360 environmental

Leonora (Lot 51, Mt Ida Road)

Biological Survey

Prepared for

Horizon Power

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people • planet • professional

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Executive Summary

Horizon Power commissioned 360 Environmental Pty Ltd to undertake a biological (flora and vegetation, targeted flora and vertebrate fauna) survey and assessment to inform decisions regarding the specific lease area for the proposed construction of a new power station in Leonora, Western Australia.

The Shire of Leonora have agreed (in principle) to lease a portion of their Lot known as Lot 51 on DP 55908 located at Mt Ida Road, Leonora, Western Australia. The leased area is expected to form a development envelope within the Survey Area. The Survey Area is located 200 m southeast of the Leonora Airport and comprises 6.6 hectares.

Flora and Vegetation

The flora desktop assessment identified 46 conservation significant taxa occurring within 100 km of the Survey Area. A pre-survey likelihood of occurrence assessment was undertaken and identified that of these, none had previously been recorded within the Survey Area, none had a high or medium likelihood of occurrence, and 45 had a low likelihood of occurrence. The remaining one taxon was not assessed due to lack of information about habitat preference and distribution.

The reconnaissance flora and vegetation and targeted flora survey recorded floristic composition and vegetation types from four relevés, mapping notes and opportunistic observations. A total of 43 taxa from 15 families across 25 genera were recorded.

No Threatened flora species pursuant to the Environment Protection and Biodiversity Conservation Act 1999 and/or gazetted as Threatened pursuant to the Biodiversity and Conservation Act 2016, or Department of Biodiversity, Conservation and Attractions listed Priority flora were recorded during the survey.

One introduced flora species, **Cenchrus ciliaris*, was recorded during the survey. **Cenchrus ciliaris* is not listed as a Weed of National Significance by the Commonwealth Department of Agriculture, Water, and the Environment and as a Declared Pest by the State Department of Primary Industries and Regional Development.

Two vegetation types were described and mapped within the Survey Area. Vegetation in the Survey Area was generally representative of existing broad scale vegetation, soil, and land system mapping for the area.

Vegetation condition within the Survey Area ranged from Very Good to Good. Evidence of disturbance included access and vehicle tracks, weeds, and rubbish.

Vertebrate Fauna

The fauna desktop assessment identified 242 terrestrial vertebrate fauna species, of which 178 are conservation significant, comprising:

- A total of 146 bird species including 21 conservation significant species

- A total of 35 mammal species including three conservation significant species
- A total of 54 reptile species including one conservation significant species
- Seven amphibian species, none of which are conservation significant.

A post-survey likelihood of occurrence assessment was undertaken and found that one fauna species of conservation significance was considered to have a high likelihood of occurrence within the Survey Area, the Peregrine Falcon *(Falco peregrinus)*. Four conservation significant fauna species were considered to have a medium likelihood of occurrence within the Survey Area:

- Oriental Plover (*Charadrius veredus*) – Migratory, Marine
- Grey Falcon (*Falco hypoleucos*) – Migratory
- Princess Parrot (*Polytelis alexandrae*) – Priority 4, Vulnerable
- Woma (*Aspidites ramsayi*) – Priority 1 (southwest subpopulation).

The remaining conservation significant species are considered to have a low likelihood of occurrence.

The field survey recorded two terrestrial vertebrate fauna species, comprising of one native bird and one introduced mammal species, none of which were of conservation significance.

One fauna habitat type was identified within the Survey Area, described as Mulga woodland.

Table of Abbreviations

Abbreviation	Description
360 Environmental	360 Environmental Pty Ltd
BAM Act	Biosecurity and Agriculture Management Act 2007
BC Act	WA Biodiversity Conservation Act 2016
BoM	Bureau of Meteorology
°C	Degree Celsius
CD	Conservation Dependent Fauna
CR	Critically Endangered
DAWE	Department of Agriculture, Water, and the Environment
DBCA	Department of Biodiversity, Conservation and Attractions
DP	Declared Pest
DWER	Department of Water and Environmental Regulation
EN	Endangered
EP Act	WA Environmental Protection Act 1986
EPA	Environmental Protection Authority
EPBC Act	Environment Protection Biodiversity and Conservation Act 1999
ESA	Environmentally Sensitive Area
GIS	Geographic Information System
ha	Hectares
IBRA	Interim Biogeographic Regionalisation for Australia
IBSA	Index of Biodiversity Surveys for Assessments
km	Kilometres
m	Metres
mm	Millimetres
MA	Marine
MI	Migratory
MNES	Matters of National Environmental Significance
NVIS	National Vegetation Information System
OS	Other Specially Protected Fauna
P	Priority
PEC	Priority Ecological Community
PMST	Protected Matters Search Tool
Study Area	The database search area (varied according to each parameter)
Survey Area	The Survey Area is defined area on Lot 51 on Mt Ida Road in Leonora, Western Australia. The Survey Area is located 200 m southeast of the Leonora Airport and comprises 6.6 hectares.
T	Threatened

Abbreviation	Description
TEC	Threatened Ecological Community
TPFL	Threatened and Priority Flora Database
TPFRF	Threatened and Priority Flora Report Forms
VU	Vulnerable
WA	Western Australia
WAH	Western Australian Herbarium
WAM	Western Australian Museum
WoNS	Weeds of National Significance

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1 Introduction

1.1 The Project

Horizon Power commissioned 360 Environmental Pty Ltd (360 Environmental) to undertake a biological survey and assessment (reconnaissance flora and vegetation survey, targeted flora survey and basic terrestrial vertebrate fauna survey) to inform decisions regarding the lease area for the proposed construction of a new power station in Leonora, Western Australia (herein referred to as the Survey Area).

The Shire of Leonora have agreed (in principle) to lease a portion of Lot 51 on DP 55908 located at Mt Ida Road, Leonora, Western Australia. The leased area is expected to form a development envelope within the Survey Area. The Survey Area is located 200 m southeast of the Leonora Airport and comprises 6.6 ha (Figure 1).

1.2 Objectives and Scope

The purpose of the survey was to delineate key flora and fauna values within the Survey Area and identify potential environmental sensitivities that may impact the Project.

The scope of works included:

- Complete a biological assessment pursuant to the requirements of a native vegetation clearing permit application
- A desktop assessment to determine environmental values and conservation significant flora, fauna, habitat, vegetation, or other environmental features (such as riparian areas, wetlands) relating to the Survey Area
- A field survey to assess flora, vegetation and fauna values including:
  - Reconnaissance Flora and Vegetation Survey
  - Targeted Flora Survey
  - Basic Fauna Survey
- Preparation of a combined technical flora, vegetation, and fauna survey report.
- An assessment against the Ten Clearing Principles
- Recommendations for any approvals requirements that would be required to clear within the Survey Area
- Provision of mapping and spatial data compiled in accordance with Index of Biodiversity Surveys for Assessment (IBSA).

2 Background

2.1 Protection of Flora, Vegetation and Fauna

Western Australian flora and fauna is protected formally and informally by legislative and non-legislative measures:

Legislative measures

- Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act)
- WA *Biodiversity Conservation Act 2016* (BC Act)
- WA *Environmental Protection Act 1986* (EP Act)
- WA *Biosecurity and Agriculture Management Act 2007* (BAM Act).

Non-legislative measures

- WA Department of Biodiversity Conservation and Attractions (DBCA) Priority lists for flora, fauna, and ecological communities
- Weeds of National Significance (WoNS)
- Recognition of locally significant populations by DBCA.

These protection mechanisms are supported by guidance documents published by the Environmental Protection Authority (EPA) and Department of Agriculture Water and the Environment (DAWE; formerly Department of Environment, and Department of Sustainability Environment Water Population and Communities):

- Technical Guidance - Flora and Vegetation Surveys for Environmental Impact Assessment (Environmental Protection Authority, 2016b)
- Technical Guidance - Terrestrial vertebrate fauna surveys for environmental impact assessment (Environmental Protection Authority, 2020)
- Matters of National Environmental Significance Significant impact guidelines 1.1 Environment Protection and Biodiversity Conservation Act 1999 (Department of the Environment, 2013).

Conservation codes used throughout this report are in accordance with Conservation Codes for Western Australian Flora and Fauna (Department of Biodiversity Conservation and Attractions, 2020) and Definitions, Categories and Criteria for Threatened and Priority Ecological Communities (Department of Environment and Conservation, 2013).

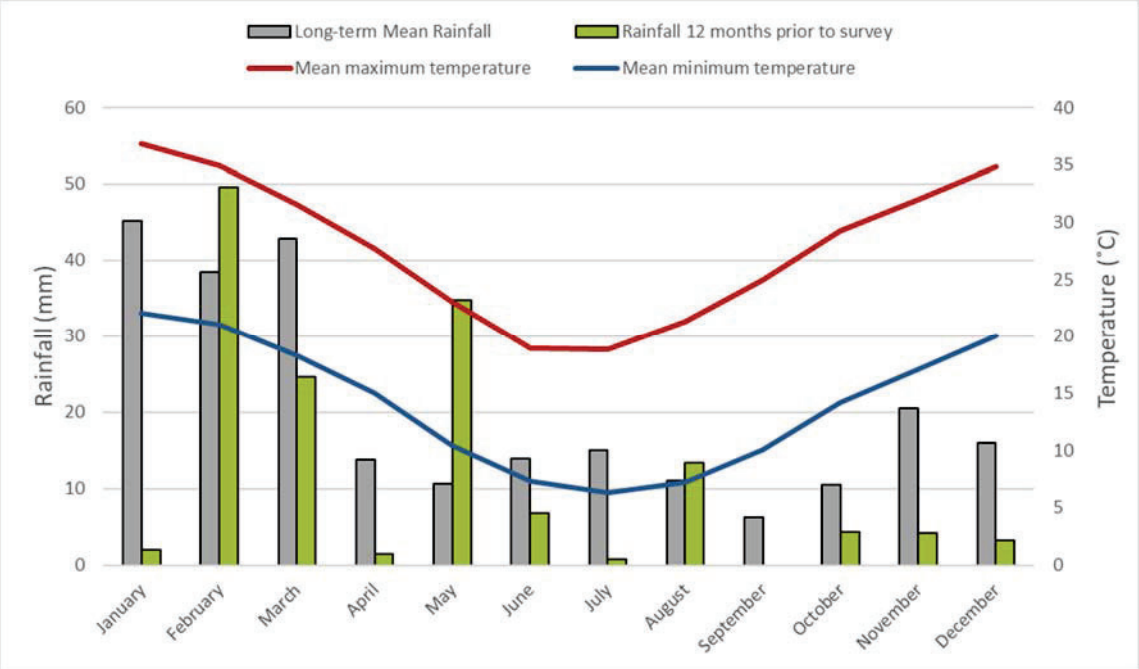
2.2 Existing Environment

2.2.1 Climate

The closest long-term Bureau of Meteorology (BoM) weather station with a climate dataset is Leonora WA (Station 12046), located approximately 1.3 km southeast of the Survey Area. The closest long-term Bureau of Meteorology (BoM) weather station with a rainfall dataset is Leonora Aero (Station 12241), located approximately 0.2 km west of the Survey Area.

The long-term mean minimum temperature for Leonora WA weather station ranges from 6.3˚C (July) to 22.0˚C (January) (1991 to 2021) and the long-term mean maximum temperature ranges from 18.8˚C (July) to 36.8˚C (January) (Graph 1) (Bureau of Meteorology, 2021).

The Leonora Aero weather station recorded 145.2 mm of rainfall in the 12 months prior to the survey (June 2020 to May 2021), which is 108.9 mm below the long-term average of 254.1 mm (Bureau of Meteorology, 2021). In the three months prior to the survey (March to May 2021), 60.8 mm of rainfall was recorded, which is 6.6 mm below the long-term average of 67.4 mm for the same time period (Bureau of Meteorology, 2021).



Graph 1: Long-term Maximum and Minimum temperatures for Leonora WA (12046) and Monthly Rainfall for Leonora Aero (12241) (Bureau of Meteorology, 2021).

2.2.2 Interim Biogeographic Regionalisation of Australia

The Interim Biogeographic Regionalisation of Australia (IBRA) divides Australia into 89 bioregions based on major biological, geographical, and geological attributes. These bioregions are subdivided into 419 subregions as part of a refinement of the IBRA framework (Department of the Environment and Energy, 2016). The Survey Area occurs within the Murchison bioregion and the Eastern Murchison (MUR01) subregion.

The Eastern Murchison subregion is characterised by its internal drainage, and extensive areas of elevated red desert sandplains with minimal dune development (Cowan, 2001). The subregion is characterised by broad plains of red-brown soils and breakaway complexes as well as red sandplains. Vegetation is dominated by Mulga Woodlands often rich in ephemerals; hummock grasslands, saltbush shrublands and *Tecticornia* shrublands.

2.2.3 Soil Landscapes and Land Systems

Soil landscape and land system mapping of Western Australia described broad soil and landscape characteristics from regional to local scales, ranging from 1:20,000 to 1:250,000 (Department of Agriculture and Food WA, 2012). The Survey Area occurs within the Gundockerta System (279Gu), which is described as extensive, gently undulating calcareous stony plains supporting bluebush shrublands.

2.2.4 Hydrography

The Survey Area does not intersect any major watercourses or water bodies that are mapped by State Government GIS databases (Department of Water and Environmental Regulation, 2018). The closest watercourse is a minor drainage line, located 130 m south of the Survey Area (Figure 2).

2.2.5 Broad Vegetation Associations

Mapping of pre-European vegetation within Western Australia was completed on a broad scale (1:1,000,000) by Beard (1976). These vegetation types were later refined by Shepherd *et al.* (2002) resulting in 819 vegetation associations.

The Laverton 28 broad vegetation association is mapped over the Survey Area. Laverton 28 is described as low woodland, open low woodland, or sparse woodland of Mulga (*Acacia aneura* and associated species). The representation on a regional, state, and local scale of Laverton 28 is shown in Table 1.

Table 1: Representation of Laverton 28 Vegetation Systems Association on a State, Regional and Local Scale (Government of Western Australia, 2019)

Pre-European Extent (ha)	Current Extent (ha)	Remaining (%)
Representation across Western Australia		
395,895.08	392,171.83	99.06
Representation across the Murchison Bioregion		

Pre-European Extent (ha)	Current Extent (ha)	Remaining (%)
224,291.84	220,583.71	98.35
Representation across the Eastern Murchison Subregion		
141,411.26	137,703.12	97.38
Representation across the Shire of Leonora		
126,344.70	124,136.29	98.25

2.2.6 Environmentally Sensitive Areas

Environmentally Sensitive Areas (ESAs) are declared by the Department of Water and Environmental Regulation (DWER) to prevent the degradation of important environmental values such as Threatened flora, Threatened Ecological Communities (TECs) or significant wetlands (Department of Water and Environmental Regulation, 2014).

The Survey Area is not mapped within an ESA (Department of Water and Environmental Regulation, 2021). The nearest ESA is associated with Lake Ballard, which is located approximately 70 km south of the Survey Area.

2.2.7 Conservation Areas

The Survey Area does not intersect any Conservation Areas (Department of Biodiversity Conservation and Attractions, 2021a). The nearest Conservation Area is an un-named reserve (R 46847) vested under the Conservation Commission of WA, which is located 57 km south of the Survey Area.

3 Methods

The biological survey was undertaken in accordance with relevant EPA and DAWE guidelines (see section 2.1).

3.1 Desktop Assessment

3.1.1 Literature Review

Background information on the Survey Area and surrounds was compiled prior to the field survey (see Section 2). Historical vegetation mapping conducted by Beard (1976) and Shepherd *et al*. (2002), land systems mapping (Department of Agriculture and Food WA, 2012), and the IBRA classification system (Department of the Environment and Energy, 2016) were consulted to provide broad contextual knowledge of vegetation units and habitat likely to be encountered within the Survey Area.

The literature review also considered eight publicly available biological reports undertaken in the vicinity of the Survey Area:

- Biological Survey of the Eastern Goldfields of Western Australia Part 10 (Hall, McKenzie and Keighery, 1994), approximately 98 km northeast of the Survey Area.
- Detailed Flora and Vegetation Survey of Tims Find (Native Vegetation Solutions, 2019), located approximately 83.6 km west of the Survey Area.
- Leonora Rail Yard Expansion Project Level 1 Flora and Vegetation Survey (Western Botanical, 2013), located approximately 0.6 km northeast of the Survey Area.
- Level 2 Fauna Risk Assessment for Granny Deeps Project Area (Terrestrial Ecosystems, 2011), approximately 100 km east of the Survey Area.
- Level 2 Vertebrate Fauna Assessment, King of the Hills Project (Terrestrial Ecosystems, 2020a), approximately 29 km north northwest of the Survey Area.
- Preliminary Environmental Impact Assessment, Flora Survey and Environmental Management Plan (GHD, 2011), approximately 51.9 km east of the Survey Area.
- Report for Gwalia Materials, Preliminary Environmental Impact Assessment, Flora Survey and Environmental Management Plan (GHD, 2011), approximately 54 km east of the Survey Area.
- Vertebrate Fauna Risk Assessment for the Granny Smith Solar Power Farm Project (Terrestrial Ecosystems, 2018), approximately 100 km east of the Survey Area.
- Vertebrate Fauna Risk Assessment Granny Smith Tailing Storage Facility Expansion (Terrestrial Ecosystems, 2020b), approximately 105 km east of the Survey Area.

