Dual Season Survey for Short Range Endemic Fauna for the Tabba Tabba Lithium Project, Northern Pilbara, Western Australia.

WILDCAT RESOURCES

Report by *Invertebrate Solutions Pty Ltd*
for Wildcat Resources Ltd

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Frontispiece: Ridgeline to the west of the access corridor

Executive Summary

Wildcat Resources Limited (Wildcat) owns 100% of the Tabba Tabba Lithium Project (Tabba Tabba; the Project) located approximately 50km south-east of Port Hedland in the Pilbara region of Western Australia. The proposed development is for an initial 10-year life of mine (LoM), including an open pit, run-of-mine (ROM) pad, ore crushing plant, processing (concentrator) plant, integrated waste landform (IWL) tailings storage facility (TSF), solar farm, accommodation village, topsoil stockpile areas and associated infrastructure areas (offices, workshops, access roads, laydown areas, etc.).

Invertebrate Solutions Pty Ltd undertook a desktop assessment and dual season baseline field survey for Short Range Endemic (SRE) invertebrates for the Project.

The Desktop Study Area contains three Confirmed SRE species, two Likely SRE species and 10 Possible SRE species. The species are summarised below:

- Three Paradoxosomatid millipedes (*Antichiropus forcipatus, A. simmonsi,* and *A. 'DIP033 Wodgina'*) – Confirmed SRE species.
- Two mygalomorph spiders (*Kwonkan* 'MYG209' and *Conothele* 'MYG607') – Likely SRE species.
- Five slaters, two mygalomorph spiders, two pseudoscorpions (Olpiidae), and one selenopid spider – Possible SRE species.

The remaining species identified from desktop resources were found to be widespread. No conservation significant invertebrates (widespread, non-SRE species) were identified in the desktop assessment.

Of the 15 confirmed, likely and possible SRE species identified in the Desktop Study Area, two Possible SRE taxa were recorded in the Phase 1 field survey (April 2024): the slater *Buddelundia* sp.'14' and pseudoscorpions from the family Olpiidae. The Phase 2 SRE survey (April 2025) recorded a Confirmed SRE millipede *Antichiropus forcipatus* at a single location in rocky habitat in the west of the Development envelope. This millipede occurs around Abydos and rocky habitats to the south of the Development Envelope. The Phase 2 survey recorded three Possible SRE taxa, however, all are known to occur more widely in the coastal Pilbara region. The remaining potential SRE taxa that occur within the desktop study area were not recorded. No conservation significant invertebrates (widespread, non-SRE species) were identified in the desktop assessment or recorded during the field survey.

The Development Envelope occurs mainly on widespread spinifex woodland that shows indications of regular fires, or highly disturbed areas from historical mining. The native vegetation found in the Development Envelope is widespread in the landscape and does not form habitat isolates that have been present over evolutionary timescales, thus limiting the likely presence of SRE taxa. As such, all Confirmed or Likely SRE species, or any conservation significant invertebrates, are considered to have a Low likelihood of occurrence in the Development Envelope.

No further investigation for SRE or conservation significant invertebrates is considered necessary in order to meet 'Technical guidance – Sampling of short range endemic invertebrate fauna' (EPA 2016).

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1. Introduction

Wildcat Resources Limited (Wildcat) owns 100% of the Tabba Tabba Lithium Project (Tabba Tabba; the Project) located approximately 50km south-east of Port Hedland in the Pilbara region of Western Australia (refer to Figure 1).

The proposed development is for an initial 10-year life of mine (LoM), including an open pit, run-of-mine (ROM) pad, ore crushing plant, processing (concentrator) plant, integrated waste landform (IWL) tailings storage facility (TSF), solar farm, accommodation village, topsoil stockpile areas and associated infrastructure areas (offices, workshops, access roads, laydown areas, etc.).

To support the environmental impact assessment (EIA) process for the proposed project development, Invertebrate Solutions Pty Ltd (Invertebrate Solutions) was engaged to undertake a desktop assessment and dual season baseline field survey for Short Range Endemic (SRE) invertebrates within the Development Envelope.

SRE invertebrates occur within terrestrial habitats and possess naturally restricted ranges and poor dispersal capabilities. The high degrees of local endemism and lack of habitat connectivity makes SRE fauna susceptible to high levels of impact even from localised projects, with species' extinction a real possibility if they are not adequately considered during project planning phases.

1.1 Purpose of this Report

Wildcat engaged Invertebrate Solutions to undertake the following scope of works for Tabba Tabba, Pilbara, Western Australia:

- Undertake a desktop assessment for SRE invertebrates to identify known SRE fauna in the area, as well as habitats in which they likely occur, and include an individual risk assessment for the Project area for SRE species.
- Summarise previous SRE fauna surveys for the Project areas and other relevant studies from the region as part of the desktop assessment.
- Undertake a dual wet season level 2 field survey for SRE invertebrates within the Project area (as shown in Figure 1) to enable a thorough understanding of the local distribution of all previously identified and any newly recorded potential SRE taxa.
- Identify any potential SRE invertebrates collected to the lowest practical taxonomic level.
- Provide recommendations and any suggested requirements for further work to comply with relevant legislation.
- Provide a standalone SRE baseline survey report including distribution maps of any likely or confirmed SRE species.
- Provide all spatial data in electronic format and data packages in accordance with the Index of Biodiversity Surveys for Assessments (IBSA) (EPA 2018).

- The desktop assessment and field survey program will be undertaken with regard to Technical Guidance – Sampling of short range endemic invertebrate fauna (EPA 2016).

1.2 Study Area and Background Environmental Information

The Project is located approximately 50km south-east of Port Hedland in the Pilbara region of Western Australia (as shown in Figure 1).

The Project development (proposed Development Envelope) is 2,958 hectares and represents the survey area for this SRE invertebrate assessment.

The Interim Biogeographic Regionalisation of Australia (IBRA) classifies Australia's landscapes into 89 large geographically distinct bioregions based on common climate, geology, landform, native vegetation, and species information (DCCEEW 2025). The Project is located within the Pilbara IBRA bioregion, which has an arid tropical climate with summer rain. The Pilbara bioregion ("Craton") is divided into four sub-regions. The Project is located within the Roebourne plains sub-region, which is characterised by Quaternary alluvial plains with a grass savanna of mixed bunch and hummock grasses, and dwarf shrub steppe of *Acacia inaequilatera* over *Triodia wiseana*. Samphire, *Sporobolus* and Mangal occur on marine alluvial flats (Environment Australia 2000).

The land tenure for the Project area is pastoral lease and mineral exploration tenure. The climate is described as arid tropical with summer rain (Environment Australia 2000). The localised climate is classified as arid tropical with an average annual rainfall of 313 mm recorded at the Bureau of Meteorology (BoM) Station 004032 in Port Hedland (BoM, 2024), which is located 50 km northwest of the Project area. Annual rainfall is highly variable, and also highly seasonal, with the majority of rainfall occurring during the summer months linked to cyclonic events (January to March) (Plate 1).

Legend

- Desktop Study Area
- Tabba Tabba Project Area

0 5 10 20 km

Scale: 1:600,000 @ A4

N

- NOTE THAT POSITION ERRORS CAN BE >5M IN SOME AREAS

LOCALITY MAP

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HORIZONTAL DATUM & PROJECTION	DATE
GCS GDA 1994	4/08/2025

PROJECT
Tabba Tabba Lithium 2025

CREATED	CHECKED	APPROVED	REVISION
ENVIRONMAPS	TM	TM	0

Wildcat Resources

Figure 1

Tabba Tabba Project Area and Desktop Study Area

ENVIRONMAPS t: 0406 590 006 Environmental Mapping Solutions www.environmaps.com.au

C:\GIS\Jobs\Invertebrate Solutions\Tabba Tabba Lithium 2025\Figures\TTL2025_F01 Tabba Tabba Project Area and Desktop Study Area_250804.mxd

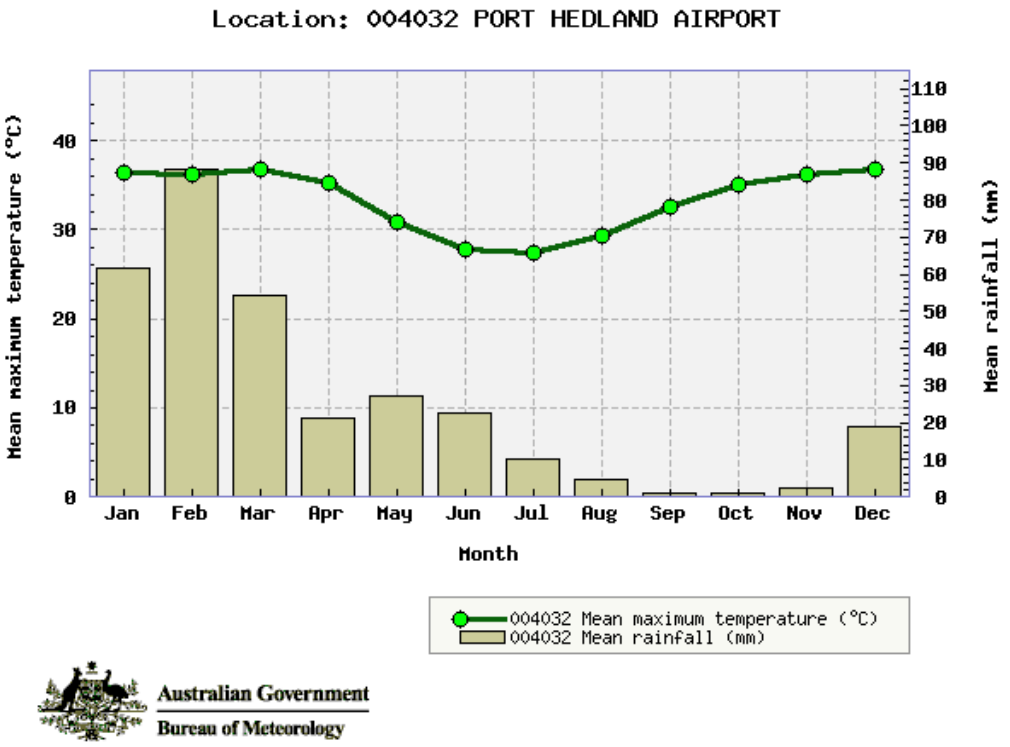


Plate 1 Port Hedland long term climate data (After BOM.gov.au).

1.3 Survey Staff Qualifications

Field sampling for invertebrates was undertaken by experienced ecologists:

- Dr Timothy Moulds *BSc (Hons) Geol., PhD. Invert. Ecol.* (Invertebrate Solutions) - Phase 1 and 2.
- Mr Jack Livsey *BSc (Hons),* (Invertebrate Solutions) – Phase 2.

Invertebrate extraction, sorting and identification was completed by Dr Timothy Moulds. Survey work was undertaken under the collection licences issued by the Department of Biodiversity, Conservation and Attractions:

- BA27001028; Licensee Timothy Moulds (Invertebrate Solutions); Valid until 07/04/2025.
- BA27001261; Licensee Timothy Moulds (Invertebrate Solutions); Valid until 07/04/2026

1.4 Introduction to SRE fauna

SRE invertebrates are species with restricted distributions. The isolation of invertebrates in specific habitats or bioregions leads to endemism at various spatial scales. The vast majority of invertebrates are capable of dispersing substantial distances at some phase of their life cycle. Some groups, however, are susceptible to short-range endemism which describes endemic species with restricted ranges, arbitrarily defined in Western Australia as less than 10,000 km^2 (100 km x 100 km) (Harvey, 2002). Taxa that have been more commonly found to contain SRE representatives include:

- Onychophorans (velvet worms);

- Crustaceans (Isopoda);
- Arachnids (mygalomorph spiders, pseudoscorpions, opiliones, scorpions, schizomids);
- Myriapods (millipedes and centipedes);
- Molluscs (land snails); and
- Insects (hemipterans, grasshoppers, butterflies).

SRE invertebrate fauna taxa are generally found in sheltered, relatively mesic environments such as isolated habitats (e.g., boulder piles, isolated hills, dense patches of vegetation, gullies) and can include microhabitats within these environments such as deep leaf litter accumulation, large logs, under bark, cave areas, and springs and permanent water bodies.

Many processes contribute to taxa being susceptible to short range endemism. Generally, these factors are related to the isolation of a species which can include the ability and opportunity to disperse, life history, physiology, habitat requirements, and habitat availability. Taxa that exhibit short range endemism generally exhibit poor dispersal, low growth rates, low fecundity, and reliance on habitat types that are discontinuous (Harvey, 2002). Taxa that reside within easily isolated habitats surrounded by physical barriers such as islands, mountains, aquifers, lakes and caves are also more susceptible to becoming SRE species, often including additional taxa not otherwise generally forming SREs.

Taxa that exhibit short range endemism are particularly vulnerable to disturbance, either natural or anthropogenic, as they are reliant upon specialised, often restricted and often moist habitats (Framenau, *et al*., 2008). Short range endemic taxa are unable to disperse to *refugia* when their habitats are threatened or destroyed, thus making them a priority for conservation efforts.

The allocation of SRE status can be difficult due to the often incomplete taxonomic framework of many invertebrate groups and the often frequent need for substantial revision to enable accurate identification. SRE status is assigned using the categories described in Table 1, based upon the available information from the Western Australian Museum (WAM) database and discussion with appropriate taxonomic authorities for various invertebrate groups. Insufficient information exists for many invertebrate species due to specimens being juvenile, the wrong sex to allow identification, or damaged, as well as inadequate taxonomic frameworks, precluding the assignment of SRE status. The likelihood that a particular vegetation unit potentially contains or supports SRE species is defined in Table 2.

Table 1 Short Range Endemic Status Descriptions

SRE Status	Definition
Confirmed	A confirmed SRE species. A known distribution of < 10,000 km^2 (after Harvey 2002). Taxonomy of the group is well known. The group is well represented in collections, or via comprehensive sampling.
Likely	Likely to be an SRE species based upon knowledge of the family/genus, where other closely related species show evidence of short range endemism. Where habitats containing the specimens show discontinuity within the landscape.
Possible	Based upon existing knowledge of the genus / family there is a possibility that the species may have a restricted range. Where habitats containing the specimens may show discontinuity within the landscape. Possible SRE species may be assigned one of the subcategories below: A. Data deficient, i.e., new species; lack of distribution, taxonomic or collecting knowledge; juvenile specimens; wrong sex for identification B. Habitat indicators C. Morphology indicators D. Molecular evidence E. Research and expertise of WAM staff/taxonomic specialists
Widespread	Not an SRE, a wide ranging distribution of > 10,000 km^2

Table 2 SRE Habitat Suitability Definitions

SRE habitat Likelihood of occurrence	Definition
High	The habitat has a High likelihood of containing SRE species as it has at least three microhabitat factors that support the presence of SRE species such as: SE facing slopes, moisture, rocky areas, habitat isolates, deep leaf litter, mountainous areas, deep gullies or gorges, riparian vegetation, or habitats known to contain SRE species.
Moderate	The habitat has a Moderate likelihood of containing SRE species as it has at least two microhabitat factors that support the presence of SRE species such as: SE facing slopes, moisture, rocky areas, habitat isolates, deep leaf litter, mountainous areas, deep gullies or gorges, riparian vegetation or habitats known to contain SRE species.
Low	The habitat has a Low likelihood of containing SRE species as it has only a single microhabitat factor that support the presence of SRE species such as: SE facing slopes, moisture, rocky areas, habitat isolates, deep leaf litter, mountainous areas, deep gullies or gorges, riparian vegetation or habitats known to contain SRE species.
Nil	No potential habitat exists for SRE species within the vegetation type / condition area. This includes areas that are totally cleared, completely degraded or urbanised. This also includes areas that are dominated by weeds or exotic vegetation species.

1.5 Conservation Legislation and Guidance Statements

Terrestrial SRE species are protected under state legislation via the *Biodiversity Conservation Act 2016* (BC Act) which came into effect on 1st January 2019, replacing the *Wildlife Conservation Act 1950*. The BC Act is aligned with the federal *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). The assessment of SRE fauna for environmental impact assessment (EIA) is undertaken in Western Australia with regard to Technical Guidance – Sampling of short range endemic invertebrate fauna (EPA 2016).

At the State level, the BC Act provides a list of threatened species that have special protection as species listed under Part 2 of BC Act. This notice is updated periodically by the Department of Biodiversity, Conservation and Attractions (DBCA) (formerly the Department of Parks and Wildlife (DPaW) and the current list (October 2022) includes numerous threatened SRE species from the Wheatbelt, South Coast, Murchison and Pilbara regions. Included in the list are crustaceans, arachnids and myriapods that are considered to be "rare or likely to become extinct, as critically endangered fauna, or are declared to be fauna that is in need of special protection" (DBCA 2022).

In addition to the specially protected fauna, DBCA also maintains a list of Priority fauna that are considered to be of conservation significance but do not meet the criteria for formal listing under the BC Act. Priority is not a listing category under the BC Act, however, all fauna and flora are protected in WA following the provisions in Part 10 of the BC Act. The protection applies even when a species is not listed as threatened or specially protected, and regardless of land tenure (DBCA 2022). Species that may possibly be threatened but do not meet the criteria for formal listing under the BC Act because of data deficiencies, are added to the Priority Fauna List under Priorities 1, 2 or 3, in order of prioritisation for evaluation of conservation status so that consideration can be given to potential listing as threatened DBCA (2022). Species that are adequately known, meet criteria for near threatened, or are rare but not threatened, or that have been recently removed from the threatened species list or conservation dependent or other specially protected fauna lists for other than taxonomic reasons, are placed in Priority 4. The Priority fauna list is irregularly updated by DBCA. The Pilbara bioregion contains numerous conservation significant millipedes from the genus *Antichiropus* along with various land snails.

The BC Act provides the ability for the state government of Western Australia to formally list Threatened Ecological Communities (TECs), and Priority Ecological Communities (PECs) along with threatening processes.

The federal EPBC Act protects both species and ecological communities. Sixteen invertebrates in Western Australia are listed under the EPBC Act with nine of these species being from the far southwest corner of the state. The are no terrestrial SRE invertebrates federally listed for the Pilbara region.

