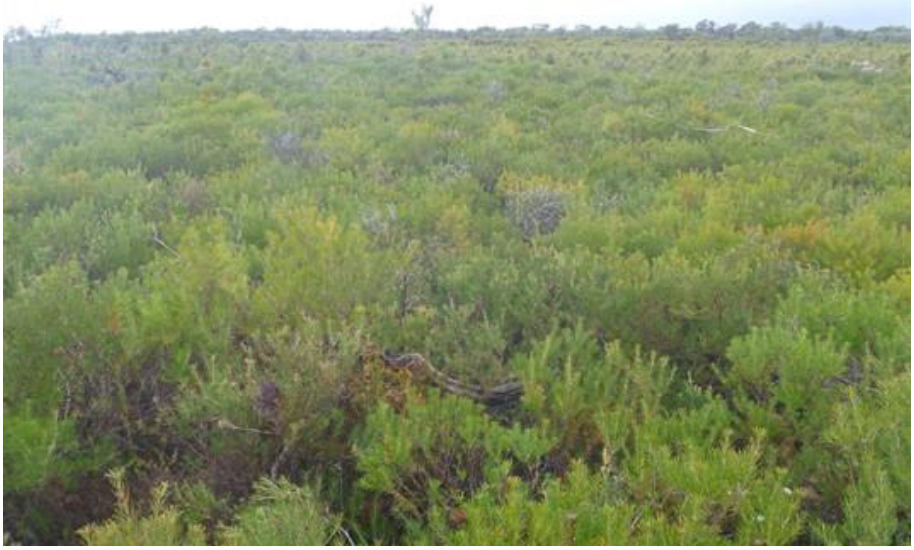
Lower Stratum 2: *Conostylis aculeata* subsp. *breviflora* (0.2 m, 4%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Acacia pulchella var. *reflexa*	0.6	0.1
Anigozanthos humilis subsp. *humilis*	0.1	0.1
Astroloma glaucescens	0.5	0.5
Austrostipa macalpinei	0.3	0.1
Banksia telmatiaea	0.6	85
Boronia ramosa subsp. *anethifolia*	0.3	0.1
Cassytha glabella forma *dispar*		1
Chordifex chaunocoleus (4)	0.5	0.1
Conostylis aculeata subsp. *breviflora*	0.2	4
Conostylis aurea	0.3	0.1
Conostylis teretifolia subsp. *teretifolia*	0.1	0.1
Drosera erythrorhiza subsp. ?*magna*	0.1	0.1
Gompholobium tomentosum	0.2	0.1
Hakea obliqua subsp. *parviflora*	0.6	2
Hibbertia crassifolia	0.2	0.1
Hypocalymma xanthopetalum	0.4	1
Jacksonia nutans	0.3	0.1
Jacksonia ramulosa	0.4	4
Leucopogon conostephioides	0.3	1
Leucopogon ?*sprengelioides*	0.4	2
Lysinema pentapetalum	0.6	1

Melaleuca seriata	0.5	2.5
Ptilotus stirlingii subsp. *stirlingii*	0.2	0.1
Scaevola lanceolata	0.3	1
Schoenus curvifolius	0.3	0.1
Stylidium cygnorum	0.1	0.1
Trachymene pilosa	0.6	0.1

PHOTO



Site Name:	NEW005
Site Type:	QUADRAT
Dimensions:	10m x 10m
Survey Date:	22/10/2012
GPS Location:	WGS84 (Zone 50) 334257E 6617228N
Vegetation Type:	13
Landform Type:	Flat
Slope Class:	Level (0 degrees)
Soil Type:	Clay (other)
Soil Colour:	Grey
Rock Outcrop:	No bedrock exposed
CF Abundance:	0%
Vegetation Condition:	3 – Very Good
Disturbance:	Fencing (other)
Fire:	>5 years

DOMINANT TAXA IN VEGETATION STRATA

Lower Stratum 1: **Polypogon monspeliensis* (0.6 m, 7%)

Lower Stratum 2: *Tecticornia* ?*halocnemoides* (0.1 m, 40%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Angianthus pygmaeus	0.1	0.1
Apium prostratum var. *prostratum*	0.8	0.1
**Cotula bipinnata*	0.7	0.1
**Crassula glomerata*	0.1	0.1
**Crassula natans* var. *minus*	0.1	0.1
**Dischisma arenarium*	0.3	0.1
**Hainardia cylindrica*	0.1	0.1
**Juncus bufonius*	0.13	0.1
**Polypogon monspeliensis*	0.6	7
**Sonchus oleraceus*	0.2	0.1
**Spergularia marina*	0.1	0.1
Tecticornia ?*halocnemoides*	0.1	40
Triglochin mucronata	0.3	0.5
Triglochin nana	0.4	0.1
**Urospermum picroides*	0.2	0.1

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Site Name:	NEW006
Site Type:	QUADRAT
Dimensions:	10m x 10m
Survey Date:	23/10/2012
GPS Location:	WGS84 (Zone 50) 334416E 6616470N
Vegetation Type:	2
Landform Type:	Plain
Slope Class:	Level (0 degrees)
Soil Type:	Sand
Soil Colour:	Grey
Rock Outcrop:	No bedrock exposed
CF Abundance:	0%
Vegetation Condition:	2 - Excellent
Disturbance:	None
Fire:	>5 years

DOMINANT TAXA IN VEGETATION STRATA

Mid Stratum 1: *Melaleuca acutifolia*, M. *brevifolia* (1.3 m, 23%)

Lower Stratum 1: *Calothamnus sanguineus*, *Eremophila glabra* subsp. ?*carnosa*, *Grevillea* ?*thelemanniana* subsp. Cooljarloo (B.J. Keighery 28 B) (0.6 m, 8%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Acacia lasiocarpa var. *lasiocarpa*	0.2	0.1
**Aira cupaniana*	0.1	0.1
Angianthus preissianus	0.1	0.1
Banksia dallanneyi var. *dallanneyi*	0.2	0.1
Banksia telmatiaea	0.8	1
Brachyscome pusilla	0.1	0.1
**Briza maxima*	0.2	0.1
**Briza minor*	0.1	0.1
Calandrinia tholiformis	0.1	0.1
Calothamnus sanguineus	0.3	3
Carpobrotus modestus	0.2	1
Cassytha ?*aurea*	0.1	0.1
Cassytha glabella forma *dispar*	1	1
Centrolepis polygyna	0.1	1
Chaetanthus aristatus	0.2	0.1
Comesperma integerrimum	1	0.1
Conostylis aculeata subsp. *breviflora*	0.15	1
Crassula colorata var. *acuminata*	0.1	0.5
Dampiera lindleyi	0.2	0.1
Drosera humilis	0.1	0.1
Drosera sp.	0.1	0.1
Eremophila glabra subsp. *?carnosa* (C)	0.6	3

Exocarpos sparteus	0.4	0.2
Goodenia pulchella subsp. Coastal Plain A (M. Hislop 634)	0.1	0.1
Grevillea ?thelemanniana subsp. Cooljarloo (B.J. Keighery 28 B) (1)	0.3	2
Hakea sulcata	0.4	0.1
**Heliophila pusilla*	0.1	0.1
**Hypochaeris glabra*	0.1	0.1
Jacksonia ramulosa	0.3	0.1
Lomandra micrantha subsp. *micrantha*	0.3	0.1
**Lysimachia arvensis*	0.1	0.1
Meeboldina cana	0.3	0.1
Melaleuca acutifolia	1.3	18
Melaleuca brevifolia	1.1	5
Melaleuca viminea subsp. *viminea*	0.5	0.1
**Parentucellia latifolia*	0.1	0.1
Petrophile seminuda	0.6	0.5
Quinetia urvillei	0.1	0.1
Scaevola lanceolata	0.1	1
Senecio pinnatifolius	0.4	0.1
Thysanotus patersonii	1	0.1
Trachymene pilosa	0.1	0.1
**Ursinia anthemoides*	0.15	0.1
**Vulpia myuros*	0.1	0.1

PHOTO



Site Name:	NEW007
Site Type:	QUADRAT
Dimensions:	10m x 10m
Survey Date:	23/10/2012
GPS Location:	WGS84 (Zone 50) 335134E 6617263N
Vegetation Type:	2
Landform Type:	Drainage Line
Slope Class:	Level (0 degrees)
Soil Type:	Sand
Soil Colour:	Grey and Yellow (other)
Rock Outcrop:	No bedrock exposed
CF Abundance:	0%
Vegetation Condition:	1 - Pristine
Disturbance:	None
Fire:	>5 years

DOMINANT TAXA IN VEGETATION STRATA

Mid Stratum 1:	*Melaleuca acutifolia, M. brevifolia* (2 m, 20%)
Lower Stratum 1:	*Calothamnus sanguineus, Chaetanthus aristatus, Grevillea* ?*thelemanniana* subsp. Cooljarloo (B.J. Keighery 28 B) (0.3 m, 9%)
Lower Stratum 2:	*Scaevola lanceolata, Centrolepis aristata, Conostylis aculeata* subsp. *breviflora* (0.15 m, 6%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Acacia lasiocarpa var. *lasiocarpa*	0.3	1
Angianthus preissianus	0.1	0.5
Austrostipa compressa	0.2	0.1
Brachyscome pusilla	0.1	0.1
**Briza minor*	0.1	0.1
Burchardia congesta	0.2	0.1
Calandrinia tholiformis	0.1	0.1
Calothamnus sanguineus	0.3	2
Carpobrotus modestus	0.2	0.1
Cassytha glabella forma *dispar*	0.2	0.1
Centrolepis aristata	0.1	2
Chaetanthus aristatus	0.3	4
Comesperma integerrimum	0.3	0.1
Conostylis aculeata subsp. *breviflora*	0.15	2
Crassula colorata var. *acuminata*	0.1	0.1
Dampiera lindleyi	0.4	0.1
Drosera humilis	0.1	0.1
Drosera sp.	0.2	0.1
Eremophila glabra subsp. *?carnosa* (C)	1.2	0.5
Frankenia pauciflora	0.1	0.1

Grevillea ?*thelemanniana* subsp. Cooljarloo (B.J. Keighery 28 B) (1)	0.3	3
**Hypochaeris glabra*	0.1	0.1
Lawrencia squamata	0.4	0.1
Laxmannia ramosa subsp. *ramosa*	0.1	0.1
**Lysimachia arvensis*	0.1	0.1
Melaleuca acutifolia	2	12
Melaleuca brevifolia	1	7
Melaleuca seriata	1	0.1
Petrophile seminuda	0.6	1
Ptilotus manglesii	0.1	0.1
Quinetia urvillei	0.1	0.1
Rytidosperma occidentale	1	0.1
Scaevola lanceolata	0.15	2
Schoenus subfascicularis	0.4	1
Senecio pinnatifolius	0.5	0.1
Siloxerus humifusus	0.1	0.1
Stylidium dichotomum	0.1	0.1
Stylidium purpureum ms	0.1	0.1
Thysanotus patersonii	1	0.1
?*Thysanotus* sp.	0.1	0.1
Trachymene pilosa	0.1	0.1
Tribonanthes australis	0.2	0.1
**Ursinia anthemoides*	0.12	0.1
Verticordia densiflora var. *densiflora*	0.8	0.1
**Vulpia myuros*	0.1	0.1

PHOTO



Site Name:	NEW008
Site Type:	QUADRAT
Dimensions:	10m x 10m
Survey Date:	21/11/2012
GPS Location:	WGS84 (Zone 50) 331340E 6614376N
Vegetation Type:	7
Landform Type:	Undulating Plain (other)
Slope Class:	Very Gently Inclined (1 degree)
Soil Type:	Sand
Soil Colour:	Grey
Rock Outcrop:	No bedrock exposed
CF Abundance:	0%
Vegetation Condition:	1 - Pristine
Disturbance:	None
Fire:	>5 years

DOMINANT TAXA IN VEGETATION STRATA

Lower Stratum 1: *Banksia telmatiaea, Calothamnus quadrifidus* subsp. *angustifolius, Petrophile seminuda* (0.7 m, 36%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Acacia lasiocarpa var. *lasiocarpa*	0.5	0.5
Acacia pulchella var. *reflexa*	0.3	0.2
Acacia spathulifolia	0.6	0.1
Amphipogon turbinatus	0.2	0.1
Anigozanthos humilis subsp. *humilis*	0.1	0.1
Banksia dallanneyi var. *dallanneyi*	0.1	0.1
Banksia telmatiaea	0.7	20
Calothamnus quadrifidus subsp. *angustifolius*	0.7	12
?*Chordifex* sp.	0.3	0.1
Comesperma calymega	0.1	0.1
Conospermum stoechadis subsp. *stoechadis*	0.6	0.7
Conostylis festucacea subsp. *festucacea*	0.3	0.2
Darwinia pinifolia	0.1	0.5
Dasypogon obliquifolius	0.3	0.8
Daviesia incrassata subsp. *incrassata*	0.4	0.3
Desmocladus asper	0.1	0.1
Grevillea ?*thelemanniana* subsp. Cooljarloo (B.J. Keighery 28 B) (1)	0.3	0.2
Hakea candolleana	0.4	0.1
Hakea costata	1.1	0.8
Hemiandra glabra subsp. *glabra* ms	0.3	0.2
Hypocalymma xanthopetalum	0.4	0.2
Jacksonia hakeoides	0.3	0.5
Lepidobolus preissianus	0.3	0.1

Lepidosperma ?longitudinale	0.3	0.2
Lyginia imberbis	0.4	0.1
Melaleuca seriata	0.3	0.8
Mesomelaena pseudostygia	0.3	0.3
Petrophile brevifolia	0.3	0.1
Petrophile seminuda	0.4	4
Scaevola repens var. *repens*	0.1	0.6
Schoenus clandestinus	0.1	0.1
Scholtzia umbellifera	0.4	0.2
Stenanthemum notiale	0.1	0.2
Verticordia densiflora var. *cespitosa*	0.1	0.1
Verticordia lindleyi subsp. *lindleyi* (4)	0.4	0.1
Wahlenbergia gracilenta	0.1	0.1
Xanthorrhoea preissii	0.7	0.7

PHOTO



Site Name:	NEW011
Site Type:	QUADRAT
Dimensions:	10m x 10m
Survey Date:	22/11/2012
GPS Location:	WGS84 (Zone 50) 329975E 6614427N
Vegetation Type:	17
Landform Type:	Undulating Plain (other)
Slope Class:	Very Gently Inclined (1 degree)
Soil Type:	Sand
Soil Colour:	Grey
Rock Outcrop:	No bedrock exposed
CF Abundance:	0%
Vegetation Condition:	2 - Excellent
Disturbance:	Exotic Weeds
Fire:	<5 years

DOMINANT TAXA IN VEGETATION STRATA

Mid Stratum 1: *Allocasuarina humilis*, *Calothamnus quadrifidus* subsp. *angustifolius*, *Hypocalymma* ?sp. Nambung (R. Spjut & R. Smith s.n. 22/09/1992), *Jacksonia sternbergiana* (1.8 m, 30%)

Lower Stratum 1: *Corynotheca micrantha*, *Desmocladus asper* (0.4 m, 5%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Allocasuarina humilis	1.5	7
**Avena* ?*barbata*	0.2	0.1
Banksia attenuata		
Banksia prionotes		
**Bromus diandrus*	0.6	0.8
Calothamnus quadrifidus subsp. *angustifolius*	1.5	2.5
Carpobrotus ?*modestus*	0.1	0.3
Corynotheca micrantha	0.4	2.5
Desmocladus asper	0.1	2
Hakea costata		
Hibbertia hypericoides	0.2	0.2
Hypocalymma ?sp. Nambung (R. Spjut & R. Smith s.n. 22/09/1992)	1.2	10
Jacksonia sternbergiana	1.8	10
Leucopogon sp.	0.5	0.2
**Lysimachia arvensis*	0.1	0.2
Mesomelaena pseudostygia	0.7	0.6
Podotheca gnaphalioides	0.1	0.5
Ptilotus polystachyus	0.4	0.3
Schoenus grandiflorus	0.2	0.3
**Silene gallica*	0.1	0.1

**Sonchus oleraceus*	0.2	0.5
Trachymene pilosa	0.1	0.1
**Trifolium arvense* var. *arvense*	0.1	0.1
**Ursinia anthemoides*	0.2	0.8
Wahlenbergia gracilenta	0.3	0.1

PHOTO



Site Name: NEW013
Site Type: QUADRAT
Dimensions: 10m x 10m
Survey Date: 21/11/2012
GPS Location: WGS84 (Zone 50) 330266E 6613425N
Vegetation Type: 5
Landform Type: Undulating Plain (other)
Slope Class: Very Gently Inclined (1 degree)
Soil Type: Sand
Soil Colour: Grey
Rock Outcrop: No bedrock exposed
CF Abundance: 0%
Vegetation Condition: 1 - Pristine
Disturbance: None
Fire: >5 years

DOMINANT TAXA IN VEGETATION STRATA

Lower Stratum 1: *Banksia telmatiaea*, *Regelia ciliata* (1 m, 60%)
Lower Stratum 2: *Melaleuca seriata* (0.6 m, 30%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Acacia cyclops	0.6	0.3
Acacia lasiocarpa var. *lasiocarpa*	0.8	1
Amphipogon turbinatus	0.2	0.1
Banksia dallanneyi var. *dallanneyi*	0.1	0.5
Banksia prionotes		
Banksia telmatiaea	1	45
Cassytha ?flava		0.5
Conospermum stoechadis subsp. *stoechadis*	0.3	0.4
Conostylis festucacea subsp. *festucacea*	0.3	0.4
Haemodorum spicatum	0.6	0.1
Melaleuca seriata	0.6	30
Mesomelaena pseudostygia	0.5	0.8
Regelia ciliata	1	15

PHOTO



Site Name:	NEW014
Site Type:	QUADRAT
Dimensions:	10m x 10m
Survey Date:	24/10/2012
GPS Location:	WGS84 (Zone 50) 332639E 6613420N
Vegetation Type:	10
Landform Type:	Mid Slope
Slope Class:	Gently Inclined (3 degrees)
Aspect:	S
Soil Type:	Clay Loam
Soil Colour:	Grey
Rock Outcrop:	No bedrock exposed
CF Abundance:	0%
Vegetation Condition:	1 - Pristine
Disturbance:	None
Fire:	>10 years

DOMINANT TAXA IN VEGETATION STRATA

Upper Stratum 1: *Melaleuca preissiana* (5 m, 23%)

Upper Stratum 2: *Acacia saligna* subsp. *lindleyi*, *Jacksonia sternbergiana* (3 m, 21%)

Mid Stratum 1: *Hypocalymma angustifolium*, *Xanthorrhoea preissii* (1.3 m, 23%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Acacia saligna subsp. *lindleyi* ms	3	3
Bossiaea eriocarpa	0.3	0.1
**Briza minor*	0.1	0.1
Burchardia congesta	0.1	0.1
Drosera gigantea subsp. *gigantea*	0.2	0.1
Gompholobium tomentosum	0.2	0.1
Hibbertia hypericoides	0.4	0.5
Hibbertia stellaris	0.1	0.1
Hypocalymma angustifolium	1	9
**Hypochaeris glabra*	0.1	0.1
Jacksonia ramulosa	0.3	1
Jacksonia sternbergiana	3	18
Lepidosperma longitudinale	0.4	0.2
Leucopogon cochlearifolius	0.2	0.1
Melaleuca clavifolia (3)	0.4	0.1
Melaleuca incana subsp. *incana*	1.2	1
Melaleuca preissiana	5	23
Melaleuca viminea subsp. *viminea*	1	0.1
Phlebocarya ciliata	0.2	0.1
?*Phlebocarya* sp.	0.15	0.1
Pyrorchis nigricans	0.1	0.1

Rytidosperma occidentale	0.3	0.1
Schoenus curvifolius	0.3	0.1
Trachymene pilosa	0.1	0.1
Xanthorrhoea preissii	1.3	14

PHOTO



Site Name:	NEW015
Site Type:	QUADRAT
Dimensions:	10m x 10m
Survey Date:	23/10/2012
GPS Location:	WGS84 (Zone 50) 334593E 6616360N
Vegetation Type:	1
Landform Type:	Flat
Slope Class:	Level (0 degrees)
Soil Type:	Sandy Loam
Soil Colour:	Brown
Rock Outcrop:	No bedrock exposed
CF Abundance:	0%
Vegetation Condition:	1 - Pristine
Disturbance:	None
Fire:	>5 years

DOMINANT TAXA IN VEGETATION STRATA

Lower Stratum 1: *Acacia lasiocarpa* var. *lasiocarpa, Banksia nivea* subsp. *nivea, B. telmatiaea, Hibbertia stellaris, Isopogon panduratus* subsp. *palustris, Melaleuca brevifolia, Regelia ciliata* (0.6 m, 43%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Acacia lasiocarpa var. *lasiocarpa*	0.6	2
Banksia nivea subsp. *nivea*	0.3	5
Banksia platycarpa (4)	0.4	0.1
Banksia telmatiaea	0.5	12
Calothamnus sanguineus	0.1	0.1
Calytrix flavescens	0.2	0.5
Cassytha glabella forma *dispar*	0.2	0.1
Chaetanthus aristatus	0.3	0.2
Conostylis aculeata subsp. *breviflora*	0.1	0.1
Daviesia incrassata subsp. *incrassata*	0.3	1
Desmocladus virgatus	0.1	0.1
Drosera humilis	0.1	0.1
Hakea obliqua subsp. *parviflora*	0.5	0.5
Hibbertia stellaris	0.2	3
Isopogon panduratus subsp. *palustris* (2)	0.5	3
Melaleuca brevifolia	0.5	7
Melaleuca seriata	0.4	1
Nuytsia floribunda		
Petrophile seminuda	0.5	0.1
Regelia ciliata	0.6	11
Scaevola lanceolata	0.15	1
Siloxerus humifusus	0.1	0.1
Stylidium adpressum	0.1	0.1

Stylidium purpureum ms	0.2	0.1
?*Thysanotus* sp.	0.1	0.1
Verticordia densiflora var. *densiflora*	0.4	0.5

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Site Name:	NEW016
Site Type:	QUADRAT
Dimensions:	10m x 10m
Survey Date:	22/10/2012
GPS Location:	WGS84 (Zone 50) 336062E 6617761N
Vegetation Type:	5
Landform Type:	Open Depression
Slope Class:	Very Gently Inclined (1 degree)
Aspect:	SE
Soil Type:	Sandy Loam
Soil Colour:	Grey
Rock Outcrop:	No bedrock exposed
CF Abundance:	0%
Vegetation Condition:	1 - Pristine
Disturbance:	None
Fire:	>5 years

DOMINANT TAXA IN VEGETATION STRATA

Lower Stratum 1: *Banksia telmatiaea, Dasypogon obliquifolius, Jacksonia nutans, Melaleuca seriata* (0.8 m, 63%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Alexgeorgea nitens	0.2	0.1
Amphipogon sp.	0.1	0.1
Anigozanthos humilis subsp. *humilis*	0.1	0.1
?*Arnocrinum* sp.	0.3	0.1
Austrostipa compressa	0.3	0.1
Banksia dallanneyi var. *dallanneyi*	0.1	0.1
Banksia telmatiaea	0.8	55
Beaufortia squarrosa	1	1
Calytrix aurea	1.2	0.1
Cassytha glabella forma *dispar*	0.6	1
Chordifex chaunocoleus (4)	0.4	0.1
Chordifex sinuosus	0.3	0.1
Conostylis aculeata subsp. *breviflora*	0.2	0.1
Conostylis crassinervia subsp. *absens*	0.2	0.1
Conostylis juncea	0.3	0.2
Conostylis teretifolia subsp. *teretifolia*	0.1	0.1
Dasypogon obliquifolius	0.3	2
Daviesia incrassata subsp. *incrassata*	0.4	0.2
Drosera erythrorhiza subsp. ?*magna*	0.1	0.1
Hakea obliqua subsp. *parviflora*	1.5	1.5
Hibbertia crassifolia	0.4	0.5
Hypocalymma xanthopetalum	0.4	1

Isotropis cuneifolia subsp. *cuneifolia*	0.1	0.1
Jacksonia nutans	0.6	4
Jacksonia ramulosa	0.5	1
Leucopogon conostephioides	0.2	0.5
Leucopogon sp. Coujinup (M.A. Burgman 1085)	0.3	0.5
Lyginia imberbis	0.3	1
Lysinema pentapetalum	0.6	0.1
Melaleuca seriata	0.5	2
Mesomelaena pseudostygia	0.5	1
Patersonia occidentalis var. ?*occidentalis*	0.4	0.5
Philotheca spicata	0.4	0.1
Schoenus curvifolius	0.3	0.1
Schoenus pedicellatus	0.4	0.1
Schoenus rigens	0.4	0.1
Stirlingia latifolia	0.2	0.1
Stylidium rigidulum	0.1	0.1
Thysanotus ?*sparteus*	0.3	0.1
Trachymene pilosa	0.1	0.1
Verticordia densiflora var. *densiflora*	0.8	1
Xanthosia huegelii	0.15	0.1

PHOTO



Site Name:	NEW017
Site Type:	QUADRAT
Dimensions:	10m x 10m
Survey Date:	25/10/2012
GPS Location:	WGS84 (Zone 50) 336240E 6615695N
Vegetation Type:	17
Landform Type:	Upper Slope
Slope Class:	Gently Inclined (3 degrees)
Aspect:	NW
Soil Type:	Sand
Soil Colour:	White
Rock Outcrop:	No bedrock exposed
CF Abundance:	0%
Vegetation Condition:	1 - Pristine
Disturbance:	None
Fire:	>15 years

DOMINANT TAXA IN VEGETATION STRATA

Upper Stratum 1:	*Banksia menziesii, B. attenuata* (3 m, 4%)
Mid Stratum 1:	*Eremaea pauciflora, Jacksonia floribunda* (1.6 m, 27%)
Lower Stratum 1:	*Hibbertia desmophylla* (0.3 m, 2%)
Lower Stratum 2:	*Blancoa canescens*, *Mesomelaena pseudostygia* (0.5 m, 7%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Adenanthos cygnorum subsp. *cygnorum*	1.2	1
Alexgeorgea nitens	0.15	0.5
Amphipogon turbinatus	0.3	0.1
Anigozanthos humilis subsp. *humilis*	0.1	0.1
Astroloma xerophyllum	0.5	1.5
Austrostipa compressa	0.2	0.1
Banksia attenuata	3	2
Banksia menziesii	3	2
Blancoa canescens	0.1	5
Bossiaea eriocarpa	0.3	0.5
Burchardia congesta	0.4	0.1
Calytrix flavescens	0.3	0.5
Calytrix sapphirina	1	0.1
Cassytha glabella forma *dispar*		0.1
Chaetanthus aristatus	0.5	0.1
Chordifex sinuosus	0.3	0.1
Comesperma calymega	0.1	0.1
Conospermum crassinervium	1.2	0.5
Conostylis teretifolia subsp. *teretifolia*	0.1	0.1
Daviesia podophylla	0.5	1

Desmocladus asper	0.1	0.1
Drosera erythrorhiza subsp. ?*magna*	0.1	0.1
Drosera humilis	0.1	0.1
Drosera ?*menziesii*	0.5	0.1
Drosera sp.	0.3	0.1
Eremaea asterocarpa subsp. *asterocarpa*	0.8	1
Eremaea pauciflora	1.2	25
Gompholobium tomentosum	0.3	0.1
Hibbertia desmophylla	0.3	2
Hibbertia hypericoides	0.4	0.5
Hibbertia sp. Gnangara (J.R. Wheeler 2329)	0.2	0.1
Hypocalymma xanthopetalum	0.3	0.5
Jacksonia floribunda	1.6	2
Lepidosperma longitudinale	0.3	0.2
Leptospermum spinescens	0.5	0.1
Leucopogon conostephioides	0.2	0.1
Leucopogon sp. Lesueur (B. Evans 530)	0.6	0.1
Lomandra hermaphrodita	0.1	0.1
Lyginia barbata	1	0.1
Melaleuca seriata	0.6	0.5
Mesomelaena pseudostygia	0.5	2
Opercularia vaginata	0.1	0.1
Petrophile linearis	0.4	0.5
Pimelea sulphurea	0.4	0.1
Poranthera drummondii	0.1	0.1
Schoenus clandestinus	0.1	0.1
Stylidium adpressum	0.1	0.1
Stylidium crossocephalum	0.1	0.1
Stylidium cygnorum	0.1	0.1
Trachymene pilosa	0.1	0.1
Xanthosia huegelii	0.1	0.1

PHOTO



Site Name: NEW018
Site Type: QUADRAT
Dimensions: 10m x 10m
Survey Date: 24/10/2012
GPS Location: WGS84 (Zone 50) 335317E 6615624N
Vegetation Type: 17
Landform Type: Flat
Slope Class: Level (0 degrees)
Soil Type: Sand
Soil Colour: White
Rock Outcrop: No bedrock exposed
CF Abundance: 0%
Vegetation Condition: 1 - Pristine
Disturbance: None
Fire: >15 years

DOMINANT TAXA IN VEGETATION STRATA

Upper Stratum 1: *Banksia attenuata*, *B. ilicifolia*, *B. menziesii* (6 m, 10%)
Mid Stratum 1: *Eremaea pauciflora*, *Jacksonia floribunda* (1.1 m, 28%)
Lower Stratum 1: *Calytrix fraseri*, *Hibbertia hypericoides*, *Jacksonia nutans* (0.8 m, 12%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Alexgeorgea nitens	0.1	0.5
Amphipogon turbinatus	0.2	0.1
Anigozanthos humilis subsp. *humilis*	0.2	0.1
Austrostipa compressa	0.2	0.1
Banksia attenuata	5	4
Banksia ilicifolia	6	4
Banksia menziesii	2	2
Blancoa canescens	0.1	1
Bossiaea eriocarpa	0.4	0.5
Burchardia congesta	0.2	0.1
Calectasia narragara	0.1	0.1
Calytrix flavescens	0.5	0.1
Calytrix fraseri	0.6	2
Cassytha glabella forma *dispar*	0.2	0.1
Conospermum crassinervium	1.2	0.5
Conostephium pendulum	0.5	0.1
Dasypogon obliquifolius	0.3	1
Desmocladus asper	0.15	0.1
Drosera glanduligera	0.1	0.1
Drosera menziesii	0.5	0.2
Drosera sp.	0.1	0.1
Eremaea asterocarpa subsp. *asterocarpa*	0.6	0.5

Eremaea pauciflora	1.1	26
Gompholobium tomentosum	0.3	0.1
Hibbertia hypericoides	0.6	3
Hypocalymma xanthopetalum	0.3	0.1
Jacksonia floribunda	1.1	2
Jacksonia nutans	0.8	7
Lepidosperma longitudinale	0.25	0.1
Leucopogon conostephioides	0.2	0.1
Lomandra hermaphrodita	0.2	0.1
Lyginia imberbis	0.3	0.1
Melaleuca seriata	0.6	1
Opercularia vaginata	0.15	0.2
Patersonia occidentalis var. ?*occidentalis*	0.3	0.1
Petrophile linearis	0.4	0.1
Pimelea sulphurea	0.8	0.1
Poranthera drummondii	0.1	0.1
Schoenus clandestinus	0.1	0.1
Stylidium adpressum	0.1	0.1
Stylidium crossocephalum	0.1	0.1
Stylidium purpureum ms	0.1	0.1
Xanthosia huegelii	0.1	0.1

PHOTO



Site Name: NEW019
Site Type: QUADRAT
Dimensions: 10m x 10m
Survey Date: 25/10/2012
GPS Location: WGS84 (Zone 50) 336253E 6615949N
Vegetation Type: 1
Landform Type: Open Depression
Slope Class: Level (0 degrees)
Soil Type: Sandy Loam
Soil Colour: Brown
Rock Outcrop: No bedrock exposed
CF Abundance: 0%
Vegetation Condition: 1 - Pristine
Disturbance: None
Fire: >15 years

DOMINANT TAXA IN VEGETATION STRATA

Mid Stratum 1: *Banksia telmatiaea, Hakea trifurcata, Melaleuca seriata* (1.4 m, 65%)
Lower Stratum 1: *Schoenus subfascicularis* (0.7 m, 8%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Acacia lasiocarpa var. *lasiocarpa*	1	1
Acacia stenoptera	0.3	0.5
Asteridea pulverulenta	0.1	0.1
Astroloma glaucescens	0.2	0.1
Austrostipa compressa	0.2	0.1
Banksia telmatiaea	1.1	50
Calothamnus sanguineus	0.4	0.1
Cassytha glabella forma *dispar*	1	2
Conostylis aurea	0.3	0.5
Gompholobium tomentosum	0.1	0.1
Hakea trifurcata	1.4	3.5
Hibbertia crassifolia	0.3	0.1
Isopogon panduratus subsp. *palustris* (2)	1	0.5
Lepidosperma longitudinale	0.3	0.1
Leucopogon conostephioides	0.2	0.1
Melaleuca rhaphiophylla	1.3	1
Melaleuca seriata	1	12
Opercularia vaginata	0.1	0.1
Petrophile brevifolia	0.4	0.1
Rytidosperma occidentale	0.3	0.1
Scaevola lanceolata	0.2	0.1
Schoenus subfascicularis	0.7	8
Stylidium cygnorum	0.1	0.1

Verticordia densiflora var. *densiflora*	0.8	1

PHOTO



Site Name:	NEW020
Site Type:	QUADRAT
Dimensions:	10m x 10m
Survey Date:	25/10/2012
GPS Location:	WGS84 (Zone 50) 337006E 6615099N
Vegetation Type:	1
Landform Type:	Closed Depression
Slope Class:	Very Gently Inclined (1 degree)
Aspect:	N
Soil Type:	Sandy Loam
Soil Colour:	Grey
Rock Outcrop:	No bedrock exposed
CF Abundance:	0%
Vegetation Condition:	1 - Pristine
Disturbance:	None
Fire:	>15 years

DOMINANT TAXA IN VEGETATION STRATA

Mid Stratum 1:	*Hakea trifurcata*, *Melaleuca rhaphiophylla* (1.3 m, 24%)
Lower Stratum 1:	*Acacia lasiocarpa* var. *lasiocarpa, Calothamnus sanguineus, Melaleuca teretifolia, Verticordia densiflora* var. *densiflora* (0.8 m, 24%)
Lower Stratum 2:	*Lepidosperma longitudinale* (0.1 m, 18%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Acacia lasiocarpa var. *lasiocarpa*	0.8	3
Acacia stenoptera	0.2	0.1
**Aira cupaniana*	0.1	0.1
Astroloma glaucescens	0.2	0.5
Austrostipa macalpinei	0.2	0.1
Banksia telmatiaea	0.8	0.1
Calothamnus sanguineus	0.4	16
Centrolepis aristata	0.1	0.1
Centrolepis polygyna	0.1	0.1
Conostylis aurea	0.2	0.5
Dampiera lindleyi	0.2	0.1
Goodenia pulchella subsp. Coastal Plain A (M. Hislop 634)	0.15	0.2
Hakea trifurcata	1.2	6
**Hypochaeris glabra*	0.1	0.1
Lepidosperma longitudinale	0.1	3
Meeboldina cana	0.8	0.1
Melaleuca rhaphiophylla	1.3	18
Melaleuca seriata	0.8	0.5
Melaleuca teretifolia	0.8	3

Opercularia vaginata	0.1	0.1
**Parentucellia latifolia*	0.1	0.1
Podolepis gracilis	0.15	0.1
Podotheca gnaphalioides	0.1	0.1
Scaevola lanceolata	0.15	0.1
Siloxerus humifusus	0.1	0.1
Stackhousia monogyna	0.4	0.1
Trachymene pilosa	0.1	0.2
**Ursinia anthemoides*	0.2	0.1
Velleia trinervis	0.3	0.1
Verticordia densiflora var. *densiflora*	0.8	2

PHOTO



Site Name:	NEW021
Site Type:	QUADRAT
Dimensions:	10m x 10m
Survey Date:	26/10/2012
GPS Location:	WGS84 (Zone 50) 338198E 6614278N
Vegetation Type:	17
Landform Type:	Mid Slope
Slope Class:	Gently Inclined (3 degrees)
Aspect:	NW
Soil Type:	Sand
Soil Colour:	Grey
Rock Outcrop:	No bedrock exposed
CF Abundance:	0%
Vegetation Condition:	1 - Pristine
Disturbance:	None
Fire:	>10 years

DOMINANT TAXA IN VEGETATION STRATA

Upper Stratum 1:	*Banksia attenuata, B. menziesii* (5 m, 12%)
Mid Stratum 1:	*Adenanthos cygnorum* subsp. *cygnorum* (2 m, 6%)
Mid Stratum 2:	*Eremaea pauciflora* (1 m, 2%)
Lower Stratum 1:	*Bossiaea eriocarpa, Dasypogon obliquifolius, Eremaea asterocarpa* subsp. *asterocarpa, Hibbertia hypericoides, Jacksonia nutans, Jacksonia ramulosa* (0.6 m, 24%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Adenanthos cygnorum subsp. *cygnorum*	2	6
Alexgeorgea nitens	0.15	0.1
Amphipogon turbinatus	0.4	0.1
Anarthria gracilis	0.3	0.1
Astroloma xerophyllum	0.3	0.5
Austrostipa compressa	0.2	0.1
Austrostipa macalpinei	0.1	0.1
Banksia attenuata	5	7
Banksia menziesii	3	5
Banksia telmatiaea	0.8	0.5
Bossiaea eriocarpa	0.3	3
Calectasia narragara	0.1	0.1
Calytrix flavescens	0.2	0.1
Cassytha ?*aurea*	0.1	0.1
Cassytha glabella forma *dispar*	0.8	1
Conostylis aurea	0.2	0.1
Dasypogon obliquifolius	0.3	2.5

Desmocladus asper	0.15	0.1
Drosera erythrorhiza subsp. ?*magna*	0.1	0.1
Drosera glanduligera	0.1	0.1
Drosera ?*menziesii*	0.2	0.1
Drosera sp.	0.1	0.1
Eremaea asterocarpa subsp. *asterocarpa*	0.8	2
Eremaea pauciflora	1	2
Gompholobium tomentosum	0.2	0.1
Hibbertia hypericoides	0.4	3
Hyalosperma cotula	0.1	0.1
Hypocalymma xanthopetalum	0.4	1
**Hypochaeris glabra*	0.1	0.1
**Isolepis marginata*	0.1	0.1
Jacksonia nutans	0.6	9
Jacksonia ramulosa	0.4	5
Leucopogon cochlearifolius	0.3	0.1
Leucopogon sprengelioides	0.3	0.2
Levenhookia stipitata	0.1	0.1
Lyginia imberbis	0.4	0.1
Melaleuca seriata	0.8	0.5
Patersonia occidentalis var. ?*occidentalis*	0.3	0.1
Petrophile linearis	0.4	0.1
Philotheca spicata	0.3	0.1
Pimelea sulphurea	0.3	0.1
Poranthera drummondii	0.1	0.1
Schoenus clandestinus	0.1	0.1
Stylidium adpressum	0.1	0.1
Stylidium crossocephalum	0.2	0.1
Stylidium cygnorum	0.1	0.1
Stylidium purpureum ms	0.3	0.1
Thysanotus thyrsoideus	0.3	0.1
Trachymene pilosa	0.1	0.1
Xanthorrhoea preissii	1	0.1
Xanthosia huegelii	0.1	0.1

PHOTO



Site Name: NEW022
Site Type: QUADRAT
Dimensions: 10m x 10m
Survey Date: 26/10/2012
GPS Location: WGS84 (Zone 50) 339017E 6613886N
Vegetation Type: 2
Landform Type: Flat
Slope Class: Level (0 degrees)
Soil Type: Light Clay
Soil Colour: Grey
Rock Outcrop: No bedrock exposed
CF Abundance: 0%
Vegetation Condition: 2 - Excellent
Disturbance: None
Fire: >5 years

DOMINANT TAXA IN VEGETATION STRATA

Mid Stratum 1: *Melaleuca viminea* subsp. *viminea* (4 m, 35%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
**Aira cupaniana*	0.1	0.1
Brachyscome pusilla	0.1	0.1
Calandrinia tholiformis	0.1	0.1
Carpobrotus modestus	0.1	0.1
Crassula sp.	0.1	0.1
Euchiton sphaericus	0.1	0.1
**Hypochaeris glabra*	0.1	0.1
**Juncus capitatus*	0.1	0.1
Melaleuca viminea subsp. *viminea*	4	35
**Pentameris airoides* subsp. *airoides*	0.1	0.1
Rytidosperma occidentale	0.2	0.1
Schenkia australis	0.1	0.1

PHOTO



Site Name:	NEW023
Site Type:	QUADRAT
Dimensions:	10m x 10m
Survey Date:	26/10/2012
GPS Location:	WGS84 (Zone 50) 339449E 6613634N
Vegetation Type:	2
Landform Type:	Flat
Slope Class:	Level (0 degrees)
Soil Type:	Sandy Loam
Soil Colour:	Brown
Rock Outcrop:	No bedrock exposed
CF Abundance:	0%
Vegetation Condition:	1 - Pristine
Disturbance:	None
Fire:	>10 years

DOMINANT TAXA IN VEGETATION STRATA

Mid Stratum 1: *Banksia telmatiaea*, *Melaleuca viminea* subsp. *viminea*, *Regelia ciliata* (1.2 m, 20%)

Lower Stratum 1: *Melaleuca brevifolia* (0.8 m, 2%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Banksia telmatiaea	1.1	3
Cassytha glabella forma *dispar*	1	0.5
Centrolepis aristata	0.1	0.1
Chaetanthus aristatus	0.3	0.2
Crassula colorata var. *acuminata*	0.1	0.1
Goodenia pulchella subsp. Coastal Plain A (M. Hislop 634)	0.1	0.2
**Hypochaeris glabra*	0.1	0.1
Melaleuca brevifolia	0.8	2
Melaleuca viminea subsp. *viminea*	1.2	15
Regelia ciliata	1.1	2

PHOTO



Site Name:	NEW024
Site Type:	QUADRAT
Dimensions:	10m x 10m
Survey Date:	26/10/2012
GPS Location:	WGS84 (Zone 50) 338189E 6613838N
Vegetation Type:	1
Landform Type:	Flat
Slope Class:	Level (0 degrees)
Soil Type:	Sandy Loam
Soil Colour:	Grey
Rock Outcrop:	No bedrock exposed
CF Abundance:	0%
Vegetation Condition:	1 - Pristine
Disturbance:	None
Fire:	>5 years

DOMINANT TAXA IN VEGETATION STRATA

Mid Stratum 1: *Banksia telmatiaea, Hakea obliqua* subsp. *parviflora, Regelia ciliata* (1.1 m, 77%)

Lower Stratum 1: *Acacia lasiocarpa* var. *lasiocarpa, Melaleuca seriata* (0.9 m, 6%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Acacia lasiocarpa var. *lasiocarpa*	0.9	4
Astroloma glaucescens	0.2	0.1
Austrostipa macalpinei	0.2	0.1
Banksia dallanneyi var. *dallanneyi*	0.1	0.5
Banksia platycarpa (4)	0.4	0.5
Banksia telmatiaea	1	15
Calectasia narragara	0.1	0.1
Cassytha glabella forma *dispar*		0.5
Conostylis aurea	0.2	1
Crassula colorata var. *acuminata*	0.1	0.1
Drosera erythrorhiza subsp. ?*magna*	0.1	0.1
Gompholobium tomentosum	0.3	0.1
Hakea obliqua subsp. *parviflora*	1.1	2
Hibbertia crassifolia	0.2	0.1
Hypocalymma angustifolium	0.2	0.1
Hypolaena exsulca	0.4	0.1
Isopogon panduratus subsp. *palustris* (2)	1.1	0.1
Jacksonia ramulosa	0.3	0.5
Laxmannia ramosa subsp. *ramosa*	0.2	1
Leucopogon conostephioides	0.5	0.1
Lyginia imberbis	0.4	0.1
Melaleuca seriata	0.8	2
Nuytsia floribunda		

Patersonia occidentalis var. ?*occidentalis*	0.2	0.1
Petrophile brevifolia	0.3	0.1
Regelia ciliata	1.1	60
Schoenus clandestinus	0.1	0.1
Trachymene pilosa	0.1	0.1

PHOTO



Site Name:	NEW025
Site Type:	QUADRAT
Dimensions:	10m x 10m
Survey Date:	25/10/2012
GPS Location:	WGS84 (Zone 50) 336713E 6613496N
Vegetation Type:	1
Landform Type:	Lower Slope
Slope Class:	Very Gently Inclined (1 degree)
Aspect:	NW
Soil Type:	Sandy Loam
Soil Colour:	Grey
Rock Outcrop:	No bedrock exposed
CF Abundance:	0%
Vegetation Condition:	1 - Pristine
Disturbance:	None
Fire:	>5 years

DOMINANT TAXA IN VEGETATION STRATA

Mid Stratum 1: *Banksia telmatiaea, Hakea obliqua* subsp. *parviflora* (1.1 m, 36%)

Lower Stratum 1: *Acacia lasiocarpa* var. *lasiocarpa, Daviesia incrassata* subsp. *incrassata, Jacksonia ramulosa* (0.8 m, 10%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Acacia lasiocarpa var. *lasiocarpa*	0.8	5
Acacia stenoptera	0.3	1
Austrostipa macalpinei	0.2	0.1
Banksia dallanneyi var. *dallanneyi*	0.2	0.1
Banksia telmatiaea	1	32
Callitris arenaria	1.2	0.1
Cassytha glabella forma *dispar*		0.5
Centrolepis aristata	0.1	0.1
Centrolepis polygyna	0.1	0.1
Conospermum stoechadis subsp. *stoechadis*	1	0.5
Conostylis aurea	0.2	0.1
Daviesia incrassata subsp. *incrassata*	0.6	3
Drosera humilis	0.1	0.1
Drosera sp.	0.1	0.1
Hakea obliqua subsp. *parviflora*	1.1	4
Hibbertia crassifolia	0.4	0.1
Jacksonia ramulosa	0.3	2
Melaleuca brevifolia	0.4	0.5
Melaleuca seriata	0.3	1
Nuytsia floribunda	3	0.1
Petrophile seminuda	0.5	0.1

Scaevola lanceolata	0.1	0.1
Schoenus subfascicularis	0.8	0.1
Siloxerus humifusus	0.1	0.1
Thysanotus ?sparteus	0.8	0.1
Trachymene pilosa	0.1	0.1
Verticordia densiflora var. *densiflora*	0.8	1

PHOTO



Site Name:	NEW028
Site Type:	QUADRAT
Dimensions:	10m x 10m
Survey Date:	21/11/2012
GPS Location:	WGS84 (Zone 50) 344569E 6616489N
Vegetation Type:	17
Landform Type:	Plain
Slope Class:	Very Gently Inclined (1 degree)
Aspect:	W
Soil Type:	Sand
Soil Colour:	Grey
Rock Outcrop:	No bedrock exposed
CF Abundance:	0%
Vegetation Condition:	1 - Pristine
Disturbance:	None
Fire:	>5 years

DOMINANT TAXA IN VEGETATION STRATA

Upper Stratum 1: *Banksia attenuata, B. menziesii, Eucalyptus todtiana* (5 m, 13%)

Lower Stratum 1: *Hibbertia hypericoides, Melaleuca clavifolia* (0.6 m, 4%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Acacia pulchella var. *reflexa*	1.5	0.8
Alexgeorgea nitens	0.1	0.1
Andersonia lehmanniana subsp. *lehmanniana*	0.3	0.2
Astroloma xerophyllum	0.5	0.3
Banksia attenuata	2.5	4
Banksia menziesii	3	5
Blancoa canescens	0.2	0.2
Bossiaea eriocarpa	0.1	0.1
Calytrix flavescens	0.2	0.2
Calytrix fraseri	0.4	0.2
Chordifex sinuosus	0.3	0.2
Conospermum crassinervium	1	0.8
Conostephium pendulum	0.3	0.3
Dampiera linearis	0.1	0.1
Dasypogon obliquifolius	0.2	0.1
Eremaea asterocarpa subsp. *asterocarpa*	0.3	0.2
Eremaea beaufortioides var. *beaufortioides*	1	0.4
Eucalyptus todtiana	5	4
Gompholobium tomentosum	0.2	0.1
Hensmania turbinata	0.2	0.1
Hibbertia crassifolia	0.4	0.3
Hibbertia huegelii	0.3	0.1

Hibbertia hypericoides	0.6	3
Hibbertia subvaginata	0.3	0.3
Hypocalymma xanthopetalum	0.3	0.2
Hypolaena exsulca	0.3	0.1
Jacksonia floribunda	1.5	0.5
Jacksonia nutans	0.5	0.3
Johnsonia pubescens subsp. *pubescens*	0.1	0.1
Leucopogon conostephioides	0.3	0.2
Lomandra caespitosa	0.3	0.1
Lyginia barbata	0.4	0.5
Melaleuca clavifolia (3)	0.5	1
Patersonia occidentalis var. ?*occidentalis*	0.3	0.1
Petrophile linearis	0.4	0.2
Phlebocarya ciliata	0.3	0.4
Phlebocarya filifolia	0.3	0.1
Stylidium repens	0.1	0.1
Tripterococcus brunonis	0.3	0.1

PHOTO



Site Name:	NEW029
Site Type:	QUADRAT
Dimensions:	10m x 10m
Survey Date:	21/11/2012
GPS Location:	WGS84 (Zone 50) 344159E 6615738N
Vegetation Type:	2
Landform Type:	Open Depression
Slope Class:	Level (0 degrees)
Soil Type:	Clay with Sand (other)
Soil Colour:	Grey and Brown (other)
Rock Outcrop:	No bedrock exposed
CF Abundance:	0%
Vegetation Condition:	1 - Pristine
Disturbance:	None
Fire:	>5 years

DOMINANT TAXA IN VEGETATION STRATA

Lower Stratum 1: *Calothamnus hirsutus*, *Kunzea micrantha* subsp. *petiolata*, *Melaleuca viminea* subsp. *viminea* (0.7m, 38%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Calothamnus hirsutus	0.3	20
Gnephosis drummondii	0.1	0.1
Hakea trifurcata	0.6	0.6
Hypolaena exsulca	0.3	0.1
Isopogon panduratus subsp. *palustris* (2)	0.3	0.1
Kunzea micrantha subsp. *petiolata*	0.7	15
Melaleuca brevifolia	0.4	3
Petrophile seminuda	0.4	0.1
Samolus junceus	0.3	0.1
Scaevola anchusifolia	0.1	0.1
Schoenus subfascicularis	0.3	0.6
Verticordia densiflora var. *densiflora*	0.3	0.5

PHOTO



Site Name:	NEW030
Site Type:	QUADRAT
Dimensions:	10m x 10m
Survey Date:	19/11/2012
GPS Location:	WGS84 (Zone 50) 345253E 6614752N
Vegetation Type:	5
Landform Type:	Flat
Slope Class:	Level (0 degrees)
Soil Type:	Light Clay with Sand (other)
Soil Colour:	Grey
Rock Outcrop:	No bedrock exposed
CF Abundance:	0%
Vegetation Condition:	1 - Pristine
Disturbance:	None
Fire:	>5 years

DOMINANT TAXA IN VEGETATION STRATA

Lower Stratum 1: *Banksia telmatiaea, Melaleuca seriata, Verticordia densiflora* var. *densiflora* (0.6 m, 44%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Banksia attenuata	0.8	0.2
Banksia prionotes	1.5	0.2
Banksia telmatiaea	0.6	30
Calothamnus hirsutus	0.4	1
Calytrix aurea	1	0.1
Cassytha flava		0.3
Conostylis juncea	0.3	0.1
Gompholobium tomentosum	0.3	0.1
Hypocalymma angustifolium	0.3	1
Melaleuca seriata	0.5	4
Petrophile brevifolia	0.2	0.1
Schoenus rigens	0.3	0.1
Stylidium dichotomum	0.1	0.1
Verticordia densiflora var. *densiflora*	0.6	10
Verticordia lindleyi subsp. *lindleyi* (4)	1	0.1

PHOTO



Site Name:	NEW031
Site Type:	QUADRAT
Dimensions:	10m x 10m
Survey Date:	19/11/2012
GPS Location:	WGS84 (Zone 50) 344993E 6614863N
Vegetation Type:	17
Landform Type:	Simple Slope
Slope Class:	Very Gently Inclined (1 degree)
Aspect:	SE
Soil Type:	Sand
Soil Colour:	Grey
Rock Outcrop:	No bedrock exposed
CF Abundance:	0%
Vegetation Condition:	1 - Pristine
Disturbance:	None
Fire:	>5 years

DOMINANT TAXA IN VEGETATION STRATA

Upper Stratum 1:	*Nuytsia floribunda* (5 m, 15%)
Upper Stratum 2:	*Banksia attenuata*, *B. menziesii* (3 m, 4%)
Mid Stratum 1:	*Acacia pulchella* var. *reflexa*, *Conospermum stoechadis* subsp. *stoechadis*, *Eremaea beaufortioides* var. *beaufortioides*, *Hibbertia hypericoides*, *Jacksonia nutans* (1.8 m, 26%)
Lower Stratum 1:	*Mesomelaena pseudostygia* (0.3 m, 3%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Acacia auronitens	0.4	0.1
Acacia pulchella var. *reflexa*	1.5	4
Acacia sphacelata subsp. *verticillata*	0.3	0.2
Alexgeorgea nitens	0.1	0.1
Banksia attenuata	3	1
Banksia menziesii	2.5	3
Blancoa canescens	0.2	0.1
Bossiaea eriocarpa	0.3	0.2
Burchardia congesta	0.4	0.1
Conospermum stoechadis subsp. *stoechadis*	1	3
Conostylis juncea	0.3	0.2
Conostylis sp.	0.2	0.1
Dasypogon obliquifolius	0.5	0.5
Eremaea beaufortioides var. *beaufortioides*	1.8	2
Gompholobium tomentosum	0.3	0.1
Hakea costata	1.5	0.5
Hibbertia hypericoides	1	15

Hypocalymma xanthopetalum	0.3	0.2
Hypolaena exsulca	0.3	0.2
Jacksonia nutans	1	2
Leptospermum spinescens	0.3	0.4
Macrozamia fraseri	1.5	1.5
Melaleuca clavifolia (3)	0.4	1.5
Mesomelaena pseudostygia	0.3	3
Nuytsia floribunda	5	15
Petrophile linearis	1	1
Schoenus clandestinus	0.1	0.1
Schoenus pleiostemoneus	0.3	0.1
Stylidium repens	0.1	0.1
Trachymene pilosa	0.1	0.1
**Ursinia anthemoides*	0.1	0.1

PHOTO



Site Name: NEW032
Site Type: QUADRAT
Dimensions: 10m x 10m
Survey Date: 20/11/2012
GPS Location: WGS84 (Zone 50) 345815E 6610880N
Vegetation Type: 18
Landform Type: Upper Slope
Slope Class: Gently Inclined (3 degrees)
Aspect: SE
Soil Type: Sand
Soil Colour: Grey
Rock Outcrop: No bedrock exposed
CF Abundance: 0%
Vegetation Condition: 1 - Pristine
Disturbance: None
Fire: <5 years

DOMINANT TAXA IN VEGETATION STRATA

Upper Stratum 1: *Banksia menziesii* (3 m, 8%)
Mid Stratum 1: *Conospermum stoechadis* subsp. *stoechadis*, *Jacksonia floribunda* (1.2 m, 22%)
Lower Stratum 1: *Eremaea pauciflora* (0.6 m, 20%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Allocasuarina humilis	0.6	1.5
Amphipogon turbinatus	0.1	0.1
Banksia attenuata	0.3	0.4
Banksia menziesii	3	8
Boronia ramosa subsp. *anethifolia*	0.2	0.1
Bossiaea eriocarpa	0.1	0.1
Calytrix flavescens	0.2	0.1
Cassytha ?flava		0.4
Comesperma calymega	0.1	0.1
Conospermum stoechadis subsp. *stoechadis*	1.1	12
Conostephium pendulum	0.3	0.3
Eremaea asterocarpa subsp. *asterocarpa*	0.2	0.3
Eremaea pauciflora	0.6	20
Hibbertia huegelii	0.3	0.1
Hibbertia hypericoides	0.5	1
Hypocalymma xanthopetalum	0.2	0.1
Jacksonia floribunda	1.2	10
Lechenaultia linarioides	0.2	0.4
Lepidobolus preissianus	0.4	0.1
Leptospermum spinescens	0.3	0.5
Leucopogon ?sprengelioides	0.2	0.2

Melaleuca seriata	0.5	1
Mesomelaena pseudostygia	0.3	0.1
Petrophile brevifolia	0.2	0.2
Petrophile linearis	0.2	0.4
Petrophile macrostachya	0.2	0.2
Stylidium adpressum	0.1	0.1
Stylidium diuroides subsp. *diuroides*	0.4	0.1
Trachymene pilosa	0.1	0.1
Verticordia densiflora var. *cespitosa*	0.8	0.5
Waitzia suaveolens var. *suaveolens*	0.1	0.1

PHOTO



Site Name:	NEW033
Site Type:	QUADRAT
Dimensions:	10m x 10m
Survey Date:	19/11/2012
GPS Location:	WGS84 (Zone 50) 343994E 6614446N
Vegetation Type:	17
Landform Type:	Undulating Plain (other)
Slope Class:	Very Gently Inclined (1 degree)
Soil Type:	Sand
Soil Colour:	Grey
Rock Outcrop:	No bedrock exposed
CF Abundance:	0%
Vegetation Condition:	1 - Pristine
Disturbance:	None
Fire:	<5 years

DOMINANT TAXA IN VEGETATION STRATA

Upper Stratum 1:	*Banksia attenuata* (3 m, 20%)
Mid Stratum 1:	*Calytrix fraseri*, *Melaleuca clavifolia* (1.3 m, 29%)
Lower Stratum 1:	*Hibbertia* sp. Gnangara (J.R. Wheeler 2329), *Hypocalymma xanthopetalum* (0.7 m, 5%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Banksia attenuata	3	20
Banksia prionotes	0.3	0.1
Boronia ramosa subsp. *anethifolia*	0.4	0.3
Calytrix fraseri	1.3	4
Cassytha ?flava		0.1
Eremaea asterocarpa subsp. *asterocarpa*	0.3	0.5
Goodenia coerulea	0.2	0.1
Hibbertia sp. Gnangara (J.R. Wheeler 2329)	0.3	3.3
Hypocalymma xanthopetalum	0.7	2
Jacksonia nutans	0.2	0.1
Melaleuca clavifolia (3)	1	25
Melaleuca seriata	0.3	0.3
Myrtaceae sp.	0.4	0.1
Petrophile linearis	0.4	0.2
Scholtzia involucrata	1.1	0.8

PHOTO



Site Name:	NEW034
Site Type:	QUADRAT
Dimensions:	10m x 10m
Survey Date:	19/11/2012
GPS Location:	WGS84 (Zone 50) 343693E 6613220N
Vegetation Type:	17
Landform Type:	Simple Slope
Slope Class:	Gently Inclined (3 degrees)
Aspect:	SW
Soil Type:	Sand
Soil Colour:	Grey
Rock Outcrop:	No bedrock exposed
CF Abundance:	0%
Vegetation Condition:	2 - Excellent
Disturbance:	None
Fire:	<5 years

DOMINANT TAXA IN VEGETATION STRATA

Upper Stratum 1:	*Eucalyptus todtiana* (3 m, 5%)
Mid Stratum 1:	*Xanthorrhoea preissii* (1 m, 5%)
Lower Stratum 1:	*Bossiaea eriocarpa*, *Eremaea asterocarpa* subsp. *asterocarpa*, *Hibbertia hypericoides*, *Melaleuca clavifolia* (0.8 m, 12%)
Lower Stratum 2:	*Patersonia occidentalis* var. ?*occidentalis* (0.5 m, 2%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Acacia pulchella	1	0.1
Banksia attenuata	0.4	0.5
Banksia prionotes	0.2	0.5
Bossiaea eriocarpa	0.3	3
Conostylis aculeata subsp. *spinuligera*	0.2	0.1
Eremaea asterocarpa subsp. *asterocarpa*	0.8	5
Eucalyptus todtiana	3	5
Gompholobium tomentosum	0.2	0.1
Hibbertia hypericoides	0.6	2
Hibbertia sp. Gnangara (J.R. Wheeler 2329)	0.3	0.5
Hibbertia subvaginata	0.4	0.5
Hypocalymma xanthopetalum	0.2	0.2
Jacksonia nutans	0.3	0.6
Melaleuca clavifolia (3)	0.5	2
Myrtaceae sp.	0.1	0.1
Patersonia occidentalis var. ?*occidentalis*	0.5	2
Petrophile linearis	0.5	0.5
?*Pileanthus* sp.	0.1	0.1
Xanthorrhoea preissii	1	5

PHOTO



Site Name: NEW036
Site Type: QUADRAT
Dimensions: 10m x 10m
Survey Date: 19/11/2012
GPS Location: WGS84 (Zone 50) 345121E 6614377N
Vegetation Type: 17
Landform Type: Plain
Slope Class: Level (0 degrees)
Soil Type: Sand
Soil Colour: Grey
Rock Outcrop: No bedrock exposed
CF Abundance: 0%
Vegetation Condition: 1 - Pristine
Disturbance: None
Fire: >5 years

DOMINANT TAXA IN VEGETATION STRATA

Upper Stratum 1: *Banksia attenuata* (3 m, 5%)
Mid Stratum 1: *Jacksonia nutans*, *Melaleuca seriata* (1.2 m, 15%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Actinotus leucocephalus	0.1	0.1
Alexgeorgea nitens	0.1	0.1
Amphipogon turbinatus	0.1	0.1
Austrostipa compressa	0.2	0.1
Banksia attenuata	3	5
Banksia menziesii	1.8	0.2
Bossiaea eriocarpa	0.3	0.2
Conostylis juncea	0.3	0.1
Dampiera linearis	0.2	0.1
Dasypogon obliquifolius	0.3	0.3
Drosera eneabba	0.1	0.1
Eremaea asterocarpa subsp. *asterocarpa*	0.4	0.6
Gompholobium tomentosum	0.5	0.1
Hibbertia crassifolia	0.3	0.3
Hibbertia sp. Gnangara (J.R. Wheeler 2329)	0.3	0.2
Hibbertia subvaginata	0.4	0.3
Hypocalymma xanthopetalum	0.3	0.3
Jacksonia nutans	1	5
Lepidosperma pubisquameum	0.2	0.1
Leucopogon oldfieldii	0.4	0.1
Leucopogon sp. Coujinup (M.A. Burgman 1085)	0.2	0.2
Melaleuca clavifolia (3)	0.5	1.5
Melaleuca seriata	1.2	10

Patersonia occidentalis var. ?*occidentalis*	0.3	1.5
Philotheca spicata	0.6	0.2
Schoenus ?*brevisetis*	0.4	0.2
Stylidium repens	0.1	0.3
Stylidium rigidulum	0.1	0.1
Xanthosia huegelii	0.1	0.1

PHOTO



Site Name:	NEW037
Site Type:	QUADRAT
Dimensions:	10m x 10m
Survey Date:	20/11/2012
GPS Location:	WGS84 (Zone 50) 346472E 6614394N
Vegetation Type:	18
Landform Type:	Plain
Slope Class:	Very Gently Inclined (1 degree)
Aspect:	W
Soil Type:	Sand
Soil Colour:	Grey
Rock Outcrop:	No bedrock exposed
CF Abundance:	0%
Vegetation Condition:	2 - Excellent
Disturbance:	Stressed/dead *Banksias* (other)
Fire:	>5 years

DOMINANT TAXA IN VEGETATION STRATA

Mid Stratum 1: *Adenanthos cygnorum* subsp. *cygnorum, Conospermum incurvum* (1.5 m, 10%)

Lower Stratum 1: *Daviesia podophylla, Hibbertia hypericoides, Petrophile macrostachya* (0.4 m, 8%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Adenanthos cygnorum subsp. *cygnorum*	1.5	8
Amphipogon turbinatus	0.2	0.1
Astroloma glaucescens	0.2	1.5
Banksia prionotes	1.5	0.5
Beaufortia elegans	1.2	1
Blancoa canescens	0.1	0.1
Burchardia congesta	0.3	0.1
Calytrix fraseri	0.2	0.2
Chordifex sinuosus	0.2	0.1
Conospermum incurvum	1	2
Conospermum stoechadis subsp. *stoechadis*	0.6	0.3
Conostephium pendulum	0.3	0.2
Conostylis aurea	0.2	0.1
Conostylis teretifolia subsp. *teretifolia*	0.1	0.1
Dasypogon obliquifolius	0.3	0.4
Daviesia podophylla	0.4	4
Desmocladus fasciculatus	0.2	0.1
Eremaea asterocarpa subsp. *asterocarpa*	0.3	0.1
Eremaea beaufortioides var. *beaufortioides*	1	1
Gastrolobium oxylobioides	0.3	0.1
Hakea costata	1.3	1
Hemiphora bartlingii	0.4	0.2

Hibbertia crassifolia	0.3	0.2
Hibbertia huegelii	0.2	0.3
Hibbertia hypericoides	0.6	2
Hypocalymma xanthopetalum	0.7	0.4
Lepidobolus preissianus	0.3	0.1
Leucopogon conostephioides	0.3	0.2
Leucopogon sp. Lesueur (B. Evans 530)	0.4	0.1
Lomandra caespitosa	0.2	0.1
Lysinema pentapetalum	0.7	0.2
Melaleuca clavifolia (3)	0.4	1
Mesomelaena pseudostygia	0.3	1
Patersonia occidentalis var. ?*occidentalis*	0.3	0.2
Persoonia comata	0.4	0.3
Petrophile linearis	0.4	0.1
Petrophile macrostachya	0.4	2
Pileanthus filifolius	0.6	1
Scaevola repens var. *repens*	0.1	0.1
Schoenus ?*brevisetis*	0.3	0.3
Schoenus clandestinus	0.1	0.1
Schoenus pleiostemoneus	0.1	0.1
Stirlingia latifolia	1.2	0.8
Stylidium crossocephalum	0.1	0.1
Synaphea spinulosa subsp. *spinulosa*	0.3	0.2
Tricoryne ?*elatior*	0.2	0.1
Verreauxia reinwardtii	0.5	0.2
Verticordia densiflora var. *densiflora*	0.5	0.2
Verticordia grandis	1.5	1

PHOTO



Site Name:	NEW038
Site Type:	QUADRAT
Dimensions:	10m x 10m
Survey Date:	20/11/2012
GPS Location:	WGS84 (Zone 50) 346674E 6614045N
Vegetation Type:	5
Landform Type:	Open Depression
Slope Class:	Very Gently Inclined (1 degree)
Aspect:	W
Soil Type:	Clay Loam
Soil Colour:	Grey and Brown (other)
Rock Outcrop:	No bedrock exposed
CF Abundance:	0%
Vegetation Condition:	1 - Pristine
Disturbance:	None
Fire:	>5 years

DOMINANT TAXA IN VEGETATION STRATA

Mid stratum 1:	*Melaleuca preissiana* (2 m, 4%)
Mid Stratum 2:	*Banksia telmatiaea*, *Conospermum stoechadis* subsp. *stoechadis*, *Jacksonia hakeoides*, *Verticordia densiflora* var. *densiflora* (1.3 m, 42%)
Lower Stratum 1:	*Melaleuca seriata* (0.6 m, 2%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Anigozanthos ?pulcherrimus	0.3	0.1
Banksia telmatiaea	1	20
Calothamnus sanguineus	0.5	0.2
Calytrix aurea	1.8	1
Calytrix depressa	0.5	0.5
Cassytha flava		1
Conospermum stoechadis subsp. *stoechadis*	1	5
Conostylis juncea	0.3	1.5
Eremaea asterocarpa subsp. *asterocarpa*	0.6	0.4
Gompholobium tomentosum	0.5	0.2
Goodenia pulchella subsp. Coastal Plain A (M. Hislop 634)	0.1	0.1
Hakea costata	1.2	1
Hakea obliqua subsp. *parviflora*	1.5	0.3
Hakea varia	1.2	0.7
Hibbertia subvaginata	0.5	0.4
Hypocalymma angustifolium	0.5	0.3
Isopogon panduratus subsp. *palustris* (2)	1	1
Jacksonia hakeoides	1.3	2
Melaleuca preissiana	2	4

Melaleuca seriata	0.6	2
Petrophile brevifolia	0.5	0.2
Pimelea imbricata var. *piligera*	0.2	0.1
Stylidium dichotomum	0.1	0.1
Stylidium purpureum ms	0.2	0.1
Verticordia densiflora var. *densiflora*	1	15
Verticordia lindleyi subsp. *lindleyi* (4)	0.6	0.2
Xanthorrhoea preissii	1	0.5

PHOTO



Site Name:	NEW039
Site Type:	QUADRAT
Dimensions:	10m x 10m
Survey Date:	20/11/2012
GPS Location:	WGS84 (Zone 50) 346738E 6613551N
Vegetation Type:	17
Landform Type:	Plain
Slope Class:	Very Gently Inclined (1 degree)
Aspect:	W
Soil Type:	Sand
Soil Colour:	Grey
Rock Outcrop:	No bedrock exposed
CF Abundance:	0%
Vegetation Condition:	1 - Pristine
Disturbance:	None
Fire:	> 5 years

DOMINANT TAXA IN VEGETATION STRATA

Mid Stratum 1: *Banksia attenuata*, *Eremaea beaufortioides* var. *beaufortioides*, *Jacksonia floribunda* (1.5 m, 6.8 %)

Lower Stratum 1: *Daviesia podophylla* (0.6 m, 1.5%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Adenanthos cygnorum subsp. *cygnorum*	0.2	0.1
Alexgeorgea nitens	0.1	0.1
Amphipogon turbinatus	0.3	0.1
Astroloma xerophyllum	0.3	0.3
Banksia attenuata	1.5	1.2
Blancoa canescens	0.1	0.2
Calytrix angulata	0.3	0.5
Cassytha flava		0.4
Chordifex sinuosus	0.2	0.2
Comesperma calymega	0.1	0.1
Conostephium pendulum	0.2	0.2
Conostylis juncea	0.3	0.2
Darwinia sp. Watheroo (I.R. McGill 20)	0.3	0.2
Dasypogon obliquifolius	0.3	0.4
Daviesia podophylla	0.6	1.5
Drosera eneabba	0.1	0.1
Eremaea asterocarpa subsp. *asterocarpa*	0.5	1
Eremaea beaufortioides var. *beaufortioides*	1.2	4
Hibbertia crassifolia	0.3	0.3
Hibbertia hypericoides	0.5	0.5
Hibbertia sp. Gnangara (J.R. Wheeler 2329)	0.3	0.5

Hibbertia subvaginata	0.2	0.2
Hypocalymma xanthopetalum	0.2	0.1
Jacksonia floribunda	1.5	1.6
Jacksonia nutans	0.6	1
Leucopogon conostephioides	0.3	0.2
Lyginia barbata	0.3	0.2
Melaleuca clavifolia (3)	0.5	1
Mesomelaena pseudostygia	0.3	0.2
Patersonia occidentalis var. ?*occidentalis*	0.3	0.2
Petrophile linearis	0.4	0.2
Petrophile seminuda	0.4	0.2
Philotheca spicata	0.4	0.2
Phlebocarya filifolia	0.2	0.1
Schoenus curvifolius	0.2	0.1
Schoenus griffinianus (3)	0.1	0.1
Scholtzia involucrata	0.3	1
Stirlingia latifolia	1.2	1
Stylidium repens	0.1	0.1
Synaphea spinulosa subsp. *spinulosa*	0.3	0.2

PHOTO



Site Name: NEW040
Site Type: QUADRAT
Dimensions: 10m x 10m
Survey Date: 22/10/2012
GPS Location: WGS84 (Zone 50) 329934E 6612966N
Vegetation Type: 13
Landform Type: Flat
Slope Class: Level (0 degrees)
Soil Type: Clay Loam
Soil Colour: White
Rock Outcrop: No bedrock exposed
CF Abundance: 0%
Vegetation Condition: 2 - Excellent
Disturbance: None
Fire: >5 years

DOMINANT TAXA IN VEGETATION STRATA

Lower Stratum 1: *Sarcocornia quinqueflora, Tecticornia indica* subsp. *bidens* (0.4 m, 6%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Angianthus preissianus	0.1	0.1
Cotula cotuloides	0.1	1
Eryngium pinnatifidum subsp. *pinnatifidum* ms	0.2	0.1
**Hordeum hystrix*	0.1	0.1
Lawrencia squamata	0.3	0.5
**Polypogon monspeliensis*	0.2	0.1
Samolus junceus	0.2	0.1
Sarcocornia quinqueflora	0.3	3
Tecticornia indica subsp. *bidens*	0.4	3
Wilsonia humilis	0.1	1.5

PHOTO



Site Name: NEW041
Site Type: QUADRAT
Dimensions: 10m x 10m
Survey Date: 19/11/2012
GPS Location: WGS84 (Zone 50) 347305E 6612871N
Vegetation Type: 18
Landform Type: Simple Slope
Slope Class: Very Gently Inclined (1 degree)
Aspect: SW
Soil Type: Sand
Soil Colour: Grey
Rock Outcrop: No bedrock exposed
CF Abundance: 0%
Vegetation Condition: 1 - Pristine
Disturbance: None
Fire: >5 years

DOMINANT TAXA IN VEGETATION STRATA

Mid Stratum 1: *Allocasuarina humilis* (1.2 m, 5%)
Lower Stratum 1: *Eremaea pauciflora, Hibbertia hypericoides* (0.6 m, 18%)
Lower Stratum 2: *Mesomelaena pseudostygia* (0.5 m, 2%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Acacia pulchella var. *reflexa*	0.6	0.1
Allocasuarina humilis	1.2	5
Andersonia lehmanniana subsp. *lehmanniana*	0.4	0.1
Anigozanthos humilis subsp. *humilis*	0.1	0.1
Astroloma glaucescens	0.2	0.3
Bossiaea eriocarpa	0.3	0.2
Calothamnus sanguineus	0.4	1
Cassytha flava		0.1
Caustis dioica	0.3	0.1
Conostephium pendulum	0.2	0.1
Conostylis aculeata subsp. *spinuligera*	0.1	0.1
Conostylis aurea	0.2	0.2
Conostylis teretifolia subsp. *teretifolia*	0.1	0.1
Dasypogon obliquifolius	0.3	0.2
Daviesia incrassata subsp. *incrassata*	0.4	0.3
Daviesia podophylla	0.4	0.3
Desmocladus virgatus	0.3	0.1
Eremaea asterocarpa subsp. *asterocarpa*	0.5	0.5
Eremaea pauciflora	0.6	3
Eremaea pauciflora var. ?*lonchophylla*	0.4	0.2
Eucalyptus todtiana		

Hakea flabellifolia	0.5	0.6
Hibbertia crassifolia	0.3	0.2
Hibbertia huegelii	0.2	0.1
Hibbertia hypericoides	0.6	15
Jacksonia nutans	0.5	0.2
Lepidobolus preissianus	0.3	0.1
Leptospermum spinescens	0.6	0.2
Leucopogon conostephioides	0.3	0.1
Leucopogon sp. Lesueur (B. Evans 530)	0.3	0.1
Lomandra caespitosa	0.3	0.1
Lyginia barbata	0.3	0.1
Lysinema pentapetalum	0.4	0.1
Melaleuca clavifolia (3)	0.4	1
Melaleuca seriata	0.3	0.2
Mesomelaena pseudostygia	0.5	2
Mesomelaena tetragona	0.3	0.1
Neurachne alopecuroidea	0.3	0.1
Nuytsia floribunda		
Patersonia occidentalis var. ?*occidentalis*	0.3	0.1
Petrophile linearis	0.3	0.1
Petrophile macrostachya	0.5	0.3
Petrophile seminuda	0.3	0.2
Pileanthus filifolius	0.5	0.1
Pimelea imbricata var. *piligera*	0.3	0.1
Schoenus brevisetis	0.2	0.1
Schoenus clandestinus	0.1	0.1
Schoenus griffinianus (3)	0.1	0.1
Schoenus pleiostemoneus	0.1	0.1
Stylidium dichotomum	0.1	0.1
Stylidium diuroides subsp. *diuroides*	0.2	0.1
Synaphea spinulosa subsp. *spinulosa*	0.3	0.1
Verticordia densiflora var. *densiflora*	0.3	0.1
Verticordia pennigera	0.3	0.2
Xanthorrhoea preissii	1.2	0.7

PHOTO



Site Name: NEW042
Site Type: QUADRAT
Dimensions: 10m x 10m
Survey Date: 19/11/2012
GPS Location: WGS84 (Zone 50) 348420E 6611792N
Vegetation Type: 17
Landform Type: Undulating Plain (other)
Slope Class: Very Gently Inclined (1 degree)
Soil Type: Sand
Soil Colour: Grey
Rock Outcrop: No bedrock exposed
CF Abundance: 0%
Vegetation Condition: 1 - Pristine
Disturbance: None
Fire: <5 years

DOMINANT TAXA IN VEGETATION STRATA

Upper Stratum 1: *Banksia attenuata, B. menziesii* (3 m, 11%)
Mid Stratum 1: *Adenanthos cygnorum* subsp. *cygnorum, Stirlingia latifolia* (1.5 m, 12%)
Lower Stratum 1: *Eremaea asterocarpa* subsp. *asterocarpa* (0.5 m, 4%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Adenanthos cygnorum subsp. *cygnorum*	1.5	6
Alexgeorgea nitens	0.1	0.1
Allocasuarina humilis	0.5	0.5
Anigozanthos humilis subsp. *humilis*	0.4	0.1
Banksia attenuata	2.5	5
Banksia menziesii	3	6
Bossiaea eriocarpa	0.3	0.3
Cassytha ?flava		0.1
Conospermum crassinervium	1	0.5
Conostephium pendulum	0.2	0.1
Dasypogon obliquifolius	0.2	0.5
Daviesia incrassata	0.5	1
Eremaea asterocarpa subsp. *asterocarpa*	0.5	4
Eremaea pauciflora	0.3	0.5
Hakea psilorrhyncha	1.5	0.8
Hemiandra linearis	0.2	0.1
Hibbertia hypericoides	0.2	0.2
Hibbertia sp. Gnangara (J.R. Wheeler 2329)	0.3	0.1
Hibbertia subvaginata	0.5	0.5
Hypocalymma xanthopetalum	0.5	0.4
Jacksonia floribunda	0.5	0.4
Johnsonia pubescens subsp. *pubescens*	0.1	0.1

Leucopogon conostephioides	0.2	0.2
Mesomelaena pseudostygia	0.6	0.3
Patersonia occidentalis var. ?*occidentalis*	0.4	0.4
Petrophile linearis	0.3	0.3
Scholtzia involucrata	0.2	0.1
Stirlingia latifolia	1	6
Synaphea spinulosa subsp. *spinulosa*	0.3	0.2
Thysanotus thyrsoideus		0.1

PHOTO



Site Name: NEW044
Site Type: QUADRAT
Dimensions: 10m x 10m
Survey Date: 20/11/2012
GPS Location: WGS84 (Zone 50) 348943E 6611245N
Vegetation Type: 5
Landform Type: Undulating Plain (other)
Slope Class: Very Gently Inclined (1 degree)
Soil Type: Sand
Soil Colour: Grey
Rock Outcrop: No bedrock exposed
CF Abundance: 0%
Vegetation Condition: 1 - Pristine
Disturbance: None
Fire: >5 years

DOMINANT TAXA IN VEGETATION STRATA

Lower Stratum 1: *Banksia telmatiaea*, *Isopogon panduratus* subsp. *palustris* (0.7 m, 90%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Acacia pulchella var. *reflexa*	0.4	0.1
Andersonia gracilis (T)	0.6	0.5
Banksia dallanneyi var. *dallanneyi*	0.1	1
Banksia telmatiaea	0.6	85
Beaufortia squarrosa	0.7	1
Calothamnus sanguineus	0.5	0.5
Calytrix depressa	0.4	0.1
Calytrix flavescens	0.4	0.5
Cassytha aurea var. *hirta*		0.4
Cassytha ?*flava*		0.4
Conospermum stoechadis subsp. *stoechadis*	0.8	0.8
Hibbertia stellaris	0.3	0.1
Isopogon panduratus subsp. *palustris* (2)	0.8	5
Jacksonia hakeoides	0.5	0.2
Kunzea micrantha subsp. *petiolata*	0.9	1
Lechenaultia stenosepala	0.3	0.1
Melaleuca seriata	0.6	0.5
?*Patersonia* sp.	0.4	1
Petrophile brevifolia	0.5	0.1
Stylidium dichotomum	0.1	0.1
Verticordia densiflora	0.7	0.8
Verticordia ?*lindleyi* subsp. *lindleyi*	0.2	0.1
Xanthorrhoea preissii	1.8	1

PHOTO



Site Name:	NEW045
Site Type:	QUADRAT
Dimensions:	10m x 10m
Survey Date:	20/11/2012
GPS Location:	WGS84 (Zone 50) 345510E 6610442N
Vegetation Type:	9b
Landform Type:	Undulating Plain (other)
Slope Class:	Very Gently Inclined (1 degree)
Aspect:	SW
Soil Type:	Sand
Soil Colour:	Grey
Rock Outcrop:	No bedrock exposed
CF Abundance:	0%
Vegetation Condition:	1 - Pristine
Disturbance:	None
Fire:	<5 years

DOMINANT TAXA IN VEGETATION STRATA

Upper Stratum 1: *Eucalyptus rudis* subsp. *rudis* (6 m, 55%)

Mid Stratum 1: *Melaleuca acutifolia, M. viminea* subsp. *viminea* (2 m, 4%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Acacia saligna subsp. *lindleyi* ms	0.6	0.2
**Aira cupaniana*	0.1	0.1
Angianthus tomentosus	0.1	0.1
Bulbine semibarbata	0.1	0.1
**Cerastium glomeratum*	0.1	0.1
Daucus glochidiatus	0.1	0.1
**Ehrharta longiflora*	0.1	0.1
Eucalyptus rudis subsp. *rudis*	6	55
Goodenia pulchella subsp. Coastal Plain A (M. Hislop 634)	0.1	0.1
**Lysimachia arvensis*	0.2	0.1
Melaleuca acutifolia	2	1
Melaleuca incana subsp. *incana*	0.3	0.3
Melaleuca viminea subsp. *viminea*	2	3
Patersonia occidentalis var. ?*occidentalis*	0.4	0.2
Podotheca gnaphalioides	0.2	0.1
Rhodanthe citrina	0.1	0.1
**Sonchus oleraceus*	0.3	0.1
Trachymene pilosa	0.1	0.1
**Vulpia* sp.	0.3	0.1

PHOTO



Site Name:	NEW050
Site Type:	QUADRAT
Dimensions:	10m x 10m
Survey Date:	20/11/2012
GPS Location:	WGS84 (Zone 50) 346173E 6611677N
Vegetation Type:	2
Landform Type:	Undulating Plain (other)
Slope Class:	Very Gently Inclined (1 degree)
Soil Type:	Light Clay
Soil Colour:	Grey
Rock Outcrop:	No bedrock exposed
CF Abundance:	0%
Vegetation Condition:	1 - Pristine
Disturbance:	None
Fire:	<5 years

DOMINANT TAXA IN VEGETATION STRATA

Mid Stratum 1: *Kunzea micrantha* subsp. *petiolata* (1 m, 75%)

Lower Stratum 1: *Banksia telmatiaea, Calothamnus sanguineus* (0.4 m, 7%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Banksia telmatiaea	0.3	5
Calothamnus sanguineus	0.4	2
Goodenia pulchella subsp. Coastal Plain A (M. Hislop 634)	0.1	0.1
Kunzea micrantha subsp. *petiolata*	1	75
Lepidosperma sp.	0.3	0.5
Melaleuca ?*acutifolia*	0.4	0.5
Melaleuca incana subsp. *incana*	0.5	1
Schoenus ?*subfascicularis*	0.4	0.3

PHOTO



Site Name:	NEW051
Site Type:	QUADRAT
Dimensions:	10m x 10m
Survey Date:	20/11/2012
GPS Location:	WGS84 (Zone 50) 343726E 6611242N
Vegetation Type:	18
Landform Type:	Undulating Plain (other)
Slope Class:	Very Gently Inclined (1 degree)
Aspect:	SE
Soil Type:	Sand
Soil Colour:	Orange
Rock Outcrop:	No bedrock exposed
CF Abundance:	0%
Vegetation Condition:	1 - Pristine
Disturbance:	None
Fire:	<5 years

DOMINANT TAXA IN VEGETATION STRATA

Upper Stratum 1: *Banksia attenuata*, *Nuytsia floribunda* (3 m, 15%)

Mid Stratum 1: *Conospermum stoechadis* subsp. *stoechadis*, *Hakea costata*, *Jacksonia nutans* (1.3 m, 30%)

Lower Stratum 1: *Acacia pulchella* var. *reflexa*, *Banksia dallanneyi* var. *dallanneyi*, *Eremaea pauciflora* (0.8 m, 9%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Acacia pulchella var. *reflexa*	0.8	2
Allocasuarina humilis		0.8
Amphipogon turbinatus	0.3	0.1
Anigozanthos humilis subsp. *humilis*	0.2	0.2
Arnocrinum preissii	0.3	0.1
Banksia attenuata	3	12
Banksia dallanneyi var. *dallanneyi*	0.2	2
Banksia menziesii		0.3
Banksia telmatiaea	0.6	2
Boronia ramosa subsp. *anethifolia*	0.2	0.3
Bossiaea eriocarpa	0.3	0.3
Cassytha glabella forma *dispar*		0.2
Conospermum stoechadis subsp. *stoechadis*	1	15
Eremaea pauciflora	0.3	5
Gompholobium tomentosum	0.2	0.1
Hakea costata	1.1	5
Hemiandra linearis	0.3	0.1
Hibbertia huegelii	0.3	0.2
Hibbertia subvaginata	0.4	0.1

Jacksonia nutans	1.3	10
Melaleuca clavifolia (3)	0.4	0.5
Mesomelaena pseudostygia	0.4	0.1
Nuytsia floribunda	1.5	1
Patersonia occidentalis var. ?*occidentalis*	0.3	0.8
Podotheca gnaphalioides	0.1	0.1
Schoenus clandestinus	0.1	0.1
Stackhousia ?*monogyna*	0.4	0.2
Trachymene pilosa	0.1	0.1
**Ursinia anthemoides*	0.1	0.1
**Vulpia* sp.	0.1	0.1
**Wahlenbergia capensis*	0.1	0.1
Wahlenbergia gracilenta	0.1	0.1
Waitzia suaveolens var. *suaveolens*	0.1	0.2
Xanthorrhoea preissii	1.1	1

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Site Name:	NEW052
Site Type:	QUADRAT
Dimensions:	10m x 10m
Survey Date:	24/10/2012
GPS Location:	WGS84 (Zone 50) 332569E 6613223N
Vegetation Type:	1
Landform Type:	Lower Slope
Slope Class:	Gently Inclined (3 degrees)
Aspect:	NE
Soil Type:	Sand
Soil Colour:	Pale Brown (other)
Rock Outcrop:	No bedrock exposed
CF Abundance:	0%
Vegetation Condition:	1 - Pristine
Disturbance:	None
Fire:	>10 years

DOMINANT TAXA IN VEGETATION STRATA

Lower Stratum 1: *B. dallanneyi* var. *dallanneyi*, *Banksia telmatiaea*, *Melaleuca brevifolia*, *Regelia ciliata* (0.4 m, 94%)

Lower Stratum 2: *Scaevola lanceolata* (0.1 m,15%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Acacia stenoptera	0.15	0.1
Banksia dallanneyi var. *dallanneyi*	0.3	28
Banksia telmatiaea	0.4	30
Blancoa canescens	0.1	0.1
Chaetanthus aristatus	0.4	0.7
Conostylis aculeata subsp. *breviflora*	0.2	0.6
Drosera sp.	0.15	0.1
Hakea obliqua subsp. *parviflora*	0.5	0.5
Hakea varia	0.2	0.1
Isopogon panduratus subsp. *palustris* (2)	0.4	0.5
Lepidosperma longitudinale	0.3	0.1
Lyginia imberbis	0.3	0.1
Melaleuca brevifolia	0.5	3
Nuytsia floribunda		
Regelia ciliata	0.4	33
Scaevola lanceolata	0.1	15

PHOTO



Site Name:	NEW053
Site Type:	QUADRAT
Dimensions:	10m x 10m
Survey Date:	24/10/2012
GPS Location:	WGS84 (Zone 50) 333881E 6613180N
Vegetation Type:	17
Landform Type:	Plain
Slope Class:	Level (0 degrees)
Soil Type:	Sand
Soil Colour:	White
Rock Outcrop:	No bedrock exposed
CF Abundance:	0%
Vegetation Condition:	1 - Pristine
Disturbance:	None
Fire:	>5 years

DOMINANT TAXA IN VEGETATION STRATA

Upper Stratum 1:	*Banksia attenuata*, *Banksia menziesii* (7 m, 14%)
Mid Stratum 1:	*Jacksonia floribunda, Jacksonia nutans, Xanthorrhoea preissii* (1.8 m, 9%)
Lower Stratum 1:	*Bossiaea eriocarpa, Dasypogon obliquifolius, Eremaea asterocarpa* subsp. *asterocarpa, Melaleuca clavifolia* (0.8 m, 20%)
Lower Stratum 2:	*Patersonia occidentalis* var. ?*occidentalis* (0.4 m, 3%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Alexgeorgea nitens	0.1	0.1
Amphipogon sp.	0.1	0.1
Banksia attenuata	7	12
Banksia ilicifolia	5	1
Banksia menziesii	4	2
Bossiaea eriocarpa	0.3	3
Calytrix flavescens	0.3	0.5
Calytrix fraseri	1	0.1
Conospermum crassinervium	1.3	0.5
Conostephium pendulum	0.4	0.5
Conostylis teretifolia subsp. *teretifolia*	0.1	0.1
Dampiera linearis	0.1	0.1
Dasypogon obliquifolius	0.3	3
Desmocladus asper	0.1	0.1
Drosera glanduligera	0.1	0.1
Drosera humilis	0.1	0.1
Drosera ?menziesii	0.1	0.1
Drosera sp.	0.6	0.2
Eremaea asterocarpa subsp. *asterocarpa*	0.8	8
Hibbertia crassifolia	0.3	0.5

Hibbertia desmophylla	0.3	1
Hibbertia hypericoides	0.5	0.1
Hypocalymma xanthopetalum	0.4	0.1
Jacksonia floribunda	1.2	5
Jacksonia nutans	1	3
Lepidosperma longitudinale	0.4	0.1
Leucopogon cochlearifolius	0.5	1
Lomandra hermaphrodita	0.2	0.1
Melaleuca clavifolia (3)	0.6	6
Opercularia vaginata	0.2	0.1
Patersonia occidentalis var. ?*occidentalis*	0.4	3
Petrophile linearis	0.6	0.1
Petrophile rigida	0.9	1
Phlebocarya ciliata	0.3	0.5
Phlebocarya filifolia	0.2	0.2
Pimelea sulphurea	0.7	0.5
Poranthera drummondii	0.1	0.1
Schoenus clandestinus	0.1	0.1
Schoenus curvifolius	0.3	0.1
Stylidium cygnorum	0.1	0.1
Stylidium piliferum	0.1	0.1
Stylidium purpureum ms	0.3	0.1
Stylidium rigidulum	0.1	0.1
Thysanotus thyrsoideus	0.4	0.1
Tricoryne ?elatior	0.3	0.1
Xanthorrhoea preissii	1.8	1.5
Xanthosia huegelii	0.3	0.1

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Site Name:	NEW054
Site Type:	QUADRAT
Dimensions:	10m x 10m
Survey Date:	20/11/2012
GPS Location:	WGS84 (Zone 50) 343731E 6609613N
Vegetation Type:	18
Landform Type:	Undulating Plain (other)
Slope Class:	Gently Inclined (3 degrees)
Aspect:	SE
Soil Type:	Sand
Soil Colour:	Orange
Rock Outcrop:	No bedrock exposed
CF Abundance:	0%
Vegetation Condition:	1 - Pristine
Disturbance:	None
Fire:	>5 years

DOMINANT TAXA IN VEGETATION STRATA

Upper Stratum 1:	*Banksia attenuata, B. menziesii* (4 m, 50%)
Mid Stratum 1:	*Daviesia divaricata* (2 m, 8%)
Mid Stratum 2:	*Allocasuarina humilis, Conospermum stoechadis* subsp. *stoechadis, Eremaea pauciflora* (1.5 m, 27%)
Lower Stratum 1:	*Hibbertia hypericoides* (0.3 m, 5%)
Lower Stratum 2:	*Scaevola repens* var. *repens* (0.1 m, 5%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Acacia pulchella var. *reflexa*	1	1
Adenanthos cygnorum subsp. *cygnorum*	0.5	1
Alexgeorgea nitens	0.1	0.1
Allocasuarina humilis	1.5	10
Anigozanthos humilis subsp. *humilis*	0.1	0.3
Banksia attenuata	4	35
Banksia menziesii	4	15
Caustis dioica	0.1	0.1
Conospermum stoechadis subsp. *stoechadis*	1.2	2
Conostylis teretifolia subsp. *teretifolia*	0.2	0.4
Dasypogon obliquifolius	0.3	1.5
Daviesia divaricata	2	8
Eremaea pauciflora	1.2	15
Hibbertia huegelii	0.3	1
Hibbertia hypericoides	0.3	5
Hypocalymma xanthopetalum	0.2	0.2
Jacksonia floribunda	0.9	0.8

Jacksonia hakeoides	0.3	0.2
Jacksonia nutans	1	0.5
Laxmannia sessiliflora subsp. ?*australis*	0.1	0.1
Lechenaultia linarioides	0.3	0.2
Lepidobolus preissianus	0.2	0.1
Melaleuca clavifolia (3)	0.7	1
Mesomelaena pseudostygia	0.4	0.5
Nuytsia floribunda	2	0.5
Scaevola phlebopetala	0.2	0.1
Scaevola repens var. *repens*	0.1	5
Schoenus clandestinus	0.1	0.1
Stirlingia latifolia	0.4	0.5
**Wahlenbergia capensis*	0.1	0.2
Waitzia suaveolens var. *suaveolens*	0.1	0.1

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Site Name:	NEW056
Site Type:	QUADRAT
Dimensions:	10m x 10m
Survey Date:	22/11/2012
GPS Location:	WGS84 (Zone 50) 334652E 6609540N
Vegetation Type:	11
Landform Type:	Drainage Line
Slope Class:	Gently Inclined (3 degrees)
Aspect:	S
Soil Type:	Sandy Loam
Soil Colour:	Grey and Brown (other)
Rock Outcrop:	No bedrock exposed
CF Abundance:	0%
Vegetation Condition:	2 - Excellent
Disturbance:	Exotic Weeds
Fire:	>5 years

DOMINANT TAXA IN VEGETATION STRATA

Upper Stratum 1:	*Eucalyptus rudis* subsp. *rudis* (8 m, 5%)
Mid Stratum 1:	*Melaleuca rhaphiophylla*, (5 m, 30%)
Lower Stratum 1:	*Spyridium globulosum* (2 m, 8%)
Lower Stratum 2:	*Gahnia trifida* (1.5m, 5%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
**Briza minor*	0.1	0.1
Eucalyptus rudis subsp. *rudis*	8	5
Gahnia trifida	1.5	5
Goodenia pulchella subsp. Coastal Plain A (M. Hislop 634)	0.1	0.1
Hardenbergia comptoniana		1
Hypocalymma angustifolium	0.6	0.2
Lobelia rhytidosperma	0.2	0.1
Melaleuca rhaphiophylla	5	30
?*Myoporum* sp.	0.2	0.1
Rhagodia baccata subsp. *baccata*	0.1	0.1
Schenkia australis	0.1	0.1
Senecio pinnatifolius	0.3	0.1
**Sonchus oleraceus*	0.1	0.1
Spyridium globulosum	2	8
Trachymene pilosa	0.1	0.1
Xanthorrhoea preissii	1.5	1

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Site Name: NEW058
Site Type: AREA
Dimensions: 10m x 10m
Survey Date: 22/11/2012
GPS Location: WGS84 (Zone 50) 331275E 6608789N
Vegetation Type: 3
Landform Type: Claypan (other)
Slope Class: Level (0 degrees)
Soil Type: Sandy Clay (other)
Soil Colour: Grey and White (other)
Rock Outcrop: No bedrock exposed
CF Abundance: 0%
Vegetation Condition: 3 - Very Good
Disturbance: None
Fire: >5 years

DOMINANT TAXA IN VEGETATION STRATA

Lower Stratum 1: *Kunzea glabrescens, Regelia ciliata* (0.8 m, 5%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Banksia prionotes	2.5	1
Kunzea glabrescens	0.8	2.5
Regelia ciliata	0.8	2.5

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Site Name: NEW060
Site Type: QUADRAT
Dimensions: 10m x 10m
Survey Date: 12/10/2012
GPS Location: WGS84 (Zone 50) 333799E 6607666N
Vegetation Type: 1
Landform Type: Plain
Slope Class: Level (0 degrees)
Soil Type: Sand
Soil Colour: Grey and White (other)
Rock Outcrop: No bedrock exposed
CF Abundance: 0%
Vegetation Condition: 1 - Pristine
Disturbance: None
Fire: >5 years

DOMINANT TAXA IN VEGETATION STRATA

Lower Stratum 1: *Banksia shuttleworthiana, Regelia ciliata* (0.6 m, 75%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Banksia platycarpa (4)	0.5	0.5
Banksia shuttleworthiana	0.3	40
Banksia telmatiaea	0.6	1
Cassytha glabella forma *dispar*		0.3
Chordifex sinuosus	0.2	0.1
Conostylis aculeata subsp. *breviflora*	0.2	0.4
Grevillea ?*thelemanniana* subsp. Cooljarloo (B.J. Keighery 28 B) (1)	0.2	0.3
Hakea obliqua subsp. *parviflora*	0.6	0.6
Hakea sulcata	0.5	0.2
Melaleuca seriata	0.3	1
Petrophile brevifolia	0.2	0.3
Petrophile seminuda	0.5	1
Regelia ciliata	0.6	35
Scaevola anchusifolia	0.2	0.5
Stylidium araeophyllum ms	0.2	0.1
Verticordia densiflora	0.5	1

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Site Name: NEW061
Site Type: QUADRAT
Dimensions: 10m x 10m
Survey Date: 12/10/2012
GPS Location: WGS84 (Zone 50) 334764E 6607499N
Vegetation Type: 17
Landform Type: Flat
Slope Class: Level (0 degrees)
Soil Type: Sand
Soil Colour: White
Rock Outcrop: No bedrock exposed
CF Abundance: 0%
Disturbance: None
Fire: >10yrs

DOMINANT TAXA IN VEGETATION STRATA

Upper Stratum 1: *Banksia attenuata, B. menziesii* (3 m, 5%)
Mid Stratum 1: *Adenanthos cygnorum* subsp. *cygnorum, Eremaea pauciflora, Xanthorrhoea preissii* (1.6 m, 26%)
Lower Stratum 1: *Bossiaea eriocarpa, Dasypogon obliquifolius, Melaleuca clavifolia* (0.4 m, 10%)

SPECIES LIST

Taxon Name	**Avg. Ht (m)**	**% Cover Alive**
Acacia pulchella var. *reflexa*	0.8	0.5
Adenanthos cygnorum subsp. *cygnorum*	1.6	10
Amphipogon turbinatus	0.2	0.1
Anarthria gracilis	0.2	0.1
Anigozanthos humilis subsp. *humilis*	0.2	0.1
Austrostipa compressa	0.1	0.1
Banksia attenuata	3	3
Banksia menziesii	2	2
Banksia telmatiaea	1	1
Blancoa canescens	0.1	0.1
Bossiaea eriocarpa	0.3	2
Brachyscome sp.	0.08	0.1
Cassytha glabella forma *dispar*	0.4	0.1
Centrolepis mutica	0.05	0.1
Conostylis teretifolia subsp. *teretifolia*	0.06	0.1
Crassula colorata var. *acuminata*	0.02	0.1
Dasypogon obliquifolius	0.3	5
Drosera erythrorhiza subsp. ?*magna*	0.01	0.1
Drosera erythrorhiza subsp. *magna*	0.01	0.1
Drosera humilis	0.08	0.1
Drosera sp.	0.2	0.1
Eremaea pauciflora	1	14

Harperia lateriflora	0.1	0.1
Hibbertia crassifolia	0.3	1
Hypocalymma xanthopetalum	0.3	0.5
Jacksonia floribunda	1	1
Lepidosperma longitudinale	0.2	0.1
Lomandra hermaphrodita	0.1	0.1
Lyginia imberbis	0.3	0.1
Melaleuca clavifolia (3)	0.4	3
Melaleuca seriata	1.2	1.5
Opercularia vaginata	0.1	0.1
Patersonia occidentalis var. ?*occidentalis*	0.3	0.1
Petrophile linearis	0.5	0.1
Pyrorchis nigricans	0.01	0.1
Scaevola repens var. *repens*	0.1	0.1
Schoenus clandestinus	0.03	0.1
Schoenus pleiostemoneus	0.1	0.1
Stirlingia latifolia	0.4	0.1
Stylidium crossocephalum	0.3	0.1
Thysanotus ?*arbuscula*	0.1	0.1
Thysanotus thyrsoideus	0.2	0.1
Tricoryne ?*elatior*	0.3	0.1
?*Tricoryne* sp.	0.15	0.1
Verticordia densiflora var. *densiflora*	0.4	0.1
Xanthorrhoea preissii	1	2
Xanthosia huegelii	0.2	0.1

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Site Name: NEW063
Site Type: QUADRAT
Dimensions: 10m x 10m
Survey Date: 09/11/2012
GPS Location: GDA94 (Zone 50) 336648E 6612732N
Vegetation Type: 2
Landform Type: Flat
Slope Class: Level (0 degrees)
Soil Type: Sand
Soil Colour: Brown
Rock Outcrop: No bedrock exposed
CF Abundance: 0%
Vegetation Condition: 1 - Pristine

DOMINANT TAXA IN VEGETATION STRATA

Mid Stratum 1: *Banksia telmatiaea*, *Hakea trifurcata*, *Melaleuca acutifolia* (1.4 m, 17 %)
Lower Stratum 1: *Melaleuca brevifolia* (0.7 m, 4%)

SPECIES LIST

Taxon Name	**Avg. Ht (m)**	**% Cover Alive**
Acacia lasiocarpa var. *lasiocarpa*	0.1	0.1
Allocasuarina humilis	0.15	0.1
Banksia telmatiaea	1	5
Carpobrotus modestus	0.1	0.1
Cassytha glabella forma *dispar*	0.1	0.1
Comesperma calymega	0.2	0.5
Crassula colorata var. *acuminata*	0.05	0.5
Dampiera lindleyi	0.4	0.5
Gahnia trifida	0.3	0.5
Goodenia pulchella subsp. Coastal Plain A (M. Hislop 634)	0.15	0.1
Hakea trifurcata	1.2	7
**Heliophila pusilla*	0.1	0.1
**Hypochaeris glabra*	0.1	0.5
Isotoma hypocrateriformis	0.15	0.1
Jacksonia nutans	0.05	0.1
**Lysimachia arvensis*	0.05	0.1
Melaleuca acutifolia	1.4	5
Melaleuca brevifolia	0.7	4
Podolepis gracilis	0.15	0.1
Samolus repens var. *paucifolius*	0.3	0.5
Scaevola anchusifolia	0.15	0.5
Schoenus subfascicularis	0.4	0.1
Trachymene pilosa	0.05	0.5
**Vulpia* sp.	0.05	0.5

PHOTO



Site Name: NEW064
Site Type: QUADRAT
Dimensions: 10m x 10m
Survey Date: 25/10/2012
GPS Location: WGS84 (Zone 50) 336194E 6612301N
Vegetation Type: 1
Landform Type: Flat
Slope Class: Level (0 degrees)
Soil Type: Sandy Loam
Soil Colour: Pale Brown (other)
Rock Outcrop: No bedrock exposed
CF Abundance: 0%
Vegetation Condition: 1 - Pristine
Disturbance: None
Fire: >10 years

DOMINANT TAXA IN VEGETATION STRATA

Mid Stratum 1: *Banksia telmatiaea, Hakea obliqua* subsp. *parviflora, Melaleuca acutifolia, Melaleuca brevifolia, Regelia ciliata* (1.3 m, 52%)

Lower Stratum 1: *Daviesia incrassata* subsp. *incrassata, Melaleuca seriata* (0.8 m, 4%)

Lower Stratum 2: *Schoenus subfascicularis* (0.4 m, 3%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Acacia lasiocarpa var. *lasiocarpa*	0.3	0.1
Austrostipa macalpinei	0.15	0.1
Banksia dallanneyi var. *dallanneyi*	0.2	0.1
Banksia platycarpa (4)	0.3	0.1
Banksia telmatiaea	1	20
Cassytha glabella forma *dispar*		0.5
Conostylis aurea	0.4	0.1
Crassula colorata var. *acuminata*	0.1	0.1
Dampiera lindleyi	0.2	0.1
Daviesia incrassata subsp. *incrassata*	0.8	2.5
Gahnia trifida	0.8	0.1
Hakea obliqua subsp. *parviflora*	1	1
Hakea varia	0.5	0.5
Harperia lateriflora	0.2	0.1
**Hypochaeris glabra*	0.2	0.1
Isopogon panduratus subsp. *palustris* (2)	1	0.5
Laxmannia ramosa subsp. *ramosa*	0.1	0.1
**Lolium rigidum*	0.3	0.1
Melaleuca acutifolia	1.3	4
Melaleuca brevifolia	1	2
Melaleuca seriata	0.7	2

Petrophile seminuda	0.3	0.1
Ptilotus manglesii	0.1	0.1
Regelia ciliata	1	25
Scaevola lanceolata	0.15	0.5
Schoenus subfascicularis	0.4	3
Senecio pinnatifolius	0.5	0.1
Thysanotus ?sparteus	0.3	0.1
Trachymene pilosa	0.1	0.1

PHOTO



Site Name: NEW065
Site Type: QUADRAT
Dimensions: 10m x 10m
Survey Date: 09/11/2012
GPS Location: GDA94 (Zone 50) 335791E 6612188N
Vegetation Type: 17
Landform Type: Crest
Slope Class: Level (0 degrees)
Soil Type: Sand
Soil Colour: Grey
Rock Outcrop: No bedrock exposed
CF Abundance: 0%
Vegetation Condition: 2 - Excellent

DOMINANT TAXA IN VEGETATION STRATA

Upper Stratum 1: *Banksia menziesii* (4 m, 8%)
Mid Stratum 1: *Stirlingia latifolia* (1 m, 2%)
Lower Stratum 1: *Dasypogon obliquifolius, Eremaea pauciflora, Hibbertia crassifolia, Melaleuca clavifolia* (0.7 m, 16%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Anigozanthos humilis subsp. *humilis*	0.05	0.5
Asteridea pulverulenta	0.15	0.5
Austrostipa macalpinei	0.15	0.1
Banksia attenuata	1	1
Banksia dallanneyi var. *dallanneyi*	0.15	0.5
Banksia menziesii	4	8
?*Burchardia* sp.	0.5	0.1
Carpobrotus modestus	0.05	1
Centrolepis drummondiana	0.03	0.1
Conostylis aurea	0.05	0.1
Crassula colorata var. *acuminata*	0.05	0.1
Dasypogon obliquifolius	0.4	5
Eremaea asterocarpa subsp. *asterocarpa*	0.5	1
Eremaea pauciflora	0.7	6
Euchiton sphaericus	0.1	0.1
Gompholobium tomentosum	0.1	0.1
Gonocarpus pithyoides	0.15	0.5
Hibbertia crassifolia	0.3	2
Hibbertia stellaris		
Hypocalymma xanthopetalum	0.3	0.5
**Hypochaeris glabra*	0.05	0.5
Jacksonia nutans	0.4	1
Leptomeria empetriformis	0.4	0.1
Leucopogon conostephioides	0.1	0.1

Melaleuca clavifolia (3)	0.5	3
Patersonia occidentalis var. ?*occidentalis*	0.3	1
Petrophile brevifolia	0.4	1
Petrophile linearis	0.4	0.5
Philotheca spicata	0.6	1
Rytidosperma ?*occidentale*	0.15	0.1
Senecio pinnatifolius	0.4	0.5
Siloxerus humifusus	0.01	0.5
Stirlingia latifolia	1	2
Stylidium dichotomum	0.05	0.1
Trachymene coerulea subsp. *coerulea*	0.05	0.5
Trachymene pilosa	0.05	0.5
**Wahlenbergia capensis*	0.15	0.1

PHOTO



Site Name: NEW067
Site Type: QUADRAT
Dimensions: 10m x 10m
Survey Date: 09/11/2012
GPS Location: GDA94 (Zone 50) 338273E 6612666N
Vegetation Type: 17
Landform Type: Simple Slope
Slope Class: Gently Inclined (3 degrees)
Aspect: NE
Soil Type: Sand
Soil Colour: Grey
Rock Outcrop: No bedrock exposed
CF Abundance: 0%
Vegetation Condition: 1 - Pristine

DOMINANT TAXA IN VEGETATION STRATA

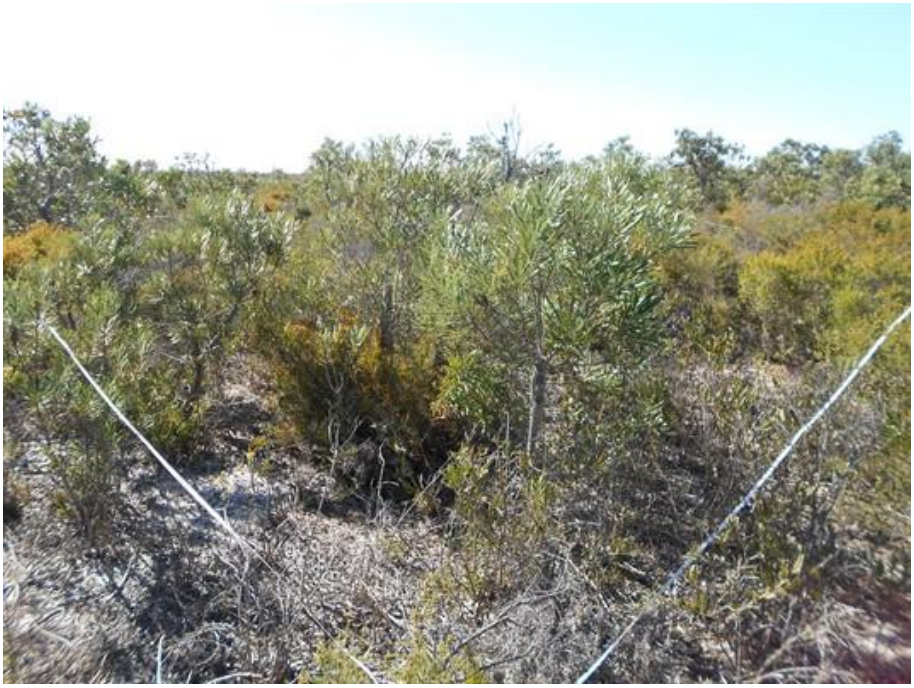
Upper Stratum 1: *Banksia attenuata, B. menziesii* (3 m, 7 %)
Mid Stratum 1: *Adenanthos cygnorum* subsp. *cygnorum, Eremaea pauciflora,* (1.5 m, 14%)
Lower Stratum 1: *Hibbertia crassifolia, Jacksonia floribunda, Jacksonia nutans* (0.8 m, 8%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Acacia pulchella var. *reflexa*	0.5	1.5
Actinotus leucocephalus	0.1	0.1
Adenanthos cygnorum subsp. *cygnorum*	1.5	2
Alexgeorgea nitens	0.1	0.5
Amphipogon turbinatus	0.02	0.1
Anigozanthos humilis subsp. *humilis*	0.1	0.5
Austrostipa macalpinei	0.15	0.1
Banksia attenuata	2	5
Banksia menziesii	3	2
Banksia telmatiaea	1.1	1
Boronia ramosa subsp. *anethifolia*	0.2	0.5
Bossiaea eriocarpa	0.3	1
Calytrix angulata	0.5	1
Calytrix flavescens	0.2	0.5
Cassytha aurea var. *hirta*	0.5	2
Conostephium pendulum	0.3	0.5
Dasypogon obliquifolius	0.4	0.5
Eremaea asterocarpa subsp. *asterocarpa*	0.4	0.5
Eremaea pauciflora	1.5	12
Hibbertia crassifolia	0.3	2
Hibbertia hypericoides	0.3	0.5
Hibbertia sp. Gnangara (J.R. Wheeler 2329)	0.3	0.5
Hypocalymma xanthopetalum	0.3	0.5

Isotropis cuneifolia subsp. *cuneifolia*	0.1	0.1
Jacksonia floribunda	0.8	5
Jacksonia nutans	0.5	3
Leucopogon conostephioides	0.4	0.5
Leucopogon sprengelioides	0.6	0.1
Lyginia barbata	0.2	0.1
Melaleuca clavifolia (3)	0.3	0.5
Mesomelaena pseudostygia	0.15	0.5
Patersonia occidentalis var. ?*occidentalis*	0.4	0.5
Petrophile linearis	0.4	0.5
Podotheca gnaphalioides	0.1	0.5
Poranthera drummondii	0.03	0.1
Scholtzia involucrata	0.2	0.5
Stylidium adpressum	0.05	0.5
Stylidium purpureum ms	0.03	0.1
Stylidium rigidulum	0.05	0.1
Trachymene pilosa	0.05	0.5
Xanthosia huegelii	0.05	0.1

PHOTO



Site Name: NEW068
Site Type: QUADRAT
Dimensions: 10m x 10m
Survey Date: 26/10/2012
GPS Location: WGS84 (Zone 50) 338796E 6612739N
Vegetation Type: 2
Landform Type: Flat
Slope Class: Level (0 degrees)
Soil Type: Sandy Loam
Soil Colour: Brown
Rock Outcrop: No bedrock exposed
CF Abundance: 0%
Vegetation Condition: 2 - Ecellent
Disturbance: None
Fire: >5 years

DOMINANT TAXA IN VEGETATION STRATA

Mid Stratum 1: *Melaleuca brevifolia* (2 m, 40%)
Lower Stratum 1: *Austrostipa elegantissima* (0.1 m, 2%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
**Aira cupaniana*	0.6	0.1
?Asteraceae sp.	0.1	0.1
Austrostipa elegantissima	0.1	2
Brachyscome bellidioides	0.1	0.1
**Briza minor*	0.1	0.2
Calandrinia sp. Kenwick (G.J. Keighery 10905)	0.1	0.1
Calandrinia tholiformis	0.1	0.1
Carpobrotus modestus	0.1	0.1
Cassytha ?aurea		0.1
Cassytha glabella forma *dispar*		2
Centrolepis polygyna	0.1	0.1
Chaetanthus aristatus	0.3	0.5
Crassula colorata var. *acuminata*	0.1	0.1
**Ehrharta longiflora*	0.15	0.2
Frankenia pauciflora	0.1	0.5
Gahnia trifida	0.5	0.1
Goodenia pulchella subsp. Coastal Plain A (M. Hislop 634)	0.1	0.1
**Hypochaeris glabra*	0.1	0.1
**Isolepis marginata*	0.1	0.1
Lomandra micrantha subsp. *micrantha*	0.3	0.1
Melaleuca brevifolia	2	40
**Ornithopus sativus*	0.1	0.1

Rytidosperma setaceum	0.1	0.1
Samolus junceus	1	0.1
Scaevola repens var. *repens*	0.1	0.1
Trachymene pilosa	0.1	0.2
**Ursinia anthemoides*	0.1	0.1
Wahlenbergia gracilenta	0.1	0.1

PHOTO



Site Name: NEW069
Site Type: QUADRAT
Dimensions: 10m x 10m
Survey Date: 08/11/2012
GPS Location: GDA94 (Zone 50) 340152E 6612223N
Vegetation Type: 18
Landform Type: Crest
Slope Class: Gently Inclined (3 degrees)
Aspect: N
Soil Type: Sand
Soil Colour: Grey
Rock Outcrop: No bedrock exposed
CF Abundance: 0%
Vegetation Condition: 1 - Pristine

DOMINANT TAXA IN VEGETATION STRATA

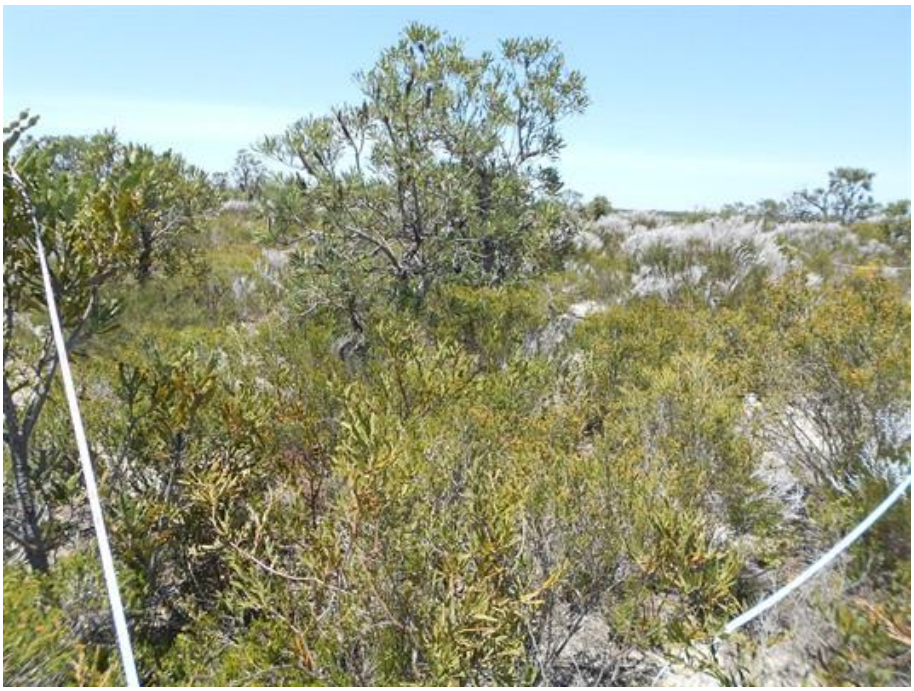
Upper Stratum 1: *Banksia attenuata, Banksia menziesii* (3 m, 8%)
Mid Stratum 1: *Conospermum stoechadis* subsp. *stoechadis, Eremaea pauciflora* (1.6 m, 31%)
Lower Stratum 1: *Hibbertia hypericoides* (0.9 m, 2%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Adenanthos cygnorum subsp. *cygnorum*	0.05	0.1
Alexgeorgea nitens	0.1	0.5
Allocasuarina humilis	0.7	1
Amphipogon turbinatus	0.1	0.1
Anigozanthos humilis subsp. *humilis*	0.15	0.5
Austrostipa macalpinei	0.15	0.1
Banksia attenuata	2.5	2
Banksia menziesii	3	6
Bossiaea eriocarpa	0.4	0.5
Burchardia congesta	0.3	0.1
Calytrix flavescens	0.3	0.5
Conospermum stoechadis subsp. *stoechadis*	1.6	6
Conostephium pendulum	0.4	0.5
Conostylis teretifolia subsp. *teretifolia*	0.05	0.5
Corynotheca micrantha var. ?*elongata*	0.5	0.5
Drosera humilis	0.1	0.1
Drosera ?*menziesii*	0.2	0.1
Eremaea pauciflora	1.4	25
Hemiandra linearis	0.05	0.1
Hibbertia crassifolia	0.3	0.5
Hibbertia hypericoides	0.9	2
Hypocalymma xanthopetalum	0.3	0.5
Jacksonia floribunda	1.5	1