3.1.2 Database Searches

Database searches were undertaken to identify potential conservation significant flora and fauna taxa, ecological communities, and Matters of National Environmental Significance (MNES) within or surrounding the Survey Area (Table 2). The search area for each parameter was varied to reflect distances recommended by DBCA (Table 2). The search areas are herein referred to collectively as the Study Area.

Currently listed Priority Ecological Communities (PECs) and TECs that occur in the region were examined to determine if any corresponded with the Survey Area (Department of Biodiversity Conservation and Attractions, 2021c). In addition, an EPBC Protected Matters Search (PMST) was undertaken to identify the potential for Matters of National Environmental Significance (MNES) to occur within or surrounding the Survey Area (Department of Agriculture Water and the Environment, 2021a)).

Table 2: Database Searches of the Survey Area

Database Name	Date Received	Search Target	Search Area
DBCA Threatened and Priority Ecological Communities database custom search (Department of Biodiversity Conservation and Attractions, 2021c)	19 May 2021	TECs and PECs	50 km buffer around the Survey Area
DBCA Threatened and Priority Flora Species List (TP list) custom search (Department of Biodiversity Conservation and Attractions, 2021e)	11 May 2021	Threatened and Priority flora	100 km buffer around the Survey Area
Western Australian Herbarium flora custom search (Department of Biodiversity Conservation and Attractions, 2021f)			
DBCA Threatened and Priority Fauna List custom search (Department of Biodiversity Conservation and Attractions, 2021d)	19 May 2021	Threatened Priority Fauna	100 km buffer around the Survey Area
NatureMap area search (Department of Biodiversity Conservation and Attractions, 2021b)	25 May 2021	Threatened and priority flora and fauna, and inventory of potential flora and fauna	40 km buffer around the Survey Area
Protected Matters Search Tool area search (Department of Agriculture Water and the Environment, 2021a)	25 May 2021	Commonwealth listed threatened flora and fauna, and TECs	50 km buffer around the Survey Area

3.1.3 Likelihood of Occurrence

Conservation significant flora species identified from the desktop assessment were assessed to determine the likelihood of their occurrence within the Survey Area, both prior and post field survey.

Conservation significant fauna species identified from the desktop assessment were assessed following the field survey to determine the likelihood of their occurrence within the Survey Area.

Fauna species listed as Marine under the EPBC Act were not included as conservation significant as the Marine listing only applies within Commonwealth marine areas.

The assessments were completed based on the likelihood of occurrence criteria presented in Table 3.

Table 3: Likelihood of Occurrence Criteria

Rank	Criteria
Previously Recorded	The species has been previously recorded in the Survey Area
High (Likely to occur)	• There are existing records of the species in close proximity to the Survey Area (within 5 km), and for fauna has been recorded in the Survey Area in the last 15 years • The species is strongly linked to a specific habitat, which is present in the Survey Area or • The species has more general habitat preferences, and suitable habitat is present.
Medium (May occur)	• There are existing records of the species from the locality (within 15 km), however: ○ The species is strongly linked to a specific habitat, of which only a small amount is present in the Survey Area or ○ The species has more general habitat preferences, but only some suitable habitat is present. • There is suitable habitat in the Survey Area, but the species is recorded infrequently in the locality.
Low (Unlikely to occur)	• The species is linked to a specific habitat, which is absent from the Survey Area or • Suitable habitat is present, however there are no existing records of the species from the locality despite reasonable previous search effort in suitable habitat or • There is some suitable habitat in the Survey Area, however the species is very infrequently recorded in the locality.

3.2 Field Survey

The reconnaissance flora and vegetation survey and basic terrestrial vertebrate fauna survey was undertaken by Principal Botanist Ben Eckermann (Flora License FB62000262) and Ecologist Lachlan Crossley on 24th June 2021. The survey effort is shown in Figure 3.

3.3 Flora and Vegetation

3.3.1 Establishment of Flora sites

The Survey Area was assessed using relevés and meandering traverses to gather information to characterise and delineate vegetation and compile an inventory of vascular flora. At least one flora site was sampled in each vegetation type observed within the Survey Area. At each relevé, the following information was recorded using a Fulcrum mobile data collection device:

- Location
- Site code
- Date and personnel

- Landform and soil description
- Relevant site descriptors including, slope, aspect, litter cover, bare ground cover and fire history
- Inventory of vascular flora including the approximate average height and percentage foliar cover for each taxon recorded
- Vegetation description in accordance with National Vegetation Information System (NVIS), Level 6 'sub-association', whereby the dominant growth form, height, cover, and species (up to five species) for the three traditional strata (upper, mid, and ground) are described
- Vegetation condition in accordance with the Eremaean and Northern Botanical Provinces vegetation condition scale (Environmental Protection Authority, 2016b) and evidence of disturbance (for example clearing, rubbish, feral animals, weed incursion and evidence of feral animals and dieback) where present
- Photograph of the vegetation occurring within the site.

A total of four relevés were established within the Survey Area.

3.3.2 Opportunistic Flora

Additional flora taxa observed opportunistically around flora sites or while traversing on foot within the Survey Area were also recorded. Where populations of conservation significant flora taxa, introduced flora, Declared Pests (DPs) or WoNS were encountered, a GPS location and a count of the individuals present was recorded.

3.3.3 Targeted Searching

Prior to the survey, conservation significant flora with the likelihood or potential to occur within the Survey Area was compiled (see section 3.1). Field personnel familiarised themselves with photographs, reference samples and descriptions of these taxa before conducting the survey.

The entire Survey Area was searched using meandering traverses. Personnel also actively searched for conservation significant flora species in and around flora sites, while traversing on foot within the Survey Area and in known locations or preferred habitat encountered in the Survey Area.

3.3.4 Taxonomy and Nomenclature

Where field identification of plant taxa was not possible in the field, specimens were collected for identification using resources at the WAH. Identification of flora collections was completed by Principal Botanist/Taxonomist Ben Eckermann.

The finalised species list was checked against FloraBase (Western Australian Herbarium, 2021) to determine the conservation status and known distribution of each taxon. Introduced species were compared against the current BAM Act Declared Plants list and the WoNS list to determine

their control status (Department of Agriculture Water and the Environment, 2021b; Department of Primary Industries and Regional Development, 2021).

3.3.5 Vegetation Unit and Condition Mapping

Broad vegetation and condition mapping was conducted in the field, with boundaries delineated over aerial photography, at a scale of 1:5,000. Broad vegetation units were refined based on taxonomic identification of flora collections and site notes taken during the field survey. Vegetation condition mapping was refined based on site data and mapping notes. Finalised polygons were digitised and produced as electronic mapping data using GIS software.

3.4 Vertebrate Fauna

3.4.1 Fauna Habitat Assessment

Fauna habitat assessments were undertaken throughout the Survey Area to identify fauna habitat values. Habitat assessment locations are shown in Figure 3. The following information was collected at each site using Fulcrum, a mobile data collection app:

- Site photo
- Landform
- Soil type and colour
- Rock types, surface stone cover and size classes
- Key habitat and microhabitat features including leaf litter, logs, burrows, rocky outcrops, rock crevices, hollows, water sources
- Habitat quality, fire history and evidence of disturbance
- General description of vegetation structure.

Fauna habitat mapping was based on a combination of field observations, fauna habitat assessment data and vegetation mapping.

3.4.2 Opportunistic Fauna Records

Throughout the field survey opportunistic observations of fauna species (including feral species) were recorded. Data collected included:

- Family, genus, species, and common name
- Conservation status
- Introduced status
- Abundance/population size
- Western Australian Museum lodgment number (if applicable)
- Sampling type
- Sampling point number

- Habitat description:
  - Brief description if species is not conservation significant
  - A full detailed description if species is conservation significant.
- Coordinates in GDA94 or GDA2020, easting and northings
- Photograph (if possible)
- Notes (any additional information, if necessary)
- Brief location.

In addition to the direct observation of fauna species, secondary evidence such as tracks, diggings and scats was noted. All fauna observations were recorded using a mobile device with GPS capability.

3.4.3 Taxonomy

Terrestrial vertebrate fauna taxa were identified in the field.

Where there was doubt on species names (through subsequent name changes or taxonomic reviews), an effort was made to determine the current scientific name for each taxon. Taxonomy and nomenclature in this report follows the WA Museum checklist 2021 (Western Australian Museum, 2021) where relevant.

3.5 Limitations

Limitations and constraints of the flora, vegetation and fauna survey are detailed below in Table 4.

Table 4: Limitations and constraints associated with the survey

Variable	Degree of Limitation	Potential Constraints on Survey Outcomes
Survey Scope	Not a limitation	The reconnaissance flora and vegetation, targeted flora and basic vertebrate fauna surveys were undertaken in accordance with (Environmental Protection Authority, 2016b, 2020) and were considered appropriate to support approvals applications.
Availability of Data	Not a limitation	All data required to complete the scope of works including regional and local contextual information was available.
Site Access	Not a limitation	The Survey Area was able to be accessed on foot.
Survey Effort	Not a limitation	Sufficient time was allocated to the flora and vegetation and fauna surveys, given the size and complexity of the Survey Area, and the expected level of survey intensity. The survey effort is displayed in Figure 3.
Experience	Not a limitation	The flora and vegetation and fauna surveys were undertaken by Principal Botanist Ben Eckermann and Ecologist Lachlan Crossley, respectively. Ben has 15 years' experience conducting surveys of similar scope throughout Western Australia. Lachlan has three years' experience conducting surveys of similar scope throughout Western Australia.

Variable	Degree of Limitation	Potential Constraints on Survey Outcomes
Timing, weather, season	Not a limitation for Flora A limitation for Fauna	The recommended primary survey period for flora and vegetation and fauna surveys in the Eremaean Botanical Province as per the EPA Technical Guidance is six to eight weeks post wet season (March – June). The survey was undertaken in June, within the optimal survey period for the region. Morning temperatures were quite low when the fauna survey began, and the survey site was very dry. These limiting factors may explain the lack of fauna species observed.
Life forms sampled	Not a limitation	The Survey Area was traversed on foot and sites representative of all vegetation were sampled. All flora and fauna species encountered within the Survey Area were recorded. A total of 44 vascular flora taxa were recorded from the Survey Area, comprising 97.7% native flora taxa and 2.3% introduced flora taxa. Of the 44 flora taxa recorded, two taxa (4.5%), could not be identified to species level because they were sterile at the time of the survey (and may represent confirmed species). This was not considered a constraint as it represented a small portion of the flora sampled. None of the unknown flora taxa collected were analogous to Threatened or Priority flora taxa identified by the database searches as likely to occur within the Survey Area, nor were they representative of flora of other significance. A total of five vertebrate fauna taxa were recorded from the Survey Area, comprising three confirmed native taxa and two confirmed introduced taxa. All five taxa recorded were able to be identified by direct or indirect observation with high level of scientific confidence to species or genus level and were not considered Threatened or Priority Fauna.
Mapping Reliability	Not a limitation	Vegetation types were described and mapped based on relevé data. High resolution aerial mapping current at the time of the survey was used to differentiate all vegetation greater than 1 ha in size. Fauna habitat mapping was based largely on vegetation mapping.
Disturbances (fire, flood etc.)	Not a limitation	Areas of disturbance associated with access and vehicle tracks, weeds, and rubbish were recorded but were not a constraint on the results of the survey.
Completeness	Not a limitation	The survey was considered complete for a reconnaissance flora and vegetation survey, all vegetation types were surveyed and delineated within the Survey Area and a minimum of one relevé was surveyed for each vegetation type. ADD COMPLETENESS FOR TARGETED FLORA The survey was considered complete for a targeted flora survey. The Survey Area was traversed on foot via meandering traverses. None of the unconfirmed flora taxa collected were analogous to Threatened or Priority flora taxa identified by the database searches as likely to occur within the Survey Area, nor were they representative of flora of other significance. The survey was considered complete for a basic vertebrate fauna survey.

4 Results

4.1 Flora and Vegetation

4.1.1 Desktop Assessment

The key findings of the previous flora and vegetation reports reviews are summarised in Appendix A.

The desktop assessment identified 46 conservation significant species occurring within the vicinity of the Study Area (Figure 4; Appendix B). This list was comprised of:

- No Threatened species
- Fourteen Priority 1 species
- Three Priority 2 species
- Twenty-four Priority 3 species
- Five Priority 4 species.

One species, *Ptilotus chortophytus* (P1), was located approximately 60 km south of the Survey Area by the DBCA database searches. This record would appear to be an error as Florabase reports this taxon as being restricted to areas north of Geraldton (Western Australian Herbarium, 2021). This taxon was removed from the desktop assessment and likelihood of occurrence assessment due to the spatial disjunction as reported by DBCA and Florabase.

No State or Commonwealth listed TECs or DBCA listed PECs were mapped within the Survey Area. Two PECs occur within 50 km of the Survey Area (Department of Biodiversity Conservation and Attractions, 2021c) (Table 5, Figure 4).

Table 5: TECs and PECs identified during the Desktop Assessment

Name	State TEC / DBCA PEC	Commonwealth TEC	Location in relation to Survey Area
Melita calcrete groundwater assemblage type on Raeside palaeodrainage on Melita (Sons of Gwalia) Station	Priority 1	Not listed	2.9 km south of the Survey Area
Sturt Meadows calcrete groundwater assemblage type on Raeside palaeodrainage on Sturt Meadows Station	Priority 1	Not listed	38.3 km west of the Survey Area

4.1.2 Pre-Survey Likelihood of Occurrence

The pre-survey likelihood of occurrence assessment for the Survey Area identified that of the 46 conservation significant flora species identified by the desktop assessment:

- None had previously been recorded within the Survey Areas
- None were considered to have a high likelihood of occurrence

- None were considered to have a medium likelihood of occurrence
- Forty-five were considered to have a low likelihood of occurrence.

The remaining one taxon was not assessed due to lack of information about habitat preference and distribution. The likelihood of occurrence assessment is provided in Appendix C.

4.1.3 Flora Composition

A total of 43 taxa from 15 families across 25 genera were recorded during the survey (Appendix D). The dominant families were Fabaceae (10 taxa), Chenopodiaceae (eight taxa) and Poaceae (seven taxa). The most dominant genus was *Acacia* (eight taxa).

4.1.4 Flora of Conservation Significance

4.1.4.1 Threatened and Priority Flora

No Threatened flora species pursuant to the EPBC Act and/or gazetted as Threatened flora pursuant to the BC Act were recorded during the survey.

No DBCA listed Priority flora taxa were recorded within the Survey Area.

4.1.4.2 Flora of Other Conservation Significance

Flora may be considered of other conservation significance if it represents a range extension, novel taxon, species that play a keystone role in a community, has relic status, is locally endemic, or represents the extent of a species range. No flora taxa recorded from the Survey Area were considered flora of other conservation significance.

4.1.5 Introduced Flora

One introduced flora species, **Cenchrus ciliaris*, was recorded in the Survey Area, representing 2.3% of the total taxa recorded (Figure 5, Appendix D). Approximately 500 individuals of **Cenchrus ciliaris* were recorded within the Survey Area. **Cenchrus ciliaris* is not listed as a Declared Pest under the BAM Act (Department of Primary Industries and Regional Development, 2021) and as a WoNS (Department of Agriculture Water and the Environment, 2021b).

4.1.6 Unconfirmed Flora

Two specimens (4.7% of the taxa recorded) could not be identified to species level because the taxa were sterile at the time of the survey (Appendix D). These have been assigned a confirmed genus, *Maireana* sp. and *Sida* sp.

The two unconfirmed flora taxa may represent duplicates of taxa that were confirmed within the Survey Area.

None of the unconfirmed flora taxa were analogous to Priority flora taxa identified by the database searches.

4.1.7 Vegetation Types

Two vegetation types were described and mapped within the Survey Area (Table 6; Figure 6).