1.6 Report Limitations and Exclusions

This study was limited to the written scope provided to the client by Invertebrate Solutions (29th January 2024, and 25th February 2025) summarised in 1.1. This study was limited to the extent of information available to Invertebrate Solutions at the time of undertaking the work. Information not made available to this study, or which subsequently becomes available, may alter the conclusions

made herein. Assessment of potential impacts to SRE fauna was based on proposed development plans provided by the client.

The opinions, conclusions and any recommendations in this report are based on conditions encountered and information reviewed at the date of preparation of the report. Invertebrate Solutions has no responsibility or obligation to update this report to account for events or changes occurring subsequent to the date that the report was prepared.

Invertebrate Solutions has prepared this report on the basis of information provided by Wildcat Resources Ltd and others (including Government authorities), which Invertebrate Solutions has not independently verified or checked beyond the agreed scope of work. Invertebrate Solutions does not accept liability in connection with such unverified information, including errors and omissions in the report which were caused by errors or omissions in that information.

The records held by the WAM are not exhaustive and represent only specimens within the WAM collections that have been databased. The Entomology, Mollusc and Crustacean collections remain largely un-databased. Specimens identified to genus level only in database records have been excluded from the analysis as it is impossible to determine if they represent an SRE taxa.

Site conditions may change after the date of this report. Invertebrate Solutions does not accept responsibility arising from, or in connection with, any change to the site conditions. Invertebrate Solutions is also not responsible for updating this report if the site conditions change.

Species were identified to the lowest practical taxonomic level, taking into consideration that the taxonomic framework of many invertebrate groups is incomplete and often in need of substantial revision to enable accurate identification. SRE status was assigned using the available information from the WAM database and discussion with appropriate taxonomic authorities for various invertebrate groups. Insufficient information exists for many invertebrate species due to specimens being juvenile, the wrong sex to allow identification, or damaged, as well as inadequate taxonomic frameworks, precluding the assignment of SRE status.

Field surveys for SRE invertebrates require multiple seasonal surveys to fully record all species that may be present in an area, and in varying weather conditions. The current survey was undertaken across two post wet seasons and additional surveys at different times of the year may record additional species, however, the combination of collection techniques and the intensity of the survey provides a high degree of certainty that majority of potential SRE invertebrates present within the survey area were recorded.

1.6.1 Potential Survey Specific Limitations

The following specific comments are made with regard to potential project specific limitations:

- **Sampling effort** – The dual phase survey included 80 hours of active searching and 80 leaf litter samples extracted in Tullgren funnels that provides a high degree of certainty that the majority of potential SRE invertebrates present at the time of survey were recorded from the Project area. This is not considered to be a limitation for the current survey.
- **Timing and rainfall** – The survey was undertaken in April 2024 and April 2025, which is within the suggested timing for the Pilbara region (November – April) according to the EPA

Technical Guidance – Sampling of short range endemic invertebrate fauna (EPA 2016). Although minimal rainfall was recorded in the Pilbara in the preceding months for Phase 1, 19.4 mm of rainfall was recorded in March 2024, and Tropical Cyclone Zelia passed over the Project in February 2025 preceding the field survey providing suitable collecting conditions for SRE invertebrates. This is not considered a limitation for the current survey.

- **Methods** – A wide variety of collecting techniques were used including active searching, leaf litter sieving, leaf litter extracted in Tullgren funnels, bark peeling, and burrow excavation, providing a high degree of certainty that the majority of potential SRE invertebrates present at the time of the survey were recorded from the Survey area. This is not considered to be a limitation for the current survey.
- **Habitats sampled** – All significant potential SRE habitats within the Survey area were sampled using a combination of techniques. This is not considered to be a limitation for the current survey.
- **Access to areas** – No access restrictions were encountered for any of the Project area due to the use of an offroad buggy. This is not considered to be a limitation for the current survey.
- **Personnel –** The field survey was undertaken by experienced invertebrate ecologists who have completed many similar surveys in the Pilbara region and Western Australia. This is not considered to be a limitation for the current survey.
- **Level of specimen identification –** The identification of the specimens recorded during the survey was completed by experienced taxonomists with relevant speciality in their groups. This is not considered to be a limitation for the current survey.

2. Methods

Invertebrate Solutions undertook the following tasks for the two phase post wet season baseline SRE survey of Tabba Tabba:

- SRE desktop assessment based upon WAM Records, database searches, and literature review.
- 2024 SRE survey of the Project Area (40 sites – 1 hour active searching and leaf litter samples).
- 2025 SRE survey of the Project Area (40 sites – 1 hour active searching and leaf litter samples).
- Opportunistic collection of mygalomorph spiders and other potential SRE invertebrates

The survey program was undertaken with regard to the Technical Guidance – Sampling of short range endemic invertebrate fauna (EPA 2016).

2.1 SRE Desktop Methodology

A search of the WAM databases for Arachnids, Crustacea and Molluscs was undertaken for potential SRE taxa occurring in the Pilbara region. The desktop assessment was used to identify any potential SRE species that may occur in the Pilbara region and target those taxa during the subsequent field survey of the Project area.

2.1.1 Likelihood of SRE invertebrate occurrence

The likelihood of SRE invertebrate species occurring in the Project area was assessed using a combination of regional and local botanical and landform information and database searches including:

- Analysis of published and unpublished reports concerning SRE invertebrate from the region.
- Results of a Protected Matters Search from the Federal Government's Department of Climate Change, Energy, and the Environment (DCCEEW) website.
- Records of fauna held by the WAM.

A list of conservation significant fauna for the Desktop Study Area was compiled from the DBCA Specially Protected Fauna Notice 2024 (DBCA 2024) and DCCEEW's Protected Matters Search Tool (PMST). Based on the analysis of all available information, potential SRE invertebrate species were assigned a level of likelihood to be present within habitats contained in the Study area of either 'Very Low', 'Low', 'Moderate', 'High', or 'Definite' (Table 2).

Table 3 SRE and Conservation significant species likelihood of occurrence definitions

Short Range Endemic and Conservation significant invertebrate Likelihood of occurrence	Definition
Definite	The species is confirmed to occur within the Project Area.
High	Habitat for the species is known to occur within the Project Area and known records of the species are within 20 km.
Moderate	Habitat for the species is known to occur within the Project Area and known records of the species are within 50 km.
Low	The species has been recorded from within 50 km, however, no habitat is present for the species within the Project Area.
Very low	No habitat exists for the species within the Project Area and no records of the species are within 50 km or the distribution of the species is known well enough to exclude its presence within the Project Area.

2.2 Survey Effort and Timing

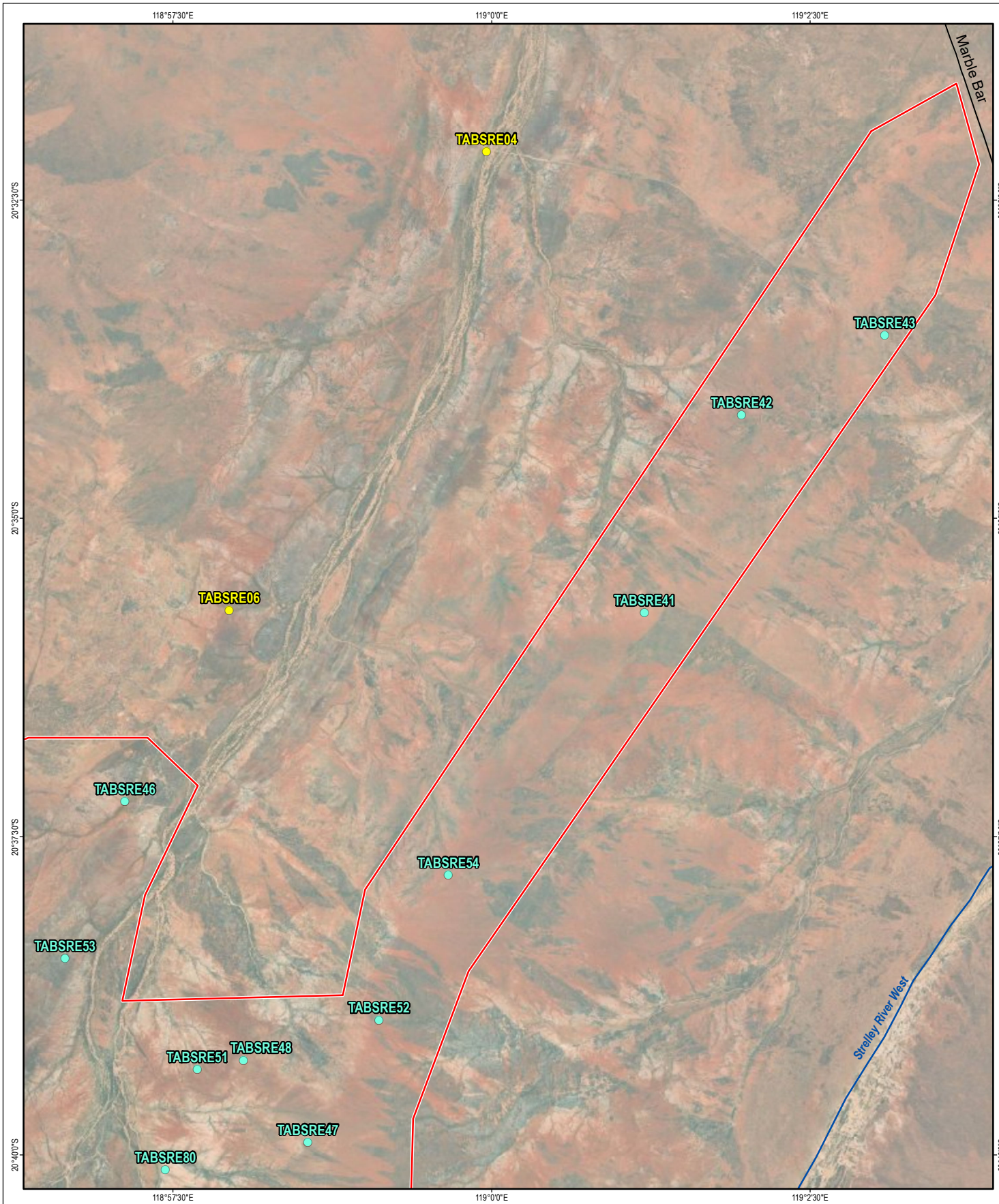
Invertebrate Solutions completed a dual phase post wet season SRE survey at Tabba Tabba between 8th – 11th April 2024 (Phase 1) and 23rd – 27th April 2025 (Phase 2) with regard to Technical Guidance – Sampling of short range endemic invertebrate fauna (EPA 2016). Eighty sites throughout the Project Survey area were actively sampled for SRE invertebrates including litter sifting and hand searching of appropriate microhabitats (Table 4, Appendix 3). All coordinates in UTM are using datum GDA2020 and located in Zone 50K. A map showing the locations of the SRE sampling sites is shown in Figure 2.

Table 4 Locations actively searched for SRE invertebrates

Sample Site	Easting	Northing	Habitat	Active search date
TABSRE01	701510	7715214	Spinifex plain	8/04/2024
TABSRE02	701191	7716105	Spinifex plain	10/04/2024
TABSRE03	701608	7716111	Open Low Woodland over spinifex	10/04/2024
TABSRE04	708453	7728002	Drainage line	10/04/2024
TABSRE05	699980	7713515	Spinifex plain	11/04/2024
TABSRE06	704865	7721399	Open Low Woodland over spinifex	11/04/2024
TABSRE07	700637	7714407	Open Low Woodland over spinifex	11/04/2024
TABSRE08	701020	7714481	Open Low Woodland over spinifex	8/04/2024
TABSRE09	700206	7713203	Open Low Woodland over spinifex	11/04/2024
TABSRE10	700027	7713833	Open Low Woodland over spinifex	11/04/2024
TABSRE11	699918	7712834	Drainage line	11/04/2024
TABSRE12	699521	7712867	Drainage line	11/04/2024
TABSRE13	699899	7712993	Open Low Woodland over spinifex	11/04/2024
TABSRE14	699444	7712481	Drainage line	8/04/2024
TABSRE15	699662	7712321	Spinifex plain	8/04/2024
TABSRE16	699452	7711683	Open Low Woodland over spinifex	8/04/2024
TABSRE17	700740	7710964	Spinifex plain	9/04/2024
TABSRE18	701718	7708369	Spinifex plain	8/04/2024
TABSRE19	702131	7707466	Open Low Woodland over spinifex	8/04/2024
TABSRE20	702929	7705469	Spinifex plain	8/04/2024
TABSRE21	703015	7704382	Spinifex plain	8/04/2024
TABSRE22	705411	7708406	Rocky Slope	9/04/2024
TABSRE23	704261	7708334	Open Low Woodland over spinifex	9/04/2024
TABSRE24	704139	7709165	Open Low Woodland over spinifex	9/04/2024
TABSRE25	703425	7709068	exposed granite within spinifex plain	9/04/2024
TABSRE26	703923	7706426	Open Low Woodland over spinifex	10/04/2024
TABSRE27	703445	7707988	Spinifex plain	9/04/2024
TABSRE28	703605	7705708	Spinifex plain	10/04/2024
TABSRE29	704662	7705085	exposed granite within spinifex plain	10/04/2024
TABSRE30	705488	7704963	exposed granite within spinifex plain	10/04/2024

Sample Site	Easting	Northing	Habitat	Active search date
TABSRE31	705889	7705434	Open Low Woodland over spinifex	10/04/2024
TABSRE32	705832	7706300	Open Low Woodland over spinifex	10/04/2024
TABSRE33	705965	7706990	Spinifex plain	10/04/2024
TABSRE34	705731	7708510	Rocky Slope	9/04/2024
TABSRE35	705628	7709308	Open Low Woodland over spinifex	9/04/2024
TABSRE36	704291	7707055	Open Low Woodland over spinifex	10/04/2024
TABSRE37	702821	7706231	Open Low Woodland over spinifex	10/04/2024
TABSRE38	702543	7705027	Open Low Woodland over spinifex	11/04/2024
TABSRE39	701850	7705065	Open Low Woodland over spinifex	8/04/2024
TABSRE40	701693	7705724	Open Low Woodland over spinifex	11/04/2024
TABSRE41	710531	7721144	Spinifex plain	26/04/2025
TABSRE42	709490	7719953	Spinifex plain	26/04/2025
TABSRE43	713855	7725268	Spinifex plain	23/04/2025
TABSRE44	705468	7711966	Open Low Woodland over spinifex	26/04/2025
TABSRE45	705446	7712581	Open Low Woodland over spinifex	26/04/2025
TABSRE46	703412	7718641	Open Low Woodland over spinifex	23/04/2025
TABSRE47	705846	7713674	Open Low Woodland over spinifex	26/04/2025
TABSRE48	704981	7714873	Open Low Woodland over spinifex	26/04/2025
TABSRE49	701796	7711104	Open Low Woodland over spinifex	23/04/2025
TABSRE50	703484	7710949	Open Low Woodland over spinifex	23/04/2025
TABSRE51	704350	7714749	Open Low Woodland over spinifex	23/04/2025
TABSRE52	706814	7715417	Spinifex plain	26/04/2025
TABSRE53	702435	7716574	Open Low Woodland over spinifex	28/04/2025
TABSRE54	707812	7717520	Open Low Woodland over spinifex	26/04/2025
TABSRE55	701843	7718657	Open Low Woodland over spinifex	28/04/2025
TABSRE56	706129	7711195	Open Low Woodland over spinifex	26/04/2025
TABSRE57	700447	7715047	Open Low Woodland over spinifex	27/04/2025
TABSRE58	703422	7710337	Open Low Woodland over spinifex	25/04/2025
TABSRE59	700647	7711853	Open Low Woodland over spinifex	23/04/2025
TABSRE60	704320	7711295	Open Low Woodland over spinifex	23/04/2025
TABSRE61	702428	7710600	Open Low Woodland over spinifex	25/04/2025
TABSRE62	698525	7712859	Rocky Slope	27/04/2025

Sample Site	Easting	Northing	Habitat	Active search date
TABSRE63	698476	7712611	Rocky Slope	27/04/2025
TABSRE64	698381	7712004	Rocky Slope	27/04/2025
TABSRE65	700949	7711759	Open Low Woodland over spinifex	24/04/2025
TABSRE66	705006	7711137	Open Low Woodland over spinifex	23/04/2025
TABSRE67	698330	7710543	Rocky Slope	25/04/2025
TABSRE68	698588	7708889	Open Low Woodland over spinifex	25/04/2025
TABSRE69	697399	7709759	Rocky Slope	27/04/2025
TABSRE70	696638	7709488	Rocky Slope	25/04/2025
TABSRE71	696789	7707402	Open Low Woodland over spinifex	23/04/2025
TABSRE72	698221	7707413	Open Low Woodland over spinifex	25/04/2025
TABSRE73	695143	7707344	Open Low Woodland over spinifex	23/04/2025
TABSRE74	700755	7709943	Open Low Woodland over spinifex	23/04/2025
TABSRE75	700183	7710970	Open Low Woodland over spinifex	24/04/2025
TABSRE76	698591	7711187	Rocky Slope	25/04/2025
TABSRE77	705394	7710415	Open Low Woodland over spinifex	25/04/2025
TABSRE78	704571	7710167	Open Low Woodland over spinifex	25/04/2025
TABSRE79	705997	7710482	Open Low Woodland over spinifex	26/04/2025
TABSRE80	703899	7713300	Open Low Woodland over spinifex	26/04/2025



Legend

- Tabba Tabba Project Area
- Watercourse
- Major Road
- SRE Sample Location - Phase 1
- SRE Sample Location - Phase 2

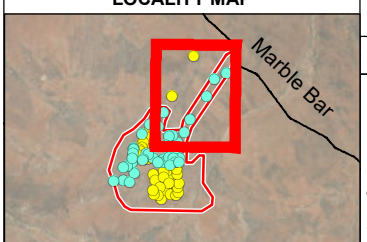
0 0.5 1 2 km

Scale: 1:75,000 @ A4

N

- NOTE THAT POSITION ERRORS CAN BE >5M IN SOME AREAS

LOCALITY MAP



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HORIZONTAL DATUM & PROJECTION	DATE
GCS GDA 1994	7/07/2025