Lepidobolus preissianus subsp. *preissianus*	0.3	0.5
Lepidosperma aff.*scabrum*	0.6	0.1
Leptospermum spinescens	0.7	0.5
Mesomelaena pseudostygia	0.4	1
Opercularia vaginata	0.3	1
Petrophile linearis	0.4	0.5
Pimelea sulphurea	0.5	0.5
Poranthera drummondii	0.02	0.1
Scaevola repens var. *repens*	0.1	0.1
Schoenus clandestinus	0.02	0.5
Stylidium crossocephalum	0.1	0.5
Stylidium diuroides subsp. *diuroides*	0.03	0.1
Thysanotus patersonii	0.3	0.1
Thysanotus teretifolius	0.2	0.1
Trachymene pilosa	0.03	0.1
Xanthosia huegelii	0.1	0.1

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Site Name: NEW070
Site Type: QUADRAT
Dimensions: 10m x 10m
Survey Date: 08/11/2012
GPS Location: GDA94 (Zone 50) 341908E 6612622N
Vegetation Type: 17
Landform Type: Flat
Slope Class: Level (0 degrees)
Aspect: W
Soil Type: Sand
Soil Colour: Grey
Rock Outcrop: No bedrock exposed
CF Abundance: 0%
Vegetation Condition: 1 - Pristine

DOMINANT TAXA IN VEGETATION STRATA

Upper Stratum 1: *Banksia attenuata, B. menziesii* (3.5 m, 30 %)
Mid Stratum 1: *Xanthorrhoea preissii* (2 m, 2%)
Lower Stratum 1: *Bossiaea eriocarpa, Dasypogon obliquifolius* (0.7 m, 11%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Amphipogon turbinatus	0.05	0.1
Austrostipa macalpinei	0.2	0.1
Banksia attenuata	3.5	25
Banksia dallanneyi var. *dallanneyi*	0.15	0.5
Banksia menziesii	3	5
Bossiaea eriocarpa	0.4	7
Conostylis ?*aurea*	0.3	0.5
Conostylis aurea	0.4	0.5
Dasypogon obliquifolius	0.7	4
Drosera eneabba	0.01	0.1
Eremaea asterocarpa subsp. *asterocarpa*	0.5	1.5
Eucalyptus todtiana	0.1	0.1
Hakea obliqua subsp. *parviflora*	0.4	0.1
Hibbertia crassifolia	0.3	0.5
Hypocalymma xanthopetalum	0.4	0.5
Jacksonia hakeoides	0.5	1
Jacksonia nutans	0.5	0.5
Lepidosperma pubisquameum	0.3	0.1
Leucopogon conostephioides	0.1	0.1
Melaleuca clavifolia (3)	0.4	0.5
Petrophile linearis	0.3	0.5
Phlebocarya ciliata	0.3	0.5
Phyllangium divergens	0.05	0.1

Podotheca angustifolia	0.05	0.5
Poranthera drummondii	0.02	0.1
Pterochaeta paniculata	0.05	0.1
Rytidosperma ?occidentale	0.2	0.1
Scaevola repens var. *repens*	0.1	0.1
Stylidium adpressum	0.05	0.5
Stylidium diuroides subsp. *diuroides*	0.1	0.5
Stylidium rigidulum	0.05	0.1
Trachymene pilosa	0.1	0.5
Waitzia acuminata var. *albicans*	0.1	0.5
Xanthorrhoea preissii	2	2
Xanthosia huegelii	0.1	0.1

PHOTO



Site Name:	NEW071
Site Type:	QUADRAT
Dimensions:	10m x 10m
Survey Date:	08/11/2012
GPS Location:	GDA94 (Zone 50) 341726E 6610903N
Vegetation Type:	5
Landform Type:	Low dune/rise on plain (other)
Slope Class:	Very Gently Inclined (1 degree)
Aspect:	SE
Soil Type:	Sand
Soil Colour:	Grey
Rock Outcrop:	No bedrock exposed
CF Abundance:	0%
Vegetation Condition:	1 - Pristine

DOMINANT TAXA IN VEGETATION STRATA

Mid Stratum 1: *Conospermum stoechadis* subsp. *stoechadis, Hakea obliqua* subsp. *parviflora* (1.5 m, 6%)

Lower Stratum 1: *Banksia telmatiaea, Jacksonia nutans* (0.7 m, 39%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Anigozanthos humilis subsp. *humilis*	0.1	0.1
Austrostipa macalpinei	0.15	0.1
Banksia menziesii	0.3	0.5
Banksia telmatiaea	0.7	30
Beaufortia squarrosa	1	0.5
Cassytha glabella forma *dispar*	0.3	1
Chordifex chaunocoleus (4)	0.2	0.1
Conospermum stoechadis subsp. *stoechadis*	1.1	2
Conostylis aculeata subsp. *spinuligera*	0.3	1
Hakea obliqua subsp. *parviflora*	1.5	4
Hypocalymma xanthopetalum	0.3	0.5
Jacksonia hakeoides	0.4	1
Jacksonia nutans	0.5	9
Leucopogon sprengelioides	0.3	0.5
Lomandra hermaphrodita	0.1	0.1
Lyginia imberbis	0.2	0.1
Melaleuca seriata	0.6	1
Regelia ciliata	1.1	1
Schoenus brevisetis	0.3	0.1

PHOTO



Site Name: NEW072

Site Type: QUADRAT

Dimensions: 10m x 10m

Survey Date: 08/11/2012

GPS Location: GDA94 (Zone 50) 340307E 6611370N

Vegetation Type: 1

Landform Type: Flat

Slope Class: Level (0 degrees)

Soil Type: Sand

Soil Colour: Grey

Rock Outcrop: No bedrock exposed

CF Abundance: 0%

Vegetation Condition: 1 - Pristine

DOMINANT TAXA IN VEGETATION STRATA

Mid Stratum 1: *Hakea obliqua* subsp. *parviflora, Regelia ciliata* (1.5 m, 6%)

Lower Stratum 1: *Acacia lasiocarpa* var. *lasiocarpa, Banksia telmatiaea, Calothamnus sanguineus, Verticordia densiflora* var. *densiflora* (0.7 m, 16%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Acacia lasiocarpa var. *lasiocarpa*	0.4	2
Banksia nivea subsp. *nivea*	0.2	0.5
Banksia telmatiaea	0.7	8
Calothamnus sanguineus	0.3	2
Cassytha glabella forma *dispar*	0.3	0.5
Conostylis aculeata subsp. *spinuligera*	0.3	0.5
Hakea obliqua subsp. *parviflora*	1.5	2
Hakea varia	0.3	0.1
Hibbertia stellaris	0.2	0.5
Lyginia imberbis	0.3	0.5
Melaleuca acutifolia	0.5	1
Melaleuca seriata	0.4	0.5
Petrophile seminuda	0.4	1
Regelia ciliata	1.1	4
Scaevola anchusifolia	0.1	1
Stylidium diuroides subsp. *diuroides*	0.2	0.5
Verticordia densiflora var. *densiflora*	0.7	4

PHOTO



Site Name: NEW074

Site Type: QUADRAT

Dimensions: 10m x 10m

Survey Date: 08/11/2012

GPS Location: GDA94 (Zone 50) 339656E 6610739N

Vegetation Type: 1

Landform Type: Flat

Slope Class: Level (0 degrees)

Soil Type: Sand

Soil Colour: Grey

Rock Outcrop: No bedrock exposed

CF Abundance: 0%

Vegetation Condition: 1 - Pristine

DOMINANT TAXA IN VEGETATION STRATA

Mid Stratum 1: *Beaufortia squarrosa* (1.4 m, 3%)

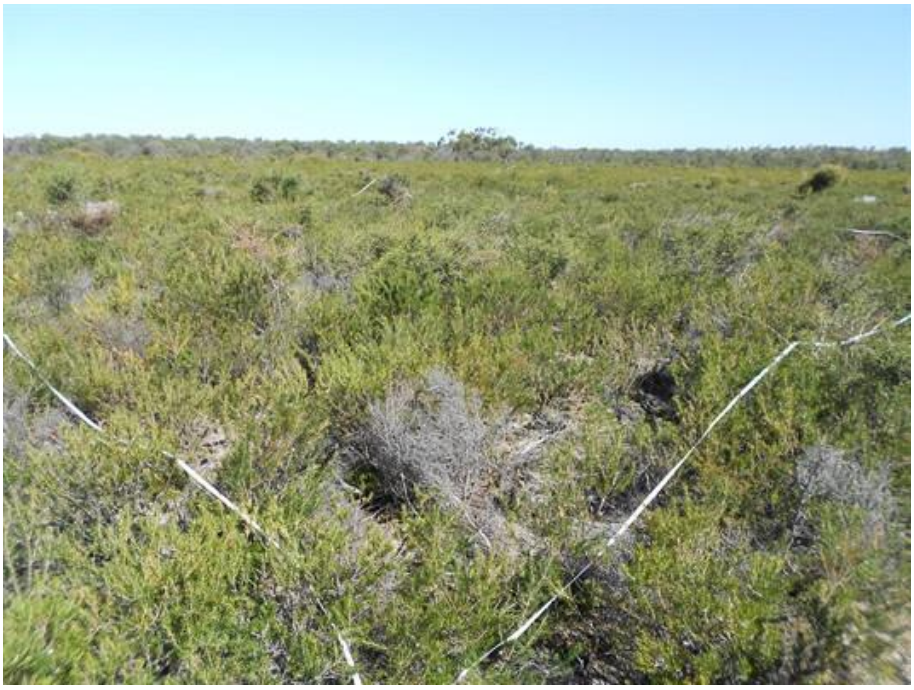
Lower Stratum 1: *Banksia telmatiaea* (0.6 m, 50%)

Lower Stratum 2: *Scaevola repens* subsp. Northern Sandplains (R.J. Cranfield & P.J. Spencer 8445) (0.1 m, 8%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Acacia lasiocarpa var. *lasiocarpa*	0.5	0.5
Austrostipa macalpinei	0.15	0.1
Banksia platycarpa (4)	0.4	0.1
Banksia telmatiaea	0.6	50
Beaufortia squarrosa	1.4	3
Conospermum stoechadis subsp. *stoechadis*	0.5	0.5
Conostylis aculeata subsp. *spinuligera*	0.3	0.5
Daviesia incrassata subsp. *incrassata*	0.4	0.5
Hakea obliqua subsp. *parviflora*	1.4	0.5
Scaevola repens subsp. Northern Sandplains (R.J. Cranfield & P.J. Spencer 8445)	0.1	8
Schoenus brevisetis	0.3	0.1
Schoenus curvifolius	0.3	0.1
Stirlingia latifolia	0.4	0.5
Stylidium rigidulum	0.02	0.1
Verticordia densiflora	0.5	0.5

PHOTO



Site Name: NEW076
Site Type: QUADRAT
Dimensions: 10m x 10m
Survey Date: 09/11/2012
GPS Location: GDA94 (Zone 50) 336320E 6610601N
Vegetation Type: 1
Landform Type: Flat
Slope Class: Level (0 degrees)
Soil Type: Sand
Soil Colour: Grey
Rock Outcrop: No bedrock exposed
CF Abundance: 0%
Vegetation Condition: 1 - Pristine

DOMINANT TAXA IN VEGETATION STRATA

Mid Stratum 1: *Melaleuca rhaphiophylla* (2.5 m, 2%)
Mid Stratum 2: *Banksia telmatiaea, Regelia ciliata* (1.4 m, 60%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Acacia lasiocarpa var. *lasiocarpa*	1	1
Astroloma glaucescens	0.3	0.5
Austrostipa macalpinei	0.1	0.1
Banksia telmatiaea	1	10
Cassytha glabella forma *dispar*	0.4	1
Conostylis aculeata subsp. *spinuligera*	0.3	0.1
Gompholobium tomentosum	0.1	0.1
Hakea obliqua subsp. *parviflora*	1.5	0.5
Isopogon panduratus subsp. *palustris* (2)	1	0.5
Jacksonia nutans	0.3	0.5
Lepidosperma ?pubisquameum	0.4	0.5
Leucopogon conostephioides	0.2	0.1
Lysinema pentapetalum	0.7	0.1
Melaleuca rhaphiophylla	2.5	2
Regelia ciliata	1.4	50
Schoenus subfascicularis	0.5	0.5

PHOTO



Site Name: NEW078
Site Type: QUADRAT
Dimensions: 10m x 10m
Survey Date: 06/11/2012
GPS Location: GDA94 (Zone 50) 337469E 6608757N
Vegetation Type: 1
Landform Type: Closed Depression
Slope Class: Level (0 degrees)
Soil Type: Sand
Soil Colour: grey / brown (other)
Rock Outcrop: No bedrock exposed
CF Abundance: 0%
Vegetation Condition: 1 - Pristine

DOMINANT TAXA IN VEGETATION STRATA

Mid Stratum 1: *Hakea obliqua* subsp. *parviflora* (2.3 m, 2%)
Mid Stratum 2: *Banksia telmatiaea, Melaleuca rhaphiophylla* (1.2 m, 42%)
Lower Stratum 1: *Acacia pulchella* var. *reflexa, Regelia ciliata* (0.6 m, 27%)
Lower Stratum 2: *Scaevola anchusifolia* (0.1 m, 2%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Acacia pulchella var. *reflexa*	0.6	25
Astroloma glaucescens	0.3	0.5
Austrostipa macalpinei	0.15	0.1
Banksia telmatiaea	1.2	40
Conospermum scaposum (3)	0.1	0.1
Conostylis aculeata subsp. *spinuligera*	0.4	0.1
Hakea obliqua subsp. *parviflora*	2.3	2
Isopogon panduratus subsp. *palustris* (2)	0.7	0.1
Lepidosperma ?pubisquameum	0.3	0.1
Lyginia imberbis	0.4	0.1
Melaleuca rhaphiophylla	1	2
Petrophile brevifolia	0.4	0.5
Phlebocarya ciliata	0.3	0.1
Regelia ciliata	0.7	2
Rytidosperma ?occidentale	0.4	0.1
Scaevola anchusifolia	0.1	2
Schoenus subfascicularis	0.8	0.1

PHOTO



Site Name:	NEW079
Site Type:	QUADRAT
Dimensions:	10m x 10m
Survey Date:	05/11/2012
GPS Location:	GDA94 (Zone 50) 338596E 6608880N
Vegetation Type:	6
Landform Type:	Flat
Slope Class:	Very Gently Inclined (1 degree)
Aspect:	SW
Soil Type:	Sand
Soil Colour:	grey / brown (other)
Rock Outcrop:	No bedrock exposed
CF Abundance:	0%
Vegetation Condition:	1 - Pristine
Disturbance:	None
Fire:	approx. 5 years

DOMINANT TAXA IN VEGETATION STRATA

Upper Stratum 1: *Banksia attenuata, B. ilicifolia, B. menziesii,* (3 m, 7 %)

Mid Stratum 1: *Beaufortia elegans* (1.5 m, 7 %)

Lower Stratum 1: *Astroloma xerophyllum, Melaleuca clavifolia* (0.5 m, 6%)

Lower Stratum 2: *Anarthria laevis* (0.4 m, 2%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Adenanthos cygnorum subsp. *cygnorum*	0.5	1
Anarthria laevis	0.4	2
Andersonia heterophylla	0.2	0.5
Astroloma xerophyllum	0.5	4
Banksia attenuata	3	3
Banksia ilicifolia	2.5	2
Banksia menziesii	2.5	2
Beaufortia elegans	1.5	7
Cassytha glabella forma *dispar*	0.3	0.5
Conostephium pendulum	0.3	0.1
Conostylis juncea	0.3	0.5
Eremaea asterocarpa subsp. *asterocarpa*	0.6	1.5
Hibbertia sp. Gnangara (J.R. Wheeler 2329)	0.3	1
Hibbertia subvaginata	0.3	0.5
Jacksonia nutans	0.7	1
Johnsonia pubescens subsp. *pubescens*	0.1	0.1
Leucopogon conostephioides	0.3	0.5
Leucopogon sprengelioides	0.3	0.5
Lysinema pentapetalum	0.3	0.1
Macarthuria apetala	0.05	0.1

Melaleuca clavifolia (3)	0.6	2
Persoonia comata	0.4	0.5
Petrophile linearis	0.4	0.5
Phlebocarya ciliata	0.4	0.5
Platysace sp. Eneabba (R. Hnatiuk 770001)	0.3	0.5
Schoenus brevisetis	0.3	0.5
Schoenus ?*subfascicularis*	0.4	0.5
Stylidium adpressum	0.05	0.5
Stylidium crossocephalum	0.05	0.5
Stylidium hymenocraspedum (2)	0.01	0.5
Stylidium rigidulum	0.05	0.1
Thysanotus ?*arbuscula*	0.05	0.5
Thysanotus ?*thyrsoideus*	0.1	0.1
Thysanotus thyrsoideus	0.2	0.1
Tricostularia neesii var. *neesii*	0.3	0.1

PHOTO



Site Name: NEW080
Site Type: QUADRAT
Dimensions: 10m x 10m
Survey Date: 06/11/2012
GPS Location: GDA94 (Zone 50) 339375E 6609081N
Vegetation Type: 17
Landform Type: Lower Slope
Slope Class: Very Gently Inclined (1 degree)
Aspect: SE
Soil Type: Sand
Soil Colour: Grey
Rock Outcrop: No bedrock exposed
CF Abundance: 0%
Vegetation Condition: 1 - Pristine

DOMINANT TAXA IN VEGETATION STRATA

Upper Stratum 1: *Banksia attenuata, B. menziesii* (5 m, 17 %)
Mid Stratum 1: *Eremaea pauciflora* (1.5 m, 10 %)
Lower Stratum 1: *Daviesia podophylla, Jacksonia nutans* (0.7 m, 7%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Adenanthos cygnorum subsp. *cygnorum*	0.7	0.1
Alexgeorgea nitens	0.1	0.5
Amphipogon turbinatus	0.2	0.5
Astroloma xerophyllum	0.4	0.5
Banksia attenuata	5	11
Banksia menziesii	3.5	6
Boronia ramosa subsp. *anethifolia*	0.4	0.1
Bossiaea eriocarpa	0.3	0.5
Cassytha glabella forma *dispar*	0.3	0.5
Conostephium pendulum	0.6	0.5
Conostylis juncea	0.4	0.5
Dampiera linearis		
Daviesia podophylla	0.5	3
Drosera eneabba	0.01	0.1
Eremaea asterocarpa subsp. *asterocarpa*	0.4	0.5
Eremaea pauciflora	1.5	10
Hibbertia crassifolia	0.6	0.5
Hibbertia sp. Gnangara (J.R. Wheeler 2329)	0.3	0.5
Hypocalymma xanthopetalum	0.4	1
Jacksonia nutans	0.6	4
Lasiopetalum lineare (3)	0.2	0.5
Leptospermum spinescens	0.6	0.5
Leucopogon conostephioides	0.4	0.5

Lomandra hermaphrodita	0.15	0.1
Melaleuca clavifolia (3)	0.5	1
Opercularia vaginata	0.1	0.1
Petrophile linearis	0.7	1
Phlebocarya filifolia	0.5	0.5
Pimelea sulphurea	0.3	0.1
Poranthera drummondii	0.01	0.1
Schoenus ?subfascicularis	0.6	0.1
Scholtzia involucrata	0.4	0.5
Stirlingia latifolia	0.4	0.5
Stylidium adpressum	0.05	0.1
Stylidium crossocephalum	0.3	0.1
Stylidium purpureum ms	0.2	0.5
Stylidium rigidulum	0.1	0.1
Thysanotus thyrsoideus	0.4	0.1
Xanthosia huegelii	0.1	0.1

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Site Name: NEW081
Site Type: QUADRAT
Dimensions: 10m x 10m
Survey Date: 07/11/2012
GPS Location: GDA94 (Zone 50) 340962E 6609571N
Vegetation Type: 1
Landform Type: Flat
Slope Class: Level (0 degrees)
Soil Type: Clay Loam
Soil Colour: Dark Brown (other)
Rock Outcrop: No bedrock exposed
CF Abundance: 0%
Vegetation Condition: 2 - Excellent

DOMINANT TAXA IN VEGETATION STRATA

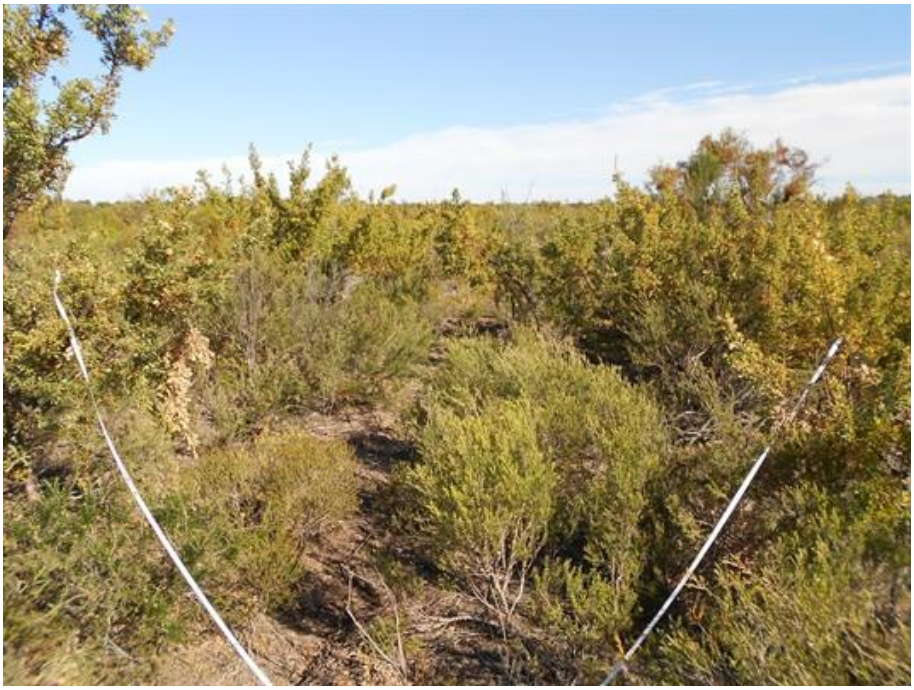
Upper Stratum 1: *Banksia sessilis* var. *cygnorum* (2.5 m, 10%)
Mid Stratum 1: *Banksia telmatiaea, Melaleuca acutifolia* (1.2 m, 10%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
**Aira cupaniana*	0.05	0.5
Allocasuarina lehmanniana subsp. *lehmanniana*	2.2	1
Banksia sessilis var. *cygnorum*	2.5	10
Banksia telmatiaea	1	4
**Bartsia trixago*	0.1	0.1
Cassytha glabella forma *dispar*	0.3	0.5
Comesperma calymega	0.5	0.1
Crassula colorata var. *acuminata*	0.05	0.5
Daucus glochidiatus	0.05	0.1
Dianella revoluta var. *divaricata*		
Exocarpos sparteus	2	0.5
Gahnia trifida	0.4	0.5
Hakea varia	1	1
**Hypochaeris glabra*	0.05	0.5
Isotoma hypocrateriformis	0.15	0.5
**Lysimachia arvensis*	0.05	0.1
Melaleuca acutifolia	1.2	6
Melaleuca viminea subsp. *viminea*		
Opercularia vaginata	0.15	0.1
Podolepis gracilis	0.2	0.5
Podotheca angustifolia	0.1	0.1
Rhagodia baccata subsp. *baccata*	0.4	0.5
**Rostraria cristata*		
Samolus repens var. *paucifolius*		
Scaevola ?*globulifera*		
Schenkia australis	0.05	0.5

Senecio pinnatifolius	0.3	0.5
**Sonchus oleraceus*		
Trachymene pilosa	0.05	0.1

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Site Name: NEW082
Site Type: QUADRAT
Dimensions: 10m x 10m
Survey Date: 07/11/2012
GPS Location: GDA94 (Zone 50) 341827E 6609374N
Vegetation Type: 5
Landform Type: Flat
Slope Class: Very Gently Inclined (1 degree)
Aspect: N
Soil Type: Sand
Soil Colour: Grey-Brown (other)
Rock Outcrop: No bedrock exposed
CF Abundance: 0%
Vegetation Condition: 1 - Pristine

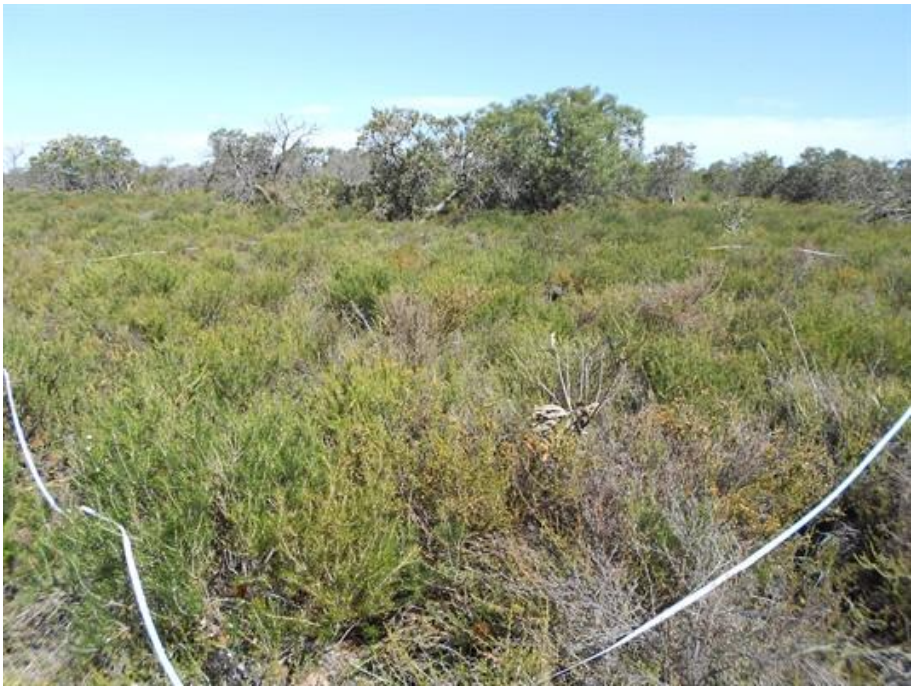
DOMINANT TAXA IN VEGETATION STRATA

Lower Stratum 1: *Banksia telmatiaea, Jacksonia hakeoides* (0.7m, 70%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Anigozanthos ?pulcherrimus	0.3	0.1
Austrostipa macalpinei	0.2	0.1
Banksia telmatiaea	0.7	60
Boronia ramosa subsp. *anethifolia*	0.3	0.5
Cassytha glabella forma *dispar*	0.3	0.1
Chordifex chaunocoleus (4)	0.3	0.1
Conostylis aculeata subsp. *spinuligera*	0.25	1.5
Daviesia incrassata subsp. *incrassata*	0.6	0.5
Hakea obliqua subsp. *parviflora*	1.5	0.5
Hakea varia	0.7	0.5
Hibbertia subvaginata	0.3	0.5
Jacksonia hakeoides	0.5	10
Jacksonia nutans	0.6	0.5
Lepidosperma ?pubisquameum	0.4	0.1
Lyginia imberbis	0.4	0.1
Melaleuca seriata	0.5	1
Petrophile brevifolia	0.4	0.5
Schoenus brevisetis	0.4	0.1
Stirlingia latifolia	0.6	1
Trachymene pilosa	0.05	0.1
**Ursinia anthemoides*	0.1	0.1
Verticordia densiflora var. *densiflora*	0.6	1
Waitzia acuminata var. *albicans*	0.1	0.1

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Site Name: NEW085
Site Type: QUADRAT
Dimensions: 10m x 10m
Survey Date: 06/11/2012
GPS Location: GDA94 (Zone 50) 340798E 6607752N
Vegetation Type: 17
Landform Type: Mid Slope
Slope Class: Very Gently Inclined (1 degree)
Aspect: NW
Soil Type: Sand
Soil Colour: Grey
Rock Outcrop: No bedrock exposed
CF Abundance: 0%
Vegetation Condition: 1 - Pristine

DOMINANT TAXA IN VEGETATION STRATA

Upper Stratum 1: *Banksia attenuata, Banksia menziesii* (5 m, 14 %)
Mid Stratum 1: *Eremaea pauciflora* (1.7 m, 15 %)
Lower Stratum 1: *Jacksonia nutans, Melaleuca clavifolia* (0.6 m, 18 %)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Actinotus leucocephalus	0.05	0.1
Amphipogon turbinatus	0.4	0.5
Anigozanthos humilis subsp. *humilis*	0.1	0.1
Austrostipa macalpinei	0.1	0.5
Banksia attenuata	3.5	9
Banksia menziesii	5	5
Blancoa canescens	0.1	0.5
Boronia ramosa subsp. *anethifolia*	0.3	0.5
Bossiaea eriocarpa	0.4	1
Conostephium pendulum	0.3	0.5
Dasypogon obliquifolius	0.6	0.1
Drosera eneabba	0.01	0.1
Drosera erythrorhiza subsp. ?*magna*	0.01	0.5
Drosera ?*menziesii*	0.3	0.1
Eremaea pauciflora	1.7	15
Hibbertia huegelii	0.3	0.5
Hibbertia hypericoides	0.5	1
Hibbertia sp. Gnangara (J.R. Wheeler 2329)	0.3	1
Hypocalymma xanthopetalum	0.4	1
Jacksonia nutans	0.6	12
Lepidosperma pubisquameum	0.3	0.5
Leptospermum spinescens	0.3	0.1
Leucopogon sprengelioides	0.5	1

Lomandra hermaphrodita	0.15	0.1
Melaleuca clavifolia (3)	0.6	6
Patersonia occidentalis var. ?*occidentalis*	0.4	0.5
Petrophile linearis	0.4	0.5
Poranthera drummondii	0.02	0.1
Rytidosperma ?*occidentale*	1	0.1
Scholtzia involucrata	0.7	1
Stylidium adpressum	0.05	0.1
Stylidium diuroides subsp. *diuroides*	0.2	0.1
Stylidium piliferum	0.02	0.1
Stylidium rigidulum	0.1	0.1
Trachymene pilosa	0.05	0.1

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Site Name:	NEW088
Site Type:	QUADRAT
Dimensions:	10m x 10m
Survey Date:	16/10/2012
GPS Location:	WGS84 (Zone 50) 338160E 6606077N
Vegetation Type:	17
Landform Type:	Mid Slope
Slope Class:	Very Gently Inclined (1 degree)
Aspect:	NW
Soil Type:	Sand
Soil Colour:	Grey
Rock Outcrop:	No bedrock exposed
CF Abundance:	0%
Vegetation Condition:	1 - Pristine
Disturbance:	None

DOMINANT TAXA IN VEGETATION STRATA

Mid Stratum 1: *Allocasuarina humilis*, *Conospermum stoechadis* subsp. *stoechadis*, *Daviesia triflora*, *Eremaea pauciflora* (1.5 m, 30%)

Lower Stratum 1: *Dasypogon obliquifolius*, *Jacksonia nutans*, *Melaleuca clavifolia*, *Stirlingia latifolia* (0.7 m, 9%)

Lower Stratum 2: *Patersonia occidentalis* var. ?*occidentalis* (0.5 m, 2%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Alexgeorgea nitens	0.1	0.5
Allocasuarina humilis	1.5	13
Amphipogon turbinatus	0.1	0.1
Anigozanthos humilis subsp. *humilis*	0.2	0.5
Austrostipa macalpinei	0.15	0.1
Blancoa canescens	0.25	0.5
Bossiaea eriocarpa	0.4	1
Cassytha glabella forma *dispar*		1
Conospermum stoechadis subsp. *stoechadis*	1.5	3
Conostylis aurea	0.3	0.1
Conostylis juncea	0.2	0.5
Conostylis teretifolia subsp. *teretifolia*	0.1	0.1
Dasypogon obliquifolius	0.6	2
Daviesia divaricata subsp. *divaricata* ms	2	1
Daviesia podophylla	0.6	1
Daviesia triflora	1	2
Drosera eneabba	0.1	0.5
Drosera erythrorhiza subsp. ?*magna*	0.01	0.1
Eremaea asterocarpa subsp. *asterocarpa*	0.4	0.5
Eremaea pauciflora	1.2	12

Gastrolobium capitatum	0.3	0.5
Goodenia ?*pulchella* subsp. Coastal Plain A (M. Hislop 634)	0.15	0.1
Hibbertia crassifolia	0.4	0.5
Hibbertia huegelii	0.3	0.5
Hibbertia hypericoides	0.5	0.5
Hypocalymma xanthopetalum	0.3	0.5
Jacksonia floribunda	1	1
Jacksonia nutans	0.7	2
Leucopogon sprengelioides	0.4	0.5
Lomandra hermaphrodita	0.15	0.5
Melaleuca clavifolia (3)	0.5	3
Mesomelaena pseudostygia	0.4	0.5
Patersonia occidentalis var. ?*occidentalis*	0.5	2
Petrophile linearis	0.5	1
Petrophile macrostachya	0.6	1
Pimelea sulphurea	0.2	0.1
Ptilotus manglesii	0.1	0.1
Schoenus clandestinus	0.01	0.5
Schoenus curvifolius	0.25	0.1
Stirlingia latifolia	0.9	2
Stylidium crossocephalum	0.05	0.1
Stylidium diuroides subsp. *diuroides*	0.05	0.1
Synaphea spinulosa subsp. *spinulosa*	0.6	1
Verticordia densiflora var. *densiflora*	0.4	0.5
Xanthosia huegelii	0.05	0.1

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Site Name: NEW089
Site Type: QUADRAT
Dimensions: 10m x 10m
Survey Date: 17/10/2012
GPS Location: WGS84 (Zone 50) 339108E 6606692N
Vegetation Type: 16
Landform Type: Wetland
Slope Class: Level (0 degrees)
Soil Type: Sandy Loam
Soil Colour: Grey over Red-Brown (other)
Rock Outcrop: No bedrock exposed
CF Abundance: 0%
Vegetation Condition: 3 – Very Good

DOMINANT TAXA IN VEGETATION STRATA

Lower Stratum 1: *Schoenus curvifolius* (0.15 m, 40%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Asteraceae sp.	0.03	0.5
Brachyscome bellidioides	0.05	0.1
Calandrinia granulifera	0.04	0.05
Calandrinia sp. Kenwick (G.J. Keighery 10905)	0.01	0.05
**Dittrichia graveolens*	0.25	0.5
Goodenia pulchella subsp. Coastal Plain A (M. Hislop 634)	0.05	0.1
**Hypochaeris glabra*	0.05	0.1
Isotoma pusilla	0.01	0.5
Lachnagrostis plebeia	0.1	0.5
**Lysimachia arvensis*	0.05	0.5
Myriocephalus appendiculatus	0.05	0.1
**Parentucellia viscosa*	0.02	0.5
Pogonolepis stricta	0.04	0.5
Schoenus curvifolius	0.15	40
**Sonchus oleraceus*	0.2	0.1
Wilsonia rotundifolia	0.01	0.5
Wurmbea sp.	0.03	0.5

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Site Name: NEW090
Site Type: QUADRAT
Dimensions: 10m x 10m
Survey Date: 17/10/2012
GPS Location: WGS84 (Zone 50) 339031E 6606831N
Vegetation Type: 9a
Landform Type: Wetland
Slope Class: Level (0 degrees)
Aspect: S
Soil Type: Clay Loam
Soil Colour: Grey-Brown (other)
Rock Outcrop: No bedrock exposed
CF Abundance: 0%
Vegetation Condition: 1 - Pristine

DOMINANT TAXA IN VEGETATION STRATA

Upper Stratum 1: *Melaleuca rhaphiophylla, M. viminea* subsp. *viminea* (2.5 m, 60%)
Mid Stratum 1: *Melaleuca lateritia* (1 m, 25%)
Lower Stratum 1: *Meeboldina coangustata* (1.2 m, 15%),
Lower Stratum 2: *Chorizandra enodis* (0.3 m, 5%),

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
**Aira cupaniana*	0.1	0.5
Chorizandra enodis	0.3	5
Indet. sp.	0.05	0.1
Isotoma pusilla	0.01	0.5
**Lysimachia arvensis*	0.03	0.5
Meeboldina coangustata	1.2	15
Melaleuca lateritia	1	25
Melaleuca rhaphiophylla	2.5	30
Melaleuca viminea subsp. *viminea*	2.5	30
Microtis orbicularis	0.1	0.1
Myriocephalus appendiculatus	0.05	0.5
Myriocephalus occidentalis	0.01	0.5
Philydrella pygmaea subsp. *pygmaea*	0.1	0.1
Selaginella gracillima	0.01	0.5
Stylidium inundatum	0.02	0.5
Thysanotus patersonii	0.25	0.5

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Site Name: NEW091
Site Type: QUADRAT
Dimensions: 10m x 10m
Survey Date: 17/10/2012
GPS Location: WGS84 (Zone 50) 338929E 6606965N
Vegetation Type: 1
Landform Type: Flat
Slope Class: Level (0 degrees)
Aspect: N
Soil Type: Sand
Soil Colour: Grey
Rock Outcrop: No bedrock exposed
CF Abundance: 0%
Vegetation Condition: 1 - Pristine

DOMINANT TAXA IN VEGETATION STRATA

Mid Stratum 1: *Xanthorrhoea preissii* (2 m, 5%)
Mid Stratum 2: *Banksia telmatiaea* (1 m, 80%)
Lower Stratum 1: *Hypocalymma xanthopetalum*, *Patersonia occidentalis* (0.5 m, 9%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Banksia dallanneyi var. *dallanneyi*	0.15	0.5
Banksia telmatiaea	1	80
Calytrix flavescens	0.25	0.1
Conospermum stoechadis subsp. *stoechadis*	0.5	0.1
Conostylis aurea	0.3	0.5
Conostylis juncea	0.3	0.1
Daviesia decurrens	0.4	0.5
Daviesia incrassata subsp. *incrassata*	0.7	1
Drosera erythrorhiza subsp. ?*magna*	0.01	0.5
Eremaea beaufortioides var. *beaufortioides*	0.6	0.5
Eremaea pauciflora	0.4	0.5
Gompholobium tomentosum	0.3	0.1
Hibbertia crassifolia	0.3	0.5
Hibbertia huegelii	0.3	0.1
Hibbertia subvaginata	0.3	0.5
Hypocalymma xanthopetalum	0.3	1
Jacksonia nutans	0.7	2
Lepidosperma pubisquameum	0.4	0.1
Leucopogon sprengelioides	0.6	0.5
Lomandra hermaphrodita	0.15	0.1
Lysinema pentapetalum	0.6	0.5
Patersonia occidentalis var. ?*occidentalis*	0.5	8
Stylidium hymenocraspedum (2)	0.3	0.5

Thysanotus thyrsoideus	0.25	0.1
Xanthorrhoea preissii	2	5

PHOTO



Site Name:	NEW092
Site Type:	QUADRAT
Dimensions:	10m x 10m
Survey Date:	06/11/2012
GPS Location:	GDA94 (Zone 50) 340518E 6607262N
Vegetation Type:	9b
Landform Type:	Open Depression
Slope Class:	Very Gently Inclined (1 degree)
Aspect:	SE
Soil Type:	Sand
Soil Colour:	black / grey (other)
Rock Outcrop:	No bedrock exposed
CF Abundance:	0%
Vegetation Condition:	3 - Very Good
Disturbance:	weeds and significant bare ground (other)

DOMINANT TAXA IN VEGETATION STRATA

Upper Stratum 1: *Eucalyptus rudis* subsp. *rudis* (12 m, 70 %)

Lower Stratum 1: **Lysimachia arvensis*, **Parentucellia latifolia*, **Polycarpon tetraphyllum*, *Trachymene pilosa* (0.1 m, 40 %)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
?*Anthosachne* sp.	0.3	0.1
**Arctotheca calendula*	0.05	0.5
Eucalyptus rudis subsp. *rudis*	12	70
**Lysimachia arvensis*	0.1	15
**Parentucellia latifolia*	0.1	5
**Polycarpon tetraphyllum*	0.05	10
**Solanum nigrum*	0.1	0.5
Solanum symonii	0.1	0.1
**Sonchus oleraceus*	0.1	0.1
Trachymene pilosa	0.1	10
**Wahlenbergia capensis*	0.1	0.1

PHOTO



Site Name: NEW093
Site Type: QUADRAT
Dimensions: 10m x 10m
Survey Date: 05/11/2012
GPS Location: GDA94 (Zone 50) 339401E 6606395N
Vegetation Type: 17
Landform Type: Hillock
Slope Class: Very Gently Inclined (1 degree)
Aspect: SE
Soil Type: Sand
Soil Colour: Grey
Rock Outcrop: No bedrock exposed
CF Abundance: 0%
Vegetation Condition: 1 - Pristine
Disturbance: None

DOMINANT TAXA IN VEGETATION STRATA

Upper Stratum 1: *Banksia attenuata*, *B. menziesii* (3.5 m, 13 %)
Mid Stratum 1: *Eremaea pauciflora*, *Jacksonia nutans* (1.4 m, 34 %)
Lower Stratum 1: *Hibbertia crassifolia*, *Melaleuca clavifolia*, *Stirlingia latifolia* (0.7 m, 9%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Alexgeorgea nitens	0.1	0.1
Amphipogon turbinatus	0.3	0.5
Anigozanthos humilis subsp. *humilis*	0.05	0.1
Austrostipa macalpinei	0.2	0.1
Banksia attenuata	3.5	9
Banksia menziesii	3	4
Blancoa canescens	0.1	0.5
Bossiaea eriocarpa	0.3	0.5
Calytrix flavescens	0.3	0.1
Comesperma calymega	0.1	0.1
Conostephium pendulum	0.3	0.1
Conostylis aurea	0.2	0.1
Dasypogon obliquifolius	0.6	0.5
Drosera eneabba	0.1	0.5
Drosera erythrorhiza subsp. ?*magna*	0.01	0.5
Eremaea asterocarpa subsp. *asterocarpa*	0.5	1
Eremaea pauciflora	1.4	20
Gastrolobium capitatum	0.2	0.1
Hibbertia crassifolia	0.4	2
Hibbertia huegelii	0.3	0.5
Hibbertia hypericoides	0.5	1
Hibbertia sp. Gnangara (J.R. Wheeler 2329)	0.03	1

Hypocalymma xanthopetalum	0.4	0.5
Jacksonia hakeoides	0.5	0.5
Jacksonia nutans	1.2	14
Lepidosperma pubisquameum	0.3	0.5
Leptospermum spinescens	0.5	0.5
Leucopogon conostephioides	0.3	0.5
Leucopogon sprengelioides	0.4	0.5
Lomandra hermaphrodita	0.15	0.1
Lyginia barbata	0.4	0.5
Melaleuca clavifolia (3)	0.4	5
Mesomelaena pseudostygia	0.4	0.5
Opercularia vaginata	0.3	0.1
Patersonia occidentalis var. ?*occidentalis*	0.5	1
Petrophile linearis	0.6	0.5
Pimelea sulphurea	0.3	0.5
Schoenus curvifolius	0.3	0.1
Stirlingia latifolia	0.7	2
Stylidium adpressum	0.05	0.5
Stylidium crossocephalum	0.1	0.1
Stylidium piliferum	0.2	0.1
Stylidium purpureum ms	0.2	0.1
Thysanotus thyrsoideus	0.3	0.1
Xanthorrhoea preissii	1	1
Xanthosia huegelii	0.1	0.1

PHOTO



Site Name:	NEW094
Site Type:	QUADRAT
Dimensions:	10m x 10m
Survey Date:	22/11/2012
GPS Location:	WGS84 (Zone 50) 337240E 6604290N
Vegetation Type:	14
Landform Type:	Drainage Line
Slope Class:	Level (0 degrees)
Soil Type:	Clayey Sand (other)
Soil Colour:	Grey and White (other)
Rock Outcrop:	No bedrock exposed
CF Abundance:	0%
Vegetation Condition:	1 - Pristine
Disturbance:	None
Fire:	>5 years

DOMINANT TAXA IN VEGETATION STRATA

Upper Stratum 1:	*Casuarina obesa* (10 m, 15%)
Upper Stratum 2:	*Melaleuca brevifolia*, *Melaleuca viminea* subsp. *viminea* (2.5 m, 72%)
Mid Stratum 1:	*Gahnia trifida* (1.5 m, 4%)
Lower Stratum 1:	*Baumea juncea* (0.6 m, 5%)

SPECIES LIST

Taxon Name	**Avg. Ht (m)**	**% Cover Alive**
Allocasuarina lehmanniana subsp. *lehmanniana*	2.5	1
Baumea juncea	0.6	5
Casuarina obesa	10	15
Comesperma volubile		0.5
Crassula colorata var. *acuminata*	0.1	0.1
Eragrostis dielsii		0.1
Gahnia trifida	1.5	4
Melaleuca brevifolia	2	65
Melaleuca viminea subsp. *viminea*	2.5	7

PHOTO



Site Name: NEW095
Site Type: QUADRAT
Dimensions: 10m x 10m
Survey Date: 12/10/2012
GPS Location: WGS84 (Zone 50) 337995E 6604524N
Vegetation Type: 13
Landform Type: Closed Depression
Slope Class: Level (0 degrees)
Soil Type: Loam
Soil Colour: Grey
Rock Outcrop: No bedrock exposed
CF Abundance: 0%
Vegetation Condition: 2 - Excellent
Disturbance: Exotic Weeds
Fire: >5 years

DOMINANT TAXA IN VEGETATION STRATA

Mid Stratum 1: *Tecticornia indica* subsp. *bidens* (1.3 m, 35%)
Lower Stratum 1: *Stylidium inundatum* (0.3 m, 2%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Angianthus pygmaeus	0.1	0.5
**Arctotheca calendula*	0.1	0.1
Calandrinia sp. Kenwick (G.J. Keighery 10905)	0.1	0.5
Carpobrotus modestus	0.1	0.1
Centrolepis aristata	0.1	0.1
Cotula australis	0.1	0.5
**Cotula bipinnata*	0.1	1
**Crassula natans* var. *minus*	0.1	0.5
Eragrostis dielsii	0.1	0.5
Goodenia pulchella subsp. Coastal Plain A (M. Hislop 634)	0.1	0.1
**Isolepis marginata*	0.1	0.1
Liparophyllum capitatum	0.1	0.5
**Lysimachia arvensis*	0.1	0.6
**Monopsis debilis*	0.1	0.1
**Parentucellia viscosa*	0.1	0.5
**Polypogon monspeliensis*	0.1	0.1
Schenkia australis	0.1	0.5
**Sonchus oleraceus*	0.1	0.2
Stylidium inundatum	0.3	2
Tecticornia indica subsp. *bidens*	1.3	35
Trachymene pilosa	0.1	0.1
Triglochin nana	0.1	0.5

**Vulpia bromoides*	0.1	0.1

PHOTO



Site Name:	NEW096
Site Type:	QUADRAT
Dimensions:	10m x 10m
Survey Date:	22/11/2012
GPS Location:	WGS84 (Zone 50) 336977E 6604159N
Vegetation Type:	18
Landform Type:	Flat
Slope Class:	Level (0 degrees)
Soil Type:	Sand
Soil Colour:	Grey and White (other)
Rock Outcrop:	No bedrock exposed
CF Abundance:	0%
Vegetation Condition:	1 - Pristine
Disturbance:	None
Fire:	>5 years

DOMINANT TAXA IN VEGETATION STRATA

Upper Stratum 1: *Banksia attenuata*, *B. menziesii*, *Eucalyptus todtiana* (3 m, 13%)

Mid Stratum 1: *Conospermum stoechadis* subsp. *stoechadis*, *Eremaea pauciflora*, *Scholtzia umbellifera* (1.5 m, 19%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Acacia pulchella var. *reflexa*	0.1	0.1
Alexgeorgea nitens	0.2	0.1
Anigozanthos humilis subsp. *humilis*	0.2	0.1
Asteridea pulverulenta	0.2	0.1
Austrostipa macalpinei	0.3	0.1
Banksia attenuata	3	1.5
Banksia menziesii	3	10
Calothamnus sanguineus	2	0.5
Conospermum stoechadis subsp. *stoechadis*	1.3	10
Conostylis teretifolia subsp. *teretifolia*	0.1	0.1
Corynotheca micrantha	0.3	0.5
Daviesia divaricata subsp. *divaricata* ms	2	1
Desmocladus virgatus	0.1	0.1
Eremaea pauciflora	1.5	6
Eucalyptus todtiana	3	1.5
Hibbertia hypericoides	0.3	0.1
Hibbertia subvaginata	0.2	0.1
**Hypochaeris glabra*	0.1	0.1
Jacksonia hakeoides	1.2	0.8
Lechenaultia linarioides	0.3	0.9
Lepidobolus preissianus	0.2	0.3
Lepidosperma sp.	0.3	0.1

Melaleuca clavifolia (3)	0.8	0.4
Mesomelaena pseudostygia	0.6	1.2
Patersonia occidentalis var. ?*occidentalis*	0.3	0.2
Petrophile macrostachya	0.5	0.3
Rytidosperma ?*occidentale*	0.3	0.1
Scaevola canescens	0.2	0.1
Schoenus clandestinus	0.1	0.2
Scholtzia umbellifera	1.3	2.5
Stackhousia monogyna	0.3	0.1
Trachymene pilosa	0.1	0.1
**Wahlenbergia capensis*	0.1	0.1

PHOTO



Site Name:	NEW097
Site Type:	QUADRAT
Dimensions:	10m x 10m
Survey Date:	22/11/2012
GPS Location:	WGS84 (Zone 50) 337830E 6604154N
Vegetation Type:	7
Landform Type:	Simple Slope
Slope Class:	Very Gently Inclined (1 degree)
Aspect:	W
Soil Type:	Sand
Soil Colour:	Grey and White (other)
Rock Outcrop:	No bedrock exposed
CF Abundance:	0%
Vegetation Condition:	1 - Pristine
Disturbance:	None
Fire:	>5 years

DOMINANT TAXA IN VEGETATION STRATA

Mid Stratum 1: *Acacia spathulifolia* (1.5 m, 15%)

Lower Stratum 1: *Banksia telmatiaea*, *Calothamnus quadrifidus* subsp. *angustifolius, Melaleuca seriata* (0.6 m, 42%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Acacia lasiocarpa var. *lasiocarpa*	0.4	0.3
Acacia spathulifolia	1.5	15
Alexgeorgea nitens	0.1	0.1
Banksia dallanneyi var. *dallanneyi*	0.3	0.2
Banksia telmatiaea	0.6	20
Calothamnus quadrifidus subsp. *angustifolius*	0.6	20
Cassytha flava		0.75
Conostylis aculeata subsp. *spinuligera*	0.1	0.1
Darwinia pinifolia	0.2	0.4
Diplopeltis huegelii subsp. ?*huegelii*	0.1	0.1
Hakea costata	0.7	0.2
Hemiandra glabra subsp. *glabra* ms		1.25
Hibbertia crassifolia	0.3	0.2
Hypocalymma xanthopetalum	0.2	0.1
Jacksonia nutans	0.2	0.2
Lepidobolus preissianus	0.1	0.1
Leucopogon ?sprengelioides	0.6	0.2
Lomandra sp.	0.2	0.1
Melaleuca seriata	0.4	2
Mesomelaena pseudostygia	0.5	0.2
Patersonia occidentalis var. ?*occidentalis*	0.4	0.25

Petrophile brevifolia	0.1	0.1
Stackhousia monogyna	0.4	0.1
Synaphea spinulosa subsp. *spinulosa*	0.2	0.1
Verticordia densiflora	0.8	0.2

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Site Name: NEW099
Site Type: QUADRAT
Dimensions: 10m x 10m
Survey Date: 17/10/2012
GPS Location: WGS84 (Zone 50) 340534E 6605502N
Vegetation Type: 1
Landform Type: Flat
Slope Class: Level (0 degrees)
Aspect: N
Soil Type: Sand
Soil Colour: Grey
Rock Outcrop: No bedrock exposed
CF Abundance: 0%
Vegetation Condition: 1 - Pristine

DOMINANT TAXA IN VEGETATION STRATA

Mid Stratum 1: *Pericalymma ellipticum* var. *ellipticum* (1.5 m, 2%),
Lower Stratum 1: *Banksia telmatiaea*, *Melaleuca seriata*, *Petrophile brevifolia* (0.7 m, 46%)
Lower Stratum 2: *Scaevola anchusifolia* (0.1 m, 2%)

SPECIES LIST

Taxon Name	**Avg. Ht (m)**	**% Cover Alive**
Anarthria laevis	0.4	1
Baeckea sp. Perth Region (R.J. Cranfield 444) (3)	1	2
Beaufortia squarrosa	1	0.5
Banksia telmatiaea	0.7	40
Cassytha glabella forma *dispar*		0.5
Chaetanthus aristatus	0.15	0.5
Chordifex chaunocoleus (4)	0.3	0.1
Conostylis aculeata subsp. *spinuligera*	0.3	0.5
Hakea obliqua subsp. *parviflora*	0.3	0.5
Hibbertia stellaris	0.3	0.1
Melaleuca seriata	0.6	3
Melaleuca teretifolia	1	1
Pericalymma ellipticum var. *ellipticum*	1.5	2
Petrophile brevifolia	0.5	3
Petrophile seminuda	0.7	0.5
Scaevola anchusifolia	0.1	2
Stylidium adpressum	0.05	0.5
Stylidium diuroides subsp. *diuroides*	0.03	0.1
Tricostularia neesii var. *neesii*	0.4	0.5
Verticordia densiflora var. *densiflora*	0.7	1
Verticordia drummondii	0.7	0.5

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Site Name: NEW100
Site Type: QUADRAT
Dimensions: 10m x 10m
Survey Date: 17/10/2012
GPS Location: WGS84 (Zone 50) 340217E 6605755N
Vegetation Type: 18
Landform Type: Crest
Slope Class: Very Gently Inclined (1 degree)
Aspect: NW
Soil Type: Sand
Soil Colour: Grey
Rock Outcrop: No bedrock exposed
CF Abundance: 0%
Vegetation Condition: 1 - Pristine

DOMINANT TAXA IN VEGETATION STRATA

Upper Stratum 1: *Banksia attenuata* (3.5 m, 3%)
Mid Stratum 1: *Conospermum stoechadis* subsp. *stoechadis, Eremaea pauciflora, Hakea costata* (1.5 m, 40%)
Lower Stratum 1: *Banksia dallanneyi* var. *dallanneyi*, *Hibbertia hypericoides*, (0.15m, 4%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Acacia pulchella var. *reflexa*	0.2	0.5
Alexgeorgea nitens	0.15	0.1
Amphipogon turbinatus	0.4	0.5
Anigozanthos humilis subsp. *humilis*	0.1	0.5
Austrostipa macalpinei	0.3	0.5
Banksia attenuata	3.5	3
Banksia dallanneyi var. *dallanneyi*	0.15	2
Bossiaea eriocarpa	0.4	1
Cassytha glabella forma *dispar*	0.3	0.5
Conospermum stoechadis subsp. *stoechadis*	1.5	3
Conostylis aurea	0.2	0.5
Corynotheca micrantha var. ?*elongata*	0.3	0.5
Drosera eneabba	0.01	0.1
Drosera erythrorhiza subsp. ?*magna*	0.01	0.5
Eremaea pauciflora	1.2	35
Hakea costata	1.5	2
Hibbertia crassifolia	0.3	0.5
Hibbertia huegelii	0.4	0.5
Hibbertia hypericoides	0.5	2
Hypocalymma xanthopetalum	0.3	0.5
**Hypochaeris glabra*	0.05	0.5
Isotropis cuneifolia subsp. *cuneifolia*	0.1	0.5

Jacksonia nutans	0.4	0.1
Leptomeria empetriformis	0.3	0.5
Leptospermum spinescens	0.4	0.5
Leucopogon sprengelioides	0.4	0.5
Lomandra preissii	0.4	0.1
Lyginia barbata	0.3	0.5
Melaleuca clavifolia (3)	0.4	1
Mesomelaena pseudostygia	0.4	1
Opercularia vaginata	0.2	0.1
Persoonia comata	0.7	1
Petrophile linearis	0.5	1
Petrophile macrostachya	0.5	1
Phyllangium divergens	0.03	0.5
Podotheca angustifolia	0.1	0.5
Podotheca chrysantha	0.25	0.5
Pterochaeta paniculata	0.03	0.5
Schoenus clandestinus	0.01	0.5
Siloxerus humifusus	0.01	0.5
Stylidium adpressum	0.05	0.5
Stylidium diuroides subsp. *diuroides*	0.1	0.5
Synaphea spinulosa subsp. *spinulosa*	0.2	0.5
Trachymene pilosa	0.1	1
**Ursinia anthemoides*	0.15	0.1
Verticordia densiflora var. *densiflora*	0.4	1
**Wahlenbergia capensis*	0.15	0.5
Xanthosia huegelii	0.05	0.5

PHOTO



Site Name: NEW101
Site Type: QUADRAT
Dimensions: 10m x 10m
Survey Date: 17/10/2012
GPS Location: WGS84 (Zone 50) 340079E 6605897N
Vegetation Type: 1
Landform Type: Flat
Slope Class: Very Gently Inclined (1 degree)
Aspect: NW
Soil Type: Sand
Soil Colour: Grey-Brown (other)
Rock Outcrop: No bedrock exposed
CF Abundance: 0%
Vegetation Condition: 1 - Pristine

DOMINANT TAXA IN VEGETATION STRATA

Mid Stratum 1: *Acacia pulchella* var. *reflexa*, *Banksia telmatiaea*, *Hakea obliqua* subsp. *parviflora* (1.5 m, 79%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Acacia pulchella var. *reflexa*	1	5
**Aira cupaniana*	0.05	0.1
Allocasuarina lehmanniana subsp. *lehmanniana*	1.2	0.5
Asteridea pulverulenta	0.1	0.1
Astroloma glaucescens	0.2	0.5
Austrostipa macalpinei	0.15	0.5
Banksia telmatiaea	1.2	70
Conostylis aculeata subsp. *spinuligera*	0.3	1
Hakea obliqua subsp. *parviflora*	1.5	4
**Hypochaeris glabra*	0.05	0.5
Kennedia prostrata	0.05	0.1
Lepidosperma ?pubisquameum	0.5	0.5
Melaleuca seriata	1	1
Melaleuca teretifolia	1.2	1
Petrophile brevifolia	0.6	0.5
Podotheca angustifolia	0.1	0.1
Rytidosperma acerosum	0.3	0.5
Schoenus subfascicularis	1	0.5
Trachymene pilosa	0.15	0.5
**Ursinia anthemoides*	0.15	0.1
Verticordia densiflora var. *densiflora*	0.7	1
**Wahlenbergia capensis*	0.1	0.1

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Site Name:	NEW102
Site Type:	QUADRAT
Dimensions:	10m x 10m
Survey Date:	16/10/2012
GPS Location:	WGS84 (Zone 50) 340032E 6604815N
Vegetation Type:	17
Landform Type:	Upper Slope
Slope Class:	Gently Inclined (3 degrees)
Aspect:	NE
Soil Type:	Sand
Soil Colour:	Grey
Rock Outcrop:	No bedrock exposed
CF Abundance:	0%
Vegetation Condition:	1 - Pristine

DOMINANT TAXA IN VEGETATION STRATA

Upper Stratum 1: *Banksia attenuata, B. menziesii* (4 m, 45%)

Mid Stratum 1: *Eremaea pauciflora, Jacksonia nutans, Petrophile macrostachya* (1.5 m, 12%)

Lower Stratum 1: *Bossiaea eriocarpa, Dasypogon obliquifolius, Hibbertia hypericoides, Mesomelaena pseudostygia, Petrophile linearis* (0.7 m, 25%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Alexgeorgea nitens	0.2	0.5
Amphipogon turbinatus	0.1	0.5
Anigozanthos humilis subsp. *humilis*	0.2	0.5
Banksia attenuata	4	25
Banksia menziesii	4	20
Bossiaea eriocarpa	0.5	2
Calytrix flavescens	0.3	1
Calytrix fraseri	0.4	0.5
Cassytha glabella forma *dispar*	1	1
Centrolepis pilosa	0.02	0.1
Centrolepis polygyna	0.02	0.1
Conospermum stoechadis subsp. *stoechadis*	1	0.5
Conostephium pendulum	0.4	0.5
Conostylis aurea	0.3	0.5
Conostylis teretifolia subsp. *teretifolia*	0.1	0.5
Dasypogon obliquifolius	0.6	4
Daviesia divaricata subsp. *divaricata* ms	2	0.5
Drosera eneabba	0.1	0.5
Drosera erythrorhiza subsp. ?*magna*	0.01	0.1
Drosera ?*menziesii*	0.25	0.5
Eremaea asterocarpa subsp. *asterocarpa*	0.5	0.5
Eremaea pauciflora	1.5	3

Goodenia ?coerulea	0.15	0.1
Goodenia ?pulchella subsp. *Coastal Plain A (M. Hislop 634)*	0.25	0.1
Hakea costata	1	0.5
Hibbertia crassifolia	0.4	0.5
Hibbertia huegelii	0.5	0.5
Hibbertia hypericoides	0.9	5
Hypocalymma xanthopetalum	0.25	1
Isotropis cuneifolia subsp. *cuneifolia*	0.05	0.1
Jacksonia floribunda	0.25	0.1
Jacksonia nutans	1.2	2
Leptospermum spinescens	0.06	0.5
Leucopogon conostephioides	0.3	0.5
Leucopogon sprengelioides	0.4	0.5
Lomandra hermaphrodita	0.2	0.5
Lyginia imberbis	0.15	0.1
Melaleuca clavifolia (3)	0.5	0.5
Mesomelaena pseudostygia	0.5	2
Monotaxis grandiflora var. *grandiflora*	0.15	0.1
Patersonia occidentalis var. ?*occidentalis*	0.5	1
Petrophile linearis	0.7	12
Petrophile macrostachya	1	7
Philotheca spicata	0.5	0.1
Pimelea sulphurea	0.6	0.1
Poranthera drummondii	0.01	0.5
Scaevola repens var. *repens*	0.05	0.5
Schoenus clandestinus	0.01	0.5
Stylidium adpressum	0.05	0.5
Stylidium crossocephalum	0.15	0.1
Stylidium diuroides subsp. *diuroides*	0.3	0.5
Synaphea spinulosa subsp. *spinulosa*	0.4	0.5
Thysanotus patersonii	0.2	0.5
Thysanotus thyrsoideus	0.3	0.1
Xanthosia huegelii	0.15	0.5

PHOTO



Site Name:	NEW104
Site Type:	QUADRAT
Dimensions:	10m x 10m
Survey Date:	15/10/2012
GPS Location:	WGS84 (Zone 50) 341845E 6605358N
Vegetation Type:	17
Landform Type:	Upper Slope
Slope Class:	Gently Inclined (3 degrees)
Aspect:	S
Soil Type:	Sand
Soil Colour:	Grey
Rock Outcrop:	No bedrock exposed
CF Abundance:	0%
Vegetation Condition:	1 - Pristine
Disturbance:	None

DOMINANT TAXA IN VEGETATION STRATA

Upper Stratum 1:	*Eucalyptus todtiana*, *Banksia attenuata*, *B. menziesii* (3.5 m, 18%)
Mid Stratum 1:	*Eremaea pauciflora*, *Jacksonia floribunda*, *Jacksonia nutans*, *Xanthorrhoea preissii* (1.5 m, 27%)
Mid Stratum 2:	*Dasypogon obliquifolius*, *Hibbertia hypericoides*, *Patersonia occidentalis* var. ?*occidentalis*, *Petrophile linearis* (0.7 m, 11%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Alexgeorgea nitens	0.1	0.5
Amphipogon turbinatus	0.05	0.1
Anigozanthos humilis subsp. *humilis*	0.2	0.5
Anigozanthos ?*pulcherrimus*	0.25	0.5
Astroloma microdonta	0.3	0.5
Austrostipa macalpinei	0.15	0.5
Banksia attenuata	3.5	6
Banksia menziesii	3	2
Bossiaea eriocarpa	0.3	1
Calytrix flavescens	0.3	0.5
Calytrix fraseri	0.5	0.5
Cassytha glabella forma *dispar*	0.5	0.1
Comesperma calymega	0.3	0.5
Conostephium pendulum	0.4	0.5
Conostylis aurea	0.2	0.5
Conostylis juncea	0.3	0.1
Conostylis teretifolia subsp. *teretifolia*	0.05	0.1
Dasypogon obliquifolius	0.6	5
Drosera eneabba	0.1	0.1
Drosera erythrorhiza subsp. ?*magna*	0.01	0.5

Drosera ?*menziesii*	0.25	0.5
Eremaea asterocarpa subsp. *asterocarpa*	0.4	0.5
Eremaea pauciflora	1	15
Eucalyptus todtiana	3.5	10
Gastrolobium capitatum	0.4	0.5
Gompholobium tomentosum	0.3	0.5
Hakea costata	0.7	0.5
Hibbertia crassifolia	0.4	0.5
Hibbertia huegelii	0.5	1
Hibbertia hypericoides	0.6	2
Hypocalymma xanthopetalum	0.3	1
Isotropis cuneifolia subsp. *cuneifolia*	0.05	0.5
Jacksonia floribunda	1.2	5
Jacksonia nutans	1.5	3
Lepidosperma pubisquameum	0.6	0.5
Leucopogon conostephioides	0.3	1
Leucopogon sprengelioides	0.4	0.5
Lomandra hermaphrodita	0.15	0.5
Melaleuca clavifolia (3)	0.6	1
Mesomelaena pseudostygia	0.9	1
Opercularia vaginata	0.15	0.1
Patersonia occidentalis var. ?*occidentalis*	0.5	2
Petrophile linearis	0.7	2
Philotheca spicata	1	0.1
Phlebocarya filifolia	0.4	0.5
Poranthera drummondii	0.03	0.1
Scaevola repens var. *repens*	0.15	0.5
Schoenus clandestinus	0.01	0.1
Schoenus ?*subfascicularis*	0.4	0.5
Stirlingia latifolia	1	0.5
Stylidium adpressum	0.1	0.5
Stylidium crossocephalum	0.05	0.5
Stylidium hymenocraspedum (2)	0.4	0.5
Stylidium piliferum	0.2	0.5
Synaphea spinulosa subsp. *spinulosa*	0.2	0.5
Thysanotus thyrsoideus	0.25	0.1
Xanthorrhoea preissii	1.5	4
Xanthosia huegelii	0.15	0.5

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Site Name: NEW105
Site Type: QUADRAT
Dimensions: 10m x 10m
Survey Date: 15/10/2012
GPS Location: WGS84 (Zone 50) 340637E 6604005N
Vegetation Type: 5
Landform Type: Flat
Soil Type: Sand
Soil Colour: Grey
Rock Outcrop: No bedrock exposed
CF Abundance: 0%
Vegetation Condition: 1 - Pristine
Disturbance: None

DOMINANT TAXA IN VEGETATION STRATA

Mid Stratum 1: *Banksia telmatiaea*, *Melaleuca seriata* (1.5 m, 100%)
Lower Stratum 1: *Chordifex chaunocoleus* (0.4 m, 45%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Austrostipa macalpinei	0.15	0.5
Banksia telmatiaea	1.5	97
?*Burchardia* sp.	0.6	0.5
Cassytha glabella forma *dispar*	0.3	0.1
Chordifex chaunocoleus (4)	0.4	45
Conospermum stoechadis subsp. *stoechadis*	1	0.5
Conostylis aculeata subsp. *spinuligera*	0.4	0.1
Hakea obliqua subsp. *parviflora*	1.5	0.5
Hibbertia crassifolia	0.4	0.5
Leucopogon sp. Coujinup (M.A. Burgman 1085)	0.6	0.5
Lomandra hermaphrodita	0.2	0.1
Lyginia imberbis	0.3	0.1
Melaleuca seriata	1	3
Opercularia vaginata	0.15	0.1
Petrophile brevifolia	0.3	0.5
Trachymene pilosa	0.03	0.1
Xanthorrhoea preissii	1.2	1

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Site Name: NEW106
Site Type: QUADRAT
Dimensions: 10m x 10m
Survey Date: 16/10/2012
GPS Location: WGS84 (Zone 50) 341000E 6603679N
Vegetation Type: 7
Landform Type: Simple Slope
Slope Class: Very Gently Inclined (1 degree)
Aspect: E
Soil Type: Sand
Soil Colour: Grey
Rock Outcrop: No bedrock exposed
CF Abundance: 0%
Vegetation Condition: 1 - Pristine

DOMINANT TAXA IN VEGETATION STRATA

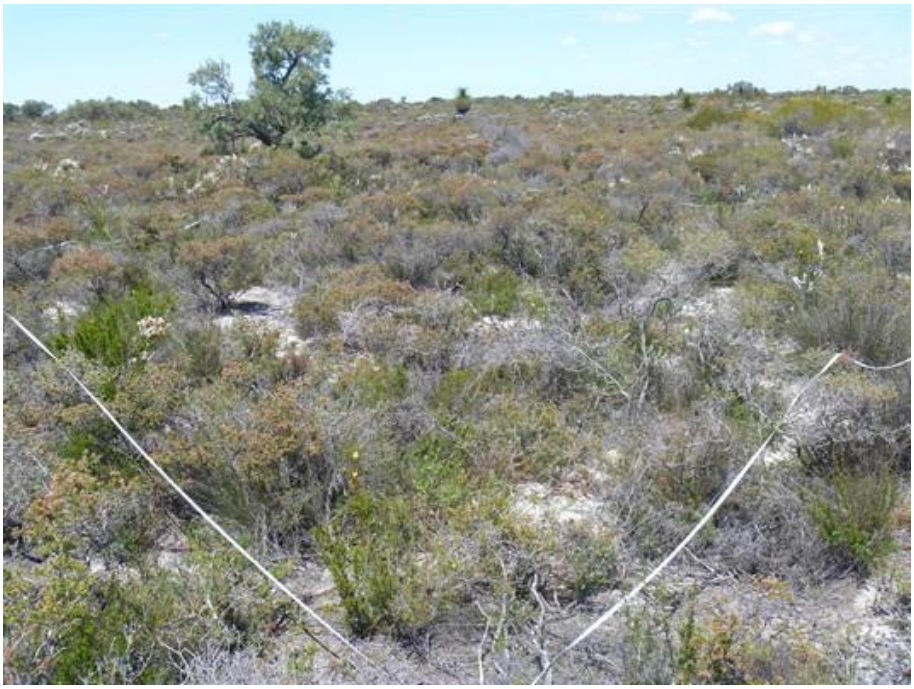
Mid Stratum 1: *Hakea costata, Melaleuca seriata* (1 m, 22%)
Lower Stratum 1: *Hakea candolleana, Hakea lissocarpha*, (0.2 m, 4%)
Lower Stratum 2: *Mesomelaena pseudostygia, Schoenus brevisetis* (0.5 m, 9%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Acacia pulchella var. *reflexa*	0.4	0.5
Acacia sphacelata subsp. *verticillata*	0.5	0.5
Allocasuarina microstachya	0.3	0.5
Anigozanthos humilis subsp. *humilis*	0.1	0.5
Astroloma glaucescens	0.2	0.5
Banksia dallanneyi var. *dallanneyi*	0.2	0.5
Calectasia narragara	0.2	1
Calytrix flavescens	0.2	0.5
Cassytha glabella forma *dispar*	0.2	0.1
Caustis dioica	0.25	1
Conostylis aculeata subsp. *spinuligera*	0.15	0.1
Conostylis teretifolia subsp. *teretifolia*	0.1	0.5
Daviesia decurrens	0.5	1
Daviesia incrassata subsp. *incrassata*	0.4	0.5
Drosera eneabba	0.05	0.1
Drosera erythrorhiza subsp. ?*magna*	0.01	0.5
Goodenia ?*coerulea*	0.1	0.1
Hakea candolleana	0.2	2
Hakea costata	1	2
Hakea lissocarpha	0.2	2
Hibbertia crassifolia	0.4	1
Hibbertia hypericoides	0.5	1
Hypocalymma xanthopetalum	0.3	1

Isotropis cuneifolia subsp. *cuneifolia*	0.05	0.1
Jacksonia nutans	0.4	0.5
Lepidobolus preissianus subsp. *preissianus*	0.2	0.5
Lepidosperma pubisquameum	0.4	0.5
Levenhookia stipitata	0.02	0.5
Melaleuca seriata	1	20
Mesomelaena pseudostygia	0.5	4
Neurachne alopecuroidea	0.3	0.5
Olax scalariformis	0.1	0.1
Opercularia vaginata	0.25	0.1
Patersonia occidentalis var. ?*occidentalis*	0.6	1
Petrophile brevifolia	0.3	0.5
Petrophile seminuda	0.6	0.5
Pterochaeta paniculata	0.02	0.5
Schoenus brevisetis	0.15	5
Schoenus clandestinus	0.02	0.5
Stylidium dichotomum	0.05	0.1
Verticordia densiflora var. *densiflora*	0.5	1
Verticordia pennigera		
Xanthosia huegelii	0.05	0.1

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Site Name: NEW107
Site Type: QUADRAT
Dimensions: 10m x 10m
Survey Date: 12/10/2012
GPS Location: WGS84 (Zone 50) 338859E 6603808N
Vegetation Type: 5
Landform Type: Flat
Slope Class: Level (0 degrees)
Soil Type: Sand
Soil Colour: Grey
Rock Outcrop: No bedrock exposed
CF Abundance: 0%
Vegetation Condition: 1 - Pristine
Disturbance: None
Fire: >5 years

DOMINANT TAXA IN VEGETATION STRATA

Mid Stratum 1: *Banksia telmatiaea* (1.2 m, 30%)
Lower Stratum 1: *Conospermum stoechadis* subsp. *stoechadis*, *Melaleuca seriata* (0.5 m, 27%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Acacia lasiocarpa var. *lasiocarpa*	0.2	1
Austrostipa macalpinei	0.1	0.5
Banksia telmatiaea	1.2	30
?*Burchardia* sp.	0.3	0.1
Caladenia flava subsp. *flava*	0.1	0.1
Calothamnus quadrifidus subsp. *quadrifidus*	1	0.5
Cassytha glabella forma *dispar*	0.2	0.5
Chordifex chaunocoleus (4)	0.15	1
Conospermum stoechadis subsp. *stoechadis*	0.5	9
Conostylis aurea	0.1	0.5
Drosera ?*eneabba*	0.1	0.1
Drosera gigantea subsp. *gigantea*	0.2	0.1
Hemiandra rubriflora	0.1	0.5
Hibbertia crassifolia	0.15	0.5
Hypocalymma xanthopetalum	0.15	0.5
**Hypochaeris glabra*	0.1	0.5
Indet. sp.	0.1	0.1
Jacksonia nutans	0.3	0.5
Lomandra hermaphrodita	0.1	0.1
Melaleuca seriata	0.5	18
Mesomelaena pseudostygia	0.2	1
Olax scalariformis	0.15	0.1
Opercularia vaginata	0.1	0.5

Petrophile brevifolia	0.2	0.5
Podotheca gnaphalioides	0.1	0.1
Ptilotus manglesii	0.1	0.1
Pyrorchis nigricans	0.1	0.5
Rhodanthe citrina	0.1	0.1
Schoenus rigens	0.1	1
Siloxerus humifusus	0.1	0.5
Stirlingia abrotanoides	0.25	0.5
Stylidium diuroides subsp. *diuroides*	0.1	0.1
Trachymene pilosa	0.1	1
**Ursinia anthemoides*	0.1	0.5

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Site Name: NEW108
Site Type: QUADRAT
Dimensions: 10m x 10m
Survey Date: 08/11/2012
GPS Location: GDA94 (Zone 50) 342918E 6612030N
Vegetation Type: 1
Landform Type: Low dune/rise on plain (other)
Slope Class: Very Gently Inclined (1 degree)
Aspect: NE
Soil Type: Sandy Loam
Soil Colour: Brown
Rock Outcrop: No bedrock exposed
CF Abundance: 0%
Vegetation Condition: 1 - Pristine

DOMINANT TAXA IN VEGETATION STRATA

Upper Stratum 1: *Melaleuca rhaphiophylla, Regelia ciliata* (2.5 m, 55 %)
Mid Stratum 1: *Banksia telmatiaea* (1.5 m, 20 %)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Austrostipa macalpinei	0.15	0.1
Banksia telmatiaea	1.5	20
Calothamnus quadrifidus subsp. *quadrifidus*	0.5	0.1
Conostylis aculeata subsp. *spinuligera*	0.3	0.5
Hypocalymma angustifolium	0.15	0.1
Melaleuca rhaphiophylla	2.5	5
Regelia ciliata	2	50
Schoenus rigens	0.2	0.1
Schoenus subfascicularis		
Trachymene pilosa	0.03	0.1
Xanthorrhoea preissii	0.4	0.5

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Site Name: NEW109
Site Type: QUADRAT
Dimensions: 10m x 10m
Survey Date: 07/11/2012
GPS Location: GDA94 (Zone 50) 344175E 6610906N
Vegetation Type: 1
Landform Type: Flat
Slope Class: Level (0 degrees)
Soil Type: Sand
Soil Colour: Orange-Brown (other)
Rock Outcrop: No bedrock exposed
CF Abundance: 0%
Vegetation Condition: 1 - Pristine

DOMINANT TAXA IN VEGETATION STRATA

Upper Stratum 1: *Hakea obliqua* subsp. *parviflora* (2.5 m, 4%)
Mid Stratum 1: *Banksia telmatiaea, Regelia ciliata* (1.7 m, 47%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Acacia lasiocarpa var. *lasiocarpa*	0.7	1
Banksia dallanneyi var. *dallanneyi*	0.1	0.5
Banksia telmatiaea	1.5	40
Conostylis aculeata subsp. *spinuligera*	0.3	1
Daviesia incrassata subsp. *incrassata*	0.4	0.1
Hakea obliqua subsp. *parviflora*	2.5	4
Hakea prostrata	0.4	1
Hibbertia subvaginata	0.2	0.1
Isopogon panduratus subsp. *palustris* (2)	0.7	0.1
Jacksonia nutans	0.5	0.5
Lepidosperma ?pubisquameum	0.3	0.5
Melaleuca seriata	0.4	0.5
Regelia ciliata	1.7	7
Schoenus rigens	0.15	0.1
Schoenus subfascicularis	0.4	0.5
Trachymene pilosa	0.04	0.1

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Site Name: NEW111
Site Type: QUADRAT
Dimensions: 10m x 10m
Survey Date: 07/11/2012
GPS Location: GDA94 (Zone 50) 342388E 6610163N
Vegetation Type: 5
Landform Type: Low dune/rise on plain (other)
Slope Class: Very Gently Inclined (1 degree)
Aspect: NW
Soil Type: Sand
Soil Colour: Grey
Rock Outcrop: No bedrock exposed
CF Abundance: 0%
Vegetation Condition: 1 - Pristine

DOMINANT TAXA IN VEGETATION STRATA

Lower Stratum 1: *Banksia telmatiaea, Regelia ciliata* (0.7 m, 65%)
Lower Stratum 2: *Phlebocarya ciliate* (0.4 m, 2%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Astroloma glaucescens	0.3	0.5
Austrostipa macalpinei	0.2	0.1
Banksia dallanneyi var. *dallanneyi*	0.1	0.1
Banksia telmatiaea	0.7	40
Beaufortia squarrosa	0.5	1
Calytrix aurea	0.9	0.1
Cassytha glabella forma *dispar*		0.5
Conospermum stoechadis subsp. *stoechadis*	0.8	1
Conostylis aculeata subsp. *spinuligera*	0.2	0.5
Dasypogon obliquifolius	0.2	0.1
Daviesia incrassata subsp. *incrassata*	0.3	0.5
Eremaea asterocarpa subsp. *asterocarpa*	0.4	0.5
Gonocarpus pithyoides	0.15	0.1
Hypocalymma xanthopetalum	0.3	0.5
Jacksonia hakeoides	0.4	0.5
Jacksonia nutans	0.5	0.5
Leucopogon sprengelioides	0.2	0.1
Melaleuca seriata	0.4	1
Petrophile brevifolia	0.4	0.5
Phlebocarya ciliata	0.4	2
Regelia ciliata	0.7	25
Scaevola repens var. *repens*	0.1	0.1
Stylidium diuroides subsp. *diuroides*	0.1	0.1
Verticordia densiflora var. *densiflora*	0.5	0.5

PHOTO



Site Name:	NEW112
Site Type:	QUADRAT
Dimensions:	10m x 10m
Survey Date:	07/11/2012
GPS Location:	GDA94 (Zone 50) 345516E 6609455N
Vegetation Type:	9a
Landform Type:	Flat
Slope Class:	Level (0 degrees)
Soil Type:	Loam
Soil Colour:	dark brown (other)
Rock Outcrop:	No bedrock exposed
CF Abundance:	0%
Vegetation Condition:	2 - Excellent
Disturbance:	Weeds and rabbits (other)

DOMINANT TAXA IN VEGETATION STRATA

Mid Stratum 1: *Banksia telmatiaea, Hakea trifurcata, Melaleuca rhaphiophylla, M. teretifolia* (1.6 m, 19%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Acacia lasiocarpa var. *lasiocarpa*	0.4	0.5
Acacia saligna subsp. *lindleyi* ms	1.6	0.5
**Aira cupaniana*	0.05	0.5
Amphipogon turbinatus	0.05	0.1
Austrostipa macalpinei	0.15	0.1
Banksia telmatiaea	1.6	3
**Briza maxima*	0.05	0.5
**Briza minor*	0.05	0.1
Centrolepis pilosa	0.03	0.25
Centrolepis polygyna	0.03	0.25
Conostylis aculeata subsp. *spinuligera*	0.3	0.5
Exocarpos sparteus	1.7	0.5
Hakea trifurcata	1.2	4
**Hypochaeris glabra*	0.1	1
Lepidosperma ?pubisquameum	0.4	0.5
Melaleuca rhaphiophylla	1.5	7
Melaleuca teretifolia	1.5	5
?*Microtis* sp.	0.15	0.1
**Parentucellia latifolia*	0.05	0.1
**Pentameris airoides*	0.1	0.5
Podolepis gracilis	0.2	1
Podotheca angustifolia	0.15	0.5
Pogonolepis stricta	0.03	0.1
Poranthera drummondii		
Ptilotus polystachyus	0.3	0.1

Schoenus subfascicularis	0.3	0.1
Siloxerus humifusus	0.01	1
**Sonchus oleraceus*	0.4	0.1
Trachymene pilosa	0.1	0.5
**Ursinia anthemoides*	0.1	0.5
**Vulpia* sp.	0.2	1
Xanthorrhoea preissii	1	0.5

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Site Name: NEW113
Site Type: QUADRAT
Dimensions: 10m x 10m
Survey Date: 07/11/2012
GPS Location: GDA94 (Zone 50) 346203E 6608881N
Vegetation Type: 18
Landform Type: Flat
Slope Class: Level (0 degrees)
Soil Type: Sand
Soil Colour: yellow / brown (other)
Rock Outcrop: No bedrock exposed
CF Abundance: 0%
Vegetation Condition: 1 - Pristine

DOMINANT TAXA IN VEGETATION STRATA

Upper Stratum 1: *Banksia prionotes* (4 m, 5%)
Mid Stratum 1: *Allocasuarina humilis*, *Hakea trifurcata*, *Xanthorrhoea preissii* (2 m, 52%)
Mid Stratum 2: *Hakea costata*, *Petrophile recurva* (1.5 m, 8%)
Lower Stratum 1: *Hibbertia hypericoides* (0.5 m, 4%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Acacia pulchella var. *reflexa*	0.05	0.1
Allocasuarina humilis	2	10
Amphipogon turbinatus	0.05	0.1
Anigozanthos humilis subsp. *humilis*	0.1	0.1
Austrostipa macalpinei	0.15	0.1
Banksia dallanneyi var. *dallanneyi*	0.1	0.5
Banksia prionotes	4	5
Burchardia congesta	0.3	0.1
Calytrix fraseri		
Cassytha glabella forma *dispar*	0.2	0.1
Caustis dioica	0.2	0.5
Conospermum stoechadis subsp. *stoechadis*	0.5	0.5
Conostylis ?*aurea*	0.15	0.5
Conostylis teretifolia subsp. *teretifolia*	0.05	0.1
Dasypogon obliquifolius	0.3	0.5
Daviesia incrassata subsp. *incrassata*	0.4	0.1
Drosera erythrorhiza subsp. ?*magna*	0.01	0.5
Hakea costata	1	1
Hakea ruscifolia	1.5	0.5
Hakea trifurcata	2	40
Hibbertia crassifolia	0.2	0.1
Hibbertia huegelii	0.3	0.5
Hibbertia hypericoides	0.5	4

Hypocalymma xanthopetalum	0.3	0.5
**Hypochaeris glabra*	0.01	0.1
Isotropis cuneifolia subsp. *cuneifolia*	0.2	0.5
Jacksonia hakeoides	0.4	0.5
Laxmannia sessiliflora subsp. ?*australis*	0.1	0.5
Lepidobolus preissianus subsp. *preissianus*	0.2	0.5
Lepidosperma aff.*scabrum*	0.3	0.5
Leucopogon parviflorus	1	0.5
Leucopogon sprengelioides	0.3	0.5
Lomandra hermaphrodita	0.2	0.1
Melaleuca clavifolia (3)	0.6	0.5
Mesomelaena pseudostygia	0.4	1
Neurachne alopecuroidea	0.4	0.5
Opercularia vaginata	0.15	0.5
Patersonia occidentalis var. ?*occidentalis*	0.5	0.5
Petrophile macrostachya	0.4	1
Petrophile recurva	1.5	7
Pterochaeta paniculata	0.03	0.5
Rytidosperma sp.		
Scaevola canescens	0.15	0.5
Schoenus clandestinus	0.01	0.5
Stirlingia latifolia	0.5	0.5
Stylidium adpressum	0.03	1
Stylidium crossocephalum	0.1	0.1
Stylidium purpureum ms	0.2	0.1
Thysanotus spiniger	0.2	0.1
Trachymene pilosa	0.03	0.1
Tricoryne ?elatior	0.2	0.1
**Wahlenbergia capensis*	0.1	0.5
Waitzia acuminata var. *albicans*	0.05	0.1
Xanthorrhoea preissii	2	2

PHOTO



Site Name: NEW114
Site Type: QUADRAT
Dimensions: 10m x 10m
Survey Date: 18/10/2012
GPS Location: WGS84 (Zone 50) 343358E 6608880N
Vegetation Type: 2
Landform Type: Flat
Slope Class: Level (0 degrees)
Soil Type: Sand
Soil Colour: Red-Brown (other)
Rock Outcrop: No bedrock exposed
CF Abundance: 0%
Vegetation Condition: 2 - Excellent

DOMINANT TAXA IN VEGETATION STRATA

Mid Stratum 1: *Banksia telmatiaea*, *Gahnia trifida*, *Melaleuca acutifolia*, *Verticordia plumosa* var. *brachyphylla* (1.2 m, 23%)

Lower Stratum 1: *Vulpia* sp. (0.1 m, 2%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
**Aira cupaniana*	0.05	0.1
Austrostipa macalpinei	0.25	0.1
Banksia telmatiaea	1	2
Brachyscome bellidioides	0.1	0.5
**Briza maxima*	0.2	0.5
**Briza minor*	0.05	0.1
?*Burchardia* sp.	0.25	0.1
Caladenia ?longicauda	0.4	0.5
Calandrinia granulifera	0.02	0.1
Calothamnus hirsutus	0.6	1
Cassytha aurea var. *hirta*	0.4	0.5
Centrolepis aristata	0.01	0.1
Chaetanthus aristatus	0.2	0.5
Chamaescilla corymbosa	0.1	0.5
Conostylis aculeata subsp. *breviflora*	0.1	0.5
Dampiera lindleyi	0.2	0.1
Drosera menziesii subsp. *menziesii*	0.05	0.5
Gahnia trifida	1	10
Gnephosis tenuissima	0.01	0.5
?*Gonocarpus* sp.	0.2	0.1
Hakea lissocarpha	0.5	1
**Hypochaeris glabra*	0.05	0.5
**Isolepis marginata*	0.02	0.1
Isotoma hypocrateriformis	0.25	0.5
Kunzea micrantha subsp. *petiolata*	0.4	1

Lomandra hermaphrodita	0.15	0.1
Melaleuca acutifolia	1	2
Melaleuca viminea subsp. *viminea*	1	1
Neurachne alopecuroidea	0.3	0.5
Opercularia vaginata	0.2	0.5
**Parentucellia latifolia*	0.05	0.5
Patersonia occidentalis var. ?*occidentalis*	0.25	0.5
**Pentameris airoides*	0.1	0.1
Petrophile seminuda	0.3	0.5
Ptilotus manglesii	0.05	0.5
Rytidosperma setaceum	0.15	0.1
Scaevola anchusifolia	0.15	0.5
Schoenus subfascicularis	0.4	0.1
Schoenus ?unispiculatus	0.25	0.5
**Silene gallica* var. *gallica*	0.1	0.1
Siloxerus humifusus	0.01	0.5
Thysanotus patersonii	0.2	0.1
Trachymene pilosa	0.02	0.5
Tribonanthes australis	0.2	0.1
Tricoryne ?elatior	0.2	0.5
**Ursinia anthemoides*	0.1	0.5
Verticordia plumosa var. *brachyphylla*	1.2	9
**Vulpia* sp.	0.1	2
**Wahlenbergia capensis*	0.15	0.1

PHOTO



Site Name: NEW115
Site Type: QUADRAT
Dimensions: 10m x 10m
Survey Date: 18/10/2012
GPS Location: WGS84 (Zone 50) 342537E 6608282N
Vegetation Type: 2
Landform Type: Flat
Slope Class: Level (0 degrees)
Soil Type: Sand
Soil Colour: Red-Brown (other)
Rock Outcrop: No bedrock exposed
CF Abundance: 0%
Vegetation Condition: 2 - Excellent

DOMINANT TAXA IN VEGETATION STRATA

Mid Stratum 1: *Melaleuca acutifolia* (2 m, 7%)
Mid Stratum 2: *Banksia telmatiaea, Gahnia trifida, Petrophile seminuda* (1.5 m, 13%)
Lower Stratum 1: *Patersonia occidentalis* ?var. *occidentalis, Scaevola anchusifolia, Trichoryne ?elatior* (0.3 m, 10%)

SPECIES LIST

Taxon Name	**Avg. Ht (m)**	**% Cover Alive**
Austrostipa macalpinei	0.15	0.5
Baeckea sp. Perth Region (R.J. Cranfield 444) (3)	0.4	0.5
Banksia dallanneyi var. *dallanneyi*	0.2	0.1
Banksia telmatiaea	0.5	10
Baumea juncea	0.25	0.1
**Briza maxima*	0.2	0.5
**Briza minor*	0.05	0.5
Burchardia congesta	0.15	0.1
Calandrinia granulifera	0.02	0.5
Calothamnus hirsutus	0.15	0.5
Calytrix aurea	0.8	0.1
Cassytha glabella forma *dispar*		0.1
Chaetanthus aristatus	0.25	0.5
Conostylis aculeata subsp. *breviflora*	0.2	1
Dampiera lindleyi	0.2	0.5
Gahnia trifida	1.5	3
Hakea varia	0.5	0.5
**Hypochaeris glabra*	0.1	3
Lepidosperma pubisquameum	0.4	0.5
Lepidosperma ?pubisquameum	0.3	0.5
**Lolium rigidum*	0.25	0.5
Lomandra hermaphrodita	0.1	0.5
Melaleuca acutifolia	2	7

Melaleuca seriata	0.3	1
Opercularia vaginata	0.2	0.1
**Parentucellia latifolia*	0.1	0.5
Patersonia occidentalis var. ?*occidentalis*	0.25	6
**Pentameris airoides*	0.15	0.5
Petrophile seminuda		
Podotheca gnaphalioides	0.15	0.1
Ptilotus manglesii	0.1	0.5
Scaevola anchusifolia	0.1	3
Schoenus subfascicularis	0.06	0.5
Siloxerus humifusus	0.01	0.5
Stylidium dichotomum	0.1	0.1
Thysanotus thyrsoideus	0.4	0.5
Tricoryne ?elatior	0.3	1
**Ursinia anthemoides*	0.15	0.5
Verticordia densiflora var. *densiflora*	0.5	0.5
Viminaria juncea	0.4	0.1
**Vulpia* sp.	0.1	0.5
Xanthorrhoea preissii	0.6	0.5

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Site Name: NEW116
Site Type: QUADRAT
Dimensions: 10m x 10m
Survey Date: 18/10/2012
GPS Location: WGS84 (Zone 50) 342694E 6607129N
Vegetation Type: 9a
Landform Type: Flat
Slope Class: Level (0 degrees)
Soil Type: Clay Loam
Soil Colour: Grey
Rock Outcrop: No bedrock exposed
CF Abundance: 0%
Vegetation Condition: 2 - Excellent

DOMINANT TAXA IN VEGETATION STRATA

Mid Stratum 1: *Melaleuca lateritia*, *M. rhaphiophylla*, *M. teretifolia* (1.5 m, 66%)
Lower Stratum 1: **Hypochaeris glabra*, *Lotus angustissimus* (0.1 m, 20%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
**Aira cupaniana*	0.1	0.5
Crassula colorata var. *acuminata*	0.05	0.5
**Hypochaeris glabra*	0.1	10
**Lotus angustissimus*	0.05	10
Melaleuca lateritia	1.5	45
Melaleuca rhaphiophylla	1.5	1
Melaleuca teretifolia	1.5	20
**Monopsis debilis*	0.04	0.5
**Vulpia* sp.	0.1	0.5

PHOTO



Site Name:	NEW117
Site Type:	QUADRAT
Dimensions:	10m x 10m
Survey Date:	18/10/2012
GPS Location:	WGS84 (Zone 50) 342271E 6607070N
Vegetation Type:	9a
Landform Type:	Flat
Slope Class:	Very Gently Inclined (1 degree)
Aspect:	NE
Soil Type:	Clay Loam
Soil Colour:	Grey
Rock Outcrop:	No bedrock exposed
CF Abundance:	0%
Vegetation Condition:	2 - Excellent

DOMINANT TAXA IN VEGETATION STRATA

Upper Stratum 1: *Melaleuca rhaphiophylla*, *M. teretifolia*, (2.5 m, 80%)

Mid Stratum 1: *Melaleuca lateritia* (1.5 m, 5%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
**Aira cupaniana*	0.1	0.1
Calandrinia granulifera	0.01	0.5
Crassula colorata var. *acuminata*	0.03	0.1
Euchiton sphaericus	0.1	0.5
**Hypochaeris glabra*	0.05	0.5
**Lotus angustissimus*	0.05	0.5
**Lysimachia arvensis*	0.05	1
Melaleuca lateritia	1.5	5
Melaleuca rhaphiophylla	2.5	60
Melaleuca teretifolia	2	20
Muehlenbeckia adpressa	0.3	0.1
**Sonchus oleraceus*	0.25	1
Trachymene pilosa	0.05	0.5

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Site Name: NEW118
Site Type: QUADRAT
Dimensions: 10m x 10m
Survey Date: 18/10/2012
GPS Location: WGS84 (Zone 50) 343381E 6606775N
Vegetation Type: 17
Landform Type: Mid Slope
Slope Class: Gently Inclined (3 degrees)
Aspect: NW
Soil Type: Sand
Soil Colour: Grey
Rock Outcrop: No bedrock exposed
CF Abundance: 0%
Vegetation Condition: 1 - Pristine
Disturbance: None

DOMINANT TAXA IN VEGETATION STRATA

Upper Stratum 1: *Nuytsia floribunda* (5 m, 10 %)
Upper Stratum 2: *Banksia attenuata, B. menziesii* (2.5 m, 9 %)
Mid Stratum 1: *Eremaea pauciflora* (1 m, 2 %)
Lower Stratum 1: *Dasypogon obliquifolius, Hibbertia hypericoides* (0.8 m, 10%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Adenanthos cygnorum subsp. *cygnorum*	2.5	0.5
Alexgeorgea nitens	0.15	0.5
Amphipogon turbinatus	0.4	0.5
Anigozanthos humilis subsp. *humilis*	0.2	0.5
Anigozanthos ?*pulcherrimus*	0.25	0.5
Austrostipa macalpinei	0.15	0.5
Banksia attenuata	2.5	4
Banksia menziesii	2.5	5
Bossiaea eriocarpa	0.4	1
Calytrix flavescens	0.25	0.5
Calytrix fraseri	1	0.5
Cassytha glabella forma *dispar*	0.4	0.5
Conospermum acerosum subsp. *acerosum*	0.5	0.1
Conospermum stoechadis subsp. *stoechadis*	1	0.5
Conostephium pendulum	0.4	0.5
Conostylis aurea	0.2	0.1
Conostylis juncea	0.2	0.5
Conostylis teretifolia subsp. *teretifolia*	0.05	0.5
Crassula colorata var. *acuminata*	0.05	0.1
Dasypogon obliquifolius	0.6	5
Daviesia incrassata subsp. *incrassata*	0.05	0.1

Drosera eneabba	0.05	0.1
Drosera ?*menziesii*	0.3	0.5
Eremaea asterocarpa subsp. *asterocarpa*	0.6	1
Eremaea pauciflora	1	2
Gompholobium tomentosum	0.03	0.1
Goodenia ?*pulchella* subsp. *Coastal Plain A (M. Hislop 634)*	0.25	0.1
Haemodorum sp.	0.2	0.1
Hibbertia crassifolia	0.4	0.5
Hibbertia hypericoides	0.8	5
Hypocalymma xanthopetalum	0.3	0.5
**Hypochaeris glabra*	0.1	0.5
Jacksonia floribunda	1	0.5
Jacksonia hakeoides	0.5	1
Jacksonia nutans	0.7	1
Lepidosperma pubisquameum	0.3	0.1
Leptospermum spinescens	1	0.5
Lomandra hermaphrodita	0.15	0.5
Melaleuca clavifolia (3)	0.5	1
Mesomelaena pseudostygia	0.4	0.5
Nuytsia floribunda	5	10
Patersonia occidentalis var. ?*occidentalis*	0.4	0.5
Petrophile linearis	0.5	1
Philotheca spicata	1	0.5
Phyllangium divergens	0.03	0.5
Poranthera drummondii	0.01	0.5
Scaevola repens var. *repens*	0.1	0.5
Schoenus clandestinus	0.01	0.5
Schoenus curvifolius	0.3	0.5
Schoenus ?*subfascicularis*	0.4	0.5
Siloxerus humifusus	0.01	0.1
Stirlingia latifolia	0.9	1
Stylidium adpressum	0.03	0.5
Stylidium crossocephalum	0.1	0.5
Stylidium diuroides subsp. *diuroides*	0.1	0.1
Synaphea spinulosa subsp. *spinulosa*	0.4	0.5
Thysanotus thyrsoideus	0.3	0.1
Trachymene pilosa	0.03	0.5
**Ursinia anthemoides*	0.15	0.5
**Wahlenbergia capensis*	0.3	0.1
Waitzia acuminata var. *albicans*	0.15	0.5
Xanthosia huegelii	0.1	0.1

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Site Name: NEW119
Site Type: QUADRAT
Dimensions: 10m x 10m
Survey Date: 19/10/2012
GPS Location: WGS84 (Zone 50) 344309E 6606894N
Vegetation Type: 1
Landform Type: Flat
Slope Class: Level (0 degrees)
Soil Type: Sand
Soil Colour: grey / brown (other)
Rock Outcrop: No bedrock exposed
CF Abundance: 0%
Vegetation Condition: 1 - Pristine
Disturbance: None

DOMINANT TAXA IN VEGETATION STRATA

Lower Stratum 1: *Banksia telmatiaea, Melaleuca seriata, Regelia ciliata* (0.5 m, 60 %)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Baeckea sp. Perth Region (R.J. Cranfield 444) (3)	0.4	0.5
Banksia nivea subsp. *nivea*	0.25	1
Banksia platycarpa (4)	0.5	0.1
Banksia telmatiaea	0.5	8
Calothamnus hirsutus	0.2	0.5
Calytrix aurea	1.2	0.5
Cassytha glabella forma *dispar*	0.25	0.5
Chordifex chaunocoleus (4)	0.2	0.5
Conostylis aculeata subsp. *spinuligera*	0.2	0.5
Conostylis crassinervia subsp. *absens*	0.05	0.1
Daviesia decurrens	0.3	1
Harperia lateriflora	0.2	0.1
Jacksonia nutans	0.25	0.5
Lyginia imberbis	0.25	0.5
Melaleuca seriata	0.3	2
Onychosepalum nodatum (3)	0.1	0.5
Petrophile seminuda	0.25	0.5
Regelia ciliata	0.5	50
Scaevola anchusifolia	0.1	0.5
Schoenus subfascicularis	0.1	1
Stylidium adpressum	0.05	0.1
Stylidium diuroides subsp. *diuroides*	0.2	0.1
Verticordia densiflora var. *densiflora*	0.3	0.5

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Site Name: NEW120
Site Type: QUADRAT
Dimensions: 10m x 10m
Survey Date: 19/10/2013
GPS Location: WGS84 (Zone 50) 345809E 6606833N
Vegetation Type: 1
Landform Type: Flat
Slope Class: Level (0 degrees)
Soil Type: Sandy Loam
Soil Colour: grey / brown (other)
Rock Outcrop: No bedrock exposed
CF Abundance: 0%
Vegetation Condition: 1 - Pristine
Disturbance: None

DOMINANT TAXA IN VEGETATION STRATA

Mid Stratum 1: *Banksia telmatiaea, Melaleuca brevifolia, Regelia ciliata* (1.5 m, 86 %)

SPECIES LIST

Taxon Name	**Avg. Ht (m)**	**% Cover Alive**
Acacia pulchella var. *reflexa*	0.4	0.5
Alexgeorgea nitens	0.05	1
Baeckea sp. Perth Region (R.J. Cranfield 444) (3)	0.5	0.5
Banksia dallanneyi var. *dallanneyi*	0.25	1
Banksia telmatiaea	1.2	4
Cassytha glabella forma *dispar*	1	0.5
Chordifex chaunocoleus (4)	0.25	1
Conospermum stoechadis subsp. *stoechadis*	0.75	0.1
Conostylis juncea	0.2	0.1
Daviesia decurrens	0.3	0.5
Harperia lateriflora	0.2	0.5
Hibbertia stellaris	0.25	0.5
Hibbertia subvaginata	0.25	0.5
Hypocalymma angustifolium	0.25	0.5
Leucopogon sprengelioides	0.4	0.5
Melaleuca brevifolia	1.2	2
Melaleuca seriata	0.3	0.5
Regelia ciliata	1.5	80
Schoenus brevisetis	0.25	0.5
Schoenus subfascicularis	0.3	0.1
Verticordia densiflora var. *densiflora*	0.5	0.1

PHOTO



Site Name:	NEW121
Site Type:	QUADRAT
Dimensions:	10m x 10m
Survey Date:	19/10/2012
GPS Location:	WGS84 (Zone 50) 347445E 6607167N
Vegetation Type:	17
Landform Type:	Mid Slope
Slope Class:	Very Gently Inclined (1 degree)
Aspect:	S
Soil Type:	Sand
Soil Colour:	Grey
Rock Outcrop:	No bedrock exposed
CF Abundance:	0%
Vegetation Condition:	1 - Pristine
Disturbance:	None

DOMINANT TAXA IN VEGETATION STRATA

Upper Stratum 1: *Banksia attenuata*, *B. menziesii* (4 m, 15 %)

Mid Stratum 1: *Eremaea pauciflora* (1.5 m, 20 %)

Lower Stratum 1: *Dasypogon obliquifolius*, *Melaleuca clavifolia*, *Patersonia occidentalis* var. ?*occidentalis* (0.8 m, 8 %)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Acacia sphacelata subsp. *verticillata*	0.25	0.5
Adenanthos cygnorum subsp. *cygnorum*	2	1
Alexgeorgea nitens	0.05	0.5
Amphipogon turbinatus	0.4	0.5
Anigozanthos humilis subsp. *humilis*	0.15	0.5
Astroloma microdonta	0.05	0.1
Austrostipa macalpinei	0.15	0.5
Banksia attenuata	4	10
Banksia menziesii	3	5
Boronia ramosa subsp. *anethifolia*	0.25	0.1
Bossiaea eriocarpa	0.3	0.5
Calytrix flavescens	0.3	1
Calytrix ?fraseri	0.3	0.1
Cassytha glabella forma *dispar*	0.3	0.5
Conospermum stoechadis subsp. *stoechadis*	0.4	0.1
Conostephium pendulum	0.4	0.5
Conostylis aurea	0.25	0.5
Dasypogon obliquifolius	0.7	2
Drosera eneabba	0.05	0.5
Drosera ?menziesii	0.2	0.5
Eremaea asterocarpa subsp. *asterocarpa*	0.5	0.5

Eremaea pauciflora	1.5	20
Hibbertia crassifolia	0.35	0.5
Hibbertia huegelii	0.3	0.5
Hibbertia hypericoides	0.5	1
Hibbertia subvaginata	0.2	0.5
Hypocalymma xanthopetalum	0.25	0.5
Isotropis cuneifolia subsp. *cuneifolia*	0.03	0.1
Jacksonia nutans	0.7	0.5
Lasiopetalum lineare (3)	0.05	0.1
Lepidosperma pubisquameum	0.4	0.5
Leucopogon sprengelioides	0.4	0.5
Lomandra hermaphrodita	0.15	0.5
Lomandra preissii	0.3	0.1
Lyginia barbata	0.5	0.5
Melaleuca clavifolia (3)	0.4	2
Patersonia occidentalis var. ?*occidentalis*	0.8	4
Petrophile linearis	0.6	1
Phyllangium divergens	0.02	0.1
Pileanthus filifolius	0.5	0.5
Schoenus curvifolius	0.3	0.5
Schoenus griffinianus (3)	0.05	0.5
Schoenus ?*subfascicularis*	0.5	0.5
Scholtzia involucrata	0.7	1
Stirlingia latifolia	1	0.5
Stylidium adpressum	0.03	0.5
Stylidium crossocephalum	0.1	0.1
Synaphea spinulosa subsp. *spinulosa*	0.3	0.5
Thysanotus thyrsoideus	0.4	0.5
Trachymene pilosa	0.03	0.5
**Wahlenbergia capensis*	0.25	0.5
Xanthorrhoea preissii	0.6	0.1
Xanthosia huegelii	0.05	0.5

PHOTO



Site Name: NEW122
Site Type: QUADRAT
Dimensions: 10m x 10m
Survey Date: 24/09/2012
GPS Location: WGS84 (Zone 50) 348863E 6605454N
Vegetation Type: 18
Landform Type: Mid Slope
Slope Class: Very Gently Inclined (1 degree)
Aspect: SE
Soil Type: Sand
Soil Colour: Grey over Yellow (other)
Rock Outcrop: No bedrock exposed
CF Abundance: 0%
Vegetation Condition: 1 - Pristine
Fire: >5yrs

DOMINANT TAXA IN VEGETATION STRATA

Mid Stratum 1: *Allocasuarina humilis* (1.5 m, 5%)
Lower Stratum 1: *Banksia shuttleworthiana, Dasypogon obliquifolius, Hibbertia hypericoides, Melaleuca clavifolia* (0.4 m, 31%)
Lower Stratum 2: *Mesomelaena pseudostygia* (0.5 m, 3%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Acacia sphacelata subsp. *verticillata*	0.3	0.2
Alexgeorgea nitens	0.1	0.2
Allocasuarina humilis	1.5	5
Anigozanthos humilis subsp. *humilis*	0.2	0.1
Astroloma microdonta	0.2	0.1
Baeckea grandiflora	0.3	0.1
Banksia dallanneyi var. *dallanneyi*	0.2	0.2
Banksia shuttleworthiana	0.4	2
Bossiaea eriocarpa	0.4	1
Burchardia congesta	0.5	0.1
Calectasia narragara	0.3	0.1
Calothamnus sanguineus	0.7	0.2
Calytrix flavescens	0.3	0.1
Cassytha aurea var. *hirta*		0.1
Caustis dioica	0.3	0.1
Conospermum stoechadis subsp. *stoechadis*	0.5	1.5
Conostylis angustifolia	0.3	0.1
Conostylis aurea	0.2	0.1
Conostylis teretifolia subsp. *teretifolia*	0.2	0.1
Dampiera spicigera	0.1	0.1
Dasypogon obliquifolius	0.4	20

Daviesia incrassata subsp. *incrassata*	0.5	0.2
Daviesia nudiflora	0.3	0.1
Daviesia podophylla	0.5	0.2
Drosera eneabba	0.1	0.1
Drosera erythrorhiza subsp. ?*magna*	0.1	0.1
Drosera sp.	0.1	0.1
Drosera stolonifera	0.1	0.1
Eremaea asterocarpa subsp. *asterocarpa*	0.3	0.3
Goodenia ?*coerulea*	0.2	0.1
Grevillea shuttleworthiana subsp. *canarina*	1.5	0.2
Hakea costata	0.3	0.1
Hibbertia huegelii	0.3	0.1
Hibbertia hypericoides	0.4	5
Hypocalymma xanthopetalum	0.4	0.2
Indet. sp.	0.2	0.1
Jacksonia floribunda	1	0.2
Jacksonia nutans	0.4	0.2
Lepidobolus preissianus	0.3	0.1
Lepidosperma aff.*scabrum*	0.7	0.1
Lepidosperma sp.	0.4	0.1
Leporella fimbriata	0.1	0.1
Leptospermum erubescens	1.3	0.1
Leptospermum spinescens	0.6	0.1
Leucopogon sprengelioides	0.5	0.3
Levenhookia stipitata	0.1	0.1
Lomandra preissii	0.5	0.1
Melaleuca clavifolia (3)	0.4	4
Mesomelaena pseudostygia	0.5	3
Neurachne alopecuroidea	0.1	0.1
Opercularia vaginata	0.2	0.1
Persoonia saccata	0.2	0.1
Petrophile brevifolia	0.5	0.1
Petrophile linearis	0.4	0.5
Petrophile macrostachya	0.3	0.1
Philotheca spicata	0.5	0.1
Pileanthus filifolius	0.6	0.2
Pimelea ?*leucantha*	0.2	0.1
Pimelea sulphurea	0.5	0.1
Schoenus brevisetis	0.5	0.1
Schoenus clandestinus	0.1	0.1
Scholtzia involucrata	0.3	1
Stylidium adpressum	0.1	0.1
Stylidium crossocephalum	0.1	0.1
Stylidium piliferum	0.2	0.1
Thysanotus ?*sparteus*	0.3	0.1
Tricoryne ?*elatior*	0.3	0.1
Xanthosia huegelii	0.1	0.1

PHOTO



Site Name:	NEW123
Site Type:	QUADRAT
Dimensions:	10m x 10m
Survey Date:	24/09/2012
GPS Location:	WGS84 (Zone 50) 348823E 6604942N
Vegetation Type:	5
Landform Type:	Undulating Plain
Slope Class:	Very Gently Inclined (1 degree)
Aspect:	W
Soil Type:	Sand
Soil Colour:	Grey
Rock Outcrop:	No bedrock exposed
CF Abundance:	0%
Vegetation Condition:	1 - Pristine
Disturbance:	None
Fire:	>5yrs

DOMINANT TAXA IN VEGETATION STRATA

Mid Stratum 1: *Banksia telmatiaea*, *Melaleuca seriata*, *Pericalymma ellipticum* var. *ellipticum* (2 m, 47%)

Lower Stratum 1: *Chordifex chaunocoleus*, *Chordifex sinuosus* (0.3 m, 4%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Adenanthos cygnorum subsp. *cygnorum*	3	
Andersonia heterophylla	0.4	1
Banksia dallanneyi var. *dallanneyi*	0.1	0.1
Banksia telmatiaea	1.2	30
Beaufortia squarrosa	1.5	1
Cassytha ?*aurea*		0.1
Chordifex chaunocoleus (4)	0.3	2
Chordifex sinuosus	0.3	2
Conostylis sp.	0.2	0.1
Drosera eneabba	0.1	0.1
Drosera menziesii	0.1	0.1
Elythranthera brunonis	0.3	0.1
Hakea obliqua subsp. *parviflora*	0.4	0.2
Hibbertia hypericoides	0.1	0.1
Hibbertia stellaris	0.3	0.1
Hibbertia subvaginata	0.3	0.2
Hypolaena exsulca	0.3	0.1
Johnsonia pubescens subsp. *pubescens*	0.1	0.1
Leucopogon sp. Coujinup (M.A. Burgman 1085)	0.3	0.1
Melaleuca clavifolia (3)	0.4	0.5
Melaleuca seriata	1.2	15

Nuytsia floribunda	6	
Paracaleana nigrita	0.1	0.1
Pericalymma ellipticum var. *ellipticum*	2	2
Persoonia comata	1	0.5
Petrophile brevifolia	0.3	0.1
Petrophile linearis	0.2	0.1
Stirlingia latifolia	0.5	0.3
Stylidium repens	0.1	0.1
Tricostularia neesii var. *neesii*	0.3	0.1
Verticordia lindleyi subsp. *lindleyi* (4)	0.8	0.2

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Site Name: NEW124
Site Type: QUADRAT
Dimensions: 10m x 10m
Survey Date: 28/09/2012
GPS Location: WGS84 (Zone 50) 348685E 6604236N
Vegetation Type: 17
Landform Type: Simple Slope
Slope Class: Gently Inclined (3 degrees)
Aspect: SE
Soil Type: Grey sand over Brown sandy loam (other)
Rock Outcrop: No bedrock exposed
CF Abundance: 0%
Vegetation Condition: 1 - Pristine
Disturbance: None
Fire: >5yrs

DOMINANT TAXA IN VEGETATION STRATA

Upper Stratum 1: *Adenanthos cygnorum* subsp. *cygnorum* (2 m, 2%)
Mid Stratum 1: *Allocasuarina humilis*, *Banksia telmatiaea*, *Melaleuca seriata* (1.5 m, 17%)
Lower Stratum 1: *Dasypogon obliquifolius*, *Eremaea pauciflora*, *Hibbertia hypericoides* (0.6 m, 8%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Acacia pulchella var. *reflexa*	1	0.5
Adenanthos cygnorum subsp. *cygnorum*	2	2
Alexgeorgea nitens	0.1	0.1
Allocasuarina humilis	1.5	5
Amphipogon turbinatus	0.2	0.1
Anigozanthos humilis subsp. *humilis*	0.1	0.1
Austrostipa compressa	0.1	0.1
Banksia attenuata	2	1.5
Banksia dallanneyi var. *dallanneyi*	0.2	0.1
Banksia telmatiaea	1.2	8
Burchardia congesta	0.3	0.1
Caladenia flava subsp. *flava*	0.1	0.1
Calytrix flavescens	0.2	0.1
Calytrix leschenaultii	0.2	0.1
Cassytha glabella forma *dispar*		0.2
Conospermum stoechadis subsp. *stoechadis*	1	0.2
Conostylis aurea	0.1	0.1
Conostylis teretifolia subsp. *teretifolia*	0.1	0.1
Dasypogon obliquifolius	0.6	2
Drosera eneabba	0.1	0.1
Drosera erythrorhiza subsp. ?*magna*	0.1	0.1
Drosera menziesii		0.1

Eremaea asterocarpa subsp. *asterocarpa*	0.6	0.4
Eremaea pauciflora	0.6	4
Hibbertia crassifolia	0.3	0.2
Hibbertia hypericoides	0.6	2
Hibbertia subvaginata	0.2	0.1
Hypocalymma xanthopetalum	0.2	0.2
Isotropis cuneifolia subsp. *cuneifolia*	0.1	0.1
Laxmannia sessiliflora subsp. ?*australis*	0.1	0.1
Lomandra ?*micrantha*	0.6	1
Melaleuca clavifolia (3)	0.3	0.2
Melaleuca seriata	1	4
Neurachne alopecuroidea	0.1	0.1
Nuytsia floribunda	0.1	0.1
Petrophile linearis	0.3	0.2
Philotheca spicata	0.2	0.1
Phyllangium divergens	0.1	0.1
Pterochaeta paniculata	0.1	0.1
Pyrorchis nigricans	0.1	0.1
Schoenus clandestinus	0.1	0.1
Schoenus curvifolius	0.2	0.1
Scholtzia involucrata	1	0.2
Stylidium repens	0.1	0.1
Stylidium rigidulum	0.1	0.1
Synaphea spinulosa subsp. *spinulosa*	0.6	0.1
Thysanotus patersonii		0.1
Trachymene pilosa	0.1	0.1
Verticordia densiflora var. *densiflora*	0.6	0.2
Waitzia acuminata var. *albicans*	0.1	0.1
Xanthorrhoea preissii	0.6	0.2

PHOTO



Site Name:	NEW125
Site Type:	QUADRAT
Dimensions:	10m x 10m
Survey Date:	28/09/2012
GPS Location:	WGS84 (Zone 50) 347905E 6604605N
Vegetation Type:	18
Landform Type:	Simple Slope
Slope Class:	Gently Inclined (3 degrees)
Aspect:	W
Soil Type:	Sand
Soil Colour:	Grey
Rock Outcrop:	No bedrock exposed
CF Abundance:	0%
Vegetation Condition:	1 - Pristine
Disturbance:	None
Fire:	>5yrs

DOMINANT TAXA IN VEGETATION STRATA

Upper Stratum 1:	*Eucalyptus todtiana* (3.5 m, 6%)
Mid Stratum 1:	*Eremaea pauciflora* (1.5 m, 20%)
Lower Stratum 1:	*Calothamnus hirsutus* (0.6m, 2%)
Lower Stratum 2:	*Lepidosperma* sp., *Mesomelaena pseudostygia* (0.6 m, 12%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Acacia sphacelata subsp. *verticillata*	0.4	0.1
Alexgeorgea nitens	0.1	0.1
Allocasuarina humilis	1.5	1
Amphipogon turbinatus	0.3	0.1
Anigozanthos humilis subsp. *humilis*	0.1	0.1
Banksia dallanneyi var. *dallanneyi*	0.2	0.5
Blancoa canescens	0.1	0.1
Bossiaea eriocarpa	0.5	1
Burchardia congesta	0.3	0.1
Caladenia flava subsp. *flava*	0.1	0.1
Calectasia narragara	0.3	0.1
Calothamnus hirsutus	0.6	2
Calothamnus sanguineus	1.2	1
Calytrix flavescens	0.2	0.2
Cassytha glabella forma *dispar*		1
Chordifex sinuosus	0.2	0.2
Conospermum stoechadis subsp. *stoechadis*	1	1
Conostephium pendulum	0.4	0.2
Conostylis aurea	0.2	0.1
Conostylis teretifolia subsp. *teretifolia*	0.1	0.1

Dasypogon obliquifolius	0.6	1
Drosera erythrorhiza subsp. ?*magna*	0.1	0.1
Drosera menziesii		0.1
Drosera pallida		0.1
Eremaea pauciflora	1.5	20
Eucalyptus todtiana	3.5	6
Haemodorum sp.	0.3	0.1
Hakea ruscifolia	0.6	0.1
Hibbertia crassifolia	0.2	0.1
Hibbertia huegelii	0.3	0.2
Hibbertia hypericoides	0.6	1
Hypocalymma xanthopetalum	0.3	0.3
Isotropis cuneifolia subsp. *cuneifolia*	0.1	0.1
Jacksonia floribunda	1.5	1
Lechenaultia linarioides	0.5	0.2
Lepidosperma aff.*scabrum*	0.3	0.1
Lepidosperma sp.	0.6	5
Leporella fimbriata	0.1	0.1
Melaleuca clavifolia (3)	0.4	0.3
Mesomelaena pseudostygia	0.6	7
Patersonia occidentalis var. ?*occidentalis*	0.3	0.2
Petrophile linearis	0.6	0.2
Phyllangium divergens	0.1	0.1
Pimelea sulphurea	0.5	0.1
Pterochaeta paniculata	0.1	0.1
Schoenus clandestinus	0.1	0.1
Scholtzia involucrata	1	1
Stylidium crossocephalum	0.1	0.1
Stylidium piliferum	0.2	0.1
Stylidium repens	0.1	0.1
Thysanotus patersonii		0.1
Thysanotus ?*sparteus*	0.5	0.1
Trachymene pilosa	0.1	0.1
Xanthosia huegelii	0.1	0.1