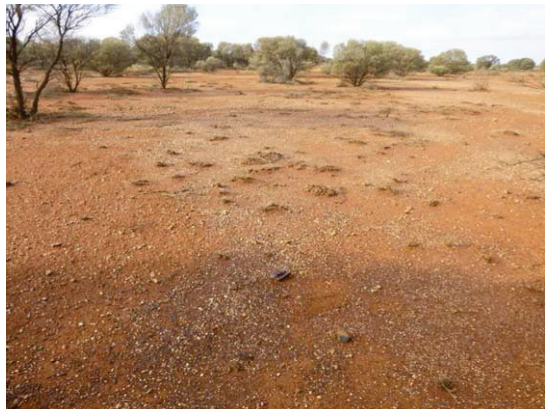
Detailed site sheets for each flora site are provided in Appendix E.

4.1.8 Vegetation Condition

Vegetation condition within the Survey Area ranged from Very Good (3.6 ha / 53.8%) to Good (3.1 ha / 46.2%) (Figure 6).

Evidence of disturbance included access and vehicle tracks, weeds, and rubbish.

Table 6: Vegetation Types Occurring within the Survey Area

Vegetation Unit	Area and Proportion of the Survey Area	Sites	Vegetation Condition	Photograph
Plains				
P1: *Acacia caesaneura* and *Acacia mulganeura* low woodland over *Eremophila forrestii* subsp. *forrestii* mid sparse shrubland over *Eragrostis eriopoda* low sparse tussock grassland	3.6 ha 53.8%	LER01 LER03	Very Good	
P2: Mixed *Acacia* spp. low open woodland over *Eragrostis eriopoda* low sparse tussock grassland	3.1 ha 46.2%	LER02 LER04	Good	

4.1.9 Threatened and Priority Ecological Communities

No vegetation representative of any Commonwealth or State listed TECs or PECs were recorded within the Survey Area.

Vegetation may be of significance for a range of reasons, other than a listing as a TEC or a PEC, including (Environmental Protection Authority, 2016a):

- Vegetation extent being below a threshold level
- Scarcity
- Unusual species
- Novel combinations of species
- A role as a refuge
- A role as a key habitat for threatened species or large populations representing a significant proportion of the local to regional total population of a species
- Being representative of the range of a unit (particularly a good local and/or regional example of a unit in 'prime' habitat, at the extremes of range, recently discovered range extensions, or isolated outliers of the main range) and/or
- A restricted distribution.

No vegetation of other significance was recorded in the Survey Area.

4.1.10 Survey Adequacy

A total of four relevés were established within the Survey Area. This was adequate to ensure at least one relevé was sampled in each vegetation type, and that coverage across the Survey Area was sufficient.

4.2 Vertebrate Fauna Results

4.2.1 Desktop Assessment

The key findings of the fauna reports reviewed are summarised in Appendix F.

The desktop assessment identified 242 terrestrial vertebrate fauna species, of which 178 are conservation significant, comprising:

- A total of 146 bird species including 21 conservation significant species
- A total of 35 mammal species including three conservation significant species
- A total of 54 reptile species including one conservation significant species
- Seven amphibian species, none of which are conservation significant.

The results of the DBCA Threatened and Priority Fauna database search are mapped in Figure 7 and database search results are presented in Appendix F.

4.2.2 Post-Survey Likelihood of Occurrence

The post-survey likelihood of occurrence assessment found that:

- One species has a high likelihood of occurrence within the Survey Area
- Four species have a medium likelihood of occurrence within the Survey Area
- The remaining species has a low likelihood of occurrence within the Survey Area.

The results of the likelihood of occurrence assessment are presented in Appendix G.

4.2.3 Fauna Habitat

One broad fauna habitat was identified and mapped within the Survey Area (Figure 8). Open Mulga Woodland was continuous throughout the Survey Area with slight variation in the density of mulgas present with sparse understory of *Eremophila forrestii* subsp. *forrestii* mid sparse shrubland over *Eragrostis eriopoda* low sparse tussock grassland and is analogous with the vegetation type. The habitat quality was found to be Very Good to Good throughout the Survey Area.

A description, area of extent within the Survey Area and a representative photo is provided for the fauna habitat in Table 7. Site sheets for each habitat assessment are shown in Appendix H.

Table 7: Fauna Habitat within the Survey Area

Fauna Habitat	Area (ha)	Area (%)	Description	Representative Photo
Mulga woodland	6.7	100	Mixed *Acacia* spp. low open woodland over *Eragrostis eriopoda* low sparse tussock grassland.	

4.2.4 Fauna Records

4.2.4.1 Sightings

One native bird species from one family, the Crested Pidgeon (*Ocyphaps lophotes*), was observed within the Survey Area. One introduced mammal species from one family was also observed, the Rabbit (*Oryctolagus Cuniculus*).

4.2.4.2 Secondary Evidence

One native mammal species was identified based on scat the Short-beaked Echidna (*Tachyglossus aculeatus*), and one introduced species was identified based on scat, the Cat (*Felis catus*).

One reptile genus, *Varanus* sp., was tentatively identified based on scats and diggings, but was unable to be identified at the species level due to the lack of an actual observation.

4.2.5 Conservation Significant Fauna

No fauna species of conservation significance (Threatened or Priority), or evidence of these species such as tracks, scats, nest, diggings, burrows, or direct sightings were recorded within or directly surrounding the Survey Area.

5 Discussion

5.1 Flora and Vegetation

5.1.1 Flora Composition

The suite of flora taxa recorded during the survey was considered typical for Eastern Murchison (MUR01) subregion and aligned with the database search results obtained.

5.1.2 Survey Adequacy

The flora and vegetation survey effort was in accordance with the scope of works, and appropriate for a reconnaissance flora and vegetation survey in the region. At least one relevé was sampled within each vegetation type within the Survey Area. The inventory of vascular flora and records of weed species was compiled using site data and opportunistic observations made while sampling sites and traversing between sites.

In addition, the targeted flora survey was considered appropriate for the Survey Area and was searched using meandering traverses, however additional flora taxa may be recorded with additional survey effort due to seasonal conditions and flowering periods.

5.1.3 Flora of Conservation Significance

5.1.3.1 Threatened and Priority Flora

No Threatened flora species pursuant to the EPBC Act and/or gazetted as Threatened flora pursuant to the BC Act, or DBCA Priority listed flora were identified by the database searches or recorded within the Survey Area.

No Priority Flora were identified by the pre-survey likelihood of occurrence assessment as having a high or medium likelihood of occurrence. Following the survey, the likelihood of occurrence assessment was updated, and no Priority Flora taxa were considered to have a high or medium likelihood of occurrence within the Survey Area.

Two taxa encountered and/or collected during the field survey were sterile and could not be confidently identified. These were carefully checked at the WAH and none were analogous to Threatened or Priority flora taxa identified by the database searches.

5.1.4 Introduced Flora

One weed species, **Cenchrus ciliaris*, was recorded in the Survey Area. **Cenchrus ciliaris* has a legal status of Permitted – s11 and does not have an assigned control category.

**Cenchrus ciliaris* (Buffel Grass) is a tufted perennial grass to 1.5 m, native to Asia, Africa, and the Americas. The species flowers between February to October, and the flowers are purple. **Cenchrus ciliaris* grows in white, red, or brown sand, stony red loam, or black cracking clay (Western Australian Herbarium, 2021). The species is naturalised throughout mainland Australia as it is an important pasture species (Identic Pty Ltd, 2016).

5.1.5 Vegetation Types

The vegetation types described in the Survey Area were correlated with the Beard (1976) and Shepherd *et al.* (2002) broad vegetation systems associations by examining similarities in vegetation descriptions. Differences exist with the terminology used in the descriptions as they are based on different methods of categorising and characterising vegetation types, and the different spatial scale of the analysis (i.e. region vs. local scale).

P1 and P2 are considered to be broadly representative of the Laverton 28, low woodland, open low woodland or sparse woodland of Mulga. Laverton 28 is well represented at the State, regional and sub-regional levels all having over 90% of the pre-European extent remaining. P1 and P2 appear to be well represented beyond the Survey Area based on aerial imagery.

No vegetation representative of any Commonwealth or State TECs, or DBCA listed PECs, was recorded in the Survey Area.

5.2 Vertebrate Fauna

5.2.1 Species Recorded within the Survey Area

No fauna species of conservation significance were recorded during the survey.

5.2.2 Post-Survey Likelihood of Occurrence

5.2.2.1 High Likelihood of Occurrence

One species of conservation significance, the Peregrine Falcon, was considered to have a high likelihood of occurrence within the Survey Area.

Peregrine Falcon (*Falco peregrinus*) – Other Specially Protected Fauna

The Peregrine Falcon is an uncommon but wide-ranging bird across Australia (Barrett et al., 2003). It occurs mainly along rivers and ranges as well as wooded watercourses and lakes. It nests primarily on cliffs, granite outcrops and quarries, although is also known to occupy existing raptor and corvid stick nests (Menkhorst et al., 2017). The diet of the Peregrine Falcon has been well studied and primarily includes flocking species such as parrots, pigeons and on the east coast, European Starlings (Olsen and Fuentes, 2008). Given the extent of the Peregrine Falcon's distribution, wide range of habitat preferences and high mobility, it is unlikely the species will rely on habitats within the Survey Area. However, given the presence of a record within 1.5 km of the Survey Area it is likely that it will fly over, perch or hunt in the area.

5.2.2.2 Medium Likelihood of Occurrence

Four conservation significant fauna species are considered to have a medium likelihood of occurrence within the Survey Area. Each of the species listed above are discussed below.

Oriental Plover (*Charadrius veredus*) – Migratory, Marine

Oriental Plovers arrive on northern Australian soil during the wet season preferring thinly vegetated plains and grasslands. They can also be found where dense vegetation has recently

been burnt (Morcombe, 2003; Menkhorst *et al.*, 2017). The Oriental Plover is considered to have a medium likelihood of occurrence due to the presence of an existing record 17 km from the Survey Area. This species may use the habitat within the survey area for perching and foraging.

Grey Falcon (*Falco hypoleucos*) – Migratory

The Grey Falcon is an elusive and endemic bird of the arid interior (Schoenjahn, Pavey and Walter, 2019). It distributed sparsely over Australia's arid and semi-arid zones and is absent from Cape York Peninsula, south of the Great Dividing Range in Victoria, and south of 26°S in Western Australia (Johnstone and Storr, 1998; BirdLife International, 2016). The Grey Falcon is restricted largely to areas of the highest annual average temperatures where there is average annual rainfall of less than 500 mm. It favours lightly timbered and untimbered lowland plains that are crossed by tree lined watercourses, but frequents other habitats, including grassland and sand dune habitats (Johnstone and Storr, 1998; BirdLife International, 2016). The species was considered as having a medium likelihood of occurrence due to the presence of a record 60 km away and the high chance that it may fly over or perch within the survey area. There is also suitable foraging habitat nearby.

Princess Parrot (*Polytelis alexandrae*) – Priority 4, Vulnerable

The Princess Parrot is a slim to medium-sized parrot that inhabits sand dunes and sand flats in the arid zone of western and central Australia (Higgins, 1999). It occurs In open savanna woodlands and shrublands that usually consist of scattered stands of Eucalyptus and Casuarina, an understorey of shrubs such as Acacia and Cassia amongst others and a ground cover dominated by Triodia species (Morcombe, 2003; Garnett, Szabo and Dutson, 2011). Considered medium likelihood due to the presence of a record 8 km away and the chance that it may fly over the survey area.

Woma (*Aspidites ramsayi*) – Priority 1 (southwest subpopulation)

The Woma is a largely nocturnal snake, which seeks shelter in hollow logs or under leaf debris during the day and preys upon a variety of terrestrial vertebrates during the night. The Woma is found in the west and center of Australia, from Western Australia through southern Northern Territory and norther South Australia to southern Queensland north-western New South Wales (Cogger, 2014). Throughout this region, they typically occur within woodlands, heaths and shrublands, often with spinifex. It shelters mainly in abandoned monitor and mammal burrows and in soil cracks (Wilson and Swan, 2017). Considered medium likelihood due to the presence of suitable habitat 'mammal burrows' within the survey area. The nearest record of this species is 95 km away but due to the cryptic nature of this species (being nocturnal), it could be found within the survey area if a higher level of survey effort is applied (Department of Environment and Conservation, 2012).

5.2.3 Fauna Habitat

All fauna habitats identified in the Survey Area during the field survey are common throughout the surrounding remnant vegetation areas (bushland surrounding the Survey Area) and also common throughout the overall bioregion and subregion.

The fauna habitats that occur within the Survey Area provide a range of values to fauna as refuge, foraging and breeding habitat. All habitats are continuous and extensive outside of the Survey Area, and habitats within the Survey Areas are not critical to maintain overall habitat connectivity.

6 Conclusion

Flora and Vegetation

- No Threatened flora species pursuant to the EPBC Act 1999 and/or gazetted as Threatened pursuant to the BC Act, or DBCA listed Priority flora were recorded during the reconnaissance and targeted flora survey.
- One introduced species, **Cenchrus ciliaris*, was recorded during the survey. **Cenchrus ciliaris* is not a listed DP or WoNS
- Two vegetation types were mapped within the Survey Area. None represent any Commonwealth or State listed TECs or PECs.

Vertebrate Fauna

- No vertebrate fauna species of conservation significance were recorded during the basic vertebrate fauna survey
- One species of conservation significance was considered to have a high likelihood of occurrence within the Survey Area and four species of conservation significance were considered to have a medium likelihood of occurrence within the Survey Area
- The Survey Area contains suitable habitat for conservation significant fauna species; however, the fauna habitat occurs in relatively small extents within the Survey Area and occurs outside the Survey Area, therefore conservation significant fauna species are unlikely to rely on habitat within the Survey Area.

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8 Limitations of this Report

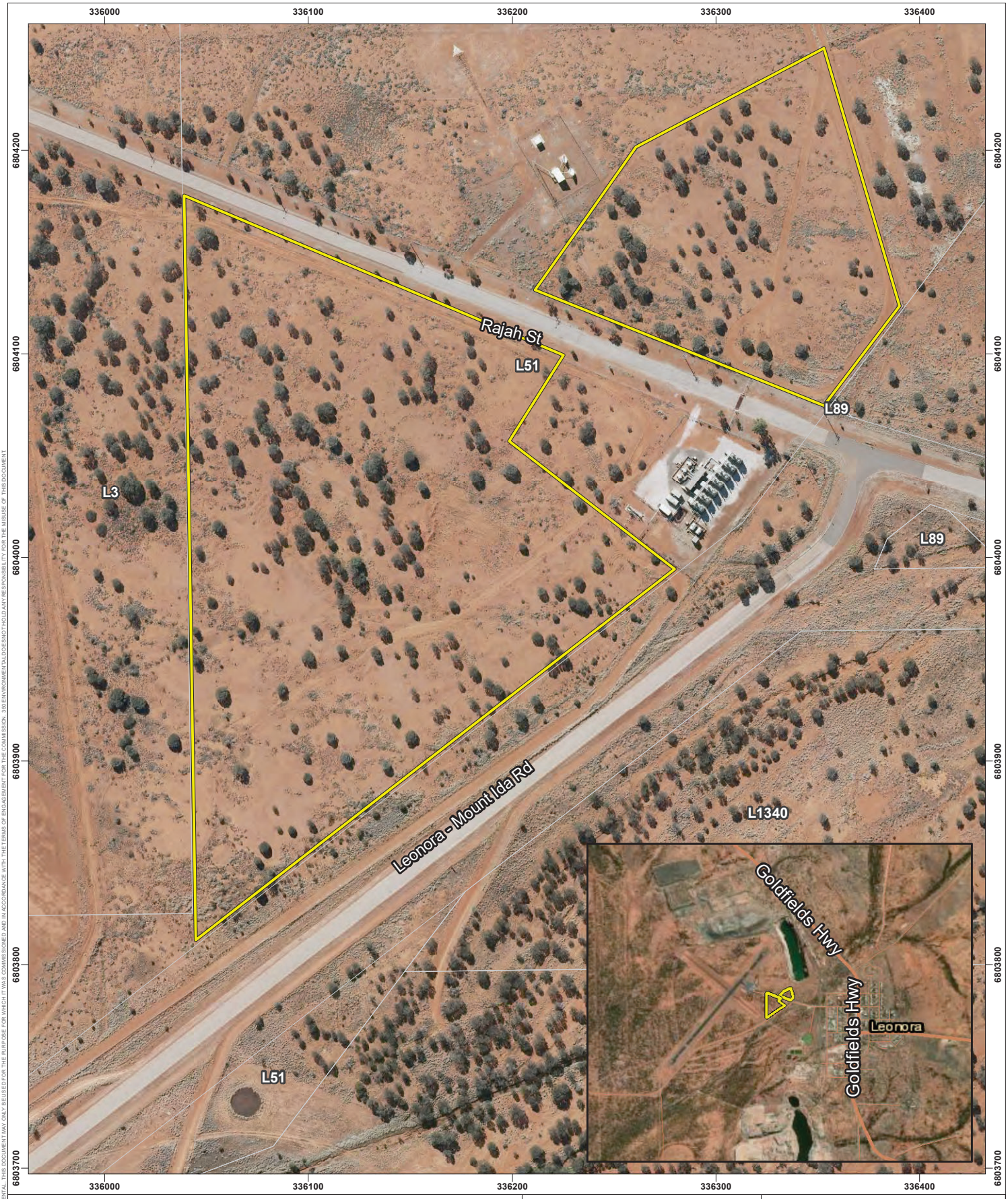
This report is produced strictly in accordance with the scope of services set out in the contract or otherwise agreed in accordance with the contract. 360 Environmental makes no representations or warranties in relation to the nature and quality of soil and water other than the visual observation and analytical data in this report.