PROJECT
Tabba Tabba Lithium 2025

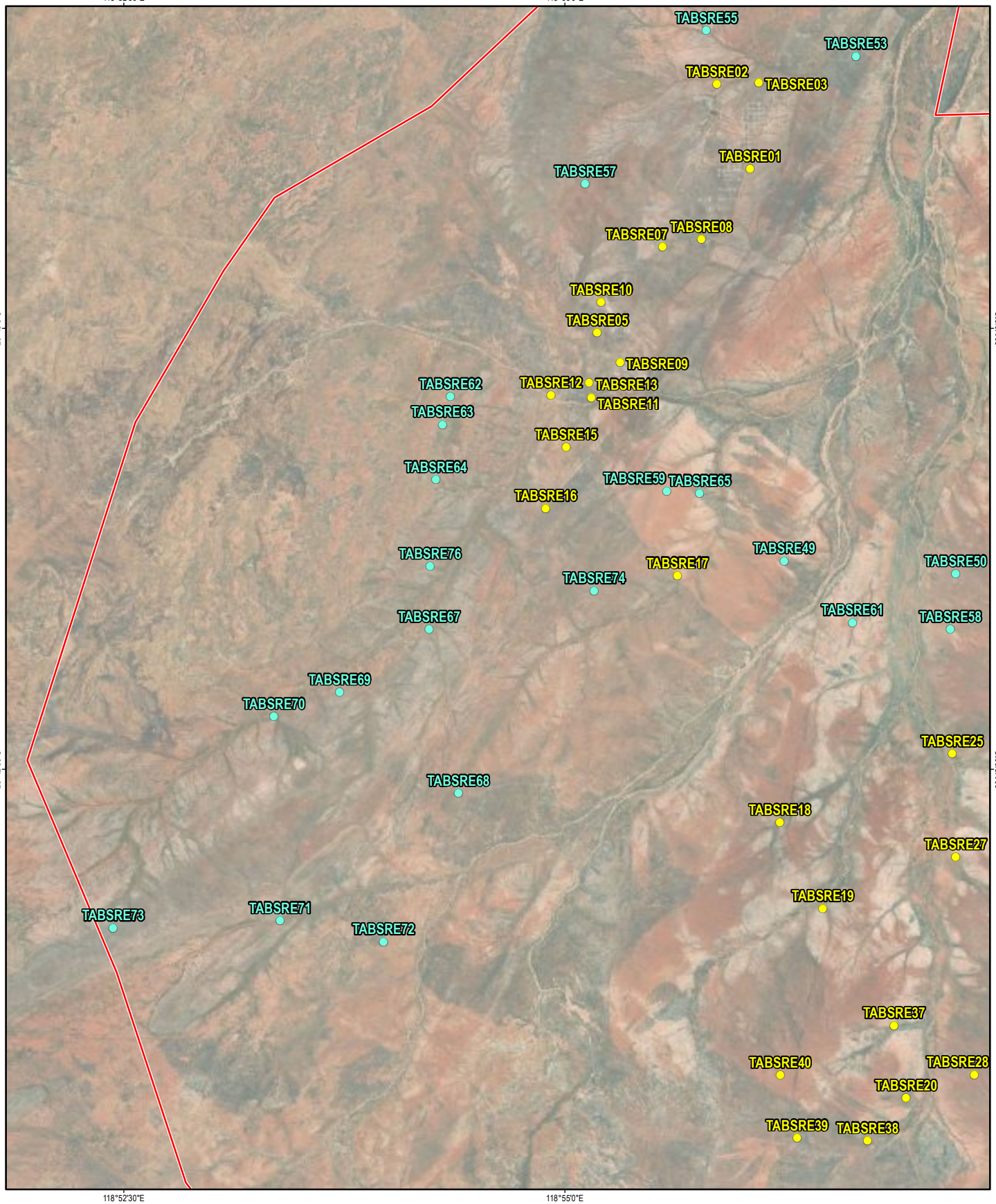
CREATED	CHECKED	APPROVED	REVISION
ENVIRONMAPS	TM	TM	0

Wildcat Resources

Figure 2a

Tabba Tabba Project Area Showing SRE Sample Locations Phase 1 and 2

C:\GIS\Jobs\Invertebrate Solutions\Tabba Tabba Lithium 2025\Figures\TTL2025_F02a Tabba Tabba Project Area Showing SRE Sample Locations Phase 1 and 2_250707.mxd



Legend

- Tabba Tabba Project Area
- Watercourse
- Major Road
- SRE Sample Location - Phase 1
- SRE Sample Location - Phase 2

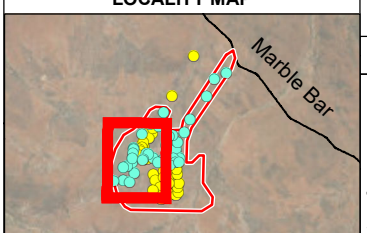
0 0.5 1 2 km

Scale: 1:55,000 @ A4

N

- NOTE THAT POSITION ERRORS CAN BE >5M IN SOME AREAS

LOCALITY MAP



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PROJECT: Tabba Tabba Lithium 2025

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ENVIRONMAPS	TM	TM	0

Wildcat Resources

Figure 2b

Tabba Tabba Project Area Showing SRE Sample Locations Phase 1 and 2

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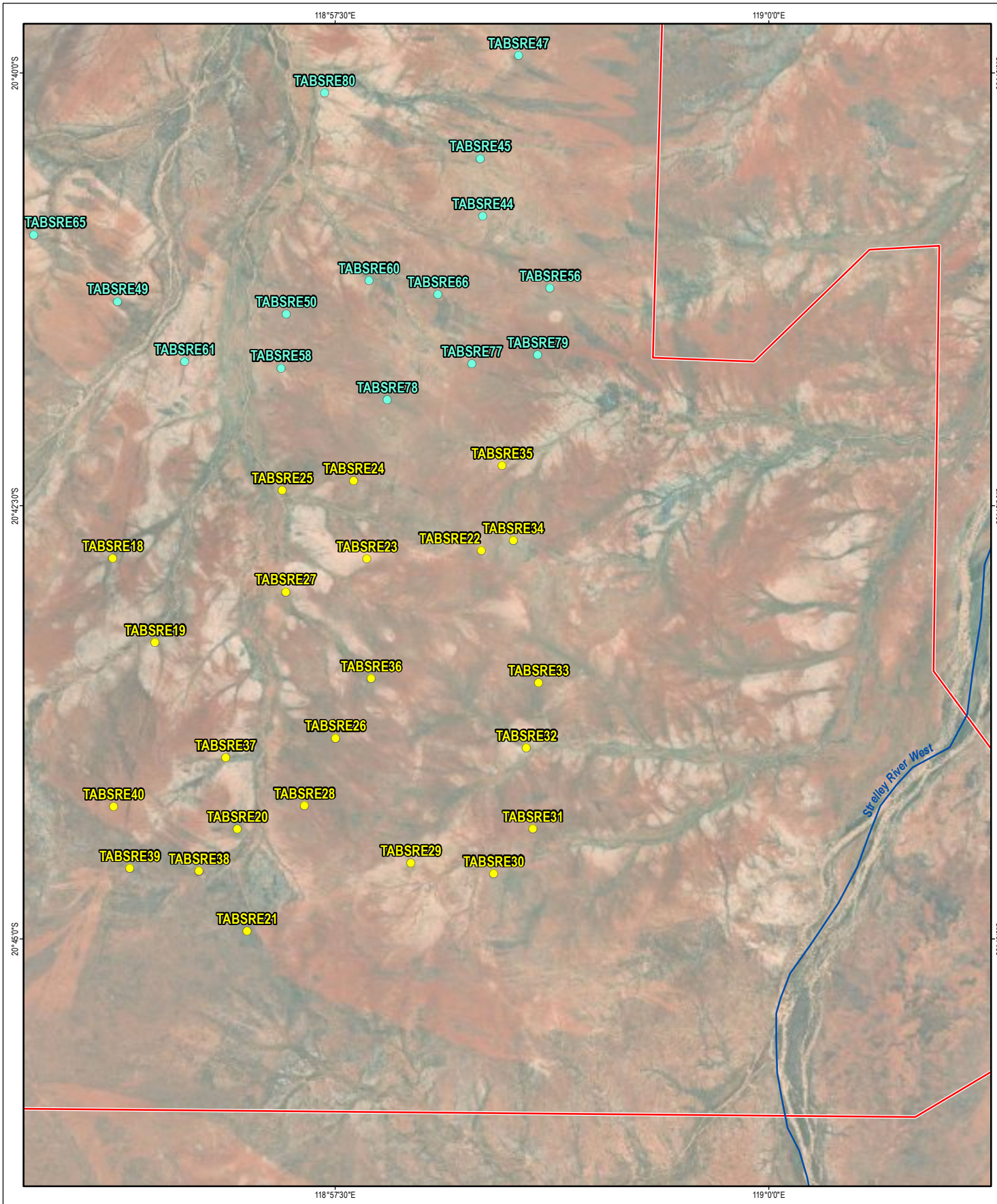


Legend

- Tabba Tabba Project Area
- Watercourse
- Major Road
- SRE Sample Location - Phase 1
- SRE Sample Location - Phase 2

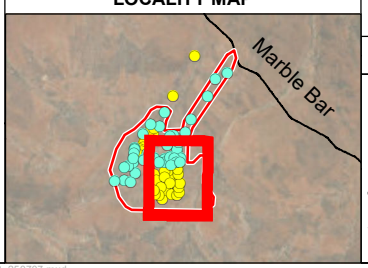
0 0.5 1 2 km

Scale: 1:55,000 @ A4

N

- NOTE THAT POSITION ERRORS CAN BE >5M IN SOME AREAS

LOCALITY MAP



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HORIZONTAL DATUM & PROJECTION	DATE
GCS GDA 1994	7/07/2025

PROJECT
Tabba Tabba Lithium 2025

CREATED	CHECKED	APPROVED	REVISION
ENVIRONMAPS	TM	TM	0

Wildcat Resources

Figure 2c

Tabba Tabba Project Area Showing SRE Sample Locations Phase 1 and 2

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C:\GIS\Jobs\Invertebrate Solutions\Tabba Tabba Lithium 2025\Figures\TTL2025_F02c Tabba Tabba Project Area Showing SRE Sample Locations Phase 1 and 2_250707.mxd

2.3 SRE Survey Methodology

The 2024 and 2025 SRE surveys were undertaken using a combination of sampling techniques and employed both systematic (timed active searching) and opportunistic (litter collection and transect) sampling. Sites were chosen to maximise SRE habitat including south-facing slopes, gullies, rocky outcrops, dense patches of trees and permanent water bodies.

2.3.1 Active searching

Active searching was undertaken at 40 discreet sites during the 2024 survey and another 40 sites during the 2025 survey within the Project Area, focusing on areas more likely to contain SRE fauna (Appendix 3). Active searching consisted of sifting of soil and/or leaf litter from suitable habitat areas within each site (millipedes and land snails); the raking of leaf litter (millipedes, land snails, centipedes, mygalomorph burrows); examination of vegetative material below logs and bark (pseudoscorpions, centipedes, millipedes), and an examination of areas of rock outcrops and associated rock piles, if present. A minimum of 1 hour of active searching per site was undertaken.

Plate 2 Example of site (TABSRE39) where peeling of tree bark was undertaken

2.3.2 Leaf Litter collection

Leaf litter was collected from each site surveyed and processed in Tullgren funnels in the laboratory for potential SRE fauna. Approximately 3 L of leaf litter was collected from each site and stored in sealed plastic garbage bags.

2.2.3 Opportunistic collection

Various areas that may provide habitat for SRE invertebrates were also opportunistically sampled whilst undertaking other surveys in the Survey area. This included searching for burrows of mygalomorph spiders and searching under tree bark and logs for potential SRE species.

Plate 3 Example of sieving accumulated leaf litter from the base of a tree (TABSRE71)

2.4 Sorting and Curation

Sorting for all SRE samples occurred in the Invertebrate Solutions laboratory using a Leica M125 100x dissecting microscope and was undertaken by Dr Timothy Moulds. In the laboratory, fauna was extracted from SRE leaf litter samples using Tullgren funnels and preserved in 80% ethanol. Each taxon was identified to the lowest practical taxonomic rank using published keys and descriptions, and the numbers of each taxon recorded. Each identified taxon was kept in a separate labelled vial and assigned a specimen tracking code. Specimen and site collection data were recorded in an Excel spreadsheet. At the conclusion of the study, all specimens will be lodged at the Western Australian Museum.

2.5 Taxonomy and Nomenclature

Identification of collected invertebrate material was undertaken by Dr Timothy Moulds. Invertebrate groups collected that have no SRE representatives, such as ants and flying insects, were not identified or reported. The presence of winged adults in most insect groups suggests that they are more capable dispersers and, therefore, less likely to have a restricted range.

The level of specimen identification achievable is dependent on the level of taxonomic knowledge and expertise available. The majority of taxonomic expertise relating to SRE taxa resides with the staff of the Western Australian Museum, while some groups are also studied by researchers within other government departments and academic institutions. Taxonomic treatments are available for some invertebrate groups, but not all. The EPA expects that invertebrates collected for identification will be identified to the lowest taxonomic level possible. Ideally, this is to the species level, but there will be limits due to the nature of specimens and the availability of taxonomic keys. Identifications of the isopod specimens were undertaken by Dr Simon Judd and Timothy Moulds.

2.6 Short Range Endemic Status

Taxonomic groups known to contain SRE representatives were examined in more detail to determine if the specimens collected in this study are potentially restricted forms. SRE status will be assigned after comparison with the morphology of other close relatives in the group and current knowledge on their distribution and ecology, where known.

Plate 4 Example of rocky slope habitat that is conducive for the presence of potential SRE invertebrates (TABSRE76).

3. Results

3.1 SRE Invertebrates of the Pilbara region – Literature Review?

The Pilbara region has undergone extensive sampling for SRE fauna in the past decade related to resource development projects, however, the majority of this large region remains unsampled, with many new SRE species to be documented (Invertebrate Solutions 2017, Bennelongia 2022, Outback Ecology 2009, Biota 2007). There is still considerable uncertainty with regard to the SRE status of many species, with incomplete taxonomy for many taxa, as well as the requirement for adult specimens in many groups to allow identification (Car et al. 2019). Incomplete sampling across the Pilbara also precludes the accurate assignment of SRE status on many taxa.

The central portion of the current project area was surveyed for SRE invertebrates in 2024 (Invertebrate Solutions 2024), and two Possible SRE taxa were recorded, the isopod *Buddelundia* sp.'14' and the ubiquitous pseudoscorpion Olpiidae sp. The previous historical mining disturbance and fire management by pastoralists has contributed to limited vegetation quality in much of the survey area (Invertebrate Solutions 2024).

A baseline survey for SRE invertebrates in a similar habitat along the northern Pilbara coast was undertaken by Invertebrate Solutions (2023) for the Andover Nickel Project, near Roebourne. This survey recorded several confirmed SRE millipedes from the genus *Antichiropus*, along with Possible SRE species from the Armadillid genus *Buddelundia*, and several pseudoscorpions.

Whilst there are limited systematic surveys for SRE species close to the Project area, there are several studies from the region for various resources projects (Biota 2010, Ecologia 2011). The Burrup Peninsula has been extensively surveyed for SRE fauna with multiple land snail and pseudoscorpion species identified as potential restricted range species (Bennelongia 2022, Invertebrate Solutions 2022), however, the taxonomy of these individuals is often lacking taxonomic frameworks or specimens are awaiting formal scientific description.

Intensive sampling for SRE species in the Pilbara has identified a high abundance of potentially SRE mygalomorph spiders, although it is currently unknown if this represents a true hotspot for mygalomorph spiders, or simply a result of intensive sampling (Castalanelli *et al*. 2014). Several genetic barcoding studies currently underway in the Pilbara region aim to further elucidate the regional species diversity and aid in the assignment of SRE status.

Habitats within the northern coastal Pilbara area that are considered prospective for SRE invertebrates include creek and drainage lines, Banded Iron Formation (BIF) ridges, mesas, stony hills, and breakaways. The majority of reported SRE species in the northern coastal Pilbara comprise of Camaenid land snails, Mygalomorph spiders, *Urodacus* scorpions, and *Antichiropus* millipedes (Outback Ecology 2009, MWH 2014, Invertebrate Solutions 2017, 2021, Phoenix 2018).

3.2 Conservation Significant and SRE Fauna in the Desktop Study Area

SRE species that are likely to occur or have known habitat within the Desktop Study Area are shown in Table 5 along with their conservation code under the BC Act and/or the EPBC Act. The PMST results listed no known SRE or conservation significant invertebrate fauna within 50 km of the

Project area. A full description of the BC Act and DBCA conservation codes are shown in Appendix 1. The full list of species obtained from the PMST search is shown in Appendix 2.