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Site Name: NEW126
Site Type: QUADRAT
Dimensions: 10m x 10m
Survey Date: 28/09/2012
GPS Location: WGS84 (Zone 50) 347285E 6605140N
Vegetation Type: 17
Landform Type: Flat
Slope Class: Level (0 degrees)
Soil Type: Sand
Soil Colour: Grey
Rock Outcrop: No bedrock exposed
CF Abundance: 0%
Vegetation Condition: 1 - Pristine
Disturbance: None
Fire: >5 years

DOMINANT TAXA IN VEGETATION STRATA

Mid Stratum 1: *Banksia telmatiaea* (1.3 m, 90%)
Lower Stratum 1: *Eremaea asterocarpa* subsp. *asterocarpa* (0.4 m, 5%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Alexgeorgea nitens	0.1	0.1
Anarthria gracilis	0.3	0.1
Andersonia heterophylla	0.15	0.1
Banksia dallanneyi var. *dallanneyi*	0.1	0.5
Banksia telmatiaea	1.3	90
Bossiaea eriocarpa	0.2	0.1
Calytrix flavescens	0.15	0.5
Cassytha glabella forma *dispar*		0.5
Conostylis aculeata subsp. *spinuligera*	0.2	0.5
Conostylis juncea	0.2	0.1
Dasypogon obliquifolius	0.2	0.1
Drosera erythrorhiza subsp. ?*magna*	0.1	0.1
Eremaea asterocarpa subsp. *asterocarpa*	0.4	5
Eremaea pauciflora	0.1	1
Gonocarpus cordiger	0.15	0.1
Hibbertia crassifolia	0.3	0.1
Hypocalymma xanthopetalum	0.2	0.1
Johnsonia pubescens subsp. *pubescens*	0.1	0.1
Leucopogon conostephioides	0.2	0.1
Leucopogon sprengelioides	0.4	0.5
Lyginia barbata	0.5	0.2
Melaleuca clavifolia (3)	0.2	0.1
Patersonia occidentalis var. ?*occidentalis*	0.5	0.1

Petrophile brevifolia	0.3	0.5
Petrophile linearis	0.2	0.5
Philotheca spicata	0.4	0.1
Phlebocarya filifolia	0.2	0.1
Stirlingia latifolia	0.8	0.1
Stylidium adpressum	0.1	0.1
Xanthorrhoea preissii	1.5	1

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Site Name: NEW127
Site Type: QUADRAT
Dimensions: 10m x 10m
Survey Date: 05/11/2012
GPS Location: GDA94 (Zone 50) 346979E 6605813N
Vegetation Type: 18
Landform Type: Upper Slope
Slope Class: Gently Inclined (3 degrees)
Aspect: NW
Soil Type: Sand
Soil Colour: yellow / grey (other)
Rock Outcrop: No bedrock exposed
CF Abundance: 0%
Vegetation Condition: 1 - Pristine
Disturbance: None

DOMINANT TAXA IN VEGETATION STRATA

Upper Stratum 1: *Banksia attenuata*, *B. prionotes* (3 m, 34 %)
Mid Stratum 1: *Eremaea pauciflora* (1.2 m, 10 %)
Lower Stratum 1: *Dasypogon obliquifolius*, *Hibbertia hypericoides* (0.6 m, 14 %)
Lower Stratum 2: *Mesomelaena pseudostygia* (0.6 m, 4 %)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Acacia sphacelata subsp. *verticillata*	0.6	0.1
Adenanthos cygnorum subsp. *cygnorum*	0.1	0.1
Alexgeorgea nitens	0.1	0.5
Banksia attenuata	2.5	4
Banksia prionotes	3	30
Blancoa canescens	0.15	1
Bossiaea eriocarpa	0.1	0.1
Cassytha glabella forma *dispar*		5
Chordifex sinuosus	0.15	0.1
Conospermum stoechadis subsp. *stoechadis*	1	1.2
Conostephium pendulum	0.7	0.5
Conostylis aurea	0.3	0.5
Conostylis teretifolia subsp. *teretifolia*	0.05	0.5
Dasypogon obliquifolius	0.6	4
Daviesia divaricata subsp. *divaricata* ms	1.7	0.5
Desmocladus virgatus	0.15	0.1
Drosera eneabba	0.1	0.5
Drosera erythrorhiza subsp. ?*magna*	0.01	0.1
Eremaea pauciflora	1.2	10
Hakea costata	0.9	0.5
Hibbertia huegelii		

Hibbertia hypericoides	0.6	10
Hypocalymma xanthopetalum	0.4	1
Isotropis cuneifolia subsp. *cuneifolia*	0.1	0.1
Lepidobolus preissianus subsp. *preissianus*	0.3	0.5
Lepidosperma aff.*scabrum*	0.3	0.1
Leucopogon conostephioides	0.05	0.1
Lomandra hermaphrodita	0.1	0.1
Lyginia imberbis	0.6	0.5
Melaleuca clavifolia (3)	0.5	1
Mesomelaena pseudostygia	0.6	4
Patersonia occidentalis var. ?*occidentalis*	0.4	0.5
Petrophile linearis	0.5	0.5
Schoenus clandestinus	0.02	0.5
Scholtzia involucrata	0.7	0.5
Stylidium adpressum	0.05	0.5
Stylidium diuroides subsp. *diuroides*	0.3	0.5
Thysanotus patersonii	0.3	0.1

PHOTO



Site Name:	NEW128
Site Type:	QUADRAT
Dimensions:	10m x 10m
Survey Date:	28/09/2012
GPS Location:	WGS84 (Zone 50) 346454E 6604842N
Vegetation Type:	2
Landform Type:	Open Depression
Slope Class:	Very Gently Inclined (1 degree)
Soil Type:	Sand
Soil Colour:	Brown and Grey (other)
Rock Outcrop:	No bedrock exposed
CF Abundance:	0%
Vegetation Condition:	1 - Pristine
Disturbance:	None
Fire:	>5 years

DOMINANT TAXA IN VEGETATION STRATA

Mid Stratum 1:	*Hakea varia*, *Melaleuca viminea* subsp. *viminea* (1.8 m, 33%)
Mid Stratum 2:	*Melaleuca lateritia*, *Melaleuca seriata*, *Verticordia densiflora* var. *densiflora* (1.2 m, 32%)
Lower Stratum 1:	*Schoenus subfascicularis* (0.1 m, 5%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Cassytha ?*racemosa*		1
Centrolepis aristata	0.1	0.1
Conostylis aculeata subsp. *spinuligera*	0.2	0.5
Drosera eneabba	0.1	0.1
Hakea varia	1.4	3
Hibbertia stellaris	0.4	0.1
Hydrocotyle alata	0.1	0.1
**Hypochaeris glabra*	0.1	0.1
Hypolaena exsulca	0.7	0.5
Lepidosperma longitudinale	0.7	0.5
Melaleuca lateritia	1.2	7
Melaleuca seriata	1	5
Melaleuca viminea subsp. *viminea*	1.8	30
Opercularia vaginata	0.1	0.1
Petrophile brevifolia	0.6	1
Schoenus subfascicularis	0.1	5
Siloxerus ?*humifusus*	0.1	0.1
Trachymene pilosa	0.1	0.1
Tribonanthes australis	0.1	0.1
Triglochin nana	0.1	0.1
**Ursinia anthemoides*	0.2	0.1

Velleia trinervis	0.3	0.1
Verticordia densiflora var. *densiflora*	1	20
Wurmbea dioica	0.1	0.1

PHOTO



Site Name:	NEW129
Site Type:	QUADRAT
Dimensions:	10m x 10m
Survey Date:	28/09/2012
GPS Location:	WGS84 (Zone 50) 347148E 6603818N
Vegetation Type:	1
Landform Type:	Flat
Slope Class:	Level (0 degrees)
Soil Type:	Sandy Loam
Soil Colour:	Grey
Rock Outcrop:	No bedrock exposed
CF Abundance:	0%
Vegetation Condition:	1 - Pristine
Disturbance:	None
Fire:	>5yrs

DOMINANT TAXA IN VEGETATION STRATA

Mid Stratum 1: *Banksia telmatiaea* (1.5m, 80%)

Lower Stratum 1: *Eremaea pauciflora* (0.4m, 2%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Acacia pulchella var. ?*pulchella*	0.5	0.1
Austrostipa elegantissima	1	0.5
Austrostipa macalpinei	0.1	0.1
Banksia telmatiaea	1.5	82
Caladenia ?*flava* subsp. *flava*	0.04	0.1
Caladenia flava subsp. *flava*	0.15	0.1
Dianella revoluta	0.4	0.1
Elythranthera brunonis	0.15	0.1
Eremaea pauciflora	0.4	2
Eucalyptus rudis subsp. *rudis*	4	
**Hypochaeris glabra*	0.1	0.1
Leucopogon conostephioides	0.2	0.1
Lyginia imberbis	0.8	0.5
**Lysimachia arvensis*	0.06	0.1
Melaleuca clavifolia (3)	0.3	1
Opercularia vaginata	0.1	0.1
Stylidium adpressum	0.1	0.1
Trachymene pilosa	0.1	0.1

PHOTO



Site Name: NEW130
Site Type: QUADRAT
Dimensions: 10m x 10m
Survey Date: 28/09/2012
GPS Location: WGS84 (Zone 50) 347041E 6603933N
Vegetation Type: 9b
Landform Type: Wetland (other)
Slope Class: Level (0 degrees)
Soil Type: Loam
Soil Colour: Grey-Brown (other)
Rock Outcrop: No bedrock exposed
CF Abundance: 0%
Vegetation Condition: 3 – Very Good
Disturbance: None
Fire: >5yrs

DOMINANT TAXA IN VEGETATION STRATA

Upper Stratum 1: *Melaleuca rhaphiophylla* (5 m, 65%)
Upper Stratum 2: *Cassytha glabella* forma *dispar* (0 m, 8%)
Lower Stratum 1: **Conyza bonariensis, *Galium murale, *Lysimachia arvensis, *Vulpia myuros* (0.6 m, 18%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Acacia sp.	0.08	0.1
**Aira cupaniana*	0.1	0.1
**Briza minor*	0.08	0.1
Calandrinia granulifera	0.03	0.1
Cassytha glabella forma *dispar*		8
**Cerastium glomeratum*	0.1	0.1
**Conyza bonariensis*	0.6	3
Crassula closiana	0.03	0.1
Crassula colorata var. *acuminata*	0.04	0.5
**Ehrharta ?brevifolia*	0.05	0.1
Euchiton sphaericus	0.1	0.1
**Galium murale*	0.06	9
Hydrocotyle blepharocarpa	0.02	0.1
**Hypochaeris glabra*	0.01	0.1
**Isolepis marginata*	0.04	1
**Lysimachia arvensis*	0.08	2
Melaleuca rhaphiophylla	5	65
Pelargonium littorale	0.04	0.5
**Solanum nigrum*	0.1	0.1
Solanum symonii	1	0.5
**Taraxacum officinale*	0.01	1

Trachymene pilosa	0.05	0.1
**Trifolium glomeratum*	0.03	0.1
**Vulpia myuros*	0.05	4

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Site Name:	NEW131
Site Type:	QUADRAT
Dimensions:	10m x 10m
Survey Date:	28/09/2012
GPS Location:	WGS84 (Zone 50) 345981E 6603847N
Vegetation Type:	18
Landform Type:	Mid Slope
Slope Class:	Gently Inclined (3 degrees)
Aspect:	NW
Soil Type:	Sand
Soil Colour:	Grey
Rock Outcrop:	No bedrock exposed
CF Abundance:	0%
Vegetation Condition:	1 - Pristine
Disturbance:	None
Fire:	>5yrs

DOMINANT TAXA IN VEGETATION STRATA

Mid Stratum 1:	*Stirlingia latifolia* (1 m, 3%)
Lower Stratum 1:	*Bossiaea eriocarpa*, *Dasypogon obliquifolius*, *Eremaea pauciflora*, *Scholtzia involucrata* (0.7 m, 21%)
Lower Stratum 2:	*Mesomelaena pseudostygia* (0.2 m, 2%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Alexgeorgea nitens	0.1	0.1
Allocasuarina humilis	1	0.3
Anigozanthos humilis subsp. *humilis*	0.1	0.1
Asparagaceae sp.	0.3	0.1
Banksia dallanneyi var. *dallanneyi*	0.2	0.2
Bossiaea eriocarpa	0.5	2
Caladenia flava subsp. *flava*	0.1	0.1
Calytrix flavescens	0.3	0.2
Cassytha glabella forma *dispar*		0.1
Caustis dioica	0.3	0.5
Chordifex sinuosus	0.2	1
Conospermum stoechadis subsp. *stoechadis*	0.8	1
Conostylis aurea		0.2
Conostylis teretifolia subsp. *teretifolia*	0.1	0.1
Dasypogon obliquifolius	0.5	5
Drosera eneabba	0.1	0.1
Drosera erythrorhiza subsp. ?*magna*	0.1	0.1
Eremaea pauciflora	0.6	8
Hibbertia crassifolia	0.2	0.2
Hibbertia huegelii	0.3	0.2

Hypocalymma xanthopetalum	0.3	0.2
**Hypochaeris glabra*	0.1	0.1
Jacksonia nutans	1	0.5
Johnsonia pubescens subsp. *pubescens*	0.1	0.1
Lechenaultia sp.	0.2	0.1
Lyginia barbata	0.2	1
Melaleuca clavifolia (3)	0.5	1.5
Melaleuca seriata	1	0.3
Mesomelaena pseudostygia	0.2	2
Neurachne alopecuroidea	0.1	0.1
Nuytsia floribunda	0.3	0.2
Patersonia occidentalis var. ?*occidentalis*	0.6	0.5
Petrophile brevifolia	0.3	0.1
Phyllangium divergens	0.1	0.1
Pimelea sulphurea	0.6	0.2
Schoenus clandestinus	0.1	0.1
Schoenus pleiostemoneus	0.3	0.5
Scholtzia involucrata	0.7	6
Stirlingia latifolia	1	3
Stylidium piliferum	0.2	0.1
Stylidium repens	0.1	0.1
Synaphea spinulosa subsp. *spinulosa*	0.5	0.2

PHOTO



Site Name: NEW132
Site Type: QUADRAT
Dimensions: 10m x 10m
Survey Date: 28/09/2012
GPS Location: WGS84 (Zone 50) 345052E 6603748N
Vegetation Type: 18
Landform Type: Mid Slope
Slope Class: Gently Inclined (3 degrees)
Soil Type: Sand
Soil Colour: White over Grey (other)
Rock Outcrop: No bedrock exposed
CF Abundance: 0%
Vegetation Condition: 1 - Pristine
Disturbance: None
Fire: >5 years

DOMINANT TAXA IN VEGETATION STRATA

Upper Stratum 1: *Banksia attenuata* (4 m, 5%)
Upper Stratum 2: *Adenanthos cygnorum* subsp. *cygnorum* (4 m, 10%)
Mid Stratum 1: *Allocasuarina humilis*, *Eremaea pauciflora* (2 m, 22%)
Lower Stratum 1: *Mesomelaena pseudostygia* (0.6 m, 15%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Adenanthos cygnorum subsp. *cygnorum*	4	10
Allocasuarina humilis	2	2
Anigozanthos humilis subsp. *humilis*	0.1	0.5
Banksia attenuata	4	5
Caladenia flava subsp. *flava*	0.1	0.1
Cassytha glabella forma *dispar*	0.6	1
Conostephium pendulum	0.1	0.1
Conostylis aculeata subsp. *spinuligera*	0.1	0.1
Conostylis teretifolia subsp. *teretifolia*	0.1	0.1
Drosera eneabba	0.1	0.1
Drosera erythrorhiza subsp. ?*magna*	0.1	0.1
Drosera stolonifera	0.1	0.1
Eremaea pauciflora	1.5	50
Eremaea sp.	0.1	0.1
Hibbertia crassifolia	0.3	0.5
Hibbertia huegelii	0.6	1
Hypocalymma xanthopetalum	0.3	0.5
Lepidobolus preissianus	0.2	0.5
Leucopogon sprengelioides	0.4	0.5
Melaleuca clavifolia (3)	0.2	0.1
Mesomelaena pseudostygia	0.6	15

Phyllangium divergens	0.1	0.1
Pimelea sulphurea	0.4	0.25
Schoenus clandestinus	0.1	1
Schoenus pleiostemoneus	0.1	0.1
Stylidium adpressum	0.1	0.1
Stylidium piliferum	0.1	0.1
Stylidium rigidulum	0.1	0.1
Thysanotus patersonii	1	0.1

PHOTO



Site Name: NEW133
Site Type: QUADRAT
Dimensions: 10m x 10m
Survey Date: 25/09/2012
GPS Location: WGS84 (Zone 50) 345481E 6604986N
Vegetation Type: 18
Landform Type: Flat
Slope Class: Very Gently Inclined (1 degree)
Soil Type: Sand
Soil Colour: White/Grey over Yellow (other)
Rock Outcrop: No bedrock exposed
CF Abundance: 0%
Vegetation Condition: 1 - Pristine
Disturbance: None
Fire: >5 years

DOMINANT TAXA IN VEGETATION STRATA

Upper Stratum 1: *Banksia attenuata*, *B. menziesii* (4 m, 12%)
Mid Stratum 1: *Eremaea pauciflora* (1.5 m, 25%)
Lower Stratum 1: *Allocasuarina humilis* (0.8 m, 5%)
Lower Stratum 2: *Mesomelaena pseudostygia* (0.6 m, 8%)

SPECIES LIST

Taxon Name	**Avg. Ht (m)**	**% Cover Alive**
Adenanthos cygnorum subsp. *cygnorum*	2.5	1
Alexgeorgea nitens	0.1	0.2
Allocasuarina humilis	0.8	5
Banksia attenuata	4	9
Banksia menziesii	3	3
Blancoa canescens	0.1	0.1
Bossiaea eriocarpa	0.4	0.5
Calytrix flavescens	0.2	0.5
Cassytha glabella forma *dispar*	0.5	0.5
Chordifex sinuosus	0.6	0.2
Conostephium pendulum	0.2	0.6
Conostylis teretifolia subsp. *teretifolia*	0.1	0.1
Dasypogon obliquifolius	0.5	1
Drosera eneabba	0.4	1
Drosera erythrorhiza subsp. ?*magna*	0.1	0.1
Drosera menziesii	0.5	0.1
Eremaea pauciflora	1.5	25
Eucalyptus todtiana		
Goodeniaceae sp.	0.1	0.1
Haemodorum sp.	0.2	0.1
Hibbertia crassifolia	0.2	0.5

Hibbertia huegelii	0.2	0.1
Hibbertia hypericoides	0.3	0.1
Hypocalymma xanthopetalum	0.4	0.5
Johnsonia pubescens subsp. *pubescens*	0.1	0.1
Leptospermum spinescens	0.1	0.5
Leucopogon conostephioides	0.2	0.2
Melaleuca clavifolia (3)	0.4	0.1
Mesomelaena pseudostygia	0.6	8
Myrtaceae sp.	0.1	0.1
Nuytsia floribunda	0.4	0.3
Petrophile linearis	0.5	0.1
Petrophile rigida	0.5	0.1
Pileanthus filifolius	0.5	0.1
Proteaceae sp.	0.1	0.1
Pyrorchis nigricans	0.1	0.1
Schoenus pleiostemoneus	0.2	0.2
Scholtzia involucrata	0.1	0.1
Stirlingia latifolia	0.4	0.1
Stylidium purpureum ms	0.8	0.1
Thelymitra campanulata	0.1	0.1
Xanthosia huegelii	0.1	0.1

PHOTO



Site Name: NEW134
Site Type: QUADRAT
Dimensions: 10m x 10m
Survey Date: 16/10/2012
GPS Location: WGS84 (Zone 50) 342821E 6604016N
Vegetation Type: 17
Landform Type: Flat
Slope Class: Very Gently Inclined (1 degree)
Aspect: NW
Soil Type: Sand
Soil Colour: Grey
Rock Outcrop: No bedrock exposed
CF Abundance: 0%
Vegetation Condition: 1 - Pristine
Disturbance: None

DOMINANT TAXA IN VEGETATION STRATA

Mid Stratum 1: *Conospermum stoechadis* subsp. *stoechadis*, *Eremaea pauciflora* (1 m, 20%)
Lower Stratum 1: *Banksia dallanneyi* subsp. *dallanneyi*, *Dasypogon obliquifolius*, *Jacksonia hakeoides* (0.5 m, 9%)
Lower Stratum 2: *Stylidium adpressum* (0.05 m, 5%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Alexgeorgea nitens	0.1	1
Amphipogon turbinatus	0.4	0.1
Anarthria gracilis	0.3	0.5
Andersonia heterophylla	0.3	0.5
Anigozanthos ?*pulcherrimus*	0.25	0.5
Austrostipa macalpinei	0.15	0.1
Banksia dallanneyi var. *dallanneyi*	0.2	5
Boronia ramosa subsp. *anethifolia*	0.15	0.1
Burchardia congesta	0.4	0.1
Calytrix flavescens	0.3	0.5
Cassytha glabella forma *dispar*	0.4	1
Chordifex sinuosus	0.25	0.1
Conospermum stoechadis subsp. *stoechadis*	1	7
Conostylis aurea	0.3	0.1
Conostylis juncea	0.25	0.1
Conostylis teretifolia subsp. *teretifolia*	0.15	0.5
Dampiera linearis	0.1	0.1
Dasypogon obliquifolius	0.4	2
Daviesia incrassata subsp. *incrassata*	0.4	0.5
Drosera eneabba	0.1	0.5
Drosera erythrorhiza subsp. ?*magna*	0.01	0.5

Drosera ?menziesii	0.25	0.1
Eremaea asterocarpa subsp. *asterocarpa*	0.4	0.1
Eremaea pauciflora	1	13
Gompholobium tomentosum	0.2	0.1
Goodenia ?pulchella subsp. Coastal Plain A (M. Hislop 634)	0.25	0.1
Hibbertia crassifolia	0.4	0.5
Hibbertia huegelii	0.3	0.5
Hibbertia subvaginata	0.3	0.5
Hypocalymma xanthopetalum	0.3	0.5
Hypolaena exsulca	0.6	0.5
Isotropis cuneifolia subsp. *cuneifolia*	0.05	0.1
Jacksonia hakeoides	0.5	2
Jacksonia nutans	0.6	0.5
Lechenaultia sp.	0.25	0.1
Leucopogon conostephioides	0.2	0.1
Leucopogon sprengelioides	0.35	0.5
Levenhookia stipitata	0.03	0.1
Lyginia barbata	0.5	0.5
Lyginia imberbis	0.4	0.5
Melaleuca clavifolia (3)	0.4	1
Melaleuca seriata	0.7	0.5
Mesomelaena pseudostygia	0.5	0.5
Opercularia vaginata	0.15	0.5
Petrophile brevifolia	0.5	0.5
Petrophile linearis	0.35	0.1
Phlebocarya filifolia	0.3	0.5
Podotheca angustifolia	0.15	0.1
Pterochaeta paniculata	0.02	0.5
Scaevola phlebopetala	0.15	0.5
Schoenus clandestinus	0.01	0.5
Schoenus curvifolius	0.5	0.5
Stylidium adpressum	0.05	5
Stylidium diuroides subsp. *diuroides*	0.15	0.5
Synaphea spinulosa subsp. *spinulosa*	0.3	0.5
Xanthosia huegelii	0.1	0.5

PHOTO



Site Name:	NEW135
Site Type:	QUADRAT
Dimensions:	10m x 10m
Survey Date:	25/09/2012
GPS Location:	WGS84 (Zone 50) 344295E 6604717N
Vegetation Type:	18
Landform Type:	Low rise (other)
Slope Class:	Gently Inclined (3 degrees)
Aspect:	SE
Soil Type:	Sand
Soil Colour:	Grey
Rock Outcrop:	No bedrock exposed
CF Abundance:	0%
Vegetation Condition:	1 - Pristine
Disturbance:	None
Fire:	>5yrs

DOMINANT TAXA IN VEGETATION STRATA

Upper Stratum 1:	*Banksia attenuata* (2.5 m, 2%)
Mid Stratum 1:	*Allocasuarina humilis*, *Calothamnus sanguineus*, *Eremaea pauciflora*, *Hakea trifurcata* (1.8 m, 26%)
Lower Stratum 1:	*Hibbertia hypericoides* (0.6 m, 5%)
Lower Stratum 2:	*Mesomelaena pseudostygia* (1 m, 10%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Acacia pulchella var. *reflexa*	1	0.1
Allocasuarina humilis	1.8	8
Anigozanthos humilis subsp. *humilis*	0.1	0.1
Banksia attenuata	2.5	2
Banksia dallanneyi var. *dallanneyi*	0.2	0.2
Bossiaea eriocarpa	0.5	0.5
Burchardia congesta	0.4	0.1
Calothamnus sanguineus	1	6
Cassytha glabella forma *dispar*		0.1
Caustis dioica	0.3	0.1
Conospermum stoechadis subsp. *stoechadis*	0.6	0.5
Conostylis teretifolia subsp. *teretifolia*	0.1	0.1
Dasypogon obliquifolius	0.4	0.1
Drosera erythrorhiza subsp. ?*magna*	0.1	0.1
Drosera pallida		0.1
Eremaea asterocarpa subsp. *asterocarpa*	0.3	0.2
Eremaea pauciflora	1	3
Hakea trifurcata	1.5	10
Hibbertia huegelii	0.3	0.2

Hibbertia hypericoides	0.6	5
Hypocalymma xanthopetalum	0.3	0.3
Hypolaena exsulca	0.3	0.1
Isotropis cuneifolia subsp. *cuneifolia*	0.1	0.1
Jacksonia nutans	1	1
Laxmannia sessiliflora subsp. ?*australis*	0.1	0.1
Lepidosperma aff.*scabrum*	0.8	0.1
Leucopogon conostephioides	0.1	0.1
Melaleuca clavifolia (3)	0.4	1
Mesomelaena pseudostygia	1	10
Millotia tenuifolia var. *tenuifolia*	0.1	0.1
Neurachne alopecuroidea	0.2	0.1
Opercularia vaginata	0.2	0.1
Petrophile brevifolia	0.3	0.1
Petrophile macrostachya	0.4	0.5
Pileanthus filifolius	1	1
Pterochaeta paniculata	0.1	0.1
Schoenus clandestinus	0.1	0.1
Schoenus pleiostemoneus	0.2	0.2
Scholtzia involucrata	0.6	0.2
Siloxerus ?*humifusus*	0.1	0.1
Stirlingia latifolia	0.4	0.1
Stylidium rigidulum	0.1	0.1
Synaphea spinulosa subsp. *spinulosa*	0.1	0.1
Thysanotus patersonii		0.1
Trachymene pilosa	0.1	0.1
**Ursinia anthemoides*	0.1	0.1
Verticordia densiflora var. *densiflora*	0.3	0.1
Waitzia acuminata var. *albicans*	0.1	0.1

PHOTO



Site Name:	NEW136
Site Type:	QUADRAT
Dimensions:	10m x 10m
Survey Date:	25/09/2012
GPS Location:	WGS84 (Zone 50) 344310E 6605345N
Vegetation Type:	18
Landform Type:	Crest
Slope Class:	Very Gently Inclined (1 degree)
Aspect:	NW
Soil Type:	Sand
Soil Colour:	Grey over Yellow (other)
Rock Outcrop:	No bedrock exposed
CF Abundance:	0%
Vegetation Condition:	1 - Pristine
Disturbance:	None
Fire:	>5yrs

DOMINANT TAXA IN VEGETATION STRATA

Mid Stratum 1:	*Allocasuarina humilis*, *Conospermum stoechadis* subsp. *stoechadis* (1.1 m, 15%)
Lower Stratum 1:	*Banksia dallanneyi* var. *dallanneyi*, *Calothamnus sanguineus*, *Dasypogon obliquifolius*, *Hibbertia hypericoides*, *Jacksonia nutans* (0.6 m, 22%)
Lower Stratum 2:	*Schoenus brevisetis* (0.15 m, 9%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Acacia sphacelata subsp. *verticillata*	0.4	0.1
Alexgeorgea nitens	0.15	0.1
Allocasuarina humilis	1	11
Anarthria gracilis	0.3	0.1
Anigozanthos humilis subsp. *humilis*	0.2	0.1
Anigozanthos ?*pulcherrimus*	0.2	0.1
Astroloma xerophyllum	0.4	0.1
Baeckea grandiflora	0.4	0.1
Banksia dallanneyi var. *dallanneyi*	0.15	3
Bossiaea eriocarpa	0.5	1.5
Calothamnus sanguineus	0.6	3
Cassytha ?*aurea*	0.2	0.1
Cassytha glabella forma *dispar*	0.5	1
Caustis dioica	0.3	0.1
Chordifex chaunocoleus (4)	0.3	0.1
Conospermum stoechadis subsp. *stoechadis*	1.1	4
Conostylis aurea	0.2	0.1
Conostylis juncea	0.4	0.1
Conostylis teretifolia subsp. *teretifolia*	0.1	0.1
Dampiera spicigera	0.2	0.1

Dasypogon obliquifolius	0.5	8
Drosera eneabba	0.01	0.1
Drosera erythrorhiza subsp. ?*magna*	0.1	0.1
Drosera pallida	0.3	0.1
Drosera sp.	0.01	0.1
Elythranthera brunonis	0.2	0.1
Eremaea pauciflora	0.4	0.6
Goodenia ?coerulea	0.1	0.1
Haemodorum sp.	0.2	0.1
Hibbertia huegelii	0.4	1
Hibbertia hypericoides	0.6	5
Hypocalymma xanthopetalum	0.4	0.8
**Hypochaeris glabra*	0.02	0.1
Isotropis cuneifolia subsp. *cuneifolia*	0.06	0.1
Jacksonia nutans	0.8	3
Lepidosperma aff.*scabrum*	0.4	0.1
Lepidosperma sp.	0.4	0.1
Leporella fimbriata	0.01	0.1
Leptomeria empetriformis	0.4	0.5
Leptospermum spinescens	0.4	0.5
Leucopogon sprengelioides	0.4	0.1
Lysinema pentapetalum	0.7	0.5
Melaleuca clavifolia (3)	0.4	0.1
Mesomelaena pseudostygia	0.3	1
Millotia tenuifolia var. *tenuifolia*	0.05	0.1
Neurachne alopecuroidea	0.4	0.1
Opercularia vaginata	0.1	0.1
Petrophile brevifolia	0.3	0.5
Petrophile linearis	0.3	0.1
Petrophile macrostachya	0.4	0.1
Pterochaeta paniculata	0.6	0.1
Scaevola repens var. *repens*	0.1	0.1
Schoenus brevisetis	0.15	9
Schoenus clandestinus	0.02	0.5
Scholtzia involucrata	0.4	0.1
Stylidium diuroides subsp. *diuroides*	0.15	0.1
Stylidium piliferum	0.25	0.1
Thysanotus patersonii	0.3	0.1
Trachymene pilosa	0.05	0.1

PHOTO



Site Name:	NEW137
Site Type:	QUADRAT
Dimensions:	10m x 10m
Survey Date:	25/09/2012
GPS Location:	WGS84 (Zone 50) 343252E 6605330N
Vegetation Type:	18
Landform Type:	Plain
Slope Class:	Very Gently Inclined (1 degree)
Aspect:	W
Soil Type:	Sand
Soil Colour:	Grey over Yellow (other)
Rock Outcrop:	No bedrock exposed
CF Abundance:	0%
Vegetation Condition:	1 - Pristine
Disturbance:	None
Fire:	>5 years

DOMINANT TAXA IN VEGETATION STRATA

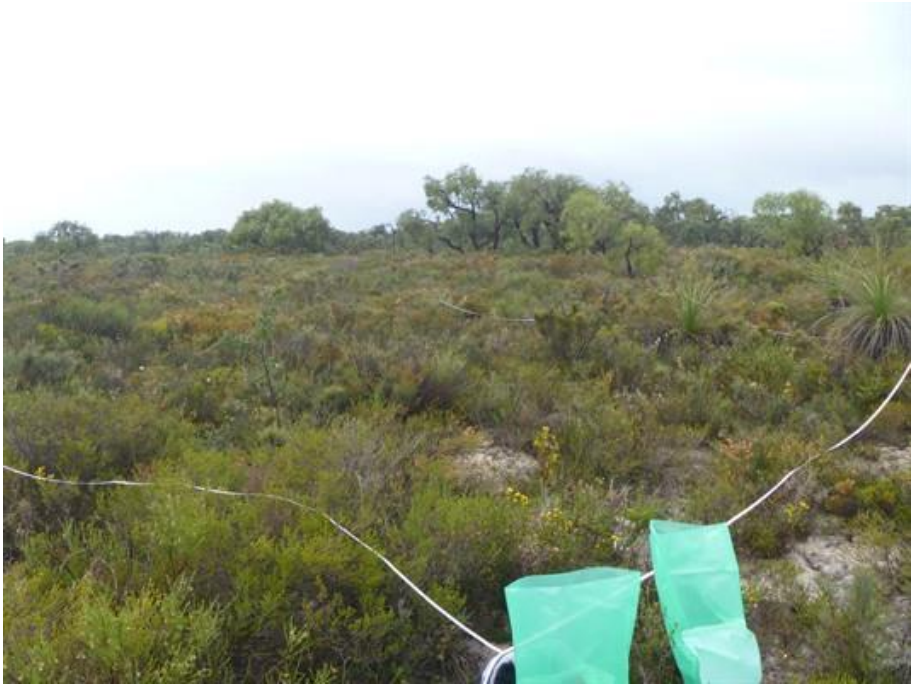
Mid Stratum 1:	*Allocasuarina humilis* (1 m, 20%)
Lower Stratum 1:	*Calothamnus sanguineus*, *Eremaea pauciflora*, *Jacksonia hakeoides*, *Melaleuca clavifolia*, *Petrophile macrostachya* (0.5 m, 20%)
Lower Stratum 2:	*Mesomelaena pseudostygia* (0.5 m, 10%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Acacia sphacelata subsp. *verticillata*	0.3	0.2
Allocasuarina humilis	1	20
Amphipogon turbinatus	0.6	0.1
Anigozanthos humilis subsp. *humilis*	0.15	0.1
Astroloma microdonta	0.2	0.1
Baeckea grandiflora	0.4	0.5
Banksia dallanneyi var. *dallanneyi*	0.2	0.5
Bossiaea eriocarpa	0.3	1
Burchardia congesta	0.4	0.1
Calectasia narragara	0.3	0.5
Calothamnus sanguineus	0.5	2
Calytrix flavescens	0.2	0.5
Cassytha glabella forma *dispar*	0.5	1
Caustis dioica	0.15	0.5
Chordifex sinuosus	0.15	0.1
Conospermum stoechadis subsp. *stoechadis*	1	0.5
Conostephium pendulum	0.2	0.1
Conostylis aurea	0.25	0.3
Conostylis teretifolia subsp. *teretifolia*	0.2	0.1
Dasypogon obliquifolius	0.3	0.5

Daviesia decurrens	0.4	0.2
Daviesia incrassata subsp. *incrassata*	0.6	1
Drosera eneabba	0.1	0.1
Drosera erythrorhiza subsp. ?*magna*	0.1	0.1
Drosera ?*menziesii*	0.4	0.1
Eremaea asterocarpa subsp. *asterocarpa*	0.4	1
Eremaea pauciflora	0.4	5
Haemodorum venosum	0.4	0.1
Hakea costata	0.4	0.5
Hakea ruscifolia	1.5	0.1
Hemiandra linearis	0.15	0.1
Hibbertia crassifolia	0.3	0.5
Hibbertia huegelii	0.3	0.5
Hibbertia hypericoides	0.4	0.5
Hypocalymma xanthopetalum	0.3	1
Isotropis cuneifolia subsp. *cuneifolia*	0.1	0.1
Jacksonia floribunda	1	0.5
Jacksonia hakeoides	0.3	5
Johnsonia pubescens subsp. *pubescens*	0.2	0.1
Lepidosperma sp.	0.5	0.1
Leptospermum spinescens	0.4	0.2
Leucopogon sprengelioides	0.3	1
Lomandra hermaphrodita	0.2	0.5
Lysinema pentapetalum	0.5	1
Melaleuca clavifolia (3)	0.4	5
Mesomelaena pseudostygia	0.5	10
Neurachne alopecuroidea	0.1	0.1
Patersonia occidentalis var. ?*occidentalis*	0.3	0.2
Petrophile linearis	0.3	1
Petrophile macrostachya	0.4	3
Phyllangium divergens	0.1	0.1
Pimelea sulphurea	0.5	0.5
Scaevola ?*anchusifolia*	0.1	0.1
Schoenus clandestinus	0.1	0.5
Schoenus pleiostemoneus	0.15	1
Stirlingia latifolia	0.5	1
Stylidium crossocephalum	0.1	0.1
Stylidium diuroides subsp. *diuroides*	0.15	0.1
Stylidium piliferum	0.3	0.1
Synaphea spinulosa subsp. *spinulosa*	0.4	1
Thysanotus patersonii	0.3	0.1
Xanthorrhoea preissii	1.8	1
Xanthosia huegelii	0.1	0.2

PHOTO



Site Name:	NEW138
Site Type:	QUADRAT
Dimensions:	10m x 10m
Survey Date:	19/10/2012
GPS Location:	WGS84 (Zone 50) 342679E 6605668N
Vegetation Type:	17
Landform Type:	Mid Slope
Slope Class:	Gently Inclined (3 degrees)
Aspect:	SE
Soil Type:	Sand
Soil Colour:	Grey
Rock Outcrop:	No bedrock exposed
CF Abundance:	0%
Vegetation Condition:	1 - Pristine
Disturbance:	None

DOMINANT TAXA IN VEGETATION STRATA

Upper Stratum 1: *Banksia attenuata*, *B. menziesii*, *Eucalyptus todtiana* (4 m, 26 %)

Mid Stratum 1: *Xanthorrhoea preissii* (1.5 m, 12 %)

Lower Stratum 1: *Bossiaea eriocarpa*, *Dasypogon obliquifolius*, *Eremaea pauciflora*, *Petrophile linearis*, *Stirlingia latifolia* (0.7 m, 13%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Alexgeorgea nitens	0.1	0.5
Allocasuarina humilis	1.2	0.5
Austrostipa macalpinei	0.15	0.1
Banksia attenuata	4	15
Banksia menziesii	4	6
Boronia ramosa subsp. *anethifolia*	0.3	0.5
Bossiaea eriocarpa	0.4	3
Comesperma calymega	0.15	0.1
Conospermum stoechadis subsp. *stoechadis*	1.3	1
Conostephium pendulum	0.4	0.5
Conostylis aurea	0.2	0.5
Conostylis juncea	0.2	0.5
Dampiera linearis	0.2	0.1
Dasypogon obliquifolius	0.7	3
Drosera eneabba	0.05	0.1
Drosera ?menziesii	0.2	0.1
Eremaea asterocarpa subsp. *asterocarpa*	0.4	1
Eremaea pauciflora	0.7	2
Eucalyptus todtiana	3.5	5
Gompholobium tomentosum	0.4	0.5
Gonocarpus cordiger	0.2	0.5

Hibbertia crassifolia	0.3	0.5
Hibbertia huegelii	0.4	0.5
Hibbertia hypericoides	0.4	1
Hypocalymma xanthopetalum	0.3	0.5
Jacksonia hakeoides	0.5	1
Jacksonia nutans	0.4	0.5
Lepidosperma pubisquameum	0.4	0.5
Leucopogon conostephioides	0.3	0.5
Leucopogon sprengelioides	0.35	0.5
Lomandra hermaphrodita	0.15	0.1
Lomandra preissii	0.2	0.5
Lysinema pentapetalum	0.3	0.5
Melaleuca clavifolia (3)	0.35	0.5
Persoonia comata	0.7	1
Petrophile linearis	0.6	3
Phlebocarya ciliata	0.3	1
Phlebocarya filifolia	0.2	0.5
Pyrorchis nigricans	0.01	0.1
Scaevola repens var. *repens*	0.1	0.1
Schoenus clandestinus	0.01	0.1
Schoenus curvifolius	0.15	0.1
Schoenus ?subfascicularis	0.4	0.5
Scholtzia involucrata	0.5	0.5
Stirlingia latifolia	0.6	2
Stylidium crossocephalum	0.1	0.1
Stylidium diuroides subsp. *diuroides*	0.05	0.1
Stylidium hymenocraspedum (2)	0.3	0.5
Stylidium piliferum	0.01	0.5
Synaphea spinulosa subsp. *spinulosa*	0.25	0.1
Thysanotus thyrsoideus	0.4	0.5
Xanthorrhoea preissii	1.5	12

PHOTO



Site Name:	NEW139
Site Type:	QUADRAT
Dimensions:	10m x 10m
Survey Date:	15/10/2012
GPS Location:	WGS84 (Zone 50) 342416E 6604437N
Vegetation Type:	6
Landform Type:	Flat
Slope Class:	Very Gently Inclined (1 degree)
Aspect:	S
Soil Type:	Sand
Soil Colour:	Grey
Rock Outcrop:	No bedrock exposed
CF Abundance:	0%
Vegetation Condition:	1 - Pristine
Disturbance:	None

DOMINANT TAXA IN VEGETATION STRATA

Upper Stratum 1:	*Melaleuca preissiana* (10 m, 5 %)
Upper Stratum 2:	*Banksia attenuata* (2 m, 5 %)
Mid Stratum 1:	*Adenanthos cygnorum* (2 m, 7 %)
Mid Stratum 2:	*Acacia pulchella* var. *reflexa*, *Melaleuca seriata* (1.5 m, 18 %)
Lower Stratum 1:	*Conostylis aculeata* subsp. *spinuligera*, *Schoenus subfascicularis* (0.9 m, 21 %)
Lower Stratum 2:	*Hibbertia subvaginata* (0.3 m, 15%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Acacia pulchella var. *reflexa*	1.5	3
Acacia saligna subsp. *lindleyi* ms	0.1	0.1
Actinotus leucocephalus	0.1	0.5
Adenanthos cygnorum subsp. *cygnorum*	2	7
Austrostipa macalpinei	0.25	0.5
Banksia attenuata	2	5
Banksia menziesii		
Boronia ramosa subsp. *anethifolia*	0.2	0.5
Chordifex chaunocoleus (4)	0.15	0.5
Comesperma calymega	0.2	0.1
Conostylis aculeata subsp. *spinuligera*	0.2	15
Drosera eneabba	0.05	0.5
*?*Ehrharta* sp.	0.2	0.5
Gonocarpus cordiger	0.15	0.5
Hibbertia subvaginata	0.3	15
Isotropis cuneifolia subsp. *cuneifolia*	0.05	0.5
Jacksonia nutans	0.5	0.5
Johnsonia pubescens subsp. *pubescens*	0.1	0.5

Lagenophora huegelii	0.15	0.5
Lepidosperma ?pubisquameum	0.25	0.5
Levenhookia stipitata	0.03	0.5
Melaleuca preissiana	10	5
Melaleuca seriata	1.5	15
Opercularia vaginata	0.2	0.5
Petrophile linearis	0.5	1
Phlebocarya ciliata	0.3	1
Phyllangium divergens	0.05	0.5
Schoenus subfascicularis	0.9	6
Stylidium diuroides subsp. *diuroides*	0.15	0.5
Thysanotus patersonii	0.2	0.5
Trachymene pilosa	0.05	1
**Ursinia anthemoides*	0.1	0.5
Waitzia acuminata var. *albicans*	0.1	0.5

PHOTO



Site Name:	NEW140
Site Type:	QUADRAT
Dimensions:	10m x 10m
Survey Date:	15/10/2012
GPS Location:	WGS84 (Zone 50) 342207E 6604646N
Vegetation Type:	6
Landform Type:	Flat
Slope Class:	Very Gently Inclined (1 degree)
Aspect:	NE
Soil Type:	Sand
Soil Colour:	grey / brown (other)
Rock Outcrop:	No bedrock exposed
CF Abundance:	0%
Vegetation Condition:	1 - Pristine
Disturbance:	None

DOMINANT TAXA IN VEGETATION STRATA

Upper Stratum 1:	*Banksia attenuata*, *B. menziesii* (5 m, 19%)
Upper Stratum 2:	*Adenanthos cygnorum* subsp. *cygnorum* (3 m, 25%)
Mid Stratum 1:	*Acacia pulchella* var. *reflexa*, *Melaleuca seriata*, *Stirlingia latifolia* (1.5 m, 31%)
Lower Stratum 1:	*Hibbertia subvaginata*, *Petrophile linearis* (0.6 m, 7%)
Lower Stratum 2:	*Patersonia occidentalis* var. ?*occidentalis*, *Phlebocarya ciliata* (0.6 m, 5%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Acacia pulchella var. *reflexa*	1.5	4
Adenanthos cygnorum subsp. *cygnorum*	3	25
Allocasuarina humilis	1	0.5
Austrostipa macalpinei	0.2	0.5
Banksia attenuata	3	4
Banksia menziesii	5	15
Boronia ramosa subsp. *anethifolia*	0.2	0.5
Chordifex chaunocoleus (4)	0.25	0.5
Chordifex sinuosus	0.25	0.5
Conostylis aculeata subsp. *spinuligera*	0.15	0.5
Conostylis juncea	0.2	0.5
Dampiera linearis	0.15	0.5
Daviesia incrassata subsp. *incrassata*	0.5	1
Drosera eneabba	0.1	0.5
Drosera ?*menziesii*	0.3	0.5
Eremaea asterocarpa subsp. *asterocarpa*	0.3	0.5
Hakea ruscifolia	1.5	0.5
Hibbertia subvaginata	0.4	5
Isotropis cuneifolia subsp. *cuneifolia*	0.15	0.5
Jacksonia nutans	1	1

Johnsonia pubescens subsp. *pubescens*	0.15	0.1
Leucopogon sp. Coujinup (M.A. Burgman 1085)	0.2	0.1
Leucopogon sprengelioides	0.4	0.5
Macrozamia fraseri	0.4	0.1
Melaleuca seriata	1.5	20
Opercularia vaginata	0.15	0.5
Patersonia occidentalis var. ?*occidentalis*	0.6	2
Petrophile linearis	0.6	2
Petrophile macrostachya	0.3	0.5
Phlebocarya ciliata	0.4	3
Pyrorchis nigricans	0.01	0.1
Schoenus subfascicularis	0.9	0.5
Stirlingia latifolia	1	7
Stylidium adpressum	0.02	0.5
Stylidium crossocephalum	0.15	0.1
Stylidium diuroides subsp. *diuroides*	0.15	0.5

PHOTO



Site Name:	NEW142
Site Type:	QUADRAT
Dimensions:	10m x 10m
Survey Date:	26/09/2012
GPS Location:	WGS84 (Zone 50) 349234E 6605336N
Vegetation Type:	18
Landform Type:	Dune Crest (other)
Slope Class:	Very Gently Inclined (1 degree)
Aspect:	W
Soil Type:	Sand
Soil Colour:	Grey over Yellow (other)
Rock Outcrop:	No bedrock exposed
CF Abundance:	0%
Vegetation Condition:	1 - Pristine
Disturbance:	None
Fire:	>5 years

DOMINANT TAXA IN VEGETATION STRATA

Upper Stratum 1:	*Banksia attenuata*, *Eucalyptus todtiana* (6 m, 34%)
Lower Stratum 1:	*Dasypogon obliquifolius*, *Hibbertia hypericoides*, *Patersonia occidentalis* var. ?*occidentalis* (0.5 m, 14%)
Lower Stratum 2:	*Mesomelaena pseudostygia* (0.5m, 5%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Acacia sphacelata subsp. *verticillata*	0.6	0.2
Alexgeorgea nitens	0.1	0.3
Amphipogon turbinatus	0.1	0.1
Anigozanthos humilis subsp. *humilis*	0.2	0.1
Banksia attenuata	3.5	4
Banksia menziesii	3	1
Banksia tortifolia		
Blancoa canescens	0.1	0.2
Burchardia congesta	0.5	0.1
Caladenia flava subsp. *flava*	0.1	0.1
Calothamnus sanguineus	0.7	0.6
Calytrix flavescens	0.3	0.2
Calytrix fraseri	0.6	0.4
Cassytha aurea var. *hirta*		0.1
Conostephium pendulum	0.5	0.3
Conostylis angustifolia	0.3	0.1
Conostylis juncea	0.3	0.1
Conostylis teretifolia subsp. *teretifolia*	0.1	0.1
Dasypogon obliquifolius	0.3	2
Drosera eneabba		

Drosera erythrorhiza subsp. ?*magna*	0.1	0.1
Drosera pallida		0.1
Drosera sp.	0.1	0.1
Drosera spilos	0.1	0.1
Eremaea pauciflora	1.2	0.5
Eucalyptus todtiana	6	30
Gompholobium tomentosum	1	0.2
Hibbertia huegelii		
Hibbertia hypericoides	0.4	9
Hypocalymma xanthopetalum	0.4	1
**Hypochaeris glabra*	0.1	0.1
Isotropis cuneifolia subsp. *cuneifolia*	0.1	0.2
Jacksonia nutans	1.3	0.3
Lepidobolus preissianus	0.3	0.2
Lepidosperma sp.	0.3	0.5
Leporella fimbriata	0.1	0.1
Leptospermum spinescens	0.3	0.1
Levenhookia stipitata	0.1	0.1
Melaleuca clavifolia (3)	0.4	0.4
Mesomelaena pseudostygia	0.5	5
Neurachne alopecuroidea		
Opercularia vaginata	0.2	0.1
Patersonia occidentalis var. ?*occidentalis*	0.5	3
Petrophile linearis	0.4	0.2
Petrophile macrostachya	1	0.3
Philotheca spicata	0.3	0.2
Pileanthus filifolius	0.5	1
Schoenus clandestinus	0.1	0.1
Synaphea spinulosa subsp. *spinulosa*	0.2	0.2
Thysanotus ?*thyrsoideus*	0.6	0.1
Trachymene pilosa	0.1	0.2
Tricoryne ?*elatior*	0.3	0.1
**Vulpia myuros*	0.2	0.1

PHOTO



Site Name: NEW143
Site Type: QUADRAT
Dimensions: 10m x 10m
Survey Date: 26/09/2012
GPS Location: WGS84 (Zone 50) 349175E 6605039N
Vegetation Type: 5
Landform Type: Closed Depression
Slope Class: Level (0 degrees)
Soil Type: Sand
Soil Colour: Brown over Yellow (other)
Rock Outcrop: No bedrock exposed
CF Abundance: 0%
Vegetation Condition: 1 - Pristine
Disturbance: None
Fire: >5yrs

DOMINANT TAXA IN VEGETATION STRATA

Mid Stratum 1: *Banksia telmatiaea*, *Beaufortia squarrosa*, *Melaleuca seriata* (1.5 m, 78%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Andersonia heterophylla	0.2	0.1
Banksia dallanneyi var. *dallanneyi*	0.2	0.2
Banksia telmatiaea	1.5	70
Baumea juncea	0.4	0.1
Beaufortia squarrosa	1	5
Cassytha aurea var. *hirta*		0.2
Chordifex chaunocoleus (4)	0.3	0.5
Conospermum stoechadis subsp. *stoechadis*	0.8	0.2
Conostylis aculeata subsp. *spinuligera*	0.3	0.2
Drosera eneabba	0.1	0.1
Drosera erythrorhiza subsp. ?*magna*	0.1	0.1
Drosera pallida	0.1	0.1
Hibbertia subvaginata	0.4	0.9
**Hypochaeris glabra*	0.1	0.1
Jacksonia nutans	1	0.1
Johnsonia pubescens subsp. *pubescens*	0.2	0.1
Melaleuca clavifolia (3)	0.3	0.1
Melaleuca seriata	1	3
Nuytsia floribunda	3.5	0.2
Petrophile brevifolia	0.3	0.2
Petrophile linearis	0.4	0.1
Stirlingia latifolia	0.6	0.2
Stylidium adpressum	0.4	0.9
Synaphea spinulosa subsp. *spinulosa*	0.4	0.5
Thysanotus ?*thyrsoideus*	0.2	0.1

Tricostularia neesii var. *neesii*	0.5	0.2
Verticordia lindleyi subsp. *lindleyi* (4)	0.5	0.5

PHOTO



Site Name: NEW144
Site Type: QUADRAT
Dimensions: 10m x 10m
Survey Date: 27/09/2012
GPS Location: WGS84 (Zone 50) 350350E 6604197N
Vegetation Type: 18
Landform Type: Lower Slope
Slope Class: Very Gently Inclined (1 degree)
Aspect: E
Soil Type: Sand
Soil Colour: Grey over Yellow (other)
Rock Outcrop: No bedrock exposed
CF Abundance: 0%
Vegetation Condition: 1 - Pristine
Disturbance: None
Fire: >5yrs

DOMINANT TAXA IN VEGETATION STRATA

Upper Stratum 1: *Banksia prionotes* (5 m, 4%)
Lower Stratum 1: *Banksia shuttleworthiana*, *Beaufortia elegans*, *Hibbertia hypericoides* (0.4 m, 7%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Acacia stenoptera	0.3	0.1
Alexgeorgea nitens	0.1	0.1
Anarthria gracilis	0.4	0.1
Anigozanthos humilis subsp. *humilis*	0.1	0.1
Astroloma microdonta	0.2	0.2
Baeckea grandiflora	0.3	0.2
Banksia dallanneyi var. *dallanneyi*	0.2	0.1
Banksia prionotes	5	4
Banksia shuttleworthiana	0.3	1
Beaufortia elegans	0.8	4
Bossiaea eriocarpa	0.3	0.2
Calectasia narragara	0.2	0.1
Calothamnus sanguineus	0.3	0.1
Calytrix flavescens	0.3	0.2
Cassytha aurea var. *hirta*		0.3
Caustis dioica	0.3	0.2
Conospermum stoechadis subsp. *stoechadis*	0.5	1.5
Conostephium preissii	0.6	0.1
Conostylis angustifolia	0.2	0.1
Conostylis teretifolia subsp. *teretifolia*	0.2	0.1
Dasypogon obliquifolius	0.3	1.5
Daviesia incrassata subsp. *incrassata*	0.4	0.8

Daviesia nudiflora	0.5	0.5
Drosera eneabba	0.1	0.1
Drosera erythrorhiza subsp. ?*magna*	0.1	0.1
Drosera sp.		0.1
Eremaea pauciflora	0.3	0.1
Goodenia ?*coerulea*	0.2	0.1
Hakea costata	0.5	0.2
Hakea psilorrhyncha	1.5	0.3
Hibbertia crassifolia	0.2	0.5
Hibbertia huegelii	0.3	0.2
Hibbertia hypericoides	0.4	6
Hypocalymma xanthopetalum	0.2	0.1
Isotropis cuneifolia subsp. *cuneifolia*	0.1	0.1
Jacksonia floribunda	1	0.1
Jacksonia nutans	0.5	1
Johnsonia pubescens subsp. *pubescens*	0.1	0.1
Laxmannia sessiliflora subsp. ?*australis*	0.1	0.1
Lepidobolus preissianus	0.3	0.1
Lepidosperma aff.*scabrum*	0.3	0.1
Lepidosperma sp.	0.3	0.1
Leptospermum erubescens	2	0.2
Leptospermum spinescens	0.4	0.1
Levenhookia stipitata	0.1	0.1
Lomandra ?*nigricans*	0.3	0.1
Lomandra preissii	0.3	0.1
Melaleuca clavifolia (3)	0.4	0.2
Mesomelaena pseudostygia	0.4	0.5
Neurachne alopecuroidea	0.1	0.1
Opercularia vaginata	0.2	0.1
Patersonia occidentalis var. ?*occidentalis*	0.3	0.2
Persoonia saccata	0.2	0.1
Petrophile macrostachya	0.5	0.2
Pileanthus filifolius	0.5	1
Pimelea sp.	0.1	0.1
Schoenus clandestinus	0.1	0.2
Schoenus pleiostemoneus	0.2	0.1
Scholtzia involucrata	0.4	0.5
Stirlingia latifolia	1	0.2
Stylidium adpressum	0.1	0.1
Stylidium crossocephalum	0.2	0.1
Stylidium rigidulum	0.1	0.1
Synaphea spinulosa subsp. *spinulosa*	0.3	0.2

PHOTO



Site Name:	NEW145
Site Type:	QUADRAT
Dimensions:	10m x 10m
Survey Date:	26/09/2012
GPS Location:	WGS84 (Zone 50) 349994E 6603741N
Vegetation Type:	17
Landform Type:	Lower Slope
Slope Class:	Very Gently Inclined (1 degree)
Aspect:	SW
Soil Type:	Sand
Soil Colour:	Grey
Rock Outcrop:	No bedrock exposed
CF Abundance:	0%
Vegetation Condition:	1 - Pristine
Disturbance:	None
Fire:	>5 years

DOMINANT TAXA IN VEGETATION STRATA

Upper Stratum 1:	*Banksia attenuata*, *Eucalyptus todtiana*, *Nuytsia floribunda* (3.5 m, 50%)
Upper Stratum 2:	*Banksia menziesii* (2.5 m, 5%)
Lower Stratum 1:	*Bossiaea eriocarpa*, *Eremaea pauciflora*, *Hibbertia hypericoides*, *Melaleuca clavifolia* (0.5 m, 20%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Acacia pulchella var. *reflexa*	1	1
Acacia sphacelata subsp. *verticillata*	0.2	0.1
Alexgeorgea nitens	0.2	0.5
Andersonia heterophylla	0.3	0.5
Anigozanthos ?pulcherrimus	0.3	0.5
Austrostipa macalpinei	0.1	0.1
Banksia attenuata	3.5	20
Banksia menziesii	2.5	5
Beaufortia elegans	0.5	0.5
Blancoa canescens	0.2	1
Bossiaea eriocarpa	0.3	5
Caladenia flava subsp. *flava*	0.1	0.1
Calytrix flavescens	0.3	0.5
Cassytha glabella forma *dispar*	0.5	1
Conostephium pendulum	0.7	0.5
Conostylis aurea	0.2	0.1
Conostylis juncea	0.2	0.1
Dasypogon obliquifolius	0.5	1
Daviesia podophylla	0.3	0.5
Drosera eneabba	0.1	0.5

Drosera erythrorhiza subsp. ?*magna*	0.1	1
Drosera ?*menziesii*	0.4	0.5
Eremaea asterocarpa subsp. *asterocarpa*	0.3	1
Eremaea pauciflora	0.5	3.5
Eucalyptus todtiana	3.5	25
Gompholobium tomentosum	0.1	0.1
Gonocarpus cordiger	0.2	0.1
Hibbertia crassifolia	0.3	0.1
Hibbertia hypericoides	0.5	5
Hibbertia subvaginata	1.3	1
Hypocalymma xanthopetalum	0.3	0.5
Isotropis cuneifolia subsp. *cuneifolia*	0.1	0.1
Lepidosperma sp.	0.3	0.5
Leporella fimbriata	0.1	0.1
Leucopogon conostephioides	0.1	0.2
Lomandra hermaphrodita	0.1	0.1
Lyginia barbata	0.5	0.5
Melaleuca clavifolia (3)	0.4	2
Mesomelaena pseudostygia	0.4	0.5
Nuytsia floribunda	3.5	5
Paracaleana nigrita	0.15	0.1
Patersonia occidentalis var. ?*occidentalis*	0.4	0.5
Petrophile linearis	0.5	0.5
Petrophile macrostachya	0.5	0.5
Philotheca spicata	0.75	0.5
Phlebocarya filifolia	0.2	0.5
Phyllangium divergens	0.1	0.5
Podotheca angustifolia	0.1	0.1
Pterostylis ?*vittata*	0.1	0.1
Scholtzia involucrata	0.7	0.5
Stirlingia latifolia	1	1
Stylidium adpressum	0.1	0.5
Stylidium rigidulum	0.1	0.1
Trachymene pilosa	0.1	0.1

PHOTO



Site Name: NEW146
Site Type: QUADRAT
Dimensions: 10m x 10m
Survey Date: 28/09/2012
GPS Location: WGS84 (Zone 50) 350049E 6604916N
Vegetation Type: 18
Landform Type: Flat
Slope Class: Level (0 degrees)
Aspect: N
Soil Type: Sand
Soil Colour: Grey over Yellow (other)
Rock Outcrop: No bedrock exposed
CF Abundance: 0%
Vegetation Condition: 1 - Pristine
Disturbance: None
Fire: >5

DOMINANT TAXA IN VEGETATION STRATA

Lower Stratum 1: *Hibbertia hypericoides, Dasypogon obliquifolius* (0.5 m, 14%)
Lower Stratum 2: *Mesomelaena pseudostygia* (0.3 m, 2%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Acacia auronitens	0.2	0.1
Acacia sphacelata subsp. *verticillata*	0.3	0.1
Alexgeorgea nitens	0.1	0.1
Anigozanthos humilis subsp. *humilis*	0.2	0.1
Banksia attenuata		
Banksia menziesii		
Banksia shuttleworthiana	0.5	1.5
Burchardia congesta	0.4	0.1
Calothamnus quadrifidus subsp. *angustifolius*	1.5	1.5
Calothamnus sanguineus	1.5	1
Cassytha aurea var. *hirta*		0.3
Conospermum stoechadis subsp. *stoechadis*	0.5	0.2
Conostylis angustifolia	0.2	0.1
Conostylis aurea	0.2	0.1
Conostylis teretifolia subsp. *teretifolia*	0.1	0.1
Dasypogon obliquifolius	0.3	7
Daviesia nudiflora	0.4	0.5
Daviesia podophylla	0.3	1
Drosera erythrorhiza subsp. ?*magna*	0.1	0.1
Drosera pallida		0.1
Eremaea pauciflora	0.8	1.5
Eucalyptus todtiana		

Goodenia ?coerulea	0.1	0.1
Grevillea shuttleworthiana subsp. *canarina*	0.5	0.1
Hakea costata	1	0.3
Hemiphora bartlingii	0.3	0.3
Hibbertia crassifolia	0.3	0.5
Hibbertia huegelii	0.3	0.1
Hibbertia hypericoides	0.5	7
Hypocalymma xanthopetalum	0.3	0.3
**Hypochaeris glabra*	0.1	0.1
Isotropis cuneifolia subsp. *cuneifolia*	0.1	0.1
Jacksonia nutans	0.3	0.1
Johnsonia pubescens subsp. *pubescens*	0.1	0.1
Laxmannia sessiliflora subsp. ?*australis*	0.1	0.1
Lechenaultia sp.	0.3	0.2
Lepidobolus preissianus	0.3	0.7
Lepidosperma aff.*scabrum*	0.4	0.1
Lepidosperma sp.	0.3	0.2
Leptospermum spinescens	1	0.1
Levenhookia stipitata	0.1	0.1
Melaleuca clavifolia (3)	0.3	0.2
Mesomelaena pseudostygia	0.3	2
Mirbelia trichocalyx	0.2	0.1
Neurachne alopecuroidea	0.1	0.1
Nuytsia floribunda		
Patersonia occidentalis var. ?*occidentalis*	0.3	0.1
Petrophile brevifolia	0.3	0.1
Petrophile recurva	0.6	0.3
Pileanthus filifolius	0.5	0.2
Pimelea sp.	0.2	0.1
Schoenus brevisetis	0.2	0.1
Schoenus clandestinus	0.1	0.2
Scholtzia involucrata	0.5	1.5
Stirlingia latifolia	1	0.1
Stylidium adpressum	0.1	0.1
Stylidium sp.	0.1	0.1
Stylidium ?sp. Kalbarri (A. Carr 145)	0.1	0.2
Synaphea spinulosa subsp. *spinulosa*	0.4	0.2
Thysanotus patersonii		0.1
Thysanotus spiniger	0.2	0.1
Thysanotus triandrus	0.2	0.1
Trachymene pilosa	0.1	0.1
Tripterococcus brunonis	0.2	0.1
Verreauxia reinwardtii	0.7	0.8
**Vulpia myuros*	0.2	0.1

PHOTO



Site Name:	NEW147
Site Type:	QUADRAT
Dimensions:	10m x 10m
Survey Date:	26/09/2012
GPS Location:	WGS84 (Zone 50) 349845E 6604556N
Vegetation Type:	18
Landform Type:	Dune (other)
Slope Class:	Moderately Inclined (10 degrees)
Aspect:	E
Soil Type:	Sand
Soil Colour:	Grey over Yellow (other)
Rock Outcrop:	No bedrock exposed
CF Abundance:	0%
Vegetation Condition:	1 - Pristine
Disturbance:	None
Fire:	>5yrs

DOMINANT TAXA IN VEGETATION STRATA

Upper Stratum 1:	*Banksia attenuata*, *B. menziesii* (5 m, 9%)
Mid Stratum 1:	*Eremaea pauciflora*, *Jacksonia nutans* (1 m, 6.5%)
Lower Stratum 1:	*Bossiaea eriocarpa*, *Hibbertia hypericoides* (0.5 m, 10.5%)
Lower Stratum 2:	*Mesomelaena pseudostygia* (0.6 m, 4%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Alexgeorgea nitens	0.2	0.2
Anarthria gracilis	0.2	0.1
Anigozanthos humilis subsp. *humilis*	0.2	0.1
Banksia attenuata	4	2
Banksia menziesii	5	7
Blancoa canescens	0.2	0.5
Bossiaea eriocarpa	0.5	2.5
Burchardia congesta	0.4	0.1
Caladenia flava subsp. *flava*	0.2	0.1
Calothamnus sanguineus	1	0.2
Calytrix flavescens	0.2	0.2
Calytrix fraseri	0.5	0.2
Cassytha aurea var. *hirta*		0.1
Conospermum stoechadis subsp. *stoechadis*	0.5	0.3
Conostephium pendulum	0.4	0.1
Conostylis angustifolia	0.2	0.3
Conostylis teretifolia subsp. *teretifolia*	0.2	0.2
Dasypogon obliquifolius	0.3	2
Daviesia podophylla	0.4	0.3
Drosera eneabba	0.1	0.1

Drosera pallida		0.1
Drosera sp.	0.1	0.1
Drosera stolonifera	0.2	0.1
Eremaea pauciflora	1	4
Goodenia ?*coerulea*	0.2	0.1
Hakea costata	0.3	0.1
Hibbertia huegelii	0.4	0.2
Hibbertia hypericoides	0.5	8
Hypocalymma xanthopetalum	0.2	0.4
Jacksonia nutans	1	2.5
Johnsonia pubescens subsp. *pubescens*	0.1	0.1
Lepidobolus preissianus	0.3	0.1
Lepidosperma aff.*scabrum*	0.3	0.1
Lepidosperma sp.	0.2	0.1
Leptospermum spinescens	0.4	0.1
Leucopogon sprengelioides	0.6	0.2
Levenhookia stipitata	0.1	0.1
Lomandra preissii	0.3	0.1
Melaleuca clavifolia (3)	0.5	1
Mesomelaena pseudostygia	0.6	4
Neurachne alopecuroidea	0.3	0.1
Patersonia occidentalis var. ?*occidentalis*	0.4	0.2
Persoonia comata	0.3	0.1
Petrophile linearis	0.4	0.2
Petrophile macrostachya	0.4	0.5
Philotheca spicata	0.3	0.1
Pileanthus filifolius	0.4	0.5
Pimelea sulphurea	0.3	0.1
Schoenus brevisetis	0.2	0.1
Schoenus clandestinus	0.1	0.1
Stylidium adpressum	0.1	0.1
Stylidium piliferum	0.1	0.1
Synaphea spinulosa subsp. *spinulosa*	0.5	1
Thysanotus ?*thyrsoideus*	0.2	0.1
Tricoryne ?*elatior*	0.3	0.1

PHOTO



Site Name:	NEW149
Site Type:	QUADRAT
Dimensions:	10m x 10m
Survey Date:	20/11/2012
GPS Location:	WGS84 (Zone 50) 353475E 6604535N
Vegetation Type:	17
Landform Type:	Plain
Slope Class:	Level (0 degrees)
Soil Type:	Sand
Soil Colour:	Grey
Rock Outcrop:	No bedrock exposed
CF Abundance:	0%
Vegetation Condition:	1 - Pristine
Disturbance:	None
Fire:	> 5 years

DOMINANT TAXA IN VEGETATION STRATA

Upper Stratum 1: *Banksia attenuata*, *B. menziesii* (3.5 m, 9%)

Mid Stratum 1: *Eremaea pauciflora*, *Jacksonia floribunda*, *Melaleuca seriata*, *Scholtzia involucrata* (1 m, 23%)

Lower Stratum 1: *Alexgeorgea subterranean* (0.1 m, 3%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Adenanthos cygnorum subsp. *cygnorum*	1	0.2
Alexgeorgea nitens	0.1	0.1
Alexgeorgea subterranea	0.1	3
Amphipogon turbinatus	0.2	0.1
Banksia attenuata	3	7
Banksia menziesii	3.5	2
Blancoa canescens	0.2	0.2
Boronia ramosa subsp. *anethifolia*	0.5	0.1
Bossiaea eriocarpa	0.2	0.2
Calytrix angulata	0.5	0.2
Calytrix flavescens	0.2	0.5
Calytrix sapphirina	0.8	0.2
Cassytha glabella forma *dispar*		0.4
Chordifex sinuosus	0.2	0.3
Conospermum crassinervium	1	0.2
Conostephium magnum (4)	1	1
Conostephium pendulum	0.3	0.3
Conostylis juncea	0.3	0.3
Croninia kingiana	0.4	0.2
Dampiera linearis	0.3	0.1
Dasypogon obliquifolius	0.3	0.2

Eremaea asterocarpa subsp. *asterocarpa*	0.4	0.3
Eremaea pauciflora	1	3
Eucalyptus todtiana		0.2
Hibbertia sp. Gnangara (J.R. Wheeler 2329)	0.3	0.5
Hypocalymma xanthopetalum	0.3	0.2
Jacksonia floribunda	1.5	2
Lomandra caespitosa	0.3	0.1
Lyginia barbata	0.3	0.1
Melaleuca seriata	0.7	10
Patersonia occidentalis var. ?*occidentalis*	0.3	0.2
Persoonia comata	0.5	0.4
Petrophile linearis	0.3	0.2
Petrophile seminuda	1	0.6
Schoenus curvifolius	0.3	0.2
Scholtzia involucrata	1	8
Stirlingia latifolia	1	1
Stylidium repens	0.1	0.1

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Site Name:	NEW150
Site Type:	QUADRAT
Dimensions:	10m x 10m
Survey Date:	20/11/2012
GPS Location:	WGS84 (Zone 50) 353299E 6603909N
Vegetation Type:	1
Landform Type:	Open Depression
Slope Class:	Very Gently Inclined (1 degree)
Aspect:	W
Soil Type:	Clay (other)
Soil Colour:	Grey
Rock Outcrop:	No bedrock exposed
CF Abundance:	0%
Vegetation Condition:	1 - Pristine
Disturbance:	None
Fire:	> 5 years

DOMINANT TAXA IN VEGETATION STRATA

Upper Stratum 1:	*Melaleuca rhaphiophylla*, *Xanthorrhoea preissii* (2.5 m, 13%)
Mid Stratum 1:	*Hakea trifurcata*, *Kunzea micrantha* subsp. *petiolata*, *Melaleuca viminea* subsp *viminea* (1.6 m, 45%)
Lower Stratum 1:	*Hakea lissocarpha* (0.8 m, 2%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Acacia saligna subsp. *lindleyi* ms	1.5	0.1
Banksia dallanneyi var. *dallanneyi*	0.2	1
Bossiaea eriocarpa	0.2	0.2
Calothamnus sanguineus	0.3	0.2
Dianella revoluta var. *divaricata*	0.3	0.1
Gompholobium tomentosum	0.2	0.1
Hakea lissocarpha	0.8	2
Hakea trifurcata	1.5	8
Hibbertia subvaginata	0.2	0.2
Hypocalymma angustifolium	0.4	1
Jacksonia sternbergiana	0.5	0.1
Kunzea micrantha subsp. *petiolata*	1.5	30
Lepidosperma ?pubisquameum	0.2	0.2
Melaleuca rhaphiophylla	2	5
Melaleuca seriata	0.3	0.1
Melaleuca viminea subsp. *viminea*	1.6	7
Petrophile brevifolia	0.2	0.1
Xanthorrhoea preissii	2.5	8

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Site Name:	NEW152
Site Type:	QUADRAT
Dimensions:	10m x 10m
Survey Date:	21/11/2012
GPS Location:	WGS84 (Zone 50) 354196E 6604606N
Vegetation Type:	17
Landform Type:	Undulating Plain (other)
Slope Class:	Very Gently Inclined (1 degree)
Aspect:	NE
Soil Type:	Sand
Soil Colour:	Grey
Rock Outcrop:	No bedrock exposed
CF Abundance:	0%
Vegetation Condition:	1 - Pristine
Disturbance:	None
Fire:	>5 years

DOMINANT TAXA IN VEGETATION STRATA

Upper Stratum 1: *Banksia attenuata*, *B. menziesii* (5.5 m, 50%)

Mid Stratum 1: *Adenanthos cygnorum* subsp. *cygnorum*, *Jacksonia floribunda* (2 m, 8%)

Lower Stratum 1: *Eremaea asterocarpa* subsp. *asterocarpa*, *Scholtzia involucrata* (0.4 m, 12%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Adenanthos cygnorum subsp. *cygnorum*	2	5
Alexgeorgea nitens	0.1	0.1
Alexgeorgea subterranea	0.1	0.6
Amphipogon turbinatus	0.3	0.2
Anigozanthos humilis subsp. *humilis*	0.1	0.1
Banksia attenuata	4	15
Banksia menziesii	5.5	35
Blancoa canescens	0.1	0.3
Bossiaea eriocarpa	0.3	0.3
Calytrix flavescens	0.2	0.2
Chordifex sinuosus	0.4	0.5
Conospermum crassinervium	0.9	0.5
Conostephium pendulum	0.3	0.2
Conostylis angustifolia	0.2	0.1
Conostylis crassinervia subsp. ?*absens*	0.1	0.1
Croninia kingiana	0.3	0.1
Dampiera linearis	0.1	0.1
Dasypogon obliquifolius	0.6	0.2
Drosera parvula	0.1	0.1
Eremaea asterocarpa subsp. *asterocarpa*	0.4	6
Haemodorum spicatum	0.2	0.1

Hibbertia sp. Gnangara (J.R. Wheeler 2329)	0.3	0.3
Hypocalymma xanthopetalum	0.3	0.5
Jacksonia floribunda	2	3
Jacksonia nutans	0.4	0.2
Leucopogon conostephioides	0.3	0.4
Lyginia barbata	0.6	0.2
Melaleuca clavifolia (3)	0.3	1
Mesomelaena pseudostygia	0.4	0.3
Patersonia occidentalis var. ?*occidentalis*	0.4	1
Petrophile linearis	0.3	0.3
Petrophile rigida	0.2	0.1
Phlebocarya filifolia	0.4	0.2
Scholtzia involucrata	0.4	4.5
Stylidium adpressum	0.1	0.1
Thysanotus sparteus	0.2	0.1
Tripterococcus brunonis	0.4	0.1

PHOTO



Site Name:	NEW153
Site Type:	QUADRAT
Dimensions:	10m x 10m
Survey Date:	21/11/2012
GPS Location:	WGS84 (Zone 50) 354376E 6603947N
Vegetation Type:	17
Landform Type:	Plain
Slope Class:	Very Gently Inclined (1 degree)
Aspect:	W
Soil Type:	Sand
Soil Colour:	Grey
Rock Outcrop:	No bedrock exposed
CF Abundance:	0%
Vegetation Condition:	1 - Pristine
Disturbance:	None
Fire:	>5 years

DOMINANT TAXA IN VEGETATION STRATA

Upper Stratum 1: *Banksia attenuata, Eucalyptus todtiana* (5.5 m, 25%)

Mid Stratum 1: *Eremaea pauciflora, Scholtzia involucrata* (1 m, 17%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Adenanthos cygnorum subsp. *cygnorum*	1.5	0.5
Alexgeorgea nitens	0.1	0.1
Astroloma xerophyllum	0.4	0.1
Banksia attenuata	5	15
Banksia menziesii	1	0.1
Blancoa canescens	0.2	1
Bossiaea eriocarpa	0.3	0.8
Calytrix flavescens	0.2	0.2
Calytrix fraseri	1.5	0.3
Cassytha glabella forma *dispar*		0.1
Chordifex sinuosus	0.3	1.5
Conostephium pendulum	0.2	0.1
Conostephium preissii	0.5	0.5
Conostylis aurea	0.3	0.1
Dampiera linearis	0.3	0.1
Dasypogon obliquifolius	0.4	0.3
Desmocladus virgatus	0.2	1
Eremaea asterocarpa subsp. *asterocarpa*	0.2	0.1
Eremaea pauciflora	1	2
Eucalyptus todtiana	5.5	10
Haemodorum spicatum	0.8	0.1
Hibbertia hypericoides	0.5	1.5

Hibbertia sp. Gnangara (J.R. Wheeler 2329)	0.2	0.3
Hibbertia subvaginata	0.3	0.3
Hypocalymma xanthopetalum	0.3	0.2
Jacksonia floribunda	1	0.2
Jacksonia nutans	0.5	0.3
Lepidosperma aff.*scabrum*	0.4	1
Leucopogon conostephioides	0.2	0.2
Lyginia barbata	0.4	1
Melaleuca clavifolia (3)	0.6	1.5
Nuytsia floribunda	0.3	0.1
Patersonia occidentalis var. ?*occidentalis*	0.4	0.3
Petrophile linearis	0.3	0.1
Schoenus curvifolius	0.3	1
Scholtzia involucrata	1	15
Stirlingia latifolia	0.6	0.3
Stylidium repens	0.1	0.1

PHOTO



Site Name: NEW155
Site Type: QUADRAT
Dimensions: 10m x 10m
Survey Date: 21/11/2012
GPS Location: WGS84 (Zone 50) 354722E 6603692N
Vegetation Type: 18
Landform Type: Simple Slope
Slope Class: Very Gently Inclined (1 degree)
Aspect: NE
Soil Type: Sand
Soil Colour: Grey and White (other)
Rock Outcrop: No bedrock exposed
CF Abundance: 0%
Vegetation Condition: 1 - Pristine
Disturbance: None
Fire: >5 years

DOMINANT TAXA IN VEGETATION STRATA

Mid Stratum 1: *Xanthorrhoea preissii* (1.7 m, 3%)
Lower Stratum 1: *Eremaea pauciflora*, *Melaleuca clavifolia* (0.5 m, 14%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Acacia pulchella var. *glaberrima*	0.4	0.2
Alexgeorgea nitens	0.1	0.2
Allocasuarina humilis	0.8	1
Austrostipa elegantissima	0.4	0.1
Baeckea grandiflora	0.4	0.1
Banksia dallanneyi var. *dallanneyi*	0.1	0.1
Bossiaea eriocarpa	0.2	0.1
Calothamnus sanguineus	0.5	1
Calytrix leschenaultii	0.1	0.1
Cassytha aurea var. *hirta*		0.1
Caustis dioica	0.2	0.2
Chordifex sinuosus	0.1	0.1
Comesperma acerosum	0.3	0.1
Conostephium preissii	0.7	0.1
Conostylis aurea	0.2	0.2
Conostylis crassinervia subsp. ?*absens*	0.1	0.1
Darwinia sp. Watheroo (I.R. McGill 20)	0.2	0.1
Dasypogon obliquifolius	0.2	0.2
Daviesia angulata	0.2	0.1
Drosera erythrorhiza subsp. ?*magna*	0.1	0.1
Eremaea pauciflora	0.5	12
Goodenia coerulea	0.2	0.1

Hibbertia huegelii	0.2	0.1
Hibbertia hypericoides	0.2	0.2
Hibbertia subvaginata	0.4	0.4
Hypocalymma xanthopetalum	0.2	0.1
Isopogon linearis	0.3	0.1
Jacksonia nutans	0.6	0.8
Johnsonia pubescens subsp. *pubescens*	0.3	0.1
Laxmannia sessiliflora subsp. ?*australis*	0.1	0.1
Lechenaultia stenosepala	0.2	0.1
Leucopogon oliganthus	0.5	0.2
Logania spermacocea	0.2	0.1
Lyginia imberbis	0.4	0.2
Melaleuca clavifolia (3)	0.6	2
Mesomelaena pseudostygia	0.3	0.2
Mesomelaena tetragona	0.8	0.2
Neurachne alopecuroidea	0.2	0.1
Nuytsia floribunda	3	0.75
Patersonia occidentalis var. ?*occidentalis*	0.3	0.1
Pterochaeta paniculata	0.1	0.1
Scaevola repens var. *repens*	0.1	0.1
Schoenus andrewsii	0.3	0.4
Schoenus brevisetis	0.3	0.1
Schoenus clandestinus	0.1	0.1
Schoenus curvifolius	0.3	0.1
Schoenus subfascicularis	0.5	0.1
Stirlingia latifolia	0.7	0.2
Synaphea spinulosa subsp. *spinulosa*	0.3	0.2
Xanthorrhoea preissii	1.7	3
Xanthosia huegelii	0.1	0.1

PHOTO



Site Name: NEW156
Site Type: QUADRAT
Dimensions: 10m x 10m
Survey Date: 21/11/2012
GPS Location: WGS84 (Zone 50) 354860E 6603933N
Vegetation Type: 17
Landform Type: Undulating Plain (other)
Slope Class: Very Gently Inclined (1 degree)
Soil Type: Sand
Soil Colour: Grey
Rock Outcrop: No bedrock exposed
CF Abundance: 0%
Vegetation Condition: 1 - Pristine
Disturbance: None
Fire: >5 years

DOMINANT TAXA IN VEGETATION STRATA

Upper Stratum 1: *Banksia attenuata*, *B. menziesii* (5 m, 35%)
Upper Stratum 2: *Adenanthos cygnorum* subsp. *cygnorum* (3m, 10%)
Mid Stratum 1: *Xanthorrhoea preissii* (1.8 m, 4.5%)
Lower Stratum 1: *Mesomelaena pseudostygia*, *Schoenus curvifolius* (0.4 m, 6%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Acacia pulchella var. *reflexa*	0.6	0.3
Adenanthos cygnorum subsp. *cygnorum*	3	10
Alexgeorgea nitens	0.1	0.4
Allocasuarina humilis	1.5	0.8
Banksia attenuata	5	15
Banksia menziesii	4.5	20
Blancoa canescens	0.1	0.1
Boronia subsessilis	0.2	0.2
Bossiaea eriocarpa	0.3	0.8
Calytrix fraseri	0.3	0.1
Cassytha ?flava		0.1
Chordifex sinuosus	0.3	0.6
Conostylis angustifolia	0.3	0.1
Dampiera linearis	0.4	0.3
Dasypogon obliquifolius	0.4	1
Desmocladus fasciculatus	0.2	0.1
Desmocladus virgatus	0.4	0.1
Drosera parvula	0.1	0.1
Eremaea pauciflora	0.4	0.5
Eucalyptus todtiana		10
Hibbertia ?crassifolia	0.2	0.1

Hibbertia subvaginata	0.4	0.4
Melaleuca clavifolia (3)	0.4	1
Mesomelaena pseudostygia	0.4	3
Petrophile linearis	0.3	0.1
Schoenus curvifolius	0.3	3
Scholtzia involucrata	0.3	0.4
Stirlingia latifolia	0.4	1.2
Stylidium adpressum	0.1	0.1
Stylidium dichotomum	0.1	0.1
Stylidium purpureum ms	0.1	0.1
Synaphea spinulosa subsp. *spinulosa*	0.4	0.1
Xanthorrhoea preissii	1.8	4.5

PHOTO



Site Name:	NEW158
Site Type:	QUADRAT
Dimensions:	10m x 10m
Survey Date:	11/10/2012
GPS Location:	WGS84 (Zone 50) 339658E 6603092N
Vegetation Type:	17
Landform Type:	Plain
Slope Class:	Very Gently Inclined (1 degree)
Aspect:	NW
Soil Type:	Sand
Soil Colour:	White
Rock Outcrop:	No bedrock exposed
CF Abundance:	0%
Vegetation Condition:	1 - Pristine
Disturbance:	None
Fire:	>5yrs

DOMINANT TAXA IN VEGETATION STRATA

Upper Stratum 1:	*Banksia attenuata, B. menziesii* (4 m, 12%)
Mid Stratum 1:	*Eremaea pauciflora* (1 m, 15%)
Lower Stratum 1:	*Dasypogon obliquifolius* (0.4 m, 2%)
Lower Stratum 2:	*Mesomelaena pseudostygia* (0.5 m, 11%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Amphipogon turbinatus	0.2	0.1
Anarthria gracilis	0.3	0.1
Astroloma glaucescens	0.2	0.1
Banksia attenuata	4	9
Banksia menziesii	4	3
Bossiaea eriocarpa	0.4	0.5
Burchardia congesta	0.1	0.1
Caladenia flava subsp. *flava*	0.05	0.1
Calytrix flavescens	0.3	0.1
Cassytha glabella forma *dispar*		0.1
Conostephium pendulum	0.4	1
Conostylis aurea	0.3	0.1
Conostylis juncea	0.2	0.1
Conostylis teretifolia subsp. *teretifolia*	0.08	0.1
Dasypogon obliquifolius	0.4	2
Daviesia triflora	0.3	0.1
Drosera erythrorhiza subsp. ?*magna*	0.01	0.1
Drosera erythrorhiza subsp. *magna*	0.01	0.1
Drosera glanduligera	0.1	0.5
Drosera sp.	0.2	0.1

Eremaea pauciflora	1	15
Gompholobium tomentosum	0.5	0.1
Harperia lateriflora	0.1	0.1
Hibbertia crassifolia	0.3	0.1
Hibbertia huegelii	0.2	0.1
Hibbertia hypericoides	0.4	1.5
Hypocalymma xanthopetalum	0.3	0.1
**Hypochaeris glabra*	0.05	0.1
Lepidosperma longitudinale	0.3	0.1
Lepidosperma aff.*scabrum*	0.4	0.1
Leucopogon sprengelioides	0.3	0.1
Lomandra hermaphrodita	0.1	0.1
Lomandra preissii	0.4	0.1
Lomandra sp.	0.1	0.1
Melaleuca clavifolia (3)	0.5	1
Mesomelaena pseudostygia	0.5	11
Opercularia vaginata	0.1	0.1
Patersonia occidentalis var. ?*occidentalis*	0.5	1
Petrophile linearis	0.4	0.5
Petrophile macrostachya	0.3	0.1
Phlebocarya filifolia	0.3	0.1
Pimelea sulphurea	0.3	0.1
Schoenus clandestinus	0.1	0.1
Schoenus pleiostemoneus	0.1	0.1
Stylidium rigidulum	0.3	0.1
Synaphea spinulosa subsp. *spinulosa*	0.3	0.1
Tricoryne ?*elatior*	0.2	0.1
Xanthosia huegelii	0.1	0.1

PHOTO



Site Name:	NEW159
Site Type:	QUADRAT
Dimensions:	10m x 10m
Survey Date:	11/10/2012
GPS Location:	WGS84 (Zone 50) 338965E 6602868N
Vegetation Type:	17
Landform Type:	Flat
Slope Class:	Level (0 degrees)
Aspect:	W
Soil Type:	Sand
Soil Colour:	Grey
Rock Outcrop:	No bedrock exposed
CF Abundance:	0%
Vegetation Condition:	1 - Pristine
Disturbance:	None
Fire:	>5 years

DOMINANT TAXA IN VEGETATION STRATA

Upper Stratum 1: *Banksia attenuata*, *B. menziesii*, *Eucalyptus todtiana* (5 m, 30%)

Lower Stratum 1: *Bossiaea eriocarpa*, *Patersonia occidentalis* ?var. *occidentalis*, *Stirlingia latifolia* (0.7 m, 29%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Alexgeorgea nitens	0.1	0.5
Amphipogon turbinatus	0.1	0.1
Anigozanthos humilis subsp. *humilis*	0.1	0.5
Austrostipa macalpinei	0.1	0.1
Banksia attenuata	4	15
Banksia dallanneyi var. *dallanneyi*	0.1	2
Banksia menziesii	3.5	9
Bossiaea eriocarpa	0.3	20
Brachyscome bellidioides	0.1	0.5
Calytrix flavescens	0.2	0.5
Cassytha glabella forma *dispar*	0.2	0.5
Conostylis juncea	0.1	0.5
Drosera eneabba	0.1	0.5
Drosera erythrorhiza subsp. ?*magna*	0.1	0.5
Drosera ?*menziesii*	0.1	0.1
Eremaea pauciflora	0.5	1
Eucalyptus todtiana	5	6
Gompholobium tomentosum	0.2	0.1
Hibbertia crassifolia	0.2	0.5
Hypocalymma xanthopetalum	0.2	2
Isotropis cuneifolia subsp. *cuneifolia*	0.1	0.5

Jacksonia nutans	0.5	0.5
Lepidosperma pubisquameum	0.25	0.1
Leucopogon sprengelioides	0.2	0.5
Lomandra hermaphrodita	0.1	0.1
Patersonia occidentalis var. ?*occidentalis*	0.4	6
Petrophile linearis	0.3	0.5
Phlebocarya ciliata	0.1	1
Phyllangium divergens	0.1	0.5
Podotheca chrysantha	0.1	0.5
Pterochaeta paniculata	0.1	0.1
Schoenus curvifolius	0.1	0.5
Stirlingia latifolia	0.7	3
Stylidium diuroides subsp. *diuroides*	0.1	0.5
Synaphea spinulosa subsp. *spinulosa*	0.1	0.5
Trachymene pilosa	0.1	1
**Wahlenbergia capensis*	0.2	0.1
Xanthosia huegelii	0.1	0.5

PHOTO



Site Name:	NEW162
Site Type:	QUADRAT
Dimensions:	10m x 10m
Survey Date:	12/10/2012
GPS Location:	WGS84 (Zone 50) 341285E 6601807N
Vegetation Type:	18
Landform Type:	Undulating plain (other)
Slope Class:	Very Gently Inclined (1 degree)
Aspect:	N
Soil Type:	Sand
Soil Colour:	White/Grey (other)
Rock Outcrop:	No bedrock exposed
Vegetation Condition:	1 - Pristine
Disturbance:	None
Fire:	>5yrs

DOMINANT TAXA IN VEGETATION STRATA

Mid Stratum 1:	*Xanthorrhoea preissii* (2.5 m, 6%)
Mid Stratum 2:	*Allocasuarina humilis* (1.3 m, 3%)
Lower Stratum 1:	*Calothamnus quadrifidus*, *Daviesia incrassata* subsp. *incrassata*, *Jacksonia nutans* (0.9 m, 15%)
Lower Stratum 2:	*Hakea candolleana*, *Hibbertia hypericoides* (0.7 m, 27%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Acacia sessilis	0.7	0.5
Allocasuarina humilis	1.3	3
Amphipogon turbinatus	0.1	0.1
Anigozanthos humilis subsp. *humilis*	0.1	0.1
Astroloma glaucescens	0.2	0.1
Austrostipa compressa	0.1	0.1
Banksia dallanneyi var. *dallanneyi*	0.2	0.5
Boronia ramosa subsp. *anethifolia*	0.1	0.1
Bossiaea eriocarpa	0.3	0.2
Burchardia congesta	0.4	0.1
Calothamnus quadrifidus	0.7	5
Calytrix leschenaultii	0.7	
Cassytha glabella forma *dispar*		0.1
Comesperma calymega	0.2	0.1
Conostylis teretifolia subsp. *teretifolia*	0.1	0.1
Crassula ?*colorata* var. *colorata*	0.02	0.1
Cryptandra scoparia	0.1	0.1
Dasypogon obliquifolius	0.3	0.1
Daviesia incrassata subsp. *incrassata*	0.8	2
Drosera eneabba	0.1	0.1

Drosera erythrorhiza subsp. ?*magna*	0.01	0.1
Eremaea pauciflora	0.2	0.2
Hakea candolleana	0.5	2
Hakea trifurcata	1.2	0.5
Hibbertia crassifolia	0.3	0.1
Hibbertia huegelii	0.3	0.1
Hibbertia hypericoides	0.7	25
Hypocalymma xanthopetalum	0.2	0.1
Jacksonia nutans	0.9	8
Lambertia multiflora var. *multiflora*	1.5	
Lepidosperma pubisquameum	0.2	0.1
Leucopogon ?*sprengelioides*	0.6	1
Levenhookia stipitata	0.2	0.1
Melaleuca clavifolia (3)	0.4	1
Nuytsia floribunda	7	
Petrophile brevifolia	0.3	0.2
Podotheca gnaphalioides	0.1	0.1
Pterochaeta paniculata	0.1	0.1
Rytidosperma setaceum	0.2	0.1
Schoenus clandestinus	0.05	0.1
Siloxerus ?*humifusus*	0.02	0.1
Stylidium diuroides subsp. *diuroides*	0.3	0.1
Stylidium piliferum	0.4	0.1
Stylidium purpureum ms	0.3	0.1
Stylidium repens	0.1	0.1
Stylidium rigidulum	0.1	0.1
Synaphea spinulosa subsp. *spinulosa*	0.3	0.1
Trachymene pilosa	0.1	0.1
**Ursinia anthemoides*	0.1	0.1
Waitzia acuminata var. *albicans*	0.1	0.1
Xanthorrhoea preissii	2.5	6
Xanthosia huegelii	0.1	0.1

PHOTO



Site Name: NEW165
Site Type: QUADRAT
Dimensions: 10m x 10m
Survey Date: 11/10/2012
GPS Location: WGS84 (Zone 50) 341522E 6601187N
Vegetation Type: 9b
Landform Type: Drainage Line
Slope Class: Level (0 degrees)
Soil Type: Sand
Soil Colour: Grey and White (other)
Rock Outcrop: No bedrock exposed
CF Abundance: 0%
Vegetation Condition: 2 - Excellent
Disturbance: Exotic Weeds
Fire: >5 years

DOMINANT TAXA IN VEGETATION STRATA

Upper Stratum 1: *Melaleuca rhaphiophylla* (7 m, 60%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Calandrinia sp. Kenwick (G.J. Keighery 10905)		0.1
Centrolepis polygyna	0.1	0.1
Crassula ?*colorata* var. *acuminata*	0.1	0.1
**Hypochaeris glabra*	0.1	0.1
Indet. sp.	0.1	0.1
Melaleuca rhaphiophylla	7	60
**Trifolium arvense* var. *arvense*	0.1	0.1
**Vulpia myuros*	0.1	0.1

PHOTO



Site Name: NEW166
Site Type: QUADRAT
Dimensions: 10m x 10m
Survey Date: 11/10/2012
GPS Location: WGS84 (Zone 50) 341765E 6601059N
Vegetation Type: 1
Landform Type: Edge of Drainage Line (other)
Slope Class: Level (0 degrees)
Soil Type: Sandy Loam
Soil Colour: Grey and White (other)
Rock Outcrop: No bedrock exposed
CF Abundance: 0%
Vegetation Condition: 1 - Pristine
Disturbance: None
Fire: >5 years

DOMINANT TAXA IN VEGETATION STRATA

Mid Stratum 1: *Regelia ciliata* (1.8 m, 90%)

SPECIES LIST

Taxon Name	**Avg. Ht (m)**	**% Cover Alive**
Banksia telmatiaea	0.6	0.8
Calandrinia sp. Kenwick (G.J. Keighery 10905)	0.1	0.1
Calandrinia ?sp. Two Rocks (K. Richardson 211)	0.1	0.1
**Cotula bipinnata*	0.1	0.1
Crassula ?*colorata* var. *acuminata*	0.1	0.1
**Crassula natans* var. *minus*		
Euchiton sphaericus	0.1	0.1
Hakea varia	0.5	0.3
**Hypochaeris glabra*	0.2	0.2
**Isolepis marginata*	0.1	0.1
Lepidobolus preissianus	0.6	0.1
**Lolium rigidum*	0.3	0.1
Melaleuca rhaphiophylla	1.5	1
Melaleuca seriata	0.5	0.3
Melaleuca viminea subsp. *viminea*	1.5	1
Regelia ciliata	1.8	89
Schoenus subfascicularis	0.5	0.1
Senecio ?*lacustrinus*	0.3	0.1
Siloxerus humifusus		
Trachymene pilosa	0.1	0.1
**Trifolium arvense* var. *arvense*	0.1	0.1
**Ursinia anthemoides*	0.3	0.1
**Vulpia myuros*	0.3	0.1
Xanthorrhoea preissii	2	1

PHOTO



Site Name:	NEW168
Site Type:	QUADRAT
Dimensions:	10m x 10m
Survey Date:	11/10/2012
GPS Location:	WGS84 (Zone 50) 340354E 6600957N
Vegetation Type:	6
Landform Type:	narrow depression (other)
Slope Class:	Gently Inclined (3 degrees)
Aspect:	SW
Soil Type:	Sand
Soil Colour:	white over grey (other)
Rock Outcrop:	No bedrock exposed
CF Abundance:	0%
Vegetation Condition:	1 - Pristine
Disturbance:	None
Fire:	> 5 years

DOMINANT TAXA IN VEGETATION STRATA

Upper Stratum 1:	*Melaleuca preissiana* (6 m, 71%)
Mid Stratum 1:	*Xanthorrhoea preissii* (2.5 m, 17%)
Lower Stratum 1:	*Acacia lasiocarpa* var. *lasiocarpa, Bossiaea eriocarpa, Hibbertia hypericoides, Leucopogon* ?*sprengelioides* (0.6 m, 17%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Acacia lasiocarpa var. *lasiocarpa*	0.4	2
Bossiaea eriocarpa	0.3	5
Centrolepis mutica	0.1	0.1
Conostephium pendulum	0.5	0.1
Conostylis aculeata subsp. *breviflora*	0.3	0.1
Drosera erythrorhiza subsp. ?*magna*	0.1	0.1
Drosera menziesii	0.1	0.1
Gompholobium tomentosum	0.5	0.1
Hibbertia hypericoides	0.5	10
Hypocalymma xanthopetalum	0.3	0.1
**Hypochaeris glabra*	0.1	0.1
Jacksonia sternbergiana	1.3	0.2
Lagenophora huegelii	0.1	0.1
Leucopogon ?*sprengelioides*	0.6	2
Melaleuca preissiana	6	71
Melaleuca seriata	0.7	0.1
Opercularia vaginata	0.2	0.1
Scaevola anchusifolia	0.1	0.1
Siloxerus humifusus	0.1	0.1
Stylidium diuroides subsp. *diuroides*	0.5	0.1

Stylidium rigidulum	0.2	0.1
Trachymene pilosa	0.1	0.1
**Ursinia anthemoides*	0.2	0.1
Xanthorrhoea preissii	2.5	17
Xanthosia huegelii	0.1	0.1

PHOTO



Site Name: NEW169
Site Type: QUADRAT
Dimensions: 10m x 10m
Survey Date: 11/10/2012
GPS Location: WGS84 (Zone 50) 339596E 6600918N
Vegetation Type: 17
Landform Type: Undulating plain (other)
Slope Class: Very Gently Inclined (1 degree)
Aspect: SSE
Soil Type: Sand
Soil Colour: White over Grey (other)
Rock Outcrop: No bedrock exposed
CF Abundance: 0%
Fire: >5yrs

DOMINANT TAXA IN VEGETATION STRATA

Upper Stratum 1: *Banksia attenuata, B. menziesii* (5 m, 13%)
Mid Stratum 1: *Acacia pulchella* var. *reflexa*, *Eremaea pauciflora* (1.3 m, 53%)
Lower Stratum 1: *Dasypogon obliquifolius, Hibbertia hypericoides* (0.4 m, 5%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Acacia pulchella var. *reflexa*	1.3	3
Amphipogon turbinatus	0.1	0.1
Anigozanthos humilis subsp. *humilis*	0.5	0.1
Austrostipa compressa	0.2	0.1
Banksia attenuata	5	10
Banksia menziesii	5	3
Bossiaea eriocarpa	0.4	1
Centrolepis mutica	0.1	0.1
Dasypogon obliquifolius	0.4	2
Drosera eneabba	0.1	0.1
Drosera menziesii	0.4	0.1
Eremaea asterocarpa subsp. *asterocarpa*	0.4	0.1
Eremaea pauciflora	1	50
Eucalyptus todtiana	5	
Gompholobium tomentosum	0.3	0.1
Hibbertia crassifolia	0.3	0.1
Hibbertia hypericoides	0.3	3
Hypocalymma xanthopetalum	0.4	0.1
**Hypochaeris glabra*	0.1	0.1
Jacksonia nutans	1	1
Leucopogon conostephioides	0.4	0.1
Leucopogon ?sprengelioides	0.4	1
Lomandra caespitosa	0.2	0.1

Lomandra hermaphrodita	0.2	0.1
Macrozamia fraseri	1.6	
Melaleuca clavifolia (3)	0.3	0.1
Patersonia occidentalis var. ?*occidentalis*	0.5	0.1
Petrophile linearis	0.5	1
Philotheca spicata	0.8	0.1
Phyllangium divergens	0.1	0.1
Pimelea sulphurea	0.3	0.1
Podotheca gnaphalioides	0.1	0.1
Stylidium crossocephalum	0.1	0.1
Stylidium diuroides subsp. *diuroides*	0.1	0.1
Stylidium rigidulum	0.1	0.1
Xanthorrhoea preissii	1.3	1
Xanthosia huegelii	0.1	0.1

PHOTO



Site Name:	NEW170
Site Type:	QUADRAT
Dimensions:	10m x 10m
Survey Date:	11/10/2012
GPS Location:	WGS84 (Zone 50) 339442E 6600036N
Vegetation Type:	15
Landform Type:	Ridge
Slope Class:	Gently Inclined (3 degrees)
Aspect:	S
Soil Type:	Loam
Soil Colour:	Brown
Rock Outcrop:	Limestone (other), 10-20% bedrock exposed
CF Abundance:	20-50%
CF Sizes:	20-60mm, 60-200mm
CF Types:	Ironstone, Limestone
Vegetation Condition:	1 - Pristine
Disturbance:	None
Fire:	>5 years

DOMINANT TAXA IN VEGETATION STRATA

Upper Stratum 1: *Eucalyptus decipiens* (8 m, 25%)

Lower Stratum 1: *Acacia spathulifolia* 1.5m, 85%)

Lower Stratum 2: *Acacia lasiocarpa* var. *lasiocarpa, Leucopogon parviflorus* (0.5m, 9%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Acacia lasiocarpa var. *lasiocarpa*	0.5	5
Acacia saligna subsp. *lindleyi* ms	0.8	0.1
Acacia spathulifolia	1.5	85
?*Billardiera* sp.	0.1	0.1
Clematis linearifolia	0.1	0.1
Eucalyptus decipiens	8	25
?*Grevillea* sp.	0.15	0.1
Hakea trifurcata	0.5	0.1
Hardenbergia comptoniana	0.4	0.5
Hibbertia racemosa	0.2	0.5
Hovea pungens	0.15	0.5
Kunzea glabrescens	0.5	0.5
Lagenophora huegelii	0.1	0.1
Leucopogon parviflorus	0.4	4
Lomandra sp.	0.1	0.1
Melaleuca clavifolia (3)	0.4	1
Orthrosanthus laxus var. *laxus*	0.1	0.5
?*Platysace* sp.	0.2	0.5

Trachymene pilosa	0.1	0.1
Tricoryne ?elatior	0.1	0.1
Xanthorrhoea preissii	0.6	1.5

PHOTO



Site Name:	NEW171
Site Type:	QUADRAT
Dimensions:	10m x 10m
Survey Date:	11/10/2012
GPS Location:	WGS84 (Zone 50) 338616E 6601938N
Vegetation Type:	7
Landform Type:	Plain
Slope Class:	Very Gently Inclined (1 degree)
Aspect:	W
Soil Type:	Sand
Soil Colour:	Grey
Rock Outcrop:	No bedrock exposed
CF Abundance:	0%
Vegetation Condition:	1 - Pristine
Disturbance:	None
Fire:	>5 years

DOMINANT TAXA IN VEGETATION STRATA

Lower Stratum 1: *Astroloma glaucescens, Calothamnus quadrifidus* subsp. *quadrifidus, Hakea costata, Hibbertia crassifolia, Melaleuca seriata, Petrophile seminuda, Stirlingia latifolia* (0.5 m, 50%)

Lower Stratum 2: *Orthrosanthus laxus* var. *laxus* (0.1 m, 2%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Allocasuarina microstachya	0.15	0.1
Anigozanthos humilis subsp. *humilis*	0.1	0.5
Astroloma glaucescens	0.15	2
Caladenia ?*longicauda*	0.12	0.1
Calothamnus quadrifidus subsp. *quadrifidus*	0.4	24
Conostylis aurea	0.1	0.5
Daviesia decurrens	0.2	0.5
Drosera gigantea subsp. *gigantea*	0.1	0.1
Drosera menziesii subsp. *menziesii*	0.1	0.5
Hakea costata	0.5	3
Hemiandra glabra subsp. *glabra* ms	0.1	0.5
Hibbertia crassifolia	0.3	4
Hypocalymma xanthopetalum	0.1	0.5
Isotropis cuneifolia subsp. *cuneifolia*	0.1	0.5
Lepidobolus preissianus subsp. *preissianus*	0.1	0.5
?*Lomandra* sp.	0.1	0.1
Melaleuca seriata	0.4	10
Melaleuca ?*systena*	0.3	0.5
?*Microtis* sp.	0.15	0.1
Opercularia vaginata	0.1	0.5

Orthrosanthus laxus var. *laxus*	0.1	2
Petrophile brevifolia	0.3	1
Petrophile seminuda	0.4	7
Ptilotus manglesii	0.1	0.1
Scaevola anchusifolia	0.1	0.1
Scaevola repens var. *repens*	0.1	0.5
Schoenus clandestinus	0.1	0.5
Schoenus unispiculatus	0.1	0.1
Stirlingia abrotanoides	0.1	0.5
Stirlingia latifolia	0.25	5
Stylidium dichotomum	0.1	0.1
Stylidium purpureum ms	0.1	0.5
Synaphea spinulosa subsp. *spinulosa*	0.5	0.5
**Ursinia anthemoides*	0.1	0.5
Verticordia densiflora var. *densiflora*	0.25	0.5

PHOTO



Site Name:	NEW173
Site Type:	QUADRAT
Dimensions:	10m x 10m
Survey Date:	11/10/2012
GPS Location:	WGS84 (Zone 50) 339975E 6599261N
Vegetation Type:	18
Landform Type:	Flat
Slope Class:	Level (0 degrees)
Soil Type:	Sand
Soil Colour:	Grey and Yellow (other)
Rock Outcrop:	No bedrock exposed
CF Abundance:	0%
Vegetation Condition:	1 - Pristine
Disturbance:	None
Fire:	>5 years

DOMINANT TAXA IN VEGETATION STRATA

Mid Stratum 1: *Acacia pulchella* var. *glaberrima*, *Acacia sessilis*, *Conospermum stoechadis* subsp. *stoechadis*, *Hakea costata* (0.8 m, 27%)

Lower Stratum 1: *Dasypogon obliquifolius*, *Hemiandra glabra* subsp. *glabra* ms, *Hibbertia hypericoides*, *Jacksonia hakeoides* (0.3 m, 34%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Acacia pulchella var. *glaberrima*	0.7	12
Acacia sessilis	0.5	2
Allocasuarina humilis	0.5	0.5
Amphipogon turbinatus	0.15	0.1
Anigozanthos humilis subsp. *humilis*	0.1	0.5
Banksia attenuata	1.8	1.5
Banksia dallanneyi var. *dallanneyi*	0.1	0.5
Burchardia congesta	0.1	0.5
Conospermum stoechadis subsp. *stoechadis*	0.6	9
Dasypogon obliquifolius	0.2	2
Daviesia podophylla	0.2	0.5
Drosera erythrorhiza subsp. ?*magna*	0.1	0.5
Drosera menziesii subsp. *menziesii*	0.1	0.5
Eremaea asterocarpa subsp. *asterocarpa*	0.15	0.5
Hakea costata	0.8	4
Hemiandra glabra subsp. *glabra* ms	0.1	5
Hibbertia crassifolia	0.25	0.5
Hibbertia hypericoides	0.3	2
Hypocalymma xanthopetalum	0.2	0.5
**Hypochaeris glabra*	0.1	0.1
Jacksonia hakeoides	0.3	25

Lepidobolus preissianus subsp. *preissianus*	0.1	0.5
Melaleuca clavifolia (3)	0.4	1
Mesomelaena pseudostygia	0.15	0.5
Persoonia comata	0.25	1
Petrophile linearis	0.4	0.5
Schoenus clandestinus	0.1	0.1
Stenanthemum notiale subsp. *chamelum*	0.1	1
Thysanotus patersonii	0.2	0.1
Thysanotus ?*sparteus*	0.4	0.1
Trachymene pilosa	0.1	0.5
Waitzia acuminata var. *albicans*	0.1	0.5
Xanthorrhoea preissii	2	1

PHOTO



Site Name:	NEW174
Site Type:	QUADRAT
Dimensions:	10m x 10m
Survey Date:	11/10/2012
GPS Location:	WGS84 (Zone 50) 340565E 6599557N
Vegetation Type:	18
Landform Type:	Plain
Slope Class:	Level (0 degrees)
Aspect:	S
Soil Type:	Sand
Soil Colour:	Grey
Rock Outcrop:	No bedrock exposed
CF Abundance:	0%
Vegetation Condition:	1 - Pristine
Disturbance:	None
Fire:	>5 years

DOMINANT TAXA IN VEGETATION STRATA

Upper Stratum 1: *Banksia attenuata*, *B. menziesii* (4 m, 18%)

Mid Stratum 1: *Adenanthos cygnorum* subsp. *cygnorum*, *Conospermum stoechadis* subsp. *stoechadis*, *Jacksonia nutans* (1.5 m, 25%)

Lower Stratum 1: *Acacia sessilis*, *Eremaea pauciflora*, *Jacksonia floribunda*, *Petrophile macrostachya* (0.8 m, 18%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Acacia sessilis	0.5	2
Adenanthos cygnorum subsp. *cygnorum*	1.5	2
Amphipogon turbinatus	0.1	0.1
Anigozanthos humilis subsp. *humilis*	0.1	0.5
Austrostipa macalpinei	0.1	0.5
Banksia attenuata	4	13
Banksia menziesii	3.5	5
Bossiaea eriocarpa	0.2	0.5
Conospermum stoechadis subsp. *stoechadis*	1	15
Drosera eneabba	0.1	0.5
Drosera erythrorhiza subsp. ?*magna*	0.1	0.5
Drosera ?*menziesii*	0.1	0.5
Eremaea pauciflora	0.5	7
Hibbertia huegelii	0.25	0.5
Hibbertia hypericoides	0.4	4
Hibbertia ?*spicata*	0.2	0.5
Hypocalymma xanthopetalum	0.2	0.5
Jacksonia floribunda	0.5	4
Jacksonia nutans	1	8

Leptospermum spinescens	0.4	0.5
Leucopogon conostephioides	0.15	0.5
Leucopogon sprengelioides	0.15	0.5
Lomandra hermaphrodita	0.1	0.1
Melaleuca clavifolia (3)	0.5	1
Mesomelaena pseudostygia	0.1	0.5
Opercularia vaginata	0.1	0.5
Patersonia occidentalis var. ?*occidentalis*	0.15	0.5
Petrophile linearis	0.3	0.5
Petrophile macrostachya	0.8	5
Philotheca spicata	0.5	0.5
Phyllangium divergens	0.1	0.1
Pimelea sulphurea	0.3	0.5
Schoenus clandestinus	0.1	0.5
Stylidium adpressum	0.1	0.5
Stylidium diuroides subsp. *diuroides*	0.1	0.5
Stylidium rigidulum	0.1	0.5
Xanthosia huegelii	0.1	0.5

PHOTO



Site Name:	NEW175
Site Type:	QUADRAT
Dimensions:	10m x 10m
Survey Date:	11/10/2012
GPS Location:	WGS84 (Zone 50) 340981E 6598991N
Vegetation Type:	18
Landform Type:	Mid Slope
Slope Class:	Very Gently Inclined (1 degree)
Aspect:	SW
Soil Type:	Sand
Soil Colour:	Grey
Rock Outcrop:	No bedrock exposed
CF Abundance:	0%
Vegetation Condition:	1 - Pristine
Disturbance:	None
Fire:	>5 years

DOMINANT TAXA IN VEGETATION STRATA

Upper Stratum 1:	*Banksia attenuata* (4 m, 15%)
Mid Stratum 1:	*Xanthorrhoea preissii* (2 m, 3%)
Lower Stratum 1:	*Conospermum stoechadis* subsp. *stoechadis*, *Eremaea pauciflora*, *Hibbertia hypericoides*, *Jacksonia nutans*, *Melaleuca clavifolia* (0.8 m, 31%)
Lower Stratum 2:	*Mesomelaena pseudostygia* (0.2 m, 2%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Acacia sessilis	0.3	1
Amphipogon turbinatus	0.15	0.1
Anigozanthos humilis subsp. *humilis*	0.1	0.5
Austrostipa macalpinei	0.1	0.1
Banksia attenuata	4	15
Banksia menziesii	0.4	0.5
Bossiaea eriocarpa	0.2	0.5
Burchardia congesta	0.2	0.5
Calytrix flavescens	0.15	1
Cassytha glabella forma *dispar*	0.4	0.5
Conospermum stoechadis subsp. *stoechadis*	0.7	6
Conostephium pendulum	0.4	0.5
Conostylis aurea	0.1	0.1
Daviesia divaricata subsp. *divaricata* ms	0.4	1
Daviesia podophylla	0.25	1
Daviesia triflora	0.4	0.5
Drosera eneabba	0.1	0.5

Drosera menziesii subsp. *menziesii*	0.1	0.1
Eremaea pauciflora	0.8	10
Hibbertia hypericoides	0.4	5
Hibbertia ?spicata	0.25	0.5
Hypocalymma xanthopetalum	0.15	0.5
Indet. sp.	0.1	0.1
Jacksonia nutans	0.5	7
Lepidobolus preissianus subsp. *preissianus*	0.1	0.5
Lepidosperma pubisquameum	0.25	0.5
Leucopogon conostephioides	0.1	0.5
Leucopogon sprengelioides	0.2	1
Lomandra hermaphrodita	0.1	0.1
Lyginia barbata	0.2	0.1
Melaleuca clavifolia (3)	0.35	3
Mesomelaena pseudostygia	0.2	2
Opercularia vaginata	0.1	0.1
Patersonia occidentalis var. ?*occidentalis*	0.15	0.5
Persoonia comata	0.25	0.5
Petrophile linearis	0.3	0.5
Petrophile macrostachya	0.3	0.5
Philotheca spicata	0.5	0.5
Scaevola canescens	0.1	0.1
Scaevola repens var. *repens*	0.1	0.1
Schoenus clandestinus	0.1	0.5
Synaphea spinulosa subsp. *spinulosa*	0.3	0.5
Thysanotus patersonii	0.2	0.1
Xanthorrhoea preissii	2	3
Xanthosia huegelii	0.1	0.5

PHOTO



Site Name:	NEW176
Site Type:	QUADRAT
Dimensions:	10m x 10m
Survey Date:	11/10/2012
GPS Location:	WGS84 (Zone 50) 340638E 6597433N
Vegetation Type:	18
Landform Type:	Plain
Aspect:	E
Soil Type:	Sandy Loam
Soil Colour:	Grey-Yellow (other)
Rock Outcrop:	No bedrock exposed
CF Abundance:	0%
Vegetation Condition:	1 - Pristine
Disturbance:	None
Fire:	>5yrs

DOMINANT TAXA IN VEGETATION STRATA

Upper Stratum 1:	*Acacia spathulifolia* (2.2 m, 17%)
Mid Stratum 1:	*Xanthorrhoea preissii* (2 m, 4%)
Mid Stratum 2:	*Banksia leptophylla*, *Calothamnus quadrifidus* subsp. *quadrifidus*, *Calothamnus sanguineus*, *Conospermum stoechadis* subsp. *stoechadis*, *Daviesia podophylla*, *Hakea costata*, *Hibbertia hypericoides* (1.5 m, 40%)
Lower Stratum 1:	*Leucopogon polymorphus* (0.4 m, 2%)
Lower Stratum 2:	*Lepidobolus preissianus* subsp. *preissianus* (0.4m, 2%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Acacia pulchella var. *reflexa*	0.5	0.1
Acacia sessilis	0.2	0.1
Acacia spathulifolia	2.2	17
Alexgeorgea nitens	0.1	0.1
Allocasuarina humilis	1.2	1
Anigozanthos humilis subsp. *humilis*	0.1	0.1
Austrostipa compressa	0.15	0.1
Banksia leptophylla	1.2	6
Banksia menziesii	2.5	1
Bossiaea eriocarpa	0.3	1
Caladenia flava subsp. *flava*	0.02	0.1
Calothamnus quadrifidus subsp. *quadrifidus*	1.5	4
Calothamnus sanguineus	1.5	4
Conospermum stoechadis subsp. *stoechadis*	1.1	9
Conostylis teretifolia subsp. *teretifolia*	0.1	0.1
Daviesia podophylla	1	3
Desmocladus flexuosus	0.2	0.1
Desmocladus ?lateriticus	0.1	0.1

Drosera erythrorhiza subsp. ?*magna*	0.01	0.1
Drosera sp.	0.3	0.1
Hakea costata	1.5	3
Hibbertia crassifolia	0.8	1
Hibbertia huegelii	0.3	0.1
Hibbertia hypericoides	0.8	11
Hypocalymma xanthopetalum	0.3	0.5
**Hypochaeris glabra*	0.05	0.1
Jacksonia hakeoides	1.2	0.5
Lagenophora huegelii	0.03	0.1
Lechenaultia linarioides	0.4	0.1
Lepidobolus preissianus subsp. *preissianus*	0.4	2
Leucopogon polymorphus	0.4	2
Lomandra caespitosa	0.2	0.1
Melaleuca clavifolia (3)	0.5	1
Mesomelaena pseudostygia	0.4	
Opercularia vaginata	0.1	0.1
Patersonia occidentalis var. ?*occidentalis*	0.3	0.1
Petrophile macrostachya	0.5	0.1
Phyllangium divergens	0.05	0.1
Pyrorchis nigricans	0.01	0.1
Schoenus clandestinus	0.02	0.1
Scholtzia leptantha	0.3	0.1
Stylidium cygnorum	0.1	0.1
Thysanotus patersonii	0.3	0.1
Trachymene pilosa	0.08	0.1
Wahlenbergia gracilenta	0.06	0.1
Waitzia suaveolens var. *suaveolens*	0.06	0.1
Xanthorrhoea preissii	2	4
Xanthosia huegelii	0.08	0.1

PHOTO



Site Name:	NEW177
Site Type:	QUADRAT
Dimensions:	10m x 10m
Survey Date:	11/10/2012
GPS Location:	WGS84 (Zone 50) 340933E 6598284N
Vegetation Type:	17
Landform Type:	Plain
Slope Class:	Very Gently Inclined (1 degree)
Aspect:	S
Soil Type:	Sand
Soil Colour:	Grey
Rock Outcrop:	No bedrock exposed
CF Abundance:	0%
Vegetation Condition:	1 - Pristine
Disturbance:	None
Fire:	>5yrs

DOMINANT TAXA IN VEGETATION STRATA

Upper Stratum 1: *Banksia attenuata*, *B. menziesii* (4 m, 12%)

Lower Stratum 1: *Stirlingia latifolia* (1 m, 6%)

Lower Stratum 2: *Bossiaea eriocarpa*, *Eremaea pauciflora*, *Hibbertia crassifolia*, *Jacksonia nutans*, *Leucopogon polymorphus*, *Melaleuca clavifolia*, *Scholtzia involucrata* (0.8m, 26%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Acacia stenoptera	0.3	0.1
Alexgeorgea nitens	0.1	0.1
Amphipogon sp.	0.1	0.1
Amphipogon turbinatus	0.2	0.1
Anigozanthos humilis subsp. *humilis*	0.2	0.1
Austrostipa compressa	0.1	0.1
Banksia attenuata	4	7
Banksia menziesii	4	5
Bossiaea eriocarpa	0.3	2
Burchardia congesta	0.1	0.1
Calytrix flavescens	0.4	0.1
Conospermum stoechadis subsp. *stoechadis*	0.3	0.1
Conostephium magnum (4)	0.2	0.1
Conostylis aurea	0.2	0.1
Conostylis teretifolia subsp. *teretifolia*	0.1	0.1
Corynotheca micrantha	0.2	0.5
Drosera erythrorhiza subsp. ?*magna*	0.1	0.1
Drosera glanduligera	0.1	0.1
Drosera humilis	0.1	0.1
Drosera sp.	0.5	0.1