In the preparation of this report, 360 Environmental has relied upon documents, information, data, and analyses ('client's information') provided by the client and other individuals and entities. In most cases where client's information has been relied upon, such reliance has been indicated in this report. Unless expressly set out in this report, 360 Environmental has not verified that the client's information is accurate, exhaustive, or current and the validity and accuracy of any aspect of the report including, or based upon, any part of the client's information is contingent upon the accuracy, exhaustiveness, and currency of the client's information. 360 Environmental shall not be liable to the client or any other person in connection with any invalid or inaccurate aspect of this report where that invalidity or inaccuracy arose because the client's information was not accurate, exhaustive, and current or arose because of any information or condition that was concealed, withheld, misrepresented, or otherwise not fully disclosed or available to 360 Environmental.

Aspects of this report, including the opinions, conclusions, and recommendations it contains, are based on the results of the investigation, sampling and testing set out in the contract and otherwise in accordance with normal practices and standards. The investigation, sampling and testing are designed to produce results that represent a reasonable interpretation of the general conditions of the site that is the subject of this report. However, due to the characteristics of the site, including natural variations in site conditions, the results of the investigation, sampling and testing may not accurately represent the actual state of the whole site at all points.

It is important to recognise that site conditions, including the extent and concentration of contaminants, can change with time. This is particularly relevant if this report, including the data, opinions, conclusions, and recommendations it contains, are to be used a considerable time after it was prepared. In these circumstances, further investigation of the site may be necessary.

Figures



Legend

- Survey Area
- Cadastral Lines

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Meters

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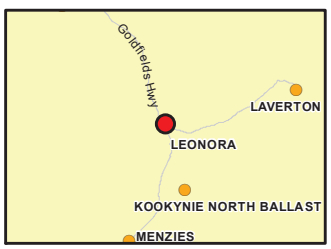
- NOTE THAT POSITION ERRORS CAN BE >5M IN SOME AREAS

LOCALITY MAP



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- LOCALITY MAP SOURCED FROM LANDGATE 2020
- OTHER DATA SOURCED LANDGATE 2020
- AERIAL PHOTOGRAPHY SOURCED LANDGATE 2020
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PROJECT ID	DATE
4581	04/08/2021

HORIZONTAL DATUM AND PROJECTION
GDA 1994 MGA Zone 51

CREATED	CHECKED	APPROVED	REVISION
LFV	BD	MS	0

Horizon Power
Mt Ida Road, Leonora

Leonora Biological Survey

Figure 1
Survey Area

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Legend

- Survey Area

Hydrography

- Watercourse - minor
- Lake
- Water Reservoir

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- LOCALITY MAP SOURCED FROM LANDGATE 2020
- OTHER DATA SOURCED LANDGATE 2020
- AERIAL PHOTOGRAPHY SOURCED LANDGATE 2020
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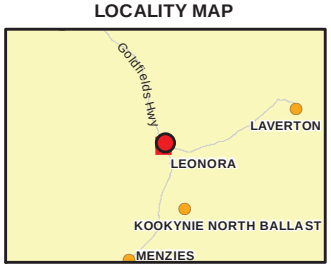
- NOTE THAT POSITION ERRORS CAN BE >5M IN SOME AREAS

LOCALITY MAP



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CREATED	CHECKED	APPROVED	REVISION
LFV	BD	MS	0

Horizon Power
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Leonora Biological Survey

Figure 2
Hydrography

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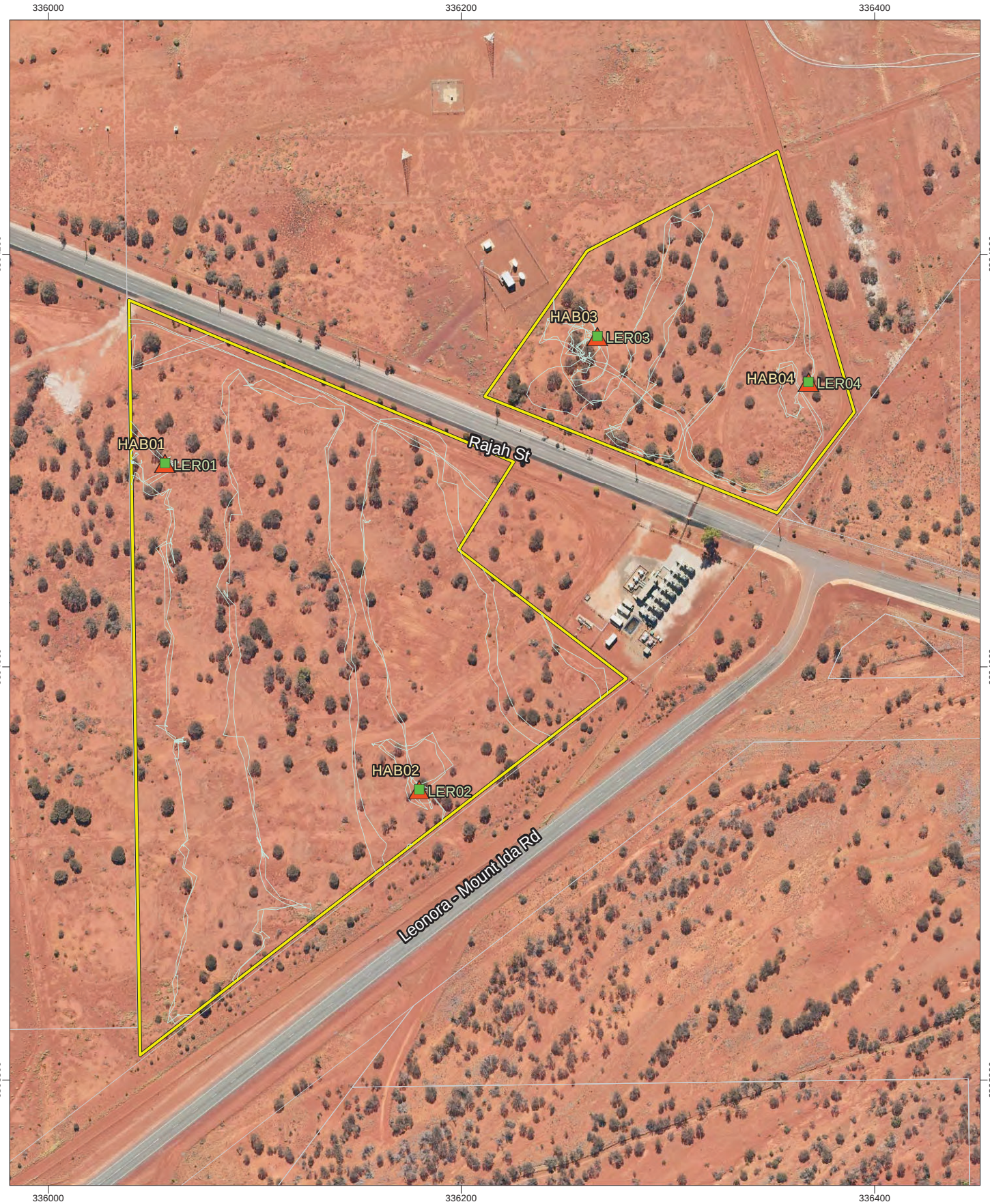

Legend

- Survey Area
- Cadastral Lines
- Releve
- Fauna Habitat Assessment
- GPS Tracks

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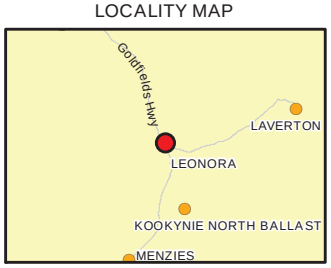
1:2,500 @ A4

N

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

LOCALITY MAP



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PROJECT ID	DATE
4581	17/08/2021

HORIZONTAL DATUM AND PROJECTION
GDA 1994 MGA Zone 51

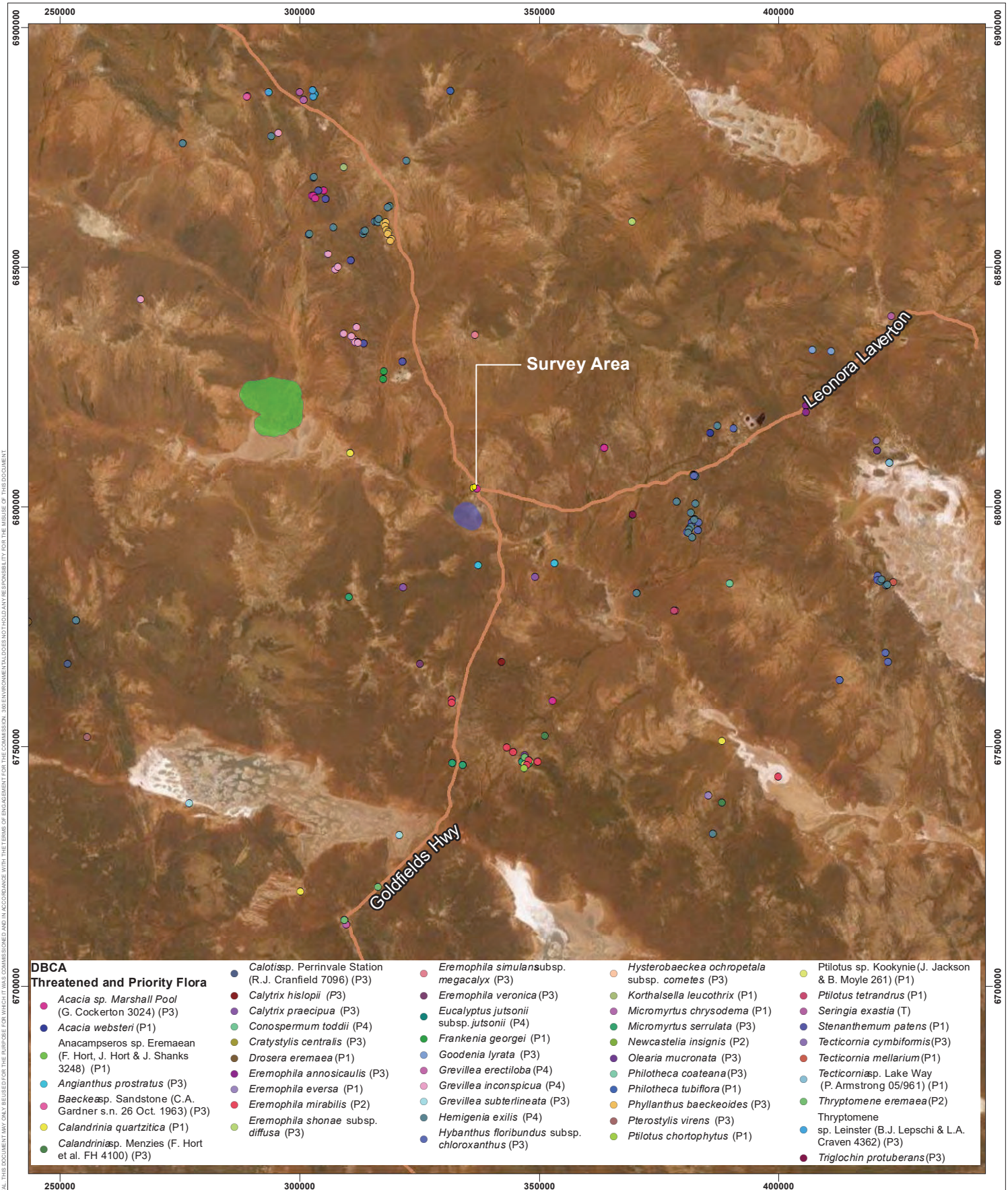
CREATED	CHECKED	APPROVED	REVISION
LFV	BD	MS	0

Horizon Power
Mt Ida Road, Leonora

Leonora Biological Survey

Figure 3
Survey Effort

K:\Projects\1.0 EBS\4581 004 Horizon Power Leonora Biological\4581 F03 Survey Effort.mxd



DBCA Threatened and Priority Flora

- *Acacia sp. Marshall Pool* (G. Cockerton 3024) (P3)
- *Acacia websteri* (P1)
- Anacampseros sp. Eremaean (F. Hort, J. Hort & J. Shanks 3248) (P1)
- *Angianthus prostratus* (P3)
- *Baeckea* sp. Sandstone (C.A. Gardner s.n. 26 Oct. 1963) (P3)
- *Calandrinia quartzitica* (P1)
- *Calandrinia* sp. Menzies (F. Hort et al. FH 4100) (P3)
- *Calotis* sp. Perrinvale Station (R.J. Cranfield 7096) (P3)
- *Calytrix hislopii* (P3)
- *Calytrix praecipua* (P3)
- *Conospermum toddii* (P4)
- *Cratystylis centralis* (P3)
- *Drosera eremaea* (P1)
- *Eremophila annosicaulis* (P3)
- *Eremophila eversa* (P1)
- *Eremophila mirabilis* (P2)
- *Eremophila shonae* subsp. *diffusa* (P3)
- *Eremophila simulans* subsp. *megacalyx* (P3)
- *Eremophila veronica* (P3)
- *Eucalyptus jutsonii* subsp. *jutsonii* (P4)
- *Frankenia georgei* (P1)
- *Goodenia lyrata* (P3)
- *Grevillea erectiloba* (P4)
- *Grevillea inconspicua* (P4)
- *Grevillea subterlineata* (P3)
- *Hemigenia exilis* (P4)
- *Hybanthus floribundus* subsp. *chloroxanthus* (P3)
- *Hysterobaeckea ochropetala* subsp. *cometes* (P3)
- *Korthalsella leucothrix* (P1)
- *Micromyrtus chrysodema* (P1)
- *Micromyrtus serrulata* (P3)
- *Newcastelia insignis* (P2)
- *Olearia mucronata* (P3)
- *Philotheca coateana* (P3)
- *Philotheca tubiflora* (P1)
- *Phyllanthus baeckeoides* (P3)
- *Pterostylis virens* (P3)
- *Ptilotus chortophytus* (P1)
- Ptilotus sp. Kookynie (J. Jackson & B. Moyle 261) (P1)
- *Ptilotus tetrandrus* (P1)
- *Seringia exastia* (T)
- *Stenanthemum patens* (P1)
- *Tecticornia cymbiformis* (P3)
- *Tecticornia mellarium* (P1)
- *Tecticornia* sp. Lake Way (P. Armstrong 05/961) (P1)
- *Thryptomene eremaea* (P2)
- Thryptomene sp. Leinster (B.J. Lepschi & L.A. Craven 4362) (P3)
- *Triglochin protuberans* (P3)

Legend

- Roads
- Survey Area

DBCA Priority Ecological Communities

- Melita calcrete groundwater assemblage type on Raeside palaeodrainage on Melita (Sons of Gwalia) Station (P1)
- Sturt Meadows calcrete groundwater assemblage type on Raeside palaeodrainage on Sturt Meadows Station (P1)

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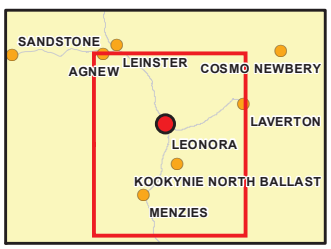
- NOTE THAT POSITION ERRORS CAN BE >5M IN SOME AREAS