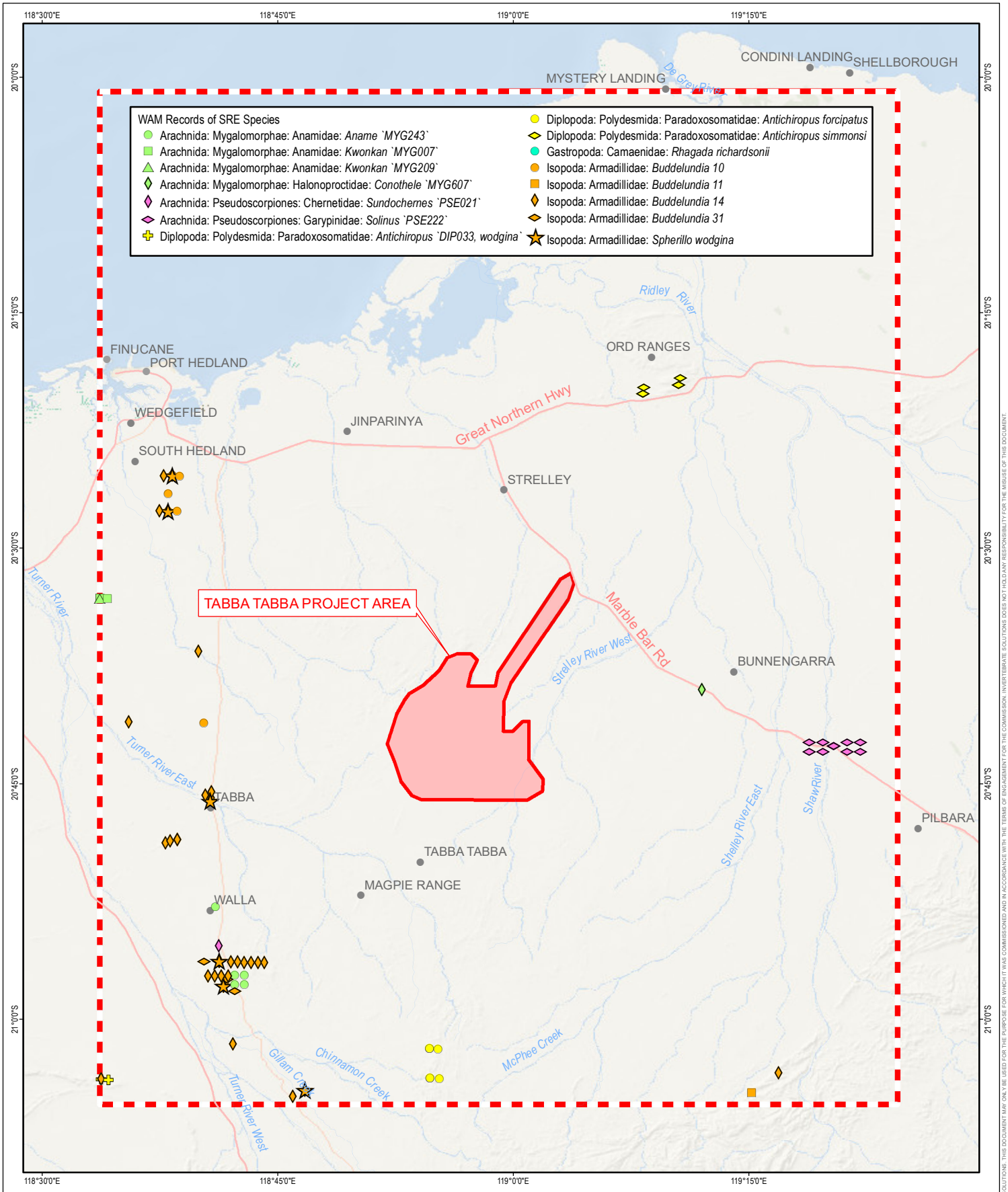
The Desktop Study Area contains three Confirmed SRE species, two Likely, and 10 Possible SRE species (Table 5). The species are summarised below:

- Three Paradoxosomatid millipedes (*Antichiropus forcipatus, A. simmonsi,* and *A. 'DIP033 Wodgina'*) – Confirmed SRE species.
- Two mygalomorph spiders (*Kwonkan* 'MYG209' and *Conothele* 'MYG607') – Likely SRE species.
- Five slaters, two mygalomorph spiders, two pseudoscorpions, and one selenopid spider – Possible SRE species.

The remaining species identified from desktop resources were found to be widespread. No conservation significant invertebrates are known to occur within the Desktop Study Area or Project area.

Table 5 Desktop Survey Results of SRE and Conservation Significant invertebrates recorded from or with potential habitat within the Project area.

Higher Classification	Genus and Species	SRE status	DBCA / BC Act Conservation Status	EPBC Act Conservation Status	Likely habitat present in Project area	Desktop likelihood of species within the Project Area
Crustacea:						
Isopoda						
Armadillidae	*Buddelundia sp.'10'*	Possible (A)	-	-	Present	Low
	Buddelundia sp.'11'	Possible (A)	-	-	Present	Low
	Buddelundia sp.'14'	Possible (A)	-	-	Present	Present
	Buddelundia sp.'31'	Possible (A)	-	-	Present	Low
	Spherillo sp.'wodgina'	Possible (A)	-	-	Present	Low
Arachnida:						
Araneae:						
Aranaeomoprhae						
Selenopidae	*Karaops kariyarra*	Possible (A)	-	-	Present	Moderate
Mygalomorphae						
Anamidae	*Aname 'MYG243'*	Possible (A)	-	-	Not Present	Low
	Kwonkan 'MYG007'	Possible (A)	-	-	Not Present	Low
	Kwonkan 'MYG209'	Likely	-	-	Not Present	Low
Halonoproctidae	*Conothele 'MYG607'*	Likely	-	-	Not Present	Low
Pseudoscorpiones						
Chernetidae	*Sundochernes 'PSE021'*	Possible (A)	-	-	Present	High
Garypinidae	*Solimus 'PSE222'*	Possible (A)	-	-	Present	High
Diplopoda: Polydesmida						
Paradoxosomatidae	*Antichiropus 'DIP033 Wodgina'*	Confirmed	-	-	Not Present	Low
	Antichiropus forcipatus	Confirmed	-	-	Present	Moderate
	Antichiropus simmonsi	Confirmed	-	-	Not Present	Low



Legend

- Desktop Study Area
- Tabba Tabba Project Area

0 5 10 20 km

Scale: 1:600,000 @ A4

N

- NOTE THAT POSITION ERRORS CAN BE >5M IN SOME AREAS

LOCALITY MAP

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GCS GDA 1994	4/08/2025

PROJECT
Tabba Tabba Lithium 2025

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ENVIRONMAPS	TM	TM	0

Wildcat Resources

Figure 3

WAM Records of SRE Species from the Desktop Study Area

C:\GIS\Jobs\Invertebrate Solutions\Tabba Tabba Lithium 2025\Figures\TTL2025_F03 WAM Records of SRE Species from the Desktop Study Area_250807.mxd

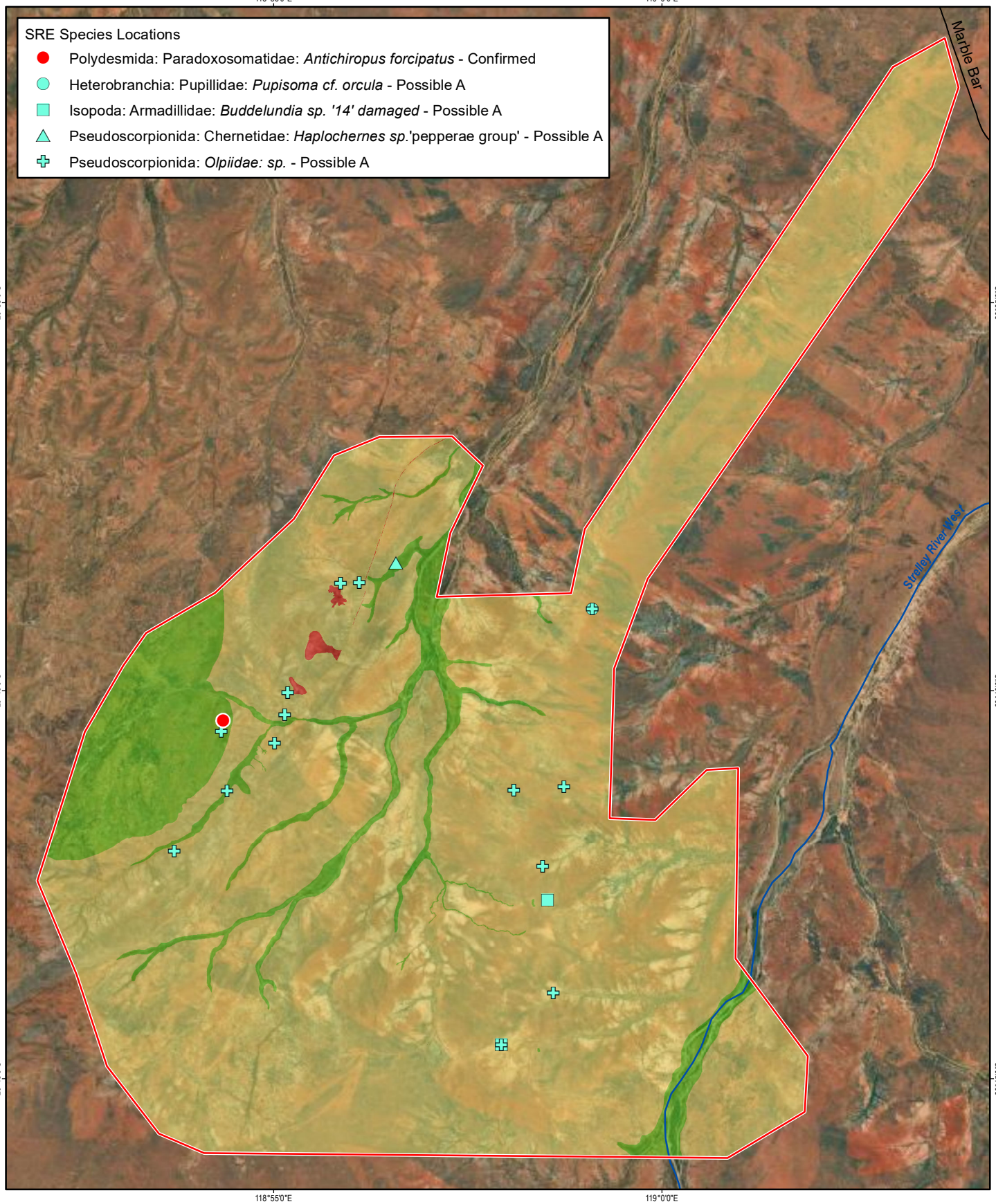
3.3 SRE Habitat in Project Area

Habitat for SRE invertebrates was assessed during the field survey to provide a likelihood of each habitat potentially containing SRE taxa. The majority of the habitats identified (spinifex plains and *Eucalyptus* woodlands over spinifex) are widespread across the region and are unlikely to provide habitat isolates which may give rise to SRE invertebrates (EPA 2016, Harvey 2002). The only area likely to provide greater than 'Low' potential for SRE species were the exposed rocky outcrops, deep drainage lines and slopes facing south east that were considered to be 'Moderate' SRE habitat suitability ().

All assessments for likelihood of occurrence of conservation significant and SRE invertebrate species were undertaken with regard to the Technical Guidance – Sampling of short range endemic invertebrate fauna (EPA 2016).

Table 6 SRE invertebrates habitat types, suitability, and survey methods

SRE Habitat	Description	Survey Methods		SRE habitat suitability
		Active Searching	Leaf Litter Samples	
Open Low Woodland over spinifex	*Open woodland of Eucalyptus and Corymbia over spinifex.*	+	+	Low
Spinifex plain	*Flat plains dominated by spinifex clumps*	+	+	Low
Rocky slope	*Bare rock or largely bare rock amongst spinifex*	+	+	Moderate
Drainage line	*Minor to major drainage features often with larger trees and shrubs present*	+	+	Moderate
Cleared / Degraded	*Cleared or degraded land*	-	-	Nil



Legend

- Tabba Tabba Project Area
- Watercourse
- Major Road

SRE Habitat Suitability

- Moderate
- Low
- Nil

0 1 2 4 km

Scale: 1:125,000 @ A4

N

- NOTE THAT POSITION ERRORS CAN BE >5M IN SOME AREAS

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GCS GDA 1994	4/08/2025

PROJECT: Tabba Tabba Lithium 2025

CREATED	CHECKED	APPROVED	REVISION
ENVIRONMAPS	TM	TM	0

Wildcat Resources

Figure 4

SRE Habitat and Species

C:\GIS\Jobs\Invertebrate Solutions\Tabba Tabba Lithium 2025\Figures\TTL2025_F04 SRE Habitat and Species_250804.mxd

3.4 SRE Field Survey

3.4.1 Phase 1 April 2024

The Phase 1 SRE field survey recorded 24 individual specimens representing six taxa of invertebrates from four classes, five orders, and five families that have the potential to contain SRE taxa (Appendix 4). No conservation significant invertebrate species were recorded during the Phase 1 field survey.

No Confirmed or Likely SRE species were recorded during the field survey, with only two Possible SRE species recorded primarily due to the group being considered data deficient:

- The Slater *Buddelundia* sp.14 (damaged)
- The pseudoscorpion Olpiid spp.

The majority of species recorded in the field survey are widespread across the coastal and inland Pilbara region of Western Australia and beyond.

3.4.2 Phase 2 April 2025

The Phase 2 SRE field survey recorded 16 individual specimens representing eight taxa of invertebrates from four classes, five orders, and seven families that have the potential to contain SRE taxa (Appendix 4). No conservation significant invertebrate species were recorded during the Phase 2 field survey.

A single Confirmed SRE species was recorded during the Phase 2 Survey:

- The millipede *Antichiropus forcipatus*

Three Possible SRE species recorded primarily due to the group being considered data deficient:

- The landsnail *Pupisoma cf. orcula*
- A Chernetid pseudoscorpion *Haplochernes* sp.'pepperae group'
- The pseudoscorpion Olpiid spp.

The taxonomy of the Pseudoscorpion family, Olpiidae, is poorly known, and until further taxonomic resolution has been obtained, all species are considered to be Possible SRE species in Western Australia due to a deficiency in data (Dr Mark Harvey, WAM, pers. comm. 2021). Molecular sequencing of Pilbara and other Western Australian specimens is currently being undertaken by the WAM and these data will be used in the future to determine if species are widespread or restricted in distribution. It must be stated, however, there is considerable difference between molecular and morphological data, with genetic and species boundaries highly uncertain making meaningful results unlikely, except in the medium to long term. Due to the unreliable existing taxonomic framework, Olpiid specimens are not identified to species level.

The majority of species recorded in the field survey are widespread across the coastal and inland Pilbara region of Western Australia and beyond. Species recorded that are considered to be SREs are summarised in Table 7. The details of all specimens recorded during the survey including abundance data and individual specimen tracking numbers are shown in Appendix 4.

Table 7 Invertebrate groups that contain potential SRE taxa recorded during the field survey

Higher Order	Genus and species	Sites recorded	SRE Status
Gastropoda:			
Camaenidae	*Rhagada richardsonii*	TABSRE51	Widespread
Pupillidae	*Pupoides lepidulus*	TABSRE11, TABSRE35, TABSRE52, TABSRE62	Widespread
	Pupisoma cf. orcula	TABSRE52	Possible (A)
Crustacea: Isopoda:			
Armadillidae	*Buddelundia* sp. 14? (damaged)	TABSRE29, TABSRE34	Possible (A)
Arachnida:			
Mygalomorphae:			
Anamidae	*Aname mellosa*	TABSRE16, TABSRE24	Widespread
Pseudoscorpiones:			
Chernetidae	*Haplochernes sp.'pepperae group'*	TABSRE53	Possible (A)
Olpiidae	*Olpiidae spp.*	TABSRE02, TABSRE03, TABSRE05, TABSRE13, TABSRE15, TABSRE29, TABSRE32, TABSRE35, TABSRE52, TABSRE56, TABSRE63, TABSRE66, TABSRE69, TABSRE76	Possible (A)
Chilopoda			
Scolopendromorpha	*Scolopendra laeta*	TABSRE69	Widespread
Diplopoda:			
Polydesmida			
Paradoxosomatidae	*Antichiropus forcipatus*	TABSRE62	Confirmed
Polyxenida:			
Polyxenidae	*Unixenus mjobergi*	TABSRE04	Widespread
	Unixenus karajinensis	TABSRE04, TABSRE07, TABSRE21	Widespread

4. Discussion

4.1 SRE Invertebrate Assessment

The Phase 1 SRE field survey in April 2024 recorded two potential SRE invertebrate species from within the Project area. These taxa both comprised of Possible SRE species (Figure 4, Table 8, Appendix 4), and are classified as such due to incomplete taxonomy and unknown species distributions.

The Phase 2 SRE field survey in April 2025 recorded a Confirmed SRE millipede *Antichiropus forcipatus* from the rocky habitat on the western edge of the Project. The Phase 2 survey also recorded three Possible SRE taxa, two of which were not recorded during the Phase 1 survey. All the Possible SRE species are known to occur more widely in the region (Figure 3) or were often recorded at multiple locations during the survey indicating that their distributions are wider than the current survey could determine.

No conservation significant species were recorded during the survey of the Development Envelope. In either Phase 1 or Phase 2

The desktop assessment of the Desktop Study Area identified three Confirmed SRE species, two Likely SRE species and 10 Possible SRE species, however, all are considered to have a Low likelihood of occurrence due to the habitat type and quality present throughout the Development Envelope. All the species identified in the wider Desktop Study area are mostly restricted to a single locality and in habitats significantly different to the Development Envelope.

4.2 Potential SRE species recorded within the Tabba Tabba Project Area

4.2.1 Mollusca: Gastropoda

Pupillidae: *Pupisoma cf. orcula* – Possible SRE

The pupillid snail *Pupisoma cf. orcula* exhibits similar morphological characters to *Pupisoma orcula*, which occurs along the Kimberley coast but also in the pan Indian Ocean countries. The specimens from the Pilbara may represent a discrete species or a widespread slightly variable species that can only be determined by a wide ranging study beyond the scope of this survey. It is considered to be a Possible SRE taxa.

4.2.2 Crustacea: Isopoda

Armadillidae: *Buddelundia sp.'14'* – Possible SRE

Buddelundia sp. '14' is part of a likely species complex that currently is known from the Pilbara coast, and south to the Fortescue Marsh (Invertebrate Solutions 2021) and the Hamersley Ranges. Populations show minor morphological variations; however, it is unclear if they represent discrete species or a widespread slightly variable species. It is considered to be a Possible SRE species until further regional work has been completed (Dr S. Judd, pers comm. 2024).