Eremaea asterocarpa subsp. *asterocarpa*	0.5	1
Eremaea pauciflora	0.8	4
Hibbertia crassifolia	0.3	2
Hibbertia huegelii	0.2	0.1
Hibbertia racemosa	0.2	0.1
Hypocalymma xanthopetalum	0.2	0.5
**Hypochaeris glabra*	0.03	0.1
Isotropis cuneifolia subsp. *cuneifolia*	0.1	0.1
Jacksonia nutans	0.5	3
Lepidosperma longitudinale	0.15	0.1
Leucopogon conostephioides	0.2	0.1
Leucopogon polymorphus	0.3	3
Leucopogon sprengelioides	0.3	1
Lomandra hermaphrodita	0.1	0.1
Lomandra sp.	0.1	0.1
Melaleuca clavifolia (3)	0.5	3
Mesomelaena pseudostygia	0.4	0.5
Patersonia occidentalis var. ?*occidentalis*	0.2	0.1
Petrophile linearis	0.3	0.5
Petrophile macrostachya	0.5	0.5
Pimelea sulphurea	0.4	0.1
Schoenus brevisetis	0.1	0.1
Schoenus curvifolius	0.3	0.1
Scholtzia involucrata	0.3	5
Stirlingia latifolia	1	6
Stylidium adpressum	0.1	0.1
Stylidium crossocephalum	0.2	0.1
Stylidium diuroides subsp. *diuroides*	0.2	0.1
Stylidium hymenocraspedum (2)	0.2	0.1
Stylidium piliferum	0.1	0.1
Verticordia densiflora var. *densiflora*	0.4	1
Xanthorrhoea preissii	1	0.1
Xanthosia huegelii	0.1	0.1

PHOTO



Site Name:	NEW178
Site Type:	QUADRAT
Dimensions:	10m x 10m
Survey Date:	10/10/2012
GPS Location:	WGS84 (Zone 50) 341806E 6597030N
Vegetation Type:	18
Landform Type:	Upper Slope
Slope Class:	Gently Inclined (3 degrees)
Aspect:	N
Soil Type:	Sand
Soil Colour:	Grey and Yellow (other)
Rock Outcrop:	No bedrock exposed
CF Abundance:	0%
Vegetation Condition:	1 - Pristine
Disturbance:	None
Fire:	>5 years

DOMINANT TAXA IN VEGETATION STRATA

Upper Stratum 1:	*Banksia attenuata* (4.5 m, 4%)
Mid Stratum 1:	*Stirlingia latifolia* (1.3 m, 5%)
Lower Stratum 1:	*Conospermum stoechadis* subsp. *stoechadis*, *Eremaea pauciflora*, *Hakea costata*, *Hibbertia hypericoides*, *Jacksonia nutans* (0.8 m, 36.5%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Acacia sessilis	0.5	1
Alexgeorgea nitens	0.1	0.1
Anigozanthos humilis subsp. *humilis*	0.3	0.5
Banksia attenuata	4.5	4
Banksia menziesii	1.2	1
Banksia tortifolia	0.1	0.5
Bossiaea eriocarpa	0.2	1
Burchardia congesta	0.2	0.5
Calytrix flavescens	0.15	0.5
Cassytha glabella forma *dispar*	0.3	0.5
Conospermum stoechadis subsp. *stoechadis*	0.5	6
Daviesia divaricata subsp. *divaricata* ms	1	0.1
Daviesia podophylla	0.2	0.1
Drosera eneabba	0.1	0.1
Drosera ?menziesii	0.1	0.1
Eremaea asterocarpa subsp. *asterocarpa*	0.5	1
Eremaea pauciflora	0.6	16
Hakea costata	0.8	3.5
Hakea ruscifolia	1	1
Hemiphora bartlingii	0.7	0.5

Hibbertia huegelii	0.4	1
Hibbertia hypericoides	0.5	9
Hybanthus calycinus	0.2	0.1
Hypocalymma xanthopetalum	0.3	0.1
Isotropis cuneifolia subsp. *cuneifolia*	0.1	0.1
Jacksonia nutans	0.6	2
Lepidobolus preissianus subsp. *preissianus*	0.3	0.11
Lepidosperma aff.*scabrum*	0.6	0.1
Leucopogon sprengelioides	0.2	0.5
Levenhookia stipitata	0.1	0.1
Melaleuca clavifolia (3)	0.4	1
Mesomelaena pseudostygia	0.3	0.5
Mirbelia spinosa	0.1	0.1
Petrophile linearis	0.2	1
Petrophile macrostachya	0.4	1
Podotheca gnaphalioides	0.1	0.1
Scaevola canescens	0.1	0.1
Schoenus clandestinus	0.1	0.5
Stenanthemum notiale subsp. *chamelum*	0.1	0.1
Stirlingia latifolia	1.3	5
Stylidium rigidulum	0.1	0.1
Thysanotus spiniger	0.25	0.5
Trachymene pilosa	0.1	0.5

PHOTO



Site Name:	NEW179
Site Type:	QUADRAT
Dimensions:	10m x 10m
Survey Date:	10/10/2012
GPS Location:	WGS84 (Zone 50) 341903E 6597814N
Vegetation Type:	18
Landform Type:	Upper Slope
Slope Class:	Very Gently Inclined (1 degree)
Aspect:	SSE
Soil Type:	Sand
Soil Colour:	Yellow and Brown (other)
Rock Outcrop:	No bedrock exposed
CF Abundance:	0%
Vegetation Condition:	1 - Pristine
Disturbance:	None
Fire:	>5 years

DOMINANT TAXA IN VEGETATION STRATA

Upper Stratum 1:	*Banksia attenuata*, *Nuytsia floribunda* (5 m, 19%)
Mid Stratum 1:	*Xanthorrhoea preissii* (2 m, 12%)
Mid Stratum 2:	*Conospermum stoechadis* subsp. *stoechadis*, *Eremaea pauciflora*, *Hakea costata*, (1.2 m, 22%)
Lower Stratum 1:	*Hibbertia hypericoides* (0.5 m, 11%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Acacia pulchella var. *glaberrima*	0.3	0.1
Acacia pulchella var. *reflexa*	0.2	0.1
**Aira cupaniana*	0.1	0.1
Anigozanthos humilis subsp. *humilis*	0.1	0.1
Austrostipa macalpinei	0.1	0.1
Banksia attenuata	4	3
Banksia dallanneyi var. *dallanneyi*	0.1	0.5
Banksia menziesii	0.8	0.5
Banksia tortifolia	0.1	1.2
Bossiaea eriocarpa	0.2	0.5
Burchardia congesta	0.2	0.5
Caladenia flava subsp. *flava*	0.1	0.1
Centrolepis polygyna	0.1	0.1
Conospermum stoechadis subsp. *stoechadis*	1	2
Daviesia podophylla	0.5	1
Drosera eneabba	0.1	0.1
Drosera erythrorhiza subsp. ?*magna*	0.1	0.1
Drosera ?*menziesii*	0.1	0.1
Eremaea pauciflora	1	10

Hakea costata	1.2	10
Hibbertia crassifolia	0.2	0.1
Hibbertia huegelii	0.4	0.5
Hibbertia hypericoides	0.5	11
Hypocalymma xanthopetalum	0.3	0.1
**Hypochaeris glabra*	0.1	0.5
Isotropis cuneifolia subsp. *cuneifolia*	0.1	0.5
Jacksonia nutans	0.5	0.5
Lechenaultia linarioides	0.1	0.5
Lepidobolus preissianus subsp. *preissianus*	0.1	0.1
Leptospermum spinescens	0.3	0.5
Leucopogon sprengelioides	0.3	1
Melaleuca clavifolia (3)	0.2	1
Mesomelaena pseudostygia	0.2	0.5
Mirbelia spinosa	0.1	0.1
Neurachne alopecuroidea	0.1	0.1
Nuytsia floribunda	5	15
Opercularia vaginata	0.1	0.1
Petrophile macrostachya	0.2	0.5
Phyllangium divergens	0.1	0.1
Pterochaeta paniculata	0.1	0.1
Scaevola canescens	0.1	0.5
Schoenus clandestinus	0.1	0.5
Siloxerus humifusus	0.1	0.1
Stenanthemum notiale subsp. *chamelum*	0.1	0.1
Stylidium rigidulum	0.1	0.1
Synaphea spinulosa subsp. *spinulosa*	0.7	0.5
Thysanotus patersonii	0.1	0.1
Trachymene pilosa	0.1	0.5
Waitzia acuminata var. *albicans*	0.1	0.5
Xanthorrhoea preissii	2	2
Xanthosia huegelii	0.1	0.1

PHOTO



Site Name:	NEW180
Site Type:	QUADRAT
Dimensions:	10m x 10m
Survey Date:	10/10/2012
GPS Location:	WGS84 (Zone 50) 340409E 6596846N
Vegetation Type:	8
Landform Type:	Ridge
Slope Class:	Gently Inclined (3 degrees)
Aspect:	W
Soil Type:	Sandy Loam
Soil Colour:	Yellow and Brown (other)
Rock Outcrop:	Limestone, 20-50% bedrock exposed
CF Abundance:	10-20%
CF Sizes:	6-20mm, 20-60mm, 60-200mm
CF Types:	Limestone
Vegetation Condition:	1 - Pristine
Disturbance:	None
Fire:	>5yrs

DOMINANT TAXA IN VEGETATION STRATA

Lower Stratum 1: *Banksia sessilis* var. *cygnorum, Melaleuca huegelii* subsp. *huegelii, Santalum acuminatum* (1 m, 14%)

Lower Stratum 2: *Banksia dallanneyi* var. *dallanneyi, Grevillea preissii* subsp. *preissii, Melaleuca systena, Scholtzia leptantha, Trymalium ledifolium* var. *rosmarinifolium* (0.3 m, 28%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Acacia truncata	0.3	1
?*Amphipogon* sp.	0.1	0.1
Astroloma glaucescens	0.2	0.1
Austrostipa flavescens	0.1	0.1
**Avellinia michelii*	0.05	0.1
Banksia dallanneyi var. *dallanneyi*	0.1	3
Banksia sessilis var. *cygnorum*	1	4
Beyeria cinerea subsp. *cinerea* (3)	0.2	0.1
Bossiaea eriocarpa	0.2	0.1
Calandrinia tholiformis	0.05	0.1
Calothamnus quadrifidus subsp. *quadrifidus*	0.2	0.1
Cassytha ?*aurea*	0.1	0.1
Cassytha glabella forma *dispar*		1
Cryptandra mutila	0.2	1
Desmocladus asper	0.1	1
Drosera humilis	0.1	0.1
Drosera sp.	0.1	0.1
Gompholobium tomentosum	0.2	0.5

Grevillea preissii subsp. *preissii*	0.2	4
Hakea trifurcata	0.4	0.5
**Heliophila pusilla*	0.1	0.1
Hibbertia spicata subsp. *leptotheca* (3)	0.2	1.5
Hybanthus calycinus	0.2	0.1
Hydrocotyle blepharocarpa	0.1	0.1
Isotropis cuneifolia subsp. *cuneifolia*	0.05	0.1
Lepidosperma longitudinale	0.3	0.1
Melaleuca huegelii subsp. *huegelii*	1	4
Melaleuca systena	0.3	5
Opercularia vaginata	0.2	0.1
Orchidaceae sp.	0.01	0.1
Petrophile axillaris	0.3	1
Podotheca gnaphalioides	0.04	0.1
Rhodanthe citrina		
?*Rytidosperma* sp.	0.1	0.1
Santalum acuminatum	1	6
Scaevola ?*globulifera*	0.1	0.1
Scholtzia leptantha	0.3	12
Stenopetalum ?*gracile*	0.05	0.1
Stylidium schoenoides	0.2	0.5
Templetonia retusa	0.3	0.1
Trachymene pilosa	0.04	0.2
Trymalium ledifolium var. *rosmarinifolium*	0.2	4

PHOTO



Site Name:	NEW181
Site Type:	QUADRAT
Dimensions:	10m x 10m
Survey Date:	10/10/2012
GPS Location:	WGS84 (Zone 50) 340865E 6596266N
Vegetation Type:	8
Landform Type:	Upper Slope
Slope Class:	Gently Inclined (3 degrees)
Aspect:	E
Soil Type:	Sandy Loam
Soil Colour:	Brown
Rock Outcrop:	Limestone, >2% bedrock exposed
CF Abundance:	0%
Vegetation Condition:	1 - Pristine
Disturbance:	None
Fire:	>5yrs

DOMINANT TAXA IN VEGETATION STRATA

Upper Stratum 1: *Xanthorrhoea preissii* (2.5 m, 4%)

Mid Stratum 1: *Banksia leptophylla*, *Banksia sessilis* var. *cygnorum*, *Calothamnus sanguineus*, *Hakea costata*, *Hakea trifurcata* (1.5 m, 38%)

Lower Stratum 1: *Bossiaea eriocarpa*, *Calothamnus quadrifidus* subsp. *quadrifidus*, *Hibbertia hypericoides*, *Hibbertia racemosa*, *Leucopogon cochlearifolius*, *Melaleuca systena*, *Philotheca spicata*, *Scholtzia leptantha* (0.8 m, 31%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Acacia pulchella var. *reflexa*	1.5	0.5
**Aira cupaniana*	0.06	0.1
Allocasuarina humilis	1	0.1
Anigozanthos humilis subsp. *humilis*	0.1	0.1
Astroloma glaucescens	0.5	1
Banksia dallanneyi var. *dallanneyi*	0.1	1
Banksia leptophylla	1.2	18
Banksia sessilis var. *cygnorum*	1.5	7
Beaufortia squarrosa	0.6	0.5
Bossiaea eriocarpa	0.5	3
Burchardia congesta	0.1	0.1
Calothamnus quadrifidus subsp. *quadrifidus*	0.5	2
Calothamnus sanguineus	1	2
Conospermum stoechadis subsp. *stoechadis*	1	0.1
Conostephium magnum (4)	0.8	0.1
Conostylis teretifolia subsp. *teretifolia*	0.1	0.1
Desmocladus asper	0.1	0.1
Desmocladus ?lateriticus	0.2	0.1

Diplolaena obovata	0.2	1
Drosera erythrorhiza subsp. ?*magna*	0.01	0.1
Drosera sp.	0.6	0.1
Gastrolobium linearifolium	1	0.1
Gompholobium tomentosum	0.2	0.1
Grevillea preissii subsp. *preissii*	0.1	0.1
Hakea costata	1	4
Hakea lissocarpha	0.8	1
Hakea trifurcata	1.5	7
**Heliophila pusilla*	0.05	0.1
Hibbertia crassifolia	0.3	0.5
Hibbertia hypericoides	0.5	9
Hibbertia racemosa	0.4	2
Hybanthus calycinus	0.3	0.1
Hypocalymma xanthopetalum	0.5	1
**Hypochaeris glabra*	0.05	0.1
Indet. sp.	0.3	0.1
Jacksonia hakeoides	1.2	0.5
Lepidosperma ?pubisquameum	0.2	0.1
Leucopogon cochlearifolius	0.4	3
Leucopogon polymorphus	0.5	1
Lomandra sp.	0.2	0.1
Melaleuca systena	0.6	4
Mesomelaena pseudostygia	0.5	0.1
Opercularia vaginata	0.1	0.1
Petrophile axillaris	0.5	1
Philotheca spicata	0.5	2
Poa porphyroclados	0.4	0.1
Poaceae sp.	0.1	0.1
Pterostylis vittata	0.2	0.1
Ricinocarpos undulatus	1	1
Rytidosperma ?occidentale	0.3	0.1
Schoenus clandestinus	0.03	0.1
Schoenus pleiostemoneus	0.1	0.1
Scholtzia leptantha	0.8	6
Stylidium cygnorum	0.1	0.1
Stylidium scariosum	0.5	0.1
Thysanotus patersonii	0.4	0.1
Trachymene pilosa	0.2	0.1
Tricoryne ?elatior	0.1	0.1
Xanthorrhoea preissii	2.5	4

PHOTO



Site Name:	NEW182
Site Type:	QUADRAT
Dimensions:	10m x 10m
Survey Date:	10/10/2012
GPS Location:	WGS84 (Zone 50) 341201E 6595803N
Vegetation Type:	18
Landform Type:	Plain
Slope Class:	Very Gently Inclined (1 degree)
Aspect:	SW
Soil Type:	Sand
Soil Colour:	Pale Grey-Yellow (other)
Rock Outcrop:	No bedrock exposed
CF Abundance:	0%
Vegetation Condition:	1 - Pristine
Disturbance:	None
Fire:	>5yrs

DOMINANT TAXA IN VEGETATION STRATA

Upper Stratum 1:	*Banksia attenuata*, *B. menziesii* (4 m, 6%)
Mid Stratum 1:	*Allocasuarina humilis*, *Daviesia divaricata* subsp. *divaricata*, *Hakea costata*, *Jacksonia hakeoides* (2 m, 26%)
Lower Stratum 1:	*Bossiaea eriocarpa*, *Eremaea asterocarpa* subsp. *asterocarpa*, *Melaleuca clavifolia*, *M. seriata*, *Petrophile macrostachya* (0.6 m, 14%)
Lower Stratum 2:	*Mesomelaena pseudostygia* (0.3 m, 4%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Acacia pulchella var. *reflexa*	1	0.1
Allocasuarina humilis	1.2	12
Anigozanthos humilis subsp. *humilis*	0.1	0.1
Banksia attenuata	4	4
Banksia menziesii	2	2
Bossiaea eriocarpa	0.3	2
Burchardia congesta	0.01	0.1
Calandrinia tholiformis	0.1	0.1
Calectasia narragara	0.3	0.1
Calytrix flavescens	0.3	0.1
Chordifex sinuosus	0.3	0.1
Conostephium pendulum	0.3	0.1
Conostylis teretifolia subsp. *teretifolia*	0.1	0.1
Daviesia divaricata subsp. *divaricata* ms	2	6
Desmocladus ?*lateriticus*	0.1	0.1
Diplolaena obovata	0.2	0.1
Drosera erythrorhiza subsp. ?*magna*	0.01	0.1
Drosera humilis	0.06	0.1

Drosera sp.	0.2	0.1
Eremaea asterocarpa subsp. *asterocarpa*	0.5	5
Hakea costata	1.2	3
Hakea prostrata	2	1
Harperia lateriflora	0.1	0.1
Hibbertia crassifolia	0.2	0.1
Hibbertia huegelii	0.4	1
Hibbertia racemosa	0.4	0.5
Hypocalymma xanthopetalum	0.3	0.1
**Hypochaeris glabra*	0.08	0.1
Isotropis cuneifolia subsp. *cuneifolia*	0.1	0.1
Jacksonia hakeoides	1	3
Lepidobolus preissianus subsp. *preissianus*	0.4	0.1
Lepidosperma aff.*scabrum*	0.3	0.1
Leucopogon polymorphus	0.4	1
Lomandra hermaphrodita	0.1	0.1
Melaleuca clavifolia (3)	0.5	2
Melaleuca seriata	0.6	2
Mesomelaena pseudostygia	0.3	4
Opercularia vaginata	0.1	0.1
Petrophile brevifolia	0.4	1
Petrophile linearis	0.4	0.1
Petrophile macrostachya	0.4	3
Philotheca spicata	0.5	0.5
Phyllangium divergens	0.03	0.1
Pimelea sulphurea	0.3	0.5
Podotheca chrysantha	0.1	0.1
Ptilotus manglesii	0.05	0.1
Ricinocarpos undulatus	0.5	0.1
Scaevola repens var. *repens*	0.1	0.1
Schoenus clandestinus	0.03	0.1
Stirlingia latifolia	1	0.1
Stylidium crossocephalum	0.1	0.1
Stylidium purpureum ms	0.2	0.1
Stylidium rigidulum	0.1	0.1
Thysanotus thyrsoideus	0.3	0.1
Trachymene pilosa	0.05	0.1
Tricoryne ?elatior	0.2	0.1
**Wahlenbergia capensis*	0.1	0.1
Xanthorrhoea preissii	2	2

PHOTO



Site Name:	NEW183
Site Type:	QUADRAT
Dimensions:	10m x 10m
Survey Date:	10/10/2012
GPS Location:	WGS84 (Zone 50) 341059E 6595414N
Vegetation Type:	8
Landform Type:	Ridge
Aspect:	N
Soil Type:	Sand
Soil Colour:	Yellowish Grey (other)
Rock Outcrop:	Limestone, 2-10% bedrock exposed
CF Abundance:	2-10%
CF Sizes:	20-60mm, 60-200mm
CF Types:	Limestone
Vegetation Condition:	1 - Pristine
Disturbance:	None
Fire:	>5yrs

DOMINANT TAXA IN VEGETATION STRATA

Mid Stratum 1: *Allocasuarina humilis*, *Banksia leptophylla*, *Banksia sessilis* var. *cygnorum*, *Hakea trifurcata* (1.5 m, 12%)

Lower Stratum 1: *Bossiaea eriocarpa*, *Hakea lissocarpha*, *Hibbertia racemosa*, *Melaleuca* systena, *Scholtzia leptantha* (0.5 m, 23%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Acacia truncata	1	0.5
Alexgeorgea nitens	0.1	0.1
Allocasuarina humilis	1	2
Anigozanthos humilis subsp. *humilis*	0.1	0.1
Astroloma glaucescens	0.2	0.1
Austrostipa compressa	0.2	0.1
Banksia dallanneyi var. *dallanneyi*	0.1	0.5
Banksia leptophylla	1.1	3
Banksia sessilis var. *cygnorum*	1.5	4
Bossiaea eriocarpa	0.4	2
Calothamnus quadrifidus subsp. *quadrifidus*	0.4	1
Calothamnus sanguineus	0.5	1
Cassytha ?*aurea*	0.2	0.1
Cassytha glabella forma *dispar*	0.2	1
Conostylis candicans	0.1	0.1
Conostylis teretifolia subsp. *teretifolia*	0.1	0.1
Desmocladus flexuosus	0.2	0.1
Desmocladus ?*lateriticus*	0.1	0.1
Diplolaena obovata	0.2	0.1

Drosera humilis	0.08	0.1
Gompholobium tomentosum	0.1	0.1
Grevillea preissii subsp. *preissii*	0.4	1
Hakea costata	0.3	0.1
Hakea lissocarpha	0.5	2
Hakea trifurcata	1.3	3
Hibbertia crassifolia	0.3	0.1
Hibbertia hypericoides	0.4	1
Hibbertia racemosa	0.3	2
Hybanthus calycinus	0.1	0.1
Hypocalymma xanthopetalum	0.3	0.1
**Hypochaeris glabra*	0.06	0.1
Isotropis cuneifolia subsp. *cuneifolia*	0.06	0.1
Lepidobolus preissianus subsp. *preissianus*	0.3	0.1
Lepidosperma longitudinale	0.2	0.1
Leucopogon cochlearifolius	0.3	
Lomandra hermaphrodita	0.1	0.1
Lomandra maritima	0.1	0.1
Lomandra sp.	0.2	0.1
Lysinema pentapetalum	0.4	0.5
Melaleuca systena	0.5	9
Opercularia vaginata	0.1	0.1
Petrophile axillaris	0.3	0.1
Philotheca spicata	0.4	1
Poa porphyroclados	0.2	0.1
Rytidosperma ?occidentale	0.3	0.1
Scaevola repens var. *repens*	0.05	0.1
Schoenus clandestinus	0.03	0.1
Schoenus curvifolius	0.3	0.1
Scholtzia leptantha	0.4	8
Stenanthemum notiale subsp. *chamelum*	0.2	0.1
Stylidium purpureum ms	0.2	0.1
Stylidium repens	0.1	0.1
Templetonia retusa	1	0.1
Tetraria microcarpa	0.3	0.1
Trachymene pilosa	0.04	0.1
Xanthorrhoea preissii	1.1	1

PHOTO



Site Name:	NEW184
Site Type:	QUADRAT
Dimensions:	10m x 10m
Survey Date:	11/10/2012
GPS Location:	WGS84 (Zone 50) 343128E 6602587N
Vegetation Type:	18
Landform Type:	Plain
Slope Class:	Level (0 degrees)
Soil Type:	Sand
Soil Colour:	Grey and White (other)
Rock Outcrop:	No bedrock exposed
CF Abundance:	0%
Vegetation Condition:	1 - Pristine
Disturbance:	None
Fire:	>5 years

DOMINANT TAXA IN VEGETATION STRATA

Mid Stratum 1:	*Xanthorrhoea preissii* (2.3 m, 2%)
Lower Stratum 1:	*Allocasuarina microstachya, Calothamnus sanguineus, Hakea costata, Hibbertia hypericoides* (0.8 m, 60%)
Lower Stratum 2:	*Mesomelaena pseudostygia* (0.3 m, 5%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Acacia pulchella var. *reflexa*	0.5	0.4
Acacia stenoptera	0.2	0.3
Allocasuarina humilis	0.6	0.5
Allocasuarina microstachya	0.4	15
Amphipogon turbinatus	0.3	0.1
Anarthria gracilis	0.2	0.1
Anigozanthos humilis subsp. *humilis*	0.1	0.1
Astroloma glaucescens	0.2	0.3
Austrostipa macalpinei	0.1	0.1
**Avellinia michelii*	0.1	0.1
Banksia shuttleworthiana	0.2	0.3
Calothamnus sanguineus	0.6	30
Calytrix aurea	0.5	0.5
Calytrix leschenaultii	0.3	0.6
Cassytha aurea var. *hirta*		0.6
Caustis dioica	0.2	0.3
Centrolepis polygyna	0.1	0.1
Conostylis aculeata subsp. *breviflora*	0.1	0.2
Conostylis teretifolia subsp. *teretifolia*	0.1	0.1
Daviesia incrassata subsp. *incrassata*	0.5	0.2
Drosera erythrorhiza subsp. ?*magna*	0.1	0.2

Drosera gigantea subsp. *gigantea*	0.1	0.1
Eremaea pauciflora	0.6	1
Goodenia ?coerulea	0.1	0.1
Hakea candolleana	0.3	0.4
Hakea costata	0.8	7
Hakea trifurcata	0.6	0.6
Harperia lateriflora	0.1	0.1
Hibbertia huegelii	0.3	0.5
Hibbertia hypericoides	0.6	8
Hypocalymma xanthopetalum	0.3	1
Isotropis cuneifolia subsp. *cuneifolia*	0.2	0.1
Jacksonia ramulosa	0.3	0.2
Lepidobolus preissianus	0.1	0.1
Leucopogon cochlearifolius	0.2	0.1
Leucopogon sp. Moore River (M. Hislop 1695)	0.2	0.1
Melaleuca clavifolia (3)	0.5	1
Mesomelaena pseudostygia	0.3	5
Mirbelia floribunda	0.3	0.2
Opercularia vaginata	0.1	0.2
Patersonia occidentalis var. *?occidentalis*	0.4	0.2
Petrophile brevifolia	0.2	0.8
Pimelea imbricata var. *piligera*	0.2	0.1
Platysace xerophila	0.3	0.1
Pterochaeta paniculata	0.1	0.1
Scaevola repens var. *repens*	0.2	0.2
Schoenus brevisetis	0.1	0.4
Schoenus clandestinus	0.1	0.2
Siloxerus humifusus	0.1	0.1
Stylidium adpressum	0.1	0.1
Stylidium araeophyllum ms	0.2	0.1
Stylidium rigidulum	0.1	0.1
Synaphea spinulosa subsp. *spinulosa*	0.2	0.1
Trachymene pilosa	0.1	0.1
Tricoryne ?elatior	0.1	0.1
Verticordia densiflora	0.5	0.5
Waitzia suaveolens var. *suaveolens*	0.1	0.1
Xanthorrhoea preissii	2.3	2
Xanthosia huegelii	0.1	0.2

PHOTO



Site Name:	NEW185
Site Type:	QUADRAT
Dimensions:	10m x 10m
Survey Date:	28/09/2012
GPS Location:	WGS84 (Zone 50) 344657E 6602684N
Vegetation Type:	7
Landform Type:	Closed Depression
Slope Class:	Very Gently Inclined (1 degree)
Soil Type:	Sandy Loam Over Laterite (other)
Soil Colour:	Brown
Rock Outcrop:	No bedrock exposed
CF Abundance:	<2%
CF Sizes:	2-6mm
CF Types:	Laterite
Vegetation Condition:	1 - Pristine
Disturbance:	None
Fire:	~4yrs

DOMINANT TAXA IN VEGETATION STRATA

Lower Stratum 1: *Banksia telmatiaea*, *Calytrix leschenaultii*, *Hakea incrassata*, *Petrophile seminuda* (0.5 m, 9%)

Lower Stratum 2: *Schoenus clandestinus* (0.1 m, 8%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Acacia dilatata	0.2	0.3
Allocasuarina microstachya	0.2	0.3
Astroloma glaucescens	0.2	0.5
Banksia armata var. *armata*	0.5	1
Banksia telmatiaea	0.5	2
Borya sphaerocephala	0.1	0.1
Calothamnus quadrifidus subsp. *angustifolius*	0.3	0.3
Calytrix aurea	0.4	0.3
Calytrix leschenaultii	0.3	2
Caustis dioica	0.2	0.2
Cryptandra nutans	0.1	0.1
Dampiera teres	0.2	0.1
Drosera eneabba	0.1	0.1
Drosera erythrorhiza subsp. ?*magna*	0.1	0.1
Drosera pallida		0.1
Drosera sp.	0.1	0.1
Drosera spilos	0.1	0.1
Gastrolobium oxylobioides	0.3	0.3
Hakea costata	0.6	0.2
Hakea incrassata	0.4	3

Hakea lissocarpha	0.3	0.4
Hibbertia hypericoides	0.3	0.5
Hypocalymma xanthopetalum	0.3	0.1
Isotropis cuneifolia subsp. *cuneifolia*	0.1	0.1
Leucopogon cochlearifolius	0.3	0.2
Leucopogon leptanthus	0.2	0.1
Melaleuca seriata	0.3	0.6
Myrtaceae sp.	0.4	0.5
Neurachne alopecuroidea	0.1	0.2
Opercularia vaginata	0.2	0.1
Petrophile brevifolia	0.3	0.1
Petrophile seminuda	0.4	2
Scaevola repens var. *repens*	0.2	0.1
Schoenus clandestinus	0.1	8
Stylidium dichotomum	0.1	0.1
Thysanotus ?thyrsoideus	0.3	0.1

PHOTO



Site Name:	NEW187
Site Type:	QUADRAT
Dimensions:	10m x 10m
Survey Date:	28/09/2012
GPS Location:	WGS84 (Zone 50) 345201E 6602298N
Vegetation Type:	17
Landform Type:	Crest
Slope Class:	Very Gently Inclined (1 degree)
Aspect:	N
Soil Type:	Sand
Soil Colour:	Grey
Rock Outcrop:	No bedrock exposed
CF Abundance:	0%
Vegetation Condition:	1 - Pristine
Disturbance:	None
Fire:	>5 years

DOMINANT TAXA IN VEGETATION STRATA

Upper Stratum 1:	*Banksia attenuata, B. menziesii* (3.5 m, 35%)
Mid Stratum 1:	*Jacksonia sternbergiana, Xanthorrhoea preissii* (2 m, 4%)
Mid Stratum 2:	*Eremaea pauciflora, Hibbertia hypericoides, Macrozamia fraseri* (1.5 m, 22%)
Lower Stratum1:	*Dasypogon obliquifolius, Jacksonia nutans* (0.4 m, 8%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Alexgeorgea nitens	0.1	0.5
Anigozanthos humilis subsp. *humilis*	0.15	0.5
Banksia attenuata	3.5	25
Banksia menziesii	3	10
Bossiaea eriocarpa	0.5	0.5
Caladenia flava subsp. *flava*	0.1	0.5
Calytrix flavescens	0.3	0.1
Cassytha glabella forma *dispar*	0.5	0.5
Conospermum stoechadis subsp. *stoechadis*	0.5	1
Conostephium pendulum	0.5	1
Conostylis juncea	0.1	0.1
Crassula closiana	0.1	0.1
Dasypogon obliquifolius	0.4	3
Drosera erythrorhiza subsp. ?*magna*	0.1	0.5
Drosera ?*menziesii*	0.3	0.5
Eremaea asterocarpa subsp. *asterocarpa*	0.4	0.5
Eremaea pauciflora	0.4	8
Gompholobium tomentosum	0.3	0.5
Hibbertia huegelii	0.3	0.5
Hibbertia hypericoides	1	12

Hydrocotyle callicarpa	0.1	0.5
Hypocalymma xanthopetalum	0.3	0.5
**Hypochaeris glabra*	0.1	0.5
Jacksonia nutans	0.4	5
Jacksonia sternbergiana	2	2
Lepidosperma sp.	0.2	0.5
Leucopogon conostephioides	0.2	0.5
Macrozamia fraseri	1.5	2
Melaleuca clavifolia (3)	0.5	1
Opercularia vaginata	0.1	0.1
Petrophile linearis	0.4	0.5
Phlebocarya ciliata	0.4	1
Phlebocarya filifolia	0.3	1
Phyllangium divergens	0.1	0.5
Podotheca angustifolia	0.1	0.5
Pterochaeta paniculata	0.1	0.5
Scaevola repens var. *repens*	0.1	0.5
Schoenus clandestinus	0.1	0.5
Stirlingia latifolia	0.5	0.5
Stylidium adpressum	0.1	0.5
Stylidium diuroides subsp. *diuroides*	0.25	0.5
Stylidium rigidulum	0.1	0.5
Synaphea spinulosa subsp. *spinulosa*	0.4	0.5
Trachymene pilosa	0.1	0.5
Waitzia acuminata var. *albicans*	0.1	0.5
Xanthorrhoea preissii	2	2
Xanthosia huegelii	0.15	0.5

PHOTO



Site Name:	NEW188
Site Type:	QUADRAT
Dimensions:	10m x 10m
Survey Date:	28/09/2012
GPS Location:	WGS84 (Zone 50) 346188E 6603189N
Vegetation Type:	5
Landform Type:	Plain
Slope Class:	Very Gently Inclined (1 degree)
Aspect:	NW
Soil Type:	Sand
Soil Colour:	Grey
Rock Outcrop:	No bedrock exposed
CF Abundance:	0%
Vegetation Condition:	1 - Pristine
Disturbance:	None
Fire:	>5yrs

DOMINANT TAXA IN VEGETATION STRATA

Mid Stratum 1:	*Xanthorrhoea preissii* (2 m, 3%)
Mid Stratum 2:	*Banksia telmatiaea*, *Hakea obliqua* subsp. *parviflora* (1.5 m, 32%)
Lower Stratum 1:	*Chordifex sinuosus* (0.4 m, 10%)
Lower Stratum 2:	*Melaleuca seriata* (0.3 m, 5%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Andersonia heterophylla	0.3	0.5
Banksia dallanneyi var. *dallanneyi*	0.3	0.5
Banksia telmatiaea	1.2	25
Beaufortia squarrosa	0.5	1
Burchardia congesta	0.3	0.1
Caladenia flava subsp. *flava*	0.05	0.1
Cassytha glabella forma *dispar*		2
Chordifex chaunocoleus (4)	0.4	1
Chordifex sinuosus	0.3	10
Conostylis aurea	0.1	0.1
Drosera eneabba	0.1	0.1
Drosera erythrorhiza subsp. ?*magna*	0.01	0.1
Drosera sp.	0.15	0.1
Elythranthera brunonis	0.2	0.1
Hakea obliqua subsp. *parviflora*	1.5	7
Hibbertia crassifolia	0.3	0.1
**Hypochaeris glabra*	0.02	0.1
Leucopogon sp. Coujinup (M.A. Burgman 1085)	0.5	1
Lyginia imberbis	0.4	1
Melaleuca clavifolia (3)	0.5	0.5

Melaleuca seriata	0.3	5
Petrophile brevifolia	0.4	0.1
Petrophile seminuda	0.4	0.1
Stirlingia latifolia	0.3	0.1
Stylidium adpressum	0.05	0.1
Verticordia lindleyi subsp. *lindleyi* (4)	0.6	0.1
Xanthorrhoea preissii	2	3

PHOTO



Site Name:	NEW189
Site Type:	QUADRAT
Dimensions:	10m x 10m
Survey Date:	28/09/2012
GPS Location:	WGS84 (Zone 50) 346529E 6602639N
Vegetation Type:	18
Landform Type:	Low rise (other)
Slope Class:	Very Gently Inclined (1 degree)
Aspect:	NE
Soil Type:	over Laterite and Clay (other)
Soil Colour:	Grey
Rock Outcrop:	No bedrock exposed
CF Abundance:	0%
Vegetation Condition:	1 - Pristine
Disturbance:	None
Fire:	>5yrs

DOMINANT TAXA IN VEGETATION STRATA

Lower Stratum 1: *Allocasuarina humilis*, *A. thuyoides* (1 m, 30%)

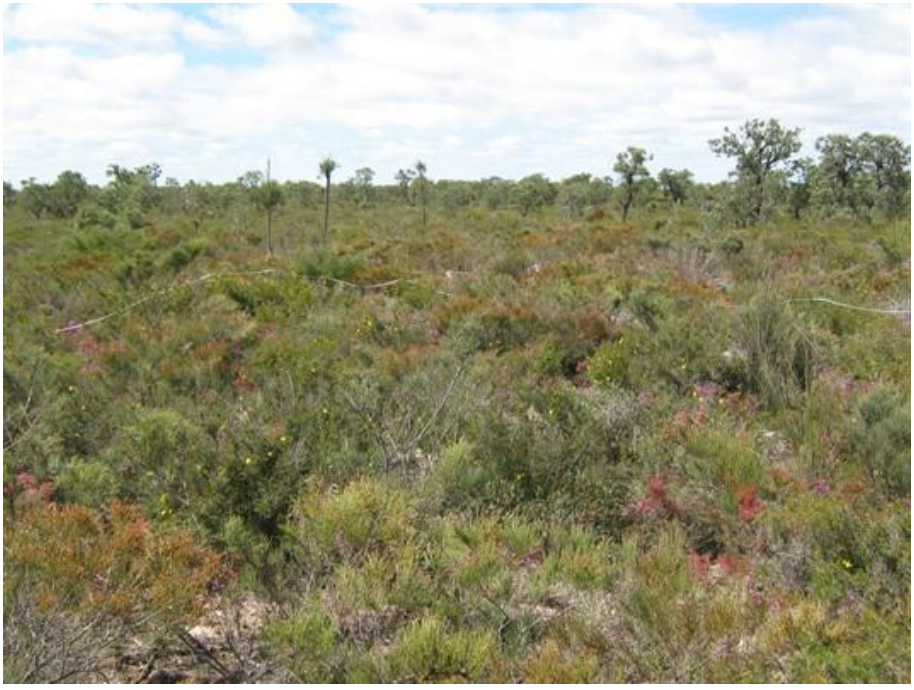
Lower Stratum 2: *Calothamnus sanguineus*, *Calytrix leschenaultii*, *Gastrolobium oxylobioides*, *Hibbertia hypericoides* (0.5 m, 13.5%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
**Aira cupaniana*	0.1	0.1
Allocasuarina humilis	1	20
Allocasuarina microstachya	0.3	1
Allocasuarina thuyoides	0.4	10
Anigozanthos humilis subsp. *humilis*	0.2	0.1
Astroloma glaucescens	0.2	0.3
Banksia telmatiaea	0.9	0.3
Bossiaea eriocarpa	0.3	0.5
Calothamnus sanguineus	0.4	2
Calytrix leschenaultii	0.5	3.5
Cassytha aurea var. *hirta*		0.1
Caustis dioica	0.3	0.1
Chamaescilla corymbosa	0.2	0.1
Conostylis teretifolia subsp. *teretifolia*	0.2	0.3
Daviesia incrassata	0.8	0.2
Drosera erythrorhiza subsp. ?*magna*	0.1	0.1
Drosera pallida		0.1
Gastrolobium oxylobioides	0.3	2
Gompholobium tomentosum	0.4	0.2
Hakea costata	0.3	0.1
Hakea incrassata	0.4	0.3

Hibbertia huegelii	0.2	0.3
Hibbertia hypericoides	0.4	6
Hyalosperma cotula	0.2	0.5
Hypocalymma xanthopetalum	0.3	0.1
**Hypochaeris glabra*	0.1	0.1
Isotropis cuneifolia subsp. *cuneifolia*	0.2	0.1
Lepidosperma sp.	0.3	0.1
Leucopogon cochlearifolius	0.5	1
Leucopogon conostephioides	0.3	0.1
Levenhookia stipitata	0.1	0.1
Lomandra micrantha subsp. *micrantha*	0.2	0.1
Lysinema pentapetalum	0.4	0.1
Mesomelaena pseudostygia	0.3	0.5
Neurachne alopecuroidea	0.2	0.1
Nuytsia floribunda	5	0.7
Opercularia vaginata	0.2	0.1
Pterochaeta paniculata	0.1	0.1
Schoenus clandestinus	0.2	0.5
Stylidium piliferum	0.1	0.1
Stylidium rigidulum	0.1	0.1
Stylidium sp.	0.1	0.1
Thysanotus ?sparteus	0.4	0.1
Trachymene pilosa	0.1	0.1
Xanthorrhoea preissii	0.5	0.3
Xanthosia huegelii	0.1	0.1

PHOTO



Site Name:	NEW190
Site Type:	QUADRAT
Dimensions:	10m x 10m
Survey Date:	22/11/2012
GPS Location:	WGS84 (Zone 50) 346969E 6603960N
Vegetation Type:	9b
Landform Type:	Drainage Line
Slope Class:	Level (0 degrees)
Soil Type:	Sand
Soil Colour:	Grey
Rock Outcrop:	No bedrock exposed
CF Abundance:	0%
Vegetation Condition:	2 - Excellent
Disturbance:	Exotic Weeds
Fire:	>5 years

DOMINANT TAXA IN VEGETATION STRATA

Upper Stratum 1: *Melaleuca rhaphiophylla* (4 m, 30%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Acacia saligna subsp. *lindleyi* ms	0.5	0.1
Cassytha racemosa forma *racemosa*		1.5
**Hypochaeris glabra*	0.1	0.1
Melaleuca rhaphiophylla	4	30

PHOTO



Site Name:	NEW191
Site Type:	QUADRAT
Dimensions:	10m x 10m
Survey Date:	28/09/2012
GPS Location:	WGS84 (Zone 50) 347923E 6602772N
Vegetation Type:	17
Landform Type:	Upper Slope
Slope Class:	Moderately Inclined (10 degrees)
Aspect:	N
Soil Type:	Sand
Soil Colour:	Grey
Rock Outcrop:	No bedrock exposed
CF Abundance:	0%
Vegetation Condition:	2 - Excellent
Disturbance:	None
Fire:	>5 years

DOMINANT TAXA IN VEGETATION STRATA

Upper Stratum 1:	*Eucalyptus todtiana* (4 m, 50%)
Mid Stratum 1:	*Beaufortia squarrosa, Jacksonia sternbergiana* (2.5 m, 4%)
Mid Stratum 2:	*Xanthorrhoea preissii* (1 m, 5%)
Lower Stratum 1:	*Dasypogon obliquifolius, Eremaea asterocarpa* subsp. *asterocarpa, Hibbertia hypericoides, Hibbertia subvaginata, Melaleuca seriata, Petrophile linearis* (0.7 m, 29%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Alexgeorgea nitens	0.1	0.1
Austrostipa macalpinei	0.15	0.5
Banksia attenuata	3	0.5
Beaufortia squarrosa	2	2
Boronia ramosa subsp. *anethifolia*	0.2	0.5
Bossiaea eriocarpa	0.4	1
Caladenia flava subsp. *flava*	0.1	0.5
Conostephium pendulum	0.5	1
Conostylis juncea	0.1	0.1
Dasypogon obliquifolius	0.4	8
Drosera erythrorhiza subsp. ?*magna*	0.1	1
Drosera pallida	0.5	0.1
*?*Ehrharta* sp.	0.3	0.5
Eremaea asterocarpa subsp. *asterocarpa*	0.5	3
Eucalyptus todtiana	4	50
Hibbertia hypericoides	0.7	10
Hibbertia subvaginata	0.3	3
Hyalosperma cotula	0.1	1

Hypocalymma xanthopetalum	0.2	0.5
**Hypochaeris glabra*	0.1	0.5
Jacksonia sternbergiana	2.5	2
Lechenaultia linarioides	0.3	1
Leucopogon conostephioides	0.5	0.5
Melaleuca seriata	0.5	2
Patersonia occidentalis var. ?*occidentalis*	0.4	0.5
Petrophile linearis	0.6	3
Pterochaeta paniculata	0.1	0.1
Stylidium rigidulum	0.1	0.5
Trachymene pilosa	0.1	0.5
Waitzia acuminata var. *albicans*	0.1	0.5
Xanthorrhoea preissii	1	5

PHOTO



Site Name:	NEW192
Site Type:	QUADRAT
Dimensions:	10m x 10m
Survey Date:	28/09/2012
GPS Location:	WGS84 (Zone 50) 348418E 6602537N
Vegetation Type:	18
Landform Type:	Lower Slope
Slope Class:	Very Gently Inclined (1 degree)
Aspect:	E
Soil Type:	Sand
Soil Colour:	Grey
Rock Outcrop:	No bedrock exposed
CF Abundance:	0%
Vegetation Condition:	1 - Pristine
Disturbance:	None
Fire:	>5 years

DOMINANT TAXA IN VEGETATION STRATA

Upper Stratum 1:	*Banksia attenuata B. menziesii* (3 m, 10%)
Mid Stratum 1:	*Banksia telmatiaea* (1 m, 6%)
Lower Stratum 1:	*Calytrix leschenaultii, Dasypogon obliquifolius, Eremaea asterocarpa* subsp. *asterocarpa, Hibbertia hypericoides* (0.8 m, 17%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Acacia sphacelata subsp. *verticillata*	0.4	0.1
Acacia stenoptera	0.3	0.5
Alexgeorgea nitens	0.15	0.1
Andersonia heterophylla	0.2	0.5
Anigozanthos humilis subsp. *humilis*	0.2	0.5
Banksia attenuata	3	6
Banksia dallanneyi var. *dallanneyi*	0.15	0.5
Banksia menziesii	3	4
Banksia telmatiaea	1	6
Borya sphaerocephala	0.1	0.1
Bossiaea eriocarpa	0.4	1.5
Calectasia narragara	0.2	0.1
Calytrix flavescens	0.25	0.5
Calytrix leschenaultii	0.8	8
Cassytha glabella forma *dispar*	0.4	0.5
Caustis dioica	0.2	0.1
Chordifex chaunocoleus (4)	0.2	0.1
Conostylis teretifolia subsp. *teretifolia*	0.1	0.1
Dasypogon obliquifolius	0.3	2
Drosera eneabba	0.1	0.1

Drosera erythrorhiza subsp. ?*magna*	0.1	0.5
Drosera ?*menziesii*	0.2	0.5
Eremaea asterocarpa subsp. *asterocarpa*	0.4	2
Eremaea pauciflora	0.4	0.5
Gompholobium tomentosum	0.15	0.5
Hakea costata	1	1
Hakea smilacifolia	1.3	0.5
Hakea trifurcata	1	0.5
Hibbertia crassifolia	0.4	1
Hibbertia huegelii	0.3	0.5
Hibbertia hypericoides	0.6	5
Hypocalymma xanthopetalum	0.15	0.5
Isopogon linearis	0.3	0.5
Jacksonia hakeoides	0.7	1
Jacksonia nutans	0.4	0.5
Laxmannia sessiliflora subsp. ?*australis*	0.1	0.1
Lechenaultia sp.	0.15	0.1
Leucopogon cochlearifolius	0.4	0.5
Leucopogon conostephioides	0.25	0.5
Leucopogon leptanthus	0.1	0.1
Leucopogon sprengelioides	0.4	0.5
Melaleuca clavifolia (3)	0.5	1
Mesomelaena pseudostygia	0.4	0.1
Neurachne alopecuroidea	0.3	0.5
Opercularia vaginata	0.2	0.5
Patersonia occidentalis var. ?*occidentalis*	0.3	0.1
Petrophile brevifolia	0.2	0.1
Petrophile linearis	0.3	0.5
Philotheca spicata	1	0.5
Phlebocarya filifolia	0.1	0.1
Phyllangium divergens	0.1	0.1
Pimelea sulphurea	0.4	0.5
Pterochaeta paniculata	0.1	0.1
Scaevola repens var. *repens*	0.15	0.5
Schoenus clandestinus	0.1	0.5
Schoenus curvifolius	0.2	0.5
Stackhousia monogyna	0.3	0.1
Stirlingia latifolia	0.4	1
Stylidium adpressum	0.1	0.1
Stylidium dichotomum	0.1	0.5
Stylidium diuroides subsp. *diuroides*	0.1	0.1
Stylidium piliferum	0.3	0.5
Stylidium rigidulum	0.1	0.1
Synaphea spinulosa subsp. *spinulosa*	0.4	0.5
Trachymene pilosa	0.1	0.1
Verticordia densiflora var. *densiflora*	0.2	0.1
Xanthorrhoea preissii	1.3	0.5
Xanthosia huegelii	0.1	0.5

PHOTO



Site Name:	NEW193
Site Type:	QUADRAT
Dimensions:	10m x 10m
Survey Date:	28/09/2012
GPS Location:	WGS84 (Zone 50) 348707E 6601877N
Vegetation Type:	18
Landform Type:	Mid Slope
Slope Class:	Gently Inclined (3 degrees)
Aspect:	E
Soil Type:	Sandy Loam
Soil Colour:	Grey Brown (other)
Rock Outcrop:	No bedrock exposed
CF Abundance:	<2%
CF Sizes:	2-6mm, 6-20mm
CF Types:	Laterite
Vegetation Condition:	1 - Pristine
Disturbance:	None
Fire:	>5yrs

DOMINANT TAXA IN VEGETATION STRATA

Lower Stratum 1: *Banksia telmatiaea, Calothamnus sanguineus, Calytrix leschenaultii, Gastrolobium oxylobioides, Hakea incrassata, Hibbertia hypericoides, Leucopogon cochlearifolius* (0.6 m, 43%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Acacia sphacelata subsp. *verticillata*	0.2	0.1
Allocasuarina humilis	1	1
Anigozanthos humilis subsp. *humilis*	0.1	0.1
Astroloma glaucescens	0.1	0.1
Babingtonia camphorosmae	0.4	0.2
Banksia telmatiaea	0.6	15
Borya sphaerocephala	0.1	0.1
Calothamnus sanguineus	0.6	2
Calytrix aurea	1	0.3
Calytrix leschenaultii	0.6	10
Caustis dioica	0.3	0.1
Cryptandra myriantha	0.1	0.1
Daviesia incrassata subsp. *incrassata*	0.4	1
Drosera erythrorhiza subsp. ?*magna*	0.1	0.1
Drosera pallida		0.1
Elythranthera brunonis	0.2	0.1
Gastrolobium oxylobioides	0.4	5
Hakea incrassata	0.6	2
Hakea trifurcata	0.4	0.2

Hibbertia crassifolia	0.3	0.2
Hibbertia hypericoides	0.6	5
Hypocalymma xanthopetalum	0.1	0.1
Lepidobolus preissianus	0.3	0.1
Leptospermum spinescens	0.5	0.1
Leucopogon cochlearifolius	0.5	4
Leucopogon leptanthus	0.2	0.1
Leucopogon sp. Coujinup (M.A. Burgman 1085)	0.1	0.1
Melaleuca clavifolia (3)	0.4	0.5
Melaleuca seriata	0.3	0.1
Neurachne alopecuroidea	0.1	0.1
Opercularia vaginata	0.1	0.1
Petrophile brevifolia	0.6	0.3
Schoenus clandestinus	0.1	0.1
Stenanthemum notiale subsp. *chamelum*	0.1	0.1
Stylidium obtusatum	0.1	0.1
Stylidium piliferum	0.1	0.1
Stylidium purpureum ms	0.1	0.1
Verticordia densiflora var. *densiflora*	0.6	0.2
Waitzia acuminata var. *albicans*	0.1	0.1
Xanthorrhoea preissii	1	0.2
Xanthosia huegelii	0.1	0.1

PHOTO



Site Name:	NEW195
Site Type:	QUADRAT
Dimensions:	10m x 10m
Survey Date:	08/10/2012
GPS Location:	WGS84 (Zone 50) 348467E 6600110N
Vegetation Type:	18
Landform Type:	Flat
Slope Class:	Very Gently Inclined (1 degree)
Aspect:	SW
Soil Type:	Sand
Soil Colour:	Grey
Rock Outcrop:	No bedrock exposed
CF Abundance:	0%
Vegetation Condition:	1 - Pristine
Disturbance:	None
Fire:	>5 years

DOMINANT TAXA IN VEGETATION STRATA

Mid Stratum 1: *Xanthorrhoea preissii* (2 m, 4%)

Mid Stratum 2: *Allocasuarina humilis, Conospermum stoechadis* subsp. *stoechadis, Hibbertia hypericoides* (1.2 m, 10%)

Lower Stratum 1: *Calothamnus sanguineus, Calytrix leschenaultii, Dasypogon obliquifolius, Eremaea pauciflora, Hakea costata, Hakea trifurcata, Isopogon linearis, Jacksonia nutans, Melaleuca seriata, Stirlingia latifolia, Verticordia densiflora* var. *densiflora* (0.7m, 36.5%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Acacia stenoptera	0.5	0.5
Alexgeorgea nitens	0.1	0.5
Allocasuarina humilis	1.2	4
Anigozanthos humilis subsp. *humilis*	0.2	0.5
Astroloma glaucescens	0.5	1
Austrostipa macalpinei	0.1	0.1
Banksia dallanneyi var. *dallanneyi*	0.1	1
Banksia telmatiaea	0.6	1
Boronia ramosa subsp. *anethifolia*	0.15	0.1
Calectasia narragara	0.5	0.1
Calothamnus sanguineus	0.7	2
Calytrix flavescens	0.2	0.5
Calytrix leschenaultii	0.5	4
Cassytha glabella forma *dispar*	0.1	0.1
Caustis dioica	0.1	0.1
Chordifex sinuosus	0.4	0.1
Conospermum stoechadis subsp. *stoechadis*	1	2

Conostylis teretifolia subsp. *teretifolia*	0.1	0.5
Dasypogon obliquifolius	0.5	2
Daviesia incrassata subsp. *incrassata*	0.8	1.5
Drosera eneabba	0.1	0.1
Drosera erythrorhiza subsp. ?*magna*	0.1	1
Eremaea pauciflora	0.7	3.5
Gompholobium tomentosum	0.1	0.1
Gonocarpus cordiger	0.1	0.1
Goodenia sp.	0.2	0.5
Hakea costata	0.8	2
Hakea obliqua subsp. *parviflora*	1	0.5
Hakea trifurcata	0.5	3
Hemiandra linearis	0.1	0.1
Hibbertia crassifolia	0.2	0.5
Hibbertia huegelii	0.3	0.5
Hibbertia hypericoides	1	4
Hyalosperma cotula	0.1	0.1
Hypocalymma xanthopetalum	0.5	0.5
**Hypochaeris glabra*	0.1	0.1
Isopogon linearis	0.5	2
Isotropis cuneifolia subsp. *cuneifolia*	0.1	0.1
Jacksonia nutans	0.7	9
Lechenaultia sp.	0.1	0.1
Leucopogon cochlearifolius	0.4	1
Lomandra hermaphrodita	0.1	0.1
Lysinema pentapetalum	0.7	0.5
Melaleuca clavifolia (3)	1	1
Melaleuca seriata	0.7	4
Mesomelaena pseudostygia	0.4	0.5
Neurachne alopecuroidea	0.1	0.1
Opercularia vaginata	0.15	0.1
Patersonia occidentalis var. ?*occidentalis*	0.6	0.5
Pterochaeta paniculata	0.1	0.1
Schoenus clandestinus	0.1	0.5
Schoenus pleiostemoneus	0.2	0.5
Siloxerus humifusus	0.1	0.1
Stirlingia latifolia	0.4	2
Stylidium adpressum	0.1	0.1
Stylidium dichotomum	0.1	0.1
Stylidium diuroides subsp. *diuroides*	0.1	0.5
Stylidium rigidulum	0.1	0.1
Synaphea spinulosa subsp. *spinulosa*	0.8	0.5
Trachymene pilosa	0.1	0.1
Verticordia densiflora var. *densiflora*	0.6	3
Xanthorrhoea preissii	2	4
Xanthosia huegelii	0.1	0.1

PHOTO



Site Name:	NEW196
Site Type:	QUADRAT
Dimensions:	10m x 10m
Survey Date:	09/10/2012
GPS Location:	WGS84 (Zone 50) 346518E 6600707N
Vegetation Type:	18
Landform Type:	Upper Slope
Slope Class:	Very Gently Inclined (1 degree)
Aspect:	W
Soil Type:	Sand
Soil Colour:	Grey
Rock Outcrop:	No bedrock exposed
CF Abundance:	0%
Vegetation Condition:	1 - Pristine
Disturbance:	None
Fire:	>5yrs

DOMINANT TAXA IN VEGETATION STRATA

Lower Stratum1: *Banksia dallanneyi* var. *dallanneyi, Calothamnus sanguineus, Dasypogon obliquifolius, Eremaea pauciflora, Hibbertia hypericoides, Jacksonia nutans, Melaleuca clavifolia, Scholtzia involucrata* (0.4 m, 48%)

Lower Stratum2: *Cassytha glabella* forma *dispar* (4%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Acacia pulchella var. *reflexa*	0.6	0.5
Acacia stenoptera	0.4	0.1
Alexgeorgea nitens	0.1	0.1
Amphipogon turbinatus	0.3	0.1
Anarthria gracilis	0.3	0.2
Anigozanthos humilis subsp. *humilis*	0.1	0.1
Anigozanthos manglesii	0.3	0.1
Astroloma glaucescens	0.1	0.1
Austrostipa macalpinei	0.2	0.1
Banksia dallanneyi var. *dallanneyi*	0.1	2
Bossiaea eriocarpa	0.3	1
Burchardia congesta	0.2	0.1
Caladenia flava subsp. *flava*	0.03	0.1
Calectasia narragara	0.2	0.1
Calothamnus sanguineus	0.4	2
Calytrix flavescens	0.1	0.1
Cassytha ?*aurea*	0.1	0.1
Cassytha glabella forma *dispar*		4
Caustis dioica	0.2	0.1
Conostylis aurea	0.3	0.1

Conostylis teretifolia subsp. *teretifolia*	0.1	0.1
Dasypogon obliquifolius	0.4	11
Daviesia incrassata subsp. *incrassata*	0.4	0.5
Drosera erythrorhiza subsp. ?*magna*	0.01	0.1
Drosera humilis	0.1	0.1
Drosera menziesii	0.1	0.1
Drosera sp.	0.2	0.1
Eremaea asterocarpa subsp. *asterocarpa*	0.3	0.5
Eremaea pauciflora	0.4	11
Goodenia sp.	0.1	0.1
Hakea costata	1	1
Hakea smilacifolia	0.6	0.5
Hibbertia crassifolia	0.3	0.1
Hibbertia huegelii	0.3	1
Hibbertia hypericoides	0.4	4
Hypocalymma xanthopetalum	0.1	0.5
Isotropis cuneifolia subsp. *cuneifolia*	0.1	0.1
Jacksonia nutans	0.4	4
Johnsonia pubescens subsp. *pubescens*	0.3	0.1
Lepidosperma ?*pubisquameum*	0.5	0.1
Leucopogon cochlearifolius	0.4	0.1
Leucopogon sprengelioides	0.2	0.1
Lomandra hermaphrodita	0.2	0.1
Lyginia imberbis	0.3	0.1
Lysinema pentapetalum	0.5	0.5
Melaleuca clavifolia (3)	0.4	6
Mesomelaena pseudostygia	0.4	1
Neurachne alopecuroidea	0.3	0.1
Patersonia occidentalis var. ?*occidentalis*	0.3	1
Petrophile brevifolia	0.3	0.5
Petrophile linearis	0.4	0.5
Philotheca spicata	0.7	0.1
Phyllangium divergens	0.04	0.1
Pimelea sulphurea	0.4	1
Pterochaeta paniculata	0.04	0.1
Pyrorchis nigricans	0.01	0.1
Scaevola phlebopetala	0.1	0.1
Schoenus clandestinus	0.03	0.1
Schoenus curvifolius	0.4	0.1
Schoenus pleiostemoneus	0.1	0.5
Scholtzia involucrata	0.3	8
Stylidium adpressum	0.06	0.1
Stylidium cygnorum	0.05	0.1
Stylidium dichotomum	0.06	0.1
Stylidium diuroides subsp. *diuroides*	0.1	0.1
Stylidium piliferum	0.1	0.1
Stylidium purpureum ms	0.4	0.1
Stylidium rigidulum	0.1	0.1

Synaphea spinulosa subsp. *spinulosa*	0.3	0.1
Trachymene pilosa	0.05	0.1
Verticordia densiflora var. *densiflora*	0.4	1
Xanthosia huegelii	0.1	0.1

PHOTO



Site Name:	NEW197
Site Type:	QUADRAT
Dimensions:	10m x 10m
Survey Date:	09/10/2012
GPS Location:	WGS84 (Zone 50) 346354E 6600380N
Vegetation Type:	9a
Landform Type:	Wetland
Slope Class:	Level (0 degrees)
Soil Type:	Sandy Loam
Soil Colour:	Brown
Rock Outcrop:	No bedrock exposed
CF Abundance:	0%
Vegetation Condition:	1 - Pristine
Disturbance:	None
Fire:	>5yrs

DOMINANT TAXA IN VEGETATION STRATA

Upper Stratum 1: *Melaleuca viminea* subsp. *viminea* (3 m, 80%)

Mid Stratum 1: *Hakea varia* (1.6 m, 4%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
**Aira cupaniana*	0.1	0.2
**Cotula bipinnata*	0.03	0.1
Goodenia pulchella subsp. Coastal Plain A (M. Hislop 634)	0.1	0.1
Hakea varia	1.6	4
**Hypochaeris glabra*	0.06	0.1
Melaleuca ?*rhaphiophylla*	0.5	0.1
Melaleuca teretifolia	2	0.5
Melaleuca viminea subsp. *viminea*	3	80
**Polypogon monspeliensis*	0.1	0.1
Pterostylis ?*pyramidalis*	0.1	0.1
?*Thysanotus* sp.	0.1	0.1

PHOTO



Site Name:	NEW198
Site Type:	QUADRAT
Dimensions:	10m x 10m
Survey Date:	09/10/2012
GPS Location:	WGS84 (Zone 50) 346432E 6599864N
Vegetation Type:	1
Landform Type:	Open Depression
Slope Class:	Very Gently Inclined (1 degree)
Aspect:	E
Soil Type:	Sand
Soil Colour:	Grey
Rock Outcrop:	No bedrock exposed
CF Abundance:	0%
Vegetation Condition:	1 - Pristine
Disturbance:	None
Fire:	>5yrs

DOMINANT TAXA IN VEGETATION STRATA

Mid Stratum 1: *Hakea varia, Melaleuca rhaphiophylla, Pericalymma ellipticum* var. *ellipticum, Regelia ciliata, Verticordia densiflora* var. *densiflora* (1.2 m, 31%)

Lower Stratum 1: *Banksia telmatiaea, Melaleuca clavifolia, Petrophile brevifolia* (0.8 m, 37%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Alexgeorgea nitens	0.2	0.5
Banksia telmatiaea	0.8	30
Caladenia ?*longicauda*	0.15	0.1
Cassytha glabella forma *dispar*	1	1
Chordifex chaunocoleus (4)	0.4	0.1
Chordifex sinuosus	0.3	1
Conostylis aculeata subsp. *breviflora*	0.1	0.5
Conostylis aurea	0.2	0.1
Corynotheca micrantha	0.2	0.1
Drosera humilis	0.05	0.1
Drosera sp.	0.1	0.1
Hakea varia	1	3
Hibbertia stellaris	0.1	0.1
Lepidosperma longitudinale	0.4	0.1
Leucopogon cochlearifolius	0.3	0.1
Lomandra hermaphrodita	0.1	0.1
Lyginia imberbis	0.4	0.1
Meeboldina cana	0.4	0.2
Melaleuca clavifolia (3)	0.4	2
Melaleuca rhaphiophylla	1.2	4
Opercularia vaginata	0.2	0.1

Pericalymma ellipticum var. *ellipticum*	1.2	5
Petrophile brevifolia	0.4	5
Phlebocarya filifolia	0.8	1
Regelia ciliata	1.2	13
Stylidium purpureum ms	0.2	0.1
Tricostularia neesii var. *neesii*	0.6	0.5
Verticordia densiflora var. *densiflora*	1	6

PHOTO



Site Name:	NEW200
Site Type:	QUADRAT
Dimensions:	10m x 10m
Survey Date:	09/10/2012
GPS Location:	WGS84 (Zone 50) 346014E 6601308N
Vegetation Type:	17
Landform Type:	Upper Slope
Slope Class:	Gently Inclined (3 degrees)
Aspect:	SW
Soil Type:	Sand
Soil Colour:	Grey and Brown (other)
Rock Outcrop:	No bedrock exposed
CF Abundance:	0%
Vegetation Condition:	1 - Pristine
Disturbance:	None
Fire:	>5 years

DOMINANT TAXA IN VEGETATION STRATA

Upper Stratum 1:	*Banksia attenuata*, *B. menziesii* (5 m, 14%)
Mid Stratum 1:	*Jacksonia floribunda* (1.5 m, 10%)
Lower Stratum 1:	*Allocasuarina humilis*, *Dasypogon obliquifolius*, *Eremaea pauciflora*, *Eremaea asterocarpa* subsp. *asterocarpa*, *Hibbertia hypericoides* (0.8 m, 30%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Alexgeorgea nitens	0.1	0.1
Allocasuarina humilis	0.8	6
Amphipogon turbinatus	0.25	0.1
Anigozanthos humilis subsp. *humilis*	0.1	0.5
Astroloma microdonta	0.2	0.1
Banksia attenuata	5	9
Banksia menziesii	4	5
Bossiaea eriocarpa	0.2	0.5
Calothamnus sanguineus	1	1
Calytrix flavescens	0.4	0.5
Cassytha glabella forma *dispar*	0.4	1
Conostephium pendulum	0.6	1
Conostylis aurea	0.1	0.5
Conostylis teretifolia subsp. *teretifolia*	0.1	0.1
Dasypogon obliquifolius	0.5	5
Daviesia divaricata subsp. *divaricata* ms	1.5	1
Drosera eneabba	0.1	0.1
Drosera erythrorhiza subsp. ?*magna*	0.1	0.5
Drosera ?*menziesii*	0.1	0.5
Eremaea asterocarpa subsp. *asterocarpa*	0.5	6

Eremaea pauciflora	0.7	6
Gastrolobium capitatum	0.1	0.1
Hibbertia crassifolia	0.3	1
Hibbertia huegelii	0.1	0.5
Hibbertia hypericoides	0.5	7
Hypocalymma xanthopetalum	0.2	0.5
Jacksonia floribunda	1.5	10
Johnsonia pubescens subsp. *pubescens*	0.15	0.1
Lepidobolus preissianus subsp. *preissianus*	0.1	0.1
Leptospermum spinescens	0.5	0.5
Leucopogon conostephioides	0.25	0.5
Leucopogon sprengelioides	0.4	0.5
Lomandra hermaphrodita	0.1	0.5
Lyginia barbata	0.15	0.5
Lysinema pentapetalum	0.4	0.1
Melaleuca clavifolia (3)	0.5	0.5
Mesomelaena pseudostygia	0.3	0.5
Patersonia occidentalis var. ?*occidentalis*	0.4	1
Petrophile linearis	0.4	1
Pimelea sulphurea	0.2	0.5
Schoenus clandestinus	0.1	0.5
Schoenus curvifolius	0.2	0.1
Schoenus ?*subfascicularis*	0.4	0.5
Stylidium adpressum	0.1	0.5
Stylidium crossocephalum	0.15	0.5
Stylidium diuroides subsp. *diuroides*	0.1	0.1
Stylidium piliferum	0.2	0.1
Stylidium rigidulum	0.25	0.5
Synaphea spinulosa subsp. *spinulosa*	0.3	0.5
Xanthosia huegelii	0.1	0.5

PHOTO



Site Name: NEW202
Site Type: QUADRAT
Dimensions: 10m x 10m
Survey Date: 08/10/2012
GPS Location: WGS84 (Zone 50) 344047E 6599742N
Vegetation Type: 18
Landform Type: Flat
Slope Class: Level (0 degrees)
Soil Type: Sand
Soil Colour: White over Grey (other)
Rock Outcrop: No bedrock exposed
CF Abundance: 0%
Vegetation Condition: 1 - Pristine
Disturbance: None
Fire: >5 years

DOMINANT TAXA IN VEGETATION STRATA

Upper Stratum 1: *Banksia attenuata*, *B. menziesii* (3.5 m, 10%)
Mid Stratum 1: *Eremaea pauciflora*, *Stirlingia latifolia* (1 m, 18%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Alexgeorgea nitens	0.1	0.1
Allocasuarina humilis	0.8	0.4
Andersonia heterophylla	0.2	0.1
Anigozanthos humilis subsp. *humilis*	0.2	0.1
Banksia attenuata	2.5	2
Banksia menziesii	3.5	8
Banksia tortifolia	0.2	0.2
Beaufortia elegans	0.6	1
Bossiaea eriocarpa	0.3	0.1
Calothamnus sanguineus	0.3	0.2
Calytrix flavescens		
Cassytha glabella forma *dispar*		0.1
Chordifex sinuosus	0.4	0.1
Conospermum stoechadis subsp. *stoechadis*	1	0.4
Conostephium pendulum	0.4	0.2
Conostylis angustifolia	0.3	0.2
Conostylis teretifolia subsp. *teretifolia*	0.1	0.1
Dasypogon obliquifolius	0.3	0.2
Daviesia incrassata subsp. *incrassata*	0.6	0.3
Drosera erythrorhiza subsp. ?*magna*	0.1	0.1
Drosera pallida	0.1	0.1
Drosera sp.	0.1	0.1
Drosera spilos	0.1	0.1

Eremaea asterocarpa subsp. *asterocarpa*	0.5	0.4
Eremaea pauciflora	1	15
Hakea trifurcata	0.3	0.2
Hibbertia crassifolia	0.4	0.3
Hibbertia huegelii	0.3	0.3
Hypocalymma xanthopetalum	0.4	0.4
Jacksonia nutans	1	0.3
Leucopogon sprengelioides	0.3	0.1
Lysinema pentapetalum	0.4	0.2
Melaleuca clavifolia (3)	0.3	0.2
Mesomelaena pseudostygia	0.4	0.1
Nuytsia floribunda	4	1.5
Patersonia occidentalis var. ?*occidentalis*	0.4	0.2
Petrophile linearis	0.4	0.3
Schoenus clandestinus	0.1	0.1
Schoenus curvifolius	0.3	0.1
Stirlingia latifolia	1	3
Stylidium adpressum	0.1	0.1
Stylidium crossocephalum	0.1	0.1
Stylidium diuroides subsp. *diuroides*	0.2	0.1
Stylidium piliferum	0.3	0.1
Synaphea spinulosa subsp. *spinulosa*	0.3	0.2
Tricostularia neesii var. *neesii*	0.4	0.1
Xanthosia huegelii	0.1	0.1

PHOTO



Site Name: NEW203
Site Type: QUADRAT
Dimensions: 10m x 10m
Survey Date: 11/10/2012
GPS Location: WGS84 (Zone 50) 342398E 6599970N
Vegetation Type: 17
Landform Type: Plain
Slope Class: Level (0 degrees)
Soil Type: Sand
Soil Colour: Grey and White (other)
Rock Outcrop: No bedrock exposed
CF Abundance: 0%
Vegetation Condition: 1 - Pristine
Disturbance: None
Fire: >5 years

DOMINANT TAXA IN VEGETATION STRATA

Upper Stratum 1: *Banksia attenuata*, *B. menziesii* (5 m, 25%)
Lower Stratum 1: *Dasypogon obliquifolius, Eremaea pauciflora, Jacksonia nutans, Leucopogon sprengelioides* (0.8 m, 29%)
Lower Stratum 2: *Mesomelaena pseudostygia, Patersonia occidentalis* var. ?*occidentalis* (0.4 m, 5%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Acacia sphacelata subsp. *verticillata*	0.3	0.1
Alexgeorgea nitens	0.1	0.1
Amphipogon turbinatus	0.2	0.1
Banksia attenuata	5	20
Banksia menziesii	4	5
Banksia shuttleworthiana	0.1	0.2
Bossiaea eriocarpa	0.2	1
Calytrix flavescens	0.3	0.1
Cassytha glabella forma *dispar*		2
Conostephium pendulum	0.3	0.5
Conostylis aurea	0.3	0.1
Dasypogon obliquifolius	0.3	2
Drosera sp.	0.1	0.1
Drosera spilos	0.1	0.1
Eremaea pauciflora	0.8	20
Gastrolobium capitatum	0.2	0.2
Gompholobium tomentosum	0.2	0.1
Hibbertia crassifolia	0.2	0.4
Hibbertia huegelii	0.2	0.3
Hypocalymma xanthopetalum	0.2	1
Jacksonia nutans	0.5	5

Leptospermum spinescens	0.3	0.2
Leucopogon conostephioides	0.2	0.4
Leucopogon sprengelioides	0.3	2
Lysinema pentapetalum		
Melaleuca clavifolia (3)	0.5	1
Mesomelaena pseudostygia	0.4	3
Patersonia occidentalis var. ?*occidentalis*	0.2	2
Petrophile linearis	0.3	1
Petrophile macrostachya	0.3	0.5
Phlebocarya filifolia	0.3	0.2
Pimelea ?*sulphurea*	0.1	0.1
Schoenus brevisetis	0.1	0.3
Schoenus clandestinus	0.1	0.2
Stylidium adpressum	0.1	0.1
Stylidium diuroides subsp. *diuroides*	0.1	0.1
Stylidium piliferum	0.1	0.1
Xanthosia huegelii	0.1	0.1

PHOTO



Site Name:	NEW204
Site Type:	QUADRAT
Dimensions:	10m x 10m
Survey Date:	09/10/2012
GPS Location:	WGS84 (Zone 50) 344628E 6600497N
Vegetation Type:	9a
Landform Type:	Flat
Slope Class:	Level (0 degrees)
Aspect:	SW
Soil Type:	Loam
Soil Colour:	Brown
Rock Outcrop:	No bedrock exposed
CF Abundance:	0%
Vegetation Condition:	2 - Excellent
Disturbance:	None
Fire:	>5 years

DOMINANT TAXA IN VEGETATION STRATA

Upper Stratum 1: *Melaleuca rhaphiophylla* (3.5 m, 3%)

Mid Stratum 1: *Regelia ciliata* (2 m, 13%)

Mid Stratum 2: *Hakea varia*, *Melaleuca viminea* subsp. *viminea* (1.7 m, 36%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
**Aira cupaniana*	0.1	0.6
**Cotula bipinnata*	0.1	0.5
Crassula colorata var. *acuminata*	0.1	0.1
Goodenia pulchella subsp. Coastal Plain A (M. Hislop 634)	0.1	0.1
Hakea varia	1.3	6
**Hypochaeris glabra*	0.1	0.5
Melaleuca rhaphiophylla	3.5	3
Melaleuca viminea subsp. *viminea*	1.7	30
**Polypogon monspeliensis*	0.1	0.5
Regelia ciliata	2	13
Trachymene pilosa	0.1	0.1
**Vellereophyton dealbatum*	0.1	0.1
**Vulpia* sp.	0.1	0.1

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Site Name:	NEW205
Site Type:	QUADRAT
Dimensions:	10m x 10m
Survey Date:	09/10/2012
GPS Location:	WGS84 (Zone 50) 344872E 6601118N
Vegetation Type:	18
Landform Type:	Flat
Slope Class:	Very Gently Inclined (1 degree)
Aspect:	SE
Soil Type:	Sand
Soil Colour:	Grey
Rock Outcrop:	No bedrock exposed
CF Abundance:	0%
Vegetation Condition:	1 - Pristine
Disturbance:	None
Fire:	>5 years

DOMINANT TAXA IN VEGETATION STRATA

Mid Stratum 1: *Xanthorrhoea preissii* (2 m, 4%)

Mid Stratum 2: *Banksia telmatiaea* (1 m, 50%)

Lower Stratum 1: *Hakea costata, Jacksonia nutans, Melaleuca seriata* (0.6 m, 19%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Acacia pulchella var. *reflexa*	0.5	0.5
Acacia stenoptera	0.25	0.5
Anigozanthos humilis subsp. *humilis*	0.1	0.1
Astroloma glaucescens	0.1	0.5
Banksia dallanneyi var. *dallanneyi*	0.1	0.5
Banksia telmatiaea	1	50
?*Burchardia* sp.	0.2	0.1
Calothamnus sanguineus	0.2	0.5
Cassytha glabella forma *dispar*	0.1	0.1
Caustis dioica	0.2	0.1
Conostylis teretifolia subsp. *teretifolia*	0.1	0.1
Hakea costata	0.6	5
Hakea incrassata	0.5	0.5
Hakea trifurcata	0.7	0.5
Hibbertia crassifolia	0.2	0.5
Hibbertia huegelii	0.2	0.5
Hypocalymma xanthopetalum	0.3	0.5
Jacksonia nutans	0.3	10
Lepidosperma ?*pubisquameum*	0.1	0.1
Leucopogon cochlearifolius	0.3	0.5
Leucopogon leptanthus	0.1	0.5

Lomandra hermaphrodita	0.1	0.1
Melaleuca clavifolia (3)	0.5	0.5
Melaleuca seriata	0.5	4
Neurachne alopecuroidea	0.1	0.5
Patersonia occidentalis var. ?*occidentalis*	0.2	0.1
Platysace xerophila	0.1	0.1
Pterochaeta paniculata	0.1	0.1
Scaevola repens var. *repens*	0.1	0.1
Schoenus clandestinus	0.1	0.1
Stylidium diuroides subsp. *diuroides*	0.1	0.5
Stylidium purpureum ms	0.1	0.1
Synaphea spinulosa subsp. *spinulosa*	0.2	0.5
Xanthorrhoea preissii	2	4
Xanthosia huegelii	0.1	0.1

PHOTO



Site Name: NEW206
Site Type: QUADRAT
Dimensions: 10m x 10m
Survey Date: 08/10/2012
GPS Location: WGS84 (Zone 50) 344948E 6601690N
Vegetation Type: 9b
Landform Type: Open Depression
Slope Class: Very Gently Inclined (1 degree)
Aspect: NW
Soil Type: Clayey sand (other)
Soil Colour: dark grey (other)
Rock Outcrop: No bedrock exposed
CF Abundance: 0%
Vegetation Condition: 2 - Excellent
Fire: > 5 years

DOMINANT TAXA IN VEGETATION STRATA

Upper Stratum 1: *Eucalyptus rudis* subsp. *rudis* (20 m, 10 %)
Upper Stratum 2: *Melaleuca rhaphiophylla* (8 m, 30%)
Mid Stratum 1: *Acacia saligna* subsp. *lindleyi* (3 m, 7%)
Lower Stratum 1: **Hypochaeris glabra* (0.01 m, 3%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Acacia saligna subsp. *lindleyi* ms	3	7
**Aira cupaniana*	0.1	0.1
**Arctotheca calendula*	0.05	0.1
**Briza minor*	0.05	0.1
Calandrinia sp. Two Rocks (K. Richardson 211)	0.04	0.1
Centrolepis aristata	0.02	0.1
Centrolepis polygyna	0.05	0.1
Crassula ?*colorata* var. *colorata*	0.01	0.1
Daucus glochidiatus	0.1	0.1
Eucalyptus rudis subsp. *rudis*	20	10
Euchiton sphaericus	0.05	0.1
Goodenia pulchella subsp. Coastal Plain A (M. Hislop 634)	0.05	0.1
**Hypochaeris glabra*	0.01	3
**Lysimachia arvensis*	0.1	1
Melaleuca rhaphiophylla	8	30
Opercularia vaginata	0.1	0.1
**Polycarpon tetraphyllum*	0.1	0.1
Siloxerus humifusus	0.01	0.5
Trachymene pilosa	0.1	0.1
**Trifolium arvense* var. *arvense*	0.1	0.1

Triglochin nana	0.03	0.1
**Vulpia bromoides*	0.05	0.1

PHOTO



Site Name:	NEW207
Site Type:	QUADRAT
Dimensions:	10m x 10m
Survey Date:	08/10/2012
GPS Location:	WGS84 (Zone 50) 344178E 6601775N
Vegetation Type:	17
Landform Type:	dune / lower slope (other)
Slope Class:	Moderately Inclined (10 degrees)
Aspect:	S
Soil Type:	Sand
Soil Colour:	grey / white (other)
Rock Outcrop:	No bedrock exposed
CF Abundance:	0%
Vegetation Condition:	1 - Pristine
Disturbance:	None
Fire:	> 5 years

DOMINANT TAXA IN VEGETATION STRATA

Upper Stratum 1:	*Banksia attenuata* (4 m, 12 %)
Mid Stratum 1:	*Eremaea pauciflora, Jacksonia nutans* (1.2 m, 22 %)
Lower Stratum 1:	*Dasypogon obliquifolius, Melaleuca clavifolia* (0.5 m, 15%)
Lower Stratum 2:	*Patersonia occidentalis* var. ?*occidentalis* (0.5 m, 3%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Acacia stenoptera	0.4	0.1
Alexgeorgea nitens	0.05	0.1
Amphipogon turbinatus	0.1	0.1
Anigozanthos humilis subsp. *humilis*	0.1	0.1
Austrostipa compressa	0.2	0.1
Banksia attenuata	4	12
Blancoa canescens	0.1	0.1
Boronia ramosa subsp. *anethifolia*	0.1	0.1
Bossiaea eriocarpa	0.3	0.5
Calytrix ?*flavescens*	0.3	1
Cassytha glabella forma *dispar*		1
Centrolepis mutica	0.03	0.1
Centrolepis pilosa	0.03	0.1
Chordifex sinuosus	0.3	0.1
Conostephium pendulum	0.2	0.2
Conostylis juncea	0.2	0.1
Conostylis teretifolia subsp. *teretifolia*	0.1	0.1
Crassula ?*colorata* var. *colorata*	0.03	0.1
Dasypogon obliquifolius	0.5	10
Drosera eneabba	0.05	0.1

Drosera erythrorhiza subsp. ?*magna*	0.01	0.1
Drosera menziesii	0.2	0.1
Eremaea asterocarpa subsp. *asterocarpa*	0.3	1
Eremaea pauciflora	1.1	17
Eucalyptus todtiana		
Gompholobium tomentosum	0.1	0.1
Hibbertia crassifolia	0.2	0.1
Hibbertia huegelii	0.4	0.1
Hibbertia hypericoides	0.3	1
Hibbertia subvaginata	0.3	0.5
Hypocalymma xanthopetalum	0.15	0.5
**Isolepis marginata*	0.02	0.1
Jacksonia floribunda	0.2	0.1
Jacksonia nutans	1.2	5
Johnsonia pubescens subsp. *pubescens*	0.1	0.1
Lepidosperma pubisquameum	0.4	0.2
Leporella fimbriata	0.01	0.1
Leptospermum spinescens	0.4	0.1
Leucopogon conostephioides	0.2	1.5
Leucopogon sp. Coujinup (M.A. Burgman 1085)	0.4	0.1
Leucopogon sprengelioides	0.3	0.1
Lomandra hermaphrodita	0.2	0.1
Melaleuca clavifolia (3)	0.5	5
Mesomelaena pseudostygia	0.4	0.1
Patersonia occidentalis var. ?*occidentalis*	0.5	3
Petrophile linearis	0.4	0.5
Phlebocarya ciliata	0.5	1.5
Phlebocarya filifolia	0.4	0.5
Phyllangium divergens	0.05	0.1
Platysace xerophila	0.2	0.1
Rytidosperma ?*occidentale*	0.5	0.1
Scaevola repens var. *repens*	0.1	0.1
Schoenus clandestinus	0.03	0.1
Schoenus curvifolius	0.2	0.1
Schoenus sp.	0.2	0.1
Scholtzia involucrata	0.2	0.1
Stylidium crossocephalum	0.1	0.1
Stylidium repens	0.05	0.1
Stylidium rigidulum	0.1	0.1
Trachymene pilosa	0.1	0.1
**Wahlenbergia capensis*	0.2	0.1
Xanthorrhoea preissii	0.7	0.1
Xanthosia huegelii	0.1	0.1

PHOTO



Site Name: NEW208
Site Type: QUADRAT
Dimensions: 10m x 10m
Survey Date: 11/10/2012
GPS Location: WGS84 (Zone 50) 342772E 6600383N
Vegetation Type: 1
Landform Type: Flat
Slope Class: Level (0 degrees)
Soil Type: Sand
Soil Colour: Grey and White (other)
Rock Outcrop: No bedrock exposed
CF Abundance: 0%
Vegetation Condition: 1 - Pristine
Disturbance: None
Fire: >5 years

DOMINANT TAXA IN VEGETATION STRATA

Mid Stratum 1: *Melaleuca rhaphiophylla* (1 m, 5%)
Lower Stratum 2: *Banksia telmatiaea, Regelia ciliata* (0.7 m, 75%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Baeckea sp. Perth Region (R.J. Cranfield 444) (3)	0.4	0.2
Banksia shuttleworthiana	0.2	0.2
Banksia telmatiaea	0.5	10
Cassytha glabella forma *dispar*		0.1
Conostylis aculeata subsp. *breviflora*	0.2	0.1
Hakea sulcata	0.5	0.8
Hakea varia	0.5	0.3
Hibbertia stellaris	0.3	0.2
Lepidosperma sp.	0.4	0.1
Melaleuca rhaphiophylla	1	5
Melaleuca seriata	0.4	0.6
Patersonia occidentalis var. ?*occidentalis*	0.3	0.3
Pericalymma ellipticum var. *ellipticum*	0.4	0.2
Petrophile brevifolia	0.3	0.4
Petrophile seminuda	0.4	0.5
Pimelea imbricata var. *piligera*	0.3	0.3
Regelia ciliata	0.7	65
Stackhousia monogyna	0.3	0.1
Stylidium araeophyllum ms	0.4	0.2
Velleia trinervis	0.2	0.1

PHOTO



Site Name: NEW209
Site Type: QUADRAT
Dimensions: 10m x 10m
Survey Date: 10/10/2012
GPS Location: WGS84 (Zone 50) 344568E 6598385N
Vegetation Type: 1
Landform Type: Plain
Slope Class: Level (0 degrees)
Soil Type: Sand
Soil Colour: Grey and White (other)
Rock Outcrop: No bedrock exposed
CF Abundance: 0%
Vegetation Condition: 1 - Pristine
Disturbance: None
Fire: >5 years

DOMINANT TAXA IN VEGETATION STRATA

Lower Stratum 1: *Banksia telmatiaea, Hakea sulcata, Melaleuca seriata, Pericalymma ellipticum* var. *ellipticum, Petrophile seminuda, Pileanthus filifolius, Regelia ciliata* (0.8 m, 66%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Andersonia heterophylla	0.1	0.1
Banksia telmatiaea	0.3	10
Beaufortia squarrosa	0.7	0.8
Calytrix aurea	0.3	1
Cassytha aurea var. *hirta*		0.1
Cassytha glabella forma *dispar*		1
Conostylis juncea	0.1	0.1
Drosera gigantea subsp. *gigantea*	0.1	0.1
Hakea sulcata	0.6	25
Hakea varia	0.3	0.2
Hibbertia stellaris	0.2	1
Lepidobolus preissianus	0.3	0.2
Leucopogon conostephioides	0.2	0.1
Melaleuca rhaphiophylla	0.6	0.8
Melaleuca seriata	0.4	2
Pericalymma ellipticum var. *ellipticum*	0.5	10
Petrophile brevifolia	0.2	1
Petrophile seminuda	0.3	2
Phlebocarya ciliata	0.4	0.5
Pileanthus filifolius	0.4	2
Regelia ciliata	0.8	15
Stackhousia monogyna		
Stylidium diuroides subsp. *diuroides*	0.2	0.1

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Site Name:	NEW210
Site Type:	QUADRAT
Dimensions:	10m x 10m
Survey Date:	10/10/2012
GPS Location:	WGS84 (Zone 50) 343348E 6597290N
Vegetation Type:	1
Landform Type:	Open Depression
Slope Class:	Very Gently Inclined (1 degree)
Aspect:	NE
Soil Type:	Sandy Loam
Soil Colour:	Brown and Grey (other)
Rock Outcrop:	No bedrock exposed
CF Abundance:	0%
Vegetation Condition:	1 - Pristine
Disturbance:	None
Fire:	>5 years

DOMINANT TAXA IN VEGETATION STRATA

Mid Stratum 1:	*Hakea varia, Pericalymma ellipticum* var. *ellipticum, Xanthorrhoea preissii* (1.1 m, 9%)
Lower Stratum 1:	*Banksia telmatiaea, Melaleuca seriata, Regelia ciliata, Verticordia densiflora* var. *densiflora* (0.8 m, 53%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Astroloma glaucescens	0.1	0.1
Banksia telmatiaea	0.5	3
?*Burchardia* sp.	0.3	0.1
Cassytha glabella forma *dispar*	0.2	0.5
Conostylis aculeata subsp. *spinuligera*	0.3	0.5
Hakea varia	1.1	2
Hibbertia stellaris	0.2	0.5
Melaleuca seriata	0.3	3
Opercularia vaginata	0.1	0.1
Patersonia occidentalis var. ?*occidentalis*	0.2	0.5
Pericalymma ellipticum var. *ellipticum*	1	5
Petrophile brevifolia	0.4	0.1
Petrophile seminuda	0.3	1
Ptilotus manglesii	0.1	0.2
Regelia ciliata	0.8	45
Scaevola anchusifolia	0.1	0.5
Stylidium diuroides subsp. *diuroides*	0.1	0.1
Verticordia densiflora var. *densiflora*	0.4	2
Xanthorrhoea preissii	1	2

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Site Name: NEW211
Site Type: QUADRAT
Dimensions: 10m x 10m
Survey Date: 10/10/2012
GPS Location: WGS84 (Zone 50) 342893E 6597172N
Vegetation Type: 9b
Landform Type: Flat
Slope Class: Level (0 degrees)
Soil Type: Sandy Loam
Soil Colour: Grey
Rock Outcrop: No bedrock exposed
CF Abundance: 0%
Vegetation Condition: 1 - Pristine
Disturbance: None
Fire: >5 years

DOMINANT TAXA IN VEGETATION STRATA

Upper Stratum 1: *Acacia saligna* subsp. *lindleyi*, *Melaleuca rhaphiophylla* (3.5 m, 65%)
Lower Stratum 1: *Melaleuca seriata* (0.5 m, 3%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Acacia saligna subsp. *lindleyi* ms	3	60
**Aira cupaniana*	0.1	0.5
**Avellinia michelii*	0.1	0.1
Centrolepis aristata	0.1	0.5
Drosera glanduligera	0.1	0.1
Exocarpos sparteus	1	0.5
Hydrocotyle callicarpa	0.1	0.1
**Hypochaeris glabra*	0.1	1
Levenhookia stipitata	0.1	0.1
**Lysimachia arvensis*	0.1	0.1
Melaleuca rhaphiophylla	3.5	5
Melaleuca seriata	0.5	3
Opercularia vaginata	0.1	0.1
**Parentucellia latifolia*	0.1	0.1
Poranthera drummondii	0.1	0.1
Schoenus subfascicularis	0.7	0.5
Siloxerus humifusus	0.1	0.5
Trachymene pilosa	0.1	0.5
Verticordia densiflora var. *densiflora*		

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Site Name:	NEW213
Site Type:	QUADRAT
Dimensions:	10m x 10m
Survey Date:	10/10/2012
GPS Location:	WGS84 (Zone 50) 343618E 6596552N
Vegetation Type:	9b
Landform Type:	Open Depression
Slope Class:	Very Gently Inclined (1 degree)
Aspect:	SW
Soil Type:	Sand
Soil Colour:	Grey and Brown (other)
Rock Outcrop:	No bedrock exposed
CF Abundance:	0%
Vegetation Condition:	2 - Excellent
Disturbance:	Grazing
Fire:	>5 years

DOMINANT TAXA IN VEGETATION STRATA

Upper Stratum 1:	*Eucalyptus rudis* subsp. *rudis* (11 m, 25%)
Upper Stratum 2:	*Melaleuca rhaphiophylla* (6 m, 15%)
Lower Stratum 1:	*Schoenus subfascicularis* (1 m, 6%)
Lower Stratum 2:	*Cassytha racemosa* forma *racemosa* (11%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
**Aira cupaniana*	0.1	0.1
**Arctotheca calendula*	0.1	0.5
**Briza minor*	0.1	0.1
Bulbine semibarbata	0.1	0.1
Calandrinia corrigioloides	0.1	0.1
Cassytha racemosa forma *racemosa*		11
**Centaurea melitensis*	0.1	0.5
Cotula australis	0.1	0.5
Crassula colorata var. *acuminata*	0.1	0.1
Daucus glochidiatus	0.1	0.1
*?*Ehrharta* sp.	0.1	0.5
Erodium cygnorum	0.1	0.1
Erodium sp.	0.1	0.1
Eucalyptus rudis subsp. *rudis*	11	25
**Galium murale*	0.1	0.1
Hibbertia hypericoides	0.1	0.1
**Hypochaeris glabra*	0.1	2
**Isolepis marginata*	0.1	0.1
Lepidosperma ?pubisquameum	0.3	0.5
Leucopogon propinquus	0.3	0.5

**Lysimachia arvensis*	0.1	1
Macrozamia fraseri	0.15	0.1
Melaleuca rhaphiophylla	6	15
**Polycarpon tetraphyllum*	0.1	0.1
Poranthera drummondii	0.1	0.1
Schoenus subfascicularis	1	6
**Solanum nigrum*	0.1	0.1
**Sonchus oleraceus*	0.1	0.1
Trachymene pilosa	0.1	1

PHOTO



Site Name: NEW214
Site Type: QUADRAT
Dimensions: 10m x 10m
Survey Date: 10/10/2012
GPS Location: WGS84 (Zone 50) 344391E 6596535N
Vegetation Type: 18
Landform Type: Low Rise (other)
Slope Class: Level (0 degrees)
Soil Type: Sand
Soil Colour: Grey and White (other)
Rock Outcrop: No bedrock exposed
CF Abundance: 0%
Vegetation Condition: 1 - Pristine
Disturbance: None
Fire: >5 years

DOMINANT TAXA IN VEGETATION STRATA

Upper Stratum 1: *Banksia attenuata* (3 m, 2%)
Mid Stratum 1: *Conospermum stoechadis* subsp. *stoechadis, Eremaea pauciflora, Stirlingia latifolia* (1.2 m, 20%)
Lower Stratum 1: *Allocasuarina humilis, Hibbertia hypericoides, Jacksonia nutans* (0.8 m, 27%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Allocasuarina humilis	0.8	2
Amphipogon turbinatus	0.4	0.2
Anigozanthos humilis subsp. *humilis*	0.2	0.1
Astroloma microdonta	0.1	0.1
Austrostipa macalpinei	0.1	0.1
Banksia attenuata	3	2
Bossiaea eriocarpa	0.3	0.4
Burchardia congesta	0.3	0.1
Conospermum stoechadis subsp. *stoechadis*	1	7
Conostephium pendulum	0.4	0.5
Conostylis teretifolia subsp. *teretifolia*	0.2	0.1
Daviesia incrassata subsp. *incrassata*	1	1
Drosera erythrorhiza subsp. ?*magna*	0.1	0.1
Drosera sp.	0.2	0.1
Drosera spilos	0.1	0.1
Eremaea asterocarpa subsp. *asterocarpa*	0.5	1
Eremaea pauciflora	1.2	10
Hakea costata	1	0.2
Hakea ruscifolia	1.3	0.3
Hemiphora bartlingii	0.3	0.1
Hibbertia huegelii	0.3	0.3

Hibbertia hypericoides	0.6	5
Hybanthus calycinus	0.4	0.1
Hypocalymma xanthopetalum	0.4	0.3
Jacksonia nutans	0.6	20
Lepidobolus preissianus subsp. *preissianus*	0.6	0.1
Leucopogon polymorphus	0.4	0.1
Leucopogon sprengelioides	0.4	0.5
Lysinema pentapetalum	0.3	0.2
Melaleuca clavifolia (3)	0.4	0.6
Mesomelaena pseudostygia	0.6	0.1
Patersonia occidentalis var. ?*occidentalis*	0.3	0.3
Petrophile linearis	0.5	0.2
Petrophile macrostachya	0.3	0.5
Pileanthus filifolius	0.4	0.1
Pimelea sulphurea	0.4	0.1
Pterochaeta paniculata	0.1	0.1
Schoenus clandestinus	0.1	0.1
Stenanthemum notiale subsp. *chamelum*	0.2	0.1
Stirlingia latifolia	1.1	3
Stylidium crossocephalum	0.3	0.3
Stylidium diuroides subsp. *diuroides*	0.2	0.1
Stylidium piliferum	0.4	0.1
Synaphea spinulosa subsp. *spinulosa*	0.4	1
Thysanotus spiniger	0.3	0.2
Waitzia suaveolens var. *suaveolens*	0.2	0.1
Xanthorrhoea preissii	1.3	1
Xanthosia huegelii	0.3	0.2

PHOTO



Site Name:	NEW215
Site Type:	QUADRAT
Dimensions:	10m x 10m
Survey Date:	09/10/2012
GPS Location:	WGS84 (Zone 50) 345893E 6597222N
Vegetation Type:	1
Landform Type:	Flat
Slope Class:	Level (0 degrees)
Soil Type:	Sandy Loam
Soil Colour:	Grey
Rock Outcrop:	No bedrock exposed
CF Abundance:	0%
Vegetation Condition:	1 - Pristine
Disturbance:	None
Fire:	>5 years

DOMINANT TAXA IN VEGETATION STRATA

Lower Stratum 1: *Banksia telmatiaea*, *Verticordia densiflora* var. *densiflora* (0.6 m, 97%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Astroloma glaucescens	0.2	0.5
Banksia dallanneyi var. *dallanneyi*	0.1	0.5
Banksia telmatiaea	0.6	95
Hakea varia	0.8	1
Leucopogon sp. Coujinup (M.A. Burgman 1085)	0.15	0.5
?*Lomandra* sp.	0.1	0.1
Melaleuca seriata	0.45	1
Patersonia occidentalis var. ?*occidentalis*	0.3	1
Pericalymma ellipticum var. *ellipticum*	0.7	0.5
Petrophile seminuda	0.8	1
Scaevola anchusifolia	0.1	0.1
Schoenus subfascicularis	0.4	0.5
Verticordia densiflora var. *densiflora*	0.5	2

PHOTO



Site Name: NEW216
Site Type: QUADRAT
Dimensions: 10m x 10m
Survey Date: 10/10/2012
GPS Location: WGS84 (Zone 50) 346021E 6597584N
Vegetation Type: 17
Landform Type: Flat
Slope Class: Level (0 degrees)
Soil Type: Sand
Soil Colour: Grey and White (other)
Rock Outcrop: No bedrock exposed
CF Abundance: 0%
Vegetation Condition: 1 - Pristine
Disturbance: None
Fire: >5 years

DOMINANT TAXA IN VEGETATION STRATA

Upper Stratum 1: *Banksia attenuata*, *Eucalyptus todtiana* (7 m, 30%)
Mid Stratum 1: *Jacksonia nutans*, *Xanthorrhoea preissii* (1.5 m, 28%)
Lower Stratum 1: *Eremaea asterocarpa* subsp. *asterocarpa*, *Melaleuca clavifolia*, *Petrophile linearis* (0.4 m, 12%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Acacia stenoptera	0.2	0.1
Alexgeorgea nitens	0.2	0.1
Amphipogon turbinatus	0.3	0.1
Austrostipa macalpinei	0.2	0.1
Banksia attenuata	5	25
Boronia ramosa subsp. *anethifolia*	0.3	0.1
Bossiaea eriocarpa	0.5	0.4
Cassytha aurea var. *hirta*		0.1
Conostylis juncea	0.2	0.1
Dasypogon obliquifolius	0.6	1.5
Daviesia incrassata subsp. *incrassata*	0.6	0.5
Drosera erythrorhiza subsp. ?*magna*	0.1	0.1
Drosera pallida	0.2	0.1
Drosera spilos	0.1	0.1
Eremaea asterocarpa subsp. *asterocarpa*	0.4	10
Eremaea pauciflora	0.6	1
Eucalyptus todtiana	7	5
Hibbertia hypericoides	0.2	0.1
Hypocalymma sp. Nambung (R. Spjut & R. Smith s.n. 22/09/1992)	0.2	0.1
Hypocalymma xanthopetalum	0.2	0.2

Jacksonia nutans	1.4	25
Lepidosperma sp.	0.5	0.1
Leucopogon conostephioides	0.3	0.2
Leucopogon sprengelioides	0.4	0.2
Melaleuca clavifolia (3)	0.4	2
Patersonia occidentalis var. ?*occidentalis*	0.3	1
Petrophile linearis	0.5	1
Philotheca spicata	0.2	0.1
Phlebocarya ciliata	0.3	0.1
Phlebocarya filifolia	0.4	0.2
Phyllangium divergens	0.1	0.1
Pileanthus filifolius	0.5	0.3
Scaevola repens var. *repens*	0.2	0.1
Schoenus brevisetis	0.4	0.1
Schoenus curvifolius	0.4	0.1
Schoenus subfascicularis	0.4	0.1
Stirlingia latifolia	0.6	0.3
Stylidium adpressum	0.1	0.1
Stylidium araeophyllum ms	0.3	0.1
Stylidium piliferum	0.1	0.1
Stylidium rigidulum	0.4	0.1
Synaphea spinulosa subsp. *spinulosa*	0.4	0.5
Xanthorrhoea preissii	1.5	3

PHOTO



Site Name:	NEW217
Site Type:	QUADRAT
Dimensions:	10m x 10m
Survey Date:	10/10/2012
GPS Location:	WGS84 (Zone 50) 346469E 6596136N
Vegetation Type:	18
Landform Type:	Plain
Slope Class:	Level (0 degrees)
Soil Type:	Sand
Soil Colour:	Grey and White (other)
Rock Outcrop:	No bedrock exposed
CF Abundance:	0%
Vegetation Condition:	1 - Pristine
Disturbance:	None
Fire:	>5 years

DOMINANT TAXA IN VEGETATION STRATA

Upper Stratum 1:	*Nuytsia floribunda* (4.1 m, 3%)
Mid Stratum 1:	*Xanthorrhoea preissii* (2.3 m, 5%)
Mid Stratum 2:	*Hakea costata* (1.4 m, 5%)
Lower Stratum 1:	*Banksia shuttleworthiana, Bossiaea eriocarpa, Calothamnus sanguineus, Dasypogon obliquifolius, Eremaea pauciflora, Hibbertia crassifolia, Hibbertia huegelii, Leucopogon sprengelioides, Melaleuca clavifolia, Melaleuca seriata* (0.5 m, 49%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Alexgeorgea nitens	0.1	0.1
Allocasuarina humilis	0.4	0.1
Amphipogon turbinatus	0.3	0.1
Andersonia lehmanniana subsp. *lehmanniana*	0.2	0.5
Anigozanthos humilis subsp. *humilis*	0.1	0.1
Astroloma glaucescens	0.2	0.5
Austrostipa macalpinei	0.1	0.1
Banksia shuttleworthiana	0.2	3
Bossiaea eriocarpa	0.3	3
Calothamnus sanguineus	0.5	2
Calytrix flavescens	0.2	0.2
Cassytha glabella forma *dispar*		5
Caustis dioica	0.1	0.1
Conostylis aurea	0.2	0.3
Conostylis teretifolia subsp. *teretifolia*	0.1	0.2
Crassula ?*colorata* var. *acuminata*	0.1	0.1
Dasypogon obliquifolius	0.5	7
Drosera erythrorhiza subsp. ?*magna*		0.1
Drosera spilos	0.1	0.1

Eremaea asterocarpa subsp. *asterocarpa*	0.4	0.5
Eremaea pauciflora	0.4	20
Hakea costata	1.4	5
Hibbertia crassifolia	0.4	2
Hibbertia huegelii	0.5	3
Hypocalymma xanthopetalum	0.5	1
Isotropis cuneifolia subsp. *cuneifolia*	0.1	0.1
Jacksonia nutans	0.5	1.3
Johnsonia pubescens subsp. *pubescens*	0.2	0.1
Leucopogon sprengelioides	0.4	4
Lysinema pentapetalum	0.3	0.3
Melaleuca clavifolia (3)	0.6	3
Melaleuca seriata	0.8	2
Mesomelaena pseudostygia	0.2	0.1
Nuytsia floribunda	4.1	3
Petrophile brevifolia	0.3	0.1
Petrophile linearis	0.5	1
Philotheca spicata	0.3	0.1
Pterochaeta paniculata	0.1	0.1
Schoenus clandestinus	0.1	0.2
Schoenus curvifolius	0.2	0.1
Stirlingia latifolia	0.6	0.5
Stylidium adpressum	0.1	0.1
Stylidium araeophyllum ms	0.2	0.1
Stylidium rigidulum	0.2	0.1
Stylidium roseoalatum	0.1	0.1
Synaphea spinulosa subsp. *spinulosa*	0.3	0.1
Xanthorrhoea preissii	2.3	5
Xanthosia huegelii	0.1	0.2

PHOTO



Site Name: NEW218
Site Type: QUADRAT
Dimensions: m x m
Survey Date: 10/10/2012
GPS Location: WGS84 (Zone 50) 347296E 6596320N
Vegetation Type: 17
Soil Type: Sand
Soil Colour: white over grey (other)
Vegetation Condition: 1 - Pristine
Disturbance: None

DOMINANT TAXA IN VEGETATION STRATA

Upper Stratum 1: *Banksia attenuata, B. menziesii* (5 m, 8 %)
Mid Stratum 1: *Conospermum stoechadis* subsp. *stoechadis* (1.2 m, 6 %)
Lower Stratum 1: *Eremaea pauciflora, Melaleuca clavifolia, Petrophile macrostachya, Scholtzia involucrata* (0.9 m, 44 %)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Alexgeorgea nitens	0.1	0.1
Amphipogon turbinatus	0.4	0.1
Austrostipa compressa	0.2	0.1
Banksia attenuata	5	6
Banksia ilicifolia	6	
Banksia menziesii	3	2
Bossiaea eriocarpa	0.3	0.2
Burchardia congesta	0.5	0.1
Calytrix flavescens	0.2	0.1
Cassytha glabella forma *dispar*		2
Chordifex sinuosus	0.2	0.1
Conospermum stoechadis subsp. *stoechadis*	1.2	6
Conostephium pendulum	0.3	0.1
Conostylis teretifolia subsp. *teretifolia*	0.1	0.1
Dasypogon obliquifolius	0.3	0.1
Drosera eneabba	0.1	0.1
Drosera menziesii	0.1	0.1
Eremaea asterocarpa subsp. *asterocarpa*	0.4	0.1
Eremaea pauciflora	0.9	35
Hibbertia huegelii	0.4	0.1
Hibbertia hypericoides	0.4	0.1
Hypocalymma xanthopetalum	0.3	0.1
Jacksonia floribunda	0.5	0.1
Jacksonia nutans	0.5	1
Leptospermum erubescens	1.6	1.5
Leucopogon sprengelioides	0.5	0.1
Levenhookia stipitata	0.1	0.1

Lomandra hermaphrodita	0.2	0.1
Lyginia barbata	0.6	0.1
Melaleuca clavifolia (3)	0.4	5
Mesomelaena pseudostygia	0.4	0.1
Monotaxis grandiflora var. *grandiflora*	0.2	0.1
Patersonia occidentalis var. ?*occidentalis*	0.5	0.2
Petrophile linearis	0.3	0.1
Petrophile macrostachya	0.7	2
Philotheca spicata	0.4	0.1
Phyllangium divergens	0.1	0.1
Pimelea sulphurea	0.5	0.1
Schoenus curvifolius	0.3	0.1
Scholtzia involucrata	0.4	2
Stylidium crossocephalum	0.2	0.1
Stylidium repens	0.1	0.1
Synaphea spinulosa subsp. *spinulosa*	0.3	0.1
Xanthorrhoea preissii	1.2	1

PHOTO



Site Name: NEW219
Site Type: QUADRAT
Dimensions: 10m x 10m
Survey Date: 10/10/2012
GPS Location: WGS84 (Zone 50) 347962E 6596226N
Vegetation Type: 1
Landform Type: broad depression (other)
Soil Type: sandy clay (other)
Soil Colour: Grey
Rock Outcrop: No bedrock exposed
CF Abundance: 0%
Vegetation Condition: 1 - Pristine

DOMINANT TAXA IN VEGETATION STRATA

Mid Stratum 1: *Banksia telmatiaea, Hakea trifurcata* (1.4 m, 84 %)
Lower Stratum 1: *Conostylis aculeata* subsp. *breviflora* (0.2 m, 3%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Acacia stenoptera	0.5	0.1
**Aira cupaniana*	0.1	0.1
Austrostipa macalpinei	0.2	0.1
Banksia littoralis	6	
Banksia telmatiaea	1.2	75
**Centaurea melitensis*	0.2	0.1
Centrolepis polygyna	0.1	0.1
Conostylis aculeata subsp. *breviflora*	0.2	3
Crassula ?colorata var. *colorata*	0.1	0.1
Daucus glochidiatus	0.1	0.1
Gompholobium tomentosum	0.1	0.1
Hakea trifurcata	1.4	9
Hakea varia	1.2	0.5
Hydrocotyle callicarpa	0.1	0.1
**Hypochaeris glabra*	0.1	0.5
Jacksonia nutans	0.7	0.2
Lepidosperma longitudinale	0.7	0.1
**Lysimachia arvensis*	0.2	0.1
Melaleuca rhaphiophylla	1.7	
Melaleuca seriata	0.7	0.1
Melaleuca teretifolia	1.2	
Opercularia vaginata	0.2	0.1
Petrophile seminuda	1	0.1
Regelia ciliata	0.1	0.1
**Sonchus oleraceus*	0.2	0.1
Thysanotus manglesianus		0.1
Trachymene pilosa	0.2	0.1

**Ursinia anthemoides*	0.2	0.1
Verticordia densiflora	0.7	1
**Wahlenbergia capensis*	0.2	0.1
Wahlenbergia gracilenta	0.1	0.1

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Site Name: NEW220
Site Type: QUADRAT
Dimensions: 10m x 10m
Survey Date: 10/10/2012
GPS Location: WGS84 (Zone 50) 348644E 6596296N
Vegetation Type: 1
Landform Type: very broad depression (other)
Slope Class: Very Gently Inclined (1 degree)
Aspect: SW
Soil Type: sandy clay (other)
Soil Colour: Yellow
Vegetation Condition: 1 - Pristine

DOMINANT TAXA IN VEGETATION STRATA

Mid Stratum 1: *Melaleuca rhaphiophylla* (1.6 m, 8%)
Lower Stratum 1: *Banksia telmatiaea*, *Melaleuca seriata, Verticordia densiflora* (0.8 m, 54%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Acacia pulchella var. *reflexa*	1.2	0.5
Acacia stenoptera	0.6	0.1
Austrostipa compressa	0.1	0.1
Banksia telmatiaea	0.7	40
Beaufortia elegans	0.5	0.1
Beaufortia squarrosa	0.5	0.1
Cassytha aurea		0.1
Caustis dioica	0.4	0.1
Centrolepis polygyna	0.1	0.1
Chordifex sinuosus	0.3	0.2
Conostylis aculeata subsp. *breviflora*	0.3	0.1
Daviesia incrassata subsp. *incrassata*	0.7	1
Drosera heterophylla	0.1	0.1
Gnephosis drummondii	0.1	0.1
Hibbertia hypericoides	0.3	0.1
Hibbertia stellaris	0.2	0.1
Jacksonia nutans	0.4	0.1
Lepidosperma longitudinale	0.6	0.1
Levenhookia stipitata	0.1	0.1
Lomandra hermaphrodita	0.1	0.1
Lyginia barbata	0.8	0.1
Melaleuca rhaphiophylla	1.6	8
Melaleuca seriata	0.8	10
Nuytsia floribunda		
Opercularia vaginata	0.2	0.1
Petrophile seminuda	1	0.5
Scaevola anchusifolia	0.1	0.1

Schoenus subfascicularis	0.7	0.1
Siloxerus ?*humifusus*	0.1	0.1
Stylidium purpureum ms	0.1	0.1
Synaphea spinulosa subsp. *spinulosa*	0.4	0.1
Thysanotus manglesianus		0.1
Trachymene pilosa	0.1	0.1
**Ursinia anthemoides*	0.1	0.1
Verticordia densiflora	0.8	4
Verticordia lindleyi subsp. *lindleyi* (4)	0.4	0.1
Viminaria juncea	0.1	
Xanthorrhoea preissii		

PHOTO



Site Name:	NEW221
Site Type:	QUADRAT
Dimensions:	10m x 10m
Survey Date:	09/10/2012
GPS Location:	WGS84 (Zone 50) 348822E 6596742N
Vegetation Type:	18
Landform Type:	Plain
Slope Class:	Level (0 degrees)
Soil Type:	Sand
Soil Colour:	Grey and White (other)
Rock Outcrop:	No bedrock exposed
CF Abundance:	0%
Vegetation Condition:	1 - Pristine
Disturbance:	None
Fire:	>5 years

DOMINANT TAXA IN VEGETATION STRATA

Mid Stratum 1: *Hakea costata*, *Hakea trifurcata*, *Xanthorrhoea preissii* (1.5 m, 10%)

Lower Stratum 1: *Allocasuarina humilis*, *Calothamnus sanguineus*, *Eremaea pauciflora*, *Melaleuca seriata* (0.7 m, 19%)

Lower Stratum 2: *Mesomelaena pseudostygia*, *Schoenus clandestinus* (0.3 m, 7%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Allocasuarina humilis	0.7	8
Amphipogon turbinatus	0.6	0.1
Austrostipa macalpinei	0.1	0.1
Baeckea grandiflora	0.8	0.1
Banksia shuttleworthiana	0.3	1
Bossiaea eriocarpa	0.4	0.5
Calothamnus sanguineus	0.2	3
Calytrix flavescens	0.4	0.1
Cassytha aurea var. *hirta*		0.1
Caustis dioica	0.3	0.1
Comesperma acerosum	0.2	0.1
Conostylis aurea	0.2	0.1
Conostylis teretifolia subsp. *teretifolia*	0.1	0.1
Cryptandra myriantha	0.1	0.1
Daviesia incrassata subsp. *incrassata*	0.6	0.5
Drosera erythrorhiza subsp. ?*magna*		0.1
Drosera spilos	0.1	0.1
Eremaea asterocarpa subsp. *asterocarpa*	0.4	1
Eremaea pauciflora	0.4	4
Gastrolobium oxylobioides	0.5	1
Hakea costata	1.2	5

Hakea trifurcata	1	2
Hibbertia huegelii	0.3	1
Hibbertia hypericoides	0.4	0.3
Hypocalymma sp. Nambung (R. Spjut & R. Smith s.n. 22/09/1992)	0.1	0.1
Hypocalymma xanthopetalum	0.3	0.2
Leucopogon sprengelioides	0.5	1
Lysinema pentapetalum	0.4	0.5
Melaleuca clavifolia (3)	0.5	1
Melaleuca seriata	0.6	4
Mesomelaena pseudostygia	0.3	5
Opercularia vaginata	0.1	0.2
Patersonia occidentalis var. ?*occidentalis*	0.2	0.1
Persoonia comata	0.2	0.1
Petrophile macrostachya	0.5	0.5
Pileanthus filifolius	0.4	0.1
Pimelea sulphurea	0.2	0.1
Pterochaeta paniculata	0.1	0.2
Schoenus brevisetis	0.3	0.1
Schoenus clandestinus		2
Schoenus curvifolius	0.2	0.1
Stylidium adpressum	0.1	0.1
Stylidium araeophyllum ms	0.1	0.1
Stylidium crossocephalum	0.2	0.1
Stylidium piliferum	0.2	0.1
Stylidium rigidulum	0.1	0.1
Synaphea spinulosa subsp. *spinulosa*	0.4	0.1
Trachymene pilosa	0.1	0.1
Xanthorrhoea preissii	1.5	3
Xanthosia huegelii	0.1	0.1

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Site Name: NEW222
Site Type: QUADRAT
Dimensions: 10m x 10m
Survey Date: 09/10/2012
GPS Location: WGS84 (Zone 50) 348636E 6597133N
Vegetation Type: 17
Landform Type: Flat
Slope Class: Level (0 degrees)
Soil Type: Sand
Soil Colour: Grey and White (other)
Rock Outcrop: No bedrock exposed
CF Abundance: 0%
Vegetation Condition: 1 - Pristine
Disturbance: None
Fire: >5 years

DOMINANT TAXA IN VEGETATION STRATA

Upper Stratum 1: *Banksia menziesii*, *Eucalyptus todtiana* (6 m, 25%)
Mid Stratum 1: *Banksia attenuata*, *Eremaea pauciflora*, *Xanthorrhoea preissii* (1.4 m, 32%)
Lower Stratum 1: *Hibbertia hypericoides*, *Melaleuca seriata* (0.8 m, 12%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Alexgeorgea nitens	0.1	0.2
Amphipogon turbinatus	0.4	0.1
Anigozanthos humilis subsp. *humilis*	0.2	0.1
Banksia attenuata	1	15
Banksia menziesii	6	5
Bossiaea eriocarpa	0.3	0.2
Calytrix flavescens	0.2	0.1
Calytrix fraseri	0.3	0.2
Cassytha glabella forma *dispar*		0.1
Comesperma calymega	0.3	0.1
Conospermum stoechadis subsp. *stoechadis*		
Conostylis juncea	0.3	0.1
Conostylis teretifolia subsp. *teretifolia*	0.1	0.1
Dasypogon obliquifolius	0.3	0.8
Drosera erythrorhiza subsp. ?*magna*	0.1	0.1
Drosera pallida		0.1
Drosera spilos	0.1	0.1
Eremaea asterocarpa subsp. *asterocarpa*	0.6	0.1
Eremaea pauciflora	1	15
Eucalyptus todtiana	6	20
Gastrolobium capitatum	0.3	0.2
Gompholobium tomentosum	0.3	0.2

Hibbertia huegelii	0.3	0.8
Hibbertia hypericoides	0.8	10
Hypocalymma xanthopetalum	0.3	0.1
Jacksonia floribunda	1.3	0.3
Lepidosperma sp.	0.4	0.1
Leptospermum spinescens	0.4	0.3
Leucopogon polymorphus	0.2	0.1
Leucopogon sprengelioides	0.3	0.1
Melaleuca seriata	0.8	2
Mesomelaena pseudostygia	1	0.5
Monotaxis grandiflora var. *grandiflora*	0.1	0.1
Patersonia occidentalis var. ?*occidentalis*	0.6	1
Petrophile linearis	0.3	0.4
Petrophile macrostachya	0.3	0.2
Phyllangium divergens	0.1	0.1
Pimelea sulphurea	0.4	0.3
Poranthera drummondii	0.1	0.1
Schoenus pleiostemoneus	0.3	0.1
Stylidium adpressum	0.2	0.1
Stylidium araeophyllum ms	0.4	0.1
Stylidium piliferum	0.3	0.1
Synaphea spinulosa subsp. *spinulosa*	0.3	0.3
Trachymene pilosa	0.1	0.1
Xanthorrhoea preissii	1.4	2