LOCALITY MAP



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LFV	BD	MS	0

Horizon Power
Mt Ida Road, Leonora

Leonora Biological Survey

Figure 4
DBCA Threatened and Priority Flora and Communities

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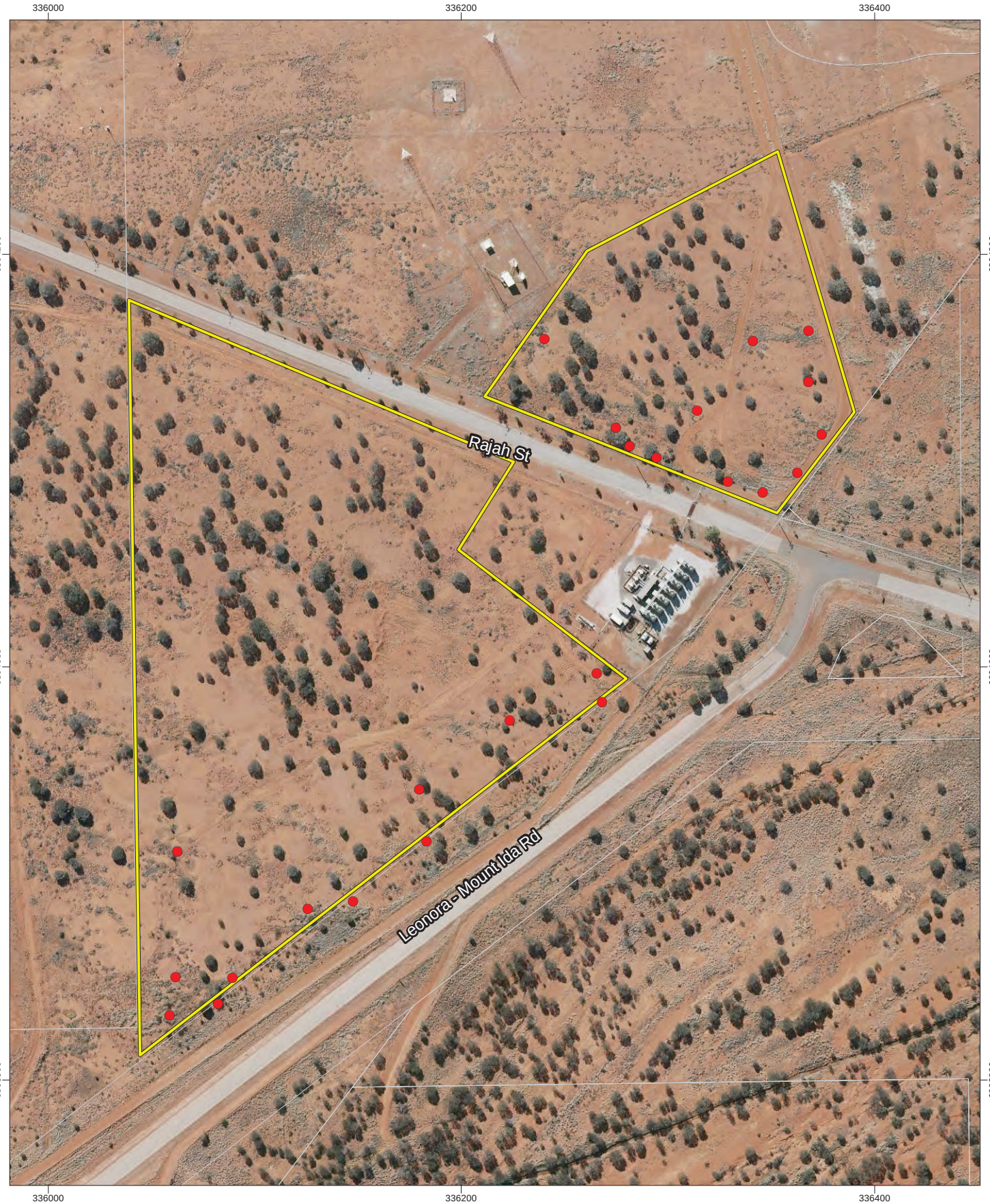

Legend

- Survey Area
- Cadastral Lines

Introduced Flora

- **Cenchrus ciliaris*

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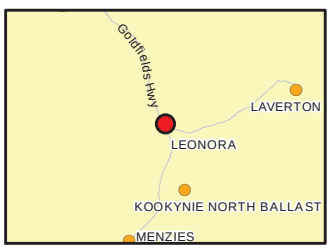
- NOTE THAT POSITION ERRORS CAN BE >5M IN SOME AREAS

LOCALITY MAP



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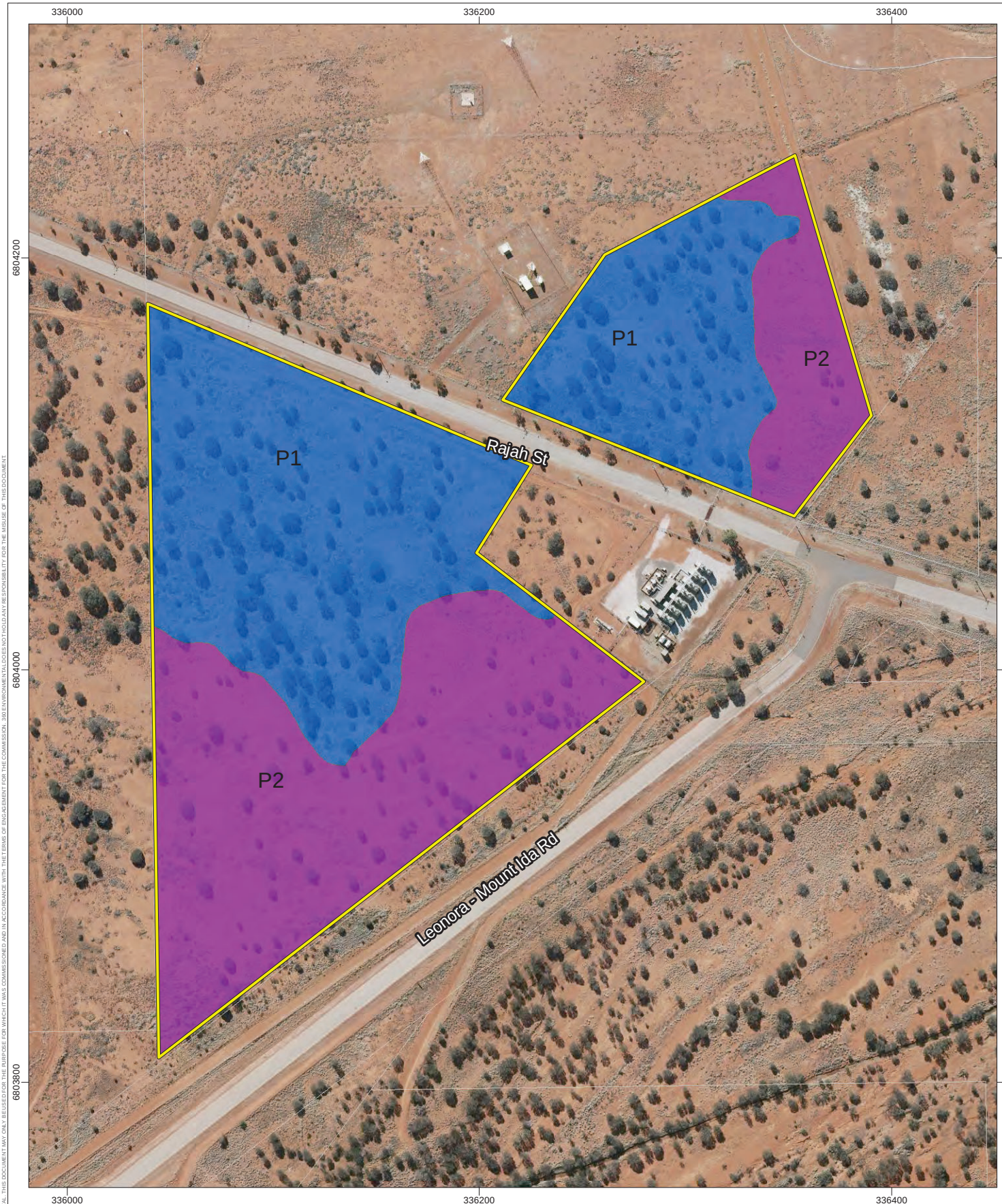
Leonora Biological Survey

Figure **5**
Introduced Flora

K:\Projects\1.0 EBS\4581 004 Horizon Power Leonora Biological\4581 F05 Introduced Flora.mxd



Legend

- Survey Area
- Cadastral Lines

Vegetation Types and Condition

- P1 (Very Good Condition)
- P2 (Good Condition)

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- OTHER DATA SOURCED LANDGATE 2020
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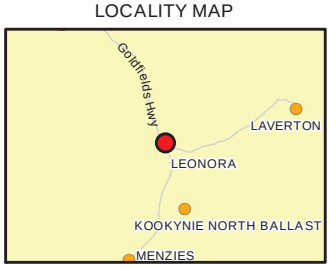
LOCALITY MAP



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Leonora Biological Survey

Figure 6
Vegetation Types and Condition

K:\Projects\1.0 EBS\4581 004 Horizon Power Leonora Biological\4581 F06 Vegetation Types and Condition.mxd

Legend

- Survey Area
- DBCA Threatened and Priority Fauna
  - Brush-tailed mulgara (P4)
  - Common Sandpiper (MI)
  - Common greenshank, greenshank (MI)
  - Glossy ibis (MI)
  - Gull-billed tern (MI)
  - Hooded plover, hooded dotterel (P4)
  - Long-tailed dunnart (P4)
  - Malleefowl (VU)
  - Pacific golden plover (MI)
  - Peregrine falcon (OS)
  - Poseidon slater (P1)
  - Red knot (EN)
  - Sharp-tailed sandpiper (MI)
  - Streaked shearwater (MI)
  - Woma (southwest subpop.) (P1)
  - Wood sandpiper (MI)

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

LOCALITY MAP

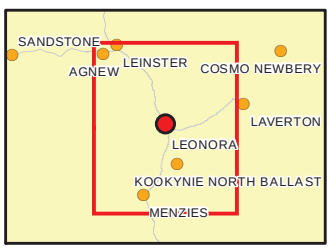

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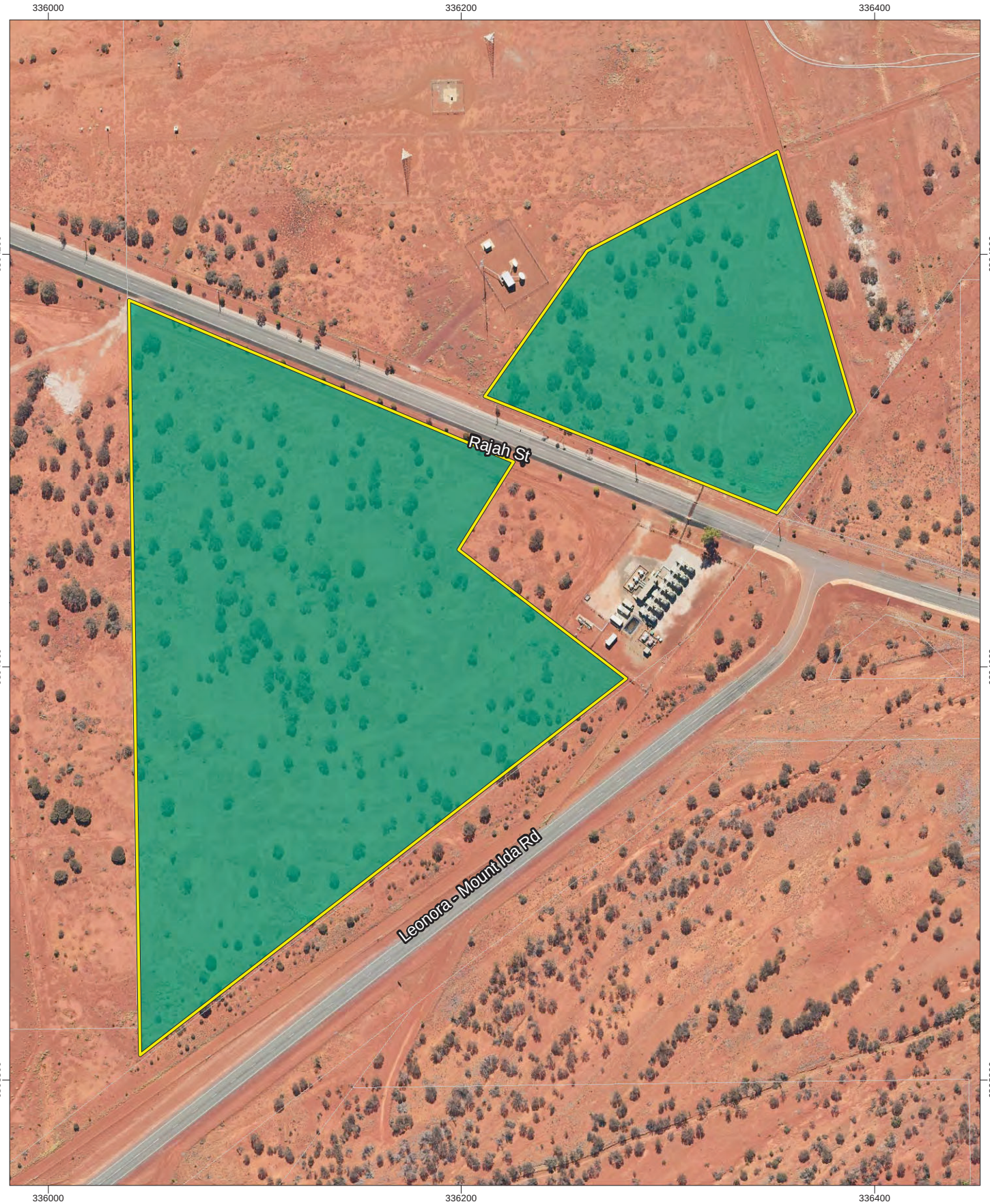
Figure 7

DBCA Threatened and Priority Fauna Locations

K:\Projects\1.0 EBS\4581 004 Horizon Power Leonora Biological\4581 F07 DBCA Threatened and Priority Fauna Locations.mxd



Legend

- Survey Area
- Cadastral Lines

Fauna Habitat

- Mulga woodland

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LOCALITY MAP

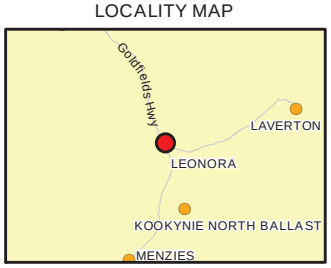

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Figure 8
Fauna Habitat

K:\Projects\1.0 EBS\4581 004 Horizon Power Leonora Biological\4581 F08 Fauna Habitat.mxd

Appendices

Appendix A
Flora Literature Review

Report	Project Area	Survey Timing	Survey Effort	Conservation Significant Ecological Communities	Conservation Significant Flora	Introduced Flora
Detailed Flora and Vegetation Survey of Tims Find (Native Vegetation Solutions, 2019)	83.6 km west of the Survey Area	July 2019	Detailed Flora and Vegetation Survey: • Thirty quadrats	None recorded.	None recorded.	• **Lactuca serriola* • **Sisymbrium irio*
Leonora Rail Yard Expansion Project Level 1 Flora and Vegetation Survey (Western Botanical, 2013)	0.6 km northeast of the Survey Area	January 2013	Reconnaissance Flora and Vegetation Survey	None recorded.	None recorded.	• **Cenchrus ciliaris* • **Centaurea melitensis* • **Citrullus amarus* • **Eragrostis curvula* • **Erigeron bonariensis* • **Salvia verbenaca*
Preliminary Environmental Impact Assessment, Flora Survey and Environmental Management Plan (GHD, 2011)	51.9 km east of the Survey Area	November 2010	Reconnaissance Flora and Vegetation Survey	None recorded	None recorded.	• **Cenchrus ciliaris* • **Citrullus colocynthis* • **Rumex vesicarius* • **Salvia verbenaca*

Conservation significant flora or vegetation	(Native Vegetation Solutions, 2019) 83.6 km west of the Survey Area	(Western Botanical, 2013) 0.6 km northeast of the Survey Area	(GHD, 2011) 51.9 km east of the Survey Area
T			
Ricinocarpos brevis	★		
P1			
Drosera eremaea	★		
Frankenia georgei			★
Jacksonia lanicarpa	★		
Ptilotus tetrandrus		★	★
Stenanthemum patens		★	
Tecticornia mellarium			★
Tecticornia sp. Lake Way (P. Armstrong 05/961)			★
P2			
Eremophila mirabilis		★	
Eucalyptus educta	★		
Hyalosperma stoveae	★		
P3			
Angianthus prostratus		★	★
Calotis sp. Perrinvale Station (R.J. Cranfield 7096)	★		
Calytrix hislopii	★		

Conservation significant flora or vegetation	(Native Vegetation Solutions, 2019)	(Western Botanical, 2013)	(GHD, 2011)
	83.6 km west of the Survey Area	0.6 km northeast of the Survey Area	51.9 km east of the Survey Area
Calytrix praecipua		★	★
Chrysocephalum apiculatum subsp. *norsemanense*	★		
Cratystylis centralis		★	★
Eremophila annosicaulis			★
Eremophila simulans subsp. *megacalyx*		★	
Eremophila veronica		★	
Goodenia lyrata			★
Grevillea subterlineata	★		
Hybanthus floribundus subsp. *chloroxanthus*		★	★
Micromyrtus serrulata		★	
Notisia intonsa	★		
Olearia mucronata			★
Philotheca coateana	★		
Philotheca deserti subsp. *brevifolia*	★		
Pterostylis virens	★		
Tecticornia cymbiformis			★
Triglochin protuberans		★	★
P4			