4.2.3 Arachnida: Pseudoscorpionida

Chernetidae: *Haplochernes* sp.'pepperae group' – Possible SRE

The pseudoscorpion *Haplochernes sp*.'pepperae group' belongs to a species complex of Chernetid pseudoscorpions that are generally found under tree bark throughout the Pilbara. This species complex is currently undergoing revision (Dr M. Harvey WAM pers comm 2025) and until the taxonomy is resolved they are considered to be Possible SRE taxa.

Olpiidae spp. – Possible SRE

As previously discussed, the taxonomy of the Pseudoscorpion family Olpiidae is poorly known, and until further taxonomic resolution has been obtained, all species are considered to be Possible SRE species in Western Australia due to a deficiency in data. The records of these taxa from the region are shown on Figure 3.

4.2.4 Diplopoda: Paradoxosomatidae

Antichiropus forcipatus – Confirmed SRE

Millipedes from the genus *Antichiropus* all have limited powers of dispersal and conservative ecological requirements and are considered to be a SRE species (Car et al. 2013, Car and Harvey 2014). The millipede *A. forcipatus* is known from a series of records to the west of Marble Bar near Abydos where they have been recorded in gullies, gorges, and creeklines (Car et al. 2019). The current record represents a minor range extension from the known populations however the habitat is the same. This species is considered to be a Confirmed SRE taxa.

Table 8 Potential SRE invertebrates Likelihood of occurrence in the Tabba Tabba Project Area following baseline SRE survey

Higher Order	Genus and species	Recorded during current 2024 and/or 2025 survey	SRE Status	Likelihood of species within the Tabba Tabba Project area
Gastropoda:				
Pupillidae	*Pupisoma cf. orcula*	2025	Possible (A)	Present
Crustacea:				
Isopoda				
Armadillidae	*Buddelundia sp.'10'*	No	Possible (A)	Low
	Buddelundia sp.'11'	No	Possible (A)	Low
	Buddelundia sp.'14'	2024	Possible (A)	Present
	Buddelundia sp.'31'	No	Possible (A)	Low
	Spherillo sp.'wodgina'	No	Possible (A)	Low
Arachnida:				
Araneae:				
Aranaeomoprhae				
Selenopidae	*Karaops kariyarra*	No	Possible (A)	Low
Mygalomorphae				
Anamidae	*Aname 'MYG243'*	No	Possible (A)	Low
	Kwonkan 'MYG007'	No	Possible (A)	Low
	Kwonkan 'MYG209'	No	Likely	Low
Halonoproctidae	*Conothele 'MYG607'*	No	Likely	Low
Pseudoscorpiones				
Chernetidae	*Sundochernes 'PSE021'*	No	Possible (A)	Low
	Haplochernes sp.'pepperae group'	2025	Possible (A)	Present
Garypinidae	*Solimus 'PSE222'*	No	Possible (A)	Low
Olpiidae	Olpiidae *spp.*	2024 and 2025	Possible (A)*	Present
Diplopoda: Polydesmida				
Paradoxosomatidae	*Antichiropus 'DIP033 Wodgina'*	No	Confirmed	Low
	Antichiropus forcipatus	2025	Confirmed	Present
	Antichiropus simmonsi	No	Confirmed	Low

* Due to the incomplete taxonomy of the Olpiid pseudoscorpions it is unknown if these are the same or different species, however, as explained in Section 3.5 all Olpiid pseudoscorpions are considered Possible (A) SRE species.

5. Conclusions and Recommendations

The Desktop Study Area contains records of three Confirmed SRE species, two Likely and 12 Possible SRE species. Of the 15 species identified in the Desktop Study Area, two Possible SRE taxa were recorded in the Phase 1 field survey (April 2024): the slater *Buddelundia* sp.'14' and pseudoscorpions from the family Olpiidae. The Phase 2 SRE survey (April 2025) recorded a Confirmed SRE millipede *Antichiropus forcipatus* at a single location in rocky habitat in the west of the Development envelope. This millipede occurs around Abydos and rocky habitats to the south of the Development Envelope. The Phase 2 survey recorded three Possible SRE taxa, however, all are known to occur more widely in the coastal Pilbara region. The remaining potential SRE taxa that occur within the desktop study area were not recorded.

No conservation significant invertebrates (widespread, non-SRE species) were identified in the desktop assessment or recorded during the field survey.

The Development Envelope occurs mainly on widespread spinifex woodland that shows indications of regular fires, or highly disturbed areas from historical mining. The native vegetation found in the Development Envelope is widespread in the landscape and does not form habitat isolates that have been present over evolutionary timescales, thus limiting the likely presence of SRE taxa. As such, all Confirmed or Likely SRE species, or any conservation significant invertebrates, are considered to have a Low likelihood of occurrence within the Development Envelope.

No further investigation for SRE or conservation significant invertebrates is considered necessary in order to meet 'Technical guidance - Sampling of short range endemic invertebrate fauna' (EPA 2016).

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Appendix 1

Conservation Codes from Department of Biodiversity, Conservation and Attractions

CONSERVATION CATEGORY DEFINITIONS

for Western Australian Ecological Communities

GENERAL DEFINITIONS

An **ecological community** is a naturally occurring assemblage of organisms that occurs in a particular habitat, as defined in the *Biodiversity Conservation Act 2016* (BC Act). Ecological communities may comprise various life forms including plants, animals and microorganisms.

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) means an ecological community that is listed under section 27(1) of the BC Act as a critically endangered, endangered or vulnerable ecological community, or is a rediscovered ecological community to be regarded as a threatened ecological community under section 33 of the BC Act.

An **assemblage** is a defined group of biological entities.

Habitat, as defined in the BC Act, means the biophysical medium or media —

a) occupied (continuously, periodically or occasionally) by an organism or group of organisms, or
b) once occupied (continuously, periodically or occasionally) by an organism, or group of organisms, and into which organisms of that kind have the potential to be reintroduced.

An **occurrence** is a discrete example of an ecological community, separated from other examples of the same community by more than 20 metres with, for example: a different ecological community, a sealed road, a building, a water body (for terrestrial communities), or a terrestrial body (for aquatic communities). There is no minimum size of an occurrence of a threatened or priority ecological community. By ensuring that every discrete occurrence is recognised and recorded, future changes in status can be readily monitored.

Adequately surveyed is defined as an ecological community that has been searched for thoroughly in most likely habitats, by relevant experts.

Community structure is defined as the spatial organisation, construction and arrangement of the biological elements comprising a biological assemblage. For example, the vegetation structure (e.g., *Eucalyptus salmonophloia* woodland over scattered small shrubs over dense herbs) or the trophic structure in a faunal assemblage (e.g., dominance by feeders on detritus as distinct from feeders on live plants).

To **modify** an occurrence of an ecological community, as defined in section 44 of the BC Act, means to take action that results in —

(a) the modification of the occurrence of the threatened ecological community to such an extent that the occurrence is unlikely to recover —
    (i) its species composition or structure; or
    (ii) its species composition and structure; or
(b) the destruction of the occurrence of the threatened ecological community.

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

Modification and destruction are difficult concepts to quantify, and their application will be determined by scientific judgement. Refer to the document Guidance note – Modification of an occurrence of a threatened ecological community for more information on what constitutes modification and how to determine whether an action is likely to modify an occurrence of a threatened ecological community.

Threatening process means a process that threatens, or may threaten, the survival, abundance or evolutionary development of a native species or ecological community, as defined under the BC Act. Examples of some of the continuing threatening processes in Western Australia include: vegetation clearance; competition and land degradation by introduced fauna; dieback caused by the root-rot fungus (*Phytophthora cinnamomi*); competition and displacement of native plants by introduced flora; hydrological changes (declining groundwater levels); drying climate, fire regimes that cause declines in biodiversity; 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.

LISTED ECOLOGICAL COMMUNITIES

Assessment of the conservation status of ecological communities is carried out in accordance with the BC Act listing criteria and the requirements of Ministerial Guideline Number 1 and Ministerial Guideline Number 4 that adopt the use of the International Union for Conservation of Nature (IUCN) Red List of Ecosystems Categories and Criteria.

CO Collapsed ecological communities

An ecological community listed by order of the Minister as collapsed under section 31(1) of the BC Act. As determined by criteria set out in section 32 of the BC Act, an ecological community is eligible for listing as a collapsed ecological community at a particular time if, at that time —

(a) there is no reasonable doubt that the last occurrence of the ecological community has collapsed; or
(b) the ecological community has been so extensively modified throughout its range that no occurrence of it is likely to recover —
    (i) its species composition or structure; or
    (ii) its species composition and structure.

CR Critically endangered ecological communities

A threatened ecological community listed in the category of critically endangered under section 27(1)(a) of the BC Act, as determined by criteria set out in section 28 of the BC Act and the ministerial guidelines. A critically endangered ecological community faces an extremely high risk of becoming eligible for listing as a collapsed ecological community in the immediate future, as determined in accordance with criteria set out in the ministerial guidelines.

Examples of use:

- ‘Assemblages of the organic springs and mound springs of the Mandora Marsh area’ is listed as a critically endangered threatened ecological community under the *Biodiversity Conservation Act 2016.*
- ‘Assemblages of the organic springs and mound springs of the Mandora Marsh area’ is listed as critically endangered under the *Biodiversity Conservation Act 2016.*
- Listing reference in a table – column heading: BC Act; row text: CR.

EN Endangered ecological communities

A threatened ecological community listed in the category of endangered ecological community under section 27(1)(b) of the BC Act, as determined by criteria set out in section 29 of the BC Act and the ministerial guidelines. A threatened ecological community faces a very high risk of becoming eligible for listing as a collapsed ecological community in the near future, as determined in accordance with criteria set out in the ministerial guidelines.

Examples of use:

- ‘Herb rich shrublands in clay pans (floristic community type 8 as originally described in Gibson *et al*. (1994))’ is listed as an endangered threatened ecological community under the *Biodiversity Conservation Act 2016.*
- ‘Herb rich shrublands in clay pans (floristic community type 8 as originally described in Gibson et al. (1994))’ is listed as endangered under the *Biodiversity Conservation Act 2016.*
- Listing reference in a table – column heading: BC Act; row text: EN.

VU Vulnerable ecological communities

A threatened ecological community listed in the category of vulnerable ecological community under section 27(1)(c) of the BC Act, as determined by criteria set out in section 30 of the BC Act and the ministerial guidelines. A vulnerable ecological community faces a high risk of becoming eligible for listing as a collapsed ecological community in the medium-term future, as determined in accordance with criteria set out in the ministerial guidelines.

Examples of use:

- '*Calothamnus graniticus* subsp. *graniticus* heaths on south west coastal granites' is listed as a vulnerable threatened ecological community under the *Biodiversity Conservation Act 2016.*
- '*Calothamnus graniticus* subsp. *graniticus* heaths on south west coastal granites' is listed as vulnerable under the *Biodiversity Conservation Act 2016.*
- Listing reference in a table – column heading: BC Act; row text: VU.

PRIORITY ECOLOGICAL COMMUNITIES

Priority is not a listing category under the BC Act. The Priority Ecological Communities list is maintained by the department and is published on the department's website.

All fauna and flora that may be present in an ecological community are protected in WA following the provisions in Part 10 of the BC Act. The protection applies even when these species occur in an ecological community that is not listed as threatened, and regardless of land tenure (State managed land (Crown land), private land, or Commonwealth land).

Possible threatened ecological communities that do not meet survey criteria or are not adequately defined to enable listing are added to the department's Priority Ecological Communities for Western Australia list under priority 1, 2 or 3. Ecological communities that are adequately known and not threatened but rare, near threatened, or have recently been removed from the threatened list are placed in priority 4. Conservation dependent ecological communities are placed in priority 5.

P1 Priority 1: Poorly known ecological communities – very few occurrences, very restricted distribution

Ecological communities that are known from very few occurrences with a very restricted distribution (generally ≤5 occurrences or a total area of ≤100ha). Occurrences are believed to be under threat either due to limited extent, or being on lands under immediate threat (e.g., within agricultural or pastoral lands, urban areas, active mineral leases) or for which current threats exist. May include communities with occurrences on protected lands. 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.

Examples of use:

- 'Banded Ironstone Hills with *Dryandra arborea*' is listed as a Priority 1 ecological community by the Department of Biodiversity, Conservation and Attractions.
- 'Banded Ironstone Hills with *Dryandra arborea*' is listed as Priority 1 on the DBCA Priority Ecological Communities List.
- Listing reference in a table – column heading: DBCA; row text: P1.

P2 Priority 2: Poorly known ecological communities – few occurrences, restricted distribution

Communities that are known from few occurrences with a restricted distribution (generally ≤10 occurrences or a total area of ≤200ha). At least some occurrences are not believed to be under immediate threat (within approximately 10 years) 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.

Examples of use:

- 'Aquatic invertebrate communities of peat swamps' is listed as a Priority 2 ecological community by the Department of Biodiversity, Conservation and Attractions.
- 'Aquatic invertebrate communities of peat swamps' is listed as Priority 2 on the DBCA Priority Ecological Communities List.
- Listing reference in a table – column heading: DBCA; row text: P2.

P3 Priority 3: Poorly known ecological communities – inadequately surveyed or not well defined

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. This category includes three sub-categories:

(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.

(ii) Communities known from a few widespread occurrences, which are either large or with significant remaining areas of habitat in which other occurrences may occur, much of it not under imminent threat (within approximately 10 years).

(iii) Communities made up of large, and/or widespread occurrences, that may or may 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, inappropriate fire regimes, clearing, hydrological change, etc.

Examples of use:

- 'Assemblages of gypsum dunes of the central and southern wheatbelt' is listed as a Priority 3(iii) ecological community by the Department of Biodiversity, Conservation and Attractions.
- 'Assemblages of gypsum dunes of the central and southern wheatbelt' is listed as Priority 3(iii) on the DBCA Priority Ecological Communities List.
- Listing reference in a table – column heading: DBCA; row text: P3(iii).

P4 Priority 4: Adequately known ecological communities – rare, near threatened, or recently removed from the threatened list

Ecological communities that are adequately known and either rare but not threatened, near threatened, or have recently been removed from the threatened list. These communities require regular monitoring.

(i) 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.

(ii) Near threatened: ecological communities that are considered to have been adequately surveyed and that do not qualify as conservation dependent, but that are close to qualifying for a higher threat category.

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

Examples of use:

- 'Nimalaica (Nimalarragun) claypan and associated wetland assemblages' is listed as a Priority 4(ii) ecological community by the Department of Biodiversity, Conservation and Attractions.
- 'Nimalaica (Nimalarragun) claypan and associated wetland assemblages' is listed as Priority 4(ii) on the DBCA Priority Ecological Communities List.
- Listing reference in a table: column heading: DBCA, row text: P4(ii).