PHOTO



Site Name:	NEW224
Site Type:	QUADRAT
Dimensions:	10m x 10m
Survey Date:	09/10/2012
GPS Location:	WGS84 (Zone 50) 348717E 6598089N
Vegetation Type:	17
Landform Type:	Plain
Slope Class:	Level (0 degrees)
Soil Type:	Sand
Soil Colour:	Grey and White (other)
Rock Outcrop:	No bedrock exposed
CF Abundance:	0%
Vegetation Condition:	1 - Pristine
Disturbance:	None
Fire:	>5 years

DOMINANT TAXA IN VEGETATION STRATA

Upper Stratum 1:	*Banksia attenuata*, *Melaleuca preissiana* (6 m, 20%)
Mid Stratum 1:	*Beaufortia squarrosa*, *Hakea obliqua* subsp. *parviflora*, *Jacksonia nutans* (1.6 m, 19%)
Mid Stratum 2:	*Melaleuca seriata* (1.1 m, 30%)
Lower Stratum 1:	*Bossiaea eriocarpa*, *Jacksonia floribunda*, *Synaphea spinulosa* subsp. *spinulosa* (0.5 m, 8%)
Lower Stratum 2:	*Anarthria laevis* (0.3 m, 2%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Alexgeorgea nitens	0.1	0.1
Amphipogon turbinatus	0.3	0.1
Anarthria laevis	0.3	2
Andersonia heterophylla	0.2	0.1
Austrostipa macalpinei	0.1	0.1
Banksia attenuata	5	15
Beaufortia squarrosa	1.5	4
Bossiaea eriocarpa	0.3	4
Calytrix flavescens	0.1	0.1
Cassytha glabella forma *dispar*		0.1
Conostephium pendulum	0.3	0.2
Conostylis juncea	0.2	0.1
Cryptandra nutans	1	0.7
Drosera pallida	0.1	0.1
Drosera sp.	0.1	0.1
Drosera spilos	0.1	0.1
Eremaea pauciflora	0.7	1
Eremaea sp.	0.1	0.1
Gompholobium tomentosum	0.1	0.1

Hakea obliqua subsp. *parviflora*	1.6	5
Hibbertia crassifolia	0.4	0.2
Hovea trisperma	0.2	0.1
Hypocalymma xanthopetalum	0.2	0.1
Jacksonia floribunda	0.3	2
Jacksonia nutans	1.4	10
Lepidosperma sp.	0.4	0.1
Leucopogon conostephioides	0.2	0.1
Leucopogon sprengelioides	0.2	0.1
Melaleuca preissiana	6	5
Melaleuca seriata	1.1	30
Patersonia occidentalis var. ?*occidentalis*	0.3	0.2
Petrophile linearis	0.2	1
Phlebocarya ciliata	0.3	0.1
Phyllangium divergens	0.1	0.1
Poranthera drummondii	0.1	0.1
Schoenus brevisetis	0.5	0.1
Stirlingia latifolia	0.3	0.2
Stylidium adpressum	0.1	0.1
Stylidium crossocephalum	0.1	0.1
Stylidium hymenocraspedum (2)	0.5	0.1
Stylidium rigidulum	0.1	0.2
Stylidium ?*sp. Kalbarri (A. Carr 145)*		0.1
Synaphea spinulosa subsp. *spinulosa*	0.5	2
Thysanotus arbuscula	0.1	0.1
Trachymene pilosa	0.1	0.1
Tricostularia neesii var. *neesii*	0.6	0.1
Xanthorrhoea preissii	1.2	0.4
Xanthosia huegelii	0.1	0.1

PHOTO



Site Name:	NEW225
Site Type:	QUADRAT
Dimensions:	10m x 10m
Survey Date:	26/09/2012
GPS Location:	WGS84 (Zone 50) 350813E 6603719N
Vegetation Type:	9a
Landform Type:	Wetland
Slope Class:	Level (0 degrees)
Soil Type:	Sandy Loam
Soil Colour:	Grey and Brown (other)
Rock Outcrop:	No bedrock exposed
CF Abundance:	0%
Vegetation Condition:	2 - Excellent
Disturbance:	Exotic Weeds, Rabbits (other)
Fire:	>5 years

DOMINANT TAXA IN VEGETATION STRATA

Upper Stratum 1:	*Melaleuca rhaphiophylla* (2.5 m, 65%)
Mid Stratum 1:	*Banksia telmatiaea, Hakea trifurcata* (1.5 m, 10%)
Lower Stratum 1:	*Hibbertia subvaginata, Melaleuca seriata* (0.5 m, 5%)
Lower Stratum 2:	*Opercularia vaginata, Schoenus subfascicularis* (0.5 m, 42%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Acacia pulchella var. *reflexa*	0.75	0.5
Acacia saligna subsp. *lindleyi* ms	2.5	0.5
**Aira cupaniana*	0.1	0.1
Aphelia cyperoides	0.1	0.5
Banksia telmatiaea	0.6	5
Boronia ramosa subsp. *anethifolia*	0.7	0.5
Caladenia flava subsp. *flava*	0.1	0.1
Cassytha glabella forma *dispar*	0.2	0.5
Centrolepis aristata	0.1	1
Comesperma confertum	0.5	0.1
Conostylis aculeata subsp. *spinuligera*	0.25	0.5
Dampiera linearis	0.1	0.1
Desmocladus lateriticus	0.2	0.1
Drosera erythrorhiza subsp. ?*magna*	0.1	10
Drosera glanduligera	0.1	0.1
Drosera sp.	0.1	0.1
Gnephosis tenuissima	0.1	0.5
Gompholobium tomentosum	0.3	0.1
Haemodorum sp.	0.2	0.1
Hakea costata	0.7	0.1
Hakea trifurcata	1.5	5

Hibbertia crassifolia	0.1	0.1
Hibbertia subvaginata	0.5	3
Hydrocotyle callicarpa	0.1	0.5
**Hypochaeris glabra*	0.1	0.5
Isotropis cuneifolia subsp. *cuneifolia*	0.1	0.1
Lepidosperma ?pubisquameum	0.5	0.5
Melaleuca rhaphiophylla	2.5	65
Melaleuca seriata	0.5	2
Melaleuca teretifolia	1	1
Neurachne alopecuroidea	0.3	0.1
Opercularia vaginata	0.25	2
Petrophile brevifolia	0.4	0.1
Pyrorchis nigricans	0.1	0.1
Scaevola phlebopetala	0.1	0.1
Schoenus subfascicularis	0.5	40
Siloxerus ?humifusus	0.1	0.1
Thysanotus ?manglesianus	1	0.1
Trachymene pilosa	0.1	0.5
**Ursinia anthemoides*	0.1	0.1
Velleia trinervis	0.3	0.1

PHOTO



Site Name:	NEW226
Site Type:	QUADRAT
Dimensions:	10m x 10m
Survey Date:	27/09/2012
GPS Location:	WGS84 (Zone 50) 351722E 6602725N
Vegetation Type:	1
Landform Type:	Wetland
Slope Class:	Very Gently Inclined (1 degree)
Aspect:	NW
Soil Type:	Loamy Sand (other)
Soil Colour:	Brown
Rock Outcrop:	No bedrock exposed
CF Abundance:	0%
Vegetation Condition:	1 - Pristine
Disturbance:	None
Fire:	>5 years

DOMINANT TAXA IN VEGETATION STRATA

Mid Stratum 1: *Banksia telmatiaea, Calothamnus hirsutus, Hakea trifurcata, Jacksonia nutans, Melaleuca seriata* (2 m, 40%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Acacia pulchella var. *reflexa*	1.5	0.1
Asteraceae sp.	0.1	0.1
Banksia telmatiaea	1.5	10
Caladenia flava subsp. *flava*	0.1	0.1
Calothamnus hirsutus	1.5	5
Cassytha glabella forma *dispar*	0.5	0.1
Conostylis aculeata subsp. *spinuligera*	0.2	1
Drosera erythrorhiza subsp. ?*magna*	0.1	0.1
Drosera glanduligera	0.1	0.5
Gompholobium tomentosum	0.2	0.1
Hakea trifurcata	1.8	3
Hyalosperma cotula	0.1	0.5
**Hypochaeris glabra*	0.1	0.1
Jacksonia nutans	1.7	2
Lepidosperma ?*pubisquameum*	0.3	0.5
Melaleuca seriata	2	20
Opercularia vaginata	0.1	0.5
Scaevola phlebopetala	0.15	0.5
Thysanotus ?*manglesianus*	0.2	0.1
Trachymene pilosa	0.1	0.1
Xanthorrhoea preissii	1	1

PHOTO



Site Name:	NEW227
Site Type:	QUADRAT
Dimensions:	10m x 10m
Survey Date:	26/09/2012
GPS Location:	WGS84 (Zone 50) 351292E 6602264N
Vegetation Type:	17
Landform Type:	Top of very gentle hill (other)
Slope Class:	Very Gently Inclined (1 degree)
Soil Type:	Sand
Soil Colour:	White over Grey (other)
Rock Outcrop:	No bedrock exposed
CF Abundance:	0%
Vegetation Condition:	1 - Pristine
Disturbance:	None
Fire:	>5 years

DOMINANT TAXA IN VEGETATION STRATA

Upper Stratum 1:	*Banksia attenuata, B. menziesii* (5m, 15%)
Upper Stratum 2:	*Adenanthos cygnorum* subsp. *cygnorum* (3m, 40%)
Mid Stratum 1:	*Eremaea asterocarpa* subsp. *asterocarpa, Eremaea* ?*asterocarpa* subsp. *asterocarpa, Melaleuca clavifolia, Melaleuca seriata, Stirlingia latifolia, Xanthorrhoea preissii* (1.2 m, 17.5%)
Lower Stratum 1:	*Patersonia occidentalis* var. ?*occidentalis, Schoenus brevisetis* (0.5 m, 12%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Adenanthos cygnorum subsp. *cygnorum*	3	40
Alexgeorgea nitens	0.1	0.1
Banksia attenuata	5	5
Banksia dallanneyi var. *dallanneyi*	0.1	0.1
Banksia menziesii	5	10
Bossiaea eriocarpa	0.1	0.1
Calytrix flavescens	0.1	0.1
Conostephium preissii	0.4	0.5
Conostylis juncea	0.3	0.1
Dasypogon obliquifolius	0.2	0.5
Drosera eneabba	0.1	0.1
Drosera erythrorhiza subsp. ?*magna*	0.1	0.1
Drosera stolonifera	0.1	0.1
Eremaea ?*asterocarpa* subsp. *asterocarpa*	1.2	3
Eremaea asterocarpa subsp. *asterocarpa*	0.6	2
Eremaea pauciflora	0.6	0.5
Gonocarpus cordiger	0.1	0.1
Hibbertia sp. Gnangara (J.R. Wheeler 2329)	0.2	0.5
Hypocalymma xanthopetalum	0.1	0.5

Lomandra hermaphrodita	0.2	0.1
Melaleuca clavifolia (3)	0.9	2.5
Melaleuca seriata	1	3
Patersonia occidentalis var. ?*occidentalis*	0.4	2
Petrophile linearis	0.2	0.1
Philotheca spicata	0.6	0.5
Phyllangium divergens	0.1	0.1
Schoenus brevisetis	0.5	10
Schoenus curvifolius	0.2	0.1
Scholtzia involucrata	0.4	1
Scholtzia sp.	0.1	0.1
Stirlingia latifolia	1	3
Stylidium adpressum	0.1	0.1
Stylidium purpureum ms	0.2	0.1
Synaphea spinulosa subsp. *spinulosa*	0.3	0.1
Xanthorrhoea preissii	1	3

PHOTO



Site Name:	NEW228
Site Type:	QUADRAT
Dimensions:	10m x 10m
Survey Date:	26/09/2012
GPS Location:	WGS84 (Zone 50) 350951E 6602646N
Vegetation Type:	17
Landform Type:	Mid Slope
Slope Class:	Very Gently Inclined (1 degree)
Aspect:	E
Soil Type:	Sand
Soil Colour:	Grey
Rock Outcrop:	No bedrock exposed
CF Abundance:	0%
Vegetation Condition:	1 - Pristine
Disturbance:	None
Fire:	>5 years

DOMINANT TAXA IN VEGETATION STRATA

Upper Stratum 1:	*Banksia attenuata*, *Banksia menziesii*, *Eucalyptus todtiana* (6 m, 50%)
Mid Stratum 1:	*Adenanthos cygnorum* subsp. *cygnorum* (3 m, 5%)
Mid Stratum 2:	*Conostephium magnum*, *Xanthorrhoea preissii* (1.5 m, 20%)
Lower Stratum 1:	*Dasypogon obliquifolius*, *Eremaea pauciflora* (0.7 m, 15.5%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Adenanthos cygnorum subsp. *cygnorum*	3	5
Alexgeorgea nitens	0.1	0.1
?*Arnocrinum* sp.	0.4	0.1
Austrostipa macalpinei	0.1	0.1
Banksia attenuata	3.5	15
Banksia menziesii	6	15
Beaufortia elegans	0.7	1
Beaufortia squarrosa	0.5	2
Blancoa canescens	0.2	0.1
Boronia ramosa subsp. *anethifolia*	0.1	0.1
Bossiaea eriocarpa	0.5	0.5
Burchardia congesta	0.4	0.1
Caladenia flava subsp. *flava*	0.1	0.1
Calytrix flavescens	0.3	0.1
Calytrix fraseri	1	1
Cassytha glabella forma *dispar*	0.4	0.1
Chordifex sinuosus	0.4	0.6
Conostephium magnum (4)	1.5	10
Conostephium pendulum	0.2	0.1
Conostylis juncea	0.1	0.1

Dampiera linearis	0.2	0.1
Dasypogon obliquifolius	0.4	10
Drosera eneabba	0.1	0.5
Drosera erythrorhiza subsp. ?*magna*	0.1	0.1
Drosera sp.	0.3	0.1
Elythranthera brunonis	0.25	0.1
Eremaea asterocarpa subsp. *asterocarpa*	0.5	0.5
Eremaea pauciflora	0.7	5.5
Eucalyptus todtiana	6	20
Gompholobium tomentosum	0.2	0.1
Gonocarpus cordiger	0.3	0.5
Haemodorum ?*discolor*	0.6	0.1
Hibbertia crassifolia	0.3	1
Hibbertia subvaginata	0.3	1
Hypocalymma xanthopetalum	0.1	0.1
Jacksonia sp.	0.1	0.1
Lasiopetalum lineare (3)	0.2	0.1
Lepidosperma sp.	0.4	1
Leucopogon conostephioides	0.5	0.1
Leucopogon sprengelioides	0.3	0.1
Lomandra hermaphrodita	0.1	0.1
Lyginia barbata	0.4	0.1
Melaleuca clavifolia (3)	0.6	0.5
Paracaleana nigrita	0.15	0.1
Patersonia occidentalis var. ?*occidentalis*	0.3	0.5
Petrophile linearis	0.4	1
Phyllangium divergens	0.1	0.1
Schoenus curvifolius	0.15	0.1
Schoenus ?*subfascicularis*	1	0.1
Stylidium adpressum	0.1	0.5
Stylidium purpureum ms	0.15	0.1
Verticordia densiflora var. *densiflora*	0.5	0.1
Xanthorrhoea preissii	1	10
Xanthosia huegelii	0.15	0.5

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Site Name: NEW229
Site Type: QUADRAT
Dimensions: 10m x 10m
Survey Date: 27/09/2012
GPS Location: WGS84 (Zone 50) 352557E 6601713N
Vegetation Type: 17
Landform Type: Flat
Slope Class: Level (0 degrees)
Soil Type: Sand
Soil Colour: Brown over White (other)
Rock Outcrop: No bedrock exposed
CF Abundance: 0%
Vegetation Condition: 1 - Pristine
Fire: >5yrs

DOMINANT TAXA IN VEGETATION STRATA

Upper Stratum 1: *Banksia attenuata*, *B. menziesii* (5 m, 15%)
Mid Stratum 1: *Adenanthos cygnorum* subsp. *cygnorum*, *Xanthorrhoea preissii*, (3 m, 5%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Acacia pulchella var. *reflexa*	1.6	0.5
Adenanthos cygnorum subsp. *cygnorum*	3	2
Alexgeorgea nitens	0.2	0.1
Allocasuarina humilis	1.3	0.7
Anigozanthos humilis subsp. *humilis*	0.1	0.1
Banksia attenuata	5	12
Banksia dallanneyi var. *dallanneyi*	0.2	0.2
Banksia menziesii	5	3
Banksia telmatiaea	0.3	0.1
Beaufortia squarrosa	2.5	1
Bossiaea eriocarpa	0.4	0.8
Caladenia flava subsp. *flava*	0.1	0.1
Calytrix leschenaultii	0.4	0.1
Chordifex chaunocoleus (4)	0.3	0.1
Conospermum stoechadis subsp. *stoechadis*	0.5	0.3
Conostephium magnum (4)	1.6	1
Conostylis aurea	0.3	0.1
Dasypogon obliquifolius	0.3	1
Drosera erythrorhiza subsp. ?*magna*	0.1	0.1
Drosera pallida		0.1
Drosera spilos	0.1	0.1
Elythranthera brunonis	0.3	0.1
Eremaea asterocarpa subsp. *asterocarpa*	0.3	0.1
Gompholobium tomentosum	0.3	0.1
Goodenia ?*coerulea*	0.1	0.1

Hibbertia hypericoides	0.5	0.8
Hibbertia subvaginata	0.3	0.6
Hypocalymma xanthopetalum	0.2	0.1
**Hypochaeris glabra*	0.1	0.1
Indet. sp.	0.1	0.1
Isotropis cuneifolia subsp. *cuneifolia*	0.2	0.1
Jacksonia nutans	0.5	0.3
Jacksonia sternbergiana	0.5	0.1
Johnsonia pubescens subsp. *pubescens*	0.2	0.1
Lepidosperma sp.	0.2	0.1
Melaleuca clavifolia (3)	0.3	0.1
Melaleuca seriata	1.5	1.5
Neurachne alopecuroidea	0.1	0.2
Opercularia vaginata	0.2	0.1
Patersonia occidentalis var. ?*occidentalis*	0.3	0.2
Petrophile linearis	0.2	0.1
Podotheca gnaphalioides	0.2	0.1
Schoenus ?*brevisetis*	0.4	0.1
Schoenus brevisetis	0.4	0.2
Stylidium adpressum	0.1	0.1
Stylidium dichotomum	0.1	0.2
Stylidium piliferum	0.4	0.1
Stylidium rigidulum	0.1	0.1
Thysanotus arbuscula	0.2	0.1
Thysanotus patersonii		0.1
Thysanotus thyrsoideus	0.5	0.1
Thysanotus ?*thyrsoideus*	0.3	0.1
Trachymene pilosa	0.1	0.1
**Vulpia myuros*	0.2	0.1
Waitzia suaveolens var. *suaveolens*	0.1	0.1
Xanthorrhoea preissii	2	3
Xanthosia huegelii	0.1	0.1

PHOTO



Site Name:	NEW230
Site Type:	QUADRAT
Dimensions:	10m x 10m
Survey Date:	26/09/2012
GPS Location:	WGS84 (Zone 50) 351687E 6601938N
Vegetation Type:	17
Landform Type:	Mid Slope
Slope Class:	Gently Inclined (3 degrees)
Soil Type:	Sand
Soil Colour:	White
Rock Outcrop:	No bedrock exposed
CF Abundance:	0%
Vegetation Condition:	1 - Pristine
Disturbance:	None
Fire:	>5 years

DOMINANT TAXA IN VEGETATION STRATA

Upper Stratum 1: *Banksia attenuata*, *B. menziesii* (4.5 m, 11%)

Mid Stratum 1: *Adenanthos cygnorum* subsp. *cygnorum*, *Xanthorrhoea preissii* (3 m, 7%)

Lower Stratum 1: *Cassytha glabella* forma *dispar*, *Eremaea pauciflora*, *Stirlingia latifolia* (1.2 m, 35%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Adenanthos cygnorum subsp. *cygnorum*	3	4
Alexgeorgea nitens	0.5	0.1
Anigozanthos humilis subsp. *humilis*	0.1	0.1
Banksia attenuata	4.5	4
Banksia dallanneyi var. *dallanneyi*	1.5	0.1
Banksia menziesii	4.5	7
Bossiaea eriocarpa	0.4	0.5
Calytrix flavescens	0.25	0.1
Cassytha glabella forma *dispar*		8
Chordifex sinuosus	0.2	0.1
Conostephium magnum (4)	1.2	1
Conostephium pendulum	0.2	0.1
Dasypogon obliquifolius	0.4	1
Drosera erythrorhiza subsp. ?*magna*	0.1	0.1
Drosera menziesii	0.1	0.1
Eremaea pauciflora	1.2	25
Hibbertia hypericoides	0.4	0.5
Hibbertia sp. Gnangara (J.R. Wheeler 2329)	0.3	0.2
Hypocalymma xanthopetalum	0.25	0.3
**Hypochaeris glabra*	0.1	0.1
Johnsonia pubescens subsp. *pubescens*	0.1	0.1
Leporella fimbriata	0.1	0.1

Melaleuca clavifolia (3)	0.5	0.5
Melaleuca seriata	0.5	0.2
Mesomelaena pseudostygia	0.2	0.1
Patersonia occidentalis var. ?*occidentalis*	0.5	1
Petrophile linearis	0.2	0.5
Phyllangium divergens	0.1	0.1
Schoenus curvifolius	0.2	0.5
Scholtzia involucrata	0.4	1
Stirlingia latifolia	1	2
Stylidium adpressum	0.1	0.1
Stylidium hymenocraspedum (2)	0.1	0.1
Stylidium piliferum	0.1	0.1
Synaphea spinulosa subsp. *spinulosa*	0.4	0.5
Trachymene pilosa	0.1	0.1
Xanthorrhoea preissii	1	3
Xanthosia huegelii	0.1	0.1

PHOTO



Site Name:	NEW231
Site Type:	QUADRAT
Dimensions:	10m x 10m
Survey Date:	27/09/2012
GPS Location:	WGS84 (Zone 50) 351375E 6601650N
Vegetation Type:	6
Landform Type:	Wetland
Slope Class:	Very Gently Inclined (1 degree)
Aspect:	W
Soil Type:	Sand
Soil Colour:	Grey and Brown (other)
Rock Outcrop:	No bedrock exposed
CF Abundance:	0%
Vegetation Condition:	2 - Excellent
Disturbance:	Pig/Animal Disturbance
Fire:	>5 years

DOMINANT TAXA IN VEGETATION STRATA

Mid Stratum 1: *Banksia telmatiaea, Calothamnus hirsutus, Melaleuca seriata* (1.5 m, 35%)

Lower Stratum 1: *Anarthria laevis* (0.8 m, 60%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Alexgeorgea nitens	0.1	0.1
Anarthria laevis	0.8	60
Banksia dallanneyi var. *dallanneyi*	0.2	0.5
Banksia telmatiaea	1.5	25
Beaufortia squarrosa	0.6	0.5
Calothamnus hirsutus	1	5
Cassytha glabella forma *dispar*	0.3	0.1
Chordifex chaunocoleus (4)	0.5	0.5
Conostylis juncea	0.2	0.1
Drosera erythrorhiza subsp. ?*magna*	0.1	0.5
Drosera ?*menziesii*	0.2	0.1
Drosera sp.	0.1	0.1
Hibbertia crassifolia	0.2	0.1
Hibbertia subvaginata	0.2	0.1
Isotropis cuneifolia subsp. *cuneifolia*	0.1	0.1
Leucopogon conostephioides	0.2	0.1
Leucopogon sprengelioides	0.5	0.1
Lyginia imberbis	0.4	0.1
Melaleuca clavifolia (3)	0.8	0.5
Melaleuca preissiana	1.5	0.5
Melaleuca seriata	1	5
Petrophile brevifolia	0.3	0.5

Stylidium dichotomum	0.1	0.1
Trachymene pilosa	0.1	0.1

PHOTO



Site Name:	NEW234
Site Type:	QUADRAT
Dimensions:	10m x 10m
Survey Date:	21/11/2012
GPS Location:	WGS84 (Zone 50) 354392E 6602634N
Vegetation Type:	17
Landform Type:	Plain
Slope Class:	Very Gently Inclined (1 degree)
Aspect:	W
Soil Type:	Sand
Soil Colour:	Grey
Rock Outcrop:	No bedrock exposed
CF Abundance:	0%
Vegetation Condition:	1 - Pristine
Disturbance:	None
Fire:	> 5 years

DOMINANT TAXA IN VEGETATION STRATA

Lower Stratum 1: *Calothamnus sanguineus, Dasypogon obliquifolius, Eremaea pauciflora* (0.6 m, 20%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Acacia pulchella var. *reflexa*	0.6	0.3
Alexgeorgea nitens	0.1	0.1
Allocasuarina humilis	0.5	0.2
Amphipogon turbinatus	0.3	0.1
Anigozanthos pulcherrimus	0.7	0.2
Banksia dallanneyi var. *dallanneyi*	0.2	0.2
Bossiaea eriocarpa	0.3	1
Burchardia congesta	0.3	0.1
Calothamnus sanguineus	0.6	5
Calytrix flavescens	0.2	0.1
Cassytha glabella forma *dispar*		0.3
Caustis dioica	0.3	0.1
Chordifex chaunocoleus (4)	0.3	0.5
Conospermum stoechadis subsp. *stoechadis*	0.8	1
Conostephium pendulum	0.4	0.3
Conostylis juncea	0.3	0.1
Dampiera linearis	0.3	0.1
Dasypogon obliquifolius	0.4	5
Daviesia podophylla	0.5	1
Drosera eneabba	0.1	0.1
Eremaea asterocarpa subsp. *asterocarpa*	0.3	0.3
Eremaea pauciflora	0.6	10
Haemodorum spicatum	0.4	0.1

Hibbertia crassifolia	0.3	0.2
Hibbertia huegelii	0.3	0.3
Hibbertia hypericoides	0.5	0.5
Hibbertia subvaginata	0.3	0.2
Hypocalymma xanthopetalum	0.4	0.2
Jacksonia floribunda	1	0.3
Jacksonia nutans	0.6	1.5
Johnsonia pubescens subsp. *pubescens*	0.1	0.1
Lechenaultia stenosepala	0.3	0.1
Leucopogon conostephioides	0.2	0.1
Lomandra caespitosa	0.3	0.1
Lyginia barbata	0.3	0.2
Melaleuca clavifolia (3)	0.6	1
Petrophile linearis	0.3	0.2
Petrophile macrostachya	0.5	0.3
Phlebocarya filifolia	0.3	0.1
Platysace xerophila	0.2	0.1
Scaevola thesioides subsp. *thesioides*	0.2	0.1
Schoenus clandestinus	0.1	0.1
Schoenus curvifolius	0.3	0.1
Schoenus rigens	0.4	0.2
Schoenus subfascicularis	0.3	0.4
Scholtzia involucrata	0.3	0.5
Stirlingia latifolia	0.6	0.4
Stylidium repens	0.1	0.3
Synaphea spinulosa subsp. *spinulosa*	0.3	0.2
Xanthosia huegelii	0.1	0.1

PHOTO



Site Name:	NEW235
Site Type:	QUADRAT
Dimensions:	10m x 10m
Survey Date:	21/11/2012
GPS Location:	WGS84 (Zone 50) 354322E 6603561N
Vegetation Type:	18
Landform Type:	Plain
Slope Class:	Very Gently Inclined (1 degree)
Aspect:	W
Soil Type:	Sand
Soil Colour:	Grey
Rock Outcrop:	No bedrock exposed
CF Abundance:	0%
Vegetation Condition:	1 - Pristine
Disturbance:	None
Fire:	> 5 years

DOMINANT TAXA IN VEGETATION STRATA

Mid Stratum 1:	*Allocasuarina humilis, Daviesia angulata, Pericalymma ellipticum* var. *ellipticum* (1 m, 9%)
Lower Stratum 1:	*Eremaea pauciflora, Gastrolobium oxylobioides, Hibbertia hypericoides* (0.5 m, 9%)
Lower Stratum 2:	*Mesomeleana pseudostygia* (0.4 m, 4%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Acacia sphacelata subsp. *verticillata*	0.2	0.1
Allocasuarina humilis	1	4
Amphipogon turbinatus	0.3	0.1
Anigozanthos pulcherrimus	0.4	0.2
Baeckea grandiflora	0.4	0.1
Banksia dallanneyi var. *dallanneyi*	0.2	1
Banksia shuttleworthiana	0.3	0.2
Bossiaea eriocarpa	0.3	0.2
Calothamnus sanguineus	0.4	0.2
Caustis dioica	0.4	0.2
Conostephium preissii	0.6	0.3
Conostylis aurea	0.2	0.1
Conostylis teretifolia subsp. *teretifolia*	0.1	0.1
Conothamnus trinervis	0.3	0.1
Dampiera spicigera	0.2	0.1
Darwinia sp. Watheroo (I.R. McGill 20)	0.3	0.3
Daviesia angulata	1	3
Eremaea pauciflora	0.7	10
Eucalyptus todtiana		0.3
Gastrolobium oxylobioides	0.5	4

Hakea conchifolia	0.4	0.2
Hakea incrassata	1	1
Hibbertia huegelii	0.3	0.3
Hibbertia hypericoides	0.4	5
Hypocalymma xanthopetalum	0.3	0.1
Isotropis cuneifolia subsp. *cuneifolia*	0.2	0.1
Jacksonia floribunda	1	0.2
Johnsonia pubescens subsp. *pubescens*	0.1	0.1
Laxmannia sessiliflora subsp. ?*australis*	0.1	0.1
Leucopogon cochlearifolius	0.3	0.1
Logania spermacocea	0.2	0.1
Lyginia barbata	0.4	0.3
Melaleuca ciliosa	0.3	0.1
Melaleuca clavifolia (3)	0.5	0.5
Mesomelaena pseudostygia	0.4	4
Mesomelaena tetragona	0.3	0.1
Neurachne alopecuroidea	0.1	0.1
Patersonia occidentalis var. ?*occidentalis*	0.3	0.2
Pericalymma ellipticum var. *ellipticum*	1	2
Petrophile brevifolia	0.4	0.2
Scaevola canescens	0.1	0.1
Schoenus clandestinus	0.1	0.1
Schoenus pleiostemoneus	0.1	0.2
Schoenus subfascicularis	0.3	0.5
Stylidium crossocephalum	0.1	0.1
Stylidium purpureum ms	0.2	0.1
Synaphea spinulosa subsp. *spinulosa*	0.3	0.2
Xanthorrhoea preissii	0.6	0.5

PHOTO



Site Name:	NEW236
Site Type:	QUADRAT
Dimensions:	10m x 10m
Survey Date:	21/11/2012
GPS Location:	WGS84 (Zone 50) 353907E 6603091N
Vegetation Type:	17
Landform Type:	Plain
Slope Class:	Very Gently Inclined (1 degree)
Aspect:	W
Soil Type:	Sand
Soil Colour:	Grey
Rock Outcrop:	No bedrock exposed
CF Abundance:	0%
Vegetation Condition:	1 - Pristine
Disturbance:	None
Fire:	> 5 years

DOMINANT TAXA IN VEGETATION STRATA

Upper Stratum 1:	*Banksia attenuata* (3 m, 6%)
Mid Stratum 1:	*Eremaea pauciflora*, *Jacksonia floribunda* (1 m, 12%)
Lower Stratum 1:	*Dasypogon obliquifolius*, *Hibbertia hypericoides* (0.5 m, 10%)
Lower Stratum 2:	*Mesomelaena pseudostygia*, *Schoenus subfascicularis* (0.4 m, 5%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Alexgeorgea nitens	0.1	0.1
Amphipogon turbinatus	0.2	0.1
Arnocrinum preissii	0.3	0.1
Astroloma xerophyllum	0.3	0.2
Banksia attenuata	3	6
Blancoa canescens	0.2	0.5
Bossiaea eriocarpa	0.3	1
Cassytha glabella forma *dispar*		0.3
Chordifex chaunocoleus (4)	0.3	0.2
Conospermum stoechadis subsp. *stoechadis*	0.7	0.5
Conostephium pendulum	0.5	0.2
Conostylis aurea	0.3	0.3
Dasypogon obliquifolius	0.5	6
Daviesia podophylla	0.3	0.2
Drosera eneabba	0.1	0.1
Eremaea asterocarpa subsp. *asterocarpa*	0.3	0.2
Eremaea pauciflora	0.6	10
Haemodorum spicatum	0.4	0.1
Hakea incrassata	0.5	0.2
Hibbertia crassifolia	0.2	0.2

Hibbertia hypericoides	0.5	4
Hibbertia sp. Gnangara (J.R. Wheeler 2329)	0.2	0.2
Hibbertia subvaginata	0.3	0.2
Hypocalymma xanthopetalum	0.3	0.3
Jacksonia floribunda	1	2
Johnsonia pubescens subsp. *pubescens*	0.1	0.1
Leptospermum spinescens	0.3	0.2
Leucopogon conostephioides	0.2	0.2
Lyginia barbata	0.4	1
Melaleuca clavifolia (3)	0.6	1.2
Mesomelaena pseudostygia	0.3	2
Patersonia occidentalis var. ?*occidentalis*	0.3	0.2
Petrophile linearis	0.2	0.1
Phlebocarya filifolia	0.3	0.2
Schoenus clandestinus	0.1	0.2
Schoenus subfascicularis	0.4	3
Scholtzia involucrata	0.3	1
Stirlingia latifolia	0.5	0.4
Stylidium crossocephalum	0.1	0.1
Stylidium repens	0.1	0.1
Synaphea spinulosa subsp. *spinulosa*	0.3	0.2
Xanthosia huegelii	0.1	0.1

PHOTO



Site Name:	NEW238
Site Type:	QUADRAT
Dimensions:	10m x 10m
Survey Date:	25/09/2012
GPS Location:	WGS84 (Zone 50) 350785E 6601766N
Vegetation Type:	17
Landform Type:	Mid Slope
Slope Class:	Gently Inclined (3 degrees)
Aspect:	NNE
Soil Type:	Sand
Soil Colour:	White over Yellow (other)
Rock Outcrop:	No bedrock exposed
Vegetation Condition:	1 - Pristine
Disturbance:	None
Fire:	>5yrs

DOMINANT TAXA IN VEGETATION STRATA

Upper Stratum 1:	*Banksia attenuata, B. menziesii* (4 m, 16%)
Mid Stratum 1:	*Conospermum stoechadis* subsp. *stoechadis, Conostephium magnum* (1.1 m, 5%)
Lower Stratum 1:	*Dasypogon obliquifolius, Leucopogon conostephioides, L. sprengelioides* (0.4 m, 11%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Alexgeorgea nitens	0.15	0.5
Amphipogon turbinatus	0.1	0.1
Anigozanthos humilis subsp. *humilis*	0.2	0.1
Austrostipa sp.	0.1	0.1
Banksia attenuata	4	12
Banksia menziesii	4	4
Blancoa canescens	0.2	1.5
Bossiaea eriocarpa	0.3	1
Caladenia flava subsp. *flava*	0.15	0.1
Calytrix flavescens	0.4	0.5
Caustis dioica	0.1	0.1
Conospermum stoechadis subsp. *stoechadis*	1.1	2
Conostephium magnum (4)	1.1	3
Conostephium pendulum	0.6	0.5
Conostylis teretifolia subsp. *teretifolia*	0.1	0.1
Dasypogon obliquifolius	0.4	3
Drosera eneabba	0.05	0.1
Drosera erythrorhiza subsp. ?*magna*	0.01	0.1
Drosera humilis	0.05	0.1
Drosera menziesii	0.3	0.2
Drosera pallida	0.15	0.1

Eremaea pauciflora	0.7	0.5
Gompholobium tomentosum	0.3	0.1
Hibbertia crassifolia	0.4	1
Hibbertia huegelii	0.4	1
Hibbertia hypericoides	0.5	0.1
Hibbertia sp. Gnangara (J.R. Wheeler 2329)	0.3	0.1
Hypocalymma xanthopetalum	0.3	1
**Hypochaeris glabra*	0.01	0.1
Jacksonia floribunda	0.4	0.1
Johnsonia pubescens subsp. *pubescens*	0.4	0.1
Lepidosperma sp.	0.4	0.1
Leptospermum spinescens	0.5	1
Leucopogon conostephioides	0.2	4
Leucopogon sprengelioides	0.4	4
Lomandra hermaphrodita	0.1	0.1
Lomandra sp.	0.15	0.1
Melaleuca clavifolia (3)	0.5	1
Melaleuca seriata	0.6	0.1
Mesomelaena pseudostygia	0.4	0.5
Monotaxis grandiflora var. *grandiflora*	0.15	0.1
Patersonia occidentalis var. ?*occidentalis*	0.4	1.5
Petrophile linearis	0.4	0.5
Petrophile macrostachya	0.5	0.5
Phyllangium divergens	0.1	0.1
Schoenus clandestinus	0.2	0.1
Scholtzia involucrata	0.4	0.5
Stylidium adpressum	0.1	0.1
Stylidium crossocephalum	0.1	0.1
Stylidium piliferum	0.01	0.1
Synaphea spinulosa subsp. *spinulosa*	0.3	1.5
Thysanotus patersonii	0.9	0.1
Tricoryne ?elatior	0.1	0.1
Xanthosia huegelii	0.1	0.1

PHOTO



Site Name:	NEW239
Site Type:	QUADRAT
Dimensions:	10m x 10m
Survey Date:	27/09/2012
GPS Location:	WGS84 (Zone 50) 349709E 6603003N
Vegetation Type:	18
Landform Type:	Upper Slope
Slope Class:	Gently Inclined (3 degrees)
Aspect:	NW
Soil Type:	Sand
Soil Colour:	Grey
Rock Outcrop:	No bedrock exposed
CF Abundance:	0%
Vegetation Condition:	1 - Pristine
Disturbance:	None
Fire:	>5 years

DOMINANT TAXA IN VEGETATION STRATA

Upper Stratum 1: *Banksia menziesii*, *Nuytsia floribunda* (4 m, 15%)

Mid Stratum 1: *Adenanthos cygnorum* subsp. *cygnorum, Allocasuarina humilis*, *Conospermum stoechadis* subsp. *stoechadis*, *Daviesia divaricata* subsp. *divaricata, Hakea costata*, *Verreauxia reinwardtii* (1.5 m, 32%)

Mid Stratum 2: *Eremaea pauciflora*, *Hibbertia hypericoides*, *Petrophile macrostachya* (0.7 m, 15%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Acacia sphacelata subsp. *verticillata*	0.4	0.5
Adenanthos cygnorum subsp. *cygnorum*	2	2
Alexgeorgea nitens	0.15	0.1
Allocasuarina humilis	2	5
Amphipogon turbinatus	0.6	0.1
Andersonia heterophylla	0.3	0.5
Anigozanthos humilis subsp. *humilis*	0.15	0.1
Astroloma xerophyllum	0.4	1
Banksia attenuata	1.5	0.5
Banksia menziesii	3.5	7
Blancoa canescens	0.2	0.5
Bossiaea eriocarpa	0.5	0.5
Conospermum stoechadis subsp. *stoechadis*	1.2	15
Conostylis aurea	0.1	0.1
Conostylis teretifolia subsp. *teretifolia*	0.1	0.5
Dasypogon obliquifolius	0.3	0.1
Daviesia divaricata subsp. *divaricata* ms	1.5	5
Daviesia podophylla	0.5	1
Drosera eneabba	0.1	0.1

Drosera erythrorhiza subsp. ?*magna*	0.1	0.1
Drosera ?*menziesii*	0.3	0.1
Eremaea pauciflora	0.8	3
Gompholobium tomentosum	0.2	0.1
Hakea costata	1.5	2
Hibbertia crassifolia	0.2	0.5
Hibbertia huegelii	0.4	1
Hibbertia hypericoides	0.7	10
Hypocalymma xanthopetalum	0.4	0.5
Isotropis cuneifolia subsp. *cuneifolia*	0.1	0.1
Leptospermum spinescens	0.5	0.5
Leucopogon conostephioides	0.2	0.5
Lomandra hermaphrodita	0.2	0.1
Lysinema pentapetalum	0.5	0.1
Melaleuca clavifolia (3)	0.5	0.5
Mesomelaena pseudostygia	0.5	1
Nuytsia floribunda	4	8
Persoonia comata	0.25	0.5
Petrophile linearis	0.4	0.5
Petrophile macrostachya	0.4	2
Pimelea imbricata var. *piligera*	0.2	0.1
Pimelea sulphurea	0.2	0.1
Schoenus clandestinus	0.1	0.5
Schoenus pleiostemoneus	0.15	0.5
Scholtzia involucrata	0.4	0.5
Stylidium adpressum	0.1	0.1
Stylidium piliferum	0.2	0.1
Stylidium purpureum ms	0.2	0.5
Synaphea spinulosa subsp. *spinulosa*	0.5	0.5
Verreauxia reinwardtii	1.5	3
Verticordia densiflora var. *densiflora*	0.5	0.5
Xanthosia huegelii	0.1	0.5

PHOTO



Site Name:	NEW240
Site Type:	QUADRAT
Dimensions:	10m x 10m
Survey Date:	26/09/2012
GPS Location:	WGS84 (Zone 50) 349907E 6601579N
Vegetation Type:	17
Landform Type:	Plain
Slope Class:	Level (0 degrees)
Aspect:	SE
Soil Type:	Sand
Soil Colour:	White
Rock Outcrop:	No bedrock exposed
CF Abundance:	0%
Vegetation Condition:	1 - Pristine
Disturbance:	None
Fire:	>5yrs

DOMINANT TAXA IN VEGETATION STRATA

Upper Stratum 1: *Banksia attenuata, B. menziesii* (4 m, 6%)

Mid Stratum 1: *Adenanthos cygnorum* subsp. *cygnorum, Jacksonia nutans*, *Xanthorrhoea preissii* (2 m, 19%)

Lower Stratum 1: *Andersonia heterophylla, Astroloma xerophyllum, Dasypogon obliquifolius, Leucopogon conostephioides* (0.5 m, 17%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Adenanthos cygnorum subsp. *cygnorum*	2	4
Alexgeorgea nitens	0.1	0.1
Amphipogon turbinatus	0.1	0.1
Andersonia heterophylla	0.2	2
Aotus procumbens	0.3	
?*Arnocrinum* sp.	0.3	0.1
Astroloma xerophyllum	0.4	2
Banksia attenuata	4	4
Banksia menziesii	4	2
Boronia ramosa subsp. *anethifolia*	0.2	0.1
Bossiaea eriocarpa	0.5	0.5
Calytrix flavescens	0.3	0.5
Calytrix fraseri	1	1.5
Cassytha ?*aurea*	0.2	0.1
Cassytha glabella forma *dispar*		0.5
Caustis dioica	0.2	0.1
Conostephium pendulum	0.5	0.1
Conostylis juncea	0.3	0.1
Dasypogon obliquifolius	0.5	5

Drosera eneabba	0.1	0.1
Drosera erythrorhiza subsp. ?*magna*	0.01	0.1
Eremaea asterocarpa subsp. *asterocarpa*	0.5	1.5
Eremaea pauciflora	0.4	0.1
Gompholobium tomentosum	0.8	0.5
Gonocarpus cordiger	0.1	0.1
Hibbertia sp. Gnangara (J.R. Wheeler 2329)	0.3	0.5
Hibbertia subvaginata	0.4	0.1
Hypocalymma xanthopetalum	0.3	0.5
**Hypochaeris glabra*	0.01	0.1
Indet. sp.	0.1	0.1
Isotropis cuneifolia subsp. *cuneifolia*	0.1	0.1
Jacksonia floribunda	1	1.5
Jacksonia hakeoides	0.5	1
Jacksonia nutans	2	12
Johnsonia pubescens subsp. *pubescens*	0.1	0.1
Leporella fimbriata	0.01	0.1
Leucopogon conostephioides	0.4	8
Lomandra hermaphrodita	0.1	0.1
Lyginia barbata	0.3	0.1
Lyginia imberbis	0.1	0.1
Melaleuca clavifolia (3)	0.6	1
Monotaxis grandiflora var. *grandiflora*	0.1	0.1
Patersonia occidentalis var. ?*occidentalis*	0.4	0.1
Persoonia comata	0.4	0.1
Petrophile linearis	0.5	0.1
Schoenus curvifolius	0.3	0.1
Scholtzia involucrata	0.2	1
Stirlingia latifolia	0.2	0.5
Stylidium adpressum	0.1	0.1
Verticordia densiflora var. *densiflora*	0.9	0.1
Verticordia lindleyi subsp. *lindleyi* (4)	1	0.1
Xanthorrhoea preissii	1.2	3

PHOTO



Site Name: NEW241
Site Type: QUADRAT
Dimensions: 10m x 10m
Survey Date: 26/09/2012
GPS Location: WGS84 (Zone 50) 349304E 6600731N
Vegetation Type: 5
Landform Type: Open Depression
Slope Class: Level (0 degrees)
Soil Type: Sand
Soil Colour: Grey
Rock Outcrop: No bedrock exposed
CF Abundance: 0%
Vegetation Condition: 1 - Pristine
Disturbance: None
Fire: >5 years

DOMINANT TAXA IN VEGETATION STRATA

Lower Stratum 1: *Banksia telmatiaea*, *Daviesia incrassata* subsp. *incrassata*, *Regelia ciliata* (0.6 m, 36%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Anigozanthos ?pulcherrimus	0.1	0.1
Banksia dallanneyi var. *dallanneyi*	0.2	0.5
Banksia telmatiaea	0.5	30
Calothamnus hirsutus	0.4	0.1
Calytrix aurea	0.6	0.2
Calytrix leschenaultii	0.5	0.5
Cassytha glabella forma *dispar*		0.1
Caustis dioica	0.2	0.1
Chordifex chaunocoleus (4)	0.2	0.1
Chordifex sinuosus	0.2	0.2
Conospermum stoechadis subsp. *stoechadis*	0.2	0.1
Conostylis aculeata subsp. *spinuligera*	0.1	0.1
Daviesia incrassata subsp. *incrassata*	0.5	2
Drosera erythrorhiza subsp. ?*magna*	0.1	0.1
Drosera menziesii		0.1
Eremaea pauciflora	0.4	1.1
Hakea candolleana	0.4	0.2
Hakea obliqua subsp. *parviflora*	1.2	1
Hibbertia hypericoides	0.3	0.1
Jacksonia hakeoides	0.4	1
Jacksonia nutans	0.6	0.2
Leucopogon cochlearifolius	0.5	0.1
Leucopogon sp. Coujinup (M.A. Burgman 1085)	0.2	0.1
Lyginia barbata	0.3	0.2

Petrophile brevifolia	0.5	0.2
Petrophile seminuda	0.3	0.1
Platysace xerophila	0.1	0.1
Regelia ciliata	0.6	4
Scaevola thesioides subsp. *thesioides*	0.1	0.1
Stirlingia abrotanoides	0.1	0.1
Synaphea spinulosa subsp. *spinulosa*	0.4	0.3
Tripterococcus brunonis	0.3	0.1
Verticordia lindleyi subsp. *lindleyi* (4)	0.5	0.1

PHOTO



Site Name:	NEW242
Site Type:	QUADRAT
Dimensions:	10m x 10m
Survey Date:	25/09/2012
GPS Location:	WGS84 (Zone 50) 350472E 6601279N
Vegetation Type:	18
Landform Type:	Top of Open Low Dune (other)
Slope Class:	Gently Inclined (3 degrees)
Soil Type:	Sand
Soil Colour:	White/Grey over Yellow (other)
Rock Outcrop:	No bedrock exposed
CF Abundance:	0%
Vegetation Condition:	1 - Pristine
Disturbance:	None
Fire:	>5 years

DOMINANT TAXA IN VEGETATION STRATA

Upper Stratum 1:	*Banksia attenuata*, *B. menziesii* (4 m, 10%)
Mid Stratum 1:	*Allocasuarina humilis*, *Eremaea pauciflora*, *Melaleuca seriata* (1.5 m, 34%)
Lower Stratum 1:	*Daviesia podophylla*, *Hibbertia hypericoides*, *Hibbertia* sp. Gnangara (J.R. Wheeler 2329), *Leucopogon sprengelioides* (0.5 m, 12%)
Lower Stratum 2:	*Mesomelaena pseudostygia* (0.5 m, 4%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Adenanthos cygnorum subsp. *cygnorum*	1.8	1
Allocasuarina humilis	1.5	2
Anigozanthos humilis subsp. *humilis*	0.1	0.1
Astroloma xerophyllum	0.6	1
Banksia attenuata	4	7
Banksia menziesii	2	3
Bossiaea eriocarpa	0.3	0.2
Calytrix flavescens	0.15	0.1
Cassytha aurea var. *hirta*	0.2	0.1
Chordifex ?*sinuosus*	0.5	0.1
Conostephium pendulum	0.2	0.5
Conostylis teretifolia subsp. *teretifolia*	0.1	0.1
Daviesia podophylla	0.5	3
Drosera erythrorhiza subsp. ?*magna*	0.1	0.1
Drosera menziesii	0.4	0.1
Eremaea asterocarpa subsp. *asterocarpa*	0.5	0.5
Eremaea pauciflora	1.5	12
Hemiandra pungens	0.1	0.1
Hibbertia huegelii	0.2	0.1
Hibbertia hypericoides	0.5	5

Hibbertia sp. Gnangara (J.R. Wheeler 2329)	0.3	2
Hypocalymma xanthopetalum	0.5	0.5
Jacksonia floribunda	1	1
Lepidobolus preissianus	0.5	0.1
Lepidosperma aff.*scabrum*	1	0.1
Leporella fimbriata	0.1	0.1
Leptospermum erubescens	1	0.5
Leptospermum spinescens	0.5	0.5
Leucopogon sprengelioides	0.4	2
Melaleuca seriata	1.5	20
Mesomelaena pseudostygia	0.5	4
Monotaxis grandiflora var. *grandiflora*	0.1	0.1
Petrophile linearis	0.2	1
Phyllangium divergens	0.1	0.1
Pimelea angustifolia	0.4	0.1
Schoenus clandestinus	0.1	0.5
Stylidium adpressum	0.1	0.1
Stylidium purpureum ms	0.2	0.1
Synaphea spinulosa subsp. *spinulosa*	0.5	0.5

PHOTO



Site Name: NEW243
Site Type: QUADRAT
Dimensions: 10m x 10m
Survey Date: 25/09/2012
GPS Location: WGS84 (Zone 50) 350082E 6600483N
Vegetation Type: 6
Landform Type: Open Depression
Slope Class: Level (0 degrees)
Soil Type: Sandy Loam
Soil Colour: Grey
Rock Outcrop: No bedrock exposed
CF Abundance: 0%
Vegetation Condition: 1 - Pristine
Disturbance: None
Fire: >5 years

DOMINANT TAXA IN VEGETATION STRATA

Upper Stratum 1: *Banksia attenuata*, *Eucalyptus todtiana* (4 m, 9%)
Mid Stratum 1: *Beaufortia squarrosa*, *Hypocalymma angustifolium*, *Jacksonia nutans* (2 m, 78%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Adenanthos cygnorum subsp. *cygnorum*	1.5	1
Aotus procumbens	0.3	0.1
Banksia attenuata	4	5
Banksia menziesii	1	0.2
Banksia telmatiaea	1	1
Beaufortia squarrosa	1.5	60
Caladenia flava subsp. *flava*	0.1	0.1
Chordifex chaunocoleus (4)	0.6	0.2
Conostephium magnum (4)	1	1
Conostylis sp.	0.3	0.1
Drosera menziesii		0.1
Eremaea asterocarpa subsp. *asterocarpa*	0.3	0.1
Eucalyptus todtiana	4	4
Gompholobium tomentosum	0.6	0.1
Hibbertia subvaginata	0.6	0.5
Hypocalymma angustifolium	1	3
Hypolaena exsulca	0.4	0.1
Jacksonia nutans	2	15
Leucopogon conostephioides	0.3	0.1
Melaleuca preissiana		
Patersonia occidentalis var. ?*occidentalis*	0.3	0.1
Petrophile brevifolia	0.6	0.1
Petrophile linearis	0.7	0.1

Stirlingia latifolia	0.3	0.1
Tricostularia neesii var. *neesii*	0.4	1

PHOTO



Site Name: NEW244
Site Type: QUADRAT
Dimensions: 10m x 10m
Survey Date: 26/09/2012
GPS Location: WGS84 (Zone 50) 349738E 6600653N
Vegetation Type: 17
Landform Type: Simple Slope
Slope Class: Gently Inclined (3 degrees)
Aspect: NW
Soil Type: Sand
Soil Colour: Grey
Rock Outcrop: No bedrock exposed
CF Abundance: 0%
Vegetation Condition: 1 - Pristine
Disturbance: None
Fire: >5 years

DOMINANT TAXA IN VEGETATION STRATA

Upper Stratum 1: *Banksia menziesii*, *Eucalyptus todtiana* (4 m, 24%)
Mid Stratum 1: *Xanthorrhoea preissii*, *Jacksonia nutans* (1.6 m, 8%)
Lower Stratum 1: *Dasypogon obliquifolius*, *Eremaea pauciflora* (0.6 m, 15%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Adenanthos cygnorum subsp. *cygnorum*	1.5	0.5
Alexgeorgea nitens	0.1	0.1
Astroloma xerophyllum	0.3	0.4
Banksia attenuata	1.5	1
Banksia ilicifolia	2	0.2
Banksia menziesii	3.5	4
Bossiaea eriocarpa	0.1	0.5
Caladenia flava subsp. *flava*	0.1	0.1
Calytrix flavescens	0.3	0.2
Chordifex chaunocoleus (4)	0.2	0.1
Conostephium pendulum	0.2	0.1
Conostylis aculeata subsp. *spinuligera*	0.1	0.1
Dampiera linearis	0.2	0.1
Dasypogon obliquifolius	0.6	10
Drosera erythrorhiza subsp. ?*magna*	0.1	0.1
Drosera menziesii		0.1
Eremaea asterocarpa subsp. *asterocarpa*	0.4	0.5
Eremaea pauciflora	0.6	5
Eucalyptus todtiana	4	20
Gompholobium tomentosum	1	0.2
Hibbertia hypericoides	0.6	0.2

Hibbertia sp. Gnangara (J.R. Wheeler 2329)	0.2	0.2
Hypocalymma xanthopetalum	0.2	0.1
**Hypochaeris glabra*	0.1	0.1
Hypolaena exsulca	0.3	0.2
Isotropis cuneifolia subsp. *cuneifolia*	0.1	0.1
Jacksonia floribunda	1.5	1.5
Jacksonia nutans	1.5	3
Leucopogon conostephioides	0.5	1
Leucopogon sp. Coujinup (M.A. Burgman 1085)	0.2	0.2
Lyginia barbata	0.3	0.2
Melaleuca clavifolia (3)	0.5	0.3
Patersonia occidentalis var. ?*occidentalis*	0.3	0.3
Petrophile linearis	0.6	0.5
Philotheca spicata	0.5	0.2
Phlebocarya filifolia	0.3	0.3
Platysace xerophila	0.1	0.1
Pyrorchis nigricans	0.1	0.1
Stylidium repens	0.1	0.1
Stylidium rigidulum	0.1	0.1
Verticordia densiflora var. *densiflora*	0.8	0.2
Xanthorrhoea preissii	1.6	5
Xanthosia huegelii	0.1	0.1

PHOTO



Site Name:	NEW245
Site Type:	QUADRAT
Dimensions:	10m x 10m
Survey Date:	26/09/2012
GPS Location:	WGS84 (Zone 50) 350744E 6600161N
Vegetation Type:	17
Landform Type:	Lower Slope
Slope Class:	Moderately Inclined (10 degrees)
Aspect:	E
Soil Type:	Sand
Soil Colour:	Grey
Rock Outcrop:	No bedrock exposed
CF Abundance:	0%
Vegetation Condition:	2 - Excellent
Disturbance:	Exotic Weeds
Fire:	>5 years

DOMINANT TAXA IN VEGETATION STRATA

Mid Stratum 1: *Eremaea pauciflora* (1.5 m, 30%)

Lower Stratum 1: *Bossiaea eriocarpa, Hibbertia hypericoides* (0.8 m, 6%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Alexgeorgea nitens	0.1	0.1
Amphipogon turbinatus	0.2	0.1
Anigozanthos humilis subsp. *humilis*	0.1	0.1
Banksia prionotes	4	1
Bossiaea eriocarpa	0.4	4
Burchardia congesta	0.4	0.1
Caladenia flava subsp. *flava*	0.1	0.1
Calytrix flavescens	0.3	0.1
Calytrix fraseri	0.4	0.2
Cassytha glabella forma *dispar*		0.1
Dampiera linearis	0.7	0.2
Drosera erythrorhiza subsp. ?*magna*	0.1	0.1
Drosera humilis	0.1	0.1
Drosera menziesii		0.1
**Ehrharta calycina*	0.5	0.1
Eremaea pauciflora	1.5	30
Gompholobium tomentosum	0.4	0.1
Hensmania turbinata	0.3	0.1
Hibbertia huegelii	0.2	0.1
Hibbertia hypericoides	0.8	2
Hibbertia sp. Gnangara (J.R. Wheeler 2329)	0.1	0.1
Hypocalymma xanthopetalum	0.2	0.1

**Hypochaeris glabra*	0.1	0.1
Jacksonia floribunda	1	0.2
Lyginia barbata	0.3	0.1
Macarthuria australis	0.3	0.1
Macrozamia fraseri	0.1	0.5
Mesomelaena pseudostygia	0.3	0.1
Monotaxis grandiflora var. *grandiflora*	0.3	0.2
Patersonia occidentalis var. ?*occidentalis*	0.3	0.1
Petrophile linearis	0.3	0.1
Phyllangium divergens	0.1	0.1
Podotheca chrysantha	0.1	0.1
Podotheca gnaphalioides	0.1	0.1
Pyrorchis nigricans	0.1	0.1
Stylidium repens	0.1	0.1
Trachymene pilosa	0.1	0.1
**Ursinia anthemoides*	0.2	0.2

PHOTO



Site Name:	NEW249
Site Type:	QUADRAT
Dimensions:	20m x 5m
Survey Date:	26/09/2012
GPS Location:	WGS84 (Zone 50) 351184E 6601390N
Vegetation Type:	9b
Landform Type:	Wetland
Slope Class:	Very Gently Inclined (1 degree)
Soil Type:	Sandy Clay (other)
Soil Colour:	Grey
Rock Outcrop:	No bedrock exposed
CF Abundance:	0%
Vegetation Condition:	1 - Pristine
Disturbance:	None
Fire:	>5 years

DOMINANT TAXA IN VEGETATION STRATA

Upper Stratum 1: *Melaleuca rhaphiophylla* (6 m, 95%)

Lower Stratum 1: *Lepidosperma* ?*pubisquameum* (0.6 m, 3%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Cassytha sp.		0.5
Lepidosperma ?*pubisquameum*	0.6	3
Melaleuca rhaphiophylla	6	95
Pterostylis ?*pyramidalis*	0.1	0.5

PHOTO



Site Name: NEW250
Site Type: QUADRAT
Dimensions: 10m x 10m
Survey Date: 26/09/2012
GPS Location: WGS84 (Zone 50) 350857E 6600791N
Vegetation Type: 9b
Landform Type: Wetland
Slope Class: Very Gently Inclined (1 degree)
Soil Type: Sandy Loam
Soil Colour: Grey and Black (other)
Rock Outcrop: No bedrock exposed
CF Abundance: 0%
Vegetation Condition: 2 - Excellent
Disturbance: Exotic Weeds
Fire: >5 years

DOMINANT TAXA IN VEGETATION STRATA

Upper Stratum 1: *Eucalyptus rudis* subsp. *rudis, Melaleuca rhaphiophylla* (10 m, 43%)
Lower Stratum 1: *Lepidosperma longitudinale* (1 m, 90%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Acacia saligna subsp. *lindleyi* ms	1.5	0.2
Banksia littoralis		1
Cassytha racemosa forma *racemosa*		1
Cycnogeton lineare	0.2	0.1
**Ehrharta longiflora*	0.5	0.1
Eucalyptus rudis subsp. *rudis*	10	8
Lepidosperma longitudinale	1	90
?*Lobelia* sp.	0.3	0.2
Melaleuca rhaphiophylla	10	35
Microtis media subsp. *media*	0.3	0.1
Pterostylis ?pyramidalis	0.1	0.5
**Rumex crispus*		
Sonchus hydrophilus	0.2	0.1
**Sonchus oleraceus*	0.1	0.1

PHOTO



Site Name:	NEW251
Site Type:	QUADRAT
Dimensions:	10m x 10m
Survey Date:	26/09/2012
GPS Location:	WGS84 (Zone 50) 350858E 6601392N
Vegetation Type:	6
Landform Type:	Open Depression
Slope Class:	Very Gently Inclined (1 degree)
Aspect:	WSW
Soil Type:	Sand
Soil Colour:	Grey
Rock Outcrop:	No bedrock exposed
CF Abundance:	0%
Vegetation Condition:	1 - Pristine
Disturbance:	None
Fire:	>5 years

DOMINANT TAXA IN VEGETATION STRATA

Mid Stratum 1: *Banksia telmatiaea, Beaufortia squarrosa, Jacksonia nutans* (1.8 m, 23%)

Lower Stratum 1: *Anarthria laevis* (0.7 m, 35%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Anarthria laevis	0.7	35
Andersonia heterophylla	0.2	0.3
Banksia telmatiaea	1.2	5
Beaufortia squarrosa	1.4	3
Bossiaea eriocarpa	0.3	0.1
Conospermum stoechadis subsp. *stoechadis*	0.6	0.2
Conostephium magnum (4)	0.3	0.1
Hakea obliqua subsp. *parviflora*	1.8	1
Hibbertia subvaginata	0.3	0.2
Jacksonia nutans	1.8	15
Leucopogon conostephioides	0.2	0.5
Lyginia barbata	0.4	0.2
Melaleuca clavifolia (3)	0.4	0.2
Melaleuca preissiana		0.3
Melaleuca rhaphiophylla	2.5	1
Melaleuca seriata	0.6	0.2
Patersonia occidentalis var. ?*occidentalis*	0.3	0.1
Stylidium repens	0.1	0.1

PHOTO



Site Name: NEW252
Site Type: QUADRAT
Dimensions: 10m x 10m
Survey Date: 25/09/2012
GPS Location: WGS84 (Zone 50) 350570E 6599530N
Vegetation Type: 17
Landform Type: Mid Slope
Slope Class: Gently Inclined (3 degrees)
Aspect: W
Soil Type: Sand
Soil Colour: Grey
Rock Outcrop: No bedrock exposed
CF Abundance: 0%
Vegetation Condition: 2 - Excellent
Disturbance: Exotic Weeds
Fire: >5 years

DOMINANT TAXA IN VEGETATION STRATA

Upper Stratum 1: *Banksia attenuata, B. menziesii* (4 m, 7%)
Mid Stratum 1: *Hibbertia hypericoides, Eremaea pauciflora* (1 m, 40%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Amphipogon turbinatus	0.3	0.1
Anigozanthos humilis subsp. *humilis*	0.1	0.1
Asparagaceae sp.	0.4	0.1
Austrostipa compressa	0.1	0.1
Banksia attenuata		4
Banksia menziesii	4	3
Boronia ramosa subsp. *anethifolia*	0.3	0.1
Bossiaea eriocarpa	0.3	1
Caladenia flava subsp. *flava*	0.1	0.1
Calytrix flavescens	0.3	0.2
Conostephium magnum (4)	0.6	0.2
Drosera erythrorhiza subsp. ?*magna*	0.1	0.1
Drosera menziesii		0.1
Eremaea pauciflora	1	25
Gompholobium tomentosum	0.2	0.1
Hibbertia hypericoides	1	15
Hibbertia sp. Gnangara (J.R. Wheeler 2329)	0.3	0.1
Hypocalymma xanthopetalum	0.2	0.1
**Hypochaeris glabra*	0.1	0.1
**Isolepis marginata*	0.1	0.1
Isotropis cuneifolia subsp. *cuneifolia*	0.1	0.1
Jacksonia nutans	1.2	1.5

Leucopogon conostephioides	0.1	0.1
Lyginia barbata	0.6	0.2
Melaleuca clavifolia (3)	0.3	0.1
Nuytsia floribunda	0.5	0.2
Patersonia occidentalis var. ?*occidentalis*	0.4	0.2
Petrophile linearis	0.5	0.2
Philotheca spicata	0.6	0.2
Podotheca gnaphalioides	0.1	0.1
Scholtzia involucrata	0.2	0.1
Stylidium purpureum ms	0.1	0.1
Synaphea spinulosa subsp. *spinulosa*	0.5	0.2
Trachymene pilosa	0.1	0.1
**Ursinia anthemoides*	0.1	0.1
**Wahlenbergia capensis*	0.1	0.1
Xanthosia huegelii	0.1	0.1

PHOTO



Site Name: NEW253
Site Type: QUADRAT
Dimensions: 10m x 10m
Survey Date: 25/09/2012
GPS Location: WGS84 (Zone 50) 350257E 6599723N
Vegetation Type: 6
Landform Type: Flat
Slope Class: Very Gently Inclined (1 degree)
Aspect: NW
Soil Type: Sand
Soil Colour: Yellow
Rock Outcrop: No bedrock exposed
CF Abundance: 0%
Vegetation Condition: 2 - Excellent
Disturbance: Exotic Weeds
Fire: >5 years

DOMINANT TAXA IN VEGETATION STRATA

Mid Stratum 1: *Xanthorrhoea preissii* (1.5 m, 5%)
Lower Stratum 1: *Banksia telmatiaea, Hypocalymma angustifolium, Melaleuca seriata* (0.7 m, 60%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Acacia saligna subsp. *lindleyi* ms	0.1	0.1
Banksia telmatiaea	0.4	5
?*Burchardia* sp.	0.2	0.2
Caladenia longicauda	0.2	0.5
Cassytha glabella forma *dispar*		0.5
Conospermum stoechadis subsp. *stoechadis*	1	0.5
Conostylis aculeata subsp. *spinuligera*	0.2	0.2
Hypocalymma angustifolium	0.4	5
**Hypochaeris glabra*	0.1	1
Jacksonia nutans	0.5	0.1
Lepidosperma ?*pubisquameum*	0.3	1
?*Lomandra* sp.	0.1	0.5
Melaleuca rhaphiophylla	1.2	1
Melaleuca seriata	0.7	50
Melaleuca viminea subsp. *viminea*	1	1
Podolepis ?*canescens*	0.1	0.1
Podotheca gnaphalioides	0.1	0.5
Schoenus rigens	0.4	0.1
Thysanotus ?*manglesianus*	0.1	0.1
**Ursinia anthemoides*	0.15	0.3
**Vulpia myuros*	0.1	1
Xanthorrhoea preissii	1.5	5

PHOTO



Site Name:	NEW254
Site Type:	QUADRAT
Dimensions:	10m x 10m
Survey Date:	27/09/2012
GPS Location:	WGS84 (Zone 50) 349842E 6599504N
Vegetation Type:	9b
Landform Type:	Wetland
Slope Class:	Very Gently Inclined (1 degree)
Aspect:	S
Soil Type:	Sandy Loam
Soil Colour:	Grey over Yellow (other)
Rock Outcrop:	No bedrock exposed
CF Abundance:	0%
Vegetation Condition:	3 - Very Good
Disturbance:	Exotic Weeds
Fire:	>5 years

DOMINANT TAXA IN VEGETATION STRATA

Upper Stratum 1: *Melaleuca rhaphiophylla* (8 m, 35%)

Mid Stratum 1: *Melaleuca seriata* (2 m, 2%)

Lower Stratum 1: **Cotula coronopifolia*, **Ehrharta longiflora*, *Isolepis cernua* var. *setiformis*, **Lotus subbiflorus*, ?**Lysimachia* sp. (0.1 m, 81%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Acacia saligna subsp. *lindleyi* ms	2.5	1
?*Adriana* sp.	0.1	0.2
**Arctotheca calendula*	0.1	0.1
Cassytha racemosa forma *racemosa*		2
**Cerastium glomeratum*	0.1	0.1
**Conyza ?bonariensis*	0.1	0.1
**Cotula coronopifolia*	0.1	3
**Ehrharta longiflora*	0.1	45
**Galium murale*	0.1	0.2
Isolepis cernua var. *setiformis*	0.1	10
**Lotus subbiflorus*	0.1	20
**Lysimachia arvensis*	0.1	1
?**Lysimachia* sp.	0.2	3
Melaleuca rhaphiophylla	8	35
Melaleuca seriata	2	2
**Monopsis debilis*	0.1	0.1
**Ornithopus sativus*	0.1	0.1
Oxalis sp.	0.1	0.1
Pterostylis ?pyramidalis	0.1	0.1
**Rumex ?crispus*	0.1	0.2

**Solanum nigrum*	1	0.1
**Trifolium glomeratum*	0.1	0.1

PHOTO



Site Name:	NEW255
Site Type:	QUADRAT
Dimensions:	10m x 10m
Survey Date:	25/09/2012
GPS Location:	WGS84 (Zone 50) 350567E 6599392N
Vegetation Type:	9b
Landform Type:	Drainage Line
Slope Class:	Very Gently Inclined (1 degree)
Aspect:	S
Soil Type:	Sand
Soil Colour:	Grey over White (other)
Rock Outcrop:	No bedrock exposed
CF Abundance:	0%
Vegetation Condition:	3 - Very Good
Disturbance:	Exotic Weeds
Fire:	>5yrs

DOMINANT TAXA IN VEGETATION STRATA

Upper Stratum 1: *Melaleuca raphiophylla* (8 m, 70%)

Lower Stratum 1: **Galium murale, *Hypochaeris glabra* (0.1 m, 6%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Acacia saligna subsp. *lindleyi* ms	2	0.2
Banksia littoralis	5	0.3
Carpobrotus ?*modestus*	0.2	0.2
Cassytha racemosa		0.3
**Conyza bonariensis*	0.3	0.1
**Ehrharta longiflora*	0.5	0.4
Eucalyptus rudis subsp. *rudis*	3	0.2
**Galium murale*	0.1	2
Hypocalymma angustifolium		
**Hypochaeris glabra*	0.1	4
Indet. sp.	0.1	0.1
Juncus pallidus	1	0.3
**Lotus subbiflorus*	0.1	0.1
Melaleuca rhaphiophylla	8	70
Melaleuca seriata		
Melaleuca teretifolia	3	0.3
**Ornithopus sativus*	0.1	0.1
Oxalis sp.	0.1	0.1
?*Schoenus* sp.	0.5	0.5
**Silene gallica* var. *gallica*	0.2	0.1
**Sonchus oleraceus*	0.2	0.4
*?*Taraxacum* sp.	0.1	0.3

Trachymene pilosa	0.1	0.1
**Trifolium campestre* var. *campestre*	0.1	0.3
**Ursinia anthemoides*	0.1	0.1
**Vulpia myuros*	0.3	0.1
Xanthorrhoea preissii	2	1

PHOTO



Site Name: NEW257
Site Type: QUADRAT
Dimensions: 10m x 10m
Survey Date: 27/09/2012
GPS Location: WGS84 (Zone 50) 349961E 6598455N
Vegetation Type: 17
Landform Type: Plain
Slope Class: Level (0 degrees)
Soil Type: Sand
Soil Colour: Grey
Rock Outcrop: No bedrock exposed
CF Abundance: 0%
Vegetation Condition: 1 - Pristine
Disturbance: None
Fire: >5 years

DOMINANT TAXA IN VEGETATION STRATA

Upper Stratum 1: *Banksia attenuata, Eucalyptus todtiana* (5 m, 11%)
Lower Stratum 1: *Dasypogon obliquifolius, Eremaea pauciflora, Hibbertia hypericoides* (0.6 m, 23%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Alexgeorgea nitens	0.1	0.1
Allocasuarina humilis	1.5	1
Amphipogon turbinatus	0.3	0.1
Anigozanthos humilis subsp. *humilis*	0.1	0.1
Asparagaceae sp.	0.3	0.1
Austrostipa compressa	0.1	0.1
Banksia attenuata	3	3
Banksia menziesii		0.5
Bossiaea eriocarpa	0.4	0.5
Burchardia congesta	0.3	0.1
Caladenia flava subsp. *flava*	0.1	0.1
Calothamnus hirsutus	0.3	0.2
Calytrix flavescens	0.3	0.1
Cassytha glabella forma *dispar*		0.1
Chordifex sinuosus	0.2	0.1
Conostephium pendulum	0.3	0.2
Conostylis aurea	0.2	0.1
Conostylis juncea	0.3	0.1
Conostylis teretifolia subsp. *teretifolia*	0.1	0.1
Dasypogon obliquifolius	0.6	5
Daviesia incrassata subsp. *incrassata*	1	0.5
Drosera erythrorhiza subsp. ?*magna*	0.1	0.1
Drosera menziesii		0.1

Eremaea asterocarpa subsp. *asterocarpa*	0.3	1
Eremaea pauciflora	0.6	10
Eucalyptus todtiana	5	8
Gompholobium tomentosum	0.1	0.1
Hibbertia crassifolia	0.2	0.1
Hibbertia huegelii	0.3	0.2
Hibbertia hypericoides	0.6	8
Hibbertia sp. Gnangara (J.R. Wheeler 2329)	0.3	0.1
Hypocalymma xanthopetalum	0.3	0.2
**Hypochaeris glabra*	0.1	0.1
Isotropis cuneifolia subsp. *cuneifolia*	0.1	0.1
Jacksonia floribunda	0.6	0.2
Lepidosperma aff.*scabrum*	0.3	0.1
Leptospermum spinescens	1	0.2
Leucopogon conostephioides	0.1	0.1
Leucopogon sprengelioides	0.3	0.2
Lyginia barbata	0.3	0.1
Lysinema pentapetalum	0.3	0.1
Melaleuca clavifolia (3)	0.3	0.2
Mesomelaena pseudostygia	0.5	1
Opercularia vaginata	0.1	0.1
Patersonia occidentalis var. ?*occidentalis*	0.3	0.3
Petrophile linearis	1	1
Petrophile macrostachya	1	1
Phyllangium divergens	0.1	0.1
Pimelea sulphurea	0.6	0.1
Scaevola thesioides subsp. *thesioides*	0.1	0.2
Schoenus curvifolius	0.2	0.1
Schoenus pleiostemoneus	0.2	0.3
Stirlingia latifolia	1	0.5
Stylidium piliferum	0.3	0.1
Stylidium repens	0.1	0.1
Synaphea spinulosa subsp. *spinulosa*	0.2	0.1
Trachymene pilosa	0.1	0.1
**Ursinia anthemoides*	0.1	0.1
Verticordia densiflora var. *densiflora*	0.6	0.3
**Wahlenbergia capensis*	0.1	0.1
Waitzia acuminata var. *albicans*	0.2	0.1
Xanthorrhoea preissii	1	1
Xanthosia huegelii	0.1	0.1

PHOTO



Site Name:	NEW258
Site Type:	QUADRAT
Dimensions:	10m x 10m
Survey Date:	27/09/2012
GPS Location:	WGS84 (Zone 50) 349561E 6598398N
Vegetation Type:	18
Landform Type:	Mid Slope
Slope Class:	Very Gently Inclined (1 degree)
Aspect:	NW
Soil Type:	Sand
Soil Colour:	Grey
Rock Outcrop:	No bedrock exposed
CF Abundance:	0%
Vegetation Condition:	1 - Pristine
Disturbance:	None
Fire:	>5 years

DOMINANT TAXA IN VEGETATION STRATA

Mid Stratum 1: *Allocasuarina humilis*, *Calothamnus sanguineus*, *Conospermum stoechadis* subsp. *stoechadis*, *Eremaea pauciflora*, *Hibbertia hypericoides*, *Jacksonia nutans* (1.2 m, 39%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Allocasuarina humilis	1.2	10
Amphipogon turbinatus	0.3	0.1
Anigozanthos humilis subsp. *humilis*	0.1	0.1
Austrostipa compressa	0.1	0.1
Baeckea grandiflora	0.5	0.3
Banksia dallanneyi var. *dallanneyi*	0.2	0.1
Bossiaea eriocarpa	0.3	0.1
Caladenia flava subsp. *flava*	0.1	0.1
Calectasia narragara	0.3	0.2
Calothamnus hirsutus	0.5	0.2
Calothamnus sanguineus	1	2
Calytrix flavescens	0.2	0.1
Cassytha ?*aurea*		0.1
Caustis dioica	0.2	0.1
Chordifex sinuosus	0.3	0.1
Conospermum stoechadis subsp. *stoechadis*	1	4
Conostylis aculeata subsp. *spinuligera*	0.1	0.1
Conostylis teretifolia subsp. *teretifolia*	0.1	0.1
Cryptandra myriantha	0.1	0.1
Dasypogon obliquifolius	0.5	0.2
Daviesia incrassata subsp. *incrassata*	1	1

Drosera erythrorhiza subsp. ?*magna*	0.1	0.1
Drosera menziesii		0.1
Eremaea pauciflora	0.8	6
Eucalyptus todtiana	5	1
Hakea candolleana	0.3	0.2
Hakea costata	1	0.1
Hakea ruscifolia	1.6	0.2
Hibbertia crassifolia	0.3	0.1
Hibbertia huegelii	0.5	0.1
Hibbertia hypericoides	1	10
Hypocalymma xanthopetalum	0.3	0.2
**Hypochaeris glabra*	0.1	0.1
Jacksonia floribunda	0.5	0.2
Jacksonia nutans	1	7
Leucopogon cochlearifolius	0.2	0.1
Leucopogon sprengelioides	0.6	0.2
Lysinema pentapetalum	0.5	0.1
Melaleuca clavifolia (3)	0.6	0.1
Mesomelaena pseudostygia	0.4	1
Mesomelaena tetragona	0.4	0.2
Nuytsia floribunda	5	1
Opercularia vaginata	0.1	0.1
Patersonia occidentalis var. ?*occidentalis*	0.3	0.2
Pterochaeta paniculata	0.1	0.1
Pyrorchis nigricans	0.1	0.1
Scaevola thesioides subsp. *thesioides*	0.1	0.2
Schoenus clandestinus	0.1	0.1
Stirlingia latifolia	0.8	0.2
Stylidium crossocephalum	0.1	0.1
Stylidium piliferum	0.2	0.1
Stylidium purpureum ms	0.2	0.1
Stylidium repens	0.1	0.1
Synaphea spinulosa subsp. *spinulosa*	0.3	0.2
Thysanotus ?*sparteus*	0.3	0.1
Trachymene pilosa	0.1	0.1
**Ursinia anthemoides*	0.1	0.1
Waitzia acuminata var. *albicans*	0.1	0.1
Xanthorrhoea preissii	1.2	1
Xanthosia huegelii	0.1	0.1

PHOTO



Site Name:	NEW259
Site Type:	QUADRAT
Dimensions:	10m x 10m
Survey Date:	27/09/2012
GPS Location:	WGS84 (Zone 50) 349588E 6597464N
Vegetation Type:	18
Landform Type:	Upper Slope
Slope Class:	Gently Inclined (3 degrees)
Soil Type:	Sand
Soil Colour:	White/Grey over Yellow (other)
Rock Outcrop:	No bedrock exposed
CF Abundance:	0%
Vegetation Condition:	2 - Excellent
Disturbance:	None
Fire:	>5 years

DOMINANT TAXA IN VEGETATION STRATA

Upper Stratum 1: *Banksia attenuata*, *Eucalyptus todtiana* (5 m, 14%)

Mid Stratum 1: *Daviesia divaricata* subsp. *divaricata* (2 m, 2%)

Lower Stratum 1: *Calothamnus sanguineus*, *Conospermum stoechadis* subsp. *stoechadis*, *Dasypogon obliquifolius*, *Eremaea pauciflora*, *Mirbelia trichocalyx*, *Petrophile macrostachya*, *Stirlingia latifolia* (1 m, 32%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Acacia stenoptera	0.2	0.1
Alexgeorgea nitens	0.1	0.1
Anigozanthos humilis subsp. *humilis*	0.1	0.1
**Arctotheca calendula*	0.1	0.1
Banksia attenuata	4	3
Caladenia flava subsp. *flava*	0.1	0.1
Calothamnus sanguineus	0.7	4
Calytrix flavescens	0.1	0.1
Cassytha glabella forma *dispar*	0.8	0.5
Conospermum stoechadis subsp. *stoechadis*	1	3
Conostephium pendulum	0.3	0.5
Conostylis juncea	0.1	0.1
Conostylis teretifolia subsp. *teretifolia*	0.1	0.1
Dasypogon obliquifolius	0.5	5
Daviesia divaricata subsp. *divaricata* ms	2	2
Drosera eneabba	0.1	0.1
Drosera erythrorhiza subsp. ?*magna*	0.1	0.1
Eremaea pauciflora	0.8	5
Eucalyptus todtiana	5	11
Hemiphora bartlingii	0.5	0.5

Hibbertia hypericoides	0.5	1
Hybanthus calycinus	0.1	0.1
Hypocalymma xanthopetalum	0.6	0.5
**Hypochaeris glabra*	0.1	0.1
Jacksonia floribunda	0.8	1
Johnsonia pubescens subsp. *pubescens*	0.1	0.1
Laxmannia sessiliflora subsp. ?*australis*	0.1	0.1
Lepidosperma aff.*scabrum*	0.8	0.1
Melaleuca clavifolia (3)	0.7	0.4
Mesomelaena pseudostygia	0.2	0.1
Mirbelia trichocalyx	0.5	4
Patersonia occidentalis var. ?*occidentalis*	0.5	1
Petrophile linearis	0.8	1
Petrophile macrostachya	0.6	6
Pimelea ?*sulphurea*	0.6	0.5
Schoenus clandestinus	0.1	0.1
Schoenus pleiostemoneus	0.1	0.5
Scholtzia involucrata	0.1	0.1
Stirlingia latifolia	1	5
Stylidium adpressum	0.1	0.1
Trachymene pilosa	0.1	0.1
**Vulpia myuros*	0.2	0.1

PHOTO



Site Name:	NEW260
Site Type:	QUADRAT
Dimensions:	10m x 10m
Survey Date:	27/09/2012
GPS Location:	WGS84 (Zone 50) 350104E 6597487N
Vegetation Type:	18
Landform Type:	Open Depression
Slope Class:	Gently Inclined (3 degrees)
Soil Type:	Sand
Soil Colour:	White over Grey (other)
Rock Outcrop:	No bedrock exposed
CF Abundance:	0%
Vegetation Condition:	1 - Pristine
Disturbance:	None
Fire:	>5 years

DOMINANT TAXA IN VEGETATION STRATA

Mid Stratum 1: *Xanthorrhoea preissii* (1.5 m, 2%)

Lower Stratum 1: *Acacia stenoptera*, *Calothamnus sanguineus*, *Daviesia incrassata* subsp. *incrassata*, *Hakea smilacifolia*, *Hakea trifurcata*, *Melaleuca clavifolia*, *Melaleuca seriata* (0.8 m, 45%)

Lower Stratum 2: *Mesomelaena pseudostygia* (0.6 m, 5%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Acacia stenoptera	0.6	2
Alexgeorgea nitens	0.1	0.1
Anarthria laevis	0.5	0.5
Anigozanthos ?*pulcherrimus*	0.4	0.5
Banksia dallanneyi var. *dallanneyi*	0.1	1
Calothamnus sanguineus	0.6	5
Caustis dioica	0.1	0.6
Conospermum stoechadis subsp. *stoechadis*	0.7	1
Conostylis juncea	0.2	1
Conostylis teretifolia subsp. *teretifolia*	0.1	0.1
Dasypogon obliquifolius	0.1	0.5
Daviesia incrassata subsp. *incrassata*	0.5	5
Drosera erythrorhiza subsp. ?*magna*	0.1	0.1
Elythranthera brunonis	0.1	0.1
Goodenia ?*coerulea*	0.1	0.1
Hakea smilacifolia	0.8	2
Hakea trifurcata	0.8	15
Hibbertia crassifolia	0.25	0.1
Hypocalymma xanthopetalum	0.4	0.5
**Hypochaeris glabra*	0.1	0.1

Isotropis cuneifolia subsp. *cuneifolia*	0.1	0.1
Jacksonia nutans	0.4	0.5
Leucopogon sp. Coujinup (M.A. Burgman 1085)	0.1	0.1
Leucopogon sprengelioides	0.6	1
Melaleuca clavifolia (3)	0.7	10
Melaleuca seriata	0.8	6
Mesomelaena pseudostygia	0.6	5
Neurachne alopecuroidea	0.6	0.1
Petrophile brevifolia	0.6	1
Philotheca spicata	0.4	0.5
Phyllangium divergens	0.1	0.1
Pterochaeta paniculata	0.1	0.1
?*Scaevola* sp.	0.1	0.1
Schoenus clandestinus	0.1	0.1
Stylidium adpressum	0.1	0.1
Stylidium piliferum	0.1	0.1
Synaphea spinulosa subsp. *spinulosa*	0.5	1
Trachymene pilosa	0.1	0.1
**Ursinia anthemoides*	0.1	0.1
Verticordia densiflora var. *densiflora*	0.5	0.5
Verticordia lindleyi subsp. *lindleyi* (4)	0.2	0.1
Waitzia acuminata var. *albicans*	0.1	0.1
Xanthorrhoea preissii	1.5	2

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Site Name: NEW261
Site Type: QUADRAT
Dimensions: 10m x 10m
Survey Date: 09/10/2012
GPS Location: WGS84 (Zone 50) 349391E 6596725N
Vegetation Type: 18
Landform Type: Simple Slope
Slope Class: Very Gently Inclined (1 degree)
Aspect: NW
Soil Type: Sand
Soil Colour: white over grey (other)
Rock Outcrop: No bedrock exposed
CF Abundance: 0%
Vegetation Condition: 1 - Pristine

DOMINANT TAXA IN VEGETATION STRATA

Mid Stratum 1: *Xanthorrhoea preissii* (2 m, 9 %)

Lower Stratum 1: *Calothamnus quadrifidus, Hakea costata, Jacksonia nutans, Melaleuca clavifolia, Verticordia densiflora* (1 m, 37 %)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Acacia sphacelata subsp. *verticillata*	0.3	0.1
Acacia stenoptera	0.5	0.1
Amphipogon turbinatus	0.4	0.1
Anigozanthos humilis subsp. *humilis*	0.2	0.1
Astroloma glaucescens	0.3	0.1
Austrostipa macalpinei	0.2	0.1
Babingtonia camphorosmae	0.2	0.1
Boronia ramosa subsp. *anethifolia*	0.2	0.1
Bossiaea eriocarpa	0.5	0.5
Calothamnus quadrifidus	0.9	25
Cassytha glabella forma *dispar*		0.1
Chordifex sinuosus	0.5	0.1
Comesperma calymega	0.2	0.1
Conospermum stoechadis subsp. *stoechadis*	0.5	0.1
Conostylis juncea	0.2	0.1
Conostylis teretifolia subsp. *teretifolia*	0.2	0.1
Drosera eneabba	0.1	0.1
Drosera erythrorhiza subsp. ?*magna*	0.1	0.1
Eremaea pauciflora	0.8	1
Eremaea pauciflora var. ?*lonchophylla*	0.3	1
Haemodorum sp.	0.2	0.1
Hakea candolleana	0.3	0.1
Hakea costata	1	2
Hibbertia huegelii	0.4	0.5

Hibbertia hypericoides	0.4	0.5
Hypocalymma xanthopetalum	0.4	0.1
**Hypochaeris glabra*	0.1	0.1
Jacksonia nutans	0.8	5
Lepidosperma pubisquameum	0.4	0.1
Leucopogon sprengelioides	0.3	0.1
Lomandra caespitosa	0.4	0.1
Lomandra hermaphrodita	0.2	0.1
Melaleuca clavifolia (3)	0.5	3
Melaleuca seriata	0.8	1.5
Mesomelaena pseudostygia	0.5	0.1
Neurachne alopecuroidea	0.1	0.1
Opercularia vaginata	0.2	0.1
Patersonia occidentalis var. ?*occidentalis*	0.5	1
Phyllangium divergens	0.1	0.1
Podotheca gnaphalioides	0.1	0.1
Pterochaeta paniculata	0.1	0.1
Schoenus brevisetis	0.2	0.1
Schoenus clandestinus	0.1	0.1
Stylidium purpureum ms	0.3	0.1
Stylidium rigidulum	0.1	0.1
Synaphea spinulosa subsp. *spinulosa*	0.5	0.1
Thysanotus ?*thyrsoideus*	0.1	0.1
Trachymene pilosa	0.1	0.1
**Ursinia anthemoides*	0.1	0.1
Verticordia densiflora	0.8	2
**Wahlenbergia capensis*	0.1	0.1
Xanthorrhoea preissii	2	9
Xanthosia huegelii	0.1	0.1

PHOTO



Site Name:	NEW262
Site Type:	QUADRAT
Dimensions:	10m x 10m
Survey Date:	27/09/2012
GPS Location:	WGS84 (Zone 50) 349980E 6595895N
Vegetation Type:	18
Landform Type:	Plain
Slope Class:	Level (0 degrees)
Soil Type:	Sandy Loam
Soil Colour:	Grey
Rock Outcrop:	No bedrock exposed
CF Abundance:	0%
Vegetation Condition:	1 - Pristine
Disturbance:	None
Fire:	>5yrs

DOMINANT TAXA IN VEGETATION STRATA

Upper Stratum 1: *Banksia attenuata* (4 m, 2%)

Lower Stratum 1: *Allocasuarina humilis*, *Bossiaea eriocarpa*, *Calothamnus sanguineus*, *Eremaea pauciflora*, *Hibbertia crassifolia*, *Jacksonia hakeoides*, *Melaleuca clavifolia* (0.8 m, 62%)

Lower Stratum 2: *Mesomelaena pseudostygia* (0.6 m, 3%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Acacia sphacelata subsp. *verticillata*	0.6	0.1
Acacia stenoptera	0.3	0.5
Alexgeorgea nitens	0.15	0.1
Allocasuarina humilis	0.8	7
Amphipogon turbinatus	0.5	1
Anigozanthos humilis subsp. *humilis*	0.1	0.1
Anigozanthos ?pulcherrimus	0.1	0.1
Banksia attenuata	4	2
Banksia dallanneyi var. *dallanneyi*	0.2	1.5
Bossiaea eriocarpa	0.5	4
Calothamnus sanguineus	0.7	12
Calytrix flavescens	0.3	0.5
Cassytha glabella forma *dispar*	0.3	0.5
Caustis dioica	0.3	1
Chordifex chaunocoleus (4)	0.4	0.1
Conostylis juncea	0.2	0.1
Conostylis teretifolia subsp. *teretifolia*	0.1	0.1
Dampiera linearis		
Dasypogon obliquifolius	0.03	1
Daviesia incrassata subsp. *incrassata*	0.6	0.5

Drosera eneabba	0.06	0.1
Drosera erythrorhiza subsp. ?*magna*	0.01	0.1
Drosera menziesii	0.3	0.1
Drosera pallida	0.1	0.1
Drosera sp.	0.01	0.1
Elythranthera brunonis	0.2	0.1
Eremaea asterocarpa subsp. *asterocarpa*	0.4	1.5
Eremaea pauciflora	0.7	7
Hibbertia crassifolia	0.3	2
Hibbertia huegelii	0.5	1
Hyalosperma cotula	0.08	0.1
Hypocalymma xanthopetalum	0.3	0.5
**Hypochaeris glabra*	0.01	0.1
Isotropis cuneifolia subsp. *cuneifolia*	0.15	0.1
Jacksonia hakeoides	0.8	12
Johnsonia pubescens subsp. *pubescens*	0.1	0.1
Lepidosperma sp.	0.3	0.1
Leporella fimbriata	0.01	0.1
Leucopogon sprengelioides	0.5	1.5
Lomandra hermaphrodita	0.2	0.1
Lysinema pentapetalum	0.8	0.1
Melaleuca clavifolia (3)	0.7	18
Melaleuca seriata	0.8	1
Mesomelaena pseudostygia	0.6	3
Neurachne alopecuroidea	0.6	0.1
Patersonia occidentalis var. ?*occidentalis*	0.4	0.5
Phyllangium divergens	0.08	0.1
Pimelea sulphurea	0.6	0.1
Podotheca gnaphalioides	0.04	0.1
Pterochaeta paniculata	0.08	0.1
Pterostylis ?*pyramidalis*	0.01	0.1
Schoenus brevisetis	0.4	1
Schoenus clandestinus	0.02	0.1
Schoenus curvifolius	0.3	0.1
Scholtzia involucrata	0.3	0.1
Stirlingia latifolia	0.2	0.1
Stylidium adpressum	0.1	0.1
Stylidium crossocephalum	0.06	0.1
Stylidium piliferum	0.1	0.1
Synaphea spinulosa subsp. *spinulosa*	0.05	0.1
Thysanotus patersonii	0.3	0.1
Thysanotus ?*sparteus*	0.6	0.1
Trachymene pilosa	0.1	0.1
**Ursinia anthemoides*	0.1	0.1
Xanthorrhoea preissii	1.2	1
Xanthosia huegelii	0.15	0.1

PHOTO



Site Name:	NEW263
Site Type:	QUADRAT
Dimensions:	10m x 10m
Survey Date:	27/09/2012
GPS Location:	WGS84 (Zone 50) 349846E 6595042N
Vegetation Type:	18
Landform Type:	Lower Slope
Slope Class:	Gently Inclined (3 degrees)
Aspect:	E
Soil Type:	Sandy Loam
Soil Colour:	Grey
Rock Outcrop:	No bedrock exposed
CF Abundance:	0%
Vegetation Condition:	2 - Excellent
Disturbance:	None
Fire:	>5yrs

DOMINANT TAXA IN VEGETATION STRATA

Mid Stratum 1:	*Xanthorrhoea preissii* (2.5 m, 7.5%)
Mid Stratum 2:	*Allocasuarina humilis*, *Hakea trifurcata* (1.3 m, 29%)
Lower Stratum 1:	*Astroloma glaucescens*, *Bossiaea eriocarpa*, *Calothamnus sanguineus*, *Calytrix leschenaultii*, *Melaleuca clavifolia* (0.6 m, 17%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Acacia pulchella var. *reflexa*	1	0.5
Alexgeorgea nitens	0.1	0.1
Allocasuarina humilis	1.3	18
Allocasuarina microstachya	0.4	0.1
Anigozanthos humilis subsp. *humilis*	0.3	0.1
Astroloma glaucescens	0.3	2
Banksia dallanneyi var. *dallanneyi*	0.2	0.5
Borya sphaerocephala	0.05	0.1
Bossiaea eriocarpa	0.6	2
**Briza maxima*	0.1	0.1
Burchardia congesta	0.2	0.1
Caladenia flava subsp. *flava*	0.1	0.1
Calandrinia corrigioloides	0.05	0.1
Calothamnus sanguineus	0.6	7
Calytrix leschenaultii	0.6	4
Cassytha ?*aurea*	0.1	0.1
Cassytha glabella forma *dispar*	0.1	0.1
Caustis dioica	0.3	0.5
Chamaescilla corymbosa	0.1	0.1
Daviesia incrassata subsp. *incrassata*	0.6	0.5

Drosera erythrorhiza subsp. ?*magna*	0.01	0.1
Drosera glanduligera	0.01	0.1
Drosera pallida	0.3	0.1
Gompholobium tomentosum	0.4	0.1
Hakea costata	1	0.5
Hakea trifurcata	1.3	11
Hibbertia crassifolia	0.4	1
Hibbertia huegelii	0.3	1
Hibbertia hypericoides	0.3	0.5
Hyalosperma cotula	0.1	0.1
Hypocalymma xanthopetalum	0.3	0.1
**Hypochaeris glabra*	0.06	0.1
Lepidosperma sp.	0.3	0.5
Leporella fimbriata	0.01	0.1
Leucopogon cochlearifolius	0.6	0.1
Leucopogon sprengelioides	0.5	0.5
Levenhookia stipitata	0.05	0.1
**Lysimachia arvensis*	0.1	0.1
Lysinema pentapetalum	0.6	0.1
Melaleuca clavifolia (3)	0.6	2
Melaleuca seriata	0.5	0.5
Mesomelaena pseudostygia	0.3	0.5
Millotia tenuifolia var. *tenuifolia*	0.08	0.1
Neurachne alopecuroidea	0.2	0.1
Nuytsia floribunda	3	1
Opercularia vaginata	0.4	0.2
**Ornithopus sativus*	0.2	0.1
Pimelea sulphurea	0.3	0.1
Podotheca gnaphalioides	0.05	0.1
Restionaceae sp.	0.1	0.1
Schoenus clandestinus	0.02	0.1
**Sonchus oleraceus*	0.05	0.1
Stylidium petiolare	0.05	0.1
Stylidium purpureum ms	0.2	0.1
Stylidium rigidulum	0.1	0.1
Synaphea spinulosa subsp. *spinulosa*	0.6	0.7
**Taraxacum officinale*	0.02	0.1
Thysanotus ?*thyrsoideus*	0.3	0.1
Trachymene pilosa	0.1	0.1
**Ursinia anthemoides*	0.2	0.1
Verticordia densiflora var. *densiflora*	1	0.5
Xanthorrhoea preissii	2.5	7.5

PHOTO



Site Name:	NEW264
Site Type:	QUADRAT
Dimensions:	10m x 10m
Survey Date:	09/10/2012
GPS Location:	WGS84 (Zone 50) 349495E 6594521N
Vegetation Type:	18
Landform Type:	Simple Slope
Slope Class:	Very Gently Inclined (1 degree)
Aspect:	NW
Soil Type:	Sand
Soil Colour:	grey / white (other)
Rock Outcrop:	No bedrock exposed
CF Abundance:	0%
Vegetation Condition:	1 - Pristine
Disturbance:	None
Fire:	> 5 years

DOMINANT TAXA IN VEGETATION STRATA

Upper Stratum 1:	*Xanthorrhoea preissii* (3 m, 6%)
Mid Stratum 1:	*Allocasuarina humilis* (2.2 m, 2.5%)
Lower Stratum 1:	*Banksia dallanneyi* var. *dallanneyi*, *Bossiaea eriocarpa, Calothamnus sanguineus, Daviesia incrassata* subsp. *incrassata, Hakea trifurcata, Jacksonia nutans, Melaleuca clavifolia* (1 m, 79%)
Lower Stratum 2:	*Patersonia occidentalis* var. ?*occidentalis* (0.4 m, 2%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Acacia pulchella var. *reflexa*	1	0.1
Acacia stenoptera	0.2	0.1
Alexgeorgea nitens	0.2	0.1
Allocasuarina humilis	2.2	2.5
Allocasuarina microstachya	0.5	0.5
Anigozanthos humilis subsp. *humilis*	0.1	0.1
Astroloma glaucescens	0.3	0.1
Austrostipa macalpinei	0.5	0.1
Banksia dallanneyi var. *dallanneyi*	0.2	2
Boronia ramosa subsp. *anethifolia*	0.2	0.1
Bossiaea eriocarpa	0.7	2
Calandrinia granulifera	0.1	0.1
Calectasia narragara	0.4	0.1
Calothamnus quadrifidus	0.8	0.5
Calothamnus sanguineus	0.9	65
Calytrix aurea	0.7	0.1
Cassytha glabella forma *dispar*		0.1
Caustis dioica	0.2	0.1

Centrolepis pilosa	0.1	0.1
Centrolepis polygyna	0.1	0.1
Chordifex sinuosus	0.4	0.1
Conospermum stoechadis subsp. *stoechadis*	0.8	1.5
Conostylis aculeata subsp. *breviflora*	0.3	0.1
Conostylis juncea	0.3	0.1
Dasypogon obliquifolius	0.4	0.1
Daviesia incrassata subsp. *incrassata*	0.6	4
Drosera eneabba	0.1	0.1
Drosera erythrorhiza subsp. ?*magna*	0.1	0.1
Drosera menziesii	0.1	0.1
Eremaea pauciflora	0.5	1.5
Gastrolobium oxylobioides	0.1	0.1
Hakea candolleana	0.5	0.5
Hakea trifurcata	1	3
Hibbertia huegelii	0.4	0.1
Hibbertia hypericoides	0.4	0.1
Hyalosperma cotula	0.1	0.1
Hypocalymma xanthopetalum	0.3	0.1
**Hypochaeris glabra*	0.1	0.1
**Isolepis marginata*	0.3	0.1
Jacksonia nutans	0.5	7
Johnsonia pubescens subsp. *pubescens*	0.1	0.1
Lepidosperma pubisquameum	0.2	0.1
Leporella fimbriata	0.1	0.1
Leucopogon sprengelioides	0.4	0.5
Levenhookia pusilla	0.1	0.1
Lyginia imberbis	0.2	0.1
Melaleuca clavifolia (3)	0.4	3
Melaleuca seriata		
Mesomelaena pseudostygia	0.5	0.1
Neurachne alopecuroidea	0.1	0.1
Nuytsia floribunda	0.6	0.1
Patersonia occidentalis var. ?*occidentalis*	0.4	2
**Pentameris airoides*	0.1	0.1
Phyllangium divergens	0.1	0.1
Pterochaeta paniculata	0.1	0.1
Quinetia urvillei	0.1	0.1
Schoenus brevisetis	0.3	0.1
Siloxerus humifusus	0.1	0.1
Stylidium piliferum	0.4	0.1
Synaphea spinulosa subsp. *spinulosa*	0.5	1
Trachymene pilosa	0.1	0.1
**Ursinia anthemoides*	0.1	0.1
**Wahlenbergia capensis*	0.2	0.1
Xanthorrhoea preissii	3	6
Xanthosia huegelii	0.2	0.1

PHOTO



Site Name:	NEW267
Site Type:	QUADRAT
Dimensions:	10m x 10m
Survey Date:	09/10/2012
GPS Location:	WGS84 (Zone 50) 350218E 6595145N
Vegetation Type:	4
Landform Type:	Open Depression
Slope Class:	Very Gently Inclined (1 degree)
Aspect:	SW
Soil Type:	sandy clay (other)
Soil Colour:	brown / grey over yellow (other)
Rock Outcrop:	No bedrock exposed
CF Abundance:	0%
Vegetation Condition:	3 - Very Good
Disturbance:	Exotic Weeds
Fire:	> 5 years

DOMINANT TAXA IN VEGETATION STRATA

Mid Stratum 1: *Acacia saligna* subsp. *lindleyi* (2 m, 5%)

Mid Stratum 2: *Calothamnus quadrifidus* (1.2 m, 15 %)

Lower Stratum 1: **Briza maxima*, **Briza minor*, *Lepidosperma longitudinale* (0.5 m, 28%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Acacia saligna subsp. *lindleyi* ms	2	5
**Aira cupaniana*	0.1	0.1
**Arctotheca calendula*	0.1	0.1
**Briza maxima*	0.2	20
**Briza minor*	0.1	5
Calothamnus quadrifidus	1.2	15
Centrolepis aristata	0.1	0.1
Chamaescilla corymbosa	0.1	0.1
Drosera gigantea subsp. *gigantea*	0.3	0.1
Drosera glanduligera	0.1	0.1
Goodenia pulchella subsp. Coastal Plain A (M. Hislop 634)	0.1	0.1
**Hypochaeris glabra*	0.1	0.1
Lepidosperma longitudinale	0.5	3
**Lotus angustissimus*	0.1	0.1
**Lysimachia arvensis*	0.1	0.1
Meionectes brownii	0.1	0.1
Microtis media subsp. *media*	0.1	0.1
**Monopsis debilis*	0.1	0.1
**Parentucellia latifolia*	0.1	0.1
Podolepis gracilis	0.1	0.1

Ptilotus polystachyus	0.5	0.2
Schoenus sculptus	0.1	0.1
Schoenus subfascicularis	0.6	1
Schoenus variicellae	0.1	0.1
**Silene gallica*	0.1	0.1
Thysanotus manglesianus	0.5	0.1
Tribonanthes australis	0.1	0.1
**Trifolium dubium*	0.1	0.1
**Ursinia anthemoides*	0.2	0.1
Velleia trinervis	0.1	0.1
Verticordia densiflora	0.2	0.1
**Vulpia bromoides*	0.1	0.1
Zygophyllum sp.	0.1	0.1

PHOTO



Site Name:	NEW268
Site Type:	QUADRAT
Dimensions:	10m x 10m
Survey Date:	27/09/2012
GPS Location:	WGS84 (Zone 50) 349543E 6598113N
Vegetation Type:	7
Landform Type:	Open Depression
Slope Class:	Very Gently Inclined (1 degree)
Soil Type:	Sandy Loam
Soil Colour:	Brown
Rock Outcrop:	No bedrock exposed
CF Abundance:	0%
Vegetation Condition:	1 - Pristine
Disturbance:	None
Fire:	>10 years

DOMINANT TAXA IN VEGETATION STRATA

Mid Stratum 1: *Xanthorrhoea preissii* (3 m, 3%)

Lower Stratum 1: *Calothamnus quadrifidus* subsp. *angustifolius, Daviesia preissii, Hakea lissocarpha* (0.7 m, 71%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Astroloma glaucescens	0.2	0.5
Borya sphaerocephala	0.1	0.1
Calothamnus quadrifidus subsp. *angustifolius*	0.7	65
Calytrix leschenaultii	0.6	1
Cryptandra nutans	0.3	0.5
Daviesia preissii	0.8	3
Drosera erythrorhiza subsp. ?*magna*	0.1	0.1
Drosera stolonifera	0.1	0.1
Hakea incrassata	0.6	0.2
Hakea lissocarpha	0.7	3
Hibbertia hypericoides	0.6	0.5
Hyalosperma cotula	0.1	0.1
Hypocalymma xanthopetalum	0.3	0.5
Melaleuca clavifolia (3)	0.6	1
Mesomelaena pseudostygia	0.2	0.5
Neurachne alopecuroidea	0.4	0.1
Opercularia vaginata	0.6	0.1
Pterochaeta paniculata	0.1	0.1
Schoenus clandestinus	0.1	0.1
?*Scholtzia* sp.	0.4	0.5
Stylidium dichotomum	0.1	0.1
Xanthorrhoea preissii	3	3

PHOTO



Site Name:	NEW269
Site Type:	QUADRAT
Dimensions:	10m x 10m
Survey Date:	08/10/2012
GPS Location:	WGS84 (Zone 50) 348285E 6600245N
Vegetation Type:	6
Landform Type:	Open Depression
Slope Class:	Gently Inclined (3 degrees)
Aspect:	S
Soil Type:	Sand
Soil Colour:	Grey
Rock Outcrop:	No bedrock exposed
CF Abundance:	0%
Vegetation Condition:	1 - Pristine
Disturbance:	None
Fire:	>5 years

DOMINANT TAXA IN VEGETATION STRATA

Mid Stratum 1: *Adenanthos cygnorum* subsp. *cygnorum* (2.5 m, 40%)

Lower Stratum 1: *Acacia pulchella* var. *reflexa*, *Conospermum incurvum*, *Verticordia densiflora* var. *densiflora* (0.8 m, 7%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Acacia pulchella var. *reflexa*	0.8	2
Adenanthos cygnorum subsp. *cygnorum*	2.5	40
Anigozanthos humilis subsp. *humilis*	0.1	0.1
**Arctotheca calendula*	0.1	0.1
Austrostipa macalpinei	0.1	0.5
Calandrinia corrigioloides	0.1	0.1
Calandrinia granulifera	0.1	0.1
Centrolepis drummondiana	0.4	0.1
Centrolepis pilosa	0.1	0.1
Centrolepis polygyna	0.4	0.1
Conospermum incurvum	0.8	3
Conostylis aculeata subsp. *spinuligera*	0.15	0.5
Crassula colorata var. *acuminata*	0.1	0.1
Gompholobium tomentosum	0.1	0.1
Gonocarpus cordiger	0.1	0.5
Hakea costata	0.5	0.1
**Hypochaeris glabra*	0.1	1
Jacksonia nutans	0.2	1
**Lysimachia arvensis*	0.1	0.1
Melaleuca seriata	1	1
**Pentameris airoides*	0.1	0.1

Phlebocarya filifolia	0.3	0.5
Podotheca angustifolia	0.1	0.1
Podotheca gnaphalioides	0.1	0.1
Siloxerus humifusus	0.1	0.1
Trachymene pilosa	0.1	1
**Ursinia anthemoides*	0.1	0.1
Verticordia densiflora var. *densiflora*	0.5	2
**Wahlenbergia capensis*	0.1	0.1

PHOTO



Site Name:	NEW270
Site Type:	QUADRAT
Dimensions:	10m x 10m
Survey Date:	08/10/2012
GPS Location:	WGS84 (Zone 50) 345250E 6600800N
Vegetation Type:	7
Landform Type:	Plain (other)
Slope Class:	Level (0 degrees)
Soil Type:	Clay Loam
Soil Colour:	Grey
Rock Outcrop:	No bedrock exposed
CF Abundance:	0%
Vegetation Condition:	1 - Pristine
Disturbance:	None
Fire:	>5yrs

DOMINANT TAXA IN VEGETATION STRATA

Lower Stratum 1: *Allocasuarina microstachya, Banksia telmatiaea, Calothamnus sanguineus, Calytrix leschenaultii, Hakea lissocarpha, H. trifurcata, Hibbertia crassifolia, Leucopogon sprengelioides, Melaleuca clavifolia, M. seriata, Persoonia comata* (0.5 m, 52%)

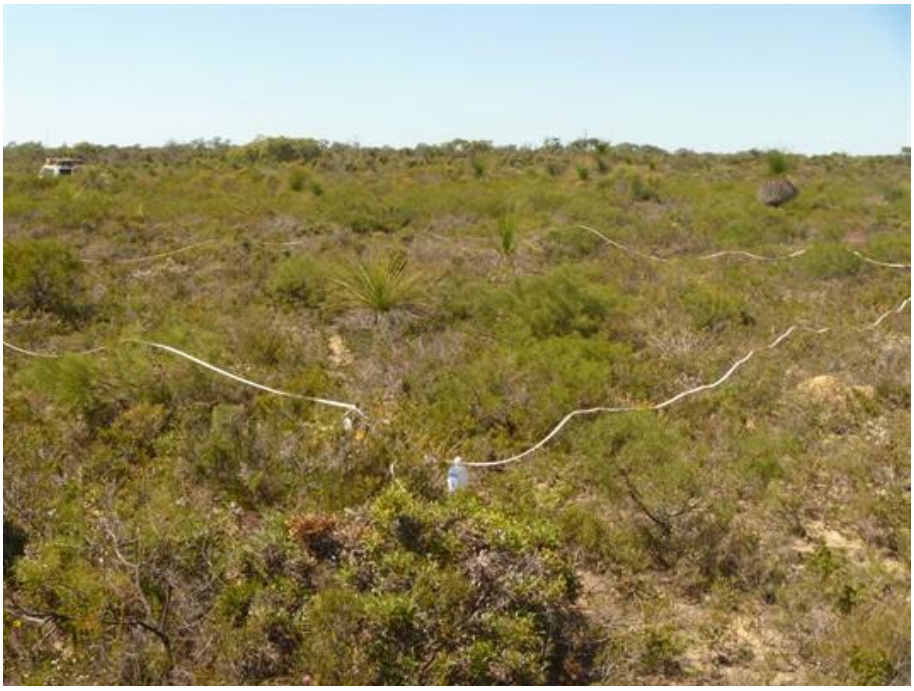
Lower Stratum 2: *Lepidosperma tenue, Schoenus clandestinus* (0.4 m, 4.5%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Acacia dilatata	0.2	0.1
Acacia lasiocarpa var. ?*bracteolata*	0.2	0.1
Allocasuarina microstachya	0.4	4
Banksia dallanneyi var. *dallanneyi*	0.2	0.5
Banksia telmatiaea	0.5	2
Borya sphaerocephala	0.05	0.1
Calothamnus quadrifidus subsp. *quadrifidus*	0.3	0.1
Calothamnus sanguineus	0.3	5
Calytrix leschenaultii	0.3	2
Cassytha glabella forma *dispar*	0.3	0.1
Caustis dioica	0.2	0.1
Comesperma ciliatum	0.1	0.1
Dampiera teres	0.2	1
Drosera erythrorhiza subsp. ?*magna*	0.01	0.1
Drosera glanduligera	0.04	0.1
Drosera menziesii	0.1	0.1
Drosera menziesii subsp. *menziesii*	0.1	0.1
Drosera sp.	0.05	0.1
Gastrolobium plicatum	0.25	0.5
Hakea lissocarpha	0.4	4
Hakea trifurcata	0.5	6

Harperia lateriflora	0.1	0.1
Hibbertia crassifolia	0.3	2
Hibbertia hypericoides	0.3	1
Hypocalymma xanthopetalum	0.2	0.1
Isotropis cuneifolia subsp. *cuneifolia*	0.05	0.1
Lepidosperma tenue	0.4	2
Leporella fimbriata	0.01	0.1
Leucopogon sprengelioides	0.3	7
Melaleuca clavifolia (3)	0.3	3
Melaleuca seriata	0.4	12
Mesomelaena pseudostygia	0.3	0.1
Mirbelia floribunda	0.2	
Neurachne alopecuroidea	0.2	0.1
Opercularia vaginata	0.1	0.2
Persoonia comata	0.3	4
Petrophile brevifolia	0.3	0.5
Petrophile seminuda	0.4	0.5
Pterochaeta paniculata	0.03	0.1
Schoenus clandestinus	0.03	2.5
Stirlingia abrotanoides	0.06	0.1
Stylidium dichotomum	0.05	0.1
Stylidium purpureum ms	0.2	0.1
Xanthorrhoea preissii	1	1.5

PHOTO



Site Name:	NEW271
Site Type:	QUADRAT
Dimensions:	10m x 10m
Survey Date:	08/10/2012
GPS Location:	WGS84 (Zone 50) 345100E 6600812N
Vegetation Type:	7
Landform Type:	Simple Slope
Slope Class:	Gently Inclined (3 degrees)
Aspect:	W
Soil Type:	Clay Loam
Soil Colour:	Orange Brown (other)
Rock Outcrop:	No bedrock exposed
CF Abundance:	10-20%
CF Sizes:	6-20mm
CF Types:	Laterite
Vegetation Condition:	1 - Pristine
Disturbance:	None
Fire:	>5yrs

DOMINANT TAXA IN VEGETATION STRATA

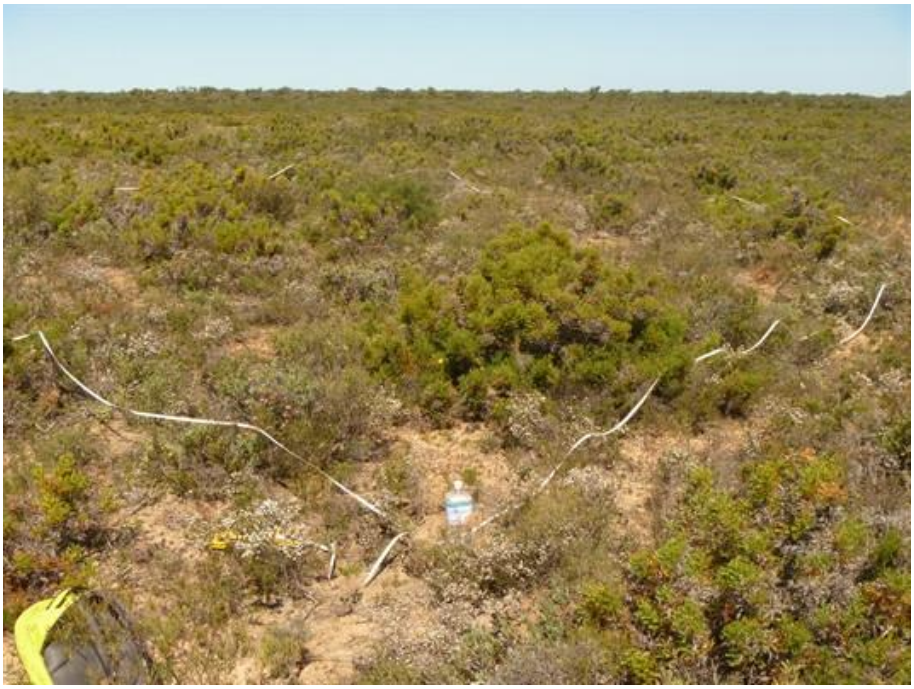
Lower Stratum 1: *Allocasuarina grevilleoides, Banksia armata* var. *armata, Hakea auriculata, Jacksonia condensata, Leucopogon sprengelioides, Melaleuca clavifolia, M. radula, Verticordia huegelii* var. *tridens* (0.6 m, 57%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Acacia lasiocarpa var. ?*bracteolata*	0.2	0.1
Allocasuarina grevilleoides (3)	0.3	5
Allocasuarina microstachya	0.3	0.5
Amphipogon ?*debilis*	0.05	0.1
Andersonia gracilis (T)	0.2	1
Banksia armata var. *armata*	0.6	15
Borya sphaerocephala	0.04	0.1
Calytrix leschenaultii	0.3	1.5
Cassytha glabella forma *dispar*	0.4	0.5
Comesperma ciliatum	0.3	1
Drosera glanduligera	0.06	0.1
Drosera menziesii	0.1	0.1
Drosera sp.	0.08	0.1
Gastrolobium plicatum	0.3	0.5
Hakea auriculata	0.3	4
Hakea lissocarpha	0.4	1
Hakea trifurcata	0.6	1.5
Hibbertia crassifolia	0.3	0.1
Hibbertia hypericoides	0.3	0.1

Jacksonia condensata	0.3	5
?*Lepidosperma* sp.	0.06	0.1
Lepidosperma tenue	0.5	0.1
Leucopogon sprengelioides	0.4	11
Lomandra ?*micrantha*	0.2	0.1
Melaleuca clavifolia (3)	0.3	7
Melaleuca radula	0.8	8
Melaleuca seriata	0.6	1
Neurachne alopecuroidea	0.2	0.1
Persoonia comata	0.3	1.5
Petrophile brevifolia	0.4	0.5
Petrophile seminuda	0.2	0.1
Pterochaeta paniculata	0.06	
Schoenus brevisetis	0.08	0.1
Schoenus clandestinus	0.05	0.1
Schoenus unispiculatus	0.1	0.1
Stylidium dichotomum	0.15	0.1
Stylidium purpureum ms	0.1	0.1
Verticordia huegelii var. *tridens* (3)	0.1	2
Xanthorrhoea preissii	0.5	0.1

PHOTO



Site Name:	NEW273
Site Type:	QUADRAT
Dimensions:	10m x 10m
Survey Date:	11/10/2012
GPS Location:	WGS84 (Zone 50) 338554E 6601731N
Vegetation Type:	7
Landform Type:	Open Depression
Slope Class:	Very Gently Inclined (1 degree)
Soil Type:	Sand
Soil Colour:	white over grey (other)
Rock Outcrop:	No bedrock exposed
CF Abundance:	0%
Vegetation Condition:	1 - Pristine
Disturbance:	None
Fire:	> 5 years

DOMINANT TAXA IN VEGETATION STRATA

Lower Stratum 1: *Calothamnus quadrifidus, Hakea candolleana, Melaleuca seriata, Verticordia densiflora* (0.8 m, 68%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Acacia lasiocarpa var. *lasiocarpa*	0.6	1
Anigozanthos humilis subsp. *humilis*	0.1	0.1
Astroloma glaucescens	0.3	0.1
Banksia dallanneyi var. *dallanneyi*	0.1	0.1
Burchardia congesta	0.4	0.1
Calothamnus quadrifidus	0.5	3
Chordifex chaunocoleus (4)	0.3	0.1
Conostylis aculeata subsp. *breviflora*	0.3	0.1
Drosera gigantea subsp. *gigantea*	0.1	0.1
Hakea candolleana	0.5	3
Hakea lissocarpha	0.4	0.1
Hakea trifurcata	0.9	0.1
Hemiandra glabra subsp. *glabra* ms	0.3	
Hibbertia hypericoides	0.3	0.5
Hypocalymma xanthopetalum	0.3	0.1
Isotropis cuneifolia subsp. *cuneifolia*	0.1	0.1
Melaleuca seriata	0.5	60
Mesomelaena pseudostygia	0.4	0.1
Neurachne alopecuroidea	0.1	0.1
Olearia lehmanniana	0.3	0.1
Petrophile brevifolia	0.4	0.1
Petrophile seminuda	0.4	0.2
Pimelea imbricata var. *piligera*	0.1	0.1
Ptilotus manglesii	0.2	0.1