Conservation significant flora or vegetation	(Native Vegetation Solutions, 2019) 83.6 km west of the Survey Area	(Western Botanical, 2013) 0.6 km northeast of the Survey Area	(GHD, 2011) 51.9 km east of the Survey Area
Banksia arborea	★		
Conospermum toddii			★
Grevillea inconspicua		★	
Hemigenia exilis	★	★	★

✓ Denotes species was found during survey
★ Denotes species was identified by database searches during desktop assessment, which typically include an additional buffer around the Project Area, but were not found during survey

Appendix B
Flora Database Searches

Taxon	ConsStatu	PopNumbe	SubPopCo	Location	District	Vesting	Purpose1	Purpose2	CountDate	Method	MatCount	SeedlCoun	LiveTotal	InFlower	HabNotes	SoilCondit	Landform	RockType	Gravel	SoilType	SoilColor	Drainage	Aspect	AssSpecies	Veg_Stru_A	Veg_domA1	Veg_Stru_B	Veg_domB1	Veg_Stru_C	Veg_domC1	Veg_Stru_D	Veg_domD1
Anacampseros sp. Eremaean (F. Hort, J. Hort & J. Shanks 3248)	1	5		Niagara Dam (Crown Reserve 5062), NE of Menzies, north of Kalgoorlie [on Niagara Creek, 1.8 km SW of Rifle Point, 2.1 km SE of Point Agnes, 3.1 km SE off Kooknyie Road]	KALGOORLIE	LGA	REC	WAT	11/04/2006		0		500	N	In small pockets on plateau. Mulga shrubland.		RI_BRKWY			CLAY_SND												
Angianthus prostratus	3	1		Pastoral lease (Lot 62, L 398-670, 'Melita Station'). Ca. 8km S of Malcolm. Shire of Leonora.	KALGOORLIE	PLB	PAS		06/07/1995		0		0	Y	Open scrub.					CLAY	RED											
Baeckea sp. Sandstone (C.A. Gardner s.n. 26 Oct. 1963)	3	3		Weebo Station (Crown Lease 3114-1153; Mining Lease 3600511, 2 holders), ca 6.5 km SW of White Well, [29 km SE of Leinster, 6.4 km SW of Goldfields Highway].	KALGOORLIE	PLB	PAS	MIN	24/06/2004		0		0	N						SAND	RED			Eucalyptus kingsmillii,Eucalyptus gongylocarpa	woodland 10-30m, 20-50%	Eucalyptus kingsmillii	open shrubland 1-2m, 20-50%	Eucalyptus gongylocarpa	low heathland <0.5m, 50-80%		hummock grassland 0.5-1m, 50-80%	
Eremophila mirabilis	2	1		Niagara dam reserve no. 5062.	KALGOORLIE	LGA	REC		03/09/1990	ESTMT	500		500	N		MOIST	RI_BRKWY	GRANITE		SAND	BROWN			Acacia aneura,Acacia tetragonophylla	Unknown Veg Class	Acacia aneura	Unknown Veg Class	Acacia tetragonophylla				
Eremophila mirabilis	2	2		3.5 km NNE of Morapoi station homestead.	KALGOORLIE	PLB	PAS		08/10/1991	ACT_IND	6		6	N	Soil Condition :Saline; Threats: Expansion of mining and sheep/goat grazing.		RI_BRKWY			LOAM	ORANGE			Acacia aneura,Acacia quadrimarginea,Santalum spicatum	Unknown Veg Class	Acacia aneura	Unknown Veg Class	Acacia quadrimarginea	Unknown Veg Class	Santalum spicatum		
Eremophila mirabilis	2	3		NMF 138 on Kooknyie Pastoral Lease No. 3114/552. 13.5 km N of Jeedamya Station Homestead.	KALGOORLIE	PLB	PAS		10/12/1992	ESTMT	0		250	N		DRY	SLOPE	DOLERITE		SND_CLAY	BROWN			Acacia quadrimarginea,Acacia aneura	Unknown Veg Class	Acacia quadrimarginea	Unknown Veg Class	Acacia aneura				
Eremophila mirabilis	2	4		43 km S of Leonora. Austin Botanical District. [1.7 km W of Goldfields HWY].	KALGOORLIE	PLB	PAS	MIN	30/10/1993		0		0	N																		
Eremophila mirabilis	2	5		1.5 km W of Niagara Dam. [ca 150 m N of Kooknyie Rd, 1.17 km W of Goldfields HWY.]	KALGOORLIE	PLB	PAS	MIN	06/07/1995		0		0	Y	Open scrub.			GRANITE		SND_CLAY	BROWN				tall sparse shrubland >2m, 0.25-20%							
Eremophila mirabilis	2	6		Niagara Dam Nature Reserve, Leonora Shire. [1 km SW of Rifle Point.]	KALGOORLIE	CC	CFF	MIN	15/02/2006		0		40	N	Area unlikely to ever burn due to rocky soil.	DRY	OD_DRGLN	LATERITE	GRVL_30	LOAM	BROWN			Acacia aneura,Acacia tetragonophylla,Eremophila forrestii	Unknown Veg Class	Acacia aneura	Unknown Veg Class	Acacia tetragonophylla	Unknown Veg Class	Eremophila forrestii		
Eremophila mirabilis	2	7		Niagara Dam, 1.3 km from boundary fence entry. [2.8 km ESE of Mt Jessop].	KALGOORLIE	LGA	REC	MIN	29/09/1990		0		0	Y	Stony brown clay loam. In open mixed Acacia shrubland over Eremophila/Myrtaceae low shrubland.					CLA_LOAM	BROWN											
Eremophila mirabilis	2	11		13.5 km N of Kooknyie Station Homestead. Kooknyie Gold Project at the puzzle site (MLA40/163-164) in the vicinity of the north eastern boundary. [1.5 km W of Goldfields HWY.]	KALGOORLIE	PLB	PAS	MIN	25/05/1999		0		0	N																		
Eremophila mirabilis	2	12		3.5 km NNE of Morapoi Station Homestead.	KALGOORLIE	PLB	PAS		25/05/1999		0		0	N																		
Goodenia lyrata	3	1		20 miles [32.186 km] west of Laverton [ca 8 km by road, south-east of Korong Homestead]. Weld Location 55 (L 3114 1768).	KALGOORLIE	RDL	PAS		22/08/1961		0		0	Y	Near claypan.					LOAM_SND	RED											
Grevillea inconspicua	4	22		2km W of Mount Clifford. S of Teutonic. Tarmoola pastoral lease.	KALGOORLIE	NON	PAS		16/08/1981		0		0	N	Along small creek.		OD_DRGLN							ACACIA	low open shrubland 0.5-1m, 20-50%	ACACIA						
Grevillea inconspicua	4	24		150m SW of summit of Mt Stirling. Tarmoola pastoral lease.	KALGOORLIE	NON	PAS	MIN	15/06/1992	ACT_IND	5		5	Y	Ptilotus obovatus	MOIST	CREST	LIMESTN		LOAM_SND	RED		W	Acacia aneura,Acacia sp.,Eremophila sp.,Scaevola spinescens	tall sparse shrubland >2m, 0.25-20%	Acacia aneura	Unknown Veg Class	Acacia sp.	Unknown Veg Class	Eremophila sp.	Unknown Veg Class	Scaevola spinescens
Grevillea inconspicua	4	25		150m N of Stirling Bore. Tarmoola pastoral lease.	KALGOORLIE	NON	PAS	MIN	15/06/1992	ESTMT	75		75	Y		MOIST	SLOPE	GREENSTN		LOAM_SND	RED		S	Cassia sturtii,Dodonaea lobulata	tall sparse shrubland >2m, 0.25-20%	Cassia sturtii	Unknown Veg Class	Dodonaea lobulata				
Grevillea inconspicua	4	26		Tarmoola pastoral lease.	KALGOORLIE	NON	PAS	MIN	15/06/1992	ESTMT	200		200	N			OD_DRGLN	GREENSTN		LOAM_SND	RED	PERMINUN		Acacia grasbyi,Acacia aneura	tall sparse shrubland >2m, 0.25-20%	Acacia grasbyi	Unknown Veg Class	Acacia aneura				
Grevillea inconspicua	4	27		Tarmoola pastoral lease. On track going NW from Stirling mining centre.	KALGOORLIE	NON	PAS	MIN	15/06/1992	ESTMT	0		20	N																		
Grevillea inconspicua	4	28		Tarmoola pastoral lease. On track going NW from Stirling mining centre.	KALGOORLIE	NON	PAS	MIN	15/06/1992	ESTMT	0		5	N																		
Grevillea inconspicua	4	29		Tarmoola pastoral lease. In creekline with Mulga.	KALGOORLIE	NON	PAS	MIN	15/06/1992	ESTMT	0		5	N																		
Grevillea inconspicua	4	30		Tarmoola pastoral lease. On lower slope. S of Mt Stirling Well(Govt.).	KALGOORLIE	NON	PAS	MIN	15/06/1992	ESTMT	0		20	N																		
Grevillea inconspicua	4	31		5km NW of Mt Clifford Outcamp. 1km S of Jungle Well. Tarmoola Pastoral lease.	KALGOORLIE	NON	PAS	MIN	09/10/1992	ACT_IND	5		5	N	Soil Condition :Saline;		RIDGE						N	Acacia ?acuminata,Dodonaea lobulata,Ptilotus exaltatus,Stipa nitida	tall open shrubland >2m, 20-50%	Acacia ?acuminata	Unknown Veg Class	Dodonaea lobulata	Unknown Veg Class	Ptilotus exaltatus	Unknown Veg Class	Stipa nitida
Hemigenia exilis	4	1		Glenorn Station, near to Eulaminna Town (aband.)	KALGOORLIE	NON	PAS	MIN	20/09/1995	ESTMT	100		100	Y	Soil Condition :Saline;		SLOPE	LATERITE		CLAY	RED			Acacia aneura, A.quadrimarginea, A.acuminata sp. burkitti,Hybanthus floribundus,Eremophila tatrobei	Unknown Veg Class	Acacia aneura, A.quadrimarginea, A.acuminata sp. burkitti	Unknown Veg Class	Hybanthus floribundus	Unknown Veg Class	Eremophila tatrobei		
Hemigenia exilis	4	2	A	Glenorn station. near to Eulaminna Town (aband.)	KALGOORLIE	NON	PAS	MIN	20/09/1995	ESTMT	15		15	N	See Population No.2B.																	
Hemigenia exilis	4	2	B	Glenorn Station. nera to Eulaminna Town (aband.)	KALGOORLIE	NON	PAS	MIN	20/09/1995	ESTMT	100		100	Y	Soil Condition :Saline:		SLOPE	LATERITE		CLAY	RED			Acacia aneura, A.tetragonophylla,Hybanthus floribundus,Ptilotus obovatus, P.schwartzii	tall open shrubland >2m, 20-50%	Acacia aneura, A.tetragonophylla	Unknown Veg Class	Hybanthus floribundus	Unknown Veg Class	Ptilotus obovatus, P.schw		
Hemigenia exilis	4	2	C	Glenorn Station. near to Eulaminna Town (aband.).	KALGOORLIE	NON	PAS	MIN	14/11/1995	ESTMT	150		150	N			SLOPE	LATERITE		LOAM	RED			Acacia aneura subsp. aneura,Scaevola spinescens,Ptilotus obovatus,Hybanthus floribundas	Unknown Veg Class	Acacia aneura subsp. aneura	Unknown Veg Class	Scaevola spinescens	Unknown Veg Class	Ptilotus obovatus	Unknown Veg Class	Hybanthus floribundas
Hemigenia exilis	4	3		Glenorn station. near to Eulaminna Town (aband.)	KALGOORLIE	NON	PAS	MIN	14/11/1995	ESTMT	200	30	230	N	Soil Condition :Saline;		SLOPE	LATERITE		LOAM	RED			Acacia aneura subsp. aneura,Hybanthus floribundas,Scaevola spinescens,Ptilotus Schwartzii	Unknown Veg Class	Acacia aneura subsp. aneura	Unknown Veg Class	Hybanthus floribundas	Unknown Veg Class	Scaevola spinescens	Unknown Veg Class	Ptilotus Schwartzii
Hemigenia exilis	4	4		Weebo Station. ca.5km north-east of Poison Creek crossing with the Agnew-Leonora Road.	KALGOORLIE	NON	PAS	MIN	13/11/1995	ESTMT	200		200	Y	Soil:quartz felspar gravel conglomerate over weathered granite/felsic gneiss.		OD_RVRBK							Acacia aneura var latifolia, A.craspedocarpa,Eremophila platycalyx, E.youngii,Acacia aneura var aneura	low woodland <10m, 20-50%	Acacia aneura var latifolia, A.craspedocarpa	Unknown Veg Class	Eremophila platycalyx, E.your	Unknown Veg Class	Acacia aneura var aneura		
Hemigenia exilis	4	5		Minara Station. ca. 3.75km west of Minara Homestead (Rio Tinto area).	KALGOORLIE	NON	PAS	MIN	14/11/1995	ESTMT	50		50	Y		DRY	SLOPE	LATERITE		LOAM	RED			Dodonaea lobulata,Acacia assimilis,Scaevola spinescens,Calytrix desolata, Ptilotus exaltatus, P. obovatus	tall sparse shrubland >2m, 0.25-20%	Dodonaea lobulata	Unknown Veg Class	Acacia assimilis	Unknown Veg Class	Scaevola spinescens	Unknown Veg Class	Calytrix desolata, Ptilotus exaltatus, P. obovatus
Hemigenia exilis	4	6	A	Perrinvale Station. near to `Newcrests` Copperfield Base Station. ca. 109km south-west of Leonora	KALGOORLIE	PLB	PAS	MIN	15/11/1995	ESTMT	50		50	N		DRY	RI_BRKWY	LATERITE		LOAM	RED		N	Acacia aneura, A.subtessarogona,Eremophila georgei,Eriostemon brucei,Dodonaea rigida	Unknown Veg Class	Acacia aneura, A.subtessarogona	Unknown Veg Class	Eremophila georgei	Unknown Veg Class	Eriostemon brucei	Unknown Veg Class	Dodonaea rigida
Hemigenia exilis	4	6	B	Perrinvale Station. near to `Newcrests` Copperfield Base Station.	KALGOORLIE	PLB	PAS	MIN	13/02/1996	ESTMT	100		100	N			RI_BRKWY	LATERITE						Acacia aneura, A.subtessarogona,Eremophila sp.,Eriostemon brucei	Unknown Veg Class	Acacia aneura, A.subtessarogona	Unknown Veg Class	Eremophila sp.	Unknown Veg Class	Eriostemon brucei		
Hemigenia exilis	4	9		Yerilla Station. ca. 5km south of Yerilla Homestead along a fence-line.	KALGOORLIE	PLB	PAS	MIN	13/02/1996	ACT_IND	3		3	N			CREST	LATERITE						Acacia aneura,Scaevola spinescens	Unknown Veg Class	Acacia aneura	Unknown Veg Class	Scaevola spinescens				
Hemigenia exilis	4	10		Yundamindra Station. western side of Lake Carey.	KALGOORLIE	NON	PAS	MIN	13/02/1996	ESTMT	150		150	N			RIDGE	LATERITE		LOAM	RED			Acacia aneura, A. ramulosa, A. tetragonophylla	Unknown Veg Class	Acacia aneura, A. ramulosa, A. tetragonophylla						
Hemigenia exilis	4	11		Yundamindra Station. west side of Lake Carey.	KALGOORLIE	NON	PAS	MIN	13/02/1996	ESTMT	30		30	N			SLOPE	LATERITE						Acacia aneura, A. ramulosa, A. tetragonophylla,Scaevola spinescens,Eremophila oldfieldii	Unknown Veg Class	Acacia aneura, A. ramulosa, A. tetragonophylla	Unknown Veg Class	Scaevola spinescens	Unknown Veg Class	Eremophila oldfieldii		
Hemigenia exilis	4	12		Yundamindra Station. western side of Lake Carey. ca.12km north-east of Mt Keith.	KALGOORLIE	NON	PAS	MIN	13/02/1996	ESTMT	300		300	N			RIDGE	LATERITE						Acacia aneura,A. ramulosa,A. tetragonophylla	Unknown Veg Class	Acacia aneura	Unknown Veg Class	A. ramulosa	Unknown Veg Class	A. tetragonophylla		
Hemigenia exilis	4	13		Northern boarder of Weebo & Tarmoola Pastoral Stations, Wilson's Creek, ca. 1.2km west of the Leonora-Leinster Road near Wilson's Patch Aboriginal Camp, 66km north of Leonora.	KALGOORLIE	NON	PAS		23/05/1996	ESTMT	100	10	112	Y	Acacia shrubland over mixed low shrubs on gently sloping laterite.	DRY	SLOPE	LATERITE	GRVL_30		RED			Acacia quadrimarginea,Acacia aneura,Scaevola spinescens,Hybanthus floribundas	Unknown Veg Class	Acacia quadrimarginea	Unknown Veg Class	Acacia aneura	Unknown Veg Class	Scaevola spinescens	Unknown Veg Class	Hybanthus floribundas