P5 Priority 5: 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 2

Protected Matters Search Tool Results

Appendix 4

Specimen abundance and tracking codes

Phylum/ Subphylum	Class	Order	Family	Genus and sp	SRE Status	Abundance	Site	Date	Collection Method	Tracking number	Identified by
Mollusca	Gastropoda	Heterobranchia	Camaenidae	*Rhagada richardsonii*	Widespread	1	TABSRE51	23/04/2025	Leaf litter extracted from tullgren funnel	ISTN4496	Dr T Moulds
Mollusca	Gastropoda	Heterobranchia	Pupillidae	*Pupoides lepidulus*	Widespread	1	TABSRE35	9/04/2024	Active searching and leaf litter sieving	ISTN4401	Dr T Moulds
Mollusca	Gastropoda	Heterobranchia	Pupillidae	*Pupoides lepidulus damaged*	Widespread	1	TABSRE11	11/04/2024	Leaf litter extracted from tullgren funnel	ISTN3839	Dr T Moulds
Mollusca	Gastropoda	Heterobranchia	Pupillidae	*Pupoides lepidulus*	Widespread	3	TABSRE62	27/04/2025	Active searching and leaf litter sieving	ISTN4500	Dr T Moulds
Mollusca	Gastropoda	Heterobranchia	Pupillidae	*Pupoides lepidulus*	Widespread	1	TABSRE52	26/04/2025	Leaf litter extracted from tullgren funnel	ISTN4501	Dr T Moulds
Mollusca	Gastropoda	Heterobranchia	Pupillidae	*Pupisoma cf. orcula*	Possible A	1	TABSRE52	26/04/2025	Leaf litter extracted from tullgren funnel	ISTN5372	Dr T Moulds
Crustacea	Malacostrata	Isopoda	Armadillidae	*Buddelundia sp. '14'? damaged*	Possible A	1	TABSRE34	9/04/2024	Active searching and leaf litter sieving	ISTN4402	Dr T Moulds
Crustacea	Malacostrata	Isopoda	Armadillidae	*Buddelundia sp. '14'? damaged*	Possible A	2	TABSRE29	10/04/2024	Active searching and leaf litter sieving	ISTN4404	Dr T Moulds
Chelicerata	Arachnida	Mygalomorphae	Anamidae	*Aname mellosa*	Widespread	1M	TABSRE24	9/04/2024	Dug from burrow	ISTN4400	Dr T Moulds
Chelicerata	Arachnida	Mygalomorphae	Anamidae	*Aname mellosa*	Widespread	1F	TABSRE16	8/04/2024	Dug from burrow	ISTN4403	Dr T Moulds
Chelicerata	Arachnida	Pseudoscorpionida	Chernetidae	*Haplochernes sp.'pepperae group'*	Possible A	1	TABSRE53	28/04/2025	Leaf litter extracted from tullgren funnel	ISTN4502	Dr T Moulds
Chelicerata	Arachnida	Pseudoscorpionida	Olpiidae	*sp.*	Possible A	2	TABSRE02	10/04/2024	Leaf litter extracted from tullgren funnel	ISTN3849	Dr T Moulds
Chelicerata	Arachnida	Pseudoscorpionida	Olpiidae	*sp.*	Possible A	1	TABSRE03	10/04/2024	Leaf litter extracted from tullgren funnel	ISTN3851	Dr T Moulds
Chelicerata	Arachnida	Pseudoscorpionida	Olpiidae	*sp.*	Possible A	1	TABSRE05	11/04/2024	Leaf litter extracted from tullgren funnel	ISTN3850	Dr T Moulds
Chelicerata	Arachnida	Pseudoscorpionida	Olpiidae	*sp.*	Possible A	1	TABSRE13	11/04/2024	Leaf litter extracted from tullgren funnel	ISTN3848	Dr T Moulds
Chelicerata	Arachnida	Pseudoscorpionida	Olpiidae	*sp.*	Possible A	1	TABSRE15	9/04/2024	Leaf litter extracted from tullgren funnel	ISTN3859	Dr T Moulds
Chelicerata	Arachnida	Pseudoscorpionida	Olpiidae	*sp.*	Possible A	2	TABSRE29	10/04/2024	Leaf litter extracted from tullgren funnel	ISTN3845	Dr T Moulds
Chelicerata	Arachnida	Pseudoscorpionida	Olpiidae	*sp.*	Possible A	1	TABSRE32	10/04/2024	Leaf litter extracted from tullgren funnel	ISTN3852	Dr T Moulds
Chelicerata	Arachnida	Pseudoscorpionida	Olpiidae	*sp.*	Possible A	1	TABSRE35	9/04/2024	Leaf litter extracted from tullgren funnel	ISTN3856	Dr T Moulds
Chelicerata	Arachnida	Pseudoscorpionida	Olpiidae	*sp.*	Possible A	1	TABSRE66	25/04/2025	Leaf litter extracted from tullgren funnel	ISTN4475	Dr T Moulds
Chelicerata	Arachnida	Pseudoscorpionida	Olpiidae	*sp.*	Possible A	1	TABSRE76	25/04/2025	Leaf litter extracted from tullgren funnel	ISTN4477	Dr T Moulds
Chelicerata	Arachnida	Pseudoscorpionida	Olpiidae	*sp.*	Possible A	1	TABSRE52	26/04/2025	Leaf litter extracted from tullgren funnel	ISTN4497	Dr T Moulds
Chelicerata	Arachnida	Pseudoscorpionida	Olpiidae	*sp.*	Possible A	1	TABSRE56	26/04/2025	Leaf litter extracted from tullgren funnel	ISTN4495	Dr T Moulds
Chelicerata	Arachnida	Pseudoscorpionida	Olpiidae	*sp.*	Possible A	1	TABSRE63	27/04/2025	Leaf litter extracted from tullgren funnel	ISTN4499	Dr T Moulds
Chelicerata	Arachnida	Pseudoscorpionida	Olpiidae	*sp.*	Possible A	1	TABSRE69	27/04/2025	Leaf litter extracted from tullgren funnel	ISTN4498	Dr T Moulds
Myriapoda	Chilopoda	Scolopendromorpha	Scolpendridae	*Scolopendra laeta*	Widespread	1	TABSRE69	27/04/2025	Leaf litter extracted from tullgren funnel	ISTN5373	Dr T Moulds
Myriapoda	Diplopoda	Polyxenida	Polyxenidae	*Unixenus karajinensis*	Widespread	2	TABSRE04	10/04/2024	Active searching and leaf litter sieving	ISTN4405	Dr T Moulds
Myriapoda	Diplopoda	Polyxenida	Polyxenidae	*Unixenus karajinensis*	Widespread	3	TABSRE21	8/04/2024	Active searching and leaf litter sieving	ISTN4399	Dr T Moulds
Myriapoda	Diplopoda	Polyxenida	Polyxenidae	*Unixenus mjoebergi*	Widespread	2	TABSRE04	10/04/2024	Leaf litter extracted from tullgren funnel	ISTN3847	Dr T Moulds
Myriapoda	Diplopoda	Polyxenida	Polyxenidae	*Unixenus karajinensis*	Widespread	2	TABSRE07	11/04/2024	Leaf litter extracted from tullgren funnel	ISTN3837	Dr T Moulds
Myriapoda	Diplopoda	Polyxenida	Polyxenidae	*Unixenus mjoebergi*	Widespread	1	TABSRE72	25/04/2025	Leaf litter extracted from tullgren funnel	ISTN4482	Dr T Moulds
Myriapoda	Diplopoda	Polydesmida	Paradoxosomatidae	*Antichiropus forcipatus*	Confirmed	1	TABSRE62	27/04/2025	Active searching and leaf litter sieving	ISTN5371	Dr T Moulds

EPBC Act Protected Matters Report

This report provides general guidance on matters of national environmental significance and other matters protected by the EPBC Act in the area you have selected. Please see the caveat for interpretation of information provided here.

Report created: 03-Jun-2025

Summary

Matters of National Environment Significance

This part of the report summarises the matters of national environmental significance that may occur in, or may relate to, the area you nominated. Further information is available in the detail part of the report, which can be accessed by scrolling or following the links below. If you are proposing to undertake an activity that may have a significant impact on one or more matters of national environmental significance then you should consider the Administrative Guidelines on Significance.

World Heritage Properties:	None
National Heritage Places:	None
Wetlands of International Importance (Ramsar	None
Great Barrier Reef Marine Park:	None
Commonwealth Marine Area:	1
Listed Threatened Ecological Communities:	None
Listed Threatened Species:	45
Listed Migratory Species:	64

Other Matters Protected by the EPBC Act

This part of the report summarises other matters protected under the Act that may relate to the area you nominated. Approval may be required for a proposed activity that significantly affects the environment on Commonwealth land, when the action is outside the Commonwealth land, or the environment anywhere when the action is taken on Commonwealth land. Approval may also be required for the Commonwealth or Commonwealth agencies proposing to take an action that is likely to have a significant impact on the environment anywhere.

The EPBC Act protects the environment on Commonwealth land, the environment from the actions taken on Commonwealth land, and the environment from actions taken by Commonwealth agencies. As heritage values of a place are part of the 'environment', these aspects of the EPBC Act protect the Commonwealth Heritage values of a Commonwealth Heritage place. Information on the new heritage laws can be found at https://www.dcceew.gov.au/parks-heritage/heritage

A permit may be required for activities in or on a Commonwealth area that may affect a member of a listed threatened species or ecological community, a member of a listed migratory species, whales and other cetaceans, or a member of a listed marine species.

Commonwealth Lands:	73
Commonwealth Heritage Places:	None
Listed Marine Species:	105
Whales and Other Cetaceans:	13
Critical Habitats:	None
Commonwealth Reserves Terrestrial:	None
Australian Marine Parks:	None
Habitat Critical to the Survival of Marine Turtles:	1

Extra Information

This part of the report provides information that may also be relevant to the area you have

State and Territory Reserves:	None
Regional Forest Agreements:	None
Nationally Important Wetlands:	2
EPBC Act Referrals:	53
Key Ecological Features (Marine):	None
Biologically Important Areas:	9
Bioregional Assessments:	None
Geological and Bioregional Assessments:	None

Details

Matters of National Environmental Significance

Commonwealth Marine Area [Resource Information]

Approval is required for a proposed activity that is located within the Commonwealth Marine Area which has, will have, or is likely to have a significant impact on the environment. Approval may be required for a proposed action taken outside a Commonwealth Marine Area but which has, may have or is likely to have a significant impact on the environment in the Commonwealth Marine Area.

Feature Name	Buffer Status
Commonwealth Marine Areas (EPBC Act)	In buffer area only

Listed Threatened Species [Resource Information]

Status of Conservation Dependent and Extinct are not MNES under the EPBC Act.
Number is the current name ID.

Scientific Name	Threatened Category	Presence Text	Buffer Status
BIRD			
Arenaria interpres Ruddy Turnstone [872]	Vulnerable	Species or species habitat known to occur within area	In buffer area only
Calidris acuminata Sharp-tailed Sandpiper [874]	Vulnerable	Species or species habitat known to occur within area	In feature area
Calidris canutus Red Knot, Knot [855]	Vulnerable	Species or species habitat known to occur within area	In buffer area only
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat known to occur within area	In feature area
Calidris tenuirostris Great Knot [862]	Vulnerable	Species or species habitat known to occur within area	In buffer area only
Charadrius leschenaultii Greater Sand Plover, Large Sand Plover [877]	Vulnerable	Species or species habitat known to occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Charadrius mongolus Lesser Sand Plover, Mongolian Plover [879]	Endangered	Species or species habitat known to occur within area	In buffer area only
Erythrotriorchis radiatus Red Goshawk [942]	Endangered	Species or species habitat may occur within area	In feature area
Falco hypoleucos Grey Falcon [929]	Vulnerable	Species or species habitat known to occur within area	In feature area
Limnodromus semipalmatus Asian Dowitcher [843]	Vulnerable	Species or species habitat known to occur within area	In buffer area only
Limosa lapponica menzbieri Northern Siberian Bar-tailed Godwit, Russkoye Bar-tailed Godwit [86432]	Endangered	Species or species habitat known to occur within area	In buffer area only
Macronectes giganteus Southern Giant-Petrel, Southern Giant Petrel [1060]	Endangered	Species or species habitat may occur within area	In buffer area only
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat known to occur within area	In feature area
Pezoporus occidentalis Night Parrot [59350]	Endangered	Species or species habitat may occur within area	In feature area
Phaethon lepturus fulvus Christmas Island White-tailed Tropicbird, Golden Bosunbird [26021]	Endangered	Species or species habitat may occur within area	In buffer area only
Phaethon rubricauda westralis Red-tailed Tropicbird (Indian Ocean), Indian Ocean Red-tailed Tropicbird [91824]	Endangered	Species or species habitat likely to occur within area	In buffer area only
Pluvialis squatarola Grey Plover [865]	Vulnerable	Species or species habitat known to occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Polytelis alexandrae Princess Parrot, Alexandra's Parrot [758]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Rostratula australis Australian Painted Snipe [77037]	Endangered	Species or species habitat may occur within area	In feature area
Sternula albifrons Little Tern [82849]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Tringa nebularia Common Greenshank, Greenshank [832]	Endangered	Species or species habitat known to occur within area	In buffer area only
Xenus cinereus Terek Sandpiper [59300]	Vulnerable	Species or species habitat known to occur within area	In buffer area only
MAMMAL			
Balaenoptera musculus Blue Whale [36]	Endangered	Species or species habitat likely to occur within area	In buffer area only
Dasyurus hallucatus Northern Quoll, Digul [Gogo-Yimidir], Wijingadda [Dambimangari], Wiminji [Martu] [331]	Endangered	Species or species habitat known to occur within area	In feature area
Macroderma gigas Ghost Bat [174]	Vulnerable	Species or species habitat known to occur within area	In feature area
Macrotis lagotis Greater Bilby [282]	Vulnerable	Species or species habitat known to occur within area	In feature area
Orcaella heinsohni Australian Snubfin Dolphin [81322]	Vulnerable	Species or species habitat likely to occur within area	In buffer area only
Rhinonicteris aurantia (Pilbara form) Pilbara Leaf-nosed Bat [82790]	Vulnerable	Roosting known to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
[Sousa sahulensis](#) Australian Humpback Dolphin [87942]	Vulnerable	Species or species habitat likely to occur within area	In buffer area only
PLANT			
[Quoya zonalis listed as Pityrodia sp. Marble Bar (G.Woodman & D.Coultas GWDC Opp 4)](#) Pilbara Foxglove [91588]	Endangered (listed as Pityrodia sp. Marble Bar	Species or species habitat known to occur within area	In buffer area only
REPTILE			
[Aipysurus apraefrontalis](#) Short-nosed Sea Snake, Short-nosed Seasnake [1115]	Critically Endangered	Species or species habitat likely to occur within area	In buffer area only
[Aipysurus foliosquama](#) Leaf-scaled Sea Snake, Leaf-scaled Seasnake [1118]	Critically Endangered	Species or species habitat known to occur within area	In buffer area only
[Caretta caretta](#) Loggerhead Turtle [1763]	Endangered	Foraging, feeding or related behaviour known to occur within area	In buffer area only
[Chelonia mydas](#) Green Turtle [1765]	Vulnerable	Breeding known to occur within area	In buffer area only
[Dermochelys coriacea](#) Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Breeding likely to occur within area	In buffer area only
[Eretmochelys imbricata](#) Hawksbill Turtle [1766]	Vulnerable	Breeding known to occur within area	In buffer area only
[Liasis olivaceus barroni](#) Pilbara Olive Python [66699]	Vulnerable	Species or species habitat known to occur within area	In feature area
[Liopholis kintorei](#) Great Desert Skink, Tjakura, Warrarna, Mulyamiji, Tjalapa, Nampu [83160]	Vulnerable	Species or species habitat may occur within area	In buffer area only
[Natator depressus](#) Flatback Turtle [59257]	Vulnerable	Breeding known to occur within area	In buffer area only
SHARK			

Scientific Name	Threatened Category	Presence Text	Buffer Status
Carcharodon carcharias White Shark, Great White Shark [64470]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Pristis clavata Dwarf Sawfish, Queensland Sawfish [68447]	Vulnerable	Species or species habitat known to occur within area	In buffer area only
Pristis pristis Freshwater Sawfish, Largetooth Sawfish, River Sawfish, Leichhardt's Sawfish, Northern Sawfish [60756]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Pristis zijsron Green Sawfish, Dindagubba, Narrowsnout Sawfish [68442]	Vulnerable	Breeding likely to occur within area	In buffer area only
Rhincodon typus Whale Shark [66680]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Sphyrna lewini Scalloped Hammerhead [85267]	Conservation Dependent	Species or species habitat likely to occur within area	In buffer area only

Listed Migratory Species			[Resource Information]
Scientific Name	Threatened Category	Presence Text	Buffer Status
Migratory Marine Birds			
Anous stolidus Common Noddy [825]		Species or species habitat may occur within area	In buffer area only
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area	In feature area
Calonectris leucomelas Streaked Shearwater [1077]		Species or species habitat may occur within area	In buffer area only
Fregata ariel Lesser Frigatebird, Least Frigatebird [1012]		Species or species habitat known to occur within area	In buffer area only
Macronectes giganteus Southern Giant-Petrel, Southern Giant Petrel [1060]	Endangered	Species or species habitat may occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Phaethon lepturus White-tailed Tropicbird [1014]		Species or species habitat likely to occur within area	In buffer area only
Sternula albifrons Little Tern [82849]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Migratory Marine Species			
Anoxypristis cuspidata Narrow Sawfish, Knifetooth Sawfish [68448]		Species or species habitat likely to occur within area	In buffer area only
Balaenoptera edeni Bryde's Whale [35]		Species or species habitat may occur within area	In buffer area only
Balaenoptera musculus Blue Whale [36]	Endangered	Species or species habitat likely to occur within area	In buffer area only
Carcharhinus longimanus Oceanic Whitetip Shark [84108]		Species or species habitat may occur within area	In buffer area only
Carcharias taurus Grey Nurse Shark [64469]		Species or species habitat may occur within area	In buffer area only
Carcharodon carcharias White Shark, Great White Shark [64470]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Caretta caretta Loggerhead Turtle [1763]	Endangered	Foraging, feeding or related behaviour known to occur within area	In buffer area only
Chelonia mydas Green Turtle [1765]	Vulnerable	Breeding known to occur within area	In buffer area only
Crocodylus porosus Salt-water Crocodile, Estuarine Crocodile [1774]		Species or species habitat likely to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Breeding likely to occur within area	In buffer area only
Dugong dugon Dugong [28]		Species or species habitat known to occur within area	In buffer area only
Eretmochelys imbricata Hawksbill Turtle [1766]	Vulnerable	Breeding known to occur within area	In buffer area only
Megaptera novaeangliae Humpback Whale [38]		Species or species habitat known to occur within area	In buffer area only
Mobula alfredi as Manta alfredi Reef Manta Ray, Coastal Manta Ray [90033]		Species or species habitat known to occur within area	In buffer area only
Mobula birostris as Manta birostris Giant Manta Ray [90034]		Species or species habitat likely to occur within area	In buffer area only
Natator depressus Flatback Turtle [59257]	Vulnerable	Breeding known to occur within area	In buffer area only
Orcaella heinsohni Australian Snubfin Dolphin [81322]	Vulnerable	Species or species habitat likely to occur within area	In buffer area only
Orcinus orca Killer Whale, Orca [46]		Species or species habitat may occur within area	In buffer area only
Pristis clavata Dwarf Sawfish, Queensland Sawfish [68447]	Vulnerable	Species or species habitat known to occur within area	In buffer area only
Pristis pristis Freshwater Sawfish, Largetooth Sawfish, River Sawfish, Leichhardt's Sawfish, Northern Sawfish [60756]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Pristis zijsron Green Sawfish, Dindagubba, Narrowsnout Sawfish [68442]	Vulnerable	Breeding likely to occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Rhincodon typus Whale Shark [66680]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Sousa sahulensis as Sousa chinensis Australian Humpback Dolphin [87942]	Vulnerable	Species or species habitat likely to occur within area	In buffer area only
Tursiops aduncus (Arafura/Timor Sea populations) Spotted Bottlenose Dolphin (Arafura/Timor Sea populations) [78900]		Species or species habitat known to occur within area	In buffer area only
Migratory Terrestrial Species			
Cuculus optatus Oriental Cuckoo, Horsfield's Cuckoo [86651]		Species or species habitat may occur within area	In buffer area only
Hirundo rustica Barn Swallow [662]		Species or species habitat known to occur within area	In feature area
Motacilla cinerea Grey Wagtail [642]		Species or species habitat may occur within area	In feature area
Motacilla flava Yellow Wagtail [644]		Species or species habitat known to occur within area	In feature area
Migratory Wetlands Species			
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat known to occur within area	In feature area
Arenaria interpres Ruddy Turnstone [872]	Vulnerable	Species or species habitat known to occur within area	In buffer area only
Calidris acuminata Sharp-tailed Sandpiper [874]	Vulnerable	Species or species habitat known to occur within area	In feature area
Calidris alba Sanderling [875]		Species or species habitat known to occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
[Calidris canutus](#) Red Knot, Knot [855]	Vulnerable	Species or species habitat known to occur within area	In buffer area only
[Calidris ferruginea](#) Curlew Sandpiper [856]	Critically Endangered	Species or species habitat known to occur within area	In feature area
[Calidris melanotos](#) Pectoral Sandpiper [858]		Species or species habitat known to occur within area	In feature area
[Calidris ruficollis](#) Red-necked Stint [860]		Species or species habitat known to occur within area	In buffer area only
[Calidris subminuta](#) Long-toed Stint [861]		Species or species habitat known to occur within area	In buffer area only
[Calidris tenuirostris](#) Great Knot [862]	Vulnerable	Species or species habitat known to occur within area	In buffer area only
[Charadrius leschenaultii](#) Greater Sand Plover, Large Sand Plover [877]	Vulnerable	Species or species habitat known to occur within area	In buffer area only
[Charadrius mongolus](#) Lesser Sand Plover, Mongolian Plover [879]	Endangered	Species or species habitat known to occur within area	In buffer area only
[Charadrius veredus](#) Oriental Plover, Oriental Dotterel [882]		Species or species habitat known to occur within area	In feature area
[Glareola maldivarum](#) Oriental Pratincole [840]		Species or species habitat known to occur within area	In feature area
[Limicola falcinellus](#) Broad-billed Sandpiper [842]		Species or species habitat known to occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Limnodromus semipalmatus Asian Dowitcher [843]	Vulnerable	Species or species habitat known to occur within area	In buffer area only
Limosa lapponica Bar-tailed Godwit [844]		Species or species habitat known to occur within area	In buffer area only
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat known to occur within area	In feature area
Numenius minutus Little Curlew, Little Whimbrel [848]		Species or species habitat known to occur within area	In buffer area only
Numenius phaeopus Whimbrel [849]		Species or species habitat known to occur within area	In buffer area only
Pandion haliaetus Osprey [952]		Breeding known to occur within area	In feature area
Phalaropus lobatus Red-necked Phalarope [838]		Species or species habitat known to occur within area	In buffer area only
Pluvialis fulva Pacific Golden Plover [25545]		Species or species habitat known to occur within area	In buffer area only
Pluvialis squatarola Grey Plover [865]	Vulnerable	Species or species habitat known to occur within area	In buffer area only
Tringa brevipes Grey-tailed Tattler [851]		Species or species habitat known to occur within area	In buffer area only
Tringa glareola Wood Sandpiper [829]		Species or species habitat known to occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Tringa nebularia Common Greenshank, Greenshank [832]	Endangered	Species or species habitat known to occur within area	In buffer area only
Tringa stagnatilis Marsh Sandpiper, Little Greenshank [833]		Species or species habitat known to occur within area	In buffer area only
Xenus cinereus Terek Sandpiper [59300]	Vulnerable	Species or species habitat known to occur within area	In buffer area only