Scaevola anchusifolia	0.1	0.1
Schoenus clandestinus	0.1	0.1
Senecio pinnatifolius	0.3	
Siloxerus ?humifusus	0.01	0.1
Stirlingia abrotanoides	0.3	
Stylidium purpureum ms	0.1	0.1
Synaphea spinulosa subsp. *spinulosa*	0.4	1.5
Tricoryne ?elatior	0.3	0.1
**Ursinia anthemoides*	0.2	0.1
Verticordia densiflora	0.8	2
**Wahlenbergia capensis*	0.2	0.1

PHOTO



Site Name:	NEW274
Site Type:	QUADRAT
Dimensions:	10m x 10m
Survey Date:	11/10/2012
GPS Location:	WGS84 (Zone 50) 340187E 6602692N
Vegetation Type:	5
Landform Type:	Open Depression
Slope Class:	Gently Inclined (3 degrees)
Aspect:	SW
Soil Type:	Sand
Soil Colour:	white over grey (other)
Rock Outcrop:	No bedrock exposed
CF Abundance:	0%
Vegetation Condition:	1 - Pristine
Disturbance:	None
Fire:	> 5 years

DOMINANT TAXA IN VEGETATION STRATA

Mid Stratum 1: *Beaufortia elegans*, *Hakea obliqua* subsp. *parviflora* (1.4 m, 4%)

Lower Stratum 1: *Banksia telmatiaea*, *Melaleuca seriata* (0.9 m, 91%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Anarthria gracilis	0.4	0.1
Andersonia heterophylla	0.2	0.1
Banksia dallanneyi var. *dallanneyi*	0.1	0.1
Banksia telmatiaea	0.9	71
Beaufortia elegans	1.2	2
Dasypogon obliquifolius	0.1	0.1
Daviesia incrassata subsp. *incrassata*	0.4	0.5
Drosera eneabba	0.1	0.1
Hakea obliqua subsp. *parviflora*	1.4	2
Hypocalymma xanthopetalum	0.3	0.1
Jacksonia nutans	0.4	0.1
Kunzea micrantha subsp. *petiolata*	0.4	0.1
Leucopogon conostephioides	0.1	0.1
Lomandra hermaphrodita	0.1	0.1
Melaleuca clavifolia (3)	0.4	0.1
Melaleuca seriata	0.9	20
Opercularia vaginata	0.3	0.1
Petrophile brevifolia	0.4	0.2
Schoenus clandestinus	0.1	0.1
Schoenus griffinianus (3)	0.1	0.1
Stylidium repens	0.1	0.1
Tricostularia neesii var. *neesii*	0.1	0.1

Verticordia lindleyi subsp. *lindleyi* (4)	0.7	0.1
Xanthorrhoea preissii	0.8	0.1

PHOTO



Site Name:	NEW275
Site Type:	QUADRAT
Dimensions:	10m x 10m
Survey Date:	11/10/2012
GPS Location:	WGS84 (Zone 50) 340323E 6602718N
Vegetation Type:	9a
Landform Type:	Broad basin (other)
Slope Class:	Very Gently Inclined (1 degree)
Aspect:	S
Soil Type:	Sand
Soil Colour:	light grey (other)
Rock Outcrop:	No bedrock exposed
CF Abundance:	0%
Vegetation Condition:	1 - Pristine
Disturbance:	None
Fire:	> 5 years

DOMINANT TAXA IN VEGETATION STRATA

Upper Stratum 1: *Melaleuca rhaphiophylla, M. teretifolia, M. viminea* subsp. *viminea* (4 m, 69%)

Lower Stratum 1: *Baumea juncea* (0.5 m, 5%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Austrostipa compressa	0.2	0.1
Baumea juncea	0.5	5
Calandrinia sp. Kenwick (G.J. Keighery 10905)	0.1	0.1
Carpobrotus modestus	0.1	0.1
Centrolepis polygyna	0.1	0.1
Crassula ?*colorata* var. *colorata*	0.1	0.1
Goodenia pulchella subsp. Coastal Plain A (M. Hislop 634)	0.2	0.1
**Hypochaeris glabra*	0.1	0.1
Lechenaultia sp.	0.1	0.1
Melaleuca rhaphiophylla	4	65
Melaleuca teretifolia	2	1
Melaleuca viminea subsp. *viminea*	3	3
Podotheca gnaphalioides	0.1	0.1

PHOTO



Site Name: NEW276
Site Type: QUADRAT
Dimensions: 10m x 10m
Survey Date: 11/10/2012
GPS Location: WGS84 (Zone 50) 339612E 6603809N
Vegetation Type: 18
Landform Type: Open Depression
Slope Class: Very Gently Inclined (1 degree)
Aspect: W
Soil Type: Sand
Soil Colour: White over Grey (other)
Rock Outcrop: No bedrock exposed
CF Abundance: 0%
Vegetation Condition: 1 - Pristine

DOMINANT TAXA IN VEGETATION STRATA

Mid Stratum 1: *Allocasuarina humilis* (1.2 m, 4%)
Lower Stratum 1: *Eremaea pauciflora* var. ?*lonchophylla*, *Melaleuca clavifolia* (1 m, 9%)
Lower Stratum 2: *Mesomelaena pseudostygia* (0.5 m, 9%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Acacia pulchella var. *reflexa*	0.4	0.1
Alexgeorgea nitens	0.1	0.1
Allocasuarina humilis	1.2	4
Anigozanthos humilis subsp. *humilis*	0.1	0.1
Astroloma glaucescens	0.2	0.1
Austrostipa compressa	0.2	0.1
Banksia dallanneyi var. *dallanneyi*	0.2	0.1
Burchardia congesta	0.2	0.1
Calectasia narragara	0.3	0.1
Cassytha glabella forma *dispar*		0.1
Caustis dioica	0.4	0.1
Centrolepis mutica	0.1	0.1
Conospermum stoechadis subsp. *stoechadis*	0.8	0.2
Conostylis aculeata subsp. *breviflora*	0.3	0.1
Conostylis aurea	0.3	0.2
Conostylis teretifolia subsp. *teretifolia*	0.1	0.1
Dasypogon obliquifolius	0.3	0.1
Daviesia incrassata subsp. *incrassata*	0.8	0.6
Drosera erythrorhiza subsp. ?*magna*	0.1	0.1
Drosera menziesii	0.1	0.1
Eremaea pauciflora var. ?*lonchophylla*	0.9	6
Hakea candolleana	0.3	0.1
Hibbertia huegelii	0.4	0.1

Hibbertia hypericoides	0.4	1.5
Hypocalymma xanthopetalum	0.3	0.2
**Hypochaeris glabra*	0.1	0.1
Isotropis cuneifolia subsp. *cuneifolia*	0.1	0.1
Jacksonia hakeoides	0.3	0.1
Lepidosperma pubisquameum	0.2	0.1
Leucopogon ?sprengelioides	0.5	0.1
Levenhookia stipitata	0.1	0.1
Lomandra hermaphrodita	0.3	0.1
Melaleuca clavifolia (3)	1	3
Mesomelaena pseudostygia	0.5	9
Opercularia vaginata	0.1	0.1
Petrophile brevifolia	0.4	0.1
Phyllangium divergens	0.1	0.1
Pimelea sulphurea	0.3	0.1
Podotheca gnaphalioides	0.1	0.1
Poranthera ?microphylla	0.1	0.1
Pterochaeta paniculata	0.1	0.1
Rytidosperma setaceum	0.1	0.1
Schoenus brevisetis	0.3	0.2
Schoenus clandestinus	0.1	0.1
Siloxerus ?humifusus	0.1	0.1
Stylidium purpureum ms	0.1	0.1
Trachymene pilosa	0.1	0.1
**Ursinia anthemoides*	0.1	0.1

PHOTO



Site Name: NEW277
Site Type: QUADRAT
Dimensions: 10m x 10m
Survey Date: 18/10/2012
GPS Location: WGS84 (Zone 50) 342146E 6607071N
Vegetation Type: 3
Landform Type: Flat
Slope Class: Level (0 degrees)
Aspect: N
Soil Type: Sand
Soil Colour: grey / brown (other)
Rock Outcrop: No bedrock exposed
CF Abundance: 0%
Vegetation Condition: 3 - Very Good

DOMINANT TAXA IN VEGETATION STRATA

Mid Stratum 1: *Verticordia densiflora* var. *densiflora* (1.5 m, 70 %)
Lower Stratum 1: **Hypochaeris glabra*, *Trachymene pilosa* (0.3 m, 4%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Austrostipa macalpinei	0.1	0.5
Cassytha glabella forma *dispar*	0.3	0.5
Crassula colorata var. *acuminata*	0.02	0.1
**Ehrharta longiflora*	0.02	0.1
Euchiton sphaericus	0.05	0.1
**Hypochaeris glabra*	0.05	2
**Lysimachia arvensis*	0.05	0.5
**Pentameris airoides*	0.1	1
Podotheca gnaphalioides	0.1	0.1
Regelia ciliata	1.5	1
Siloxerus humifusus	0.01	0.5
Stylidium diuroides subsp. *diuroides*	0.05	0.1
Thysanotus patersonii	0.2	0.1
Trachymene pilosa	0.25	2
**Trifolium arvense* var. *arvense*	0.05	0.5
**Ursinia anthemoides*	0.3	1
Verticordia densiflora var. *densiflora*	1.5	70
**Vulpia* sp.	0.1	0.1
**Wahlenbergia capensis*	0.15	0.1

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Site Name: NEW278
Site Type: QUADRAT
Dimensions: 10m x 10m
Survey Date: 18/10/2012
GPS Location: WGS84 (Zone 50) 342300E 6607630N
Vegetation Type: 16
Landform Type: Flat
Slope Class: Level (0 degrees)
Soil Type: Sandy Loam
Soil Colour: Grey
Rock Outcrop: No bedrock exposed
CF Abundance: 0%
Vegetation Condition: 2 - Excellent

DOMINANT TAXA IN VEGETATION STRATA

Lower Stratum 1: *Pogonolepis stricta* (0.05 m, 70 %)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
**Aira cupaniana*	0.15	0.5
Brachyscome bellidioides	0.05	0.5
**Briza minor*	0.05	0.1
Calandrinia sp. Kenwick (G.J. Keighery 10905)	0.02	0.5
Chorizandra enodis	0.15	0.5
**Cotula bipinnata*	0.1	0.5
**Dittrichia graveolens*	0.2	0.1
Eryngium pinnatifidum subsp. *pinnatifidum* ms	0.1	0.5
Goodenia pulchella subsp. Coastal Plain A (M. Hislop 634)	0.04	0.5
**Hordeum hystrix*	0.1	0.5
**Isolepis marginata*	0.02	0.5
**Lolium rigidum*	0.05	0.1
**Lotus angustissimus*	0.02	1
**Lysimachia arvensis*	0.03	0.1
**Monopsis debilis*	0.01	0.1
**Parentucellia viscosa*	0.02	0.1
Plantago hispida	0.03	0.5
Podolepis gracilis	0.2	0.1
Pogonolepis stricta	0.05	70
**Romulea rosea* var. *australis*	0.05	0.5
**Vulpia* sp.	0.1	0.5
Wurmbea sp.	0.04	0.5

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Site Name: NEW279
Site Type: QUADRAT
Dimensions: 10m x 10m
Survey Date: 12/10/2012
GPS Location: WGS84 (Zone 50) 344800E 6602595N
Vegetation Type: 1
Landform Type: Flat
Slope Class: Level (0 degrees)
Soil Type: Sand
Soil Colour: Pale Orange (other)
Rock Outcrop: No bedrock exposed
CF Abundance: 0%
Vegetation Condition: 1 - Pristine
Disturbance: None
Fire: 1 to 2 years

DOMINANT TAXA IN VEGETATION STRATA

Mid Stratum 1: *Banksia telmatiaea* (1 m, 65%)
Lower Stratum 1: *Melaleuca seriata* (0.5 m, 10%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Acacia saligna subsp. *lindleyi* ms	0.5	0.5
Banksia telmatiaea	1	65
Baumea juncea	0.3	0.1
Cassytha aurea var. *hirta*		0.1
Conostylis aculeata subsp. *breviflora*	0.2	0.2
Drosera gigantea subsp. *gigantea*	0.1	0.1
Hakea sulcata	0.5	0.3
Hakea varia	1.5	0.9
Hibbertia stellaris	0.3	0.3
Hypocalymma angustifolium	0.2	0.1
Lepidosperma sp.	0.4	0.1
Leucopogon cochlearifolius	0.3	0.2
Lomandra preissii	0.3	0.1
Melaleuca seriata	0.5	10
Petrophile seminuda	0.4	0.8
Pileanthus filifolius	0.4	0.2
Scaevola anchusifolia	0.1	0.2
Stirlingia abrotanoides	0.4	0.1
Thysanotus manglesianus		0.1
Verticordia densiflora	0.6	0.6
Verticordia drummondii	0.3	0.1
Viminaria juncea	1	0.6
Xanthorrhoea preissii	1	0.8

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Site Name:	NEW280
Site Type:	QUADRAT
Dimensions:	10m x 10m
Survey Date:	12/10/2012
GPS Location:	WGS84 (Zone 50) 344506E 6602613N
Vegetation Type:	1
Landform Type:	Open Depression
Slope Class:	Level (0 degrees)
Soil Type:	Sandy Loam
Soil Colour:	Grey
Rock Outcrop:	No bedrock exposed
CF Abundance:	0%
Vegetation Condition:	1 - Pristine
Disturbance:	None
Fire:	>5 years

DOMINANT TAXA IN VEGETATION STRATA

Lower Stratum 1: *Banksia telmatiaea*, *Melaleuca rhaphiophylla*, *M. teretifolia* (0.9 m, 19%)

Lower Stratum 2: *Baeckea* sp. Perth Region (R.J. Cranfield 444), *Hakea sulcata*, *M. seriata*, *Patersonia occidentalis* var. ?*occidentalis*, *Petrophile seminuda* (0.5 m, 53%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Anigozanthos viridis subsp. *terraspectans* (T)	0.2	0.1
Baeckea sp. Perth Region (R.J. Cranfield 444) (3)	0.5	40
Banksia telmatiaea	0.6	2
Centrolepis polygyna	0.1	1
Conostylis aculeata subsp. *breviflora*	0.2	0.2
Drosera pallida	0.1	0.1
Drosera spilos	0.1	0.1
Haemodorum paniculatum	0.3	0.2
Hakea sulcata	0.5	4
Hakea varia	0.4	0.2
Kunzea micrantha subsp. *petiolata*	0.2	0.2
Leucopogon glaucifolius	0.4	0.3
Melaleuca rhaphiophylla	0.9	15
Melaleuca seriata	0.4	3
Melaleuca teretifolia	0.8	2
Mesomelaena pseudostygia	0.4	0.2
Opercularia vaginata	0.2	0.1
Patersonia occidentalis var. ?*occidentalis*	0.3	2
Petrophile seminuda	0.5	2
Regelia ciliata	0.5	0.5
Scaevola anchusifolia	0.3	0.3

Siloxerus humifusus	0.1	0.1
Stylidium rigidulum	0.1	0.1
Velleia trinervis	0.1	0.1
Verticordia densiflora	0.5	0.5

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Site Name: NEW281
Site Type: QUADRAT
Dimensions: 10m x 10m
Survey Date: 12/10/2012
GPS Location: WGS84 (Zone 50) 342435E 6602606N
Vegetation Type: 1
Landform Type: Low Rise (other)
Slope Class: Very Gently Inclined (1 degree)
Soil Type: Sand
Soil Colour: Grey and White (other)
Rock Outcrop: No bedrock exposed
CF Abundance: 0%
Vegetation Condition: 1 - Pristine
Disturbance: None
Fire: >5 years

DOMINANT TAXA IN VEGETATION STRATA

Mid Stratum 1: *Banksia telmatiaea* (1.2 m, 85%)
Mid Stratum 2: *Regelia ciliata* (1 m, 3%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Baeckea sp. Perth Region (R.J. Cranfield 444) (3)	0.3	0.2
Banksia shuttleworthiana	0.2	0.2
Banksia telmatiaea	1.2	85
Cassytha glabella forma *dispar*		0.1
Conostylis aculeata subsp. *breviflora*	0.2	0.1
Hakea obliqua subsp. *parviflora*	1.6	1
Meeboldina cana	0.3	0.1
Melaleuca rhaphiophylla	1	0.5
Patersonia occidentalis var. ?*occidentalis*	0.3	0.3
Petrophile brevifolia	0.3	0.2
Petrophile seminuda	0.5	0.3
Regelia ciliata	1	3
Trachymene pilosa	0.1	0.1
Tricostularia neesii var. *neesii*	0.4	0.1
**Ursinia anthemoides*	0.2	0.1
Verticordia densiflora	0.8	1

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Site Name: NEW282
Site Type: QUADRAT
Dimensions: 10m x 10m
Survey Date: 12/10/2012
GPS Location: WGS84 (Zone 50) 338288E 6604231N
Vegetation Type: 13
Landform Type: Flat
Slope Class: Level (0 degrees)
Soil Type: Sandy Loam
Soil Colour: Grey and Brown (other)
Rock Outcrop: No bedrock exposed
CF Abundance: 0%
Vegetation Condition: 4 - Good
Disturbance: Exotic Weeds
Fire: >5 years

DOMINANT TAXA IN VEGETATION STRATA

Lower Stratum 1: *Frankenia pauciflora*, *Lawrencia squamata Tecticornia indica* subsp. *bidens* (0.2 m, 20%)

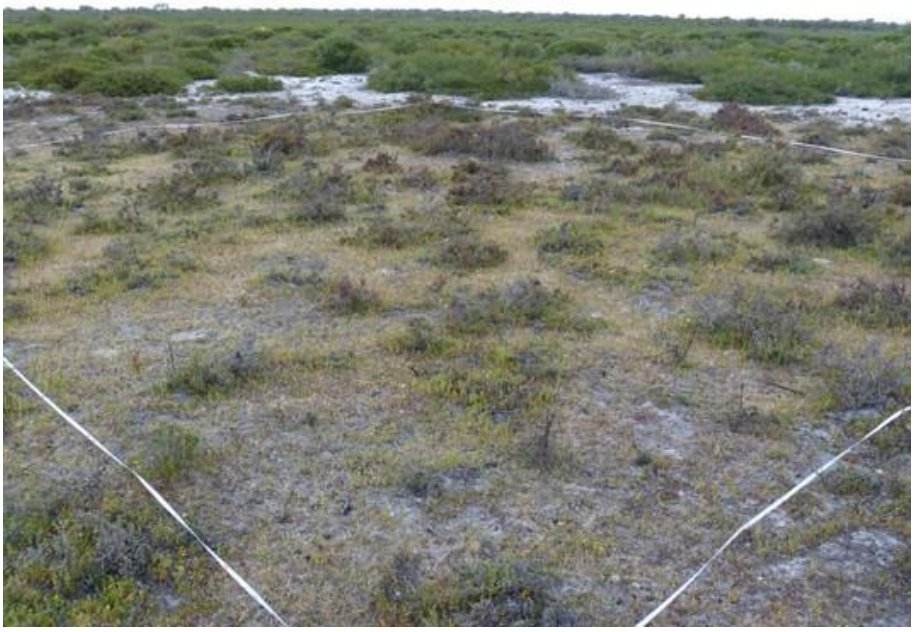
Lower Stratum 2: **Hypochaeris glabra*, **Lysimachia arvensis*, **Vulpia bromoides* (0.1m, 60%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Angianthus preissianus	0.1	0.5
Apium prostratum var. *prostratum*	0.1	0.5
**Arctotheca calendula*	0.1	1
Baeckea sp. Perth Region (R.J. Cranfield 444) (3)	0.1	0.1
Brachyscome bellidioides	0.1	0.5
**Briza minor*	0.1	0.5
Calandrinia corrigioloides	0.1	0.5
**Dischisma arenarium*	0.1	0.1
Drosera menziesii subsp. *menziesii*	0.1	0.5
Frankenia pauciflora	0.1	3
Goodenia pulchella subsp. Coastal Plain A (M. Hislop 634)	0.1	0.2
**Heliophila pusilla*	0.1	0.5
**Hypochaeris glabra*	0.1	20
Lawrencia squamata	0.1	2
**Lysimachia arvensis*	0.1	15
**Medicago polymorpha*	0.1	0.1
**Melilotus indicus*	0.1	0.5
**Monopsis debilis*	0.1	0.5
**Parentucellia latifolia*	0.8	0.5
**Parentucellia viscosa*	0.15	0.1

**Polypogon monspeliensis*	0.1	0.5
Regelia ciliata	0.1	0.1
Schenkia australis	0.1	0.5
**Sonchus oleraceus*	0.1	0.1
Tecticornia indica subsp. *bidens*	0.2	15
**Trifolium dubium*	0.1	0.1
**Vulpia bromoides*	0.1	25

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Site Name: NEW283
Site Type: QUADRAT
Dimensions: 10m x 10m
Survey Date: 12/10/2012
GPS Location: WGS84 (Zone 50) 338268E 6604121N
Vegetation Type: 2
Landform Type: Flat
Slope Class: Level (0 degrees)
Soil Type: Sand
Soil Colour: Grey
Rock Outcrop: No bedrock exposed
CF Abundance: 0%
Vegetation Condition: 2 - Excellent
Disturbance: None
Fire: >5 years

DOMINANT TAXA IN VEGETATION STRATA

Mid Stratum 1: *Callitris arenaria* (1m, 20%)

Lower Stratum 1: *Calothamnus hirsutus*, *Grevillea* ?*thelemanniana* subsp. Cooljarloo (B.J. Keighery 28 B), *Melaleuca brevifolia*, *M. seriata* (0.6m, 60%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
**Aira cupaniana*	0.1	0.1
Baeckea sp. Perth Region (R.J. Cranfield 444) (3)	0.2	0.1
Brachyscome bellidioides	0.1	0.5
Callitris arenaria	1	20
Calothamnus hirsutus	0.15	40
Carpobrotus modestus	0.1	0.1
Chaetanthus aristatus	0.35	0.5
Drosera menziesii subsp. *menziesii*	0.1	0.5
Grevillea ?*thelemanniana* subsp. Cooljarloo (B.J. Keighery 28 B) (1)	0.2	4
**Heliophila pusilla*	0.1	0.5
**Hypochaeris glabra*	0.1	0.1
Melaleuca brevifolia	0.6	10
Melaleuca seriata	0.3	6
Siloxerus humifusus	0.1	0.5
**Ursinia anthemoides*	0.1	0.5
**Vulpia bromoides*	0.1	0.5

PHOTO



Site Name:	NEW284
Site Type:	QUADRAT
Dimensions:	10m x 10m
Survey Date:	12/10/2012
GPS Location:	WGS84 (Zone 50) 338032E 6605364N
Vegetation Type:	2
Landform Type:	Wetland (other)
Slope Class:	Level (0 degrees)
Soil Type:	Sandy Loam
Soil Colour:	Grey
Rock Outcrop:	No bedrock exposed
CF Abundance:	0%
Vegetation Condition:	2 - Excellent
Disturbance:	Nearby road (other)
Fire:	>5yrs

DOMINANT TAXA IN VEGETATION STRATA

Mid Stratum 1: *Banksia telmatiaea*, *Melaleuca brevifolia*, *M. viminea* subsp. *viminea* (1 m, 39%)

Lower Stratum 1: *Calothamnus sanguineus*, *Grevillea* ?*thelemanniana* subsp. Cooljarloo (B.J. Keighery 28 B) (0.5 m, 12%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Acacia lasiocarpa var. *lasiocarpa*	1	0.2
Acacia saligna subsp. *lindleyi* ms	4	1
Astroloma glaucescens	0.2	0.1
Baeckea sp. Perth Region (R.J. Cranfield 444) (3)	0.5	0.5
Banksia dallanneyi var. *dallanneyi*	0.1	0.1
Banksia telmatiaea	1	9
Brachyscome pusilla	0.06	0.1
Calothamnus sanguineus	0.5	7
Cassytha glabella forma *dispar*		0.5
Chaetanthus aristatus	0.8	0.1
Chordifex chaunocoleus (4)	0.8	0.5
Chordifex sinuosus	0.5	0.5
Conostylis aculeata subsp. *breviflora*	0.3	0.1
Dampiera lindleyi	0.4	0.1
Darwinia pinifolia	0.2	0.5
Drosera gigantea subsp. *gigantea*	0.4	0.1
Drosera glanduligera	0.06	0.1
Drosera humilis	0.1	0.1
Grevillea ?*thelemanniana* subsp. Cooljarloo (B.J. Keighery 28 B) (1)	0.3	5
Hakea varia	0.8	0.1

Hibbertia crassifolia	0.8	0.1
Hibbertia stellaris	0.1	0.1
Jacksonia ramulosa	0.6	0.1
Lepidosperma ?pubisquameum	0.4	0.1
Meeboldina cana	0.8	1
Melaleuca brevifolia	1	22
Melaleuca seriata	0.5	1
Melaleuca viminea subsp. *viminea*	1	8
Onychosepalum nodatum (3)	0.1	0.1
Patersonia occidentalis var. ?*occidentalis*	0.5	0.1
Petrophile seminuda	0.6	1
Scaevola anchusifolia	0.2	0.1
Thysanotus patersonii	1	0.1
Velleia trinervis	0.2	0.1
Verticordia densiflora var. *densiflora*	1	1.5
Verticordia drummondii	1	0.1
Viminaria juncea	1	0.1

PHOTO



Site Name: NEW285
Site Type: QUADRAT
Dimensions: 10m x 10m
Survey Date: 12/10/2012
GPS Location: WGS84 (Zone 50) 334052E 6607739N
Vegetation Type: 1
Landform Type: Very broad open depression (other)
Slope Class: Very Gently Inclined (1 degree)
Aspect: WSW
Soil Type: Sand
Soil Colour: Grey
Rock Outcrop: No bedrock exposed
CF Abundance: 0%
Vegetation Condition: 1 - Pristine
Disturbance: None
Fire: > 5 years

DOMINANT TAXA IN VEGETATION STRATA

Lower Stratum 1: *Banksia telmatiaea* (0.8 m, 90 %)
Lower Stratum 2: *Bossiaea eriocarpa*, *Hypocalymma xanthopetalum* (0.4 m, 4%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Acacia lasiocarpa var. *lasiocarpa*	0.5	0.1
Alexgeorgea nitens	0.2	0.1
Amphipogon turbinatus	0.2	0.1
Anigozanthos humilis subsp. *humilis*	0.1	0.1
Austrostipa compressa	0.2	0.1
Banksia telmatiaea	0.8	90
Bossiaea eriocarpa	0.4	2
Cassytha glabella forma *dispar*		0.1
Conospermum stoechadis subsp. *stoechadis*	0.4	0.1
Conostylis aurea	0.2	0.1
Drosera erythrorhiza subsp. ?*magna*	0.1	0.1
Drosera menziesii	0.1	0.1
Hakea obliqua subsp. *parviflora*	1.5	1
Hibbertia crassifolia	0.3	1
Hibbertia hypericoides	0.3	0.1
Hypocalymma xanthopetalum	0.3	2
**Hypochaeris glabra*	0.1	0.1
Jacksonia nutans	0.6	0.5
Leucopogon conostephioides	0.1	0.1
Leucopogon ?sprengelioides	0.2	0.1
Lomandra hermaphrodita	0.1	0.1
Patersonia occidentalis var. ?*occidentalis*	0.5	0.1

Poranthera ?*microphylla*	0.1	0.1
Rytidosperma setaceum	0.1	0.1
Scaevola repens var. *repens*	0.1	0.1
Stylidium diuroides subsp. *diuroides*	0.3	0.1
Thysanotus ?*thyrsoideus*	0.5	0.1
Trachymene pilosa	0.1	0.1
Tricoryne ?*elatior*	0.3	0.1
Verticordia densiflora	0.5	0.1
Xanthosia huegelii	0.1	0.1

PHOTO



Site Name: NEW286
Site Type: QUADRAT
Dimensions: 10m x 10m
Survey Date: 12/10/2012
GPS Location: WGS84 (Zone 50) 338052E 6605237N
Vegetation Type: 5
Landform Type: Drainage pan (other)
Slope Class: Level (0 degrees)
Soil Type: Sand
Soil Colour: White
Rock Outcrop: No bedrock exposed
CF Abundance: 0%
Vegetation Condition: 1 - Pristine
Disturbance: None
Fire: >5yrs

DOMINANT TAXA IN VEGETATION STRATA

Mid Stratum 1: *Hakea obliqua* subsp. *parviflora* (1 m, 2.5%),
Lower Stratum 1: *Acacia lasiocarpa* var. *lasiocarpa*, *Banksia telmatiaea*, *Calothamnus sanguineus*, *Leucopogon cochlearifolius*, *Melaleuca seriata*, *Regelia ciliata* (0.5 m, 82%)
Lower Stratum 2: *Onychosepalum nodatum* (0.1 m, 2%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Acacia lasiocarpa var. *lasiocarpa*	0.4	4
Andersonia heterophylla	0.3	0.5
Austrostipa compressa	0.1	0.1
Banksia telmatiaea	0.4	60
Beaufortia squarrosa	0.4	1
Burchardia congesta	0.1	0.1
Calothamnus sanguineus	0.4	8
Calytrix aurea	0.4	0.1
Cassytha ?*aurea*	0.1	0.1
Cassytha glabella forma *dispar*		0.1
Chordifex sinuosus	0.2	0.1
Conospermum stoechadis subsp. *stoechadis*	0.4	1
Conostylis aculeata subsp. *breviflora*	0.3	0.1
Darwinia pinifolia	0.1	0.1
Daviesia incrassata subsp. *incrassata*	0.3	0.1
Hakea costata	0.6	0.1
Hakea obliqua subsp. *parviflora*	1	2.5
Hibbertia crassifolia	0.3	0.5
Hypocalymma xanthopetalum	0.3	1
Jacksonia ramulosa	0.4	1
Laxmannia ramosa subsp. *ramosa*	0.3	0.1

Lepidosperma aff.*scabrum*	0.4	0.1
Leucopogon cochlearifolius	0.4	4
Lyginia imberbis	0.4	1
Melaleuca seriata	0.4	3
Mesomelaena pseudostygia	0.4	0.1
Onychosepalum nodatum (3)	0.1	2
Regelia ciliata	0.5	3
Scaevola anchusifolia	0.08	0.1
Scaevola repens var. *repens*	0.1	0.1
Schoenus curvifolius	0.3	0.1
Verticordia densiflora var. *densiflora*	0.5	0.5
Verticordia drummondii	0.4	1

PHOTO



Site Name: NEW287
Site Type: QUADRAT
Dimensions: 10m x 10m
Survey Date: 06/11/2012
GPS Location: GDA94 (Zone 50) 337414E 6608455N
Vegetation Type: 17
Landform Type: Crest
Slope Class: Level (0 degrees)
Soil Type: Sand
Soil Colour: Grey
Rock Outcrop: No bedrock exposed
CF Abundance: 0%
Vegetation Condition: 1 - Pristine

DOMINANT TAXA IN VEGETATION STRATA

Upper Stratum 1: *Banksia attenuata*, *B. menziesii* (4 m, 16 %)
Mid Stratum 1: *Eremaea pauciflora*, *Xanthorrhoea preissii* (1.5 m, 11 %)
Lower Stratum 1: *Bossiaea eriocarpa*, *Dasypogon obliquifolius*, *Melaleuca clavifolia* (0.5 m, 13 %)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Acacia pulchella var. *reflexa*	0.4	0.5
Adenanthos cygnorum subsp. *cygnorum*	2	1
Alexgeorgea nitens	0.05	0.5
Amphipogon turbinatus	0.1	0.5
Anigozanthos humilis subsp. *humilis*	0.1	0.5
Arnocrinum preissii	0.3	0.1
Austrostipa macalpinei	0.15	0.1
Banksia attenuata	4	8
Banksia menziesii	4	8
Blancoa canescens	0.1	1
Bossiaea eriocarpa	0.4	5
Calytrix flavescens	0.4	0.5
Conostylis aurea	0.2	0.1
Conostylis teretifolia subsp. *teretifolia*	0.05	0.1
Dasypogon obliquifolius	0.5	5
Drosera eneabba	0.01	0.5
Drosera erythrorhiza subsp. ?*magna*	0.01	0.5
Eremaea asterocarpa subsp. *asterocarpa*	0.4	0.5
Eremaea pauciflora	1	7
Eucalyptus todtiana	4	1.5
Gompholobium tomentosum	0.3	0.5
Hibbertia crassifolia	0.3	1
Hibbertia hypericoides	0.4	0.5
Hibbertia sp. Gnangara (J.R. Wheeler 2329)	0.3	0.5
Hypocalymma xanthopetalum	0.4	0.5

Jacksonia floribunda	0.5	0.5
Jacksonia nutans	0.5	1
Laxmannia sessiliflora subsp. ?*australis*	0.05	0.1
Leucopogon conostephioides	0.5	0.5
Leucopogon sprengelioides	0.5	0.5
Lomandra hermaphrodita	0.15	0.1
Melaleuca clavifolia (3)	0.5	3
Opercularia vaginata	0.2	0.5
Patersonia occidentalis var. ?*occidentalis*	0.4	0.5
Petrophile linearis	0.4	0.5
Phlebocarya filifolia	0.3	1
Phyllangium divergens	0.04	0.1
Podotheca chrysantha	0.1	0.5
Poranthera drummondii	0.01	0.1
Stylidium adpressum	0.05	0.1
Stylidium crossocephalum	0.1	0.1
Stylidium diuroides subsp. *diuroides*	0.1	0.5
Stylidium rigidulum	0.1	0.5
Trachymene pilosa	0.04	0.1
Xanthorrhoea preissii	1.5	4
Xanthosia huegelii	0.1	0.1

PHOTO



Site Name: NEW288
Site Type: QUADRAT
Dimensions: 10m x 10m
Survey Date: 08/11/2012
GPS Location: GDA94 (Zone 50) 337335E 6610065N
Vegetation Type: 1
Landform Type: Flat
Slope Class: Level (0 degrees)
Soil Type: Sandy Loam
Soil Colour: brown / grey (other)
Rock Outcrop: No bedrock exposed
CF Abundance: 0%
Vegetation Condition: 1 - Pristine
Fire: approx. 10 years

DOMINANT TAXA IN VEGETATION STRATA

Lower Stratum 1: *Banksia telmatiaea*, *Callitris* arenaria, *Verticordia densiflora* var. *densiflora* (0.7 m, 34%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
Acacia lasiocarpa var. *lasiocarpa*	0.1	0.5
Austrostipa macalpinei	0.15	0.1
Banksia telmatiaea	0.7	4
Callitris arenaria	0.7	25
Centrolepis aristata	0.01	0.1
Crassula colorata var. *acuminata*	0.03	0.1
Darwinia pinifolia	0.2	0.5
Grevillea ?thelemanniana subsp. Cooljarloo (B.J. Keighery 28 B) (1)	0.3	1
Hakea trifurcata	0.8	1.5
**Heliophila pusilla*	0.05	0.1
**Hypochaeris glabra*	0.05	0.5
Levenhookia stipitata	0.02	0.5
Melaleuca acutifolia	0.8	1
Neurachne alopecuroidea	0.05	0.5
Orthrosanthus laxus var. *laxus*	0.3	1
Petrophile seminuda	0.4	0.5
Pterochaeta paniculata	0.03	0.5
Siloxerus humifusus	0.01	0.5
Trachymene pilosa	0.05	0.1
**Ursinia anthemoides*	0.05	0.5
Verticordia densiflora var. *densiflora*	0.7	5
**Wahlenbergia capensis*	0.1	0.1

PHOTO



Site Name: NEW290
Site Type: QUADRAT
Dimensions: 10m x 10m
Survey Date: 06/11/2012
GPS Location: GDA94 (Zone 50) 341345E 6607891N
Vegetation Type: 1
Landform Type: Drainage Line
Slope Class: Very Gently Inclined (1 degree)
Aspect: N
Soil Type: Sandy Loam
Soil Colour: Grey
Rock Outcrop: No bedrock exposed
CF Abundance: 0%
Vegetation Condition: 2 - Excellent

DOMINANT TAXA IN VEGETATION STRATA

Upper Stratum 1: *Nuytsia floribunda* (5 m, 4%)
Mid Stratum 1: *Melaleuca rhaphiophylla* (2 m, 4%)
Mid Stratum 2: *Banksia telmatiaea, Xanthorrhoea preissii* (1.2 m, 19%)
Lower Stratum 1: *Melaleuca clavifolia* (0.5 m, 10%)
Lower Stratum 2: *Jacksonia hakeoides* (0.05 m, 2%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
**Aira cupaniana*	0.1	1
Austrostipa macalpinei	0.2	0.1
Baeckea sp. Perth Region (R.J. Cranfield 444) (3)	0.5	1
Banksia dallanneyi var. *dallanneyi*	0.2	0.5
Banksia telmatiaea	1.2	16
Cassytha glabella forma *dispar*	0.2	0.1
Conostylis aculeata subsp. *spinuligera*	0.4	0.5
Crassula colorata var. *acuminata*	0.04	0.1
Darwinia pinifolia	0.2	1
Dasypogon obliquifolius	0.4	0.5
Hakea varia	0.8	0.5
**Heliophila pusilla*	0.1	0.1
**Hypochaeris glabra*	0.05	0.5
Jacksonia hakeoides	0.05	2
Lepidosperma ?pubisquameum	0.3	0.5
Melaleuca clavifolia (3)	0.5	10
Melaleuca rhaphiophylla	2	4
Nuytsia floribunda	5	4
Podotheca angustifolia	0.15	0.1
**Silene gallica* var. *gallica*	0.15	0.1

Siloxerus humifusus	0.01	0.5
Thysanotus spiniger	0.4	0.5
**Ursinia anthemoides*	0.2	0.5
Verticordia densiflora var. *densiflora*	0.7	0.5
**Vulpia* sp.	0.05	0.1
**Wahlenbergia capensis*	0.15	0.5
Xanthorrhoea preissii	1	3

PHOTO



Site Name: SITE291
Site Type: AREA
Dimensions: m x m
Survey Date: 29/05/2013
GPS Location: WGS84 (Zone 50) 331113E 6608482N
Vegetation Type: 15
Landform Type: edge of wetland (other)
Slope Class: Gently Inclined (3 degrees)
Aspect: W
Soil Type: Sand
Soil Colour: yellow-brown (other)
Rock Outcrop: No bedrock exposed
CF Abundance: 0%
Vegetation Condition: 2 - Excellent
Disturbance: Exotic Weeds

DOMINANT TAXA IN VEGETATION STRATA

Upper Stratum 1: *Allocasuarina lehmanniana* (3 m, 5%)
Mid Stratum 1: *Anthocercis ilicifolia*, *Spyridium globulosum* (2 m, 15%)

SPECIES LIST

Taxon Name	Avg. Ht (m)	% Cover Alive
**Carpobrotus* ?*edulis*		0.1
Acacia cyclops	1.8	1
Acacia lasiocarpa	0.6	0.5
Allocasuarina lehmanniana	3	5
Anthocercis ilicifolia	2	10
Clematis linearifolia		0.5
Conostylis candicans subsp. *calcicola*	0.1	0.1
Exocarpos sparteus	1.5	1
Leucopogon parviflorus	0.7	0.5
Muehlenbeckia adpressa		1
**Pelargonium capitatum*	0.1	0.1
Rhagodia baccata	0.4	0.2
Spyridium globulosum	1.8	5
?*Tetraria octandra*	0.5	0.1
Thysanotus ?*manglesianus*		0.1

Appendix P: Vascular Plant Taxa Recorded within Each Vegetation Type within the Cooljaloo West Study Area (based on Analysis)

Analysis Code	Taxon	Vegetation Type																		
		1	2	3	4	5	6	7	8	9a	9b	10	11	12	13	14	15	16	17	18
ACAAUR	*Acacia auronitens*																		X	X
ACACYC	*Acacia cyclops*					X											X			
ACADIL	*Acacia dilatata*	X	X			X		X												
ACALAS	*Acacia lasiocarpa* var. *lasiocarpa* , *Acacia lasiocarpa* , *Acacia lasiocarpa* var. ?*lasiocarpa* , *Acacia lasiocarpa* var. ?*bracteolata*	X	X			X	X	X		X				X			X		X	
ACAPUL	*Acacia pulchella* var. *pulchella* , *Acacia pulchella* var. *glaberrima* , *Acacia pulchella* var. *reflexa* , *Acacia pulchella* , *Acacia pulchella* var. ?*pulchella*	X	X			X	X	X	X	X									X	X
ACASAL	*Acacia saligna* subsp. *lindleyi* ms, *Acacia saligna* , *Acacia saligna* subsp. ?*lindleyi*	X	X		X		X			X	X	X		X			X			
ACASES	*Acacia sessilis*																			X
ACASPA	*Acacia spathulifolia*							X									X			X
ACASPHVE	*Acacia sphacelata* subsp. *verticillata*							X											X	X
ACASTE	*Acacia stenoptera*	X					X							X					X	X
ACATRU	*Acacia truncata*								X											
ADECYG	*Adenanthos cygnorum* subsp. *cygnorum* , *Adenanthos cygnorum*					X	X												X	X
ALENIT	*Alexgeorgea nitens*	X				X	X	X	X										X	X
ALESUB	*Alexgeorgea subterranea*																		X	
ALLHUM	*Allocasuarina humilis*	X	X			X	X	X	X										X	X
ALLLEH	*Allocasuarina lehmanniana* subsp. *lehmanniana* , *Allocasuarina lehmanniana*	X														X				
ALLMIC	*Allocasuarina microstachya*							X												X
ALLTHU	*Allocasuarina thuyoides*							X												X
AMPTUR	*Amphipogon turbinatus*	X				X		X		X									X	X
ANAGRA	*Anarthria gracilis*		X			X	X												X	X
ANAHUM	*Anarthria humilis*					X													X	
ANALAE	*Anarthria laevis*	X				X	X	X											X	X
ANDGRA	*Andersonia gracilis*	X	X			X		X												
ANDHET	*Andersonia heterophylla*	X				X	X	X											X	X
ANDLEH	*Andersonia lehmanniana* subsp. *lehmanniana*							X											X	X
ANIHUMHU	*Anigozanthos humilis* subsp. *humilis*	X				X	X	X	X										X	X
ANIPUL	*Anigozanthos pulcherrimus* , *Anigozanthos ?pulcherrimus*					X	X												X	X
ANIVIRTE	*Anigozanthos viridis* subsp. *terraspectans*	X	X								X									
AOTPRO	*Aotus procumbens*						X													
APIPROPR	*Apium prostratum* var. *prostratum*														X					
ARNPRE	*Arnocrinum preissii*	X																	X	X
ASTGLA	*Astroloma glaucescens*	X	X			X		X	X										X	X
ASTMIC	*Astroloma microdonta*																		X	X
ASTXER	*Astroloma xerophyllum*						X												X	X
AUSELE	*Austrostipa elegantissima*	X	X																	X
AUSFLA	*Austrostipa flavescens*								X											X

Analysis Code	Taxon	Vegetation Type																	
		1	2	3	4	5	6	7	8	9a	9b	10	11	12	13	14	15	16	17	18
BABCAM	*Babingtonia camphorosmae*																			X
BAEGRA	*Baeckea grandiflora*																			X
BAESP.	*Baeckea* sp. Perth Region (R.J. Cranfield 444)	X	X					X			X				X					
BANARMAR	*Banksia armata* var. *armata*							X												
BANATT	*Banksia attenuata*	X				X	X												X	X
BANDAL	*Banksia dallanneyi* var. *dallanneyi* , *Banksia dallanneyi* subsp. *media* , *Banksia dallanneyi* , *Banksia dallanneyi* subsp. ?*media* , *Banksia dallanneyi* var. ?*dallanneyi* , *Banksia* ?*dallanneyi* subsp. *media*	X	X			X	X	X	X										X	X
BANILI	*Banksia ilicifolia*						X												X	X
BANLEP	*Banksia leptophylla*								X											X
BANLIT	*Banksia littoralis*						X				X	X								
BANMEN	*Banksia menziesii*					X	X												X	X
BANNIV	*Banksia nivea* subsp. *nivea*	X	X			X														
BANPLA	*Banksia platycarpa*	X				X	X	X												
BANPRI	*Banksia prionotes*	X		X		X	X												X	X
BANSES	*Banksia sessilis* var. *cygnorum*	X							X											
BANSHU	*Banksia shuttleworthiana*	X																	X	X
BANTEL	*Banksia telmatiaea*	X	X			X	X	X		X									X	X
BANTOR	*Banksia tortifolia*																		X	X
BAUJUN	*Baumea juncea*	X	X			X				X		X				X				
BEAELE	*Beaufortia elegans*	X				X	X												X	X
BEASQU	*Beaufortia squarrosa*	X				X	X		X										X	
BLACAN	*Blancoa canescens*	X																	X	X
BORRAM	*Boronia ramosa* subsp. *anethifolia*					X	X			X									X	X
BORSPH	*Borya sphaerocephala*							X												X
BOSERI	*Bossiaea eriocarpa*	X					X	X	X			X							X	X
BYBLAM	*Byblis lamellata*					X														
CALANG	*Calytrix angulata*																		X	
CALARE	*Callitris arenaria*	X	X																	
CALAUR	*Calytrix aurea*	X	X			X	X	X											X	X
CALDEP	*Calytrix depressa* , *Calytrix* ?*depressa*					X													X	
CALEGRA	*Calectasia grandiflora*		X			X														
CALFLA	*Calytrix flavescens* , *Calytrix* ?*flavescens* , *Calytrix* ?*flavescens*	X	X			X		X											X	X
CALFRA	*Calytrix fraseri* , *Calytrix* ?*fraseri*							X											X	X
CALHIR	*Calothamnus hirsutus*	X	X			X	X												X	X
CALLES	*Calytrix leschenaultii*					X		X											X	X
CALNAR	*Calectasia narragara*	X						X											X	X
CALPAL	*Calectasia palustris*							X												
CALQUA	*Calothamnus quadrifidus* subsp. *quadrifidus* , *Calothamnus quadrifidus* subsp. *angustifolius* , *Calothamnus quadrifidus*	X			X	X		X	X										X	X
CALSAN	*Calothamnus sanguineus*	X	X			X		X	X										X	X
CALSAP	*Calytrix sapphirina*																		X	
CARMOD	*Carpobrotus modestus* , *Carpobrotus* ?*modestus*		X							X	X				X				X	

Analysis Code	Taxon	Vegetation Type																	
		1	2	3	4	5	6	7	8	9a	9b	10	11	12	13	14	15	16	17	18
CASAUR	*Cassytha aurea* var. *hirta* , *Cassytha aurea* , *Cassytha* ?*aurea*	X	X			X			X										X	X
CASFLA	*Cassytha flava* , *Cassytha* ?*flava*	X	X			X	X	X											X	X
CASGLA	*Cassytha glabella* forma *dispar* , *Cassytha glabella* forma *bicallosa* , *Cassytha glabella* , *Cassytha glabella* forma ?*bicallosa* , *Cassytha glabella* forma ?*bicallosa* , *Cassytha glabella* forma ?*glabella* , *Cassytha glabella* forma ?*glabella*	X	X	X		X	X	X	X	X	X								X	X
CASPOM	*Cassytha pomiformis*		X			X					X	X							X	
CASRAC	*Cassytha racemosa* forma *racemosa* , *Cassytha racemosa* , *Cassytha* ?*racemosa*	X	X			X		X		X	X			X					X	
CAUDIO	*Caustis dioica*	X	X			X		X											X	X
CHAARI	*Chaetanthus aristatus*	X	X			X													X	
CHOCHA	*Chordifex chaunocoleus*	X	X			X	X	X											X	X
CHOENO	*Chorizandra enodis*									X								X		
CHOSIN	*Chordifex sinuosus* , *Chordifex* ?*sinuosus*	X	X			X	X	X											X	X
CLELIN	*Clematis linearifolia*																X			
COMACE	*Comesperma acerosum*							X												X
COMCAL	*Comesperma calymega* , *Comesperma* ?*calymega*	X	X			X	X	X											X	X
COMCIL	*Comesperma ciliatum*							X												
COMINT	*Comesperma integerrimum* , *Comesperma* ?*integerrimum*	X	X											X						
CONACU	*Conostylis aculeata* subsp. *spinuligera* , *Conostylis aculeata* subsp. *breviflora* , *Conostylis aculeata* , *Conostylis* ?*aculeata*	X	X			X	X	X		X	X								X	X
CONANG	*Conostylis angustifolia*																		X	X
CONAUR	*Conostylis aurea* , *Conostylis* ?*aurea*	X				X	X	X											X	X
CONCRA	*Conostylis crassinervia* subsp. *crassinervia* , *Conostylis crassinervia* subsp. *absens* , *Conostylis* ?*crassinervia* , *Conostylis crassinervia* subsp. ?*absens*	X				X													X	X
CONCRA1	*Conospermum crassinervium*																		X	X
CONFESFE	*Conostylis festucacea* subsp. *festucacea* , *Conostylis* ?*festucacea* subsp. *festucacea*	X	X			X	X	X											X	
CONINC	*Conospermum incurvum*						X													X
CONJUN	*Conostylis juncea*	X				X	X												X	X
CONMAG	*Conostephium magnum*						X		X										X	
CONPEN	*Conostephium pendulum* , *Conostephium* ?*pendulum*						X												X	X
CONPRE	*Conostephium preissii*																		X	X
CONPRO	*Conostylis prolifera*		X																	
CONSCA	*Conospermum scaposum*	X				X													X	
CONSEM	*Conostylis* ?*seminuda*																		X	
CONSET	*Conostylis setigera*																		X	
CONSTO	*Conospermum stoechadis* subsp. *stoechadis* , *Conospermum stoechadis* subsp. *sclerophyllum* , *Conospermum stoechadis* , *Conospermum* ?*stoechadis* subsp. *stoechadis*	X	X			X	X	X	X										X	X
CONTERTE	*Conostylis teretifolia* subsp. *teretifolia*					X		X	X										X	X

Analysis Code	Taxon	Vegetation Type																	
		1	2	3	4	5	6	7	8	9a	9b	10	11	12	13	14	15	16	17	18
CORMIC	*Corynotheca micrantha* var. *micrantha* , *Corynotheca micrantha* , *Corynotheca micrantha* var. ?*elongata* , *Corynotheca micrantha* var. ?*elongata*	X																	X	X
CROKIN	*Croninia kingiana*																		X	
CRYMYR	*Cryptandra myriantha* , *Cryptandra* ?*myriantha*																			X
CRYNUT	*Cryptandra nutans*							X											X	
CYAAVE	*Cyathochaeta avenacea* , *Cyathochaeta* ?*avenacea*	X	X				X					X								
DAMALA	*Dampiera alata*		X			X														
DAMLIN	*Dampiera lindleyi*	X	X																	
DAMLIN1	*Dampiera linearis*						X			X									X	
DAMSPI	*Dampiera spicigera*																			X
DAMTER	*Dampiera teres*							X												
DARPIN	*Darwinia pinifolia*	X	X			X		X												
DARSP.	*Darwinia* sp. Watheroo (I.R. McGill 20)																		X	X
DASOBL	*Dasypogon obliquifolius*	X				X	X	X											X	X
DAVANG	*Daviesia angulata*																			X
DAVDEC	*Daviesia decurrens* subsp. *decurrens* ms, *Daviesia decurrens*	X				X	X	X											X	X
DAVDIV	*Daviesia divaricata* subsp. *divaricata* ms, *Daviesia divaricata*																		X	X
DAVINC	*Daviesia incrassata* subsp. *incrassata* , *Daviesia incrassata*	X				X	X	X											X	X
DAVNUD	*Daviesia nudiflora*							X												X
DAVPOD	*Daviesia podophylla*																		X	X
DAVTRI	*Daviesia triflora*																		X	X
DESASP	*Desmocladus asper*							X	X										X	
DESFAS	*Desmocladus fasciculatus*																		X	X
DESFLE	*Desmocladus flexuosus* , *Desmocladus* ?*flexuosus*	X				X		X	X											X
DESLAT	*Desmocladus lateriticus* , *Desmocladus* ?*lateriticus* , *Desmocladus* ?*lateriticus*								X											X
DESVIR	*Desmocladus virgatus*	X																	X	X
DIAREV	*Dianella revoluta* var. *divaricata* , *Dianella revoluta*	X																		
DIPOBO	*Diplolaena obovata*								X											X
EREAST	*Eremaea asterocarpa* subsp. *asterocarpa* , *Eremaea asterocarpa* , *Eremaea* ?*asterocarpa* subsp. *asterocarpa*					X	X												X	X
EREBEA	*Eremaea beaufortioides* var. *beaufortioides* , *Eremaea beaufortioides*	X						X											X	X
EREPAU	*Eremaea pauciflora* var. *lonchophylla* , *Eremaea pauciflora* , *Eremaea pauciflora* var. ?*lonchophylla* , *Eremaea* ?*pauciflora* , *Eremaea pauciflora* var. ?*lonchophylla*	X				X	X												X	X
EUCRUDRU	*Eucalyptus rudis* subsp. *rudis*	X									X		X							
EUCTOD	*Eucalyptus todtiana*						X												X	X
EXOSPA	*Exocarpos sparteus*	X	X							X	X						X			
FRAPAU	*Frankenia pauciflora*		X												X					
GAHTRI	*Gahnia trifida*	X	X										X			X				

Analysis Code	Taxon	Vegetation Type																	
		1	2	3	4	5	6	7	8	9a	9b	10	11	12	13	14	15	16	17	18
GASCAP	*Gastrolobium capitatum*																		X	
GASOXY	*Gastrolobium oxylobioides*							X												X
GASPLI	*Gastrolobium plicatum*							X												
GLIAUR	*Glischrocaryon aureum*	X																		
GOMKNI	*Gompholobium knightianum* , *Gompholobium* ?*knightianum*							X												
GOMTOM	*Gompholobium tomentosum*	X				X	X	X	X	X		X							X	X
GONCOR	*Gonocarpus cordiger*	X					X												X	X
GONPIT	*Gonocarpus pithyoides* , *Gonocarpus* ?*pithyoides*					X													X	
GOOCOE	*Goodenia coerulea* , *Goodenia* ?*coerulea* , *Goodenia* ?*coerulea*							X											X	X
GREPRE	*Grevillea preissii* subsp. ?*preissii*								X											
GRESHUCA	*Grevillea shuttleworthiana* subsp. *canarina*																			X
GRETHE	*Grevillea thelemanniana* subsp. Cooljarloo (B.J. Keighery 28 B), *Grevillea preissii* subsp. *preissii* , *Grevillea preissii* subsp. *glabrilimba* , *Grevillea* ?*thelemanniana* subsp. Cooljarloo (B.J. Keighery 28 B), *Grevillea* ?*thelemanniana* subsp. Cooljarloo (B.J. Keighery 28 B)	X	X			X		X												
HAESPI	*Haemodorum spicatum* , *Haemodorum* ?*spicatum*	X	X			X	X												X	
HAKCAN	*Hakea candolleana*					X		X												X
HAKCON	*Hakea conchifolia*							X												X
HAKCOS	*Hakea costata*	X	X			X	X	X	X	X									X	X
HAKINC	*Hakea incrassata*							X											X	X
HAKLIS	*Hakea lissocarpha*	X	X					X	X											
HAKOBL	*Hakea obliqua* subsp. *parviflora*	X	X			X	X	X											X	X
HAKPRO	*Hakea prostrata*	X												X						X
HAKPSI	*Hakea psilorrhyncha*																		X	X
HAKRUS	*Hakea ruscifolia*						X													X
HAKSMI	*Hakea smilacifolia*																			X
HAKSUL	*Hakea sulcata*	X	X			X														
HAKTRI	*Hakea trifurcata*	X	X					X	X	X							X			X
HAKVAR	*Hakea varia*	X	X			X				X		X								
HARCOM	*Hardenbergia comptoniana*												X				X			
HARLAT	*Harperia lateriflora*	X				X		X											X	X
HEMBAR	*Hemiphora bartlingii*																		X	X
HEMGLA	*Hemiandra glabra* subsp. *glabra* ms, *Hemiandra* ?*glabra* , *Hemiandra* ?*glabra*							X												X
HEMLIN	*Hemiandra linearis* , *Hemiandra* ?*linearis* , *Hemiandra* ?*linearis* , *Hemiandra* ?*linearis*						X												X	X
HENSTO	*Hensmania stoniella*						X												X	X
HENTUR	*Hensmania turbinata*						X												X	
HIBCRA	*Hibbertia crassifolia* , *Hibbertia* aff.*crassifolia* , *Hibbertia* aff.*crassifolia* , *Hibbertia* ?*crassifolia* , *Hibbertia* ?*crassifolia*	X	X			X	X	X	X	X									X	X
HIBDES	*Hibbertia desmophylla*																		X	
HIBHUE	*Hibbertia huegelii*	X																	X	X
HIBHYP	*Hibbertia hypericoides*	X				X	X	X	X		X	X							X	X

Analysis Code	Taxon	Vegetation Type																	
		1	2	3	4	5	6	7	8	9a	9b	10	11	12	13	14	15	16	17	18
HIBRAC	*Hibbertia racemosa*	X					X		X								X		X	X
HIBSPG	*Hibbertia* sp. Gnangara (J.R. Wheeler 2329), *Hibbertia* ?sp. Gnangara (J.R. Wheeler 2329)						X												X	X
HIBSPI	*Hibbertia spicata* subsp. *spicata*, *Hibbertia spicata* subsp. *leptotheca*, *Hibbertia* ?*spicata*, *Hibbertia* ?*spicata*	X				X													X	X
HIBSTE	*Hibbertia stellaris*	X	X			X						X								
HIBSUB	*Hibbertia subvaginata*	X				X	X			X									X	X
HYBCAL	*Hybanthus calycinus*								X											X
HYPANG	*Hypocalymma angustifolium*	X	X			X	X			X		X	X							
HYPEXS	*Hypolaena exsulca*	X	X			X	X					X							X	X
HYPPUB	*Hypolaena pubescens*	X	X			X													X	
HYPSPNAM	*Hypocalymma* sp. Nambung (R. Spjut & R. Smith s.n. 22/09/1992), *Hypocalymma* ?sp. Nambung (R. Spjut & R. Smith s.n. 22/09/1992)																		X	X
HYPXAN	*Hypocalymma xanthopetalum*	X				X	X	X	X										X	X
ISOASP	*Isopogon asper*							X												
ISOCUNCU	*Isotropis cuneifolia* subsp. *cuneifolia*, *Isotropis cuneifolia*					X	X	X	X	X									X	X
ISOLIN	*Isopogon linearis*																			X
ISOPAPAL	*Isopogon panduratus* subsp. *palustris*	X	X			X	X	X												
ISOPAPAN	*Isopogon panduratus* subsp. *panduratus*	X	X			X	X													
JACCAR	*Jacksonia carduacea*					X														
JACFLO	*Jacksonia floribunda*																		X	X
JACHAK	*Jacksonia hakeoides*	X	X			X	X	X	X										X	X
JACNUT	*Jacksonia nutans*	X	X			X	X	X											X	X
JACRAM	*Jacksonia ramulosa*	X	X			X						X							X	X
JACSTE	*Jacksonia sternbergiana*	X					X					X							X	
JOHPUB	*Johnsonia pubescens* subsp. *pubescens*, *Johnsonia pubescens*					X	X												X	X
KINAUS	*Kingia australis*	X				X														
KUNGLA	*Kunzea glabrescens*			X													X			
KUNMIC	*Kunzea micrantha* subsp. *petiolata*, *Kunzea micrantha*, *Kunzea* ?*micrantha* subsp. *petiolata*	X	X			X														
LAGHUE	*Lagenophora huegelii*						X										X		X	X
LASLIN	*Lasiopetalum lineare*																		X	X
LAWSQU	*Lawrencia squamata*		X												X					
LAXRAMRA	*Laxmannia ramosa* subsp. *ramosa*	X	X			X	X												X	
LAXSES	*Laxmannia sessiliflora*, *Laxmannia* ?*sessiliflora* subsp. *australis*, *Laxmannia sessiliflora* subsp. ?*australis*																		X	X
LECFLO	*Lechenaultia floribunda*	X				X	X												X	
LECLIN	*Lechenaultia linarioides*																		X	X
LECSTE	*Lechenaultia stenosepala*		X			X	X												X	X
LEPEMP	*Leptomeria empetriformis*																		X	X
LEPERU	*Leptospermum erubescens*																		X	X
LEPLON	*Lepidosperma longitudinale*, *Lepidosperma* ?*longitudinale*, *Lepidosperma* ?*longitudinale*	X	X		X	X			X		X	X		X					X	

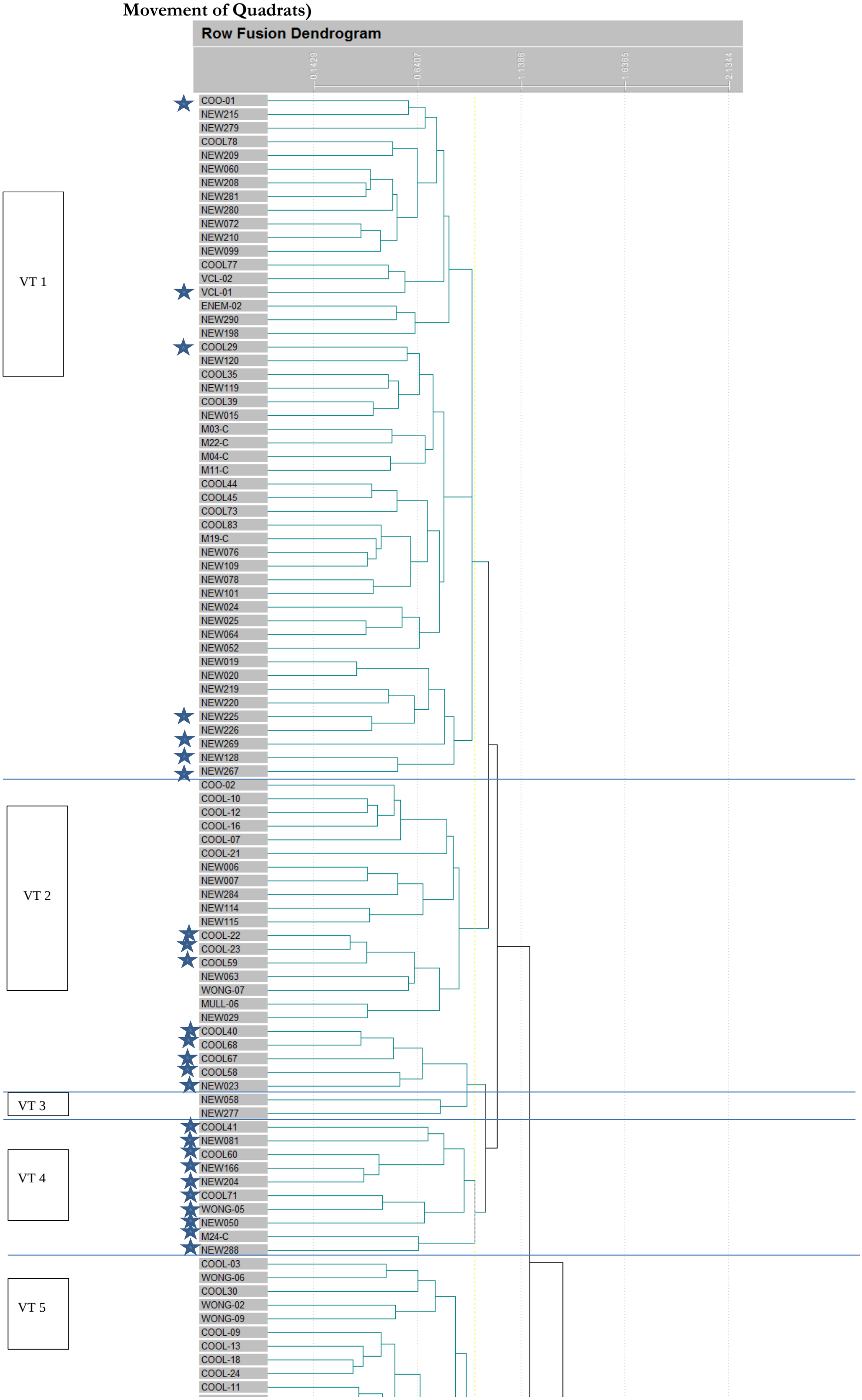
Analysis Code	Taxon	Vegetation Type																	
		1	2	3	4	5	6	7	8	9a	9b	10	11	12	13	14	15	16	17	18
LEPPRE	*Lepidobolus preissianus* subsp. *preissianus* , *Lepidobolus preissianus*	X						X	X										X	X
LEPPRE1	*Leptomeria preissiana*		X			X		X												
LEPPUB	*Lepidosperma pubisquameum* , *Lepidosperma ?pubisquameum*	X	X			X	X	X	X	X	X								X	X
LEPSCA	*Lepidosperma* aff.*scabrum* , *Lepidosperma* aff.*scabrum* , *Lepidosperma* aff.*scabrum* , *Lepidosperma* aff.*scabrum*					X													X	X
LEPSPI	*Leptospermum spinescens*					X		X											X	X
LEPTEN	*Lepidosperma tenue*							X											X	
LEUCOC	*Leucopogon cochlearifolius*	X				X		X	X			X							X	X
LEUCON	*Leucopogon conostephioides* , *Leucopogon conostephioides sens. lat.*	X	X			X	X	X											X	X
LEUGLA	*Leucopogon glaucifolius*	X	X			X														
LEULEP	*Leucopogon leptanthus*							X												X
LEUOLD	*Leucopogon oldfieldii* , *Leucopogon ?oldfieldii* , *Leucopogon ?oldfieldii*						X	X											X	X
LEUPAR	*Leucopogon parviflorus*																X			X
LEUPOL	*Leucopogon polymorphus*								X										X	X
LEUSP.	*Leucopogon* sp. Coujinup (M.A. Burgman 1085)	X				X	X												X	X
LEUSP.1	*Leucopogon* sp. Lesueur (B. Evans 530)	X	X			X	X	X											X	X
LEUSPR	*Leucopogon sprengelioides* , *Leucopogon ?sprengelioides*	X				X	X	X											X	X
LOGSPE	*Logania spermacocea*																			X
LOMCAE	*Lomandra caespitosa*																		X	X
LOMHER	*Lomandra hermaphrodita* , *Lomandra ?hermaphrodita*	X	X			X	X	X	X										X	X
LOMMIC	*Lomandra micrantha* subsp. *micrantha* , *Lomandra ?micrantha* subsp. *micrantha* , *Lomandra ?micrantha*		X					X											X	X
LOMPRE	*Lomandra preissii*	X																	X	X
LYGBAR	*Lyginia barbata*	X				X	X												X	X
LYGIMB	*Lyginia imberbis*	X				X	X	X											X	X
LYSCIL	*Lysinema ciliatum*					X	X													
LYSPEN	*Lysinema pentapetalum*	X				X	X		X										X	X
MACAPE	*Macarthuria apetala*						X												X	
MACAUS	*Macarthuria australis*																		X	X
MACFRA	*Macrozamia fraseri*						X				X								X	
MACKEI	*Macarthuria keigheryi*																		X	
MEECAN	*Meeboldina cana*	X	X			X						X								
MEECOA	*Meeboldina coangustata* , *Meeboldina ?coangustata*									X		X								
MELACU	*Melaleuca acutifolia* , *Melaleuca ?acutifolia*	X	X					X			X									
MELBRE	*Melaleuca brevifolia*	X	X			X										X				
MELCLA	*Melaleuca clavifolia* , *Melaleuca ?clavifolia* , *Melaleuca ?clavifolia*	X				X	X	X				X					X		X	X
MELINCIN	*Melaleuca incana* subsp. *incana*	X	X							X	X	X								
MELLAT	*Melaleuca lateritia* , *Melaleuca ?lateritia*		X							X		X								
MELLEU	*Melaleuca ?leuropoma*																		X	
MELPRE	*Melaleuca preissiana*	X				X	X					X							X	
MELRHA	*Melaleuca rhaphiophylla* , *Melaleuca ?rhaphiophylla* , *Melaleuca ?rhaphiophylla*	X	X			X	X			X	X	X	X	X						

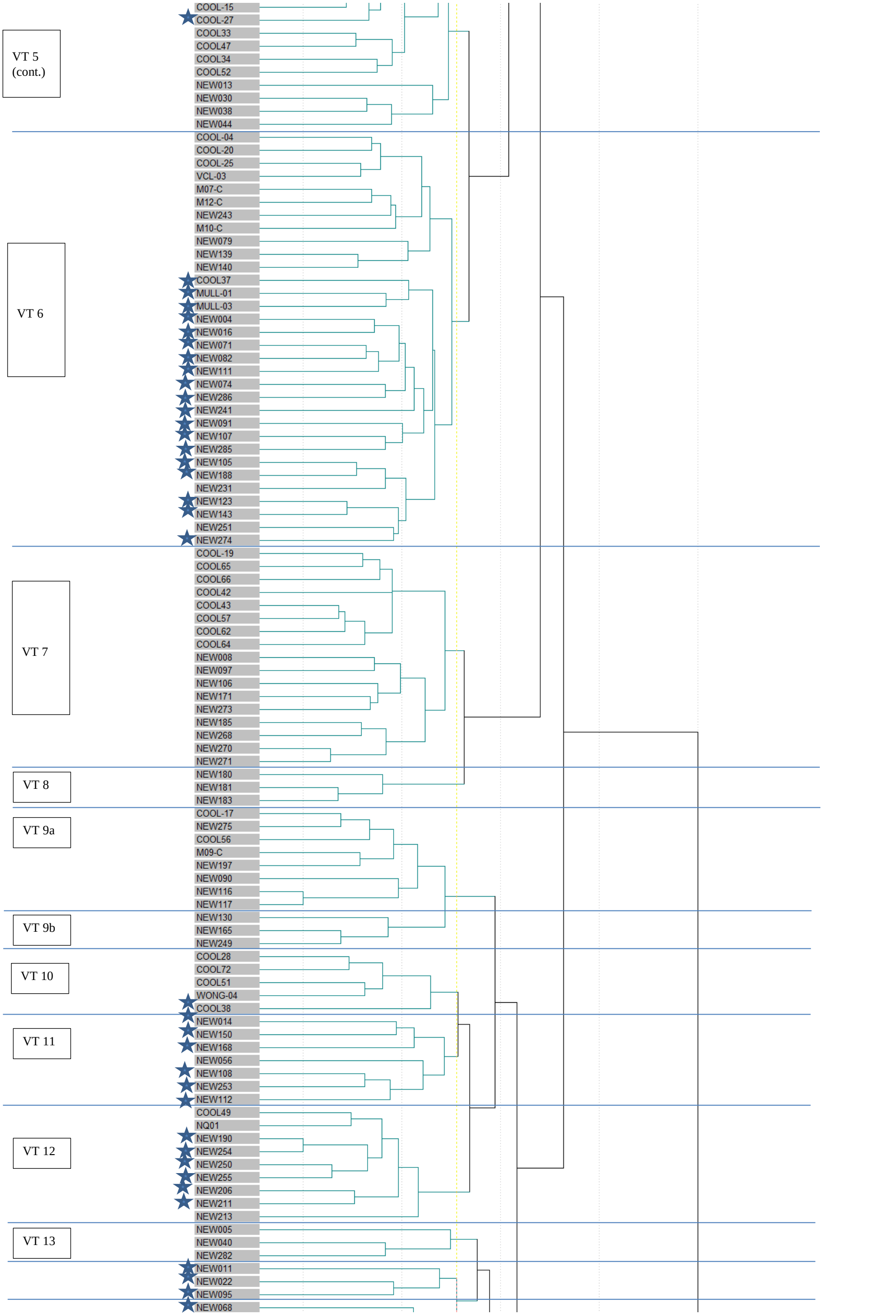
Analysis Code	Taxon	Vegetation Type																	
		1	2	3	4	5	6	7	8	9a	9b	10	11	12	13	14	15	16	17	18
MELSER	*Melaleuca seriata*	X	X			X	X	X		X	X								X	X
MELSYS	*Melaleuca systena* , *Melaleuca* ?*systena*								X										X	
MELTER	*Melaleuca teretifolia*	X								X	X	X								
MELVIM	*Melaleuca viminea* subsp. *viminea* , *Melaleuca viminea*	X	X				X			X	X	X				X				
MESPSE	*Mesomelaena pseudostygia*	X				X	X	X	X										X	X
MESTET	*Mesomelaena tetragona*							X												X
MIRFLO	*Mirbelia floribunda*																			X
MIRSPI	*Mirbelia spinosa*																			X
MIRTRI	*Mirbelia trichocalyx*																			X
MONGRAGR	*Monotaxis grandiflora* var. *grandiflora*																		X	X
MUEADP	*Muehlenbeckia adpressa*									X							X			
NEUALO	*Neurachne alopecuroidea*	X	X			X		X		X									X	X
NUYFLO	*Nuytsia floribunda*	X				X	X												X	X
OLASCA	*Olax scalariformis*	X				X		X												
ONYNOD	*Onychosepalum nodatum*	X	X			X	X													
OPEVAG	*Opercularia vaginata* , *Opercularia* ?*vaginata*	X	X			X	X	X	X	X	X								X	X
ORTLAXLA	*Orthrosanthus laxus* var. *laxus*	X						X									X			
PATJUN	*Patersonia* ?*juncea*					X	X													
PATOCC	*Patersonia occidentalis* var. *occidentalis* , *Patersonia occidentalis* , *Patersonia occidentalis* var. ?*occidentalis*	X	X			X	X	X			X	X							X	X
PERCOM	*Persoonia comata*					X	X	X											X	X
PERELL	*Pericalymma ellipticum* var. *ellipticum* , *Pericalymma ellipticum* , *Pericalymma ellipticum* var. ?*ellipticum*	X				X						X								X
PERSAC	*Persoonia saccata*																			X
PERSPO	*Pericalymma spongiocaule*	X					X													
PETAXI	*Petrophile axillaris*								X											
PETBRE	*Petrophile brevifolia*	X	X			X	X	X		X	X								X	X
PETLIN	*Petrophile linearis*					X	X												X	X
PETMAC	*Petrophile macrostachya*						X	X											X	X
PETREC	*Petrophile recurva*																			X
PETRIG	*Petrophile rigida*																		X	X
PETSEM	*Petrophile seminuda* , *Petrophile* ?*seminuda* , *Petrophile* ?*seminuda*	X	X			X		X											X	X
PHISPI	*Philotheca spicata*					X			X										X	X
PHLCIL	*Phlebocarya ciliata*	X				X	X					X							X	
PHLFIL	*Phlebocarya filifolia*	X					X												X	X
PILFIL	*Pileanthus filifolius*	X						X											X	X
PIMIMBP	*Pimelea imbricata* var. *piligera* , *Pimelea imbricata* var. ?*piligera* , *Pimelea imbricata* var. ?*piligera*	X	X			X	X	X												X
PIMSUL	*Pimelea sulphurea* , *Pimelea* ?*sulphurea* , *Pimelea* ?*sulphurea*																		X	X
PLAJUN	*Platysace juncea* , *Platysace juncea sens. lat.*					X	X	X											X	
PLARAM	*Platysace ramosissima*		X			X	X												X	
PLASP.	*Platysace* sp. Eneabba (R. Hnatiuk 770001)					X	X												X	
PLAXER	*Platysace xerophila*					X													X	X
POAPOR	*Poa porphyroclados*								X											
PTIMAN	*Ptilotus manglesii*	X	X			X		X											X	X

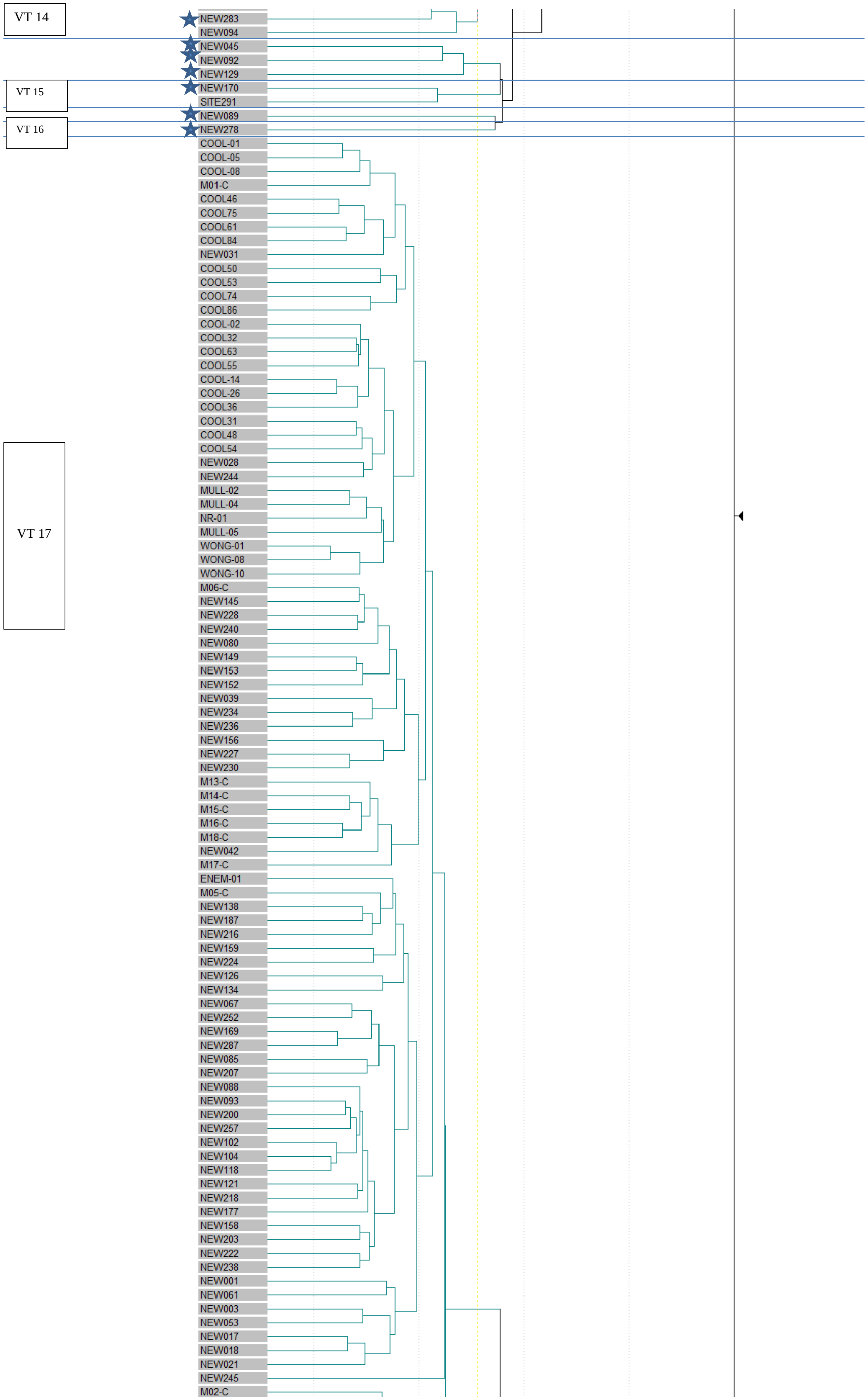
Analysis Code	Taxon	Vegetation Type																	
		1	2	3	4	5	6	7	8	9a	9b	10	11	12	13	14	15	16	17	18
PTIPOL	*Ptilotus polystachyus*				X					X									X	
REGCIL	*Regelia ciliata*	X	X	X		X				X					X					
RHABAC	*Rhagodia baccata* subsp. *baccata* , *Rhagodia baccata*	X											X							
RICUND	*Ricinocarpos undulatus*								X											X
RYTOCC	*Rytidosperma occidentale* , *Rytidosperma ?occidentale*	X	X						X			X							X	X
RYTSET	*Rytidosperma setaceum*	X	X																	X
SAMJUN	*Samolus junceus*	X	X												X					
SAMREPPA	*Samolus repens* var. *paucifolius*	X	X																	
SCA?GL	*Scaevola ?globulifera*	X							X											
SCAANC	*Scaevola anchusifolia* , *Scaevola ?anchusifolia*	X	X			X	X	X											X	
SCACAN	*Scaevola canescens*																			X
SCALAN	*Scaevola lanceolata* , *Scaevola ?lanceolata*	X	X			X		X												
SCAPHL	*Scaevola phlebopetala*	X								X									X	X
SCAREP	*Scaevola repens* subsp. Northern Sandplains (R.J. Cranfield & P.J. Spencer 8445), *Scaevola repens* var. *repens* , *Scaevola repens*	X	X			X	X	X	X										X	X
SCATHETH	*Scaevola thesioides* subsp. *thesioides*					X													X	X
SCHASP	*Schoenus asperocarpus*		X																	
SCHBRE	*Schoenus brevisetis* , *Schoenus ?brevisetis*	X				X	X	X											X	X
SCHCAE	*Schoenus caespititius* , *Schoenus* aff.*caespititius* , *Schoenus ?caespititius* , *Schoenus ?caespititius*	X				X	X												X	X
SCHCLA	*Schoenus clandestinus*	X	X			X		X	X										X	X
SCHCUR	*Schoenus curvifolius*	X				X	X		X			X						X	X	X
SCHEFO	*Schoenus efoliatus*					X	X													
SCHGRI	*Schoenus griffinianus*					X	X												X	X
SCHINV	*Scholtzia involucrata*						X												X	X
SCHLAX	*Scholtzia laxiflora* , *Scholtzia ?laxiflora*						X												X	X
SCHLEP	*Scholtzia leptantha*								X											X
SCHPED	*Schoenus pedicellatus* , *Schoenus ?pedicellatus*					X													X	
SCHPLE	*Schoenus pleiostemoneus*								X										X	X
SCHRIG	*Schoenus rigens* , *Schoenus ?rigens*	X	X			X	X												X	
SCHSUB	*Schoenus subfascicularis* , *Schoenus ?subfascicularis*	X	X		X		X	X		X	X								X	X
SCHUMB	*Scholtzia umbellifera*							X												X
SCHUNI	*Schoenus unispiculatus* , *Schoenus ?unispiculatus*							X												
SOLSYM	*Solanum symonii*										X									
SPYGLO	*Spyridium globulosum*												X				X			
STAAXI	*Stachystemon axillaris*																		X	X
STAMON	*Stackhousia monogyna* , *Stackhousia ?monogyna*	X	X			X	X	X												X
STENOT	*Stenanthemum notiale* , *Stenanthemum notiale* subsp. *chamelum* , *Stenanthemum notiale* subsp. *notiale*							X	X											X
STIABR	*Stirlingia abrotanoides* , *Stirlingia ?abrotanoides*	X				X		X												
STILAT	*Stirlingia latifolia*	X				X	X	X											X	X
STYADP	*Stylidium adpressum*	X				X	X												X	X
STYARA	*Stylidium araeophyllum* ms	X																	X	X
STYCRO	*Stylidium crossocephalum*					X	X	X											X	X
STYCYG	*Stylidium cygnorum*	X				X			X										X	X

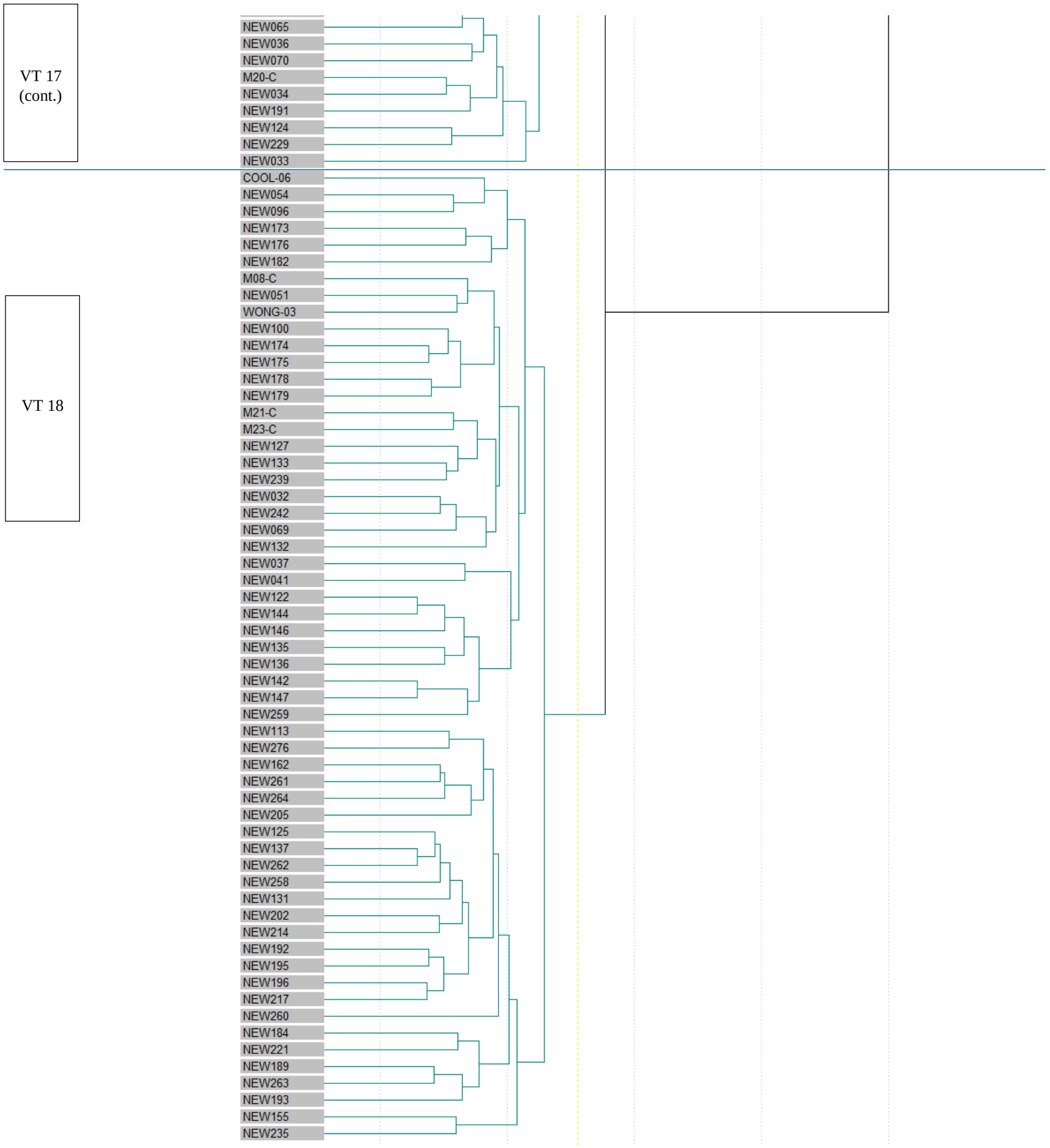
Analysis Code	Taxon	Vegetation Type																	
		1	2	3	4	5	6	7	8	9a	9b	10	11	12	13	14	15	16	17	18
STYDIC	*Stylidium dichotomum* , *Stylidium* aff.*dichotomum*	X	X			X	X	X											X	X
STYDIU	*Stylidium diuroides* subsp. *paucifoliatum* , *Stylidium diuroides* subsp. *diuroides* , *Stylidium diuroides*	X		X		X	X												X	X
STYDIV	*Stylidium divaricatum*	X				X					X									
STYFLA	*Stylidium flagellum*					X													X	
STYHYM	*Stylidium hymenocraspedum*	X					X												X	
STYKAL	*Stylidium kalbarriense*																		X	X
STYPIL	*Stylidium piliferum*							X											X	X
STYPUB	*Stylidium pubigerum*		X					X												
STYPUR	*Stylidium purpureum* ms	X	X			X		X	X										X	X
STYREP	*Stylidium repens*	X	X			X	X	X	X										X	X
STYRIG	*Stylidium rigidulum*	X				X	X												X	X
STYSP.	*Stylidium* ?sp. Kalbarri (A. Carr 145)																		X	X
STYSPI	*Stylidium spiciforme* ms																		X	X
SYNSPI	*Synaphea spinulosa* subsp. *spinulosa* , *Synaphea spinulosa*	X				X	X	X											X	X
TECINDBI	*Tecticornia indica* subsp. *bidens*														X					
TEMRET	*Templetonia retusa*								X											
TETOCT	*Tetraria octandra*																		X	
THYARB	*Thysanotus arbuscula* , *Thysanotus* ?*arbuscula*						X												X	
THYMAN	*Thysanotus manglesianus* , *Thysanotus* ?*manglesianus*	X			X		X			X							X			
THYMUL	*Thysanotus multiflorus*		X			X	X												X	
THYPAT	*Thysanotus patersonii*		X	X			X		X	X									X	X
THYSPA	*Thysanotus sparteus* , *Thysanotus* ?*sparteus* , *Thysanotus* ?*sparteus*	X				X														X
THYSPI	*Thysanotus spiniger*	X																		X
THYTEN	*Thysanotus tenellus*						X												X	
THYTER	*Thysanotus teretifolius*																			X
THYTHY	*Thysanotus thyrsoideus* , *Thysanotus* ?*thyrsoideus*	X	X			X	X	X											X	X
TRIAUS	*Tribonanthes australis*		X		X	X														
TRIBRU	*Tripterococcus brunonis*		X			X	X												X	X
TRIELA	*Tricoryne* ?*elatior*	X	X					X	X								X		X	X
TRINEENE	*Tricostularia neesii* var. *neesii*	X				X	X												X	X
VELTRI	*Velleia trinervis*	X	X		X					X										
VERBLE	*Verticordia blepharophylla*	X	X			X	X													
VERDEN	*Verticordia densiflora* var. *densiflora* , *Verticordia densiflora* var. *cespitosa* , *Verticordia densiflora*	X	X	X	X	X	X	X			X								X	X
VERDRU	*Verticordia drummondii*	X	X			X														
VERGRA	*Verticordia grandis*																		X	X
VERLIN	*Verticordia lindleyi* subsp. *lindleyi* , *Verticordia* ?*lindleyi* subsp. *lindleyi* , *Verticordia* ?*lindleyi* subsp. *lindleyi*	X				X	X	X											X	X
VERPEN	*Verticordia pennigera*					X		X												X
VERREI	*Verreauxia reinwardtii*																		X	X
VIMJUN	*Viminaria juncea*	X	X			X						X								
XANHUE	*Xanthosia huegelii*	X				X	X	X											X	X
XANPRE	*Xanthorrhoea preissii*	X	X			X	X	X	X	X	X	X	X	X			X		X	X
	Total No. of Taxa	**190**	**120**	**7**	**9**	**178**	**146**	**136**	**64**	**42**	**29**	**32**	**8**	**9**	**8**	**5**	**19**	**2**	**233**	**234**

Appendix Q: Summary Dendrogram of Relationships Between Quadrats (Dendrogram Order Prior to Manual Movement of Quadrats)



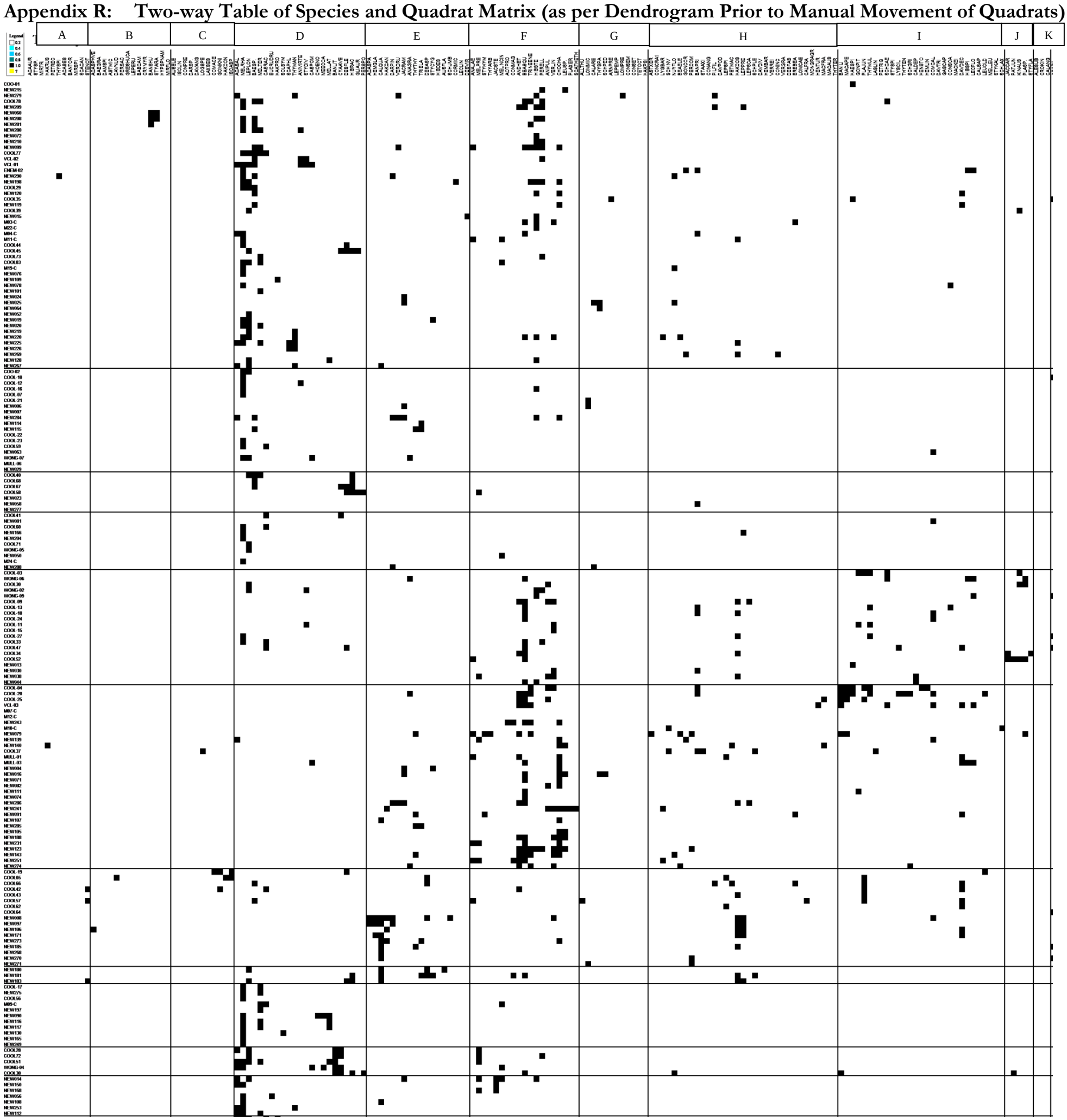

VT 5 (cont.)
COOL-15
COOL-27
COOL33
COOL47
COOL34
COOL52
NEW013
NEW030
NEW038
NEW044
VT 6
COOL-04
COOL-20
COOL-25
VCL-03
M07-C
M12-C
NEW243
M10-C
NEW079
NEW139
NEW140
COOL37
MULL-01
MULL-03
NEW004
NEW016
NEW071
NEW082
NEW111
NEW074
NEW286
NEW241
NEW091
NEW107
NEW285
NEW105
NEW188
NEW231
NEW123
NEW143
NEW251
NEW274
VT 7
COOL-19
COOL65
COOL66
COOL42
COOL43
COOL57
COOL62
COOL64
NEW008
NEW097
NEW106
NEW171
NEW273
NEW185
NEW268
NEW270
NEW271
VT 8
NEW180
NEW181
NEW183
VT 9a
COOL-17
NEW275
COOL56
M09-C
NEW197
NEW090
NEW116
NEW117
VT 9b
NEW130
NEW165
NEW249
VT 10
COOL28
COOL72
COOL51
WONG-04
COOL38
VT 11
NEW014
NEW150
NEW168
NEW056
NEW108
NEW253
NEW112
VT 12
COOL49
NQ01
NEW190
NEW254
NEW250
NEW255
NEW206
NEW211
NEW213
VT 13
NEW005
NEW040
NEW282
NEW011
NEW022
NEW095
NEW068

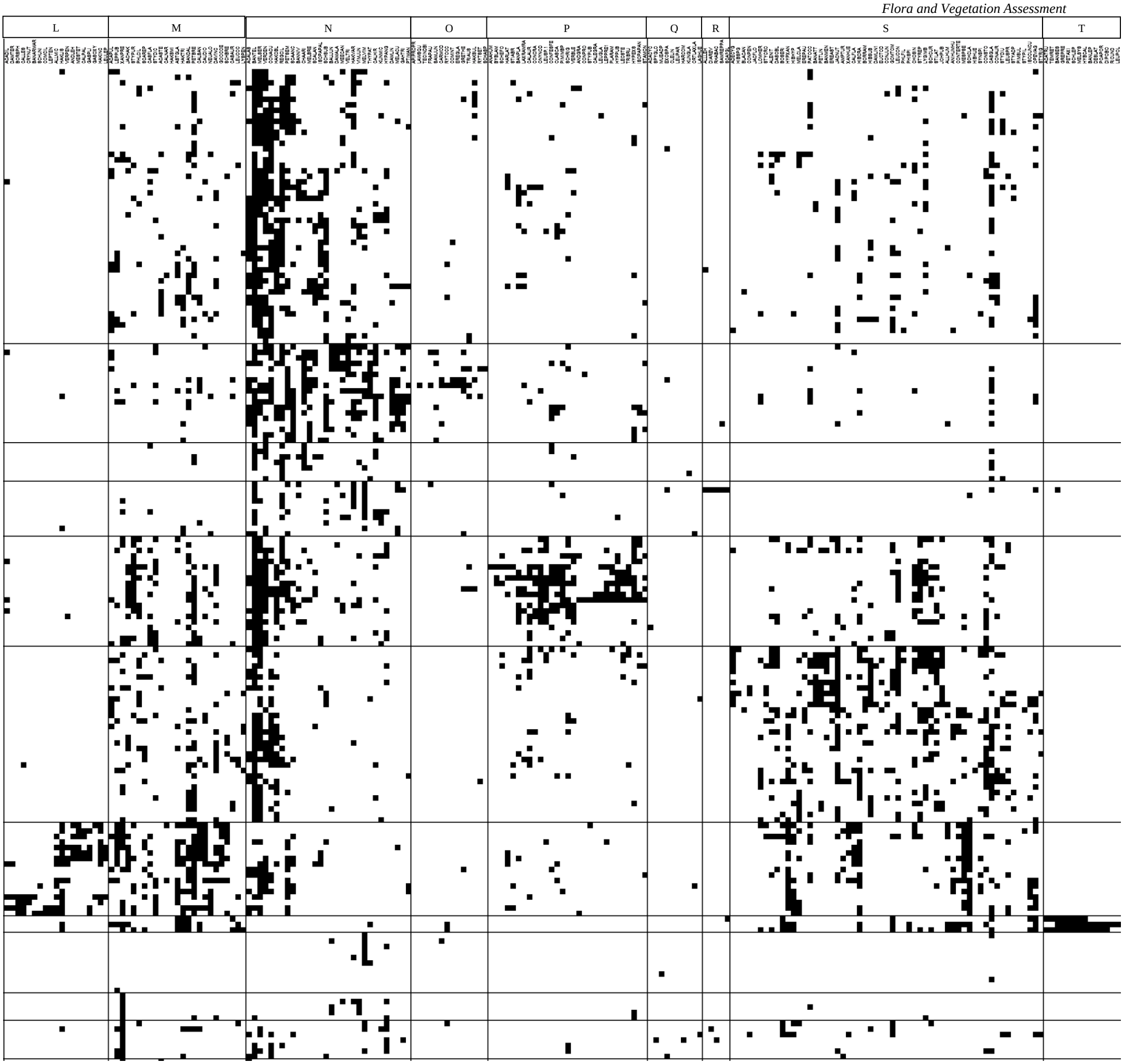

VT 14
VT 15
VT 16
VT 17
NEW283
NEW094
NEW045
NEW092
NEW129
NEW170
SITE291
NEW089
NEW278
COOL-01
COOL-05
COOL-08
M01-C
COOL46
COOL75
COOL61
COOL84
NEW031
COOL50
COOL53
COOL74
COOL86
COOL-02
COOL32
COOL63
COOL55
COOL-14
COOL-26
COOL36
COOL31
COOL48
COOL54
NEW028
NEW244
MULL-02
MULL-04
NR-01
MULL-05
WONG-01
WONG-08
WONG-10
M06-C
NEW145
NEW228
NEW240
NEW080
NEW149
NEW153
NEW152
NEW039
NEW234
NEW236
NEW156
NEW227
NEW230
M13-C
M14-C
M15-C
M16-C
M18-C
NEW042
M17-C
ENEM-01
M05-C
NEW138
NEW187
NEW216
NEW159
NEW224
NEW126
NEW134
NEW067
NEW252
NEW169
NEW287
NEW085
NEW207
NEW088
NEW093
NEW200
NEW257
NEW102
NEW104
NEW118
NEW121
NEW218
NEW177
NEW158
NEW203
NEW222
NEW238
NEW001
NEW061
NEW003
NEW053
NEW017
NEW018
NEW021
NEW245
M02-C

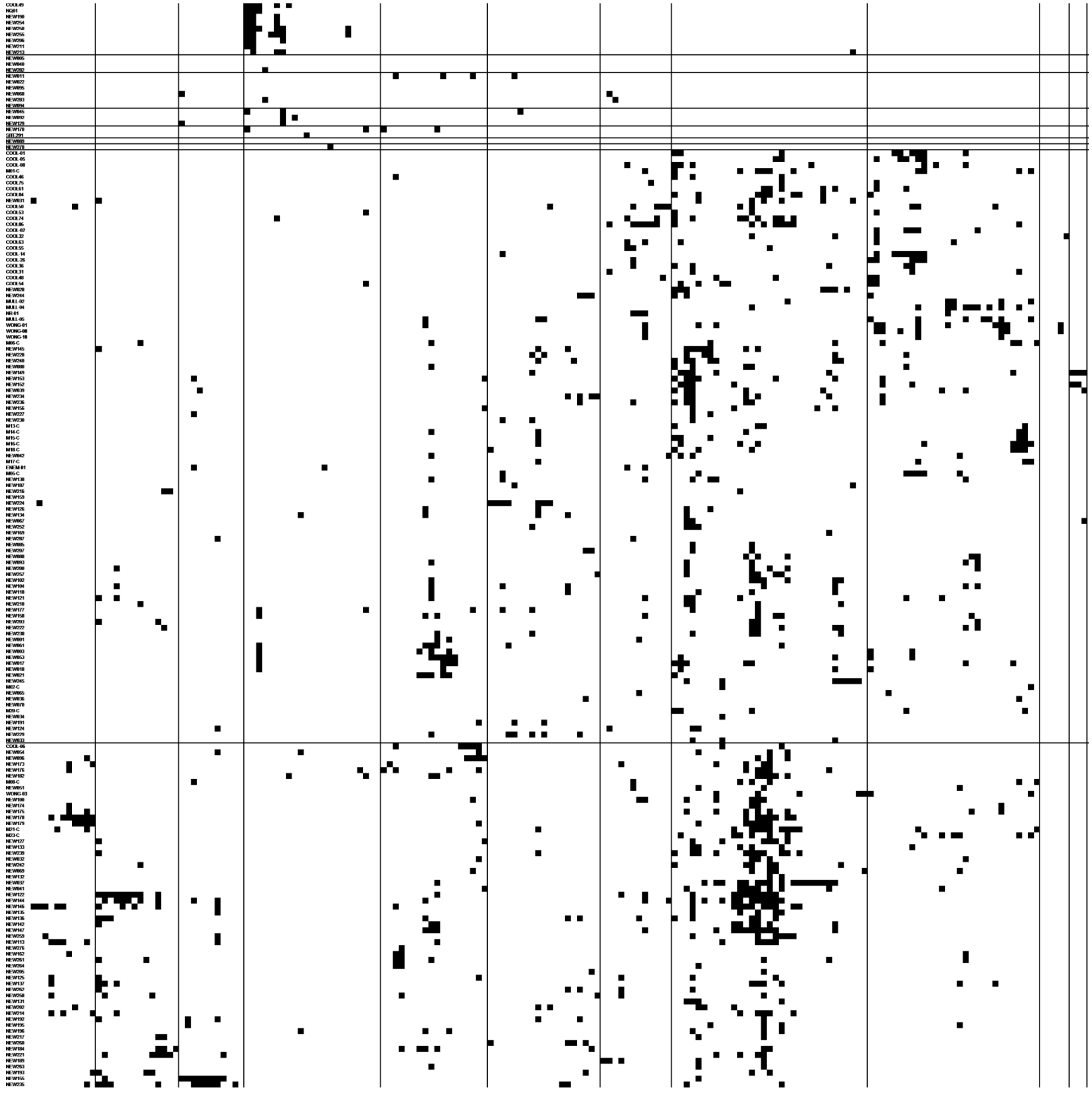


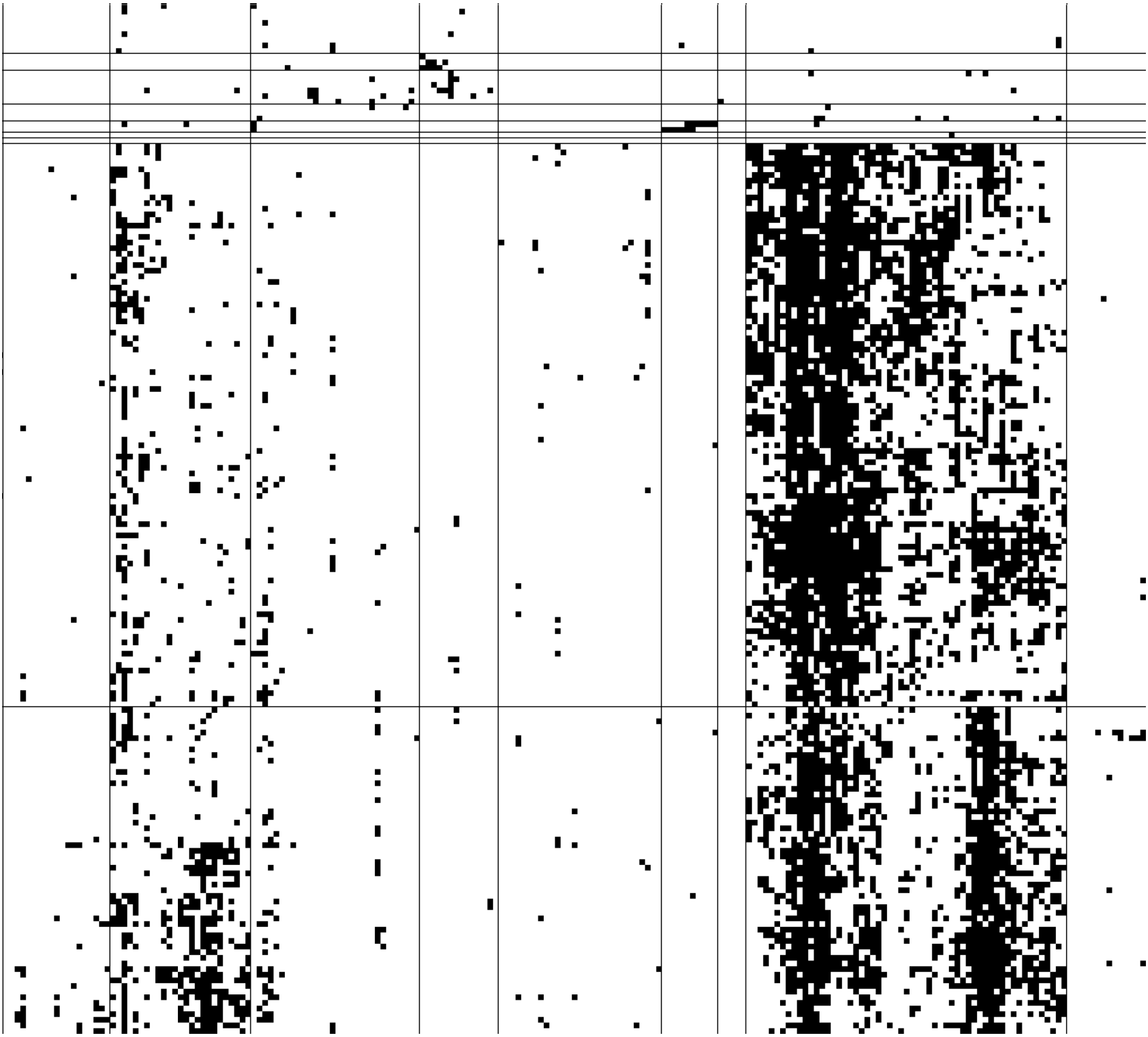
Note: Quadrats marked with a star were manually moved into different VT groupings; for more detail see Appendix N, and Section 4.2.1 of report Tronox12-37-01 Rev 0.

Appendix R: Two-way Table of Species and Quadrat Matrix (as per Dendrogram Prior to Manual Movement of Quadrats)




L
M
N
O
P
Q
R
S
T


COOL49
NQ01
NEW198
NEW254
NEW258
NEW255
NEW206
NEW211
NEW213
NEW005
NEW049
NEW282
NEW011
NEW022
NEW095
NEW068
NEW283
NEW034
NEW045
NEW052
NEW129
NEW170
SITE291
NEW089
NEW278
COOL-01
COOL-05
COOL-08
M01-C
COOL46
COOL75
COOL61
COOL84
NEW031
COOL50
COOL53
COOL74
COOL86
COOL-02
COOL32
COOL63
COOL55
COOL-14
COOL-26
COOL36
COOL31
COOL48
COOL54
NEW028
NEW244
MULL-02
MULL-04
NR-01
MULL-05
WONG-01
WONG-08
WONG-10
M06-C
NEW145
NEW228
NEW240
NEW080
NEW149
NEW153
NEW152
NEW039
NEW234
NEW236
NEW156
NEW227
NEW230
M13-C
M14-C
M15-C
M16-C
M18-C
NEW042
M17-C
ENEM-01
M05-C
NEW138
NEW187
NEW216
NEW159
NEW224
NEW126
NEW134
NEW067
NEW252
NEW169
NEW287
NEW085
NEW097
NEW088
NEW093
NEW200
NEW257
NEW102
NEW104
NEW118
NEW121
NEW218
NEW177
NEW158
NEW283
NEW222
NEW238
NEW001
NEW061
NEW003
NEW053
NEW017
NEW018
NEW021
NEW245
M02-C
NEW065
NEW036
NEW070
M20-C
NEW034
NEW191
NEW124
NEW229
NEW033
COOL-06
NEW054
NEW096
NEW173
NEW176
NEW182
M08-C
NEW051
WONG-03
NEW100
NEW174
NEW175
NEW178
NEW179
M21-C
M23-C
NEW127
NEW133
NEW239
NEW032
NEW242
NEW069
NEW132
NEW037
NEW041
NEW122
NEW144
NEW146
NEW135
NEW136
NEW142
NEW147
NEW259
NEW113
NEW276
NEW162
NEW261
NEW264
NEW205
NEW125
NEW137
NEW262
NEW258
NEW131
NEW202
NEW214
NEW192
NEW195
NEW196
NEW217
NEW260
NEW184
NEW221
NEW189
NEW263
NEW193
NEW155
NEW235



Appendix S: Significant Indicator Taxa of the 20-Group Classification of Vegetation Types

Note: Shading denotes highest indicator values per taxon
Indicator values (%) are shown only for taxa which were significant at P<0.05 (* = p <0.05; ** = p <0.01; *** = p <0.001)

	Vegetation Type															
Taxon	**1**	**2**	**3**	**5**	**6**	**7**	**8**	**9a**	**9b**	**10**	**12**	**13**	**15**	**16**	**17**	**18**
Chaetanthus aristatus *	3	39	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Melaleuca brevifolia *	2	41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Banksia prionotes *	0	0	28	1	2	0	0	0	0	0	0	0	0	0	0	1
Regelia ciliata **	15	3	37	7	0	0	0	0	0	0	0	2	0	0	0	0
Banksia telmatiaea ***	24	11	0	25	11	2	0	1	0	0	0	0	0	0	0	0
Melaleuca seriata ***	9	4	0	23	15	9	0	0	1	0	0	0	0	0	1	1
Jacksonia nutans ***	2	0	0	6	22	1	0	0	0	0	0	0	0	0	18	10
Allocasuarina microstachya **	0	0	0	0	0	47	0	0	0	0	0	0	0	0	0	1
Goodenia coerulea , *Goodenia* ?*coerulea* , *Goodenia* ?*coerulea* *	0	0	0	0	0	34	0	0	0	0	0	0	0	0	0	3
Hakea incrassata **	0	0	0	0	0	46	0	0	0	0	0	0	0	0	0	1
Hakea lissocarpha *	0	1	0	0	0	38	29	0	0	0	0	0	0	0	0	0
Petrophile brevifolia **	3	0	0	15	5	28	0	0	0	0	0	0	0	0	0	3
Schoenus clandestinus ***	0	0	0	0	0	30	15	0	0	0	0	0	0	0	4	29
Acacia truncata ***	0	0	0	0	0	0	67	0	0	0	0	0	0	0	0	0
Astroloma glaucescens **	1	0	0	1	0	19	45	0	0	0	0	0	0	0	0	3
Banksia dallanneyi var. *dallanneyi* , *Banksia dallanneyi* subsp. *media* , *Banksia dallanneyi* , *Banksia dallanneyi* subsp. ?*media* , *Banksia dallanneyi* var. ?*dallanneyi* , *Banksia* ?*dallanneyi* subsp. *media* ***	1	1	0	7	1	9	32	0	0	0	0	0	0	0	1	6
Banksia leptophylla ***	0	0	0	0	0	0	65	0	0	0	0	0	0	0	0	0
Banksia sessilis var. *cygnorum* ***	0	0	0	0	0	0	98	0	0	0	0	0	0	0	0	0
Bossiaea eriocarpa ***	0	0	0	0	0	0	33	0	0	1	0	0	0	0	26	16

	Vegetation Type															
Taxon	**1**	**2**	**3**	**5**	**6**	**7**	**8**	**9a**	**9b**	**10**	**12**	**13**	**15**	**16**	**17**	**18**
Calothamnus quadrifidus subsp. *quadrifidus* , *Calothamnus quadrifidus* subsp. *angustifolius* , *Calothamnus quadrifidus* **	0	0	0	0	0	11	63	0	0	0	0	0	0	0	0	1
Cassytha aurea var. *hirta* , *Cassytha aurea* , *Cassytha ?aurea* *	0	1	0	1	0	0	37	0	0	0	0	0	0	0	0	5
Desmocladus asper **	0	0	0	0	0	3	50	0	0	0	0	0	0	0	0	0
Desmocladus lateriticus , *Desmocladus ?lateriticus* , *Desmocladus ?lateriticus* ***	0	0	0	0	0	0	63	0	0	0	0	0	0	0	0	0
Diplolaena obovata ***	0	0	0	0	0	0	65	0	0	0	0	0	0	0	0	0
Gompholobium tomentosum ***	1	0	0	1	5	0	36	0	0	1	0	0	0	0	11	1
Grevillea preissii subsp. *?preissii* ***	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0
Hakea trifurcata *	1	0	0	0	0	7	39	1	0	0	0	0	10	0	0	2
Hibbertia racemosa *	0	0	0	0	0	0	33	0	0	0	0	0	18	0	0	0
Hybanthus calycinus ***	0	0	0	0	0	0	95	0	0	0	0	0	0	0	0	0
Leucopogon cochlearifolius *	0	0	0	0	0	0	37	0	0	3	0	0	0	0	0	2
Melaleuca systena , *Melaleuca ?systena* ***	0	0	0	0	0	0	99	0	0	0	0	0	0	0	0	0
Opercularia vaginata , *Opercularia ?vaginata* **	1	1	0	1	1	6	34	0	2	0	0	0	0	0	1	6
Petrophile axillaris ***	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0
Philotheca spicata *	0	0	0	0	0	0	38	0	0	0	0	0	0	0	8	2
Poa porphyroclados ***	0	0	0	0	0	0	67	0	0	0	0	0	0	0	0	0
Rytidosperma occidentale , *Rytidosperma ?occidentale* **	0	1	0	0	0	0	42	0	0	4	0	0	0	0	0	0
Scaevola ?globulifera *	0	0	0	0	0	0	32	0	0	0	0	0	0	0	0	0
Scholtzia leptantha ***	0	0	0	0	0	0	98	0	0	0	0	0	0	0	0	0
Templetonia retusa ***	0	0	0	0	0	0	67	0	0	0	0	0	0	0	0	0
Melaleuca teretifolia **	2	0	0	0	0	0	0	46	1	3	0	0	0	0	0	0
Melaleuca viminea subsp. *viminea* , *Melaleuca viminea* *	1	14	0	0	0	0	0	25	0	2	0	0	0	0	0	0
Eucalyptus rudis subsp. *rudis* **	0	0	0	0	0	0	0	0	45	0	0	0	0	0	0	0
Banksia littoralis **	0	0	0	0	0	0	0	0	2	63	0	0	0	0	0	0
Cyathochaeta avenacea , *Cyathochaeta ?avenacea* **	0	0	0	0	0	0	0	0	0	49	0	0	0	0	0	0

	Vegetation Type															
Taxon	**1**	**2**	**3**	**5**	**6**	**7**	**8**	**9a**	**9b**	**10**	**12**	**13**	**15**	**16**	**17**	**18**
Melaleuca preissiana **	0	0	0	0	5	0	0	0	0	59	0	0	0	0	0	0
Viminaria juncea *	2	6	0	0	0	0	0	0	0	34	0	0	0	0	0	0
Acacia saligna subsp. *lindleyi* ms, *Acacia saligna* , *Acacia saligna* subsp. ?*lindleyi* *	0	0	0	0	0	0	0	1	11	19	30	0	8	0	0	0
Acacia stenoptera *	2	0	0	0	1	0	0	0	0	0	25	0	0	0	0	3
Comesperma integerrimum , *Comesperma* ?*integerrimum* *	0	1	0	0	0	0	0	0	0	0	42	0	0	0	0	0
Hakea prostrata *	0	0	0	0	0	0	0	0	0	0	47	0	0	0	0	0
Lepidosperma longitudinale , *Lepidosperma* ?*longitudinale* , *Lepidosperma* ?*longitudinale* *	1	1	0	0	0	0	14	0	1	21	32	0	0	0	0	0
Apium prostratum var. *prostratum* ***	0	0	0	0	0	0	0	0	0	0	0	50	0	0	0	0
Lawrencia squamata *	0	0	0	0	0	0	0	0	0	0	0	47	0	0	0	0
Tecticornia indica subsp. *bidens* ***	0	0	0	0	0	0	0	0	0	0	0	75	0	0	0	0
Acacia cyclops *	0	0	0	0	0	0	0	0	0	0	0	0	47	0	0	0
Acacia lasiocarpa var. *lasiocarpa* , *Acacia lasiocarpa* , *Acacia lasiocarpa* var. ?*lasiocarpa* , *Acacia lasiocarpa* var. ?*bracteolata* *	6	1	0	1	3	3	0	0	0	0	8	0	33	0	0	0
Clematis linearifolia ***	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0
Hardenbergia comptoniana *	0	0	0	0	0	0	0	0	0	0	0	0	50	0	0	0
Leucopogon parviflorus ***	0	0	0	0	0	0	0	0	0	0	0	0	98	0	0	0
Muehlenbeckia adpressa *	0	0	0	0	0	0	0	1	0	0	0	0	42	0	0	0
Orthrosanthus laxus var. *laxus* *	0	0	0	0	0	1	0	0	0	0	0	0	43	0	0	0
Spyridium globulosum *	0	0	0	0	0	0	0	0	0	0	0	0	50	0	0	0
Chorizandra enodis *	0	0	0	0	0	0	0	1	0	0	0	0	0	42	0	0
Alexgeorgea nitens ***	0	0	0	1	4	1	5	0	0	0	0	0	0	0	32	13
Banksia attenuata ***	0	0	0	0	14	0	0	0	0	0	0	0	0	0	44	12
Banksia menziesii ***	0	0	0	0	10	0	0	0	0	0	0	0	0	0	41	8
Conostephium pendulum , *Conostephium* ?*pendulum* **	0	0	0	0	3	0	0	0	0	0	0	0	0	0	32	9
Dasypogon obliquifolius ***	0	0	0	2	3	1	0	0	0	0	0	0	0	0	37	17

	Vegetation Type															
Taxon	**1**	**2**	**3**	**5**	**6**	**7**	**8**	**9a**	**9b**	**10**	**12**	**13**	**15**	**16**	**17**	**18**
Eremaea asterocarpa subsp. *asterocarpa* , *Eremaea asterocarpa* , *Eremaea* ?*asterocarpa* subsp. *asterocarpa* ***	0	0	0	1	6	0	0	0	0	0	0	0	0	0	43	7
Hibbertia sp. Gnangara (J.R. Wheeler 2329), *Hibbertia* ?sp. Gnangara (J.R. Wheeler 2329)*	0	0	0	0	2	0	0	0	0	0	0	0	0	0	37	0
Hypocalymma xanthopetalum ***	0	0	0	2	0	18	12	0	0	0	0	0	0	0	24	22
Patersonia occidentalis var. *occidentalis* , *Patersonia occidentalis* , *Patersonia occidentalis* var. ?*occidentalis* ***	1	1	0	1	3	3	0	0	0	1	0	0	0	0	26	11
Petrophile linearis ***	0	0	0	0	11	0	0	0	0	0	0	0	0	0	47	11
Anigozanthos humilis subsp. *humilis* ***	0	0	0	0	0	2	19	0	0	0	0	0	0	0	7	30
Conostylis teretifolia subsp. *teretifolia* **	0	0	0	0	0	3	21	0	0	0	0	0	0	0	4	30
Eremaea pauciflora var. *lonchophylla* , *Eremaea pauciflora* , *Eremaea pauciflora* var. ?*lonchophylla* , *Eremaea* ?*pauciflora* , *Eremaea pauciflora* var. ?*lonchophylla* ***	0	0	0	1	1	0	0	0	0	0	0	0	0	0	28	35
Hibbertia huegelii ***	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	59
Hibbertia hypericoides ***	0	0	0	0	0	9	14	0	0	1	0	0	0	0	17	22
Melaleuca clavifolia , *Melaleuca* ?*clavifolia* , *Melaleuca* ?*clavifolia* ***	0	0	0	1	2	3	0	0	0	1	0	0	8	0	19	25
Mesomelaena pseudostygia ***	0	0	0	1	0	24	4	0	0	0	0	0	0	0	9	32

Please note that Appendix T (Sheets T1 to T15) have been provided as two separate pdf files

Appendix U: Detailed Vegetation Type Information

VT 1: Low Open Heathland to Mid Closed Heathland of *Acacia lasiocarpa* var. *lasiocarpa, Banksia telmatiaea, Melaleuca seriata, Hakea obliqua* subsp. *parviflora, Regelia ciliata* and/or *Verticordia densiflora* var. *densiflora,* often with Mid Isolated Clumps of Shrubs to Mid Sparse Shrubland of *Melaleuca rhaphiophylla* and mixed species including Low to Mid Shrubs of *Baeckea* sp. Perth Region (R.J. Cranfield 444), *Banksia dallanneyi* var. *dallanneyi, Banksia nivea* subsp. *nivea, Beaufortia squarrosa, Calothamnus hirsutus, Calothamnus sanguineus, Daviesia incrassata* subsp. *incrassata, Hakea sulcata, Hakea trifurcata, Hakea varia, Hibbertia stellaris, Isopogon panduratus* subsp. *palustris, Jacksonia hakeoides, Jacksonia nutans, Melaleuca acutifolia, Melaleuca brevifolia, Melaleuca clavifolia, Melaleuca teretifolia, Pericalymma ellipticum* var. *ellipticum, Petrophile brevifolia, Petrophile seminuda, Scaevola anchusifolia, Scaevola lanceolata* and/or *Scaevola repens* subsp. Northern Sandplains (R.J. Cranfield & P.J. Spencer 8445), and Low to Mid Sedges of *Schoenus subfascicularis* and *Lepidosperma longitudinale* on white grey to grey brown sand, sandy loam or sandy clay in broad damp depressions on flat to gently undulating plains

Total Area: 4 151.5 ha

Percentage of Study Area: 12.07 %

Sampling: 61 quadrats within Study Area

Common taxa recorded within each stratum:

Stratum	Descriptor	Taxa
Mid Stratum 1	Mid Isolated Clumps of Shrubs to Mid Sparse Shrubland (Shrubs 1-2 m)	*Melaleuca rhaphiophylla*
Mid Stratum 2	Mid Open Heathland to Mid Closed Heathland (Shrubs 1-2 m)	*Hakea varia, Hakea obliqua* subsp. *parviflora, Acacia lasiocarpa* var. *lasiocarpa*
Lower Stratum 1	Low Open Heathland to Low Closed Heathland (Shrubs <1 m)	*Banksia telmatiaea, Regelia ciliata, Melaleuca seriata, Petrophile seminuda, Verticordia densiflora* var. *densiflora, Conostylis aculeata* subsp. *spinuligera*
Lower Stratum 2	Low Sedgeland to Mid Sedgeland (<1 m)	*Schoenus subfascicularis, Cassytha glabella* forma *dispar*

Indicator Taxa: No indicator taxa

Landform Types: Lowerslope, drainage flat, clay pan, basin, flat, wetland, open depression, closed depression, plain

Soil Types: Grey sand, white sand, brown sand, grey brown sand, grey brown clay, brown silty sand, grey silty sand, grey sandy loam, brown sandy loam, grey brown sandy loam

VT 1 was mapped across the entire Study Area with a higher occurrence in the centre of the northern half in comparison to the scattered, smaller occurrences in the southern half (south of Woolka Road) (Figure 9, Appendix T). VT 1 occurs on low-lying broad depressions where the water table is closer to the surface and is likely to experience a longer periods of saturation. Seasonal surface expression of shallow water may occur in these areas.