Hemigenia exilis	4	14		Northern boarder of Weebo & Tarmoola Pastoral Stations, Wilson's Creek, ca. 1.8km west of the Leonora-Leinster Road near Wilson's Patch Aboriginal Camp. 66km north of Leonora.	KALGOORLIE	NON	PAS		24/05/1996	ESTMT	500		500	Y	Acacia shrubland over low mixed shrubs.		RI_BRKWY	LATERITE		LOAM	RED			Acacia quadrimarginea,Hakea sp.,Calytrix sp.,Scaevol spinescens	Unknown Veg Class	Acacia quadrimarginea	Unknown Veg Class	Hakea sp.	Unknown Veg Class	Calytrix sp.	Unknown Veg Class	Scaevol spinescens
Hemigenia exilis	4	15	A	Tarmoola Pastoral Station, Wilson's Creek, west of the Leonora-Leinster Road near Wilson's Patch Aboriginal camp, ca. 50m from a dozed dirt mound, 66km north of Leonora.	KALGOORLIE	NON	PAS		23/05/1996	ESTMT	50		50	Y	Acacia shrubland over low mixed shrubs.		SLOPE	LATERITE	GRVL_30	LOAM	RED			Acacia quadrimarginea, A. aneura,Scaevola spinescens,Grevillea berryana,Calytrix sp.	Unknown Veg Class	Acacia quadrimarginea, A. aneura	Unknown Veg Class	Scaevola spinescens	Unknown Veg Class	Grevillea berryana	Unknown Veg Class	Calytrix sp.
Hemigenia exilis	4	15	B	Tarmoola Pastoral Station, Wilson's Creek, west of the Leonora-Leinster Road near Wilson's Patch Aboriginal camp. 66km north of Leonora.	KALGOORLIE	NON	PAS		23/05/1996	ESTMT	350		350	Y	Open Acacia shrubland over low mixed shrubs.		SLOPE	LATERITE		LOAM_SND	RED			Acacia quadrimarginea,Acacia aneura,Scaevola spinescens,Casuarina sp.	Unknown Veg Class	Acacia quadrimarginea	Unknown Veg Class	Acacia aneura	Unknown Veg Class	Scaevola spinescens	Unknown Veg Class	Casuarina sp.
Hemigenia exilis	4	15	C	Tarmoola Pastoral Station, Wilson's Creek, west of the Leonora-Leinster Road near Wilson's Aboriginal camp, 66km north of Leonora.	KALGOORLIE	NON	PAS		24/05/1996	ESTMT	200		200	Y	Acacia shrubland over low mixed shrubs.		SLOPE	LATERITE		LOAM_SND	RED			Acacia quadrimarginea,Acacia aneura,Scaevola spinescens	Unknown Veg Class	Acacia quadrimarginea	Unknown Veg Class	Acacia aneura	Unknown Veg Class	Scaevola spinescens		
Hemigenia exilis	4	15	D	Tarmoola Pastoral Station, Wilson's Creek, west of Leonora-Leinster Road near Wilson's Patch Aboriginal camp. 66km north of Leonora.	KALGOORLIE	NON	PAS		24/05/1996	ESTMT	450		450	Y	Acacia shrubland		OD_DRGLN	LATERITE		LOAM_SND				Acacia quadrimarginea,Acacia aneura,Scaevola spinescens	Unknown Veg Class	Acacia quadrimarginea	Unknown Veg Class	Acacia aneura	Unknown Veg Class	Scaevola spinescens		
Hemigenia exilis	4	16		Tarmoola Pastoral Station, Wilson's Creek, west of Leonora-Leinster Road near Wilson's Patch Aboriginal camp. 66km north of Leonora.	KALGOORLIE	NON	PAS		24/05/1996	ACT_IND	3		3	N	Open acacia woodland.		SLOPE	LATERITE	GRVL_30		BROWN			Acacia quadrimrginea,Acacia aneura	Unknown Veg Class	Acacia quadrimrginea	Unknown Veg Class	Acacia aneura				
Hemigenia exilis	4	17		Tarmoola Pastoral Station, Wilson's Creek, west of Leonora-Leinster Road near Wilson's Patch Aboriginal camp. 66km north Leonora.	KALGOORLIE	NON	PAS		23/05/1996	ESTMT	150		150	Y	Acacia shrubland over mixed low shrubs on gently sloping (sloping into a creek) laterite landform.		OD_DRGLN	LATERITE		PEAT	BROWN			Acacia quadrimarginea,Acacia aneura,Scaevola spinescens,Hybonthus floribundas	Unknown Veg Class	Acacia quadrimarginea	Unknown Veg Class	Acacia aneura	Unknown Veg Class	Scaevola spinescens	Unknown Veg Class	Hybonthus floribundas
Hemigenia exilis	4	18	A	Tarmoola Pastoral Station, Wilson's Creek, west of Leonora-Leinster Road near Wilson's Patch Aboriginal camp. western side of track. 66km north of Leonora.	KALGOORLIE	NON	PAS		24/05/1996		200		200	Y	Open acacia shrubland over mixed low shrubs.		SLOPE	LATERITE		CLA_LOAM	RED			Acacia quadrimarginea,Acacia aneura,Scaevola spinescens	Unknown Veg Class	Acacia quadrimarginea	Unknown Veg Class	Acacia aneura	Unknown Veg Class	Scaevola spinescens		
Hemigenia exilis	4	18	B	Tarmoola Pastoral Station, Wilson's Creek, west of Leonora-Leinster Road, Wilson's Patch Aboriginal camp, eastern side of track, 66km north of Leonora.	KALGOORLIE	NON	PAS		24/05/1996	ESTMT	100		100	N	Open acacia shrubland over low mixed shrubs.		SLOPE	LATERITE		CLA_LOAM	RED			Acacia quadrimarginea,Acacia aneura,Scaevola spinescens	Unknown Veg Class	Acacia quadrimarginea	Unknown Veg Class	Acacia aneura	Unknown Veg Class	Scaevola spinescens		
Hemigenia exilis	4	19		Stuart Meadows Pastoral Station, Wilson's Creek, north of Minniritchie Well, west of Leonora-Leinster Road, 66km north of Leonora.	KALGOORLIE	NON	PAS		15/06/1996	ESTMT	40		40	Y	Open acacia woodland.	DRY	FL_PLAIN	LATERITE			RED											
Hemigenia exilis	4	20		Tarmoola Pastoral Station, Wilson's Creek, north of Jungle Well, west of Leonora-Leinster Road, 66km north of Leonora.	KALGOORLIE	NON	PAS		15/06/1996	ESTMT	800		800	Y	Open acacia shrubland		FL_PLAIN	LATERITE			RED											
Hemigenia exilis	4	21		Weebo Station. Marshall Creek. east of Heather Well.	KALGOORLIE	NON	PAS	MIN	15/06/1996	ESTMT	400		400	Y	Acacia shrubland.	DRY	FL_PLAIN	LATERITE			RED											
Korthalsella leucothrix	1	2		Weebo Station (Crown Lease 3114-1153), [ca 3 km west of] Kent Bore Quarry (MRD), 6 km west from Goldfields Highway. [ca 79 km north of Leonora].	KALGOORLIE	PLB	PAS		15/10/1993		0		0	N	Parasite. Mulga.					CLAY_SND	RED			Acacia craspedocarpa	open woodland 10-30m, 0.25-20%	Acacia craspedocarpa						
Micromyrtus chrysodema	1	1		ca 40 km SE of Leinster on Leinster to Leonora Rd. 1 km E of road along the Waterloo Mine water pipeline.	KALGOORLIE	PLB	PAS	MIN	11/03/2004		0		0	N	Emergent Eucalyptus growing to 6 m tal over scrub dominated by Acacia aneura, over Hummock grass.		FL_PLAIN			LOAM_SND	RED			Eucalyptus gongylocarpa,Triodia basedowii,Acacia aneura	Unknown Veg Class	Eucalyptus gongylocarpa	Unknown Veg Class	Triodia basedowii	Unknown Veg Class	Acacia aneura		
Micromyrtus serrulata	3	2		Pastoral Lease (3114-1121), Lot 43, Jeedamya Station. 5km W of Niagara Dam. [Ca. 40km NE of Menzies].	KALGOORLIE	PLB	PAS		06/07/1995		0		0	Y	Open Scrub			GRANITE		CLAY_SND	BROWN											
Phyllanthus baeckeoides	3	18	A	Pastoral Lease (3114-968), Lot 79. Tarmoola Station. Mining Tenement E37/496. Teutonic Bore-Jaguar Mine Site. [Ca. 500m NW of mine camp].	KALGOORLIE	PLB	PAS	EXL	25/05/2005	ACT_IND	266		266	N	Sparse vegetation cover.		SLOPE						N	Acacia quadrimarginea,Acacia aneura	Unknown Veg Class	Acacia quadrimarginea	Unknown Veg Class	Acacia aneura				
Phyllanthus baeckeoides	3	18	B	UCL, Lot 27. Mining Tenement M37/44 & M37/515. Teutonic Bore-Jaguar Mine Site. [area near mine camp].	KALGOORLIE	NON	UCL	MIN	25/05/2005		0		0	N			SLOPE						N	Acacia quadrimarginea,Acacia aneura	Unknown Veg Class	Acacia quadrimarginea	Unknown Veg Class	Acacia aneura				
Phyllanthus baeckeoides	3	18	C	Pastoral Lease (3114-968), Lot 79. Tarmoola Station. Mining Tenement E37/496. Teutonic Bore-Jaguar Mine Site. [Ca. 300-400m SW of mine camp].	KALGOORLIE	PLB	PAS	EXL	25/05/2005	ACT_IND	145		145	N	Dense Acacia overstory, extremely dense P. baeckeoides understory.		SLOPE						W	Acacia quadrimarginea,Acacia aneura	Unknown Veg Class	Acacia quadrimarginea	Unknown Veg Class	Acacia aneura				
Phyllanthus baeckeoides	3	18	D	Pastoral Lease (3114-968), Lot 79. Tarmoola Station. Mining Tenement M37/44. Teutonic Bore-Jaguar Mine Site. [Ca. 1.6km NNW of Teutonic Bore Pit].	KALGOORLIE	PLB	PAS	MIN	26/05/2005	ACT_IND	92		92	N			SLOPE						N	Acacia quadrimarginea,Acacia aneura	Unknown Veg Class	Acacia quadrimarginea	Unknown Veg Class	Acacia aneura				
Phyllanthus baeckeoides	3	18	E	Pastoral Lease (3114-968), Lot 79. Tarmoola Station. Mining Tenement M37/44. Teutonic Bore-Jaguar Mine Site. [Ca. 1km N of Teutonic Bore Pit].	KALGOORLIE	PLB	PAS	MIN	26/05/2005	ACT_IND	73		73	N			SLOPE						E	Acacia quadrimarginea,Acacia aneura	Unknown Veg Class	Acacia quadrimarginea	Unknown Veg Class	Acacia aneura				
Phyllanthus baeckeoides	3	18	F	Pastoral Lease (3114-968), Lot 79. Tarmoola Station. Mining Tenement M37/44. Teutonic Bore-Jaguar Mine Site. [Ca. 730m N of Teutonic Bore Pit].	KALGOORLIE	PLB	PAS	MIN	27/05/2005	ACT_IND	30		30	N	Top of slope under stress, possibly effect of drought.		SLOPE						W	Acacia quadrimarginea,Acacia aneura	Unknown Veg Class	Acacia quadrimarginea	Unknown Veg Class	Acacia aneura				
Phyllanthus baeckeoides	3	18	G	Pastoral Lease (3114-968), Lot 79. Tarmoola Station. Mining Tenement M37/44. Teutonic Bore-Jaguar Mine Site. Rocky slope above TSF (Tailings Storage Facility). [Ca. 400m E of Teutonic Bore Pit].	KALGOORLIE	PLB	PAS	MIN	26/05/2005	ACT_IND	38		38	N	Vegetation decreases down slope. Area badly affected by acid leaching.		SLOPE						N	Acacia quadrimarginea,Acacia aneura	Unknown Veg Class	Acacia quadrimarginea	Unknown Veg Class	Acacia aneura				
Phyllanthus baeckeoides	3	18	H	Pastoral Lease (3114-968), Lot 79. Tarmoola Station. Mining Tenement M37/44. Teutonic Bore-Jaguar Mine Site. [Ca. 400m S of Teutonic Bore Pit].	KALGOORLIE	PLB	PAS	MIN	26/05/2005	ACT_IND	111		111	N	Gully below affected by acid leaching or drought.		SLOPE						W	Acacia quadrimarginea,Acacia aneura	Unknown Veg Class	Acacia quadrimarginea	Unknown Veg Class	Acacia aneura				
Ptilotus chortophytus	1	1		Shire Reserve 5062. 1 km SW of Niagara Dam. ca 50 km NE of Menzies.	KALGOORLIE	LGA	REC	WAT	20/09/1975		0		0	N	Rocky.																	
Ptilotus tetrandrus	1	1		Glenorn Station (Crown Lease 3114-990; Expl. Lic. 3901101, Rubicon Resources), near Carslake Well, [ca 8 km SE of homestead].	KALGOORLIE	PLB	PAS	EXL	02/10/1974		0		0	Y																		
Stenanthemum patens	1	1		Site 18. Marshall pool. 70 km N of Leonora.	KALGOORLIE	PLB	PAS	MIN	20/07/1997		0		0	N																		
Stenanthemum patens	1	3		Site 49. Marshall Pool. 70 km N of Leonora.	KALGOORLIE	PLB	PAS	MIN	18/06/1997		0		50	N	Open shrubland, very little understory. Also found drainage line adjacent to this site.		CREST	BASALT						Hemigenia exilis,Grevillea inconspicua	Unknown Veg Class	Hemigenia exilis	Unknown Veg Class	Grevillea inconspicua				
Stenanthemum patens	1	4		2 km N of Mount Clifford, S of Teutonic Bore, WA.	KALGOORLIE	PLB	PAS		16/08/1981		0		0	N	Low Acacia scrub.		CREST															
Stenanthemum patens	1	6		Tarmoola. [3.4 km W of Goldfields HWY, 3.4 km E of Corktree Well.]	KALGOORLIE	PLB	PAS	MIN	07/04/2006		0		0	Y			SLOPE			CLA_LOAM				Ptilotus obovatus,Enneapogon caerulescens,Eremophila caerulea	Unknown Veg Class	Ptilotus obovatus	Unknown Veg Class	Eremophila caerulea	Unknown Veg Class	Enneapogon caerulescer		
Tecticornia sp. Lake Way (P. Armstrong 05/961)	1	2		ca 2 km SE from Mount Magnet trig on the edge of Lake Carey.	KALGOORLIE	WRC	WAT	MIN	15/03/2004		0		0	N			CD_LKBED			CLAY												
Thryptomene sp. Leinster (B.J. Lepschi & L.A. Craven 4362)	3	1		Adjacent to proposed Rainbow mine site. 3.7 km NNE of Goldfields HWY. 39 km SE of Leinster.	KALGOORLIE	PLB	PAS	MIN	13/10/2004		0		10	N	Open Mulga with scattered tall shrubs to 2 m tall over open herbs.		RI_BRKWY															
Thryptomene sp. Leinster (B.J. Lepschi & L.A. Craven 4362)	3	2		Adjacent to proposed Rainbow mine site. 2.4 km NNE of Goldfields HWY. 37 km SE of Leinster.	KALGOORLIE	PLB	PAS	MIN	13/10/2004		0		20	N	Scattered tall shrubs in deeper soil pockets, with small shrubs in other areas.		CR_SUMMT															
Thryptomene sp. Leinster (B.J. Lepschi & L.A. Craven 4362)	3	3		Approximately 36.8 km W to Leinster town, 6.1 km W (220 deg) to Goldfields HWY and Darlott Weebo Rd intersection and 3.4 km NE (27 deg) to Otto Well.	KALGOORLIE	PLB	PAS	MIN	17/03/2006		0		20	N			RI_BRKWY			SND_LOAM	RED			Acacia aneura,Acacia quadrimarginea,Baeckea sp. Melita Station (H. Pringle 2738)	Unknown Veg Class	Acacia aneura	Unknown Veg Class	Baeckea sp. Melita Station (H.	Unknown Veg Class	Acacia quadrimarginea		