Other Matters Protected by the EPBC Act

Commonwealth Lands [Resource Information]

The Commonwealth area listed below may indicate the presence of Commonwealth land in this vicinity. Due to the unreliability of the data source, all proposals should be checked as to whether it impacts on a Commonwealth area, before making a definitive decision. Contact the State or Territory government land department for further information.

Commonwealth Land Name	State	Buffer Status
Unknown		
Commonwealth Land - [51689]	WA	In buffer area only
Commonwealth Land - [51688]	WA	In buffer area only
Commonwealth Land - [51403]	WA	In buffer area only
Commonwealth Land - [51054]	WA	In buffer area only
Commonwealth Land - [51049]	WA	In buffer area only
Commonwealth Land - [51048]	WA	In buffer area only
Commonwealth Land - [51679]	WA	In buffer area only
Commonwealth Land - [51678]	WA	In buffer area only
Commonwealth Land - [51677]	WA	In buffer area only
Commonwealth Land - [51676]	WA	In buffer area only
Commonwealth Land - [51711]	WA	In buffer area only
Commonwealth Land - [51718]	WA	In buffer area only
Commonwealth Land - [50349]	WA	In buffer area only
Commonwealth Land - [50324]	WA	In buffer area only

Commonwealth Land Name	State	Buffer Status
Commonwealth Land - [51691]	WA	In buffer area only
Commonwealth Land - [51690]	WA	In buffer area only
Commonwealth Land - [51404]	WA	In buffer area only
Commonwealth Land - [50325]	WA	In buffer area only
Commonwealth Land - [51682]	WA	In buffer area only
Commonwealth Land - [50326]	WA	In buffer area only
Commonwealth Land - [51681]	WA	In buffer area only
Commonwealth Land - [50327]	WA	In buffer area only
Commonwealth Land - [51666]	WA	In buffer area only
Commonwealth Land - [51712]	WA	In buffer area only
Commonwealth Land - [51683]	WA	In buffer area only
Commonwealth Land - [51685]	WA	In buffer area only
Commonwealth Land - [51686]	WA	In buffer area only
Commonwealth Land - [51687]	WA	In buffer area only
Commonwealth Land - [50359]	WA	In buffer area only
Commonwealth Land - [51684]	WA	In buffer area only
Commonwealth Land - [51710]	WA	In buffer area only
Commonwealth Land - [51719]	WA	In buffer area only
Commonwealth Land - [51713]	WA	In buffer area only
Commonwealth Land - [51714]	WA	In buffer area only
Commonwealth Land - [51715]	WA	In buffer area only
Commonwealth Land - [51716]	WA	In buffer area only
Commonwealth Land - [51717]	WA	In buffer area only
Commonwealth Land - [51703]	WA	In buffer area only
Commonwealth Land - [51700]	WA	In buffer area only
Commonwealth Land - [51050]	WA	In buffer area only
Commonwealth Land - [51706]	WA	In buffer area only

Commonwealth Land Name	State	Buffer Status
Commonwealth Land - [50323]	WA	In buffer area only
Commonwealth Land - [51709]	WA	In buffer area only
Commonwealth Land - [51429]	WA	In buffer area only
Commonwealth Land - [51707]	WA	In buffer area only
Commonwealth Land - [51708]	WA	In buffer area only
Commonwealth Land - [51051]	WA	In buffer area only
Commonwealth Land - [51704]	WA	In buffer area only
Commonwealth Land - [51669]	WA	In buffer area only
Commonwealth Land - [51053]	WA	In buffer area only
Commonwealth Land - [51702]	WA	In buffer area only
Commonwealth Land - [51052]	WA	In buffer area only
Commonwealth Land - [51668]	WA	In buffer area only
Commonwealth Land - [51720]	WA	In buffer area only
Commonwealth Land - [51947]	WA	In buffer area only
Commonwealth Land - [51667]	WA	In buffer area only
Commonwealth Land - [51705]	WA	In buffer area only
Commonwealth Land - [51671]	WA	In buffer area only
Commonwealth Land - [51670]	WA	In buffer area only
Commonwealth Land - [51673]	WA	In buffer area only
Commonwealth Land - [51672]	WA	In buffer area only
Commonwealth Land - [51675]	WA	In buffer area only
Commonwealth Land - [51674]	WA	In buffer area only
Commonwealth Land - [51696]	WA	In buffer area only
Commonwealth Land - [51697]	WA	In buffer area only
Commonwealth Land - [51694]	WA	In buffer area only
Commonwealth Land - [51695]	WA	In buffer area only
Commonwealth Land - [51055]	WA	In buffer area only

Commonwealth Land Name	State	Buffer Status
Commonwealth Land - [51680]	WA	In buffer area only
Commonwealth Land - [51698]	WA	In buffer area only
Commonwealth Land - [51699]	WA	In buffer area only
Commonwealth Land - [51693]	WA	In buffer area only
Commonwealth Land - [51692]	WA	In buffer area only

Listed Marine Species

[Resource Information]

Scientific Name	Threatened Category	Presence Text	Buffer Status
Bird			
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat known to occur within area	In feature area
Anous stolidus Common Noddy [825]		Species or species habitat may occur within area	In buffer area only
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area overfly marine area	In feature area
Arenaria interpres Ruddy Turnstone [872]	Vulnerable	Species or species habitat known to occur within area	In buffer area only
Bubulcus ibis as Ardea ibis Cattle Egret [66521]		Species or species habitat may occur within area overfly marine area	In feature area
Calidris acuminata Sharp-tailed Sandpiper [874]	Vulnerable	Species or species habitat known to occur within area	In feature area
Calidris alba Sanderling [875]		Species or species habitat known to occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
[Calidris canutus](#) Red Knot, Knot [855]	Vulnerable	Species or species habitat known to occur within area overfly marine area	In buffer area only
[Calidris ferruginea](#) Curlew Sandpiper [856]	Critically Endangered	Species or species habitat known to occur within area overfly marine area	In feature area
[Calidris melanotos](#) Pectoral Sandpiper [858]		Species or species habitat known to occur within area overfly marine area	In feature area
[Calidris ruficollis](#) Red-necked Stint [860]		Species or species habitat known to occur within area overfly marine area	In buffer area only
[Calidris subminuta](#) Long-toed Stint [861]		Species or species habitat known to occur within area overfly marine area	In buffer area only
[Calidris tenuirostris](#) Great Knot [862]	Vulnerable	Species or species habitat known to occur within area overfly marine area	In buffer area only
[Calonectris leucomelas](#) Streaked Shearwater [1077]		Species or species habitat may occur within area	In buffer area only
[Chalcites osculans as Chrysococcyx osculans](#) Black-eared Cuckoo [83425]		Species or species habitat known to occur within area overfly marine area	In feature area
[Charadrius leschenaultii](#) Greater Sand Plover, Large Sand Plover [877]	Vulnerable	Species or species habitat known to occur within area	In buffer area only
[Charadrius mongolus](#) Lesser Sand Plover, Mongolian Plover [879]	Endangered	Species or species habitat known to occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Charadrius ruficapillus Red-capped Plover [881]		Species or species habitat known to occur within area overfly marine area	In buffer area only
Charadrius veredus Oriental Plover, Oriental Dotterel [882]		Species or species habitat known to occur within area overfly marine area	In feature area
Fregata ariel Lesser Frigatebird, Least Frigatebird [1012]		Species or species habitat known to occur within area	In buffer area only
Glareola maldivarum Oriental Pratincole [840]		Species or species habitat known to occur within area overfly marine area	In feature area
Haliaeetus leucogaster White-bellied Sea-Eagle [943]		Species or species habitat known to occur within area	In feature area
Himantopus himantopus Pied Stilt, Black-winged Stilt [870]		Species or species habitat known to occur within area overfly marine area	In buffer area only
Hirundo rustica Barn Swallow [662]		Species or species habitat known to occur within area overfly marine area	In feature area
Limicola falcinellus Broad-billed Sandpiper [842]		Species or species habitat known to occur within area overfly marine area	In buffer area only
Limnodromus semipalmatus Asian Dowitcher [843]	Vulnerable	Species or species habitat known to occur within area overfly marine area	In buffer area only
Limosa lapponica Bar-tailed Godwit [844]		Species or species habitat known to occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Macronectes giganteus Southern Giant-Petrel, Southern Giant Petrel [1060]	Endangered	Species or species habitat may occur within area	In buffer area only
Merops ornatus Rainbow Bee-eater [670]		Species or species habitat may occur within area overfly marine area	In feature area
Motacilla cinerea Grey Wagtail [642]		Species or species habitat may occur within area overfly marine area	In feature area
Motacilla flava Yellow Wagtail [644]		Species or species habitat known to occur within area overfly marine area	In feature area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat known to occur within area	In feature area
Numenius minutus Little Curlew, Little Whimbrel [848]		Species or species habitat known to occur within area overfly marine area	In buffer area only
Numenius phaeopus Whimbrel [849]		Species or species habitat known to occur within area	In buffer area only
Pandion haliaetus Osprey [952]		Breeding known to occur within area	In feature area
Phaethon lepturus White-tailed Tropicbird [1014]		Species or species habitat likely to occur within area	In buffer area only
Phaethon lepturus fulvus Christmas Island White-tailed Tropicbird, Golden Bosunbird [26021]	Endangered	Species or species habitat may occur within area	In buffer area only
Phalaropus lobatus Red-necked Phalarope [838]		Species or species habitat known to occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Pluvialis fulva Pacific Golden Plover [25545]		Species or species habitat known to occur within area	In buffer area only
Pluvialis squatarola Grey Plover [865]	Vulnerable	Species or species habitat known to occur within area overfly marine area	In buffer area only
Recurvirostra novaehollandiae Red-necked Avocet [871]		Species or species habitat known to occur within area overfly marine area	In buffer area only
Rostratula australis as Rostratula benghalensis (sensu lato) Australian Painted Snipe [77037]	Endangered	Species or species habitat may occur within area overfly marine area	In feature area
Sternula albifrons as Sterna albifrons Little Tern [82849]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Stiltia isabella Australian Pratincole [818]		Species or species habitat known to occur within area overfly marine area	In buffer area only
Tringa brevipes as Heteroscelus brevipes Grey-tailed Tattler [851]		Species or species habitat known to occur within area	In buffer area only
Tringa glareola Wood Sandpiper [829]		Species or species habitat known to occur within area overfly marine area	In buffer area only
Tringa nebularia Common Greenshank, Greenshank [832]	Endangered	Species or species habitat known to occur within area overfly marine area	In buffer area only
Tringa stagnatilis Marsh Sandpiper, Little Greenshank [833]		Species or species habitat known to occur within area overfly marine area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Xenus cinereus Terek Sandpiper [59300]	Vulnerable	Species or species habitat known to occur within area overfly marine area	In buffer area only
Fish			
Acentronura larsonae Helen's Pygmy Pipehorse [66186]		Species or species habitat may occur within area	In buffer area only
Bulbonaricus brauni Braun's Pughead Pipefish, Pug-headed Pipefish [66189]		Species or species habitat may occur within area	In buffer area only
Campichthys tricarinatus Three-keel Pipefish [66192]		Species or species habitat may occur within area	In buffer area only
Choeroichthys brachysoma Pacific Short-bodied Pipefish, Short-bodied Pipefish [66194]		Species or species habitat may occur within area	In buffer area only
Choeroichthys latispinosus Muiron Island Pipefish [66196]		Species or species habitat may occur within area	In buffer area only
Choeroichthys suillus Pig-snouted Pipefish [66198]		Species or species habitat may occur within area	In buffer area only
Doryrhamphus dactyliophorus Banded Pipefish, Ringed Pipefish [66210]		Species or species habitat may occur within area	In buffer area only
Doryrhamphus janssi Cleaner Pipefish, Janss' Pipefish [66212]		Species or species habitat may occur within area	In buffer area only
Doryrhamphus multiannulatus Many-banded Pipefish [66717]		Species or species habitat may occur within area	In buffer area only
Doryrhamphus negrosensis Flagtail Pipefish, Masthead Island Pipefish [66213]		Species or species habitat may occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Festucalex scalaris Ladder Pipefish [66216]		Species or species habitat may occur within area	In buffer area only
Filicampus tigris Tiger Pipefish [66217]		Species or species habitat may occur within area	In buffer area only
Halicampus brocki Brock's Pipefish [66219]		Species or species habitat may occur within area	In buffer area only
Halicampus grayi Mud Pipefish, Gray's Pipefish [66221]		Species or species habitat may occur within area	In buffer area only
Halicampus nitidus Glittering Pipefish [66224]		Species or species habitat may occur within area	In buffer area only
Halicampus spinirostris Spiny-snout Pipefish [66225]		Species or species habitat may occur within area	In buffer area only
Haliichthys taeniophorus Ribboned Pipehorse, Ribboned Seadragon [66226]		Species or species habitat may occur within area	In buffer area only
Hippichthys penicillus Beady Pipefish, Steep-nosed Pipefish [66231]		Species or species habitat may occur within area	In buffer area only
Hippocampus angustus Western Spiny Seahorse, Narrow-bellied Seahorse [66234]		Species or species habitat may occur within area	In buffer area only
Hippocampus histrix Spiny Seahorse, Thorny Seahorse [66236]		Species or species habitat may occur within area	In buffer area only
Hippocampus kuda Spotted Seahorse, Yellow Seahorse [66237]		Species or species habitat may occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Hippocampus planifrons Flat-face Seahorse [66238]		Species or species habitat may occur within area	In buffer area only
Hippocampus trimaculatus Three-spot Seahorse, Low-crowned Seahorse, Flat-faced Seahorse [66720]		Species or species habitat may occur within area	In buffer area only
Micrognathus micronotopterus Tidepool Pipefish [66255]		Species or species habitat may occur within area	In buffer area only
Phoxocampus belcheri Black Rock Pipefish [66719]		Species or species habitat may occur within area	In buffer area only
Solegnathus hardwickii Pallid Pipehorse, Hardwick's Pipehorse [66272]		Species or species habitat may occur within area	In buffer area only
Solegnathus lettiensis Gunther's Pipehorse, Indonesian Pipefish [66273]		Species or species habitat may occur within area	In buffer area only
Solenostomus cyanopterus Robust Ghostpipefish, Blue-finned Ghost Pipefish, [66183]		Species or species habitat may occur within area	In buffer area only
Syngnathoides biaculeatus Double-end Pipehorse, Double-ended Pipehorse, Alligator Pipefish [66279]		Species or species habitat may occur within area	In buffer area only
Trachyrhamphus bicoarctatus Bentstick Pipefish, Bend Stick Pipefish, Short-tailed Pipefish [66280]		Species or species habitat may occur within area	In buffer area only
Trachyrhamphus longirostris Straightstick Pipefish, Long-nosed Pipefish, Straight Stick Pipefish [66281]		Species or species habitat may occur within area	In buffer area only
Mammal			
Dugong dugon Dugong [28]		Species or species habitat known to occur within area	In buffer area only
Reptile			