VT 1 predominantly consists of Low Open Heathland to Mid Closed Heathland of *Acacia lasiocarpa* var. *lasiocarpa, Banksia telmatiaea, Melaleuca seriata, Hakea obliqua* subsp. *parviflora, Regelia ciliata* and/or *Verticordia densiflora* var. *densiflora* with other species

present spasmodically and inconsistently in low densities, with species type varying from location to location.

VT 1 is very similar to VT 5 however is a wetter habitat or experiences a longer period of saturation, often containing the hydrophilic species *Baeckea* sp. Perth Region (R.J. Cranfield 444), *Melaleuca rhaphiophylla, M. acutifolia, M. brevifolia* and *M. teretifolia* in comparison to VT 5. In the absence of these species, VT 1 and 5 are difficult to discern in the field. Interpretation of aerial imagery (in the absence of quadrat information) and historical site data also proved difficult during the mapping phase. Therefore there may be some discrepancy between the mapping of VT 1 and 5 and their physical occurrence in the field. Plate 53 depicts the typical habitat of VT 1.

A total of 190 native vascular plant taxa occurred in quadrats grouped in VT 1 as per the analysis, with a species richness of 16.9 ± 4.8 per quadrat (excluding introduced, annuals and singletons) (Appendix P). Overall, 310 vascular plant taxa (including introduced, annuals and singletons) were recorded in quadrats grouped in VT 1 (Appendix V).

The conservation significant flora taxa *Andersonia gracilis* (T-DRF), *Anigozanthos viridis* subsp. *terraspectans* (T-DRF), *Baeckea* sp. Perth Region (R.J. Cranfield 444) (P3), *Chordifex chaunocoleus* (P4), *Conospermum scaposum* (P3), *Grevillea thelemanniana* subsp. Cooljarloo (B.J. Keighery 28 B) (P1), *Grevillea* ?*thelemanniana* subsp. Cooljarloo (B.J. Keighery 28 B) (P1), *Haloragis* ?*foliosa* (P3), *Isopogon panduratus* subsp. *palustris* (P2), *Onychosepalum nodatum* (P3), *Stylidium hymenocraspedum* (P2) and *Verticordia lindleyi* subsp. *lindleyi* (P4) were recorded in quadrats in VT 1 between 2006 and 2012 by Woodman Environmental.

Additionally, *Anigozanthos viridis* ?subsp. *terraspectans* (T-DRF), *Baeckea* sp. Moora (R. Bone 1993/1) (P3), *Banksia dallanneyi* subsp. *pollosta* (P3), *Boronia tenuis* (P4), *Chordifex reseminans* (P1), *Conostephium magnum* (P4), *Guichenotia alba* (P3), *Hakea longiflora* (P3), *Jacksonia carduacea* (P3), *Lepidobolus densus* (P3), *Leucopogon* sp. Yanchep (M. Hislop 1986) (P3), *Loxocarya gigas* (P2), *Lyginia excelsa* (P1), *Macarthuria keigheryi* (T-DRF), *Malleostemon* sp. ?Cooljarloo (B.Backhouse s.n. 16/11/88) (P1), *Meionectes tenuifolia* (P3), *Onychosepalum microcarpum* (P2), *Platysace ramosissima* (P3), *Schoenus griffinianus* (P3), *Schoenus pennisetis* (P1), *Stylidium longitubum* (P3) and *Verticordia* ?*lindleyi* subsp. *lindleyi* (P4) have also been recorded in VT 1 during other studies conducted over the Study Area (Table 9).

Eighteen introduced taxa were recorded from within quadrats in VT 1 between 2006 and 2012 by Woodman Environmental (Appendix V). A total of 30 introduced taxa have been recorded in VT 1 across the entire Study Area (Table 11).

The condition of the vegetation for the majority of quadrats established in VT 1 was ranked as Pristine, with two quadrats classified as Excellent due to the presence of introduced taxa (NEW081, NEW290) (Appendix O). A third historical quadrat was also ranked as Excellent due to the presence of an existing vehicle access track (human disturbance), however this quadrat was located within the mining area which has since been cleared and rehabilitated (M04-C) (Figure 9, Appendix T). The majority of vegetation of VT 1 is healthy and intact with very little to no introduced taxa.

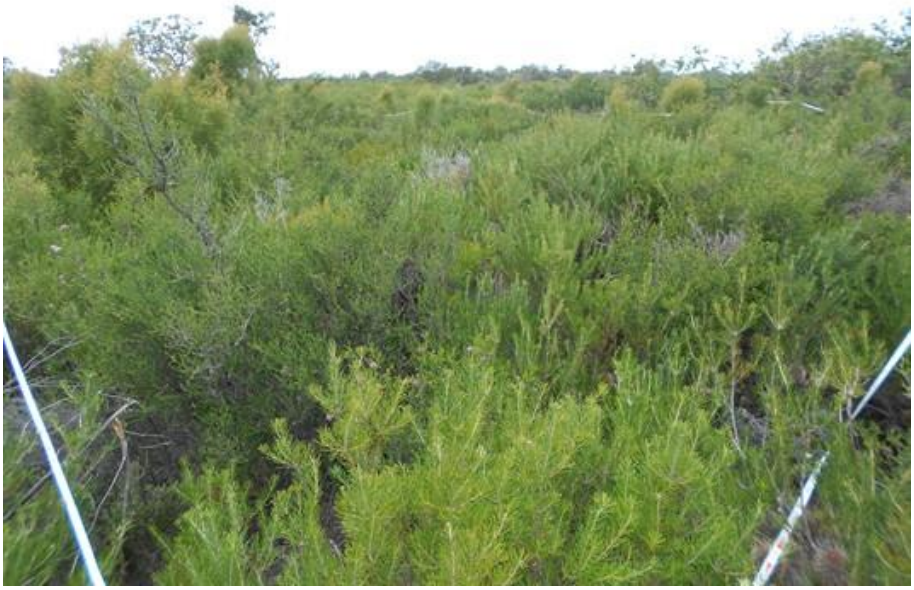


Plate 53: VT 1 (Quadrat NEW109) (Photo: Woodman Environmental)

VT 2: Mid Sparse Shrubland to Mid Closed Shrubland of *Melaleuca acutifolia, Melaleuca brevifolia, Melaleuca rhaphiophylla* and/or *Melaleuca viminea* subsp. *viminea* over Low Isolated Clumps of Shrubs to Low Shrubland of *Calothamnus hirsutus, Calothamnus sanguineus* and *Grevillea* ?*thelemanniana* subsp. Cooljarloo (B.J. Keighery 28 B), occasionally with occurrences of Low to Mid Shrubs of *Banksia telmatiaea, Hakea trifurcata, Hakea varia, Kunzea micrantha* subsp. *petiolata, Regelia ciliata, Melaleuca lateritia, Melaleuca seriata, Verticordia densiflora* var. *densiflora, Verticordia plumosa* var. *brachyphylla* and/or *Viminaria juncea,* and Sedges and Rushes of *Baumea juncea, Chaetanthus aristatus, Gahnia trifida, Lepidosperma longitudinale* and/or *Schoenus subfascicularis* on grey to grey brown sand, sandy loam or sandy clay in broad damp to wet depressions and drainage lines on flat to gently undulating plains

Total Area: 1,055.8 ha

Percentage of Study Area: 3.07 %

Sampling: 27 quadrats within Study Area

Common taxa recorded within each stratum:

Stratum	Descriptor	Taxa
Mid Stratum 1	Mid Sparse Shrubland to Mid Closed Shrubland (Shrubs 1-2 m)	*Melaleuca rhaphiophylla*
Mid Stratum 2	Mid Isolated Clumps of Shrubs (Shrubs 1-2 m)	*Hakea varia, Melaleuca viminea* subsp. *viminea*
Lower Stratum 1	Low Isolated Clumps of Shrubs to Low Shrubland (Shrubs <1m)	*Banksia telmatiaea, Melaleuca brevifolia, Calothamnus hirsutus, Melaleuca seriata, Conostylis aculeata* subsp. *breviflora, Petrophile seminuda*
Lower Stratum 2	Low Isolated Clumps of Grasses, Forbs & Sedges (<0.5 m)	**Hypochaeris glabra, Chaetanthus aristatus, Goodenia pulchella* subsp. Coastal Plain A (M. Hislop 634), **Ursinia anthemoides, Scaevola anchusifolia, Velleia trinervis*

Indicator Taxa: *Chaetanthus aristatus* and *Melaleuca brevifolia*

Landform Types: Drainage line, basin, plain, flat, open depression, closed depression

Soil Types: Grey brown sand over clay, light grey sandy clay, grey sandy clay, grey sand, yellow grey sand, brown sand, grey brown sand, red brown sand, grey light clay, brown sandy loam, grey sandy loam

VT 2 was mapped predominantly in the northern half of the Study Area from Woolka Road to Wongonderrah Road (Figure 9, Appendix T). VT 2 occurs on seasonally wet depressions and flats and along drainage lines, in small areas amongst VT 1 and 5 and adjacent to VT 13.

VT 2 consists mainly of Mid Sparse Shrubland to Mid Closed Shrubland of *Melaleuca acutifolia, Melaleuca brevifolia, Melaleuca rhaphiophylla* and/or *Melaleuca viminea* subsp. *viminea* with other species present spasmodically and inconsistently in low densities, with species type varying from location to location. *Calothamnus hirsutus, Calothamnus sanguineus* and *Grevillea* ?*thelemanniana* subsp. Cooljarloo (B.J. Keighery 28 B) are common understorey shrubs in this VT. Plate 54 depicts the typical habitat of VT 2.

A total of 120 native vascular plant taxa occurred in quadrats grouped in VT 2 as per the analysis, with a species richness of 16.5 ± 9.3 per quadrat (excluding introduced, annuals and

singletons). Overall, 239 vascular plant taxa (including introduced, annuals and singletons) were recorded in quadrats grouped in VT 2 (Appendix V).

The conservation significant flora taxa *Andersonia gracilis* (T-DRF), *Angianthus micropodioides* (P3), *Anigozanthos viridis* subsp. *terraspectans* (T-DRF), *Baeckea* sp. Perth Region (R.J. Cranfield 444) (P3), *Chordifex chaunocoleus* (P4), *Eremophila glabra* subsp. ?*carnosa* (C), *Eryngium pinnatifidum* subsp. Palustre (G.J. Keighery 13459) (P3), *Grevillea* ?*thelemanniana* subsp. Cooljarloo (B.J. Keighery 28 B) (P1), *Isopogon panduratus* subsp. *palustris* (P2), *Onychosepalum nodatum* (P3) and *Platysace ramosissima* (P3) were recorded in quadrats in VT 2 between 2006 and 2012 by Woodman Environmental (Appendix P).

Additionally, *Byblis gigantea* (P3), *Calectasia palustris* (P1), *Chordifex reseminans* (P1), *Frankenia glomerata* (P3), *Grevillea thelemanniana* subsp. Cooljarloo (B.J. Keighery 28 B) (P1), *Haloragis* ?*foliosa* (P3), *Hibbertia helianthemoides* (P3), *Jacksonia carduacea* (P3), *Schoenus pennisetis* (P1), *Stylidium aceratum* (P2) and *Verticordia* ?*lindleyi* subsp. *lindleyi* (P4) have also been recorded in VT 2 during other studies conducted over the Study Area (Appendix V).

Twenty eight introduced taxa were recorded from within quadrats in VT 2 between 2006 and 2012 by Woodman Environmental, with a total of 38 introduced taxa have been recorded in VT 2 across the entire Study Area (Appendix P).

The condition of the vegetation for approximately half of the quadrats established in VT 2 was ranked as Pristine, with the remainder ranked as Excellent due to the presence of introduced taxa (Appendix O, Figure 8).



Plate 54: VT 2 (Quadrat NEW006) (Photo: Woodman Environmental)

VT 3: Low Isolated Clumps of Shrubs of *Regelia ciliata* and *Kunzea glabrescens* or Mid Shrubland of *Verticordia densiflora* subsp. *densiflora* over Low Isolated Clumps of Forbs of **Hypochaeris glabra* and *Trachymene pilosa* on white grey sandy clay or grey brown sand on the periphery of claypans

Total Area: 4.7 ha

Percentage of Study Area: 0.01 %

Sampling: 2 quadrats within Study Area

Common taxa recorded within each stratum:

Stratum	Descriptor	Taxa
Upper Stratum 1	Low Isolated Clumps of Trees to Low Open Woodland (Trees <10m)	*Banksia prionotes*
Mid Stratum 1	Mid Isolated Clumps of Shrubs to Mid Shrubland (Shrubs 1-2m)	*Regelia ciliata*, *Verticordia densiflora* var. *densiflora*
Lower Stratum 1	Low Isolated Clumps of Shrubs to Low Shrubland (Shrubs <1 m)	**Ehrharta longiflora*, *Kunzea glabrescens*
Lower Stratum 2	Low Isolated Clumps of Grasses to Low Open Grassland, Low Isolated Clumps of Forbs & Sedges (<0.5m)	**Hypochaeris glabra*, **Lysimachia arvensis*, **Pentameris airoides*, **Trifolium arvense* var. *arvense*, **Ursinia anthemoides*, **Vulpia* sp., **Wahlenbergia capensis*, *Austrostipa macalpinei*, *Cassytha glabella* forma *dispar*, *Crassula colorata* var. *acuminata*, *Euchiton sphaericus*, *Podotheca gnaphalioides*, *Siloxerus humifusus*, *Stylidium diuroides* subsp. *diuroides*, *Thysanotus patersonii*, *Trachymene pilosa*

Indicator Taxa: *Banksia prionotes* and *Regelia ciliata*

Landform Types: Flat, edge of claypans

Soil Types: Grey white sandy clay, grey brown sand

Within the Study Area VT 3 was mapped in two small locations (centre and central western edge of Study Area (Figure 5, Appendix T – T7, T9). This VT generally consists of slightly degraded vegetation with a loss in structure and density of native vegetation and the presence of introduced taxa, on the sandy periphery of claypans. Plates 55 and 56 depict the typical habitat of VT 3.

A total of 7 native vascular plant taxa occurred in quadrats grouped in VT 3 as per the analysis, with a species richness of 4 ± 1.4 per quadrat (excluding introduced, annuals and singletons). Overall, 21 vascular plant taxa (including introduced, annuals and singletons) were recorded in quadrats grouped in VT 3 (Appendix P).

No conservation significant flora taxa were recorded in VT 3 (Appendix K, Table 9).

Eight introduced taxa were recorded from within quadrats in VT 3 between 2006 and 2012 by Woodman Environmental, which are the total introduced flora taxa known from this VT (Table 11).

The condition of the vegetation was ranked as Very Good, due to the presence of introduced taxa and degraded nature of the vegetation (Appendix O).



Plate 55: VT 3 (Quadrat NEW058) (Photo: Woodman Environmental)



Plate 56: Alternative of VT 3 (Quadrat NEW277) (Photo: Woodman Environmental)

VT 4: Mid Open Shrubland of *Acacia saligna* subsp. *lindleyi* and *Calothamnus quadrifidus* over Mid Isolated Clumps of Sedges of *Lepidosperma longitudinale* over Low Open Grassland of **Briza maxima* and **Briza minor* on grey brown sandy clay in drainage lines

Total Area: 13.7 ha

Percentage of Study Area: 0.04 %

Sampling: 1 quadrat within Study Area

Common taxa recorded within each stratum:

Stratum	Descriptor	Taxa
Mid Stratum 1	Mid Open Shrubland (Shrubs 1-2 m)	*Acacia saligna* subsp. *lindleyi* ms
Mid Stratum 2	Mid Isolated Clumps of Shrubs (Shrubs 1-2 m), Mid Isolated Clumps of Sedges (0.5-1 m)	*Verticordia densiflora*, *Lepidosperma longitudinale*
Lower Stratum 1	Low Isolated Shrubs (Shrubs <1 m)	*Ptilotus polystachyus*, *Calothamnus quadrifidus*
Lower Stratum 2	Low Open to Low Grassland, Low Isolated Clumps of Forbs (<0.5 m)	**Aira cupaniana*, **Arctotheca calendula*, **Briza maxima*, **Briza minor*, **Hypochaeris glabra*, *Lotus angustissimus*, **Lysimachia arvensis*, **Monopsis debilis*, **Parentucellia latifolia*, **Silene gallica*, **Trifolium dubium*, **Ursinia anthemoides*, **Vulpia bromoides*, *Centrolepis aristata*, *Chamaescilla corymbosa*, *Drosera gigantea* subsp. *gigantea*, *Drosera glanduligera*, *Goodenia pulchella* subsp. Coastal Plain A (M. Hislop 634), *Microtis media* subsp. *media*, *Podolepis gracilis*, *Schoenus subfascicularis*, *Thysanotus manglesianus*, *Tribonanthes australis*, *Velleia trinervis*

Indicator Taxa: No indicator taxa

Landform Types: Open depression

Soil Types: Grey brown sandy clay

Within the Study Area VT 4 was mapped only in the southeast corner (Figure 9, Appendix T). VT 4 contains slightly degraded vegetation, with species native composition and structure possibly influenced by previous fire. It is seasonally wet and likely to have surface expression of shallow water or sheet flow in winter months but damp most of the year. Plate 57 depicts the typical habitat of VT 4.

A total of 9 native vascular plant taxa occurred in quadrats grouped in VT 4 as per the analysis, with a species richness of 9 per quadrat (excluding introduced, annuals and singletons). Overall, 33 vascular plant taxa (including introduced, annuals and singletons) were recorded in quadrats grouped in VT 4 (Appendix P).

No conservation significant flora taxa were recorded in quadrats in VT 4 by Woodman Environmental, however *Anigozanthos viridis* subsp. *terraspectans* (T-DRF) was recorded opportunistically in VT 4 during the 2012 survey (Table 9; Appendix P).

Thirteen introduced taxa were recorded from within the quadrat representing VT in 2012 by Woodman Environmental (Table 10). The Declared Pest *Echium plantagineum* was recorded

opportunistically in VT 4, to the northeast of the quadrat (Figure 6). A total of 14 introduced taxa have been recorded in VT 4 across the entire Study Area (Table 10).

The condition of the vegetation in the quadrat established in VT 4 was ranked as Very Good due to the level of introduced taxa observed within the quadrat and the presence of *Echium plantagineum* nearby (Appendix O).



Plate 57: VT 4 (Quadrat NEW267) (Photo: Woodman Environmental)

VT 5: Low Heathland to Mid Closed Heathland of *Banksia telmatiaea, Hakea obliqua* subsp. *parviflora, Melaleuca seriata* and/or *Regelia ciliata* with mixed species including Low to Mid Shrubs of *Acacia lasiocarpa* var. *lasiocarpa*, *Beaufortia squarrosa, Calothamnus sanguineus, Conospermum stoechadis* subsp. *stoechadis*, *Dasypogon obliquifolius, Daviesia incrassata* subsp. *incrassata, Isopogon panduratus* subsp. *palustris, Jacksonia hakeoides, Jacksonia nutans* and/or *Verticordia densiflora* var. *densiflora,* and Low Rushes of *Chordifex chaunocoleus, Chordifex sinuosus* or *Onychosepalum nodatum* on white grey to grey brown sand, sandy loam, sandy clay or clay loam in broad damp depressions on flat to gently undulating plains

Total Area: 1,887.7 ha

Percentage of Study Area: 5.49 %

Sampling: 34 quadrats within Study Area

Common taxa recorded within each stratum:

Stratum	Descriptor	Taxa
Mid Stratum 2	Mid Heathland to Mid Closed Heathland (Shrubs 1-2 m)	*Banksia telmatiaea, Melaleuca seriata, Hakea obliqua* subsp. *parviflora, Beaufortia squarrosa, Jacksonia nutans, Jacksonia hakeoides, Stirlingia latifolia*
Lower Stratum 1	Low Heathland to Low Closed Heathland (Shrubs <1 m)	*Petrophile brevifolia*, *Conospermum stoechadis* subsp. *stoechadis*, *Regelia ciliata*, *Calytrix aurea*, *Banksia dallanneyi* var. *dallanneyi*, *Leucopogon conostephioides*
Lower Stratum 2	Low Isolated Clumps Forbs, Rushes & Sedges (<0.5 m)	*Stylidium repens, Lyginia imberbis, Stylidium purpureum* ms, *Onychosepalum nodatum, Chordifex chaunocoleus, Chordifex sinuosus, Hypolaena exsulca*

Indicator Taxa: *Banksia telmatiaea* and *Melaleuca seriata*

Landform Types: Lowerslope, saddle in upperslope, midslope, open depression, closed depression, drainage flat, flat, plain

Soil Types: Grey brown sandy loam, grey sandy loam, grey brown clay loam, white grey sand, grey sand, white sand, brown sand, grey brown sand, light grey sand over clay, light grey sandy clay, brown sand over clay

VT 5 was mapped across the entire Study Area except the lower southern quarter, with larger portions occurring in the northern section as compared those areas mapped to south of Woolka Road (Figure 9). VT 5 is a drier version of VT 1 occurring on broad depressions that are slightly higher in the landscape where the depth to groundwater is greater, and likely to experience shorter periods of saturation.

VT 5 predominantly consists of Low Heathland to Mid Closed Heathland of *Banksia telmatiaea, Hakea obliqua* subsp. *parviflora, Melaleuca seriata* and/or *Regelia ciliata* with other species present spasmodically and inconsistently in low densities, with species type varying from location to location. VT 5 tends to lack the wetter species found in VT 1. Plate 58 depicts the typical habitat of VT 5.

A total of 178 native vascular plant taxa occurred in quadrats grouped in VT 5 as per the analysis, with a species richness of 26.9 ± 7.6 per quadrat (excluding introduced, annuals and singletons). Overall, 261 vascular plant taxa (including introduced, annuals and singletons) were recorded in quadrats grouped in VT 5 (Appendix P).

The conservation significant flora taxa *Andersonia gracilis* (T-DRF), *Chordifex chaunocoleus* (P4), *Conospermum scaposum* (P3), *Isopogon panduratus* subsp. *palustris* (P2), *Jacksonia carduacea* (P3), ?*Malleostemon* sp. Cooljarloo (B. Backhouse s.n. 16/11/88) (P1), *Onychosepalum nodatum* (P3), *Platysace ramosissima* (P3), *Schoenus griffinianus* (P3), *Verticordia lindleyi* subsp. *lindleyi* (P4) and *Verticordia* ?*lindleyi* subsp. *lindleyi* (P4) were recorded in quadrats in VT 5 between 2006 and 2012 by Woodman Environmental (Table 9, Appendix P).

Additionally, *Angianthus micropodioides* (P3), *Anigozanthos viridis* subsp. *terraspectans* (T-DRF), *Baeckea* sp. Perth Region (R.J. Cranfield 444) (P3), *Banksia dallanneyi* subsp. *pollosta* (P3), *Calectasia palustris* (P1), *Chordifex reseminans* (P1), *Conostephium magnum* (P4), *Grevillea thelemanniana* subsp. Cooljarloo (B.J. Keighery 28 B) (P1), *Grevillea* ?*thelemanniana* subsp. Cooljarloo (B.J. Keighery 28 B) (P1), *Hensmania stoniella* (P3), *Hibbertia helianthemoides* (P3), *Macarthuria keigheryi* (T-DRF), *Malleostemon* sp. Cooljarloo (B.Backhouse s.n. 16/11/88) (P1), *Onychosepalum microcarpum* (P2) and *Schoenus pennisetis* (P1) have also been recorded in VT 5 during other studies conducted over the Study Area (Appendix V).

Two introduced taxa (*Hypochaeris glabra* and *Ursinia anthemoides*) were recorded from within quadrats in VT 5 between 2006 and 2012 by Woodman Environmental (Table 11). A total of three introduced taxa have been recorded in VT 5 across the entire Study Area (Table 11).

The condition of the vegetation in all quadrats established in VT 5 was ranked as Pristine. The vegetation of VT 5 is healthy and intact with very little to no introduced taxa. Scattered long-dead trees of *Banksia* were observed at times amongst VT 5 (in the vicinity of islands of VT 17 or 18), particularly in north of the Study Area (e.g. along the N-S track on the west side of Wongonderrah Nature Reserve). It is possible that these trees established in earlier drier times however with natural changes in climate and hydrology it is now too damp for them and they have died out.



Plate 58: VT 5 (Quadrat NEW274) (Photo: Woodman Environmental)

VT 6: Low Isolated Clumps of Trees to Low Woodland of *Banksia attenuata, Banksia menziesii* and/or *Banksia ilicifolia* over Low Sparse Shrubland to Mid Closed Shrubland of *Adenanthos cygnorum* subsp. *cygnorum, Banksia telmatiaea, Beaufortia squarrosa, Hypocalymma angustifolium, Jacksonia nutans* and/or *Melaleuca seriata* over Low Isolated Clumps of Sedges to Mid Sedgeland of *Anarthria laevis* and/or Low Isolated Clumps of Rushes of *Chordifex sinuosus* on white grey to grey brown sand in damp depressions

Total Area: 338.5 ha

Percentage of Study Area: 0.98 %

Sampling: 17 quadrats within Study Area

Common taxa recorded within each stratum:

Stratum	Descriptor	Taxa
Upper Stratum 1	Low Isolated Trees to Low Woodland (Trees <10 m)	*Banksia attenuata, Banksia menziesii, Banksia ilicifolia*
Mid Stratum 1	Mid Sparse Shrubland to Mid Closed Shrubland (Shrubs 1-2 m)	*Adenanthos cygnorum subsp. cygnorum*
Mid Stratum 2	Mid Isolated Clumps of Shrubs to Mid Closed Shrubland (Shrubs 1-2m)	*Banksia telmatiaea, Jacksonia nutans, Melaleuca seriata, Beaufortia squarrosa, Xanthorrhoea preissii*
Lower Stratum 1	Low Sparse Shrubland to Low Shrubland (Shrubs <1 m)	*Hibbertia subvaginata, Leucopogon conostephioides, Petrophile linearis, Stirlingia latifolia, Petrophile brevifolia*
Lower Stratum 2	Low Isolated Clumps of Grasses, Forbs & Sedges (<0.5 m)	*Conostylis aculeata subsp. spinuligera, Lyginia imberbis, Gompholobium tomentosum, Phlebocarya ciliata, Trachymene pilosa*

Indicator Taxa: *Jacksonia nutans*

Landform Types: Lowerslope, midslope, flat, wetland, open depression

Soil Types: White sand, grey sand, brown sand, grey brown sand, yellow sand, grey silty sandy clay, grey sandy loam

VT 6 was mapped widely across the entire Study Area in small scattered areas, with a higher density in the northern half of the Study Area (Figure 5). VT 6 occurs in damp basins, depressions or patches amongst the undulating plains and dunes of *Banksia* woodland (VT 17 and 18). These generally lower-lying areas may possibly have an underlying clay or impeding layer closer to the surface in comparison to the adjacent deeper sands of the surrounding Banksia woodlands, thereby resulting in groundwater being closer to the surface.

The vegetation of VT 6 consists of dry heath and Banksia woodland with scattered Banksia trees. The understory generally contains species that are usually associated with wetter areas (e.g. *Calytrix aurea, Beaufortia squarrosa,* occasionally *Banksia telmatiaea* in low densities). In areas where VT 6 is wetter, *Melaleuca preissiana* occasionally replaces Banksia species. VT 6 predominantly contains *Jacksonia nutans* in the understory. Plate 59 depicts the typical habitat of VT 6.

A total of 146 native vascular plant taxa occurred in quadrats grouped in VT 6 as per the analysis, with a species richness of 25.3 ± 10.4 per quadrat (excluding introduced, annuals and singletons). Overall, 209 vascular plant taxa (including introduced, annuals and singletons) were recorded in quadrats grouped in VT 6 (Appendix V).

The conservation significant flora taxa *Chordifex chaunocoleus* (P4), *Conostephium magnum* (P4), *Hensmania stoniella* (P3), *Isopogon panduratus* subsp. *palustris* (P2), *Onychosepalum nodatum* (P3), *Platysace ramosissima* (P3), *Schoenus griffinianus* (P3), *Stylidium hymenocraspedum* (P2), *Thysanotus glaucus* (P4), *Verticordia lindleyi* subsp. *lindleyi* (P4) and *Verticordia* ?*lindleyi* subsp. *lindleyi* (P4) were recorded in quadrats in VT 6 between 2006 and 2012 by Woodman Environmental (Table 9, Appendix P).

Additionally, *Andersonia gracilis* (T-DRF), *Anigozanthos viridis* subsp. *terraspectans* (T-DRF) and *Stylidium* ?*hymenocraspedum* (P2) have also been recorded in VT 6 during other studies conducted over the Study Area (Appendix V).

Eight introduced taxa were recorded from within quadrats in VT 6 between 2006 and 2012 by Woodman Environmental (Table 11). A total of 10 introduced taxa have been recorded in VT 6 across the entire Study Area (Table 11).

The condition of the vegetation in quadrats established in VT 6 was predominantly ranked as Pristine, however two quadrats were classified as Excellent (NEW231, NEW253), with evidence of animal disturbance and introduced taxa observed (Appendix O).



Plate 59: VT 6 (Quadrat NEW251) (Photo: Woodman Environmental)

VT 7: Low Sparse Heathland to Low Closed Heathland of *Allocasuarina* spp., *Calothamnus quadrifidus, Calothamnus sanguineus, Hakea incrassata, Hakea lissocarpha, Hibbertia crassifolia* and/or *Melaleuca seriata* over Low Isolated Clumps of Sedges to Mid Sparse Sedgeland of *Mesomelaena pseudostygia* and *Schoenus clandestinus,* often with Mid Isolated Clumps of Shrubs to Mid Open Shrubland of *Xanthorrhoea preissii* and Low to Mid Shrubs of *Banksia telmatiaea,* on white grey to grey sand or white grey sandy loam to yellow brown clay loam with lateritic surface stones in broad dry depressions or gently undulating plains

Total Area: 409.2 ha

Percentage of Study Area: 1.19 %

Sampling: 17 quadrats within Study Area

Common taxa recorded within each stratum:

Stratum	Descriptor	Taxa
Mid Stratum 1	Mid Isolated Clumps of Shrubs to Mid Open Shrubland (Shrubs 1-2 m)	*Xanthorrhoea preissii, Hakea trifurcata*
Mid Stratum 2	Mid Sparse Heathland to Mid Closed Heathland (Shrubs 1-2 m)	*Hakea lissocarpha, Melaleuca seriata, Allocasuarina microstachya, Hakea incrassata, Gastrolobium plicatum, Hakea costata, Jacksonia hakeoides*
Lower Stratum 1	Low Sparse Heathland to Low Closed Heathland (Shrubs <1 m)	*Petrophile brevifolia, Petrophile seminuda, Hibbertia crassifolia, Hibbertia hypericoides, Calothamnus sanguineus, Calytrix flavescens*
Lower Stratum 2	Low Isolated Grasses, Low Isolated Clumps of Forbs & Sedges (<0.5 m)	*Schoenus clandestinus, Hypocalymma xanthopetalum, Mesomelaena pseudostygia, Astroloma glaucescens, Caustis dioica, Lepidosperma pubisquameum, Neurachne alopecuroidea, Opercularia vaginata, Schoenus brevisetis, Goodenia ?coerulea, Mesomelaena tetragona, Pterochaeta paniculata, Stylidium dichotomum, Stylidium purpureum* ms

Indicator Taxa: *Allocasuarina microstachya*, *Goodenia coerulea*, *Hakea incrassata*, *Hakea lissocarpha*, *Petrophile brevifolia* and *Schoenus clandestinus*

Landform Types: Upperslope, midslope, simple slope, swale, plain, closed depression, open depression

Soil Types: White grey to grey sand, brown sandy loam, grey brown sandy clay, grey to yellow brown clay loam (with/over laterite)

VT 7 is comprised of low dry heaths associated with surface or underlying laterite (over sand or sandy clay). Two forms of VT 7 were evident: a dry lateritic form on yellower sandy or sandy clay soils with laterite expressions visible on the surface and a higher Proteaceae presence (Plate 60); or a dry, slightly deeper sand form (with laterite at depth) and more Myrtaceous in composition (Plate 61). VT 7 was mapped widely across the entire Study Area in small scattered areas, either near the western boundary (sand form) or down the centre of the Study Area (lateritic form) (Figure 9). These two forms were not able to be split into subgroups within the dendrogram.

Xanthorrhoea drummondii was present in this VT in the northeast corner of Study Area, corresponding to the small pockets of the Lesuer System (Beard 1979) that are present within the Study Area.

A total of 136 native vascular plant taxa occurred in quadrats grouped in VT 7 as per the analysis, with a species richness of 30.8 ± 6.4 per quadrat (excluding introduced, annuals and singletons). Overall, 209 vascular plant taxa (including introduced, annuals and singletons) were recorded in quadrats grouped in VT 7 (Appendix P).

The conservation significant flora taxon *Allocasuarina grevilleoides* (P3) was recorded in quadrats in VT 7 between 2006 and 2012 by Woodman Environmental (Table 9, Appendix P).

Andersonia gracilis (T-DRF), *Baeckea* sp. Perth Region (R.J. Cranfield 444) (P3), *Calectasia palustris* (P1), *Chordifex chaunocoleus* (P4), *Grevillea* ?*thelemanniana* subsp. Cooljarloo (B.J. Keighery 28 B) (P1), *Hypocalymma serrulatum* (P3), *Isopogon panduratus* subsp. *palustris* (P2), *Verticordia huegelii* var. *tridens* (P3) and *Verticordia lindleyi* subsp. *lindleyi* (P4) were also recorded in VT 7 however this vegetation type is not the typical habitat of these taxa which prefer moist environments. Quadrat placement within ecotones (with VT 1 or 5) is the likely cause of their presence in VT 7.

Additionally, *Beaufortia bicolor* (P3), *Beaufortia eriocephala* (P3), *Grevillea thelemanniana* subsp. Cooljarloo (B.J. Keighery 28 B) (P1), *Guichenotia alba* (P3), *Platysace ramosissima* (P3), *Schoenus pennisetis* (P1) and *Stylidium hymenocraspedum* (P2) have also been recorded in VT 7 during other studies conducted over the Study Area (Appendix V). *Schoenus pennisetis* (P1) is typically found in winter-wet depressions and possibly present as the result of quadrat placement within an ecotone.

Two introduced taxa (*Ursinia anthemoides* and *Wahlenbergia capensis*) were recorded from within quadrats in VT 7 between 2006 and 2012 by Woodman Environmental (Table 11). A total of four introduced taxa have been recorded in VT 7 across the entire Study Area (Table 11).

The condition of the vegetation in all quadrats established in VT 7 was ranked as Pristine. The vegetation of VT 7 is healthy and intact with very little to no introduced taxa present.

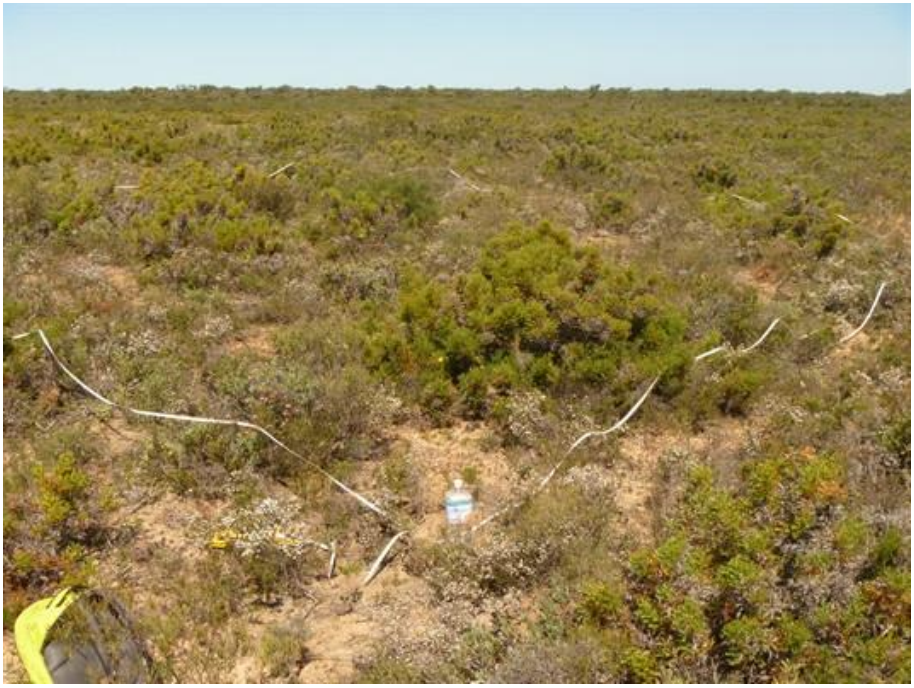


Plate 60: VT 7 on Lateritic Soils (Quadrat NEW271) (Photo: Woodman Environmental)



Plate 61: VT 7 on Sandy Soils (Quadrat NEW273) (Photo: Woodman Environmental)

VT 8: Mid Open Shrubland to Mid Shrubland of *Banksia leptophylla*, *Banksia sessilis* var. *cygnorum* and *Hakea trifurcata* over Low Open Shrubland to Low Shrubland of *Bossiaea eriocarpa*, *Calothamnus quadrifidus* subsp. *quadrifidus*, *Grevillea preissii* subsp. *preissii*, *Hibbertia racemosa*, *Melaleuca systena and Scholtzia leptantha*, with occasional Mid to Tall Shrubs of *Xanthorrhoea preissii*, on yellow grey sand to yellow brown sandy loam on ridges and dunes with limestone outcropping

Total Area: 234.6 ha

Percentage of Study Area: 0.68 %

Sampling: 3 quadrats within Study Area

Common taxa recorded within each stratum:

Stratum	Descriptor	Taxa
Mid Stratum 1	Mid Open Shrubland to Mid Shrubland (Shrubs 1-2 m), Isolated Tall Shrubs (>2 m)	*Banksia sessilis var. cygnorum*, *Hakea trifurcata*, *Banksia leptophylla*, *Hakea costata*, *Xanthorrhoea preissii*
Mid Stratum 2	Mid Isolated Clumps of Shrubs to Mid Open Shrubland (Shrubs 1-2 m)	*Calothamnus quadrifidus subsp. quadrifidus*, *Grevillea preissii* subsp. ?*preissii*, *Melaleuca systena*, *Allocasuarina humilis*, *Hakea lissocarpha*, *Templetonia retusa*, *Beaufortia squarrosa*, *Conospermum stoechadis* subsp. *stoechadis*, *Conostephium magnum*, *Jacksonia hakeoides*
Lower Stratum 1	Low Open Shrubland to Low Shrubland (Shrubs <1 m)	*Astroloma glaucescens*, *Banksia dallanneyi* var. *dallanneyi*, *Bossiaea eriocarpa*, *Gompholobium tomentosum*, *Hybanthus calycinus*, *Scholtzia leptantha*, *Calothamnus sanguineus*, *Diplolaena obovata*, *Hibbertia crassifolia*, *Hibbertia hypericoides*, *Hibbertia racemosa*, *Hypocalymma xanthopetalum*, *Leucopogon cochlearifolius*, *Philotheca spicata*¸ *Poa porphyroclados*, *Rytidosperma* ?*occidentale*, *Acacia pulchella* var. *reflexa*, *Leucopogon polymorphus*, *Ricinocarpos undulatus*
Lower Stratum 2	Low Isolated Clumps of Grasses, Forbs & Sedges (<0.5 m), Low Isolated Vines (Vines <10 m)	*Opercularia vaginata*, *Petrophile axillaris*, *Trachymene pilosa*, **Heliophila pusilla*, **Hypochaeris glabra*, *Acacia truncata*, *Anigozanthos humilis* subsp. *humilis*, *Cassytha* ?*aurea*, *Cassytha glabella* forma *dispar*, *Conostylis teretifolia* subsp. *teretifolia*, *Desmocladus* ?*lateriticus*, *Desmocladus asper*, *Drosera humilis*, *Drosera* sp., *Isotropis cuneifolia* subsp. *cuneifolia*, *Lepidosperma longitudinale*, *Lomandra* sp., *Schoenus clandestinus*, **Aira cupaniana*¸**Avellinia michelii*, *Alexgeorgea nitens*, *Austrostipa compressa*, *Austrostipa flavescens*, *Burchardia congesta*, *Calandrinia tholiformis*, *Desmocladus flexuosus*, *Drosera erythrorhiza* subsp. ?*magna*, *Hydrocotyle blepharocarpa*, *Indet.* sp., *Lepidobolus preissianus* subsp. *preissianus*, *Lepidosperma* ?*pubisquameum*, *Lomandra hermaphrodita*, *Lysinema pentapetalum*, *Mesomelaena pseudostygia*, *Podotheca gnaphalioides*, *Rhodanthe citrina*, *Scaevola* ?*globulifera*, *Scaevola repens* var. *repens*, *Schoenus curvifolius*, *Schoenus*

		pleiostemoneus, *Stenanthemum notiale* subsp. *chamelum*, *Stylidium cygnorum*, *Stylidium purpureum* ms, *Stylidium repens*, *Thysanotus patersonii*, *Tricoryne* ?*elatior*

Indicator Taxa: *Acacia truncata*, *Astroloma glaucescens*, *Banksia dallanneyi*, *Banksia sessilis* var. *cygnorum*, *Banksia leptophylla*, *Bossiaea eriocarpa*, *Calothamnus quadrifidus*, *Cassytha aurea*, *Desmocladus asper*, *Desmocladus lateriticus*, *Diplolaena obovata*, *Gompholobium tomentosum*, *Grevillea preissii* subsp. ?*preissii*, *Hakea trifurcata*, *Hibbertia racemosa*, *Hybanthus calycinus*, *Leucopogon cochlearifolius*, *Melaleuca systena*, *Opercularia vaginata*, *Petrophile axillaris*, *Philotheca spicata*, *Poa porphyroclados*, *Rytidosperma occidentale*, *Scaevola* ?*globulifera*, *Scholtzia leptantha* and *Templetonia retusa*

Landform Types: Ridge, upperslope

Soil Types: Yellow grey sand, brown sandy loam, yellow brown sandy loam

VT 8 was mapped only in the southwest corner of the Study Area (Figure 9, Appendix T). VT 8 is a coastal vegetation type with the yellow sands, limestone influence and species composition congruent with the coastal limestone formation and geology of the Guilderton and Jurien Systems (Beard 1979). Typical coastal limestone species are present within VT 8, including *Acacia spathulifolia*, *Banksia sessilis*, *Banksia leptophylla*, *Melaleuca systena*, *Hibbertia racemosa*, *Grevillea preissii* subsp. *preissii*, *Templetonia retusa*, *Acacia truncata*, *Diplolaena obovata* and *Lomandra maritima*. Plate 62 depicts the typical habitat of VT 8.

A total of 64 native vascular plant taxa occurred in quadrats grouped in VT 8 as per the analysis, with a species richness of 38.7 ± 14.5 per quadrat (excluding introduced, annuals and singletons). Overall, 98 vascular plant taxa (including introduced, annuals and singletons) were recorded in quadrats grouped in VT 8 (Appendix P).

The conservation significant flora taxa *Beyeria cinerea* subsp. *cinerea* (P3), *Conostephium magnum* (P4) and *Hibbertia spicata* subsp. *leptotheca* (P3) were recorded in quadrats in VT 8 in 2012 by Woodman Environmental (Table 9, Appendix P). No other conservation significant flora taxa were recorded in VT 8 during historical studies of the Study Area.

Four introduced taxa (*Aira cupaniana*, *Avellinia michelii*, *Heliophila pusilla* and *Hypochaeris glabra*) were recorded from within quadrats in VT 8 between 2006 and 2012 by Woodman Environmental (Table 11). A total of five introduced taxa have been recorded in VT 8 across the entire Study Area (Table 11).

The condition of the vegetation for quadrats established in VT 8 was ranked as Pristine. The vegetation of VT 8 is healthy and intact with very little to no introduced taxa present.



Plate 62: VT 8 (Quadrat NEW183) (Photo: Woodman Environmental)

VT 9a: Mid Open Shrubland to Tall Closed Shrubland of *Melaleuca teretifolia, Melaleuca rhaphiophylla* and *Melaleuca viminea* subsp. *viminea,* occasionally with Mid Shrubs of *Melaleuca lateritia* and Low to Tall Sedges and Rushes of *Baumea juncea, Chorizandra enodis, Meeboldina coangustata* and *Schoenus subfascicularis* on grey to grey brown sandy loam or clay loam in broad shallow basins, wet flats and drainage lines

Total Area: 279.2 ha

Percentage of Study Area: 0.81 %

Sampling: 11 quadrats within Study Area

Common taxa recorded within each stratum:

Stratum	Descriptor	Taxa
Mid Stratum 1	Tall Open Shrubland to Tall Closed Shrubland (Shrubs >2 m)	*Melaleuca rhaphiophylla, Melaleuca teretifolia, Melaleuca viminea* subsp. *viminea*
Lower Stratum 1	Low Isolated Clumps of Grasses & Forbs	**Hypochaeris glabra, *Aira cupaniana, Trachymene pilosa*

Indicator Taxa: *Melaleuca teretifolia* and *Melaleuca viminea*

Landform Types: Claypan, wetland, flat

Soil Types: Grey clay, grey clay loam, dark brown loam, brown to grey brown sandy loam, light grey sand

VT 9a was mapped in small scattered areas in the central north, centre and central south of the Study Area (Figure 9). VT 9a consists of dense low Melaleuca (shrub form) wetlands and basins dominated by *Melaleuca rhaphiophylla* (shrub form) with *Melaleuca teretifolia* and occasionally *Melaleuca lateritia*. VT 9a has similarities to VT 9b with respect to species composition however VT 9b has more of a tree structure to the vegetation and the soils appear to have a lower clay content and are possibly deeper. VT 9a is likely to be seasonally wet with surface expression of shallow water that would not be long-standing, drying out after winter. However some wetlands may have standing bodies of water remaining well past winter into summer months (see Appendix T – T14). Plate 63 depicts the typical habitat of VT 9a.

A total of 42 native vascular plant taxa occurred in quadrats grouped in VT 9a as per the analysis, with a species richness of 6.6 ± 6.4 per quadrat (excluding introduced, annuals and singletons). Overall, 108 vascular plant taxa (including introduced, annuals and singletons) were recorded in quadrats grouped in VT 9a (Appendix P).

No conservation significant flora taxa were recorded in quadrats in VT 9a between 2006 and 2012 by Woodman Environmental (Appendix P). However *Baeckea* sp. Perth Region (R.J. Cranfield 444) (P3), *Isopogon panduratus* subsp. *palustris* (P2), *Ornduffia submersa* (P4), *Schoenus natans* (P4) and *Stylidium longitubum* (P3) were recorded in VT 9a during other studies conducted over the Study Area (Table 9).

Eighteen introduced taxa were recorded from within quadrats in VT 9a between 2006 and 2012 by Woodman Environmental (Table 11). A total of 23 introduced taxa have been recorded in VT 9a across the entire Study Area (Appendix V).

The condition of the vegetation in four of the quadrats established in VT 9a was ranked as Pristine. A vegetation condition ranking of Excellent was given to five quadrats (NEW112,

NEW116, NEW117, NEW204, NEW225), due to the presence of introduced taxa and animal disturbance (rabbits).



Plate 63: VT 9a (Quadrat NEW116) (Photo: Woodman Environmental)

VT 9b: Low Woodland to Mid Open Forest of *Eucalyptus rudis* subsp. *rudis* over Low Isolated Clumps of Trees to Low Closed Forest of *Melaleuca rhaphiophylla,* often with Tall Sparse Shrubland to Tall Shrubland of *Acacia saligna* subsp. *lindleyi*, over Low Isolated Clumps of Forbs to Low Closed Forbland of **Galium murale, *Hypochaeris glabra, *Lysimachia arvensis* and *Trachymene pilosa* (occasionally with Mid Isolated Clumps of Sedges to Mid Closed Sedgeland of *Lepidosperma longitudinale*) on grey to grey black sand, sandy loam, sandy clay or clayey sand in wetlands, broad shallow basins/depressions and drainage lines

Total Area: 284.0 ha

Percentage of Study Area: 0.83 %

Sampling: 13 quadrats within Study Area

Common taxa recorded within each stratum:

Stratum	Descriptor	Taxa
Upper Stratum 1	Low Woodland to Mid Open Forest, Low Isolated Clumps of Trees to Low Closed Forest (Trees <10 m)	*Melaleuca rhaphiophylla*, *Eucalyptus rudis* subsp. *rudis*
Mid Stratum 1	Tall Sparse Shrubland to Tall Shrubland (Shrubs >2 m)	*Acacia saligna* subsp. *lindleyi* ms
Lower Stratum 1	Low Isolated Clumps of Shrubs (Shrubs <1 m) Mid Isolated Clumps of Grasses to Mid Closed Grassland (Grasses 0.5 – 1 m)	**Ehrharta longiflora*, **Solanum nigrum*
Lower Stratum 2	Low Isolated Clumps of Grasses, Low Isolated Clumps of Forbs to Low Closed Forbland (<0.5 m), Low Vines (<10 m)	**Hypochaeris glabra*, **Lysimachia arvensis*, *Trachymene pilosa*, **Aira cupaniana*, **Sonchus oleraceus*, **Arctotheca calendula*, **Galium murale*, *Cassytha racemosa* forma *racemosa*

Indicator Taxa: *Eucalyptus rudis* subsp. *rudis*

Landform Types: Open depression, closed depression, drainage line, flat, wetland

Soil Types: Grey sand, white grey sand, grey black sand, grey brown sand, grey brown loam, brown loam, grey sandy loam, grey black sandy loam, dark grey clayey sand, grey sandy clay

VT 9b was mapped as mostly occurring in the southern half of the Study Area, with small scattered areas in the northern half (Figure 9). VT 9b consists of dense taller *Melaleuca* (tree form) wetlands and basins dominated by *Melaleuca rhaphiophylla* (tree form) on deeper sandy soils (compared to VT 9a). VT 9b has similarities with VT 9a however contains older vegetation (possibly less recently exposed to fire) with a tree structure consisting of tree forms of *Melaleuca* spp. and the occasional presence of *Eucalyptus rudis*. VT 9b also has a higher presence and density of *Acacia saligna*, and an open understorey (of trees over herbs) that is often weedy. VT 9b is likely to be seasonally wet with surface expression of deeper water, with some wetlands having standing bodies of water remaining well past winter into summer months (see Appendix T – T14). Plate 64 depicts the typical habitat of VT 9b.

A total of 29 native vascular plant taxa occurred in quadrats grouped in VT 9b as per the analysis, with a species richness of 4.9 ± 3.0 per quadrat (excluding introduced, annuals and singletons). Overall, 113 vascular plant taxa (including introduced, annuals and singletons) were recorded in quadrats grouped in VT 9b (Appendix P).

The conservation significant flora taxa *Anigozanthos viridis* subsp. *terraspectans* (T-DRF) and *Baeckea* sp. Perth Region (R.J. Cranfield 444) (P3) were recorded in quadrats in VT 9b between 2006 and 2012 by Woodman Environmental (Table 9, Appendix P). Additionally, *Andersonia gracilis* (T-DRF) and *Isopogon panduratus* subsp. *palustris* (P2) have also been recorded in VT 9b during other studies conducted over the Study Area (Table 9).

Thirty six introduced taxa were recorded from within quadrats in VT 9b between 2006 and 2012 by Woodman Environmental (Table 11). A total of 43 introduced taxa have been recorded in VT 9b across the entire Study Area (Table 11).

The condition of the vegetation in the quadrats established in VT 9b was variable. Three quadrats were ranked as Pristine. However six quadrats were ranked as Excellent due to presence of some introduced taxa, while four quadrats were observed to have high levels of cover of introduced taxa and therefore classed as Very Good.



Plate 64: VT 9b (Quadrat NEW206) (Photo: Woodman Environmental)

VT 10: Low Isolated Clumps of Trees to Mid Woodland of *Banksia littoralis* and *Melaleuca preissiana* over Tall Isolated Clumps of Shrubs to *Acacia saligna* subsp. *lindleyi* and *Viminaria juncea* over Mid Sparse Shrubland to Mid Shrubland of *Hypocalymma angustifolium* and *Xanthorrhoea preissii* over Low Open Sedgeland to Mid Sedgeland of *Baumea juncea, Cyathochaeta avenacea* and/or *Lepidosperma longitudinale* on grey to grey black loamy sand in drainage lines, wet plains and edges of damp depressions

Total Area: 98.2 ha

Percentage of Study Area: 0.29 %

Sampling: 5 quadrats within Study Area

Common taxa recorded within each stratum:

Stratum	Descriptor	Taxa
Upper Stratum 1	Low Isolated Clumps of Trees to Mid Woodland (<30 m)	*Banksia littoralis, Melaleuca preissiana*
Mid Stratum 1	Tall Isolated Clumps of Shrubs (Shrubs >2 m)	*Acacia saligna* subsp. *lindleyi* ms, *Viminaria juncea*, *Melaleuca incana* subsp. *incana*, *Melaleuca rhaphiophylla*
Mid Stratum 2	Mid Sparse Shrubland to Mid Shrubland (Shrubs 1-2 m)	*Xanthorrhoea preissii*
Lower Stratum 1	Low Isolated Shrubs to Low Shrubland (Shrubs <1 m)	*Hypocalymma angustifolium*
Lower Stratum 2	Low Open Sedgeland to Low Sedgeland (<0.5 m)	*Baumea juncea*, *Cyathochaeta avenacea*, *Lepidosperma longitudinale*

Indicator Taxa: *Banksia littoralis*, *Cyathochaeta avenacea*, *Melaleuca preissiana* and *Viminaria juncea*

Landform Types: Drainage line, swamp, lowerslope, midslope

Soil Types: Grey clay, grey clay loam, grey brown sandy clay, grey clayey sand

VT 10 was mapped in the northern half of the Study Area, in the northeast corner and in small areas toward the western boundary (Figure 9). VT 10 consists of wetland species on deep wet sand, dominated by *Melaleuca preissiana* and *Banksia littoralis*. VT 10 is typically damp or has surface expression of water in areas of higher clay content (observed in May 2013 in the northeast of the Study Area), and is likely to be damp year round. VT 10 is well vegetated with a high density of sedges and shrubs. Plate 65 depicts the typical habitat of VT 10.

A total of 32 native vascular plant taxa occurred in quadrats grouped in VT 10 as per the analysis, with a species richness of 11.2 ± 4.3 per quadrat (excluding introduced, annuals and singletons). Overall, 46 vascular plant taxa (including introduced, annuals and singletons) were recorded in quadrats grouped in VT 10 (Appendix P).

No conservation significant flora taxa were recorded in quadrats in VT 10 between 2006 and 2012 by Woodman Environmental; *Diuris* ?*eburnea* (P1), *Hypocalymma serrulatum* (P3) and *Schoenus pennisetis* (P1) were recorded in VT 10 during other studies conducted over the Study Area (Table 9).

Two introduced taxa (*Briza minor* and *Hypochaeris glabra*) were recorded from within quadrats in VT 10 between 2006 and 2012 by Woodman Environmental (Table 11, Appendix

P). A total of two introduced taxa have been recorded in VT 10 across the entire Study Area (Table 11).

The condition of the vegetation in the quadrats established in VT 10 was ranked as Pristine.



Plate 65: VT 10 (Quadrat COOL051) (Photo: Woodman Environmental)

VT 11: Mid Isolated Clumps of Trees to Mid Open Forest of *Corymbia calophylla, Eucalyptus rudis* subsp. *rudis* and *Melaleuca preissiana* over Low Isolated Clumps of Trees to Low Open Forest of *Melaleuca rhaphiophylla* over Tall Isolated Clumps of Shrubs to Tall Sparse Shrubland of *Acacia cyclops, Acacia saligna* and/or *Spyridium globulosum* over Mid Isolated Clumps of Shrubs to Mid Sparse Shrubland of *Xanthorrhoea preissii* with occasional Mid Clumps of Sedges of *Gahnia trifida* on white grey to grey brown sandy loam in drainage lines

Total Area: 21.7 ha

Percentage of Study Area: 0.06 %

Sampling: 1 quadrat within Study Area

Common taxa recorded within each stratum:

Stratum	Descriptor	Taxa
Upper Stratum 1	Mid Isolated Clumps of Trees to Mid Open Forest (Trees <30 m), Low Isolated Clumps of Trees to Low Open Forest (Trees <10 m)	*Eucalyptus rudis* subsp. *rudis, Melaleuca rhaphiophylla*
Mid Stratum 1	Tall Isolated Clumps of Shrubs to Tall Sparse Shrubland (Shrubs >2 m)	*Spyridium globulosum, Xanthorrhoea preissii*
Mid Stratum 2	Mid Isolated Clumps of Shrubs to Mid Sparse Shrubland (Shrubs 1-2 m)	*Rhagodia baccata* subsp. *baccata*
Lower Stratum 1	Low Isolated Clumps of Shrubs and Sedges (0.5-1 m)	*Gahnia trifida, Hypocalymma angustifolium*
Lower Stratum 2	Low Isolated Clumps of Grasses, Low Isolated Clumps of Forbs (<0.5 m)	**Briza minor*, **Sonchus oleraceus*, ?*Myoporum* sp., *Goodenia pulchella* subsp. Coastal Plain A (M. Hislop 634), *Hardenbergia comptoniana, Lobelia rhytidosperma, Schenkia australis, Senecio pinnatifolius, Trachymene pilosa*

Indicator Taxa: No indicator taxa

Landform Types: Drainage line

Soil Types: Grey brown sandy loam, white grey sandy loam

VT 11 was mapped in a small area near the western side of Study Area closer to Guilderton System (Figures 9). VT 11 consists of wetland habitats with a coastal/limestone influence e.g. contains coastal taxa such as *Rhagodia baccata* and *Spyridium globulosum*. VT 11 predominantly occurs on zones of water runoff or catchment along the base of *Banksia* woodland dunes, with possible seasonal surface expression of water. Plate 66 depicts the typical habitat of VT 11.

A total of 8 native vascular plant taxa occurred in quadrats grouped in VT 11 as per the analysis, with a species richness of 8 per quadrat (excluding introduced, annuals and singletons). Overall, 16 vascular plant taxa (including introduced, annuals and singletons) were recorded in quadrats grouped in VT 11 (Appendix P).

No conservation significant flora taxa were recorded in quadrats in VT 11 between 2006 and 2012 by Woodman Environmental, and no additional conservation significant flora taxa have been recorded in VT 11 during other studies conducted over the Study Area (Table 9).

Two introduced taxa (*Briza minor* and *Sonchus oleraceus*) were recorded from within quadrats in VT 11 between 2006 and 2012 by Woodman Environmental (Table 11). A total of three introduced taxa have been recorded in VT 11 across the entire Study Area (Table 11).

The condition of the vegetation in the quadrats established in VT 11 was ranked as Pristine.



Plate 66: VT 11 (Quadrat NEW056) (Photo: Woodman Environmental)

VT 12: Tall Shrubland to Tall Closed Shrubland of *Acacia saligna* subsp. ?*lindleyi* and *Melaleuca rhaphiophylla* over Low Isolated Clumps of Sedges to Mid Open Sedgeland of *Lepidosperma* ?*longitudinale* on grey sand to dark brown loamy sand with ironstone outcropping in shallow basins

Total Area: 12.1 ha

Percentage of Study Area: 0.04 %

Sampling: 2 quadrats within Study Area

Common taxa recorded within each stratum:

Stratum	Descriptor	Taxa
Upper Stratum 1	Low Isolated Clumps of Trees to Low Open Forest (Trees <10 m)	*Melaleuca rhaphiophylla*
Mid Stratum 1	Tall Isolated Clumps of Shrubs to Tall Sparse Shrubland (Shrubs >2 m)	*Acacia saligna* subsp. ?*lindleyi*, *Xanthorrhoea preissii*, *Hakea prostrata*
Mid Stratum 2	Mid Isolated Clumps of Shrubs to Mid Sparse Shrubland (Shrubs 1-2 m)	*Acacia lasiocarpa* var. ?*lasiocarpa*
Lower Stratum 1	Low Isolated Clumps of Shrubs (Shrubs <1 m)	*Acacia stenoptera*
Lower Stratum 2	Low Isolated Clumps of Grasses, Sedges & Forbs (<0.5 m), Low Vines (<10m)	*Cassytha racemosa* forma *racemosa*, *Comesperma integerrimum* *Comesperma* ?*integerrimum*, *Lepidosperma longitudinale*, *Lepidosperma* ?*longitudinale*

Indicator Taxa: *Acacia saligna*, *Acacia stenoptera*, *Comesperma integerrimum*, *Hakea prostrate* and *Lepidosperma longitudinale*

Landform Types: Basin/edge of claypan, lowerslope

Soil Types: Dark brown loamy sand, grey sand on massive ironstone outcropping

VT 12 was mapped in a small area in the north of the Study Area (Figure 9, Appendix T – T5). VT 12 consists of a wetland habitat containing dense tall skinny *Acacia saligna* over laterite boulders or outcropping, and may experience seasonal surface expression of water. One area has already been cleared during the mining process of the North Mine. Plate 67 depicts the typical habitat of VT 12.

A total of 9 native vascular plant taxa occurred in quadrats grouped in VT 12 as per the analysis, with a species richness of 6.5 ± 2.1 per quadrat (excluding introduced, annuals and singletons). Overall, 10 vascular plant taxa (including introduced, annuals and singletons) were recorded in quadrats grouped in VT 12 (Appendix P).

No conservation significant flora taxa were recorded in quadrats in VT 12 between 2006 and 2012 by Woodman Environmental (Appendix P). However *Isopogon panduratus* subsp. *palustris* (P2) was recorded in VT 12 during other studies conducted over the Study Area (Table 9).

No introduced taxa were recorded from within quadrats in VT 12 between 2006 and 2012 by Woodman Environmental (Appendix P). No introduced taxa have been recorded in VT 12 in any other projects in the Study Area (Table 11).

The condition of the vegetation in the quadrats established in VT 12 was ranked as Pristine.



Plate 67: VT 12 (Quadrat NQ01) (Photo: Woodman Environmental)

VT 13: Low Sparse Samphire Shrubland to Mid Samphire Shrubland of *Sarcocornia quinqueflora, Tecticornia* ?*halocnemoides* and/or *Tecticornia indica* subsp. *bidens* over Low Isolated Clumps of Shrubs to Low Open Shrubland of *Frankenia pauciflora* and/or *Lawrencia squamata* over Low Isolated Clumps of Forbs to Low Forbland of *Angianthus micropodioides, Angianthus pygmaeus* or *Angianthus preissianus, *Hypochaeris glabra, *Lysimachia arvensis, *Polypogon monspeliensis* and/or **Vulpia bromoides,* occasionally with Low Shrubs of *Verticordia plumosa* var. *brachyphylla* on white grey to grey brown sandy clay to clay on saline flats

Total Area: 167.7 ha

Percentage of Study Area: 0.49 %

Sampling: 4 quadrats within Study Area

Common taxa recorded within each stratum:

Stratum	Descriptor	Taxa
Lower Stratum 1	Low Isolated Clumps of Shrubs (Shrubs <1 m)	*Lawrencia squamata*
Lower Stratum 2	Low Isolated Clumps of Forbs to Low Forbland, Low Isolated Clumps of Grasses (<0.5 m)	**Sonchus oleraceus, Tecticornia indica* subsp. *bidens, *Arctotheca calendula, *Cotula bipinnata, *Crassula natans* var. *minus, *Dischisma arenarium, *Lysimachia arvensis, *Monopsis debilis, *Parentucellia viscosa, *Vulpia bromoides, Angianthus preissianus, Angianthus pygmaeus, Apium prostratum* var. *prostratum, Goodenia pulchella* subsp. Coastal Plain A (M. Hislop 634), *Schenkia australis, *Polypogon monspeliensis, Triglochin nana*

Indicator Taxa: *Apium prostratum* var. *prostratum, Lawrencia squamata* and *Tecticornia indica* subsp. *bidens*

Landform Types: Flat, closed depression

Soil Types: Grey clay, grey loam, white clay loam, grey brown sandy loam

VT 13 was mapped near the western boundary in the northern half of the Study Area (north of Woolka Road) (Figure 9, Appendix T – T7 and T8). VT 13 consists of seasonally wet or damp semi-saline claypans or flats with shrubs of *Tecticornia* spp. and annual herbs, bordered by dense shrubby VTs of VT 1 and 5. These areas appear to be slowly degrading over time, showing signs of increasing salinity and an increase in weed cover. VT 13 is the most degraded vegetation type within the Study Area, with very high numbers and densities of introduced taxa. Plate 68 depicts the typical habitat of VT 13.

A total of 8 native vascular plant taxa occurred in quadrats grouped in VT 13 as per the analysis, with a species richness of 3 ± 2.2 per quadrat (excluding introduced, annuals and singletons). Overall, 53 vascular plant taxa (including introduced, annuals and singletons) were recorded in quadrats grouped in VT 13 (Appendix P).

The conservation significant flora taxon *Baeckea* sp. Perth Region (R.J. Cranfield 444) (P3) was recorded in quadrats in VT 13 between 2006 and 2012 by Woodman Environmental (Table 9, Appendix P).

Additionally, *Angianthus micropodioides* (P3), *Frankenia glomerata* (P3), *Grevillea thelemanniana* subsp. Cooljarloo (B.J. Keighery 28 B) (P1), *Stylidium hymenocraspedum* (P2) and *Stylidium longitubum* (P3) have also been recorded in VT 13 during other studies conducted over the Study Area (Table 9).

Twenty four introduced taxa were recorded from within quadrats in VT 13 between 2006 and 2012 by Woodman Environmental; a total of 25 introduced taxa have been recorded in VT 13 across the entire Study Area (Table 11).

The condition of the vegetation in quadrats established in VT 13 ranged from Excellent to Good, with varying levels of introduced species cover observed, and some degradation potentially due to increasing salinity.



Plate 68: VT 13 (Quadrat NEW040) (Photo: Woodman Environmental)

VT 14: Mid Woodland of *Casuarina obesa* over Mid Sparse Shrubland to Tall Closed Shrubland of *Melaleuca acutifolia, Melaleuca brevifolia* and/or *Melaleuca viminea* subsp. *viminea* over Mid Isolated to Tall Isolated Clumps of Sedges of *Baumea juncea* and *Gahnia trifida* or Low Isolated Clumps of Shrubs of *Calothamnus hirsutus, Grevillea thelemanniana* subsp. Cooljarloo (B.J. Keighery 28 B) and *Verticordia densiflora* on grey white to grey brown clayey sand on saline flats

Total Area: 15.7 ha

Percentage of Study Area: 0.05 %

Sampling: 1 quadrat within Study Area

Common taxa recorded within each stratum:

Stratum	Descriptor	Taxa
Upper Stratum 1	Mid Woodland (Trees 10-30 m)	*Casuarina obesa*
Mid Stratum 1	Tall Sparse Shrubland to Tall Closed Shrubland (Shrubs >2 m)	*Allocasuarina lehmanniana* subsp. *lehmanniana*, *Melaleuca brevifolia*, *Melaleuca viminea* subsp. *viminea*
Mid Stratum 2	Mid Isolated Shrubs (Shrubs 1-2 m)	*Comesperma volubile*
Lower Stratum 1	Low Isolated Clumps of Shrubs (Shrubs <1 m) Mid Isolated Clumps of Sedges (0.5–1m)	*Baumea juncea*, *Gahnia trifida*
Lower Stratum 2	Low Isolated Clumps of Grasses & Forbs (<0.5 m)	*Crassula colorata* var. *acuminata*, *Eragrostis dielsii*

Indicator Taxa: No indicator taxa

Landform Types: Drainage line

Soil Types: Grey white clayey sand, grey brown clayey sand

VT 14 was mapped in two small locations along the western side of the Study Area, north of Woolka Road (Figure 9, Appendix T – T3 and T8). VT 14 consists of seasonally damp (possibly semi-saline) woodlands of *Casuarina obesa* over tall *Melaleuca* shrubs and sedges, and is usually found fringing VT 2 or 13. Plate 69 depicts the typical habitat of VT 14.

A total of five native vascular plant taxa occurred in quadrats grouped in VT 14 as per the analysis, with a species richness of 5 per quadrat (excluding introduced, annuals and singletons). Overall, nine vascular plant taxa (including introduced, annuals and singletons) were recorded in quadrats grouped in VT 14 (Appendix P).

No conservation significant flora taxa were recorded in quadrats in VT 14 between 2006 and 2012 by Woodman Environmental (Appendix P). However *Grevillea thelemanniana* subsp. Cooljarloo (B.J. Keighery 28 B) (P1) was recorded in VT 14 during other studies conducted over the Study Area (Table 9).

No introduced taxa were recorded from within quadrats in VT 14 between 2006 and 2012 by Woodman Environmental (Appendix P). A total of two introduced taxa have been recorded in VT 14 across the entire Study Area (Table 11).

The condition of the vegetation in quadrats established in VT 14 was ranked as Pristine.



Plate 69: VT 14 (Quadrat NEW094) (Photo: Woodman Environmental)

VT 15: Low Woodland of *Eucalyptus decipiens* or Low Mallee Woodland of *Eucalyptus foecunda* over Mid Closed Shrubland of *Acacia spathulifolia* and *Banksia sessilis* over Low Sparse Shrubland of *Acacia lasiocarpa* var. *lasiocarpa*, *Calothamnus quadrifidus*, *Leucopogon parviflorus* and/or *Melaleuca systena* on grey brown to yellow grey sand or loamy sand on low rises or ridges with limestone surface stones; or Tall Isolated Clumps of Shrubs of *Allocasuarina lehmanniana* over Mid Open Shrubland of *Anthocercis ilicifolia* and *Spyridium globulosum* over Low Isolated Clumps of Shrubs of *Acacia lasiocarpa* var. *lasiocarpa* and *Leucopogon parviflorus* on yellow brown sand on the periphery of claypans

Total Area: 14.6 ha

Percentage of Study Area: 0.04 %

Sampling: 2 quadrats within Study Area

Common taxa recorded within each stratum:

Stratum	Descriptor	Taxa
Upper Stratum 1	Low Woodland (Trees <10 m)	*Eucalyptus decipiens*
Mid Stratum 1	Tall Isolated Clumps of Shrubs (Shrubs >2 m)	*Allocasuarina lehmanniana*, *Acacia saligna* subsp. *lindleyi* ms, *Clematis linearifolia*, *Leucopogon parviflorus*, *Acacia cyclops*, *Acacia lasiocarpa*, *Acacia lasiocarpa* var. *lasiocarpa*, *Acacia spathulifolia*, *Anthocercis ilicifolia*, *Exocarpos sparteus*, *Hakea trifurcata*, *Spyridium globulosum*, *Xanthorrhoea preissii*
Mid Stratum 2	Mid Open Shrubland to Mid Closed Shrubland (Shrubs 1-2 m)	?*Grevillea* sp., *Hovea pungens*, *Kunzea glabrescens*, *Rhagodia baccata*
Lower Stratum 1	Low Isolated Clumps of Shrubs (Shrubs <1 m)	?*Platysace* sp., *Hibbertia racemosa*, *Melaleuca clavifolia*
Lower Stratum 2	Low Isolated Clumps of Grasses, Sedges & Forbs (<0.5 m)	**Carpobrotus* ?*edulis*, **Pelargonium capitatum*, ?*Billardiera* sp., ?*Tetraria octandra*, *Conostylis candicans* subsp. *calcicola*, *Hardenbergia comptoniana*, *Lagenophora huegelii*, *Lomandra* sp., *Muehlenbeckia adpressa*, *Orthrosanthus laxus* var. *laxus*, *Thysanotus* ?*manglesianus*, *Trachymene pilosa*, *Tricoryne* ?*elatior*

Indicator Taxa: *Acacia Cyclops*, *Acacia lasiocarpa*, *Clematis linearifolia*, *Hardenbergia comptoniana*, *Leucopogon parviflorus*, *Muehlenbeckia adpressa*, *Orthrosanthus laxus* var. *laxus* and *Spyridium globulosum*

Landform Types: Low rise/ridge within plain, slope/edge of clay pan

Soil Types: Brown loam with limestone surface stones, yellow brown sand

VT 15 is comprised of tall to mid shrublands and low woodlands associated with surface or underlying limestone. Two forms of VT 15 were evident, with both possessing a coastal/limestone influence: low dry rises of Eucalypt woodlands and shrubs of *Acacia spathulifolia* and *Banksia sessilis* amongst wetter vegetation (of VT 1 or 5), often with limestone rocks on the surface (Plate 70); or sandy rises of fringing vegetation consisting of *Allocasuarina lehmanniana*, *Anthocercis ilicifolia* and *Spyridium globulosum* adjacent to claypans of VT 13 (Plate 71). VT 15 was mapped in small isolated pockets in the western

portion of the Study Area (Figure 9, Appendix T – T3 and T12). These two forms were not able to be split into subgroups within the dendrogram.

A total of 19 native vascular plant taxa occurred in quadrats grouped in VT 15 as per the analysis, with a species richness of 11 ± 4.2 per quadrat (excluding introduced, annuals and singletons). Overall, 34 vascular plant taxa (including introduced, annuals and singletons) were recorded in quadrats grouped in VT 15 (Appendix P).

No conservation significant flora taxa have been recorded in VT 15 (Table 9, Appendix V).

Two introduced taxa (*Carpobrotus* ?*edulis* and *Pelargonium capitatum*) were recorded from within quadrats in VT 15 between 2006 and 2012 by Woodman Environmental (Table 11, Appendix P). A total of two introduced taxa have been recorded in VT 15 across the entire Study Area (Table 11).

The condition of the vegetation in one quadrat established in VT 15 was ranked as Pristine, while the condition of Site 291 was ranked as Excellent due to the presence of introduced taxa.



Plate 70: VT 15 Eucalypt Woodland on Low Rises (Quadrat NEW170) (Photo: Woodman Environmental)



Plate 71: VT 15 *Allocasuarina lehmanniana* Shrubland on Periphery of Claypans (Quadrat CM05) (Photo: Woodman Environmental)

VT 16: Low Sedgeland of *Schoenus curvifolius* and/or Low Isolated Clumps of Forbs to Low Closed Forbland of **Dittrichia graveolens*, **Lysimachia arvensis*, *Pogonolepis stricta*, **Parentucellia viscosa*, *Brachyscome bellidioides*, *Calandrinia* sp. Kenwick (G.J. Keighery 10905), *Goodenia pulchella* subsp. Coastal Plain A (M. Hislop 634) and *Wurmbea* sp. on grey to grey brown sandy clay loam on non-saline flats

Total Area: 46.0 ha

Percentage of Study Area: 0.13 %

Sampling: 2 quadrats within Study Area

Common taxa recorded within each stratum:

Stratum	Descriptor	Taxa
Lower Stratum 1	Low Isolated Clumps of Shrubs (Shrubs <1 m)	*Wilsonia rotundifolia*
Lower Stratum 2	Low Isolated Clumps of Forbs, Sedges and Grasses (<0.5 m)	**Dittrichia graveolens*, **Lysimachia arvensis*, **Parentucellia viscosa*, *Brachyscome bellidioides*, *Calandrinia* sp. Kenwick (G.J. Keighery 10905), *Goodenia pulchella* subsp. Coastal Plain A (M. Hislop 634), *Pogonolepis stricta*, *Wurmbea* sp., **Aira cupaniana*, **Briza minor*, **Cotula bipinnata*, **Hordeum hystrix*, **Hypochaeris glabra*, **Isolepis marginata*, **Lolium rigidum*, **Lotus angustissimus*, **Monopsis debilis*, **Romulea rosea* var. *australis*, **Sonchus oleraceus*, **Vulpia* sp., *Asteraceae* sp., *Calandrinia granulifera*, *Chorizandra enodis*, *Eryngium pinnatifidum* subsp. *pinnatifidum* ms, *Isotoma pusilla*, *Lachnagrostis plebeian*, *Myriocephalus appendiculatus*, *Plantago hispida*, *Podolepis gracilis*, *Schoenus curvifolius*

Indicator Taxa: *Chorizandra enodis*

Landform Types: Wetland, flat

Soil Types: Grey sandy loam, grey brown sandy loam

VT 16 was mapped near the centre of the Study Area (north of Woolka Road) (Figure 5, Appendix T – T8 and T9). VT 16 consists of seasonally wet or damp non-saline claypans or flats with low shrubs and annual herbs, bordered by more dense shrubby VTs of VT 1 and 2. These areas appear to be slowly degrading over time, showing signs of increasing weed taxa and cover. VT 16 is possibly the second most degraded vegetation type within the Study Area, with very high numbers and densities of introduced taxa. It does not yet appear to be affected by salinity. Plate 72 depicts the typical habitat of VT 16.

A total of 2 native vascular plant taxa occurred in quadrats grouped in VT 16 as per the analysis, with a species richness of 1 per quadrat (excluding introduced, annuals and singletons). Overall, 31 vascular plant taxa (including introduced, annuals and singletons) were recorded in quadrats grouped in VT 16 (Appendix P).

No conservation significant flora taxa were recorded in quadrats in VT 16 between 2006 and 2012 by Woodman Environmental (Appendix P). However *Baeckea* sp. Perth Region (R.J. Cranfield 444) (P3), *Eryngium pinnatifidum* subsp. Palustre (G.J. Keighery 13459) (P3) and *Grevillea thelemanniana* subsp. Cooljarloo (B.J. Keighery 28 B) (P1) were recorded in VT 16 during other studies conducted over the Study Area (Table 9).

Fifteen introduced taxa were recorded from within quadrats in VT 16 between 2006 and 2012 by Woodman Environmental (Table 11). A total of 15 introduced taxa have been recorded in VT 16 across the entire Study Area (Table 11).

The condition of vegetation within quadrats established in VT 16 was ranked as Excellent (NEW278) and Very Good (NEW089) due to the presence and cover of introduced species.



Plate 72: VT 16 (Quadrat NEW278) (Photo: Woodman Environmental)

VT 17: Low Isolated Clumps of Trees to Low Open Forest of *Banksia attenuata, Banksia menziesii* and *Eucalyptus todtiana* occasionally over Tall Isolated Clumps of Shrubs to Tall Shrubland of *Adenanthos cygnorum* subsp. *cygnorum,* over Mid Isolated Clumps of Shrubs to Mid Shrubland of *Adenanthos cygnorum* subsp. *cygnorum, Eremaea pauciflora, Jacksonia floribunda, Jacksonia nutans, Stirlingia latifolia* and *Xanthorrhoea preissii* over Low Isolated Clumps of Shrubs to Low Shrubland of *Bossiaea eriocarpa, Dasypogon obliquifolius, Eremaea asterocarpa* subsp. *asterocarpa, Eremaea pauciflora, Hibbertia crassifolia, Hibbertia hypericoides, Jacksonia nutans, Melaleuca clavifolia, Patersonia occidentalis* var. ?*occidentalis* and *Petrophile linearis* over Low Isolated Clumps of Sedges to Mid Open Sedgeland of *Mesomelaena pseudostygia* on white or grey sand on undulating plains and low dunes

Total Area: 16,371.9 ha

Percentage of Study Area: 47.59 %

Sampling: 101 quadrats within Study Area

Common taxa recorded within each stratum:

Stratum	Descriptor	Taxa
Upper Stratum 1	Low Isolated Clumps of Trees to Low Open Forest (Trees <10 m)	*Banksia attenuata, Banksia menziesii, Eucalyptus todtiana*
Mid Stratum 1	Tall Isolated Clumps of Shrubs to Tall Shrubland (Shrubs >2 m)	*Xanthorrhoea preissii*
Mid Stratum 2	Mid Isolated Clumps of Shrubs to Mid Shrubland (Shrubs 1-2 m)	*Melaleuca clavifolia, Jacksonia nutans, Eremaea pauciflora, Adenanthos cygnorum* subsp. *cygnorum, Jacksonia floribunda*
Lower Stratum 1	Low Isolated Clumps of Shrubs to Low Shrubland (Shrubs <1 m) Mid Isolated Clumps of Grasses, Sedges and Forbs (0.5–1m)	*Petrophile linearis, Hypocalymma xanthopetalum, Bossiaea eriocarpa, Dasypogon obliquifolius, Hibbertia hypericoides, Leucopogon conostephioides, Conostephium pendulum, Eremaea asterocarpa* subsp. *asterocarpa, Stirlingia latifolia, Calytrix flavescens, Patersonia occidentalis* var. ?*occidentalis, Hibbertia crassifolia, Hibbertia* sp. Gnangara (J.R. Wheeler 2329), *Hibbertia subvaginata*
Lower Stratum 2	Low Isolated Clumps of Grasses, Sedges & Forbs (<0.5 m)	*Alexgeorgea nitens, Amphipogon turbinatus, Xanthosia huegelii, Gompholobium tomentosum, Mesomelaena pseudostygia, Lomandra hermaphrodita, Stylidium crossocephalum, Blancoa canescens, Phlebocarya filifolia, Schoenus curvifolius, Anigozanthos humilis* subsp. *humilis, Stylidium repens, Conostylis juncea, Boronia ramosa* subsp. *anethifolia, Conostylis aurea, Schoenus clandestinus, Stylidium adpressum, Lyginia imberbis, Cassytha glabella* forma *dispar, Drosera erythrorhiza* subsp. ?*magna, Chordifex sinuosus, Conostylis teretifolia* subsp. *teretifolia, Philotheca spicata*

Indicator Taxa: *Alexgeorgea nitens, Banksia attenuata, Banksia menziesii, Conostephium pendulum, Dasypogon obliquifolius, Eremaea*

asterocarpa, *Hibbertia* sp. Gnangara (J.R. Wheeler 2329), *Hibbertia* ?sp. Gnangara (J.R. Wheeler 2329), *Hypocalymma xanthopetalum*, *Patersonia occidentalis* and *Petrophile linearis*

Landform Types: Simple slope, lowerslope, midslope, low rise/dune, upperslope, dune crest, hillock, flat, plain

Soil Types: Grey sand, brown sand, white sand, grey white sand, grey brown sand, yellow brown sand, grey brown sand, white yellow sand

VT 17 was mapped widely in very large areas across the entire Study Area (Figure 5), with this VT covering the greatest area within the Study Area. VT 17 is generally densely treed with *Banksia* and *Eucalyptus todtiana* on deep white sands of undulating plains and dunes, and has an understorey dominated by *Eremaea asterocarpa*, *Eremaea pauciflora*, *Hibbertia* sp. Gnangara (J.R. Wheeler 2329), *Petrophile linearis*, *Conostephium pendulum*, *Gompholobium tomentosum*, *Philotheca spicata*, *Adenanthos cygnorum*, *Jacksonia nutans*, *Hibbertia subvaginata* and *Dasypogon obliquifolius*. Plate 73 depicts the typical habitat of VT 17.

VT 17 is very similar to the woodland form of VT 18 however predominantly occurs on white or grey sand, usually has a higher density of trees, and contains a number of understorey taxa that VT 18 does not. VT 17 and 18 are difficult to discern in the field. Interpretation of aerial imagery (in the absence of quadrat information) and historical site data proved difficult during the mapping phase. Therefore there may be some discrepancy between the mapping of VT 17 and 18 and their physical occurrence in the field.

A total of 233 native vascular plant taxa occurred in quadrats grouped in VT 17 as per the analysis (Appendix P), with a species richness of 37.3 ± 8.5 per quadrat (excluding introduced, annuals and singletons). Overall, 422 vascular plant taxa (including introduced, annuals and singletons) were recorded in quadrats grouped in VT 17 (Appendix O).

The conservation significant flora taxa *Chordifex chaunocoleus* (P4), *Conospermum scaposum* (P3), *Conostephium magnum* (P4), *Hensmania stoniella* (P3), *Macarthuria keigheryi* (T-DRF), *Platysace ramosissima* (P3), *Schoenus griffinianus* (P3), *Stylidium hymenocraspedum* (P2) and *Verticordia lindleyi* subsp. *lindleyi* (P4) were recorded in quadrats in VT 17 between 2006 and 2012 by Woodman Environmental (Table 9, Appendix P).

Additionally, *Andersonia gracilis* (T-DRF), *Anigozanthos humilis* subsp. *chrysanthus* (P4), *Anigozanthos viridis* subsp. *terraspectans* (T-DRF), *Arnocrinum gracillimum* (P2), *Baeckea* sp. Perth Region (R.J. Cranfield 444) (P3), *Banksia dallanneyi* subsp. *pollosta* (P3), *Beaufortia bicolor* (P3), *Boronia tenuis* (P4), *Calytrix* aff. *eneabbensis* (P4), *Chordifex reseminans* (P1), *Desmocladus biformis* (P3), *Goodenia perryi* (P3), *Grevillea thelemanniana* subsp. Cooljarloo (B.J. Keighery 28 B) (P1), *Hypocalymma gardneri* (P3), *Hypocalymma* sp. Cataby (G.J. Keighery 5151) (P2), *Isopogon panduratus* subsp. *palustris* (P2), *Jacksonia carduacea* (P3), *Malleostemon* sp. Cooljarloo (B.Backhouse s.n. 16/11/88) (P1), *Onychosepalum microcarpum* (P2), *Onychosepalum nodatum* (P3), *Paracaleana dixonii* (T-DRF), *Persoonia rudis* (P3), *Schoenus pennisetis* (P1), *Stenanthemum sublineare* (P2), *Stylidium* ?*hymenocraspedum* (P2), *Stylidium maritimum* (P3) and *Thysanotus glaucus* (P4) have also been recorded in VT 17 during other studies conducted over the Study Area (Table 9). It should be noted that *Stylidium maritimum* (P3) is more typically associated with the vegetation and landform of VT 8.

Fourteen introduced taxa were recorded from within quadrats in VT 17 between 2006 and 2012 by Woodman Environmental (Table 11). A total of 20 introduced taxa have been recorded in VT 17 across the entire Study Area (Table 11).

The condition of the vegetation in quadrats established in VT 17 was ranked predominantly as Pristine, with six quadrats (NEW011, NEW065, NEW191, NEW245, NEW252) classed as Excellent due to the presence of introduced taxa, and one (NEW034) classed as Excellent due to historical mulch harvesting.



Plate 73: VT 17 (Quadrat NEW104) (Photo: Woodman Environmental)

VT 18: Low Isolated Clumps of Trees to Low Open Forest of *Banksia attenuata* and *Banksia menziesii* (sometimes with *Eucalyptus todtiana*) occasionally over Tall Isolated Clumps of Shrubs to Tall Open Shrubland of *Xanthorrhoea preissii*, over Mid Isolated Clumps of Shrubs to Mid Shrubland of *Allocasuarina humilis*, *Conospermum stoechadis* subsp. *stoechadis*, *Eremaea pauciflora*, *Hakea costata* and/or *Xanthorrhoea preissii* over Low Isolated Clumps of Shrubs to Low Closed Shrubland of *Bossiaea eriocarpa*, *Calothamnus sanguineus*, *Dasypogon obliquifolius*, *Eremaea pauciflora*, *Hibbertia hypericoides*, *Jacksonia nutans* and/or *Melaleuca clavifolia* over Low Isolated Clumps of Sedges to Mid Open Sedgeland of *Mesomelaena pseudostygia* on grey to yellow grey/brown sand on undulating plains and low dunes or yellow grey to grey brown sandy loam to sandy clay loam in open depression or flats within undulating plains

Total Area: 6,344.4 ha

Percentage of Study Area: 18.44 %

Sampling: 59 quadrats within Study Area

Common taxa recorded within each stratum:

Stratum	Descriptor	Taxa
Upper Stratum 1	Low Isolated Clumps of Trees to Low Open Forest (Trees <10 m)	*Banksia attenuata*, *Banksia menziesii*
Mid Stratum 1	Tall Isolated Clumps of Shrubs to Tall Open Shrubland (Shrubs >2 m)	*Xanthorrhoea preissii*
Mid Stratum 2	Mid Isolated Clumps of Shrubs to Mid Shrubland (Shrubs 1-2 m)	*Melaleuca clavifolia*, *Allocasuarina humilis*, *Conospermum stoechadis* subsp. *stoechadis*, *Hakea costata*, *Jacksonia nutans*, *Leptospermum spinescens*, *Daviesia incrassata* subsp. *incrassata*
Lower Stratum 1	Low Isolated Clumps of Shrubs to Low Closed Shrubland (Shrubs <1 m) Mid Isolated Clumps of Sedges to Mid Open Sedgeland (0.5–1m)	*Hypocalymma xanthopetalum*, *Hibbertia huegelii*, *Hibbertia hypericoides*, *Eremaea pauciflora*, *Bossiaea eriocarpa*, *Hibbertia crassifolia*, *Patersonia occidentalis* var. ?*occidentalis*, *Calothamnus sanguineus*, *Petrophile linearis*, *Banksia dallanneyi* var. *dallanneyi*, *Calytrix flavescens*, *Petrophile macrostachya*, *Leucopogon sprengelioides*, *Stirlingia latifolia*, *Conostephium pendulum*, *Eremaea asterocarpa* subsp. *asterocarpa*
Lower Stratum 2	Low Isolated Clumps of Grasses, Sedges & Forbs (<0.5 m)	*Mesomelaena pseudostygia*, *Schoenus clandestinus*, *Anigozanthos humilis* subsp. *humilis*, *Conostylis teretifolia* subsp. *teretifolia*, *Drosera erythrorhiza* subsp. ?*magna*, *Dasypogon obliquifolius*, *Alexgeorgea nitens*, *Trachymene pilosa*, *Synaphea spinulosa* subsp. *spinulosa*, *Neurachne alopecuroidea*, *Xanthosia huegelii*, *Amphipogon turbinatus*, *Cassytha glabella* forma *dispar*, *Caustis dioica*, *Opercularia vaginata*, *Pterochaeta paniculata*, *Burchardia congesta*, *Drosera eneabba*, *Isotropis cuneifolia* subsp. *cuneifolia*, *Stylidium adpressum*, **Hypochaeris glabra*, *Stylidium piliferum*, *Conostylis aurea*

Indicator Taxa: *Anigozanthos humilis* subsp. *humilis*, *Conostylis teretifolia* subsp. *teretifolia*, *Eremaea pauciflora*, *Hibbertia huegelii*, *Hibbertia hypericoides*, *Melaleuca clavifolia* and *Mesomelaena pseudostygia*

Landform Types: Simple slope, lower slope, mid slope upper slope, crest, plain, flat, wetland (not typical), open depression

Soil Types: Brown sand, orange sand, grey sand, grey brown sand, yellow brown sand, yellow grey sand, grey white sand, grey sandy loam, yellow grey sandy loam, grey brown sandy loam,

VT 18 is comprised of *Banksia* woodlands and shrubland associated with yellow sand with a laterite influence. Two forms of VT 18 were evident: low damp treeless shrubland/heath, with a higher clay content (Plate 74); or dry low (open) woodland (Plate 75). These two forms were not able to be split into subgroups within the dendrogram.

VT 18 was mapped widely in reasonably large areas across the entire Study Area (Figure 9), with this VT covering the second greatest area within the Study Area. VT 18 (woodland form) is generally a less densely treed, more open version of VT 17 with a dense understory and an affinity with yellow sand and laterite on undulating plains and dunes or open depression or flats within undulating plains (dense shrubland without trees on damper clayey soils). The understorey is generally dominated by *Anigozanthos humilis*, *Conostylis teretifolia*, *Hibbertia huegelii*, *Mesomelaena pseudostygia*, *Petrophile macrostachya*, *Schoenus clandestinus*, *Eremaea pauciflora*, *Melaleuca clavifolia* and *Hibbertia hypericoides*. VT 18 more commonly contains *Banksia prionotes* than VT 17, with a high coastal influence in the southwest of the Study Area with vegetation in these parts containing *B. prionotes* and *B. sessilis*.

A total of 234 native vascular plant taxa occurred in quadrats grouped in VT 18 as per the analysis, with a species richness of 40.1 ± 9.2 per quadrat (excluding introduced, annuals and singletons). Overall, 382 vascular plant taxa (including introduced, annuals and singletons) were recorded in quadrats grouped in VT 18 (Appendix P).

The conservation significant flora taxa *Chordifex chaunocoleus* (P4), *Hensmania stoniella* (P3), *Lepidobolus densus* (P3), *Schoenus griffinianus* (P3) and *Verticordia lindleyi* subsp. *lindleyi* (P4) were recorded in quadrats in VT 18 between 2006 and 2012 by Woodman Environmental (Table 9, Appendix P).

Additionally, *Andersonia gracilis* (T-DRF), *Anigozanthos humilis* subsp. *chrysanthus* (P4), *Anigozanthos viridis* subsp. *terraspectans* (T-DRF), *Baeckea* sp. Perth Region (R.J. Cranfield 444) (P3), *Banksia dallanneyi* subsp. *pollosta* (P3), *Conospermum scaposum* (P3), *Conostephium magnum* (P4), *Eucalyptus macrocarpa* subsp. *elachantha* (P4), *Goodenia perryi* (P3), *Grevillea saccata* (P4), *Grevillea thelemanniana* subsp. Cooljarloo (B.J. Keighery 28 B) (P1), *Hakea longiflora* (P3), *Isopogon panduratus* subsp. *palustris* (P2), *Jacksonia carduacea* (P3), *Macarthuria keigheryi* (T-DRF), *Platysace ramosissima* (P3), *Schoenus pennisetis* (P1), *Stylidium carnosum* subsp. ?Narrow leaves (J.A. Wege 490) (P1), *Stylidium hymenocraspedum* (P2), *Thysanotus glaucus* (P4) and *Verticordia amphigia* (P3) have also been recorded in VT 18 during other studies conducted over the Study Area (Table 9).

Fifteen introduced taxa were recorded from within quadrats in VT 18 between 2006 and 2012 by Woodman Environmental (Table 11, Appendix V). A total of 18 introduced taxa have been recorded in VT 18 across the entire Study Area (Table 11).

The condition of the vegetation for the majority of quadrats established in VT 18 was ranked as Pristine, with three quadrats (NEW037, NEW259, NEW263) ranked as Excellent due to the presence of introduced taxa.



Plate 74: VT 18 Low Shrubland Form (Quadrat NEW184) (Photo: Woodman Environmental)

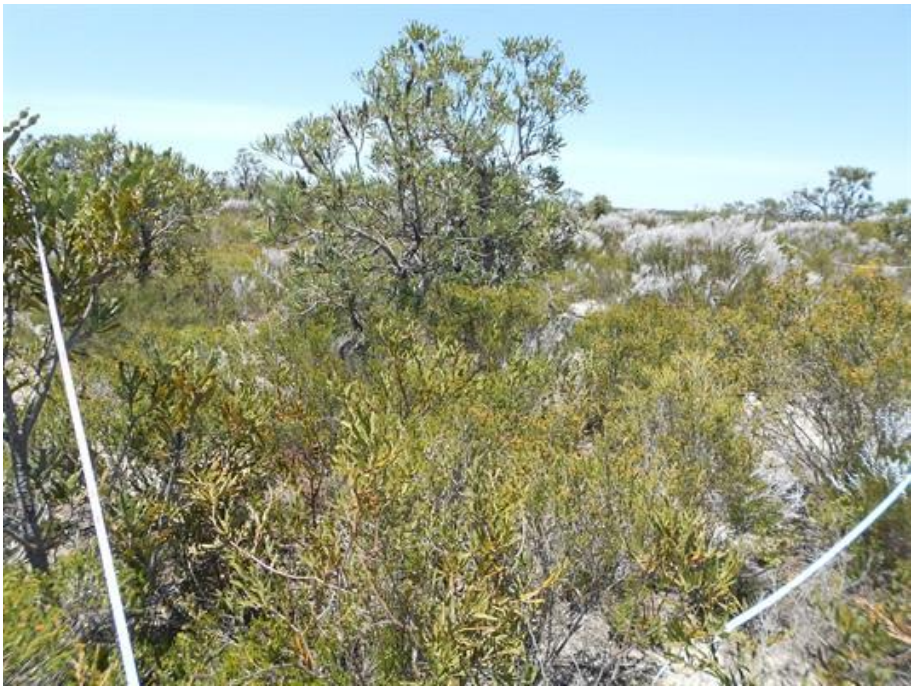


Plate 75: VT 18 Woodland Form (Quadrat NEW069) (Photo: Woodman Environmental)

Appendix V: Vegetation Type Species Lists (Includes Introduced, Annuals and Singletons)

VT 1	
Taxon Name	**Site Count**
Acacia dilatata	1
Acacia lasiocarpa	2
Acacia lasiocarpa var. ?*lasiocarpa*	3
Acacia lasiocarpa var. *lasiocarpa*	20
Acacia pulchella var. *pulchella*	1
Acacia pulchella var. ?*pulchella*	1
Acacia pulchella var. *reflexa*	5
Acacia saligna	1
Acacia saligna subsp. *lindleyi* ms	2
Acacia stenoptera	8
**Aira cupaniana*	5
Alexgeorgea nitens	5
Allocasuarina humilis	1
Allocasuarina lehmanniana subsp. *lehmanniana*	2
Amphipogon turbinatus	1
Anarthria laevis	2
Andersonia gracilis (T)	1
Andersonia heterophylla	1
Anigozanthos humilis subsp. *humilis*	1
Anigozanthos sp.	1
Anigozanthos viridis subsp. *terraspectans* (T)	2
Arnocrinum preissii	1
Asteraceae sp.	1
Asteridea pulverulenta	2
Astroloma glaucescens	8
Austrostipa compressa	4
Austrostipa elegantissima	1
Austrostipa macalpinei	14
Austrostipa sp.	1
Austrostipa tenuifolia	1
Baeckea sp. Perth Region (R.J. Cranfield 444) (3)	13
Banksia attenuata	2
Banksia dallanneyi var. *dallanneyi*	11
Banksia dallanneyi subsp. *media*	1
Banksia nivea subsp. *nivea*	8
Banksia platycarpa (4)	9
Banksia prionotes	2
Banksia sessilis var. *cygnorum*	1
Banksia shuttleworthiana	3
Banksia telmatiaea	60
**Bartsia trixago*	1
Baumea juncea	1
Beaufortia elegans	1
Beaufortia squarrosa	7
Blancoa canescens	1
Bossiaea eriocarpa	3
?*Burchardia* sp.	1

VT 1	
Taxon Name	**Site Count**
Caladenia flava	1
Caladenia ?*flava* subsp. *flava*	1
Caladenia flava subsp. *flava*	2
Caladenia ?*longicauda*	1
Calandrinia sp. Kenwick (G.J. Keighery 10905)	1
Calandrinia ?sp. Two Rocks (K. Richardson 211)	1
Calectasia narragara	1
Callitris arenaria	2
Calothamnus hirsutus	12
Calothamnus quadrifidus subsp. *quadrifidus*	1
Calothamnus sanguineus	5
Calytrix aurea	3
Calytrix flavescens	4
Cassytha aurea	1
Cassytha aurea var. *hirta*	2
Cassytha flava	5
Cassytha glabella	2
Cassytha glabella forma ?*bicallosa*	1
Cassytha glabella forma *bicallosa*	5
Cassytha glabella forma *dispar*	20
Cassytha glabella forma ?*glabella*	1
Cassytha racemosa forma *racemosa*	2
Caustis dioica	2
**Centaurea melitensis*	1
Centrolepis aristata	3
Centrolepis polygyna	5
Chaetanthus aristatus	10
Chordifex chaunocoleus (4)	4
Chordifex sinuosus	5
Comesperma calymega	1
Comesperma ?*integerrimum*	1
Conospermum scaposum (3)	1
Conospermum sp.	1
Conospermum stoechadis subsp. *stoechadis*	5
Conostylis ?*aculeata*	3
Conostylis aculeata	1
Conostylis aculeata subsp. *breviflora*	10
Conostylis aculeata subsp. *spinuligera*	19
Conostylis aurea	8
Conostylis crassinervia subsp. *absens*	1
Conostylis festucacea subsp. *festucacea*	2
Conostylis ?*festucacea* subsp. *festucacea*	4
Conostylis juncea	3
Corynotheca micrantha	1
Corynotheca micrantha var. *micrantha*	1
**Cotula bipinnata*	1
Crassula colorata var. *acuminata*	5
Crassula ?*colorata* var. *acuminata*	1
Crassula ?*colorata* var. *colorata*	1
Cyathochaeta avenacea	1

VT 1	
Taxon Name	**Site Count**
Cyathochaeta ?*avenacea*	1
Dampiera lindleyi	4
Darwinia pinifolia	2
Dasypogon obliquifolius	3
Daucus glochidiatus	2
Daviesia decurrens	3
Daviesia incrassata	2
Daviesia incrassata subsp. *incrassata*	7
Desmocladus ?*flexuosus*	4
Desmocladus virgatus	1
Dianella revoluta	1
Dianella revoluta var. *divaricata*	2
Drosera erythrorhiza subsp. ?*magna*	4
Drosera gigantea subsp. *gigantea*	2
Drosera glanduligera	1
Drosera heterophylla	1
Drosera humilis	3
Drosera menziesii	1
Drosera pallida	1
Drosera sp.	3
Drosera spilos	1
Elythranthera brunonis	1
Eremaea beaufortioides	1
Eremaea beaufortioides var. *beaufortioides*	1
Eremaea pauciflora	2
Eremaea pauciflora var. *lonchophylla*	1
Eucalyptus rudis subsp. *rudis*	1
Euchiton sphaericus	1
Exocarpos sparteus	1
Gahnia ?*australis*	1
Gahnia trifida	4
Glischrocaryon aureum	2
Gnephosis drummondii	1
Gnephosis uniflora	1
Gompholobium tomentosum	10
Gonocarpus cordiger	1
Goodenia pulchella subsp. Coastal Plain A (M. Hislop 634)	4
Grevillea thelemanniana subsp. Cooljarloo (B.J. Keighery 28 B) (1)	1
Grevillea ?*thelemanniana* subsp. Cooljarloo (B.J. Keighery 28 B) (1)	2
Haemodorum paniculatum	1
Haemodorum spicatum	1
Hakea costata	1
Hakea lissocarpha	1
Hakea obliqua subsp. *parviflora*	26
Hakea prostrata	1
Hakea sulcata	6
Hakea trifurcata	7
Hakea varia	22
Haloragis ?*foliosa* (3)	1
Harperia lateriflora	4

VT 1	
Taxon Name	**Site Count**
**Heliophila pusilla*	2
Hibbertia crassifolia	5
Hibbertia aff.*crassifolia*	1
Hibbertia aff.*crassifolia*	1
Hibbertia huegelii	1
Hibbertia hypericoides	2
Hibbertia racemosa	5
Hibbertia ?*spicata*	1
Hibbertia stellaris	12
Hibbertia subvaginata	7
Hyalosperma cotula	1
Hydrocotyle callicarpa	1
Hypocalymma angustifolium	10
Hypocalymma xanthopetalum	2
**Hypochaeris glabra*	13
Hypolaena exsulca	4
Hypolaena pubescens	1
**Isolepis marginata*	1
Isopogon panduratus subsp. *palustris* (2)	15
Isopogon panduratus subsp. *panduratus*	2
Isotoma hypocrateriformis	1
Jacksonia hakeoides	2
Jacksonia nutans	14
Jacksonia ramulosa	2
Jacksonia sternbergiana	1
Kennedia prostrata	1
Kingia australis	1
Kunzea ?*micrantha* subsp. *petiolata*	1
Kunzea micrantha subsp. *petiolata*	6
Laxmannia ramosa subsp. *ramosa*	4
Lechenaultia floribunda	1
Lepidobolus preissianus	2
Lepidosperma longitudinale	10
Lepidosperma ?*longitudinale*	3
Lepidosperma pubisquameum	1
Lepidosperma ?*pubisquameum*	7
Lepidosperma sp.	2
Leucopogon cochlearifolius	2
Leucopogon conostephioides	8
Leucopogon glaucifolius	1
Leucopogon sp. Coujinup (M.A. Burgman 1085)	1
Leucopogon sp. Lesueur (B. Evans 530)	1
Leucopogon sprengelioides	2
Leucopogon ?*sprengelioides*	1
Levenhookia stipitata	2
**Lolium rigidum*	2
Lomandra hermaphrodita	5
Lomandra preissii	1
?*Lomandra* sp.	1
Lyginia barbata	1

VT 1	
Taxon Name	**Site Count**
Lyginia imberbis	13
**Lysimachia arvensis*	3
Lysinema pentapetalum	2
Meeboldina cana	6
Melaleuca acutifolia	7
Melaleuca brevifolia	7
Melaleuca clavifolia (3)	4
Melaleuca incana subsp. *incana*	2
Melaleuca preissiana	1
Melaleuca rhaphiophylla	23
Melaleuca ?rhaphiophylla	1
Melaleuca seriata	36
Melaleuca teretifolia	9
Melaleuca viminea	1
Melaleuca viminea subsp. *viminea*	8
Mesomelaena pseudostygia	1
Neurachne alopecuroidea	2
Nuytsia floribunda	3
Olax scalariformis	5
Onychosepalum nodatum (3)	1
Opercularia vaginata	10
Orthrosanthus laxus var. *laxus*	1
**Parentucellia latifolia*	1
Patersonia occidentalis	1
Patersonia occidentalis var. *?occidentalis*	8
Pericalymma ellipticum	1
Pericalymma ellipticum var. *?ellipticum*	1
Pericalymma ellipticum var. *ellipticum*	7
Pericalymma spongiocaule	1
Petrophile brevifolia	16
Petrophile seminuda	22
Petrophile ?seminuda	1
Phlebocarya ciliata	4
Phlebocarya filifolia	1
Pileanthus filifolius	2
Pimelea imbricata var. *?piligera*	1
Pimelea imbricata var. *piligera*	2
Podolepis gracilis	2
Podotheca angustifolia	3
Podotheca gnaphalioides	1
Poranthera ?microphylla	1
Pterochaeta paniculata	1
Ptilotus manglesii	2
Regelia ciliata	39
Rhagodia baccata subsp. *baccata*	1
**Rostraria cristata*	1
Rytidosperma acerosum	1
Rytidosperma occidentale	1
Rytidosperma ?occidentale	1
Rytidosperma setaceum	1

VT 1	
Taxon Name	**Site Count**
Rytidosperma sp.	1
Samolus junceus	1
Samolus repens var. *paucifolius*	1
Scaevola anchusifolia	13
Scaevola ?globulifera	1
Scaevola ?lanceolata	3
Scaevola lanceolata	6
Scaevola phlebopetala	1
Scaevola repens subsp. Northern Sandplains (R.J. Cranfield & P.J. Spencer 8445)	1
Scaevola repens var. *repens*	1
Schenkia australis	1
Schoenus brevisetis	2
Schoenus ?caespititius	1
Schoenus clandestinus	1
Schoenus curvifolius	1
Schoenus rigens	3
Schoenus subfascicularis	23
Senecio ?lacustrinus	1
Senecio pinnatifolius	2
**Silene gallica* var. *gallica*	1
Siloxerus humifusus	7
Siloxerus ?humifusus	1
**Sonchus oleraceus*	2
Stackhousia monogyna	3
Stirlingia abrotanoides	1
Stirlingia latifolia	1
Stylidium adpressum	4
Stylidium araeophyllum ms	2
Stylidium cygnorum	1
Stylidium dichotomum	1
Stylidium diuroides subsp. *diuroides*	6
Stylidium divaricatum	1
Stylidium hymenocraspedum (2)	1
Stylidium purpureum ms	3
Stylidium repens	1
Stylidium rigidulum	2
Synaphea spinulosa subsp. *spinulosa*	1
Thysanotus arenarius	1
Thysanotus manglesianus	3
Thysanotus ?manglesianus	1
?*Thysanotus* sp.	1
Thysanotus ?sparteus	2
Thysanotus spiniger	1
Thysanotus thyrsoideus	1
Thysanotus ?thyrsoideus	1
Trachymene pilosa	17
Tricoryne ?elatior	1
Tricostularia neesii var. *neesii*	4
**Trifolium arvense* var. *arvense*	1

VT 1	
Taxon Name	**Site Count**
**Ursinia anthemoides*	10
Velleia trinervis	5
Verticordia blepharophylla	3
Verticordia densiflora	16
Verticordia densiflora var. *densiflora*	21
Verticordia drummondii	2
Verticordia lindleyi subsp. *lindleyi* (4)	2
Viminaria juncea	8
**Vulpia myuros*	1
**Vulpia* sp.	2
**Wahlenbergia capensis*	4
Wahlenbergia gracilenta	1
Waitzia suaveolens var. *suaveolens*	1
Xanthorrhoea preissii	10
Xanthosia huegelii	1

VT 2	
Taxon Name	**Site Count**
Acacia dilatata	2
Acacia lasiocarpa var. *lasiocarpa*	5
Acacia pulchella var. *glaberrima*	4
Acacia pulchella var. *pulchella*	3
Acacia saligna subsp. *lindleyi* ms	1
**Aira caryophyllea*	1
**Aira cupaniana*	6
Allocasuarina humilis	1
Anarthria gracilis	1
Andersonia gracilis (T)	1
Angianthus micropodioides (3)	3
Angianthus preissianus	2
Angianthus ?*preissianus*	1
Anigozanthos viridis subsp. Cataby (S.D. Hopper 1786)	1
Anigozanthos viridis subsp. *terraspectans* (T)	1
**Arctotheca calendula*	1
?Asteraceae sp.	1
Astroloma glaucescens	1
Austrostipa compressa	2
Austrostipa elegantissima	1
Austrostipa macalpinei	2
?*Baeckea* sp.	1
Baeckea sp. Perth Region (R.J. Cranfield 444) (3)	4
Banksia dallanneyi var. *dallanneyi*	4
Banksia nivea subsp. *nivea*	3
Banksia telmatiaea	18
Baumea juncea	7
Blennospora drummondii	1
Brachyscome bellidioides	3
Brachyscome iberidifolia	1
Brachyscome pusilla	4
**Briza maxima*	4

VT 2	
Taxon Name	**Site Count**
**Briza minor*	8
Burchardia congesta	3
?*Burchardia* sp.	1
Caladenia ?longicauda	1
Calandrinia granulifera	3
Calandrinia sp. Kenwick (G.J. Keighery 10905)	3
Calandrinia tholiformis	4
Calectasia grandiflora	1
Callitris arenaria	1
Calothamnus hirsutus	11
Calothamnus sanguineus	4
Calytrix aurea	1
Calytrix flavescens	2
Carpobrotus modestus	6
Cassytha ?aurea	2
Cassytha aurea var. *hirta*	1
Cassytha flava	1
Cassytha glabella forma *bicallosa*	1
Cassytha glabella forma *dispar*	8
Cassytha pomiformis	1
Cassytha ?racemosa	1
Cassytha racemosa forma *racemosa*	2
Cassytha sp.	1
Caustis dioica	1
Centrolepis aristata	6
Centrolepis polygyna	3
Chaetanthus aristatus	15
Chamaescilla corymbosa	1
Chordifex chaunocoleus (4)	1
Chordifex sinuosus	3
Comesperma ?calymega	1
Comesperma calymega	1
Comesperma integerrimum	2
Conospermum stoechadis subsp. *stoechadis*	1
Conostylis aculeata subsp. *breviflora*	9
Conostylis aculeata subsp. *spinuligera*	3
Conostylis festucacea subsp. *festucacea*	1
Conostylis ?festucacea subsp. *festucacea*	1
Conostylis prolifera	2
**Cotula coronopifolia*	3
Crassula colorata var. *acuminata*	5
Crassula sp.	1
Cyathochaeta ?avenacea	1
Dampiera alata	8
Dampiera lindleyi	7
Darwinia pinifolia	1
Diuris laxiflora	1
Drosera eneabba	1
Drosera gigantea	1
Drosera gigantea subsp. *gigantea*	1

VT 2	
Taxon Name	**Site Count**
Drosera glanduligera	1
Drosera humilis	3
Drosera menziesii subsp. *menziesii*	2
Drosera sp.	4
**Ehrharta longiflora*	1
Eremophila glabra subsp. ?*carnosa* (C)	2
Eryngium pinnatifidum subsp. Palustre (G.J. Keighery 13459) (3)	1
Euchiton sphaericus	1
Exocarpos sparteus	1
Frankenia pauciflora	4
Gahnia trifida	8
Gnephosis drummondii	1
Gnephosis tenuissima	1
Gnephosis uniflora	1
?*Gonocarpus* sp.	1
Goodenia pulchella subsp. Coastal Plain A (M. Hislop 634)	10
Grevillea preissii subsp. *glabrilimba*	2
Grevillea preissii subsp. *preissii*	1
Grevillea ?*thelemanniana* subsp. Cooljarloo (B.J. Keighery 28 B) (1)	5
Haemodorum ?*spicatum*	1
Hakea costata	1
Hakea lissocarpha	3
Hakea obliqua subsp. *parviflora*	2
Hakea sulcata	1
Hakea trifurcata	3
Hakea varia	10
**Heliophila pusilla*	3
Hibbertia crassifolia	1
Hibbertia stellaris	3
**Hordeum hystrix*	2
Hyalosperma cotula	1
Hydrocotyle alata	1
Hypocalymma angustifolium	2
**Hypochaeris glabra*	14
Hypolaena exsulca	5
Hypolaena pubescens	1
Isolepis cernua var. *setiformis*	1
**Isolepis marginata*	3
Isopogon panduratus subsp. *palustris* (2)	2
Isopogon panduratus subsp. *panduratus*	1
Isotoma hypocrateriformis	2
Isotoma hypocrateriformis var. *trichogramma* ms	1
Jacksonia hakeoides	2
Jacksonia nutans	2
Jacksonia ramulosa	2
**Juncus capitatus*	1
Kunzea micrantha	1
Kunzea micrantha subsp. *petiolata*	3
Lachnagrostis preissii	1
Lawrencia spicata	1

VT 2	
Taxon Name	**Site Count**
Lawrencia squamata	1
Laxmannia ramosa subsp. *ramosa*	1
Lechenaultia stenosepala	1
Lepidosperma longitudinale	4
Lepidosperma pubisquameum	2
Lepidosperma ?pubisquameum	2
Lepidosperma sp.	1
?*Lepidosperma* sp.	1
Leptomeria preissiana	1
Leucopogon conostephioides	1
Leucopogon glaucifolius	1
Leucopogon sp. Lesueur (B. Evans 530)	1
**Lolium rigidum*	3
Lomandra ?hermaphrodita	1
Lomandra hermaphrodita	2
Lomandra micrantha subsp. *micrantha*	3
**Lotus subbiflorus*	1
**Lysimachia arvensis*	3
Meeboldina cana	8
Meeboldina ?coangustata	1
Melaleuca ?acutifolia	1
Melaleuca acutifolia	8
Melaleuca brevifolia	14
Melaleuca incana subsp. *incana*	1
Melaleuca lateritia	1
Melaleuca rhaphiophylla	9
Melaleuca ?rhaphiophylla	1
Melaleuca seriata	10
Melaleuca viminea	2
Melaleuca viminea subsp. *viminea*	11
Neurachne alopecuroidea	1
**Oenothera stricta*	1
Onychosepalum nodatum (3)	2
Opercularia vaginata	4
**Ornithopus compressus*	1
**Ornithopus sativus*	1
**Parentucellia latifolia*	3
Patersonia occidentalis	2
Patersonia occidentalis var. ?*occidentalis*	3
**Pentameris airoides*	2
**Pentameris airoides* subsp. *airoides*	1
Petrophile brevifolia	2
Petrophile seminuda	9
Petrophile ?seminuda	4
Pimelea imbricata var. ?*piligera*	1
Pimelea imbricata var. *piligera*	1
Platysace ramosissima (3)	1
Podolepis gracilis	2
Podotheca gnaphalioides	1
Pogonolepis stricta	1

VT 2	
Taxon Name	**Site Count**
Polypogon tenellus	2
Ptilotus manglesii	4
Quinetia urvillei	2
Regelia ciliata	8
Rytidosperma occidentale	2
Rytidosperma setaceum	3
Samolus junceus	4
Samolus repens var. *paucifolius*	1
Scaevola anchusifolia	9
Scaevola lanceolata	5
Scaevola repens var. *repens*	1
Schenkia australis	1
Schoenus asperocarpus	1
Schoenus clandestinus	1
Schoenus laevigatus	1
Schoenus rigens	3
Schoenus ?rigens	1
Schoenus ?subfascicularis	1
Schoenus subfascicularis	8
Schoenus ?unispiculatus	1
Senecio pinnatifolius	2
Senecio pinnatifolius var. *latilobus*	1
**Silene gallica* var. *gallica*	1
Siloxerus ?humifusus	1
Siloxerus humifusus	6
**Sonchus oleraceus*	1
Stackhousia monogyna	3
Stylidium aff.*dichotomum*	1
Stylidium dichotomum	4
Stylidium pubigerum	1
Stylidium purpureum ms	2
Stylidium repens	1
Thysanotus multiflorus	1
Thysanotus patersonii	8
?*Thysanotus* sp.	1
Thysanotus thyrsoideus	1
Trachymene pilosa	6
Tribonanthes australis	4
Tricoryne ?elatior	2
Trifolium sp.	1
Triglochin nana	1
Tripterococcus brunonis	1
**Ursinia anthemoides*	9
Velleia trinervis	9
Verticordia blepharophylla	1
Verticordia densiflora	4
Verticordia densiflora var. *densiflora*	8
Verticordia drummondii	1
Verticordia plumosa var. *brachyphylla*	1
Viminaria juncea	7

VT 2	
Taxon Name	**Site Count**
**Vulpia bromoides*	1
**Vulpia myuros*	2
**Vulpia* sp.	3
**Wahlenbergia capensis*	2
Wahlenbergia gracilenta	1
Wurmbea dioica	1
Xanthorrhoea preissii	1

VT 3	
Taxon Name	**Site Count**
Austrostipa macalpinei	1
Banksia prionotes	1
Cassytha glabella forma *dispar*	1
Crassula colorata var. *acuminata*	1
**Ehrharta longiflora*	1
Euchiton sphaericus	1
**Hypochaeris glabra*	1
Kunzea glabrescens	1
**Lysimachia arvensis*	1
**Pentameris airoides*	1
Podotheca gnaphalioides	1
Regelia ciliata	2
Siloxerus humifusus	1
Stylidium diuroides subsp. *diuroides*	1
Thysanotus patersonii	1
Trachymene pilosa	1
**Trifolium arvense* var. *arvense*	1
**Ursinia anthemoides*	1
Verticordia densiflora var. *densiflora*	1
**Vulpia* sp.	1
**Wahlenbergia capensis*	1

VT 4	
Taxon Name	**Site Count**
Acacia saligna subsp. *lindleyi* ms	1
**Aira cupaniana*	1
**Arctotheca calendula*	1
**Briza maxima*	1
**Briza minor*	1
Calothamnus quadrifidus	1
Centrolepis aristata	1
Chamaescilla corymbosa	1
Drosera gigantea subsp. *gigantea*	1
Drosera glanduligera	1
Goodenia pulchella subsp. Coastal Plain A (M. Hislop 634)	1
**Hypochaeris glabra*	1
Lepidosperma longitudinale	1
**Lotus angustissimus*	1
**Lysimachia arvensis*	1

VT 4	
Taxon Name	**Site Count**
Meionectes brownii	1
Microtis media subsp. *media*	1
**Monopsis debilis*	1
**Parentucellia latifolia*	1
Podolepis gracilis	1
Ptilotus polystachyus	1
Schoenus sculptus	1
Schoenus subfascicularis	1
Schoenus variicellae	1
**Silene gallica*	1
Thysanotus manglesianus	1
Tribonanthes australis	1
**Trifolium dubium*	1
**Ursinia anthemoides*	1
Velleia trinervis	1
Verticordia densiflora	1
**Vulpia bromoides*	1
Zygophyllum sp.	1

VT 5	
Taxon Name	**Site Count**
Acacia acuaria	1
Acacia cyclops	1
Acacia dilatata	2
Acacia lasiocarpa var. ?*lasiocarpa*	1
Acacia lasiocarpa var. *lasiocarpa*	6
Acacia pulchella var. *pulchella*	1
Acacia pulchella var. *reflexa*	2
Adenanthos cygnorum subsp. *cygnorum*	1
Alexgeorgea nitens	5
Allocasuarina humilis	1
Amphipogon sp.	1
Amphipogon turbinatus	1
Anarthria gracilis	2
Anarthria humilis	1
Anarthria laevis	2
Andersonia gracilis (T)	2
Andersonia heterophylla	8
Anigozanthos humilis subsp. *humilis*	3
Anigozanthos pulcherrimus	2
Anigozanthos ?*pulcherrimus*	3
?*Arnocrinum* sp.	1
Astroloma glaucescens	5
Austrostipa compressa	2
Austrostipa macalpinei	6
Banksia attenuata	1
Banksia dallanneyi var. *dallanneyi*	13
Banksia dallanneyi subsp. *media*	3
Banksia menziesii	2
Banksia nivea subsp. *nivea*	4

VT 5	
Taxon Name	**Site Count**
Banksia platycarpa (4)	8
Banksia prionotes	3
Banksia telmatiaea	34
Baumea juncea	1
Beaufortia elegans	1
Beaufortia squarrosa	18
Boronia ramosa subsp. *anethifolia*	2
Burchardia congesta	2
?*Burchardia* sp.	2
Byblis lamellata	3
Caladenia flava	1
Caladenia flava subsp. *flava*	2
Calectasia grandiflora	1
Calothamnus hirsutus	4
Calothamnus quadrifidus subsp. *quadrifidus*	1
Calothamnus sanguineus	3
Calytrix aurea	14
Calytrix depressa	2
Calytrix flavescens	2
Calytrix leschenaultii	1
Cassytha ?*aurea*	2
Cassytha aurea var. *hirta*	2
Cassytha ?*flava*	2
Cassytha flava	6
Cassytha glabella forma *bicallosa*	1
Cassytha glabella forma ?*bicallosa*	3
Cassytha glabella forma *dispar*	10
Cassytha pomiformis	1
Cassytha racemosa forma *racemosa*	2
Cassytha sp.	3
Caustis dioica	6
Chaetanthus aristatus	2
Chordifex chaunocoleus (4)	12
Chordifex sinuosus	12
Comesperma calymega	2
Conospermum scaposum (3)	1
Conospermum stoechadis	2
Conospermum stoechadis subsp. *sclerophyllum*	2
Conospermum ?*stoechadis* subsp. *stoechadis*	1
Conospermum stoechadis subsp. *stoechadis*	15
Conostylis aculeata subsp. *breviflora*	6
Conostylis aculeata subsp. *spinuligera*	9
Conostylis aurea	6
Conostylis ?*crassinervia*	2
Conostylis crassinervia subsp. *absens*	3
Conostylis crassinervia subsp. *crassinervia*	2
Conostylis ?*festucacea* subsp. *festucacea*	2
Conostylis festucacea subsp. *festucacea*	5
Conostylis juncea	3
Conostylis sp.	1

VT 5	
Taxon Name	**Site Count**
Conostylis sp.	1
Conostylis teretifolia subsp. *teretifolia*	3
Dampiera alata	1
Darwinia pinifolia	1
Dasypogon obliquifolius	7
Daviesia decipiens	1
Daviesia decurrens	2
Daviesia decurrens subsp. *decurrens* ms	1
Daviesia incrassata	2
Daviesia incrassata subsp. *incrassata*	10
Desmocladus ?*flexuosus*	1
Drosera closterostigma	1
Drosera ?*eneabba*	1
Drosera eneabba	4
Drosera erythrorhiza subsp. ?*magna*	5
Drosera gigantea subsp. *gigantea*	1
Drosera menziesii	2
Drosera pallida	1
Drosera sp.	1
Elythranthera brunonis	2
Eremaea asterocarpa	1
Eremaea asterocarpa subsp. *asterocarpa*	3
Eremaea pauciflora	1
Eremaea pauciflora var. *lonchophylla*	2
Eremaea pauciflora var. ?*lonchophylla*	2
Gompholobium tomentosum	6
Gonocarpus ?*pithyoides*	1
Gonocarpus pithyoides	3
?*Goodenia coerulea*	1
Goodenia pulchella subsp. Coastal Plain A (M. Hislop 634)	3
Grevillea preissii subsp. *glabrilimba*	1
Haemodorum sp.	1
Haemodorum spicatum	1
Hakea candolleana	1
Hakea costata	5
Hakea obliqua subsp. *parviflora*	21
Hakea sulcata	1
Hakea varia	4
Harperia lateriflora	3
Hemiandra rubriflora	1
Hibbertia aff.*crassifolia*	2
Hibbertia ?*crassifolia*	3
Hibbertia crassifolia	6
Hibbertia hypericoides	3
Hibbertia sp.	1
Hibbertia ?*spicata*	2
Hibbertia stellaris	4
Hibbertia subvaginata	5
Hypocalymma angustifolium	6
Hypocalymma xanthopetalum	10

VT 5	
Taxon Name	**Site Count**
**Hypochaeris glabra*	3
Hypolaena exsulca	11
Hypolaena pubescens	7
Indet. sp.	1
Isopogon panduratus subsp. *palustris* (2)	2
Isopogon panduratus subsp. *panduratus*	4
Isotropis cuneifolia subsp. *cuneifolia*	1
Jacksonia carduacea (3)	2
Jacksonia hakeoides	13
Jacksonia nutans	15
Jacksonia ramulosa	3
Johnsonia pubescens	3
Johnsonia pubescens subsp. *pubescens*	2
Kingia australis	3
Kunzea micrantha subsp. *petiolata*	3
Laxmannia ramosa subsp. *ramosa*	6
Lechenaultia floribunda	3
Lechenaultia stenosepala	5
Lepidosperma longitudinale	2
Lepidosperma pubisquameum	3
?*Lepidosperma pubisquameum*	1
Lepidosperma ?*pubisquameum*	1
Lepidosperma aff.*scabrum*	2
Leptomeria preissiana	5
Leptospermum spinescens	1
Leucopogon cochlearifolius	2
Leucopogon conostephioides	11
Leucopogon conostephioides sens. lat.	1
Leucopogon glaucifolius	2
Leucopogon sp. Coujinup (M.A. Burgman 1085)	5
Leucopogon sp. Lesueur (B. Evans 530)	10
Leucopogon sprengelioides	4
Leucopogon ?*sprengelioides*	1
Lomandra hermaphrodita	4
Lyginia barbata	1
Lyginia imberbis	14
Lysinema ciliatum	1
Lysinema pentapetalum	2
?*Malleostemon* sp. Cooljarloo (B. Backhouse s.n. 16/11/88) (1)	1
Meeboldina cana	2
Melaleuca brevifolia	1
Melaleuca clavifolia (3)	5
Melaleuca preissiana	1
Melaleuca ?*rhaphiophylla*	1
Melaleuca seriata	32
Mesomelaena pseudostygia	6
Neurachne alopecuroidea	1
Nuytsia floribunda	1
Olax scalariformis	8
Onychosepalum nodatum (3)	13

VT 5	
Taxon Name	**Site Count**
Opercularia vaginata	5
Paracaleana nigrita	1
Patersonia ?*juncea*	1
Patersonia occidentalis	2
Patersonia occidentalis var. ?*occidentalis*	1
Patersonia occidentalis var. *occidentalis*	1
?*Patersonia* sp.	1
Pericalymma ellipticum var. ?*ellipticum*	1
Pericalymma ellipticum var. *ellipticum*	2
Persoonia comata	1
Petrophile brevifolia	22
Petrophile drummondii	1
Petrophile linearis	3
Petrophile seminuda	3
Petrophile ?*seminuda*	4
Philotheca spicata	1
Phlebocarya ciliata	9
Pimelea imbricata var. *piligera*	4
Pimelea imbricata var. ?*piligera*	5
Platysace juncea	1
Platysace ramosissima (3)	4
Platysace sp. Eneabba (R. Hnatiuk 770001)	3
Platysace xerophila	1
Podotheca gnaphalioides	1
Ptilotus manglesii	1
Ptilotus stirlingii subsp. *stirlingii*	1
Pyrorchis nigricans	1
Regelia ciliata	15
Rhodanthe citrina	1
Scaevola anchusifolia	4
Scaevola lanceolata	4
Scaevola repens subsp. Northern Sandplains (R.J. Cranfield & P.J. Spencer 8445)	1
Scaevola repens var. *repens*	3
Scaevola thesioides subsp. *thesioides*	1
Schoenus brevisetis	2
Schoenus caespititius	1
Schoenus aff.*caespititius*	1
Schoenus clandestinus	2
Schoenus curvifolius	10
Schoenus efoliatus	3
Schoenus griffinianus (3)	1
Schoenus pedicellatus	1
Schoenus rigens	10
Schoenus ?*rigens*	3
Siloxerus humifusus	1
Sphaerolobium drummondii	1
Stackhousia monogyna	3
Stirlingia abrotanoides	4
Stirlingia latifolia	11

VT 5	
Taxon Name	**Site Count**
Stylidium adpressum	2
Stylidium crossocephalum	1
Stylidium cygnorum	1
Stylidium aff.*dichotomum*	1
Stylidium dichotomum	8
Stylidium diuroides subsp. *diuroides*	3
Stylidium divaricatum	2
Stylidium flagellum	1
Stylidium purpureum ms	14
Stylidium repens	15
Stylidium rigidulum	1
Synaphea spinulosa	1
Synaphea spinulosa subsp. *spinulosa*	2
Thelymitra benthamiana	1
Thysanotus multiflorus	3
Thysanotus ?*sparteus*	1
Thysanotus ?*thyrsoideus*	1
Trachymene pilosa	5
Tribonanthes australis	2
Tricostularia neesii var. *neesii*	3
Tripterococcus brunonis	5
Unidentified sp. 1	1
**Ursinia anthemoides*	2
Verticordia blepharophylla	9
Verticordia densiflora	10
Verticordia densiflora var. *densiflora*	9
Verticordia drummondii	1
Verticordia ?*lindleyi* subsp. *lindleyi* (4)	1
Verticordia lindleyi subsp. *lindleyi* (4)	10
Verticordia pennigera	1
Viminaria juncea	2
Waitzia acuminata var. *albicans*	1
Xanthorrhoea preissii	7
Xanthosia huegelii	3

VT 6	
Taxon Name	**Site Count**
Acacia lasiocarpa	3
Acacia lasiocarpa var. *lasiocarpa*	2
Acacia pulchella	1
Acacia pulchella var. *pulchella*	1
Acacia pulchella var. *reflexa*	3
Acacia saligna subsp. *lindleyi* ms	2
Acacia stenoptera	2
Actinotus leucocephalus	1
Adenanthos cygnorum	3
Adenanthos cygnorum subsp. *cygnorum*	7
Alexgeorgea nitens	5
Allocasuarina humilis	1
Anarthria gracilis	1

VT 6	
Taxon Name	**Site Count**
Anarthria laevis	3
Andersonia heterophylla	5
Anigozanthos humilis subsp. *humilis*	1
Anigozanthos pulcherrimus	2
?*Anigozanthos* sp.	1
Aotus procumbens	1
**Arctotheca calendula*	1
Astroloma xerophyllum	1
Austrostipa macalpinei	5
Banksia attenuata	9
Banksia dallanneyi	1
Banksia dallanneyi var. *dallanneyi*	2
Banksia grandis	1
Banksia ilicifolia	6
Banksia littoralis	1
Banksia menziesii	7
Banksia platycarpa (4)	2
Banksia prionotes	2
Banksia telmatiaea	11
Beaufortia elegans	1
Beaufortia squarrosa	7
Boronia ramosa subsp. *anethifolia*	5
Bossiaea eriocarpa	2
?*Burchardia* sp.	1
Caladenia flava subsp. *flava*	1
Caladenia longicauda	1
Calandrinia corrigioloides	1
Calandrinia granulifera	1
Calothamnus hirsutus	1
Calytrix aurea	5
Cassytha flava	1
Cassytha glabella	1
Cassytha glabella forma *bicallosa*	1
Cassytha glabella forma *dispar*	3
Centrolepis drummondiana	1
Centrolepis mutica	1
Centrolepis pilosa	1
Centrolepis polygyna	1
Chordifex chaunocoleus (4)	4
Chordifex sinuosus	5
Comesperma calymega	3
Conospermum incurvum	1
Conospermum stoechadis	1
Conospermum stoechadis subsp. *stoechadis*	4
Conostephium magnum (4)	2
Conostephium ?*pendulum*	1
Conostephium pendulum	2
Conostylis aculeata subsp. *breviflora*	1
Conostylis aculeata subsp. *spinuligera*	7
Conostylis aurea	1

VT 6	
Taxon Name	**Site Count**
Conostylis festucacea subsp. *festucacea*	1
Conostylis juncea	3
Conostylis sp.	1
Crassula colorata var. *acuminata*	1
Cyathochaeta avenacea	1
Dampiera linearis	2
Dasypogon obliquifolius	4
Daviesia decurrens	1
Daviesia incrassata	1
Daviesia incrassata subsp. *incrassata*	2
Drosera eneabba	2
Drosera erythrorhiza subsp. ?*magna*	2
Drosera ?*menziesii*	2
Drosera menziesii	2
Drosera sp.	1
Drosera sp. (button)	1
*?*Ehrharta* sp.	1
Eremaea asterocarpa	1
Eremaea asterocarpa subsp. *asterocarpa*	4
Eremaea pauciflora	2
Eucalyptus todtiana	2
Gompholobium tomentosum	6
Gonocarpus cordiger	2
Haemodorum spicatum	2
Hakea costata	1
Hakea obliqua subsp. *parviflora*	3
Hakea ruscifolia	1
Hemiandra linearis	1
Hensmania stoniella (3)	1
Hensmania turbinata	1
Hibbertia aff.*crassifolia*	3
Hibbertia crassifolia	3
Hibbertia hypericoides	1
Hibbertia racemosa	1
Hibbertia sp. Gnangara (J.R. Wheeler 2329)	2
Hibbertia subvaginata	11
Hypocalymma angustifolium	4
Hypocalymma xanthopetalum	1
**Hypochaeris glabra*	3
Hypolaena exsulca	2
Isopogon panduratus subsp. *palustris* (2)	1
Isopogon panduratus subsp. *panduratus*	2
Isotropis cuneifolia subsp. *cuneifolia*	3
Jacksonia hakeoides	1
Jacksonia nutans	14
Jacksonia sternbergiana	1
Johnsonia pubescens	4
Johnsonia pubescens subsp. *pubescens*	4
Lagenophora huegelii	2
Laxmannia ramosa subsp. *ramosa*	1

VT 6	
Taxon Name	**Site Count**
Lechenaultia floribunda	1
Lechenaultia sp.	1
Lechenaultia stenosepala	3
Lepidosperma pubisquameum	1
Lepidosperma ?pubisquameum	2
Leucopogon conostephioides	11
Leucopogon oldfieldii	1
Leucopogon sp. Coujinup (M.A. Burgman 1085)	1
Leucopogon sp. Lesueur (B. Evans 530)	2
Leucopogon sprengelioides	3
Leucopogon ?sprengelioides	1
Levenhookia stipitata	1
Lomandra hermaphrodita	1
?*Lomandra* sp.	1
Lyginia barbata	1
Lyginia imberbis	7
**Lysimachia arvensis*	1
Lysinema ciliatum	1
Lysinema pentapetalum	1
Macarthuria apetala	4
Macrozamia fraseri	2
Melaleuca clavifolia (3)	4
Melaleuca preissiana	4
Melaleuca rhaphiophylla	1
Melaleuca seriata	13
Melaleuca sp.	1
Melaleuca viminea subsp. *viminea*	1
Mesomelaena pseudostygia	1
Nuytsia floribunda	1
Onychosepalum nodatum (3)	1
Opercularia vaginata	3
Patersonia ?juncea	1
Patersonia occidentalis	2
Patersonia occidentalis var. ?*occidentalis*	3
**Pentameris airoides*	1
Pericalymma spongiocaule	1
Persoonia comata	1
Petrophile brevifolia	6
Petrophile linearis	8
Petrophile macrostachya	1
Phlebocarya ciliata	6
Phlebocarya filifolia	3
Phyllangium divergens	1
Pimelea imbricata var. *piligera*	1
Platysace juncea	2
Platysace ramosissima (3)	1
Platysace sp. Eneabba (R. Hnatiuk 770001)	1
Podolepis ?canescens	1
Podotheca angustifolia	1
Podotheca gnaphalioides	2

VT 6	
Taxon Name	**Site Count**
Pyrorchis nigricans	1
Scaevola anchusifolia	1
Scaevola repens	1
Scaevola repens var. *repens*	1
Schoenus brevisetis	1
Schoenus aff.*caespititius*	1
Schoenus curvifolius	5
Schoenus efoliatus	2
Schoenus griffinianus (3)	1
Schoenus rigens	1
Schoenus subfascicularis	2
Schoenus ?subfascicularis	1
Scholtzia involucrata	1
Scholtzia ?laxiflora	1
Siloxerus humifusus	2
Stackhousia monogyna	1
Stirlingia latifolia	7
Stylidium adpressum	2
Stylidium crossocephalum	4
Stylidium dichotomum	2
Stylidium diuroides subsp. *diuroides*	4
Stylidium hymenocraspedum (2)	1
Stylidium repens	5
Stylidium rigidulum	2
Synaphea spinulosa	2
Thysanotus ?arbuscula	1
Thysanotus glaucus (4)	1
Thysanotus ?manglesianus	1
Thysanotus multiflorus	2
Thysanotus patersonii	1
Thysanotus tenellus	1
Thysanotus thyrsoideus	1
Thysanotus ?thyrsoideus	1
Trachymene pilosa	6
Tricostularia neesii var. *neesii*	5
Tripterococcus brunonis	2
**Ursinia anthemoides*	5
Verticordia blepharophylla	1
Verticordia densiflora var. *densiflora*	1
Verticordia lindleyi subsp. *lindleyi* (4)	1
Verticordia ?lindleyi subsp. *lindleyi* (4)	1
**Vulpia myuros*	1
**Wahlenbergia capensis*	1
Waitzia acuminata var. *albicans*	1
Xanthorrhoea preissii	6
Xanthosia huegelii	2

VT 7	
Taxon Name	**Site Count**
Acacia dilatata	3

VT 7	
Taxon Name	**Site Count**
Acacia lasiocarpa var. ?*bracteolata*	2
Acacia lasiocarpa var. *lasiocarpa*	3
Acacia pulchella	1
Acacia pulchella var. *reflexa*	2
Acacia spathulifolia	2
Acacia sphacelata subsp. *verticillata*	1
Alexgeorgea nitens	2
Allocasuarina grevilleoides (3)	1
Allocasuarina humilis	4
Allocasuarina microstachya	9
Allocasuarina thuyoides	1
Amphipogon ?*debilis*	1
Amphipogon debilis	1
Amphipogon turbinatus	3
Anarthria laevis	1
Andersonia gracilis (T)	1
Andersonia heterophylla	1
Andersonia lehmanniana subsp. *lehmanniana*	5
Anigozanthos humilis subsp. *humilis*	4
Astroloma glaucescens	11
Austrostipa sp.	2
Baeckea sp. Perth Region (R.J. Cranfield 444) (3)	2
Banksia armata var. *armata*	2
Banksia dallanneyi var. *dallanneyi*	5
Banksia dallanneyi var. ?*dallanneyi*	1
Banksia dallanneyi subsp. ?*media*	3
Banksia dallanneyi subsp. *media*	1
Banksia platycarpa (4)	1
Banksia telmatiaea	5
Borya sphaerocephala	4
Bossiaea eriocarpa	2
Burchardia congesta	1
Caladenia ?*longicauda*	1
Calectasia narragara	2
Calectasia palustris (1)	4
Calothamnus quadrifidus	1
Calothamnus quadrifidus subsp. *angustifolius*	4
Calothamnus quadrifidus subsp. *quadrifidus*	2
Calothamnus sanguineus	8
Calytrix aurea	1
Calytrix flavescens	7
Calytrix fraseri	1
Calytrix leschenaultii	4
Cassytha flava	4
Cassytha glabella forma *bicallosa*	1
Cassytha glabella forma *dispar*	3
Cassytha racemosa forma *racemosa*	1
Caustis dioica	11
Chordifex chaunocoleus (4)	1
Chordifex sinuosus	3

VT 7	
Taxon Name	**Site Count**
?*Chordifex* sp.	1
Comesperma acerosum	1
Comesperma calymega	1
Comesperma ciliatum	2
Conospermum stoechadis	1
Conospermum stoechadis subsp. *stoechadis*	1
Conostylis aculeata subsp. *breviflora*	1
Conostylis aculeata subsp. *spinuligera*	2
Conostylis aurea	1
Conostylis festucacea subsp. *festucacea*	1
Conostylis sp.	2
Conostylis teretifolia subsp. *teretifolia*	4
Cryptandra ?*myriantha*	1
Cryptandra nutans	2
Dampiera teres	3
Darwinia pinifolia	2
Dasypogon obliquifolius	2
Daviesia decurrens	2
Daviesia decurrens subsp. *decurrens* ms	4
Daviesia incrassata	3
Daviesia incrassata subsp. *incrassata*	3
Daviesia nudiflora	1
Daviesia preissii	1
Desmocladus asper	3
Desmocladus flexuosus	1
Diplopeltis huegelii subsp. ?*huegelii*	1
Drosera eneabba	2
Drosera erythrorhiza subsp. ?*magna*	4
Drosera gigantea subsp. *gigantea*	2
Drosera glanduligera	2
Drosera menziesii	2
Drosera menziesii subsp. *menziesii*	2
Drosera pallida	1
Drosera sp.	3
Drosera spilos	1
Drosera stolonifera	1
Eremaea beaufortioides	1
Gastrolobium oxylobioides	2
Gastrolobium plicatum	6
Gompholobium knightianum	2
Gompholobium tomentosum	1
Goodenia coerulea	1
Goodenia ?*coerulea*	1
Goodenia ?*coerulea*	6
Grevillea ?*thelemanniana* subsp. Cooljarloo (B.J. Keighery 28 B) (1)	1
Hakea auriculata	1
Hakea candolleana	3
Hakea conchifolia	1
Hakea costata	6
Hakea incrassata	9

VT 7	
Taxon Name	**Site Count**
Hakea lissocarpha	13
Hakea obliqua subsp. *parviflora*	1
Hakea spathulata	1
Hakea stenocarpa	1
Hakea trifurcata	7
Harperia lateriflora	4
Hemiandra glabra subsp. *glabra* ms	3
Hibbertia ?*crassifolia*	1
Hibbertia aff.*crassifolia*	1
Hibbertia crassifolia	10
Hibbertia hypericoides	9
Hyalosperma cotula	1
Hypocalymma serrulatum (3)	1
Hypocalymma xanthopetalum	14
Isopogon asper	2
Isopogon panduratus subsp. *palustris* (2)	3
Isotropis cuneifolia subsp. *cuneifolia*	5
Jacksonia condensata	1
Jacksonia hakeoides	6
Jacksonia nutans	3
Lambertia multiflora	1
Lepidobolus preissianus	2
Lepidobolus preissianus subsp. *preissianus*	2
Lepidosperma ?*longitudinale*	1
Lepidosperma pubisquameum	9
?*Lepidosperma* sp.	1
Lepidosperma tenue	2
Leporella fimbriata	1
Leptomeria preissiana	1
Leptospermum spinescens	2
Leucopogon cochlearifolius	1
Leucopogon conostephioides	1
Leucopogon leptanthus	4
Leucopogon oldfieldii	1
Leucopogon sp. Lesueur (B. Evans 530)	1
Leucopogon sprengelioides	3
Leucopogon ?*sprengelioides*	1
Levenhookia stipitata	1
Lomandra hermaphrodita	1
Lomandra ?*micrantha*	1
Lomandra sp.	1
?*Lomandra* sp.	1
Lyginia imberbis	1
Melaleuca acutifolia	1
Melaleuca carrii	1
Melaleuca ?*clavifolia* (3)	3
Melaleuca clavifolia (3)	3
Melaleuca radula	1
Melaleuca seriata	10
Melaleuca sp.	1

VT 7	
Taxon Name	**Site Count**
Melaleuca ?*systena*	1
Mesomelaena pseudostygia	14
Mesomelaena tetragona	6
?*Microtis* sp.	1
Myrtaceae sp.	1
Neurachne alopecuroidea	7
Olax scalariformis	2
Olearia lehmanniana	1
Opercularia vaginata	7
Orthrosanthus laxus var. *laxus*	1
Patersonia occidentalis	1
Patersonia occidentalis var. ?*occidentalis*	2
Patersonia occidentalis var. *occidentalis*	2
Persoonia comata	2
Petrophile brevifolia	15
Petrophile macrostachya	1
Petrophile seminuda	11
Pileanthus filifolius	1
Pimelea imbricata var. *piligera*	1
Platysace juncea sens. lat.	5
Pterochaeta paniculata	6
Ptilotus manglesii	2
Scaevola anchusifolia	5
Scaevola ?*lanceolata*	1
Scaevola repens var. *repens*	5
Schoenus brevisetis	7
Schoenus clandestinus	16
Schoenus subfascicularis	1
Schoenus unispiculatus	2
?*Scholtzia* sp.	1
Scholtzia umbellifera	1
Siloxerus ?*humifusus*	1
Stackhousia monogyna	1
Stenanthemum notiale	1
Stenanthemum notiale subsp. *notiale*	2
Stirlingia ?*abrotanoides*	1
Stirlingia abrotanoides	2
Stirlingia latifolia	1
Stylidium crossocephalum	2
Stylidium dichotomum	6
Stylidium piliferum	1
Stylidium pubigerum	1
Stylidium purpureum ms	6
Stylidium repens	1
Synaphea spinulosa	1
Synaphea spinulosa subsp. *spinulosa*	3
Thysanotus ?*thyrsoideus*	1
Tricoryne ?*elatior*	1
**Ursinia anthemoides*	2
Verticordia densiflora	3

VT 7	
Taxon Name	**Site Count**
Verticordia densiflora var. *cespitosa*	1
Verticordia densiflora var. *densiflora*	3
Verticordia huegelii var. *tridens* (3)	1
Verticordia lindleyi subsp. *lindleyi* (4)	1
Verticordia pennigera	4
**Wahlenbergia capensis*	1
Wahlenbergia gracilenta	1
Xanthorrhoea preissii	9
Xanthosia huegelii	5

VT 8	
Taxon Name	**Site Count**
Acacia pulchella var. *reflexa*	1
Acacia truncata	2
**Aira cupaniana*	1
Alexgeorgea nitens	1
Allocasuarina humilis	2
?*Amphipogon* sp.	1
Anigozanthos humilis subsp. *humilis*	2
Astroloma glaucescens	3
Austrostipa compressa	1
Austrostipa flavescens	1
**Avellinia michelii*	1
Banksia dallanneyi var. *dallanneyi*	3
Banksia leptophylla	2
Banksia sessilis var. *cygnorum*	3
Beaufortia squarrosa	1
Beyeria cinerea subsp. *cinerea* (3)	1
Bossiaea eriocarpa	3
Burchardia congesta	1
Calandrinia tholiformis	1
Calothamnus quadrifidus subsp. *quadrifidus*	3
Calothamnus sanguineus	2
Cassytha ?*aurea*	2
Cassytha glabella forma *dispar*	2
Conospermum stoechadis subsp. *stoechadis*	1
Conostephium magnum (4)	1
Conostylis candicans	1
Conostylis teretifolia subsp. *teretifolia*	2
Cryptandra mutila	1
Desmocladus asper	2
Desmocladus flexuosus	1
Desmocladus ?*lateriticus*	2
Diplolaena obovata	2
Drosera erythrorhiza subsp. ?*magna*	1
Drosera humilis	2
Drosera sp.	2
Gastrolobium linearifolium	1
Gompholobium tomentosum	3
Grevillea preissii subsp. ?*preissii*	3

VT 8	
Taxon Name	**Site Count**
Hakea costata	2
Hakea lissocarpha	2
Hakea trifurcata	3
**Heliophila pusilla*	2
Hibbertia crassifolia	2
Hibbertia hypericoides	2
Hibbertia racemosa	2
Hibbertia spicata subsp. *leptotheca* (3)	1
Hybanthus calycinus	3
Hydrocotyle blepharocarpa	1
Hypocalymma xanthopetalum	2
**Hypochaeris glabra*	2
Indet. sp.	1
Isotropis cuneifolia subsp. *cuneifolia*	2
Jacksonia hakeoides	1
Lepidobolus preissianus subsp. *preissianus*	1
Lepidosperma longitudinale	2
Lepidosperma ?pubisquameum	1
Leucopogon cochlearifolius	2
Leucopogon polymorphus	1
Lomandra hermaphrodita	1
Lomandra maritima	1
Lomandra sp.	2
Lysinema pentapetalum	1
Melaleuca huegelii subsp. *huegelii*	1
Melaleuca systena	3
Mesomelaena pseudostygia	1
Opercularia vaginata	3
Orchidaceae sp.	1
Petrophile axillaris	3
Philotheca spicata	2
Poa porphyroclados	2
Poaceae sp.	1
Podotheca gnaphalioides	1
Pterostylis vittata	1
Rhodanthe citrina	1
Ricinocarpos undulatus	1
Rytidosperma ?occidentale	2
?Rytidosperma sp.	1
Santalum acuminatum	1
Scaevola ?globulifera	1
Scaevola repens var. *repens*	1
Schoenus clandestinus	2
Schoenus curvifolius	1
Schoenus pleiostemoneus	1
Scholtzia leptantha	3
Stenanthemum notiale subsp. *chamelum*	1
Stenopetalum ?gracile	1
Stylidium cygnorum	1
Stylidium purpureum ms	1

VT 8	
Taxon Name	**Site Count**
Stylidium repens	1
Stylidium scariosum	1
Stylidium schoenoides	1
Templetonia retusa	2
Tetraria microcarpa	1
Thysanotus patersonii	1
Trachymene pilosa	3
Tricoryne ?elatior	1
Trymalium ledifolium var. *rosmarinifolium*	1
Xanthorrhoea preissii	2

VT 9a	
Taxon Name	**Site Count**
Acacia lasiocarpa var. *lasiocarpa*	1
Acacia pulchella var. *reflexa*	1
Acacia saligna subsp. *lindleyi* ms	2
**Aira caryophyllea*	1
**Aira cupaniana*	7
Amphipogon turbinatus	1
Aphelia cyperoides	1
Austrostipa compressa	1
Austrostipa macalpinei	1
Banksia telmatiaea	2
**Bartsia trixago*	1
Baumea juncea	1
Boronia ramosa subsp. *anethifolia*	1
**Briza maxima*	1
**Briza minor*	1
Caladenia flava subsp. *flava*	1
Calandrinia granulifera	1
Calandrinia sp. Kenwick (G.J. Keighery 10905)	1
Carpobrotus modestus	1
Cassytha glabella forma *dispar*	1
Cassytha glabella forma ?*glabella*	1
Cassytha racemosa	1
Centrolepis aristata	1
Centrolepis pilosa	1
Centrolepis polygyna	2
Chorizandra enodis	1
Comesperma confertum	1
?*Comesperma* sp.	1
Conostylis aculeata subsp. *spinuligera*	2
**Cotula bipinnata*	2
Crassula colorata var. *acuminata*	3
Crassula ?*colorata* var. *colorata*	1
Dampiera linearis	1
Desmocladus lateriticus	1
Drosera erythrorhiza subsp. ?*magna*	1
Drosera glanduligera	1
Drosera sp.	1

VT 9a	
Taxon Name	**Site Count**
Euchiton sphaericus	1
Exocarpos sparteus	1
Gnephosis tenuissima	1
Gompholobium tomentosum	1
Goodenia pulchella subsp. Coastal Plain A (M. Hislop 634)	3
Haemodorum sp.	1
Hakea costata	1
Hakea trifurcata	2
Hakea varia	2
Hibbertia crassifolia	1
Hibbertia subvaginata	1
Hydrocotyle callicarpa	1
Hypocalymma angustifolium	1
**Hypochaeris glabra*	8
Indet. sp.	1
Isotoma hypocrateriformis	1
Isotoma pusilla	1
Isotropis cuneifolia subsp. *cuneifolia*	1
Lechenaultia sp.	1
Lepidosperma ?*pubisquameum*	2
?*Lepidosperma* sp.	1
**Lotus angustissimus*	2
**Lysimachia arvensis*	2
Meeboldina coangustata	1
Melaleuca incana subsp. *incana*	1
Melaleuca lateritia	3
Melaleuca ?*lateritia*	1
Melaleuca ?*rhaphiophylla*	2
Melaleuca rhaphiophylla	8
Melaleuca seriata	1
Melaleuca teretifolia	8
Melaleuca viminea	1
Melaleuca viminea subsp. *viminea*	6
Microtis orbicularis	1
?*Microtis* sp.	1
**Monopsis debilis*	1
Muehlenbeckia adpressa	1
Myriocephalus appendiculatus	1
Myriocephalus occidentalis	1
Neurachne alopecuroidea	1
Opercularia vaginata	1
**Parentucellia latifolia*	1
**Pentameris airoides*	2
Petrophile brevifolia	1
Philydrella pygmaea subsp. *pygmaea*	1
Podolepis gracilis	1
Podotheca angustifolia	1
Podotheca gnaphalioides	1
Pogonolepis stricta	1
**Polypogon monspeliensis*	2

VT 9a	
Taxon Name	**Site Count**
Pterostylis ?*pyramidalis*	1
Ptilotus polystachyus	1
Pyrorchis nigricans	1
Regelia ciliata	1
Scaevola phlebopetala	1
Schoenus subfascicularis	2
Selaginella gracillima	1
Siloxerus ?*humifusus*	1
Siloxerus humifusus	1
**Sonchus oleraceus*	2
Stylidium inundatum	1
Thysanotus ?*manglesianus*	1
Thysanotus patersonii	1
?*Thysanotus* sp.	1
Trachymene pilosa	4
**Ursinia anthemoides*	3
Velleia trinervis	1
**Vellereophyton dealbatum*	1
**Vulpia myuros*	1
**Vulpia* sp.	3
Xanthorrhoea preissii	1

VT 9b	
Taxon Name	**Site Count**
Acacia saligna	1
Acacia saligna subsp. *lindleyi* ms	7
Acacia sp.	1
?*Adriana* sp.	1
**Aira cupaniana*	5
Angianthus tomentosus	1
Anigozanthos viridis subsp. *terraspectans* (T)	1
?*Anthosachne* sp.	1
**Arctotheca calendula*	4
**Avellinia michelii*	1
Baeckea sp. Perth Region (R.J. Cranfield 444) (3)	1
Banksia littoralis	2
**Briza minor*	3
Bulbine semibarbata	2
Calandrinia corrigioloides	1
Calandrinia granulifera	1
Calandrinia sp. Kenwick (G.J. Keighery 10905)	1
Calandrinia sp. Two Rocks (K. Richardson 211)	1
Carpobrotus ?*modestus*	1
Cassytha glabella forma *dispar*	1
Cassytha pomiformis	1
Cassytha racemosa	1
Cassytha racemosa forma *racemosa*	4
Cassytha sp.	1
**Centaurea melitensis*	1
Centrolepis aristata	2

VT 9a	
Taxon Name	**Site Count**
Centrolepis polygyna	2
**Cerastium glomeratum*	3
Conostylis aculeata subsp. *spinuligera*	1
**Conyza bonariensis*	2
**Conyza ?bonariensis*	1
Cotula australis	1
**Cotula coronopifolia*	1
Cotula sp.	1
Crassula closiana	1
Crassula colorata var. *acuminata*	2
Crassula ?colorata var. *acuminata*	1
Crassula ?colorata var. *colorata*	1
Cycnogeton lineare	1
Daucus glochidiatus	3
Drosera glanduligera	1
**Ehrharta ?brevifolia*	1
**Ehrharta longiflora*	4
**?Ehrharta* sp.	1
Erodium cygnorum	1
Erodium sp.	1
Eucalyptus rudis subsp. *rudis*	6
Euchiton sphaericus	2
Exocarpos sparteus	2
**Galium murale*	4
Goodenia pulchella subsp. Coastal Plain A (M. Hislop 634)	3
Hibbertia hypericoides	1
Hydrocotyle blepharocarpa	1
Hydrocotyle callicarpa	1
**Hypochaeris glabra*	7
Indet. sp.	2
Isolepis cernua var. *setiformis*	1
**Isolepis marginata*	2
Juncus pallidus	1
Lepidosperma longitudinale	2
Lepidosperma ?pubisquameum	2
Leucopogon propinquus	1
Levenhookia stipitata	1
?Lobelia sp.	1
**Lotus subbiflorus*	2
**Lysimachia arvensis*	7
**?Lysimachia* sp.	1
Macrozamia fraseri	1
Melaleuca acutifolia	1
Melaleuca incana subsp. *incana*	1
Melaleuca rhaphiophylla	11
Melaleuca seriata	2
Melaleuca teretifolia	1
Melaleuca viminea subsp. *viminea*	1
Microtis media subsp. *media*	1
**Monopsis debilis*	1

VT 9a	
Taxon Name	**Site Count**
Opercularia vaginata	3
**Ornithopus sativus*	2
Oxalis sp.	2
**Parentucellia latifolia*	2
Patersonia occidentalis var. ?*occidentalis*	1
Pelargonium littorale	1
Petrophile brevifolia	1
Podolepis gracilis	1
Podotheca gnaphalioides	1
**Polycarpon tetraphyllum*	3
Poranthera drummondii	2
Pterostylis ?*pyramidalis*	3
Rhodanthe citrina	1
**Rumex* ?*crispus*	1
?*Schoenus* sp.	1
Schoenus subfascicularis	2
**Silene gallica* var. *gallica*	1
Siloxerus humifusus	2
**Solanum nigrum*	4
Solanum symonii	2
Sonchus hydrophilus	1
**Sonchus oleraceus*	5
Stylidium divaricatum	1
**Taraxacum officinale*	1
**?Taraxacum* sp.	1
Trachymene pilosa	7
**Trifolium arvense* var. *arvense*	2
**Trifolium campestre* var. *campestre*	1
**Trifolium glomeratum*	2
Triglochin nana	1
**Ursinia anthemoides*	1
Verticordia densiflora var. *densiflora*	1
**Vulpia bromoides*	1
**Vulpia myuros*	3
**Vulpia* sp.	1
**Wahlenbergia capensis*	1
Xanthorrhoea preissii	1

VT 10	
Taxon Name	**Site Count**
Acacia saligna	1
Acacia saligna subsp. *lindleyi* ms	3
Astartea scoparia	1
Banksia littoralis	4
Baumea juncea	2
Bossiaea eriocarpa	1
**Briza minor*	1
Burchardia congesta	1
Cassytha pomiformis	1
Cyathochaeta avenacea	2

VT 10	
Taxon Name	**Site Count**
Cyathochaeta ?avenacea	1
Dielsia stenostachya	1
Drosera gigantea subsp. *gigantea*	1
Gompholobium tomentosum	1
Hakea varia	1
Hibbertia hypericoides	1
Hibbertia stellaris	1
Hypocalymma angustifolium	2
**Hypochaeris glabra*	1
Hypolaena exsulca	1
Isolepis cernua var. *setiformis*	1
Jacksonia ramulosa	1
Jacksonia sternbergiana	1
Kunzea sp.	1
Lepidosperma ?longitudinale	1
Lepidosperma longitudinale	4
Leucopogon cochlearifolius	1
Meeboldina cana	1
Meeboldina coangustata	1
Melaleuca clavifolia (3)	1
Melaleuca incana subsp. *incana*	2
Melaleuca lateritia	1
Melaleuca preissiana	4
Melaleuca rhaphiophylla	2
Melaleuca teretifolia	1
Melaleuca viminea subsp. *viminea*	1
Patersonia occidentalis var. *occidentalis*	1
Pericalymma ellipticum	1
Phlebocarya ciliata	1
?*Phlebocarya* sp.	1
Pyrorchis nigricans	1
Rytidosperma occidentale	1
Schoenus curvifolius	1
Trachymene pilosa	1
Viminaria juncea	3
Xanthorrhoea preissii	5

VT 11	
Taxon Name	**Site Count**
**Briza minor*	1
Eucalyptus rudis subsp. *rudis*	1
Gahnia trifida	1
Goodenia pulchella subsp. Coastal Plain A (M. Hislop 634)	1
Hardenbergia comptoniana	1
Hypocalymma angustifolium	1
Lobelia rhytidosperma	1
Melaleuca rhaphiophylla	1
?*Myoporum* sp.	1
Rhagodia baccata subsp. *baccata*	1
Schenkia australis	1

VT 11	
Taxon Name	**Site Count**
Senecio pinnatifolius	1
**Sonchus oleraceus*	1
Spyridium globulosum	1
Trachymene pilosa	1
Xanthorrhoea preissii	1

VT 12	
Taxon Name	**Site Count**
Acacia lasiocarpa var. ?*lasiocarpa*	1
Acacia saligna subsp. ?*lindleyi*	2
Acacia stenoptera	1
Cassytha racemosa forma *racemosa*	1
Comesperma ?*integerrimum*	1
Hakea prostrata	1
Lepidosperma ?*longitudinale*	1
Lepidosperma longitudinale	1
Melaleuca rhaphiophylla	2
Xanthorrhoea preissii	2

VT 13	
Taxon Name	**Site Count**
Angianthus preissianus	2
Angianthus pygmaeus	2
Apium prostratum var. *prostratum*	2
**Arctotheca calendula*	2
Baeckea sp. Perth Region (R.J. Cranfield 444) (3)	1
Brachyscome bellidioides	1
**Briza minor*	1
Calandrinia corrigioloides	1
Calandrinia sp. Kenwick (G.J. Keighery 10905)	1
Carpobrotus modestus	1
Centrolepis aristata	1
Cotula australis	1
**Cotula bipinnata*	2
Cotula cotuloides	1
**Crassula glomerata*	1
**Crassula natans* var. *minus*	2
**Dischisma arenarium*	2
Drosera menziesii subsp. *menziesii*	1
Eragrostis dielsii	1
Eryngium pinnatifidum subsp. *pinnatifidum* ms	1
Frankenia pauciflora	1
Goodenia pulchella subsp. Coastal Plain A (M. Hislop 634)	2
**Hainardia cylindrica*	1
**Heliophila pusilla*	1
**Hordeum hystrix*	1
**Hypochaeris glabra*	1
**Isolepis marginata*	1
**Juncus bufonius*	1
Lawrencia squamata	2

VT 13	
Taxon Name	**Site Count**
Liparophyllum capitatum	1
**Lysimachia arvensis*	2
**Medicago polymorpha*	1
**Melilotus indicus*	1
**Monopsis debilis*	2
**Parentucellia latifolia*	1
**Parentucellia viscosa*	2
**Polypogon monspeliensis*	4
Regelia ciliata	1
Samolus junceus	1
Sarcocornia quinqueflora	1
Schenkia australis	2
**Sonchus oleraceus*	3
**Spergularia marina*	1
Stylidium inundatum	1
Tecticornia ?halocnemoides	1
Tecticornia indica subsp. *bidens*	3
Trachymene pilosa	1
**Trifolium dubium*	1
Triglochin mucronata	1
Triglochin nana	2
**Urospermum picroides*	1
**Vulpia bromoides*	2
Wilsonia humilis	1

VT 14	
Taxon Name	**Site Count**
Allocasuarina lehmanniana subsp. *lehmanniana*	1
Baumea juncea	1
Casuarina obesa	1
Comesperma volubile	1
Crassula colorata var. *acuminata*	1
Eragrostis dielsii	1
Gahnia trifida	1
Melaleuca brevifolia	1
Melaleuca viminea subsp. *viminea*	1

VT 15	
Taxon Name	**Site Count**
Acacia cyclops	1
Acacia lasiocarpa	1
Acacia lasiocarpa var. *lasiocarpa*	1
Acacia saligna subsp. *lindleyi* ms	1
Acacia spathulifolia	1
Allocasuarina lehmanniana	1
Anthocercis ilicifolia	1
?Billardiera sp.	1
**Carpobrotus ?edulis*	2
Clematis linearifolia	2
Conostylis candicans subsp. *calcicola*	1

VT 15	
Taxon Name	**Site Count**
Eucalyptus decipiens	1
Exocarpos sparteus	1
?*Grevillea* sp.	1
Hakea trifurcata	1
Hardenbergia comptoniana	1
Hibbertia racemosa	1
Hovea pungens	1
Kunzea glabrescens	1
Lagenophora huegelii	1
Leucopogon parviflorus	2
Lomandra sp.	1
Melaleuca clavifolia (3)	1
Muehlenbeckia adpressa	1
Orthrosanthus laxus var. *laxus*	1
**Pelargonium capitatum*	1
?*Platysace* sp.	1
Rhagodia baccata	1
Spyridium globulosum	1
?*Tetraria octandra*	1
Thysanotus ?manglesianus	1
Trachymene pilosa	1
Tricoryne ?elatior	1
Xanthorrhoea preissii	1

VT 16	
Taxon Name	**Site Count**
**Aira cupaniana*	1
Asteraceae sp.	1
Brachyscome bellidioides	2
**Briza minor*	1
Calandrinia granulifera	1
Calandrinia sp. Kenwick (G.J. Keighery 10905)	2
Chorizandra enodis	1
**Cotula bipinnata*	1
**Dittrichia graveolens*	2
Eryngium pinnatifidum subsp. *pinnatifidum* ms	1
Goodenia pulchella subsp. Coastal Plain A (M. Hislop 634)	2
**Hordeum hystrix*	1
**Hypochaeris glabra*	1
**Isolepis marginata*	1
Isotoma pusilla	1
Lachnagrostis plebeia	1
**Lolium rigidum*	1
**Lotus angustissimus*	1
**Lysimachia arvensis*	2
**Monopsis debilis*	1
Myriocephalus appendiculatus	1
**Parentucellia viscosa*	2
Plantago hispida	1
Podolepis gracilis	1

VT 16	
Taxon Name	**Site Count**
Pogonolepis stricta	2
**Romulea rosea* var. *australis*	1
Schoenus curvifolius	1
**Sonchus oleraceus*	1
**Vulpia* sp.	1
Wilsonia rotundifolia	1
Wurmbea sp.	2

VT 17	
Taxon Name	**Site Count**
Acacia auronitens	1
Acacia lasiocarpa var. *lasiocarpa*	1
Acacia pulchella	6
Acacia pulchella var. *glaberrima*	2
Acacia pulchella var. *pulchella*	2
Acacia pulchella var. *reflexa*	11
Acacia sphacelata subsp. *verticillata*	4
Acacia stenoptera	6
Actinotus leucocephalus	3
Adenanthos cygnorum	6
Adenanthos cygnorum subsp. *cygnorum*	43
Alexgeorgea nitens	89
Alexgeorgea subterranea	2
Allocasuarina humilis	23
Amphipogon sp.	2
Amphipogon turbinatus	57
Anarthria gracilis	7
Anarthria humilis	1
Anarthria laevis	2
Andersonia heterophylla	10
Andersonia lehmanniana subsp. *lehmanniana*	3
Anigozanthos humilis subsp. *humilis*	41
Anigozanthos pulcherrimus	1
Anigozanthos ?*pulcherrimus*	4
Arnocrinum preissii	8
?*Arnocrinum* sp.	2
Asparagaceae sp.	2
Asteridea pulverulenta	1
Astroloma glaucescens	2
Astroloma microdonta	3
Astroloma xerophyllum	22
Austrostipa compressa	15
Austrostipa macalpinei	22
Austrostipa sp.	3
**Avena* ?*barbata*	1
Banksia attenuata	95
Banksia dallanneyi	1
Banksia dallanneyi var. *dallanneyi*	13
Banksia dallanneyi subsp. *media*	1
Banksia ?*dallanneyi* subsp. *media*	1

VT 17	
Taxon Name	**Site Count**
Banksia ilicifolia	9
Banksia menziesii	84
Banksia prionotes	5
Banksia shuttleworthiana	1
Banksia telmatiaea	10
Banksia tortifolia	1
Beaufortia elegans	2
Beaufortia squarrosa	5
Blancoa canescens	42
Boronia ramosa subsp. *anethifolia*	36
Boronia subsessilis	1
Bossiaea eriocarpa	90
Brachyscome bellidioides	1
Brachyscome sp.	1
**Briza maxima*	1
**Bromus diandrus*	1
Burchardia congesta	21
Burchardia sp.	2
?*Burchardia* sp.	1
Caladenia flava subsp. *flava*	12
Calectasia narragara	5
Calothamnus hirsutus	1
Calothamnus quadrifidus	1
Calothamnus quadrifidus subsp. *angustifolius*	1
Calothamnus sanguineus	3
Calytrix angulata	3
Calytrix aurea	3
Calytrix ?*depressa*	4
Calytrix flavescens	53
Calytrix ?*flavescens*	4
Calytrix ?*fraseri*	1
Calytrix fraseri	16
Calytrix leschenaultii	4
Calytrix sapphirina	5
Carpobrotus modestus	1
Carpobrotus ?*modestus*	1
Cassytha ?*aurea*	2
Cassytha aurea var. *hirta*	2
Cassytha ?*flava*	3
Cassytha flava	5
Cassytha glabella forma ?*bicallosa*	3
Cassytha glabella forma *bicallosa*	3
Cassytha glabella forma *dispar*	32
Cassytha glabella forma ?*glabella*	4
Cassytha pomiformis	1
Cassytha racemosa forma *racemosa*	1
Cassytha sp.	1
Caustis dioica	4
Centrolepis drummondiana	1
Centrolepis mutica	3

VT 17	
Taxon Name	**Site Count**
Centrolepis pilosa	2
Centrolepis polygyna	1
Chaetanthus aristatus	1
Chordifex chaunocoleus (4)	4
Chordifex sinuosus	31
Comesperma calymega	10
Comesperma sp.	1
Conospermum acerosum subsp. *acerosum*	1
Conospermum crassinervium	14
Conospermum scaposum (3)	1
Conospermum stoechadis	7
Conospermum stoechadis subsp. *stoechadis*	17
Conostephium magnum (4)	7
Conostephium pendulum	58
Conostephium ?*pendulum*	1
Conostephium preissii	3
Conostylis aculeata subsp. *breviflora*	1
Conostylis aculeata subsp. *spinuligera*	4
Conostylis angustifolia	2
Conostylis aurea	34
Conostylis ?*aurea*	1
Conostylis crassinervia subsp. ?*absens*	1
Conostylis festucacea subsp. *festucacea*	1
Conostylis juncea	37
Conostylis ?*seminuda*	2
Conostylis setigera	3
Conostylis sp.	2
Conostylis teretifolia subsp. *teretifolia*	31
Corynotheca micrantha	2
Corynotheca micrantha var. ?*elongata*	1
Crassula closiana	1
Crassula colorata var. *acuminata*	3
Crassula ?*colorata* var. *colorata*	1
Cristonia biloba	1
Croninia kingiana	2
Cryptandra nutans	1
Dampiera linearis	26
Darwinia sp. Watheroo (I.R. McGill 20)	1
Dasypogon obliquifolius	89
Daviesia decurrens	1
Daviesia decurrens subsp. *decurrens* ms	1
Daviesia divaricata	2
Daviesia divaricata subsp. *divaricata* ms	4
Daviesia incrassata	3
Daviesia incrassata subsp. *incrassata*	5
Daviesia podophylla	9
Daviesia triflora	3
Desmocladus asper	5
Desmocladus fasciculatus	1
Desmocladus ?*lateriticus*	1

VT 17	
Taxon Name	**Site Count**
Desmocladus virgatus	2
Drosera ?*closterostigma*	1
Drosera eneabba	27
Drosera erythrorhiza	2
Drosera erythrorhiza subsp. ?*magna*	32
Drosera erythrorhiza subsp. *magna*	2
Drosera glanduligera	6
Drosera humilis	6
Drosera macrantha subsp. *macrantha*	1
Drosera menziesii	11
Drosera ?*menziesii*	14
Drosera menziesii subsp. *penicillaris*	1
Drosera pallida	6
Drosera parvula	3
Drosera sp.	14
Drosera sp. (button)	1
Drosera sp. climbing	4
Drosera spilos	5
Drosera stolonifera	1
Ecdeiocolea monostachya	1
**Ehrharta calycina*	1
*?*Ehrharta* sp.	1
Elythranthera brunonis	2
Eremaea asterocarpa	24
Eremaea asterocarpa subsp. *asterocarpa*	58
Eremaea ?*asterocarpa* subsp. *asterocarpa*	1
Eremaea beaufortioides	2
Eremaea beaufortioides var. *beaufortioides*	3
Eremaea ectadioclada	1
Eremaea pauciflora	63
Eremaea ?*pauciflora*	1
Eremaea pauciflora var. ?*lonchophylla*	4
Eremaea pauciflora var. *lonchophylla*	5
Eremaea sp.	1
Eucalyptus todtiana	34
Euchiton sphaericus	1
Gastrolobium capitatum	8
Gompholobium ?*knightianum*	1
Gompholobium tomentosum	56
Gonocarpus cordiger	8
Gonocarpus pithyoides	1
Goodenia ?*coerulea*	2
Goodenia coerulea	3
Goodenia ?*pulchella* subsp. Coastal Plain A (M. Hislop 634)	4
Goodeniaceae sp.	1
Haemodorum ?*discolor*	1
Haemodorum sp.	2
Haemodorum ?*spicatum*	2
Haemodorum spicatum	5
Hakea costata	8

VT 17	
Taxon Name	**Site Count**
Hakea incrassata	1
Hakea obliqua subsp. *parviflora*	2
Hakea psilorrhyncha	2
Harperia lateriflora	2
Hemiandra ?glabra	2
Hemiandra ?linearis	3
Hemiandra linearis	1
Hemiphora bartlingii	4
Hensmania stoniella (3)	3
Hensmania turbinata	2
Hibbertia acerosa	1
Hibbertia crassifolia	44
Hibbertia ?crassifolia	11
Hibbertia aff.*crassifolia*	5
Hibbertia desmophylla	2
Hibbertia huegelii	30
Hibbertia hypericoides	76
Hibbertia racemosa	3
Hibbertia ?sp. Gnangara (J.R. Wheeler 2329)	5
Hibbertia sp. Gnangara (J.R. Wheeler 2329)	43
Hibbertia ?spicata	6
Hibbertia spicata subsp. *spicata*	1
Hibbertia subvaginata	40
Hovea trisperma	1
Hyalosperma cotula	2
Hydrocotyle callicarpa	1
Hypocalymma ?sp. Nambung (R. Spjut & R. Smith s.n. 22/09/1992)	1
Hypocalymma sp. Nambung (R. Spjut & R. Smith s.n. 22/09/1992)	1
Hypocalymma xanthopetalum	95
**Hypochaeris glabra*	16
Hypolaena exsulca	11
Hypolaena pubescens	1
Indet. sp.	2
**Isolepis marginata*	3
Isotropis cuneifolia	1
Isotropis cuneifolia subsp. *cuneifolia*	14
Jacksonia floribunda	43
Jacksonia hakeoides	12
Jacksonia nutans	74
Jacksonia ramulosa	2
Jacksonia sp.	1
Jacksonia sternbergiana	4
Johnsonia pubescens	2
Johnsonia pubescens subsp. *pubescens*	15
Lagenophora huegelii	1
Lasiopetalum lineare (3)	10
?*Lasiopetalum lineare* (3)	1
Laxmannia ramosa subsp. *ramosa*	3
Laxmannia sessiliflora subsp. ?*australis*	2
Lechenaultia floribunda	2

VT 17	
Taxon Name	**Site Count**
Lechenaultia linarioides	1
Lechenaultia sp.	1
Lechenaultia stenosepala	1
Lepidobolus preissianus	3
Lepidobolus preissianus subsp. *preissianus*	2
Lepidosperma longitudinale	7
Lepidosperma pubisquameum	30
Lepidosperma aff.*scabrum*	7
Lepidosperma sp.	9
?*Lepidosperma* sp.	2
Lepidosperma tenue	1
Leporella fimbriata	4
Leptomeria empetriformis	4
Leptospermum erubescens	2
Leptospermum spinescens	21
Leucopogon cochlearifolius	3
Leucopogon conostephioides	61
Leucopogon oldfieldii	10
Leucopogon ?*oldfieldii*	2
Leucopogon polymorphus	2
Leucopogon sp.	1
Leucopogon sp. Coujinup (M.A. Burgman 1085)	3
Leucopogon sp. Lesueur (B. Evans 530)	5
Leucopogon ?*sprengelioides*	1
Leucopogon sprengelioides	30
Levenhookia stipitata	3
Lomandra caespitosa	5
Lomandra hastilis	1
Lomandra hermaphrodita	49
Lomandra ?*micrantha*	1
Lomandra ?*micrantha* subsp. *micrantha*	2
Lomandra preissii	11
Lomandra sericea	1
Lomandra sp.	3
Lyginia barbata	22
Lyginia imberbis	33
**Lysimachia arvensis*	1
Lysinema pentapetalum	3
Macarthuria apetala	13
Macarthuria australis	1
Macarthuria keigheryi (T)	2
Macrozamia fraseri	3
Melaleuca clavifolia (3)	77
Melaleuca ?*clavifolia* (3)	3
Melaleuca ?*leuropoma*	7
Melaleuca preissiana	1
Melaleuca seriata	18
Melaleuca sp.	2
Melaleuca systena	1
Mesomelaena pseudostygia	50

VT 17	
Taxon Name	**Site Count**
Monotaxis grandiflora var. *grandiflora*	6
Monotaxis occidentalis	1
Myrtaceae sp.	2
Neurachne alopecuroidea	3
Nuytsia floribunda	11
Opercularia ?*vaginata*	1
Opercularia vaginata	16
Paracaleana nigrita	2
Patersonia occidentalis	23
Patersonia occidentalis var. ?*occidentalis*	49
Patersonia occidentalis var. *occidentalis*	12
Persoonia comata	5
Petrophile brevifolia	7
Petrophile linearis	98
Petrophile macrostachya	16
Petrophile rigida	11
Petrophile seminuda	5
Petrophile ?*seminuda*	1
Petrophile shuttleworthiana	1
Philotheca spicata	31
Phlebocarya ciliata	20
Phlebocarya filifolia	42
Phyllangium divergens	20
Pileanthus filifolius	6
?*Pileanthus* sp.	1
Pimelea ?*sulphurea*	3
Pimelea sulphurea	23
Platysace juncea	2
Platysace ramosissima (3)	2
Platysace sp. Eneabba (R. Hnatiuk 770001)	2
Platysace xerophila	3
Podotheca angustifolia	4
Podotheca chrysantha	3
Podotheca gnaphalioides	7
Poranthera drummondii	14
Poranthera microphylla	2
Pterochaeta paniculata	7
Pterostylis ?*vittata*	1
Ptilotus manglesii	1
Ptilotus polystachyus	1
Pyrorchis nigricans	6
Rytidosperma ?*occidentale*	4
?*Rytidosperma* sp.	1
Scaevola anchusifolia	2
Scaevola phlebopetala	1
Scaevola repens	3
Scaevola repens var. *repens*	18
Scaevola thesioides subsp. *thesioides*	2
?*Schoenolaena juncea*	1
Schoenus brevisetis	7

VT 17	
Taxon Name	**Site Count**
Schoenus ?*brevisetis*	2
Schoenus ?*caespititius*	4
Schoenus caespititius	5
Schoenus aff.*caespititius*	5
Schoenus clandestinus	34
Schoenus curvifolius	42
Schoenus grandiflorus	1
Schoenus griffinianus (3)	2
Schoenus insolitus	1
Schoenus pedicellatus	3
Schoenus ?*pedicellatus*	2
Schoenus pleiostemoneus	12
Schoenus rigens	1
Schoenus sp.	1
Schoenus ?*subfascicularis*	7
Schoenus subfascicularis	4
Scholtzia involucrata	29
Scholtzia laxiflora	1
Scholtzia sp.	1
Scholtzia sp. Wongonderrah (M.E. & M.R. Trudgen MET 12000)	1
Senecio pinnatifolius	1
**Silene gallica*	1
Siloxerus humifusus	2
**Sonchus oleraceus*	1
Stachystemon axillaris	1
Stirlingia latifolia	55
Stylidium adpressum	34
Stylidium araeophyllum ms	2
Stylidium brunonianum	1
Stylidium crossocephalum	44
Stylidium cygnorum	5
Stylidium dichotomum	11
Stylidium diuroides	1
Stylidium diuroides subsp. *diuroides*	17
Stylidium diuroides subsp. *paucifoliatum*	1
Stylidium flagellum	1
Stylidium hymenocraspedum (2)	7
Stylidium kalbarriense	6
Stylidium miniatum	1
Stylidium piliferum	17
Stylidium purpureum ms	18
Stylidium repens	39
Stylidium rigidulum	20
Stylidium sp.	1
Stylidium ?sp. Kalbarri (A. Carr 145)	1
Stylidium spiciforme ms	8
Synaphea spinulosa	17
Synaphea spinulosa subsp. *spinulosa*	26
Tetraria octandra	2
Thysanotus ?*arbuscula*	1

VT 17	
Taxon Name	**Site Count**
Thysanotus arbuscula	2
Thysanotus multiflorus	4
?*Thysanotus multiflorus*	1
Thysanotus patersonii	4
Thysanotus sp.	1
?*Thysanotus* sp.	2
Thysanotus ?*sparteus*	1
Thysanotus sparteus	1
Thysanotus tenellus	1
Thysanotus thyrsoideus	15
Thysanotus ?*thyrsoideus*	1
Trachymene coerulea subsp. *coerulea*	1
Trachymene pilosa	26
Tricoryne ?*elatior*	5
?*Tricoryne* sp.	1
Tricostularia neesii var. *neesii*	2
**Trifolium arvense* var. *arvense*	1
Tripterococcus brunonis	2
**Ursinia anthemoides*	9
Verreauxia reinwardtii	1
Verticordia densiflora var. *densiflora*	10
Verticordia grandis	1
Verticordia lindleyi subsp. *lindleyi* (4)	1
Verticordia ovalifolia	1
**Vulpia myuros*	1
**Wahlenbergia capensis*	8
Wahlenbergia gracilenta	1
Waitzia acuminata var. *albicans*	6
Waitzia suaveolens var. *suaveolens*	2
Xanthorrhoea preissii	53
Xanthosia huegelii	57

VT 18	
Taxon Name	**Site Count**
Acacia auronitens	1
Acacia pulchella	1
Acacia pulchella var. *glaberrima*	3
Acacia pulchella var. *pulchella*	1
Acacia pulchella var. *reflexa*	16
Acacia sessilis	6
Acacia spathulifolia	1
Acacia sphacelata subsp. *verticillata*	13
Acacia stenoptera	11
Actinotus leucocephalus	1
Adenanthos cygnorum subsp. *cygnorum*	9
**Aira cupaniana*	2
Alexgeorgea nitens	33
Allocasuarina humilis	37
Allocasuarina microstachya	4
Allocasuarina thuyoides	1

VT 18	
Taxon Name	**Site Count**
Amphipogon turbinatus	26
Anarthria gracilis	5
Anarthria laevis	1
Andersonia heterophylla	4
Andersonia lehmanniana subsp. *lehmanniana*	2
Anigozanthos humilis subsp. *humilis*	49
Anigozanthos manglesii	1
Anigozanthos pulcherrimus	1
Anigozanthos ?*pulcherrimus*	3
**Arctotheca calendula*	1
Arnocrinum preissii	2
Asparagaceae sp.	1
Asteridea pulverulenta	1
Astroloma glaucescens	14
Astroloma microdonta	4
Astroloma xerophyllum	3
Austrostipa compressa	4
Austrostipa elegantissima	1
Austrostipa flavescens	1
Austrostipa macalpinei	16
Austrostipa sp.	1
**Avellinia michelii*	1
Babingtonia camphorosmae	2
Baeckea grandiflora	8
Banksia attenuata	29
Banksia dallanneyi	1
Banksia dallanneyi var. *dallanneyi*	25
Banksia ilicifolia	1
Banksia leptophylla	1
Banksia menziesii	22
Banksia prionotes	6
Banksia shuttleworthiana	7
Banksia telmatiaea	6
Banksia tortifolia	3
Beaufortia elegans	3
Blancoa canescens	12
Boronia ramosa subsp. *anethifolia*	9
Borya sphaerocephala	3
Bossiaea eriocarpa	41
**Briza maxima*	1
Burchardia congesta	23
?*Burchardia* sp.	1
Caladenia flava subsp. *flava*	11
Calandrinia corrigioloides	1
Calandrinia granulifera	1
Calandrinia tholiformis	1
Calectasia narragara	11
Calothamnus hirsutus	2
Calothamnus quadrifidus	4
Calothamnus quadrifidus subsp. *angustifolius*	1

VT 18	
Taxon Name	**Site Count**
Calothamnus quadrifidus subsp. *quadrifidus*	1
Calothamnus sanguineus	29
Calytrix aurea	3
Calytrix flavescens	24
Calytrix fraseri	3
Calytrix leschenaultii	7
Cassytha ?*aurea*	4
Cassytha aurea var. *hirta*	10
Cassytha ?*flava*	1
Cassytha flava	1
Cassytha glabella	3
Cassytha glabella forma ?*bicallosa*	1
Cassytha glabella forma *dispar*	26
Caustis dioica	26
Centrolepis mutica	1
Centrolepis pilosa	1
Centrolepis polygyna	3
Chamaescilla corymbosa	2
Chordifex chaunocoleus (4)	3
Chordifex sinuosus	14
Chordifex ?*sinuosus*	1
Comesperma acerosum	2
Comesperma calymega	3
Conospermum crassinervium	1
Conospermum incurvum	1
Conospermum stoechadis	3
Conospermum stoechadis subsp. *sclerophyllum*	1
Conospermum stoechadis subsp. *stoechadis*	36
Conospermum unilaterale	1
Conostephium pendulum	18
Conostephium preissii	4
Conostylis aculeata subsp. *breviflora*	3
Conostylis aculeata subsp. *spinuligera*	3
Conostylis angustifolia	8
Conostylis aurea	19
Conostylis ?*aurea*	1
Conostylis crassinervia subsp. ?*absens*	1
Conostylis juncea	7
Conostylis teretifolia subsp. *teretifolia*	47
Conothamnus trinervis	1
Corynotheca micrantha	2
Corynotheca micrantha var. ?*elongata*	2
Crassula ?*colorata* var. *acuminata*	1
Crassula ?*colorata* var. *colorata*	1
Cryptandra myriantha	3
Cryptandra pungens	1
Cryptandra scoparia	1
Dampiera spicigera	3
Darwinia sp. Watheroo (I.R. McGill 20)	2
Dasypogon obliquifolius	35

VT 18	
Taxon Name	**Site Count**
Daviesia angulata	2
Daviesia decurrens	1
Daviesia divaricata	3
Daviesia divaricata subsp. *divaricata* ms	7
Daviesia incrassata	1
Daviesia incrassata subsp. *incrassata*	19
Daviesia nudiflora	3
Daviesia podophylla	12
Daviesia triflora	1
Desmocladus fasciculatus	1
Desmocladus flexuosus	1
Desmocladus ?*lateriticus*	2
Desmocladus virgatus	3
Diplolaena obovata	1
Drosera ?*closterostigma*	1
Drosera ?*eneabba*	1
Drosera eneabba	22
Drosera erythrorhiza subsp. ?*magna*	41
Drosera gigantea subsp. *gigantea*	1
Drosera glanduligera	1
Drosera humilis	3
Drosera menziesii	8
Drosera ?*menziesii*	7
Drosera menziesii subsp. *menziesii*	2
Drosera pallida	11
Drosera sp.	11
Drosera spilos	5
Drosera stolonifera	3
Elythranthera brunonis	4
Eremaea asterocarpa	1
Eremaea asterocarpa subsp. *asterocarpa*	18
Eremaea beaufortioides var. *beaufortioides*	1
Eremaea pauciflora	45
Eremaea pauciflora var. ?*lonchophylla*	4
Eremaea sp.	1
Eucalyptus todtiana	7
Gastrolobium oxylobioides	6
Gompholobium tomentosum	9
Gonocarpus cordiger	1
Goodenia ?*coerulea*	7
Goodenia coerulea	1
Goodenia sp.	2
Goodeniaceae sp.	1
Grevillea shuttleworthiana subsp. *canarina*	2
Haemodorum sp.	5
Haemodorum venosum	1
Hakea candolleana	6
Hakea conchifolia	1
Hakea costata	29
Hakea flabellifolia	1

VT 18	
Taxon Name	**Site Count**
Hakea incrassata	4
Hakea obliqua subsp. *parviflora*	1
Hakea prostrata	1
Hakea psilorrhyncha	1
Hakea ruscifolia	6
Hakea smilacifolia	3
Hakea trifurcata	13
Harperia lateriflora	3
Hemiandra glabra subsp. *glabra* ms	1
Hemiandra ?linearis	1
Hemiandra linearis	4
Hemiandra pungens	1
Hemiphora bartlingii	6
Hensmania stoniella (3)	1
Hibbertia crassifolia	31
Hibbertia huegelii	48
Hibbertia hypericoides	50
Hibbertia racemosa	1
Hibbertia sp. Gnangara (J.R. Wheeler 2329)	1
Hibbertia ?spicata	2
Hibbertia subvaginata	5
Hyalosperma cotula	5
Hybanthus calycinus	3
Hypocalymma sp. Nambung (R. Spjut & R. Smith s.n. 22/09/1992)	1
Hypocalymma xanthopetalum	54
**Hypochaeris glabra*	21
Hypolaena exsulca	1
Indet. sp.	2
**Isolepis marginata*	1
Isopogon linearis	3
Isotropis cuneifolia subsp. *cuneifolia*	23
Jacksonia floribunda	14
Jacksonia hakeoides	11
Jacksonia nutans	32
Jacksonia ramulosa	1
Johnsonia pubescens subsp. *pubescens*	14
Lagenophora huegelii	1
Lasiopetalum lineare (3)	1
Laxmannia sessiliflora	1
Laxmannia ?sessiliflora subsp. *australis*	1
Laxmannia sessiliflora subsp. *?australis*	9
Lechenaultia linarioides	7
Lechenaultia sp.	4
Lechenaultia stenosepala	1
Lepidobolus chaetocephalus	1
Lepidobolus densus (3)	1
Lepidobolus preissianus	15
Lepidobolus preissianus subsp. *preissianus*	12
Lepidosperma pubisquameum	6
Lepidosperma ?pubisquameum	2

VT 18	
Taxon Name	**Site Count**
Lepidosperma aff.*scabrum*	15
Lepidosperma sp.	12
Leporella fimbriata	8
Leptomeria empetriformis	2
Leptospermum erubescens	3
Leptospermum spinescens	20
Leucopogon cochlearifolius	10
Leucopogon conostephioides	11
Leucopogon leptanthus	3
Leucopogon oldfieldii	2
Leucopogon oliganthus	1
Leucopogon parviflorus	1
Leucopogon polymorphus	3
Leucopogon sp.	1
Leucopogon sp. Coujinup (M.A. Burgman 1085)	2
Leucopogon sp. Lesueur (B. Evans 530)	2
Leucopogon sp. Moore River (M. Hislop 1695)	1
Leucopogon sprengelioides	24
Leucopogon ?*sprengelioides*	3
Levenhookia pusilla	1
Levenhookia stipitata	10
Logania spermacocea	3
Lomandra caespitosa	4
Lomandra hermaphrodita	15
Lomandra micrantha subsp. *micrantha*	1
Lomandra ?*nigricans*	1
Lomandra preissii	4
Lyginia barbata	5
Lyginia imberbis	6
**Lysimachia arvensis*	1
Lysinema pentapetalum	15
Macarthuria australis	1
Melaleuca ciliosa	1
Melaleuca clavifolia (3)	52
Melaleuca seriata	14
Mesomelaena pseudostygia	56
Mesomelaena tetragona	4
Millotia tenuifolia var. *tenuifolia*	3
Mirbelia floribunda	1
Mirbelia spinosa	2
Mirbelia trichocalyx	2
Monotaxis grandiflora var. *grandiflora*	1
Myrtaceae sp.	1
Neurachne alopecuroidea	28
Nuytsia floribunda	12
Opercularia vaginata	24
**Ornithopus sativus*	1
Patersonia occidentalis	1
Patersonia occidentalis var. ?*occidentalis*	31
**Pentameris airoides*	1

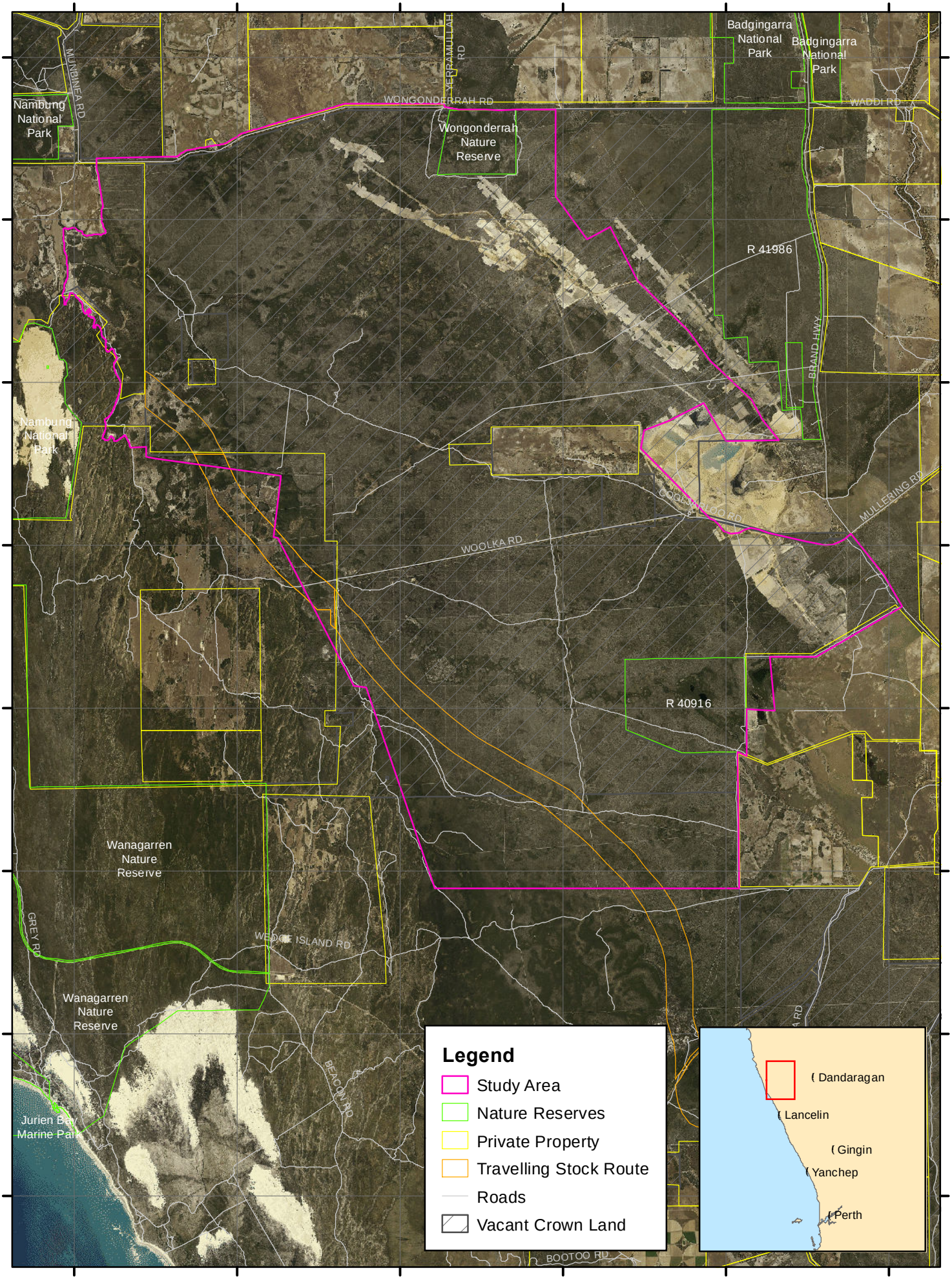
VT 18	
Taxon Name	**Site Count**
Pericalymma ellipticum var. *ellipticum*	1
Persoonia comata	8
Persoonia saccata	2
Petrophile brevifolia	17
Petrophile linearis	28
Petrophile macrostachya	25
Petrophile recurva	3
Petrophile rigida	1
Petrophile seminuda	1
Philotheca spicata	10
Phlebocarya filifolia	1
Phyllangium divergens	17
Pileanthus filifolius	13
Pimelea angustifolia	1
Pimelea imbricata var. *piligera*	3
Pimelea ?*leucantha*	1
Pimelea sp.	2
Pimelea ?*sulphurea*	1
Pimelea sulphurea	17
Platysace xerophila	2
Podotheca angustifolia	2
Podotheca chrysantha	2
Podotheca gnaphalioides	7
Poranthera drummondii	1
Poranthera microphylla	1
Poranthera ?*microphylla*	1
Proteaceae sp.	1
Pterochaeta paniculata	24
Pterostylis ?*pyramidalis*	1
Ptilotus manglesii	1
Pyrorchis nigricans	4
Quinetia urvillei	1
Restionaceae sp.	1
Ricinocarpos undulatus	1
Rytidosperma occidentale	1
Rytidosperma ?*occidentale*	1
Rytidosperma setaceum	2
Rytidosperma sp.	1
Scaevola ?*anchusifolia*	1
Scaevola canescens	7
Scaevola phlebopetala	2
Scaevola repens var. *repens*	11
?*Scaevola* sp.	1
Scaevola thesioides subsp. *thesioides*	1
Schoenus andrewsii	1
Schoenus brevisetis	12
Schoenus ?*brevisetis*	1
Schoenus ?*caespititius*	1
Schoenus clandestinus	55
Schoenus curvifolius	8

VT 18	
Taxon Name	**Site Count**
Schoenus griffinianus (3)	2
Schoenus pleiostemoneus	16
Schoenus subfascicularis	2
Scholtzia involucrata	14
Scholtzia laxiflora	1
Scholtzia ?laxiflora	1
Scholtzia leptantha	1
Scholtzia umbellifera	2
Siloxerus humifusus	5
Siloxerus ?humifusus	3
**Sonchus oleraceus*	1
Stachystemon axillaris	1
Stackhousia monogyna	2
Stackhousia ?monogyna	1
Stenanthemum notiale subsp. *chamelum*	5
Stirlingia latifolia	21
Stylidium adpressum	22
Stylidium araeophyllum ms	3
Stylidium crossocephalum	16
Stylidium cygnorum	2
Stylidium dichotomum	4
Stylidium diuroides subsp. *diuroides*	16
Stylidium kalbarriense	2
Stylidium obtusatum	1
Stylidium petiolare	1
Stylidium piliferum	21
Stylidium purpureum ms	14
Stylidium repens	6
Stylidium rigidulum	17
Stylidium roseoalatum	1
Stylidium sp.	2
Stylidium ?sp. Kalbarri (A. Carr 145)	1
Stylidium spiciforme ms	1
Synaphea spinulosa	1
Synaphea spinulosa subsp. *spinulosa*	32
**Taraxacum officinale*	1
Thelymitra campanulata	1
Thysanotus dichotomus	1
Thysanotus patersonii	14
Thysanotus ?sparteus	6
Thysanotus spiniger	4
Thysanotus teretifolius	2
Thysanotus thyrsoideus	1
Thysanotus ?thyrsoideus	4
Thysanotus triandrus	1
Trachymene pilosa	33
Tricoryne ?elatior	7
Tricoryne ?humilis	1
Tricostularia neesii var. *neesii*	1
Tripterococcus brunonis	1

VT 18	
Taxon Name	**Site Count**
**Ursinia anthemoides*	12
Verreauxia reinwardtii	5
Verticordia densiflora	4
Verticordia densiflora var. *cespitosa*	1
Verticordia densiflora var. *densiflora*	11
Verticordia grandis	1
Verticordia lindleyi subsp. *lindleyi* (4)	1
Verticordia pennigera	1
**Vulpia myuros*	3
**Vulpia* sp.	1
**Wahlenbergia capensis*	8
Wahlenbergia gracilenta	2
Waitzia acuminata var. *albicans*	8
Waitzia suaveolens var. *suaveolens*	6
Xanthorrhoea preissii	29
Xanthosia huegelii	29

Appendix W: Correlation between Vegetation Types at Cooljarloo and the Swan Coastal Plain Community Types of Gibson *et al.* (1994)

Vegetation Type	Gibson *et al*. 1994	Comments
1	No equivalent	
2	No equivalent	
3	No equivalent	
4	Similarities with SCP5	Mixed shrub damplands commonly with *Acacia saligna* and *Lepidosperma longitudinale*
5	No equivalent	
6	Similarities with SCP22	*Banksia ilicifolia*, *Banksia attenuata* woodlands with *Melaleuca preissiana* in wetter areas
7	No equivalent	
8	No equivalent	
9a	No equivalent	Contains elements of SCP13, SCP17, SCP8 and SCP9
9b	Similarities with SCP11	Wet forests and woodlands often dominated by *Eucalyptus rudis* and *Melaleuca rhaphiophylla*
10	No equivalent	
11	Similarities with SCP11	Wet forests and woodlands often dominated by *Eucalyptus rudis* and *Melaleuca rhaphiophylla*
12	No equivalent	
13	No equivalent	
14	No equivalent	
15	No equivalent	
16	No equivalent	Contains elements of SCP7 and SCP8
17	No equivalent	Contains elements of SCP23a and SCP23b
18	No equivalent	Contains elements of SCP20a and SCP28



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Cooljarloo West Project
Layout and Study Area

Revision: 0 - 28 January 2014

Author: Alison Saligari

WEC Ref: Tronox12-37-01

Filename: Tronox12-37-01-f01.mxd

Scale: 1:150,000 (A4) MGA Zone 50

Figure
1

330000 335000 340000 345000 350000 355000

6620000 6615000 6610000 6605000 6600000 6595000 6590000

Legend

Study Area Boundary

Vegetation System Associations

- BASSENDEAN_1030
- BASSENDEAN_1031
- GUILDERTON_129
- GUILDERTON_1026
- JURIEN_125
- JURIEN_1029
- LE SUEUR_7
- LE SUEUR_1030
- LE SUEUR_1031

330000 335000 340000 345000 350000 355000

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N

This map should only be used in conjunction with WEC report Tronox12-37-01.

Cooljarloo West Pre-European Vegetation System Associations

Revision: 0 - 28 January 2014

Author: Bethea Loudon

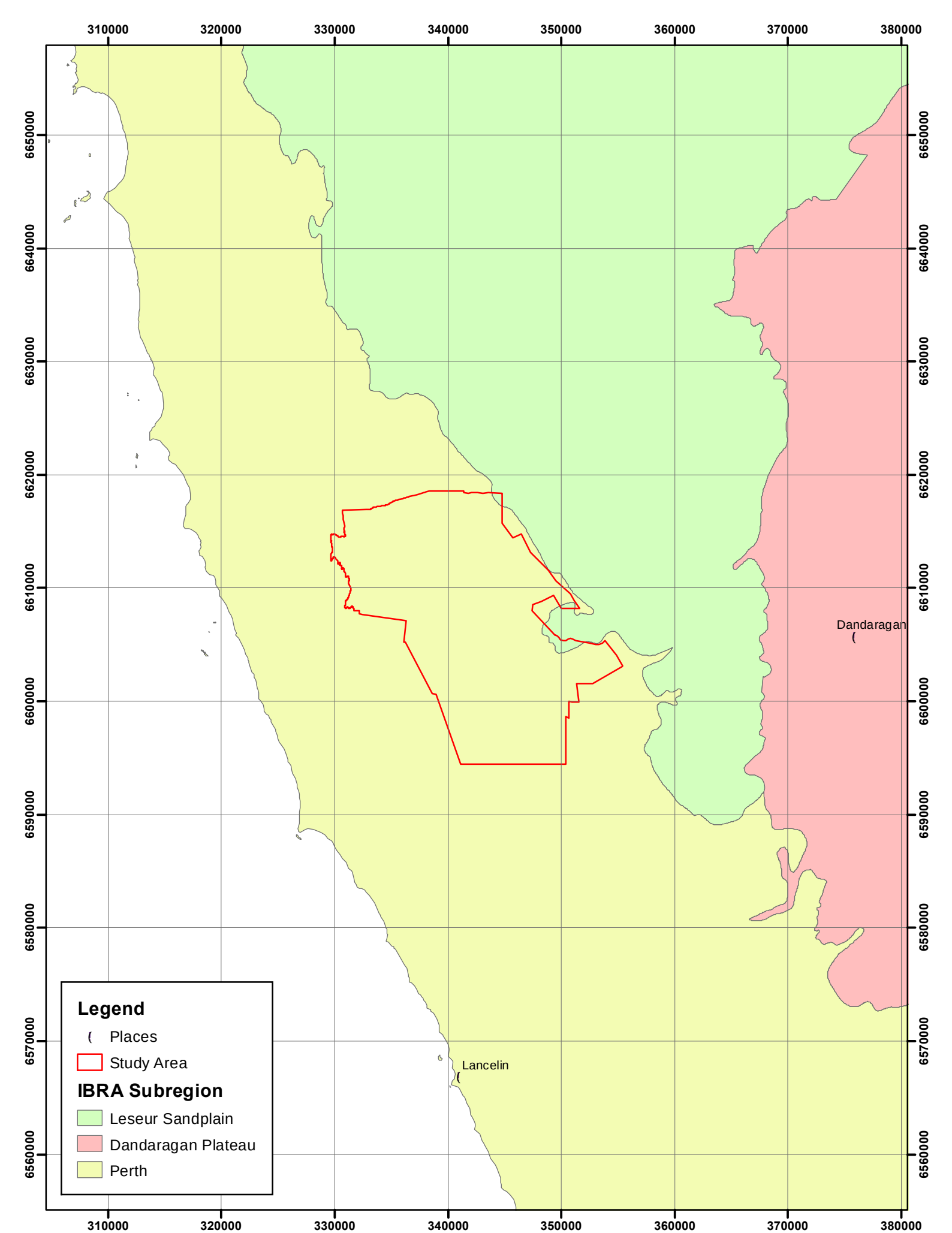
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Filename: Tronox12-37-01-f04.mxd

Scale: 1:100,000 (A3) Grid: MGA Zone 50

Figure

4



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N

Cooljarloo West Study Area
IBRA Subregions

Revision: 0 - 28 January 2014

Author: Alison Saligari

WEC Ref: Tronox12-37-01

Filename: Tronox12-37-01-f05.mxd

Scale: 1:400,000 (A4) MGA Zone 50

Figure

5

330000 340000 350000

6620000 6610000 6600000 6590000

MUNBINEA RD
YERRAMULLAH RD
WONGONDERRAH RD
WADDI RD
MULLERING RD
COOLJARLOO RD
BRAND HWY
WOOLKA RD
GREY RD
WEDGE ISLAND RD
MIMEGARRA RD

Legend

Roads

Quadrats and Detailed Recording Sites

- Current Survey Quadrats
- Woodman Environmental 2006c (job code Tiwest06-23) (Falcon plots)
- Woodman Environmental 2007b (job code Tiwest06-23) (Falcon regional survey)
- Woodman Environmental 2009a (job code Tiwest08-03) (groundwater plots)
- Woodman Environmental 2011 (job code Tiwest10-35 report 01)
- Detailed Recording Sites

Drill Line Surveys

- Astron Environmental Services (2013a, b, c)
- Mattiske Consulting Pty Ltd (2010)
- Mattiske Consulting Pty Ltd (2012)
- Rockwater Pty Ltd (2008)
- Woodman Environmental Consulting Pty Ltd (2007a)

Vegetation Mapping Studies

- Mattiske Consulting Pty Ltd (1996)
- Mattiske Consulting Pty Ltd (1997)
- Western Botanical Pty Ltd (1999)
- Western Botanical Pty Ltd (2002)
- Woodman Environmental Consulting Pty Ltd (2006b)
- Woodman Environmental Consulting Pty Ltd (2006c, 2007b)
- Woodman Environmental Consulting Pty Ltd (2009a)
- Woodman Environmental Consulting Pty Ltd (2009d)
- Study Area

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N

This map should only be used in conjunction with report Tronox12-37-01.

Cooljarloo West Study Area
Location of Historical and Current Flora and Vegetation Surveys

Revision: 0 - 28 January 2014

Author: Cathy Godden
WEC Ref: Tronox12-37-01
Filename: Tronox12-37-01-f06.mxd
Scale: 1:110,000 (A4) MGA Zone 50

Figure
6



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Cooljarloo West Conservation Significant Flora Locations - Threatened Flora

	Author: Bethea Loudon
Revision: 0 - 28 January 2014	WEC Ref: Tronox12-37-01
Datum: GDA94	Filename: Tronox12-37-01-f07.1.mxd
Grid: MGA Zone 50	Scale: 1:50,000 (A1)

Figure 7.1

Cooljarloo West Conservation Significant Flora Locations - Priority 1 Flora

Legend

- Project Boundary

Priority 1 Flora

- Cpa *Calectasia palustris*
- Cre *Chordifex reseminans*
- D?e *Diuris ?eburnea*
- G?thC *Grevillea ?thelemanniana* subsp. Cooljarloo (B.J. Keighery 28 B)
- GthC *Grevillea thelemanniana* subsp. Cooljarloo (B.J. Keighery 28 B)
- Lye *Lyginia excelsa*
- Ms?C *Malleostemon* sp. ?Cooljarloo (B.Backhouse s.n. 16/11/88)
- ?MsC *?Malleostemon* sp. Cooljarloo (B.Backhouse s.n. 16/11/88)
- MsC *Malleostemon* sp. Cooljarloo (B. Backhouse s.n. 16/11/88)
- Sc?N *Stylidium carnosum* subsp. ?Narrow leaves (J.A. Wege 490)
- Spe *Schoenus pennisetis*

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N

This map should only be used in conjunction with WEC report Tronox12-37-01.

	Author: Bethea Loudon
Revision: 0 - 28 January 2014	WEC Ref: Tronox12-37-01
Datum: GDA94	Filename: Tronox12-37-01-f07.2.mxd
Grid: MGA Zone 50	Scale: 1:50,000 (A1)

Figure 7.2



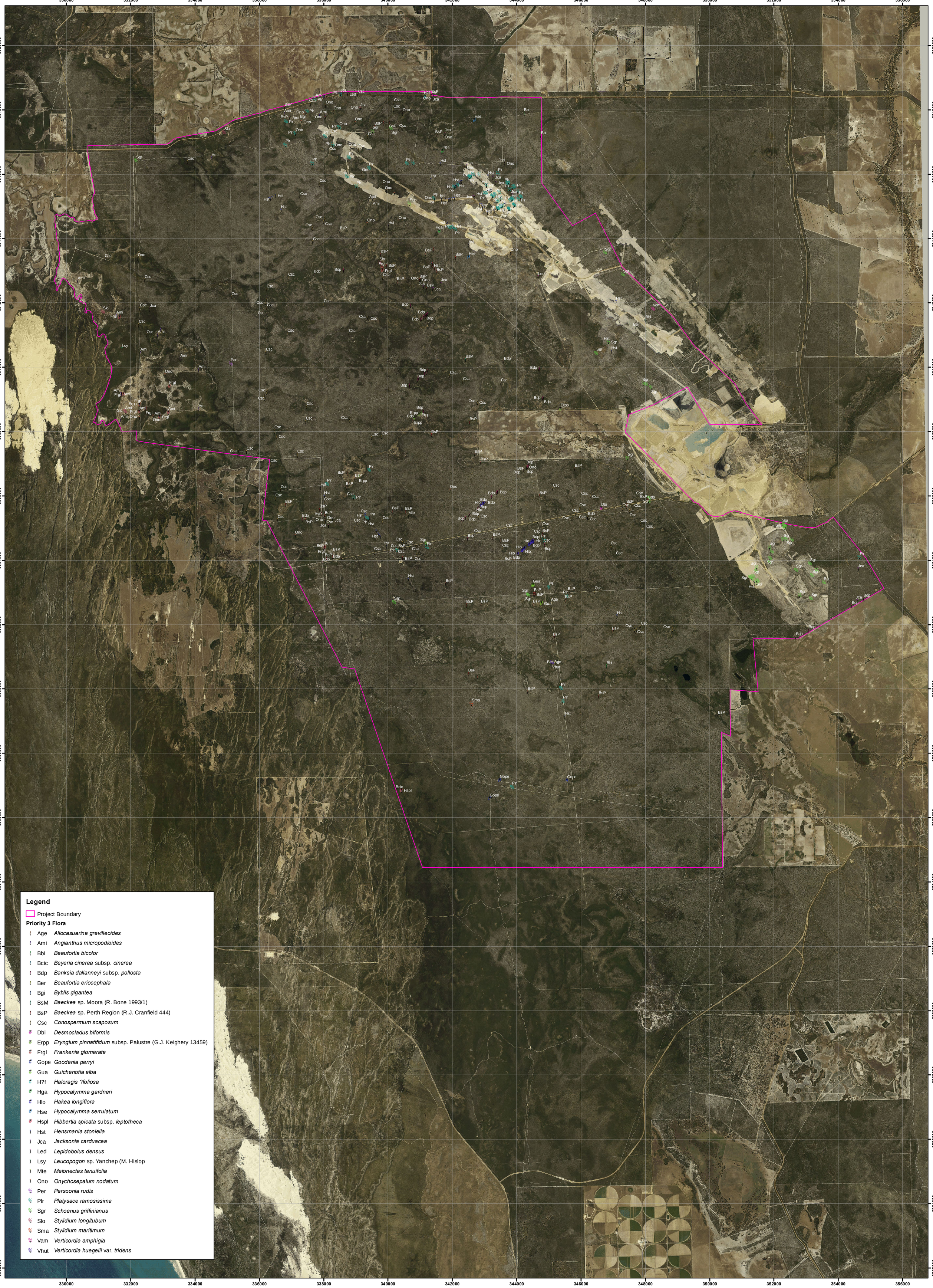
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This map should only be used in conjunction with WEC report Tronox12-37-01.

Cooljarloo West Conservation Significant Flora Locations - Priority 2 Flora

	Author: Bethea Loudon
Revision: 0 - 28 January 2014	WEC Ref: Tronox12-37-01
Datum: GDA94	Filename: Tronox12-37-01-f07.3.mxd
Grid: MGA Zone 50	Scale: 1:50,000 (A1)

Figure 7.3



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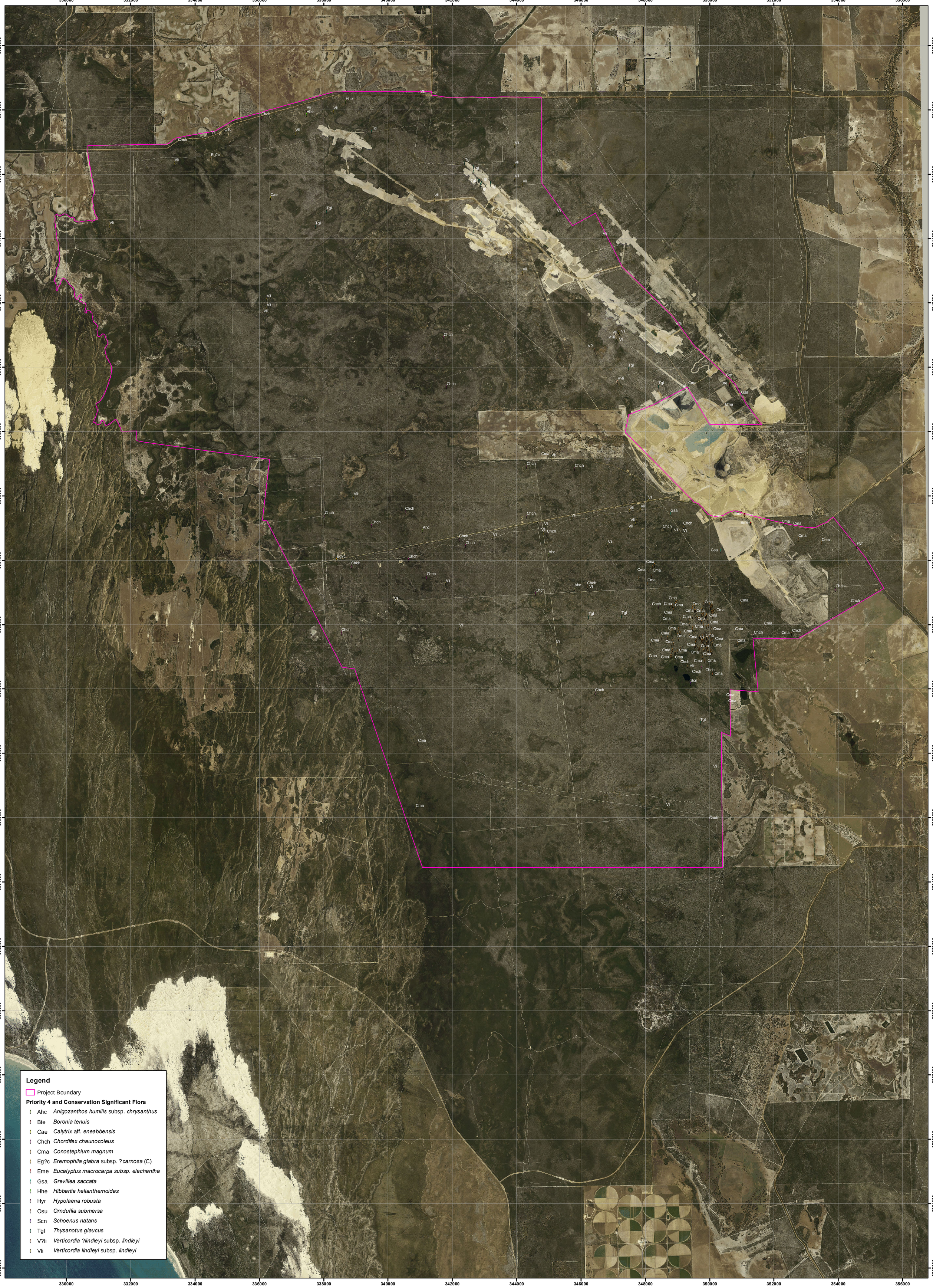
N

This map should only be used in conjunction with WEC report Tronox12-37-01.

Cooljarloo West Conservation Significant Flora Locations - Priority 3 Flora

	Author: Bethea Loudon
Revision: 0 - 28 January 2014	WEC Ref: Tronox12-37-01
Datum: GDA94	Filename: Tronox12-37-01-f07.4.mxd
Grid: MGA Zone 50	Scale: 1:50,000 (A1)

Figure 7.4



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Cooljarloo West Conservation Significant Flora Locations
Priority 4 and Conservation Significant

	Author: Bethea Loudon
Revision: 0 - 28 January 2014	WEC Ref: Tronox12-37-01
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Grid: MGA Zone 50	Scale: 1:50,000 (A1)

Figure

7.5

Introduced Flora Taxa

Aic	*Aira caryophyllea*	Hac	*Hainardia cylindrica*	Pom	*Polypogon maritimus*
Aicu	*Aira cupaniana*	Hep	*Heliophila pusilla*	Pomo	*Polypogon monspeliensis*
Arc	*Arctotheca calendula*	Ho?l	*Hordeum ?leporinum*	Pot	*Polycarpon tetraphyllum*
Av?b	*Avena ?barbata*	Hoh	*Hordeum hystrix*	Roc	*Rostraria cristata*
Avm	*Avellinia michelii*	Hyg	*Hypochaeris glabra*	Ror	*Romulea rosea*
Bat	*Bartsia trixago*	Ism	*Isolepis marginata*	Rora	*Romulea rosea var. australis*
Brd	*Bromus diandrus*	?Isp	*?Isolepis prolifera*	Ruc	*Rumex crispus*
Brma	*Briza maxima*	Jub	*Juncus bufonius*	Ru?c	*Rumex ?crispus*
Brmi	*Briza minor*	Juc	*Juncus capitatus*	Sig	*Silene gallica*
Cae	*Carpobrotus edulis*	Loa	*Lotus angustissimus*	Sigg	*Silene gallica* var. *gallica*
Ce?t	*Centaurium ?tenuiflorum*	Lor	*Lolium rigidum*	Sol	*Sonchus oleraceus*
Ceg	*Cerastium glomeratum*	Los	*Lotus subbiflorus*	Son	*Solanum nigrum*
Cem	*Centaurea melitensis*	Lya	*Lysimachia arvensis*	Spm	*Spergularia marina*
Cob	*Conyza bonariensis*	?Lysp	*?Lysimachia* sp.	Ssp	*Sonchus* sp.
Cobi	*Cotula bipinnata*	Mea	*Mercurialis annua*	Tao	*Taraxacum officinale*
Coc	*Cotula coronopifolia*	Mei	*Melilotus indicus*	?Tasp	*?Taraxacum* sp.
Crg	*Crassula glomerata*	Mep	*Medicago polymorpha*	Traa	*Trifolium arvense* var. *arvense*
Crnm	*Crassula natans var. minus*	Mod	*Monopsis debilis*	Trcc	*Trifolium campestre* var. *campestre*
Csp.	*Conyza* sp.	Mof	*Moraea flaccida*	Trd	*Trifolium dubium*
Cyd	*Cynodon dactylon*	Oes	*Oenothera stricta*	Trg	*Trifolium glomeratum*
Cyt	*Cyperus tenellus*	Orc	*Ornithopus compressus*	Tsp	*Trifolium sp.*
Dia	*Dischisma arenarium*	Orm	*Orobanche minor*	Ura	*Ursinia anthemoides*
Dig	*Dittrichia graveolens*	Orp	*Ornithopus pinnatus*	Urpi	*Urospermum picroides*
Ecp	*Echium plantagineum*	Ors	*Ornithopus sativus*	Ved	*Vellereophyton dealbatum*
Eh?b	*Ehrharta ?brevifolia*	Osp	*Oxalis sp.*	Vsp	*Vulpia* sp.
Ehc	*Ehrharta calycina*	Pal	*Parentucellia latifolia*	Vub	*Vulpia bromoides*
Ehl	*Ehrharta longiflora*	Pav	*Parentucellia viscosa*	Vum	*Vulpia myuros*
?Ehsp	*?Ehrharta* sp.	Pea	*Pentameris airoides*	Vu?m	*Vulpia ?myuros*
Gam	*Galium murale*	Peaa	*Pentameris airoides* subsp. *airoides*	Wac	*Wahlenbergia capensis*
Glc	*Gladiolus caryophyllaceus*	Pec	*Pelargonium capitatum*		

Legend

Project Boundary

Vegetation Condition

- 2 Excellent
- 3 Very Good
- 4 Good
- 6 Cleared Land
- R Rehabilitation Area
- W Water

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Cooljarloo West Vegetation Condition and Weed Locations Overview

	Author: Bethea Loudon
Revision C: 29 October 2013	WEC Ref: Tronox12-37-01
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Grid: MGA Zone 50	Scale: 1:50,000 (A1)

Figure 8

330000 332000 334000 336000 338000 340000 342000 344000 346000 348000 350000 352000 354000 356000

6620000 6618000 6616000 6614000 6612000 6610000 6608000 6606000 6604000 6602000 6600000 6598000 6596000 6594000 6592000 6590000 6588000 6586000 6584000 6582000

Legend

Project Boundary

Vegetation Types

- 1 Low Open Heathland to Mid Closed Heathland of *Acacia lasiocarpa* var. *lasiocarpa*, *Banksia telmatiaea*, *Melaleuca seriata*, *Hakea obliqua* subsp. *parviflora*, *Regelia ciliata* and/or *Verticordia densiflora* var. *densiflora*, often with Mid Isolated Clumps of Shrubs to Mid Sparse Shrubland of *Melaleuca rhaphiophylla* on white grey to grey brown sand, sandy loam or sandy clay in broad damp depressions on flat to gently undulating plains
- 2 Mid Sparse Shrubland to Mid Closed Shrubland of *Melaleuca acutifolia, Melaleuca brevifolia, Melaleuca rhaphiophylla* and/or *Melaleuca viminea* subsp. *viminea* over Low Isolated Clumps of Shrubs to Low Shrubland of *Calothamnus hirsutus*, *Calothamnus sanguineus* and *Grevillea ?thelemanniana* subsp. Cooljarloo (B.J. Keighery 28 B) on grey to grey brown sand, sandy loam or sandy clay in broad damp to wet depressions and drainage lines on flat to gently undulating plains
- 3 Low Isolated Clumps of Shrubs of *Regelia ciliata* and *Kunzea glabrescens* or Mid Shrubland of *Verticordia densiflora* subsp. *densiflora* over Low Isolated Clumps of Forbs of **Hypochaeris glabra* and *Trachymene pilosa* on white grey sandy clay or grey brown sand on the periphery of claypans
- 4 Mid Open Shrubland of *Acacia saligna* subsp. *lindleyi* and *Calothamnus quadrifidus* over Mid Isolated Clumps of Sedges of *Lepidosperma longitudinale* over Low Open Grassland of **Briza maxima* and **Briza minor* on grey brown sandy clay in drainage lines
- 5 Low Heathland to Mid Closed Heathland of *Banksia telmatiaea, Hakea obliqua* subsp. *parviflora, Melaleuca seriata* and/or *Regelia ciliata* on white grey to grey brown sand, sandy loam, sandy clay or clay loam in broad damp depressions on flat to gently undulating plains
- 6 Low Isolated Clumps of Trees to Low Woodland of *Banksia attenuata*, *Banksia menziesii* and/or *Banksia ilicifolia* over Low Sparse Shrubland to Mid Closed Shrubland of *Adenanthos cygnorum* subsp. *cygnorum, Banksia telmatiaea*, *Beaufortia squarrosa, Hypocalymma angustifolium*, *Jacksonia nutans* and/or *Melaleuca seriata* over Low Isolated Clumps of Sedges to Mid Sedgeland of *Anarthria laevis* and/or Low Isolated Clumps of Rushes of *Chordifex sinuosus* on white grey to grey brown sand in damp depressions
- 7 Low Sparse Heathland to Low Closed Heathland of *Allocasuarina* spp., *Calothamnus quadrifidus*, *Calothamnus sanguineus*, *Hakea incrassata, Hakea lissocarpha, Hibbertia crassifolia* and/or *Melaleuca seriata* over Low Isolated Clumps of Sedges to Mid Sparse Sedgeland of *Mesomelaena pseudostygia* and *Schoenus clandestinus* on white grey to grey sand or white grey sandy loam to yellow brown clay loam with lateritic surface stones in broad dry depressions or gently undulating plains
- 8 Mid Open Shrubland to Mid Shrubland of *Banksia leptophylla*, *Banksia sessilis* var. *cygnorum* and *Hakea trifurcata* over Low Open Shrubland to Low Shrubland of *Bossiaea eriocarpa*, *Calothamnus quadrifidus* subsp. *quadrifidus, Grevillea preissii* subsp. *preissii, Hibbertia racemosa, Melaleuca systena and Scholtzia leptantha* on yellow grey sand to yellow brown sandy loam on ridges and dunes with limestone outcropping
- 9a Mid Open Shrubland to Tall Closed Shrubland of Melaleuca teretifolia, Melaleuca rhaphiophylla and Melaleuca viminea subsp. viminea, occasionally with Mid Shrubs of Melaleuca lateritia and Low to Tall Sedges and Rushes of Baumea juncea, Chorizandra enodis, Meeboldina coangustata and Schoenus subfascicularis on grey to grey brown sandy loam or clay loam in broad shallow basins, wet flats and drainage lines
- 9b Low Woodland to Mid Open Forest of *Eucalyptus rudis* subsp. *rudis* over Low Isolated Clumps of Trees to Low Closed Forest of *Melaleuca rhaphiophylla,* often with Tall Sparse Shrubland to Tall Shrubland of *Acacia saligna* subsp. *lindleyi*, over Low Isolated Clumps of Forbs to Low Closed Forbland of **Galium murale, *Hypochaeris glabra, *Lysimachia arvensis* and *Trachymene pilosa* on grey to grey black sand, sandy loam, sandy clay or clayey sand in wetlands, broad shallow basins/depressions and drainage lines
- 10 Low Isolated Clumps of Trees to Mid Woodland of *Banksia littoralis* and *Melaleuca preissiana* over Tall Isolated Clumps of Shrubs to *Acacia saligna* subsp. *lindleyi* and *Viminaria juncea* over Mid Sparse Shrubland to Mid Shrubland of *Hypocalymma angustifolium* and *Xanthorrhoea preissii* over Low Open Sedgeland to Mid Sedgeland of *Baumea juncea, Cyathochaeta avenacea* and/or *Lepidosperma longitudinale* on grey to grey black loamy sand in drainage lines, wet plains and edges of damp depressions
- 11 Mid Isolated Clumps of Trees to Mid Open Forest of *Corymbia calophylla, Eucalyptus rudis* subsp. *rudis* and *Melaleuca preissiana* over Low Isolated Clumps of Trees to Low Open Forest of *Melaleuca rhaphiophylla* over Tall Isolated Clumps of Shrubs to Tall Sparse Shrubland of *Acacia cyclops, Acacia saligna* and/or *Spyridium globulosum* over Mid Isolated Clumps of Shrubs to Mid Sparse Shrubland of *Xanthorrhoea preissii* with occasional Mid Clumps of Sedges of *Gahnia trifida* on white grey to grey brown sandy loam in drainage lines
- 12 Tall Shrubland to Tall Closed Shrubland of *Acacia saligna* subsp. ?*lindleyi* and *Melaleuca rhaphiophylla* over Low Isolated Clumps of Sedges to Mid Open Sedgeland of *Lepidosperma ?longitudinale* on grey sand to dark brown loamy sand with ironstone outcropping in shallow basins
- 13 Low Sparse Samphire Shrubland to Mid Samphire Shrubland of *Sarcocornia quinqueflora, Tecticornia ?halocnemoides* and/or *Tecticornia indica* subsp. *bidens* over Low Isolated Clumps of Shrubs to Low Open Shrubland of *Frankenia pauciflora* and/or *Lawrencia squamata* over Low Open Sedgeland to Mid Sedgeland of *Baumea juncea, Cyathochaeta avenacea* and/or *Lepidosperma longitudinale* on grey to grey black loamy sand in drainage lines, wet plains and edges of damp depressions
- 14 Mid Woodland of *Casuarina obesa* over Mid Sparse Shrubland to Tall Closed Shrubland of *Melaleuca acutifolia, Melaleuca brevifolia* and/or *Melaleuca viminea* subsp. *viminea* over Mid Isolated to Tall Isolated Clumps of Sedges of *Baumea juncea* and *Gahnia trifida* or Low Isolated Clumps of Shrubs of *Calothamnus hirsutus, Grevillea thelemanniana* subsp. Cooljarloo (B.J. Keighery 28 B) and *Verticordia densiflora* on grey white to grey brown clayey sand on saline flats
- 15 Low Woodland of *Eucalyptus decipiens* or Low Mallee Woodland of *Eucalyptus foecunda* over Mid Closed Shrubland of *Acacia spathulifolia* and *Banksia sessilis* over Low Sparse Shrubland of *Acacia lasiocarpa* var. *lasiocarpa, Calothamnus quadrifidus, Leucopogon parviflorus* and/or *Melaleuca systena* on grey brown to yellow grey sand or loamy sand on low rises or ridges with limestone surface stones; or Tall Isolated Clumps of Shrubs of *Allocasuarina lehmanniana* over Mid Open Shrubland of *Anthocercis ilicifolia* and *Spyridium globulosum* over Low Isolated Clumps of Shrubs of *Acacia lasiocarpa* var. *lasiocarpa* and *Leucopogon parviflorus* on yellow brown sand on the periphery of claypans
- 16 Low Sedgeland of *Schoenus curvifolius* and/or Low Isolated Clumps of Forbs to Low Closed Forbland of **Dittrichia graveolens, *Lysimachia arvensis, Pogonolepis stricta, *Parentucellia viscosa, Brachyscome bellidioides, Calandrinia* sp. Kenwick (G.J. Keighery 10905), *Goodenia pulchella* subsp. Coastal Plain A (M. Hislop 634) and *Wurmbea* sp. on grey to grey brown sandy clay loam on non-saline flats
- 17 Low Isolated Clumps of Trees to Low Open Forest of *Banksia attenuata, Banksia menziesii* and *Eucalyptus todtiana* over Mid Isolated Clumps of Shrubs to Mid Shrubland of *Adenanthos cygnorum* subsp. *cygnorum, Eremaea pauciflora, Jacksonia floribunda, Jacksonia nutans*, *Stirlingia latifolia* and *Xanthorrhoea preissii* over Low Isolated Clumps of Shrubs to Low Shrubland of *Bossiaea eriocarpa*, *Dasypogon obliquifolius, Eremaea asterocarpa* subsp. *asterocarpa, Eremaea pauciflora*, *Hibbertia crassifolia*, *Hibbertia hypericoides*, *Jacksonia nutans, Melaleuca clavifolia, Patersonia occidentalis* var. ?*occidentalis* and *Petrophile linearis* over Low Isolated Clumps of Sedges to Mid Open Sedgeland of *Mesomelaena pseudostygia* on white or grey sand on undulating plains and low dunes
- 18 Low Isolated Clumps of Trees to Low Open Forest of *Banksia attenuata* and *Banksia menziesii* over Mid Isolated Clumps of Shrubs to Mid Shrubland of *Allocasuarina humilis*, *Conospermum stoechadis* subsp. *stoechadis, Eremaea pauciflora, Hakea costata* and/or *Xanthorrhoea preissii* over Low Isolated Clumps of Shrubs to Low Closed Shrubland of *Bossiaea eriocarpa, Calothamnus sanguineus, Dasypogon obliquifolius, Eremaea pauciflora, Hibbertia hypericoides, Jacksonia nutans* and/or *Melaleuca clavifolia* over Low Isolated Clumps of Sedges to Mid Open Sedgeland of *Mesomelaena pseudostygia* on grey to yellow grey sand on undulating plains and low dunes or white grey to grey brown sand, sandy loam or sandy clay loam on simple slopes, open depressions or flats within undulating plains
- C Cleared Land
- R Rehabilitation Area
- W Water

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Cooljarloo West Vegetation Types Overview

	Author: Bethea Loudon
Revision: 0 - 28 January 2014	WEC Ref: Tronox12-37-01
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Figure 9