Scientific Name	Threatened Category	Presence Text	Buffer Status
Aipysurus apraefrontalis Short-nosed Sea Snake, Short-nosed Seasnake [1115]	Critically Endangered	Species or species habitat likely to occur within area	In buffer area only
Aipysurus duboisii Dubois' Sea Snake, Dubois' Seasnake, Reef Shallows Sea Snake [1116]		Species or species habitat may occur within area	In buffer area only
Aipysurus foliosquama Leaf-scaled Sea Snake, Leaf-scaled Seasnake [1118]	Critically Endangered	Species or species habitat known to occur within area	In buffer area only
Aipysurus laevis Olive Sea Snake, Olive-brown Sea Snake [1120]		Species or species habitat may occur within area	In buffer area only
Aipysurus mosaicus as Aipysurus eydouxii Mosaic Sea Snake [87261]		Species or species habitat may occur within area	In buffer area only
Aipysurus tenuis Brown-lined Sea Snake, Mjoberg's Sea Snake [1121]		Species or species habitat may occur within area	In buffer area only
Caretta caretta Loggerhead Turtle [1763]	Endangered	Foraging, feeding or related behaviour known to occur within area	In buffer area only
Chelonia mydas Green Turtle [1765]	Vulnerable	Breeding known to occur within area	In buffer area only
Crocodylus porosus Salt-water Crocodile, Estuarine Crocodile [1774]		Species or species habitat likely to occur within area	In feature area
Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Breeding likely to occur within area	In buffer area only
Emydocephalus annulatus Eastern Turtle-headed Sea Snake [1125]		Species or species habitat may occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Ephalophis greyae as Ephalophis greyi Mangrove Sea Snake [93738]		Species or species habitat may occur within area	In buffer area only
Eretmochelys imbricata Hawksbill Turtle [1766]	Vulnerable	Breeding known to occur within area	In buffer area only
Hydrelaps darwiniensis Port Darwin Sea Snake, Black-ringed Mangrove Sea Snake [1100]		Species or species habitat may occur within area	In buffer area only
Hydrophis czeblukovi Fine-spined Sea Snake [59233]		Species or species habitat may occur within area	In buffer area only
Hydrophis elegans Elegant Sea Snake, Bar-bellied Sea Snake [1104]		Species or species habitat may occur within area	In buffer area only
Hydrophis kingii as Disteira kingii Spectacled Sea Snake [93511]		Species or species habitat may occur within area	In buffer area only
Hydrophis macdowelli as Hydrophis mcdowelli MacDowell's Sea Snake, Small-headed Sea Snake, [75601]		Species or species habitat may occur within area	In buffer area only
Hydrophis major as Disteira major Olive-headed Sea Snake [93512]		Species or species habitat may occur within area	In buffer area only
Hydrophis ornatus Spotted Sea Snake, Ornate Reef Sea Snake [1111]		Species or species habitat may occur within area	In buffer area only
Hydrophis peronii as Acalyptophis peronii Horned Sea Snake [93509]		Species or species habitat may occur within area	In buffer area only
Hydrophis platura as Pelamis platurus Yellow-bellied Sea Snake [93746]		Species or species habitat may occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Hydrophis stokesii as Astrotia stokesii Stokes' Sea Snake [93510]		Species or species habitat may occur within area	In buffer area only
Natator depressus Flatback Turtle [59257]	Vulnerable	Breeding known to occur within area	In buffer area only

Whales and Other Cetaceans [Resource Information]

Current Scientific Name	Status	Type of Presence	Buffer Status
Mammal			
Balaenoptera acutorostrata Minke Whale [33]		Species or species habitat may occur within area	In buffer area only
Balaenoptera edeni Bryde's Whale [35]		Species or species habitat may occur within area	In buffer area only
Balaenoptera musculus Blue Whale [36]	Endangered	Species or species habitat likely to occur within area	In buffer area only
Delphinus delphis Common Dolphin, Short-beaked Common Dolphin [60]		Species or species habitat may occur within area	In buffer area only
Grampus griseus Risso's Dolphin, Grampus [64]		Species or species habitat may occur within area	In buffer area only
Megaptera novaeangliae Humpback Whale [38]		Species or species habitat known to occur within area	In buffer area only
Orcaella heinsohni Australian Snubfin Dolphin [81322]	Vulnerable	Species or species habitat likely to occur within area	In buffer area only
Orcinus orca Killer Whale, Orca [46]		Species or species habitat may occur within area	In buffer area only
Sousa sahulensis Australian Humpback Dolphin [87942]	Vulnerable	Species or species habitat likely to occur within area	In buffer area only

Current Scientific Name	Status	Type of Presence	Buffer Status
Stenella attenuata			
Spotted Dolphin, Pantropical Spotted Dolphin [51]		Species or species habitat may occur within area	In buffer area only
Tursiops aduncus			
Indian Ocean Bottlenose Dolphin, Spotted Bottlenose Dolphin [68418]		Species or species habitat likely to occur within area	In buffer area only
Tursiops aduncus (Arafura/Timor Sea populations)			
Spotted Bottlenose Dolphin (Arafura/Timor Sea populations) [78900]		Species or species habitat known to occur within area	In buffer area only
Tursiops truncatus s. str.			
Bottlenose Dolphin [68417]		Species or species habitat may occur within area	In buffer area only

Habitat Critical to the Survival of Marine Turtles			[Resource Information]
Scientific Name	Behaviour	Presence	Buffer Status
All year (Jun - Aug)			
Natator depressus			
Flatback Turtle [59257]	Nesting	Known to occur	In buffer area only

Extra Information

Nationally Important Wetlands		[Resource Information]
Wetland Name	State	Buffer Status
De Grey River	WA	In buffer area only
Leslie (Port Hedland) Saltfields System	WA	In buffer area only

EPBC Act Referrals				[Resource Information]
Title of referral	Reference	Referral Outcome	Assessment Status	Buffer Status
East Pilbara Network Stage 1	2024/09933		Completed	In buffer area only
Hemi Gold Project	2023/09556		Referral Decision	In buffer area only
Lynas Find Project	2023/09471		Post-Approval	In buffer area only
Miralga Creek Project, Pilbara region, WA	2019/8601		Post-Approval	In buffer area only

Title of referral	Reference	Referral Outcome	Assessment Status	Buffer Status
Panoram Copper-Zinc mine	2007/3310		Completed	In buffer area only
Port Hedland Green Steel Project - Stage 1	2023/09764		Assessment	In buffer area only
Port Hedland Solar Project	2022/09241		Post-Approval	In buffer area only
Ridley Magnetite Project	2023/09477		Referral Decision	In buffer area only
Controlled action				
Abydos Direct Shipping Ore (DSO) Project, Stage 2	2013/6985	Controlled Action	Post-Approval	In buffer area only
Abydos Direct Shipping Ore Project	2012/6345	Controlled Action	Post-Approval	In buffer area only
Additional Rail Infrastructure between Herb Elliott Port Facility and Cloudbreak Mine Site	2010/5513	Controlled Action	Post-Approval	In buffer area only
Development of a Quarry Operation to extract gravel, sand and pindan material	2012/6636	Controlled Action	Post-Approval	In buffer area only
Great Northern Pipeline - 630 km buried gas pipeline	2009/5257	Controlled Action	Completed	In buffer area only
Mt Dove Direct Shipping Ore Project	2011/5848	Controlled Action	Post-Approval	In buffer area only
North Star Hematite Project	2012/6530	Controlled Action	Post-Approval	In buffer area only
North Star Magnetite Project	2012/6689	Controlled Action	Post-Approval	In buffer area only
Poondano Iron Ore Project	2010/5759	Controlled Action	Post-Approval	In buffer area only
Port Hedland Outer Harbour Development and associated marine and terrestrial in	2008/4159	Controlled Action	Post-Approval	In buffer area only
Port Hedland Spoilbank Marina, WA	2019/8520	Controlled Action	Post-Approval	In buffer area only
Roy Hill to Port Hedland Rail Line and Associated Infrastructure	2010/5424	Controlled Action	Post-Approval	In buffer area only
Not controlled action				
150m Boodarie Gas Lateral Pipeline	2014/7116	Not Controlled Action	Completed	In buffer area only

Title of referral	Reference	Referral Outcome	Assessment Status	Buffer Status
Not controlled action				
Bulgarene Borefield	2006/2507	Not Controlled Action	Completed	In buffer area only
Construction of a Commodities Berth, Wharf and Associated Infrastructure	2008/4129	Not Controlled Action	Completed	In buffer area only
Development of iron ore resources in eastern Pilbara region, including port at P	2004/1562	Not Controlled Action	Completed	In buffer area only
Horizon Power South Hedland Transmission Line, WA	2012/6551	Not Controlled Action	Completed	In buffer area only
Improving rabbit biocontrol: releasing another strain of RHDV, sthrn two thirds of Australia	2015/7522	Not Controlled Action	Completed	In feature area
Iron Bridge Port Facility, Port Hedland, WA	2015/7565	Not Controlled Action	Completed	In buffer area only
Pardoo Direct Shipping Ore (DSO) Project	2007/3539	Not Controlled Action	Completed	In buffer area only
Pilbara Bulk Ore Transport System Project, WA	2016/7637	Not Controlled Action	Completed	In buffer area only
Pilbara Transmission Project, Pilbara, WA	2018/8349	Not Controlled Action	Completed	In buffer area only
Pippingarra Quarry Expansion Works	2012/6461	Not Controlled Action	Completed	In buffer area only
Port Hedland Channel Risk and Optimisation Project, WA	2017/7915	Not Controlled Action	Completed	In buffer area only
Port Hedland Power Station Conversion Project	2011/6080	Not Controlled Action	Completed	In buffer area only
Rail and Port Facilities	2001/474	Not Controlled Action	Completed	In buffer area only
Relocation of approx. 670m of the Pilbara Energy Pipeline	2013/6756	Not Controlled Action	Completed	In buffer area only
South Hedland Power Station WA	2011/5929	Not Controlled Action	Completed	In buffer area only
Sulphur Springs Copper-Zinc Mining Project, Pilbara Region, WA	2013/6899	Not Controlled Action	Completed	In buffer area only
Telfer Gold Mine Project - Mine and Borefield Extensions and Upgrade of Storage	2002/787	Not Controlled Action	Completed	In buffer area only
Telfer Gold Mine Project - Power Supply and Infrastructure Corridor	2002/786	Not Controlled Action	Completed	In buffer area only

Title of referral	Reference	Referral Outcome	Assessment Status	Buffer Status
Not controlled action				
Walkway Lighting Upgrade	2009/4965	Not Controlled Action	Completed	In buffer area only
Wilga Quarry Expansion	2020/8726	Not Controlled Action	Completed	In buffer area only
Wodgina Lithium Mine Expansion, Pilbara, NT	2018/8194	Not Controlled Action	Completed	In buffer area only
Not controlled action (particular manner)				
Additional Rail Infrastructure	2012/6314	Not Controlled Action (Particular Manner)	Post-Approval	In buffer area only
Atlas Boodarie Link Project, WA	2012/6506	Not Controlled Action (Particular Manner)	Post-Approval	In buffer area only
Dredging of marine sediment to enable construction of eight berths and a turnin	2010/5678	Not Controlled Action (Particular Manner)	Post-Approval	In buffer area only
Mine the Hercules Deposit under the Wodgina Direct Shipping Ore Project Stage 3	2013/6789	Not Controlled Action (Particular Manner)	Post-Approval	In buffer area only
Nelson Point Dredging	2009/4920	Not Controlled Action (Particular Manner)	Post-Approval	In buffer area only
Offshore Fibre Optic Cable Network Construction & Operation, Port Hedland WA to Darwin NT	2014/7223	Not Controlled Action (Particular Manner)	Post-Approval	In buffer area only
Port of Port Hedland channel marker replacement project, WA	2017/8010	Not Controlled Action (Particular Manner)	Post-Approval	In buffer area only
Realignment of the Great Northern Highway	2010/5793	Not Controlled Action (Particular Manner)	Post-Approval	In buffer area only
upgrade of 3 community recreation sites	2005/2349	Not Controlled Action (Particular Manner)	Post-Approval	In buffer area only
Referral decision				
Mine the Hercules Deposit under the Wodgina Direct Shipping Ore	2013/6777	Referral Decision	Completed	In buffer area only

Title of referral	Reference	Referral Outcome	Assessment Status	Buffer Status
Referral decision				
Project ??? Stage 3				
Outer Harbour Development and associated marine and terrestial infrastructure	2008/4148	Referral Decision	Completed	In buffer area only

Biologically Important Areas			[Resource Information]
Scientific Name	Behaviour	Presence	Buffer Status
Marine Turtles			
Caretta caretta Loggerhead Turtle [1763]	Foraging	Known to occur	In buffer area only
Chelonia mydas Green Turtle [1765]	Foraging	Known to occur	In buffer area only
Eretmochelys imbricata Hawksbill Turtle [1766]	Foraging	Known to occur	In buffer area only
Natator depressus Flatback Turtle [59257]	Foraging	Known to occur	In buffer area only
Natator depressus Flatback Turtle [59257]	Internesting buffer	Known to occur	In buffer area only
Natator depressus Flatback Turtle [59257]	Nesting	Known to occur	In buffer area only
Seabirds			
Ardenna tenuirostris Short-tailed Shearwater [84292]	Breeding	Known to occur	In feature area
Fregata ariel Lesser Frigatebird [1012]	Breeding	Known to occur	In feature area
Whales			
Megaptera novaeangliae Humpback Whale [38]	Migration (north and south)	Known to occur	In buffer area only

Caveat

1 PURPOSE

This report is designed to assist in identifying the location of matters of national environmental significance (MNES) and other matters protected by the Environment Protection and Biodiversity Conservation Act 1999 (Cth) (EPBC Act) which may be relevant in determining obligations and requirements under the EPBC Act.

The report contains the mapped locations of:

- World and National Heritage properties;
- Wetlands of International and National Importance;
- Commonwealth and State/Territory reserves;
- distribution of listed threatened, migratory and marine species;
- listed threatened ecological communities; and
- other information that may be useful as an indicator of potential habitat value.

2 DISCLAIMER

This report is not intended to be exhaustive and should only be relied upon as a general guide as mapped data is not available for all species or ecological communities listed under the EPBC Act (see below). Persons seeking to use the information contained in this report to inform the referral of a proposed action under the EPBC Act should consider the limitations noted below and whether additional information is required to determine the existence and location of MNES and other protected matters.

Where data is available to inform the mapping of protected species, the presence type (e.g. known, likely or may occur) that can be determined from the data is indicated in general terms. It is the responsibility of any person using or relying on the information in this report to ensure that it is suitable for the circumstances of any proposed use. The Commonwealth cannot accept responsibility for the consequences of any use of the report or any part thereof. To the maximum extent allowed under governing law, the Commonwealth will not be liable for any loss or damage that may be occasioned directly or indirectly through the use of, or reliance on the contents of this report.

3 DATA SOURCES

Threatened ecological communities

For threatened ecological communities where the distribution is well known, maps are generated based on information contained in recovery plans, State vegetation maps and remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.

Threatened, migratory and marine species

Threatened, migratory and marine species distributions have been discerned through a variety of methods. Where distributions are well known and if time permits, distributions are inferred from either thematic spatial data (i.e. vegetation, soils, geology, elevation, aspect, terrain, etc.) together with point locations and described habitat; or modelled (MAXENT or BIOCLIM habitat modelling) using point locations and environmental data layers.

Where little information is available for a species or large number of maps are required in a short time-frame, maps are derived either from 0.04 or 0.02 decimal degree cells; by an automated process using polygon capture techniques (static two kilometre grid cells, alpha-hull and convex hull); or captured manually or by using topographic features (national park boundaries, islands, etc.).

In the early stages of the distribution mapping process (1999-early 2000s) distributions were defined by degree blocks, 100K or 250K map sheets to rapidly create distribution maps. More detailed distribution mapping methods are used to update these distributions when time permits.

4 LIMITATIONS

The following species and ecological communities have not been mapped and do not appear in this report:

- threatened species listed as extinct or considered vagrants;
- some recently listed species and ecological communities;
- some listed migratory and listed marine species, which are not listed as threatened species; and
- migratory species that are very widespread, vagrant, or only occur in Australia in small numbers.

The following groups have been mapped, but may not cover the complete distribution of the species:

- listed migratory and/or listed marine seabirds, which are not listed as threatened, have only been mapped for recorded breeding sites; and
- seals which have only been mapped for breeding sites near the Australian continent

The breeding sites may be important for the protection of the Commonwealth Marine environment.

Refer to the metadata for the feature group (using the Resource Information link) for the currency of the information.

Acknowledgements

This database has been compiled from a range of data sources. The department acknowledges the following custodians who have contributed valuable data and advice:

-Office of Environment and Heritage, New South Wales
-Department of Environment and Primary Industries, Victoria
-Department of Primary Industries, Parks, Water and Environment, Tasmania
-Department of Environment, Water and Natural Resources, South Australia
-Department of Land and Resource Management, Northern Territory
-Department of Environmental and Heritage Protection, Queensland
-Department of Parks and Wildlife, Western Australia
-Environment and Planning Directorate, ACT
-Birdlife Australia
-Australian Bird and Bat Banding Scheme
-Australian National Wildlife Collection
-Natural history museums of Australia
-Museum Victoria
-Australian Museum
-South Australian Museum
-Queensland Museum
-Online Zoological Collections of Australian Museums
-Queensland Herbarium
-National Herbarium of NSW
-Royal Botanic Gardens and National Herbarium of Victoria
-Tasmanian Herbarium
-State Herbarium of South Australia
-Northern Territory Herbarium
-Western Australian Herbarium
-Australian National Herbarium, Canberra
-University of New England
-Ocean Biogeographic Information System
-Australian Government, Department of Defence
Forestry Corporation, NSW
-Geoscience Australia
-CSIRO
-Australian Tropical Herbarium, Cairns
-eBird Australia
-Australian Government – Australian Antarctic Data Centre
-Museum and Art Gallery of the Northern Territory
-Australian Government National Environmental Science Program
-Australian Institute of Marine Science
-Reef Life Survey Australia
-American Museum of Natural History
-Queen Victoria Museum and Art Gallery, Inveresk, Tasmania
-Tasmanian Museum and Art Gallery, Hobart, Tasmania
-Other groups and individuals

The Department is extremely grateful to the many organisations and individuals who provided expert advice and information on numerous draft distributions.

Please feel free to provide feedback via the Contact us page.

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Appendix 3

SRE Site locations and habitats

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TABSRE04		TABSRE09	
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