Western Australian Herbarium Threatened and Priority Database Search

Taxon	Cons_Code	Plant_Desc	Site	Vegetation	Frequency	Notes	Locality	Date
Acacia sp. Marshall Pool (G. Cockerton 3024)	3	To 1.3 m x 1.2 m.	On hill slope.				Site 15, Marshall Pool, 70 km N of Leonora	20/07/1997
Acacia sp. Marshall Pool (G. Cockerton 3024)	3	Upright shrub 2.1 m high x 1.6 m wide.	Rocky basalt hill.	Low shrubland dominated by Acacia aneura with Eremophila forrestii, Hybanthus floribunda and Solanum lasiophyllum.			Site 33, Marshall Pool, ca 70 km N of Leonora on Leinster Road	18/07/1997
Acacia sp. Marshall Pool (G. Cockerton 3024)	3	Large shrub to 3 m. Plants in late flower.	Low basalt hill. Dry brown clayey sand.	Acacia incurvaneura, A. caesaneura, A. tetragonophylla, Eremophila forrestii, Ptilotus obovatus.	c. 30 plants.		Ca 27 km NE of Leonora	11/05/2017
Acacia sp. Marshall Pool (G. Cockerton 3024)	3	Large shrub to 3 m. Plants in late flower.	Low basalt hill. Dry brown clayey sand.	Acacia incurvaneura, A. caesaneura, A. tetragonophylla, Eremophila forrestii, Ptilotus obovatus.	c. 30 plants.		Ca 27 km NE of Leonora	11/05/2017
Acacia sp. Marshall Pool (G. Cockerton 3024)	3	Shrub to 2.5 m in height.	Rocky hill with brown clayey sand over basalt. Last fire 5-15 years ago.	Acacia ?resinimarginea, A. aneura and A. caesaneura tall open shrubland over Senna artemisioides subsp. filifolia, Scaevola spinescens and Acacia tetragonophylla mid isolated shrubs over Ptilotus obovatus, Maireana sedifolia and Solanum lasiophyllum low			Ca 28 km ENE of Leonora	1/12/2016
Acacia sp. Marshall Pool (G. Cockerton 3024)	3						Site 12, Marshall Pool, 70 km N of Leonora	20/07/1997
Acacia sp. Marshall Pool (G. Cockerton 3024)	3		On creek line.	Near Hemigenia exilis population.			Marshall Pool, 70 km N of Leonora	20/07/1997
Acacia sp. Marshall Pool (G. Cockerton 3024)	3	Tree up to 20 ft.	Grows on serpentinite ridges.	With (W) - Severne No. [?].			Leonora	/05/1970
Acacia sp. Marshall Pool (G. Cockerton 3024)	3	Erect compact shrub 1 m high.	Greenstone hill top. Brown clay.	High open shrubland.	frequent.		6.5 km SE of Tampa Mine, Kookynie Station	12/06/1988
Acacia websteri	1	Rounded tree-shrub 4 m high x 6 m wide.	Flat plain, drainage focil. Red clay, ironstone pebbles. Fire > 10 years.	Low mixed Acacia spp. woodland over low to mid Acacia spp. and Eremophila georgei shrubland over herbs. Acacia aneura, A. incurvaneura, A. burkittii, A. ayersiana, A. craspedocarpa, A. tetragonophylla, Eremophila georgii, Grevillea berryana, Eremophila s			Murrin Murrin, Leonora, Murchison Bioregion	29/08/2011
Anacampseros sp. Eremaean (F. Hort, J. Hort & J. Shanks 3248)	1	Tuberous, herbaceous perennial to 0.05 m high. Succulent green leaves.	Breakaway plateaux. In small pockets of sandy clay soil on the breakaway plateau adjacent to the dam.	Mulga Shrubland.	In small population of less than 500 plants.		Niagara Dam, 45 km NE of Menzies	11/04/2006
Angianthus prostratus	3						Glenorn Station	/08/1938
Angianthus prostratus	3	Prostrate annual herb 2 x 30 cm, floral tubes white.	Red clay.	Open scrub.		Abundance: abundant.	8 km S of Malcolm	6/07/1995
Angianthus prostratus	3						10 miles S of Leonora on road to Menzies	17/08/1963
Angianthus prostratus	3						Glenorn Station, Malcolm	/08/1938
Baeckea sp. Sandstone (C.A. Gardner s.n. 26 Oct. 1963)	3	Low shrub to 0.5 m tall.	Red sand.	Low Woodland A dominated by Eucalyptus kingsmillii and E. gongylocarpa, over mixed Low Scrub growing 1-2 m over Low Heath D and Mid Dense Hummock Grass.	locally common.	With ca 10% canopy cover.	Ca 6.5 km SW of White Well, which is 26 km SE of Leinster on Goldfields Highway, off track	24/06/2004
Calandrinia quartzitica	1	Erect scrambling perennial herb, 20-30 cm x 7-14 cm.	Depression on flats next to lake margins. Red brown clayey sand.	Samphire. With Tecticornia disarticulata, Maireana amoena, Cratystylis subspinescens, Atriplex sp., Frankenia sp., Eremophila sp.	scattered on both sides of the road.		31.7 km W along Mt Ida Road from Leonora on the edge of Lake Raeside	16/10/2015
Calandrinia quartzitica	1	Erect 7 perennial herb 35 cm high x 20 cm wide. Entangled in shrubs. Flowers pale pink.	Low dune in flood plain. Brown clayey sand.	Low scrub, Eremophila glabra subsp. verrucosa, Atriplex sp.	occasional.	Percentage of population flowering 80%.	31.7 km W along Leonora - Mount Ida from Leonora	28/09/2003
Calandrinia quartzitica	1	Scrambling erect perennial herb, height 12-25 cm, width 7-14 cm, very succulent basal leaves, petals 5, creamy white blushed with pink, stigmas 3 and numerous stamens.	Floodplain of nearby lake.	Samphire - Tecticornia ?halocnemoides, Disphyma crassifolium subsp. clavellatum, Frankenia setosa, Lawrencia squamata, Eragrostis dielsii, Maireana atkinsiana.	locally common.		16.5 km NE along the Yerilla - Mt Remarkable Road from junction with the Kookyine Yarra Road, ca 73 km directly SE of Leonora townsite	13/10/2016
Calandrinia quartzitica	1	Scrambling erect perennial herb, height 28-40 cm, width 8-15 cm, very succulent basal leaves, petals 5, light to mid pink, stigmas 3 and numerous stamens.	Flats adjacent to lake edge, soil red-brown silty loam with occasional quartz stones.	Samphire - Tecticornia ?halocnemoides, Disphyma crassifolium subsp. clavellatum, Atriplex nana, Maireana eurotioides, Goodenia sp.	localised patches.		11.3 km W along Menzies - Sandstone Road from Goldfields Highway at Menzies townsite. Lake is an offshoot of Lake Ballard	13/10/2016
Calandrinia sp. Menzies (F. Hort et al. FH 4100)	3	Prostrate herb. Flowers purple.	Flat. Few quartz and ironstone pebbles. Orange sand/loam/gravel. No sign of fire.	Open low shrubland of Acacia spp., and Eremophila spp. Associated species: Acacia aneura, A. tetragonophylla, Eremophila granitica, E. platycalyx, Acacia ayersiana, Aristida contorta.	6-10 plants.	Vegetation condition: very good.	Near Kookynie, NE of Menzies	29/08/2012
Calandrinia sp. Menzies (F. Hort et al. FH 4100)	3	Semi erect to erect annual herb, height 3-6.5 cm, width 2-10 cm, petals 5, bright pink, stigmas 3, stamens numerous.	Flat plains with very gentle slope. Plants in and around roadside table drain. Soil red-brown clayey sand with some gravels and quartz stones.	Open shrubland - Acacia tetragonophylla, A. quadrimarginea, Acacia aneura s.l., Ptilotus schwartzii, Eremophila forrestii, Calandrinia creethiae and some annual daisies.	a few patches locally.		Ca 2.9 km NE along the Yerilla - Mt Remarkable Road from junction with the Kookyine - Yarra Road, ca 82 km directly SSE of Leonora	13/10/2016
Calotis sp. Perrinvale Station (R.J. Cranfield 7096)	3	Herb, 5-10 cm high.	Plain. Red clay loam over laterite.	Low woodland of Acacia aneura spp. with an open mid shrubland of Eremophila forrestii subsp. forrestii and sparse low shrubland of Olearia humilis.	5 plants.		4.4 km W of Mount Ida Road, 16 km N of Menzies-Sandstone Road, Murchison	30/08/2011
Calytrix hislopii	3	Shrub 30 cm high.	Ridge. Red/brown loam/clay over laterite ridge.	With Acacia aneura, Dodonaea viscosa subsp. mucronata, Hakea recurva, Ptilotus helichrysoides, Acacia duriuscula, A. tetragonophylla, Philotheca brucei subsp. brucei.	2-5 plants.	Adjacent to mining pit.	Kookynie, ca 200 km N of Kalgoorlie and 50 km S of Leonora	31/08/2012
Calytrix hislopii	3	Erect shrub to 30 cm tall.	BIF scree. Red sandy loam clay with BIF rocks.	Open Scrub mulga with mixed low shrubs (Muir 1977).	5 plants in 100 m area inspected.		Adjacent to baseline, c. 7 km S of Perinvale Road, 6.3 km SE of Mt Bevan and 6.4 km NW of Mt Mason, 98 km W of Leonora	8/11/2010
Calytrix praecipua	3	Erect compact shrub 45 cm high. Flowers pink.	On degraded exposed breakaway platform. Brown sand over granite-laterite.			Abundance: occasional.	Wedya, Melita Station	13/06/1988
Calytrix praecipua	3	Erect open shrub 40 cm high, flowers pink, calyx edges dark brown.	Platform above granite breakaway with sand vennier.			Abundance: frequent.	Rock Hole paddock. Melita Station.	3/11/1988
Calytrix praecipua	3	Shrub 40 cm high, flowers amethyst.	Indurated granite duricrust.	Scrub.		Abundance: occasional	N of dam wall, Niagara Dam	6/09/1995
Calytrix praecipua	3	Erect open shrub 35 cm high. Flowers white, pale pink.	On breakaway plateaux. Silcrete on decaying granite, kaolinitic clay soil.			Abundance: frequent.	24 km E of Lehman Well, vacant Crown Land E of Erlistoun Station, 500 metres W of Yundugabbie Rock Hole.	24/10/1989
Calytrix praecipua	3	Erect open shrub 40 x 35 cm, flowers red.	Brown stoney sandy clay over laterite, exposed ridge.	Open scrub.		Abundance: frequent.	3 km SW of Niagara Dam	6/07/1995
Calytrix praecipua	3	Compact shrub 0.5 m high x 0.5 m wide. Pink dominant flowers.	Rocky outcrop on reserve. Brown rocky soil.	Open shrubland with associated vegetation: Eremophila forrestii, Acacia aneara, Acacia tetragonophylla, Micromyrtus sp.	number of plants: 6 - 20, percentage of population in bud 100%.		Main access track to Niagara Dam	15/02/2006
Calytrix praecipua	3	Shrub to 0.7 m. Pink flowers.					Niagra Dam	11/04/2006
Calytrix praecipua	3	Erect shrub 50 cm high, flowers pink.	Platform above breakaway.	In low open scrub.	abundant.		W of Kookaburra Well towards boundary of Melita Station	29/10/1988
Conospermum toddii	4	Erect shrub 20 cm high, flowers white.		With Triodia sp.			5.2 km E of Yundagabbi Rock Hole, Vacant Crown Land	24/10/1989

Cratystylis centralis	3	Low dome shaped shrub 0.3 to 1 m tall by 0.4 to 1 m in diameter. Plants in late bud.	Open low plain. Red sandy loam to clayey loam with ironstone gravel on surface.	Emergent (canopy cover <2%) Acacia papyrocarpa growing to 4 m tall over Dwarf Scrub D (canopy cover 10 to 30%) mixed species.	200 plants in a 400 m diameter area.		ca 320 m S of the Leonora Laverton Road, between cleared exploration gridlines for the proposed Hepi Mine. Mine access is via track ca 57 km E of Leonora	15/09/2007
Cratystylis centralis	3	Low shrub growing 0.5 to 0.8 m tall with a spread of 0.5 m diameter.	Flat plain. Red sandy loam with ironstone gravel.	Mulga Open Scrub 3-4 m tall over mixed Dwarf Scrub D (Muir 1977).			47.3 km by road E of Leonora by road to mine turn off, 730 m from Laverton Leonora Road, then 150 m E along gridline	20/04/2007
Cratystylis centralis	3	Low dome shaped shrub 0.3 to 1 m tall by 0.4 to 1 m in diameter.	Open low plain. Red sandy loam to clayey loam with ironstone gravel on surface.	Emergent (canopy cover <2%) Acacia papyrocarpa growing to 4 m tall over Dwarf Scrub D (canopy cover 10 to 30%) mixed species.	200 plants in a 400 m diameter area.		Located ca 320 m S of the Leonora Laverton Road, betwen cleared exploration gridlines for the proposed Hepi Mine. Mine acces is via track ca 57 km E of Leonora	18/08/2007
Cratystylis centralis	3	Low dome shaped shrub 0.3 to 1 m tall by 0.4 to 1 m in diameter. Plants in late bud.	Open low plain. Red sandy loam to clayey loam with ironstone gravel on surface.	Emergent (canopy cover <2%) Acacia papyrocarpa growing to 4 m tall over Dwarf Scrub D (canopy cover 10 to 30%) mixed species.	200 plants in a 400 m diam. area.		ca 350 m S of the Leonora Laverton Road, between cleared exploration gridlines for the porposed Hepi Mine. Mine access is via track ca 57 km E of Leonora	18/08/2007
Cratystylis centralis	3	Low dome shaped shrub 0.3 to 1 m tall by 0.4 to 1 m in diameter. Plants in late bud.	Open low plain. Red sandy loam to clayey loam with ironstone gravel on surface.	Emergent (canopy cover <2%) Acacia papyrocarpa growing to 4 m tall over Dwarf Scrub D (canopy cover 10 to 30%) mixed species.	200 plants in a 400 m diam. area.		ca 350 m S of the Leonora Laverton Road, between cleared exploration gridlines for the porposed Hepi Mine. Mine access is via track ca 57 km E of Leonora	18/08/2007
Cratystylis centralis	3	Shrub to 1.2 m tall with a spread 1 to 2 m.	Low plain with low hills adjacent. Red clayey loam with ironstone pebbles.	Mulga Scrub with Acacia papyrocarpa over Dwarf Scrub (Muir 1977).	1000 plants scattered over 500 by 400 m area.		Adjacent to gridline, 700 m S of Laverton Leonora Road, 1.1 km E of Pearl Shell Well, 45 km E of Leonora	17/10/2007
Cratystylis centralis	3	Compact shrub to 80 cm tall x 80 cm in diameter.	Low plain. Brown-red sandy loam.	Dwarf Scrub.	200 plants in 200 m area inspected - restricted habitat.	In full flower to fruit.	1.3 km E of Peral Shell Well: 28.3 km E of Malcolm rail head; 45.3 km E of Leonora	10/10/2008
Drosera eremaea	1				ca 10 in 10 m diameter inspected.	Same locations as previously recorded Drosera macrantha subsp. eremea (P1).	Within 5 m cleared gridline 250 m N of Mt Mason, 9.96 km W of Copperfield, 9.3 km S of Mt Bevan, 97.8 km W of Leonora	14/08/2013
Eremophila annosicaulis	3						2 km S side of Laverton - Leonora road, c. 2.1 km SW of Mount Morgans Mine turnoff	28/09/1990
Eremophila annosicaulis	3		On stony loams (ironstone laterite).	In low mulga shrubland (3-4 m tall) with Ptilotus obovatus.	common, ca 500 plants.		Small hill, ca 2 km S of the Laverton - Leonora road, 2.1 km SW of Mount Morgan's Mine turnoff, Austin Botanical District,	29/10/1993
Eremophila eversa	1						Yerilla Station	/09/1986
Eremophila mirabilis	2	Small rounded shrub 0.75 m x 1 m, calyx carmine outside, inside carmine, but base yellow. Corolla pale yellow prominently purple spotted outside, inside of lobes and tube unspotted.	On stony brown clay loam.	In open mixed Acacia shrubland over Eremophila / Myrtaceae low shrubland.	occasional.		Niagara Dam, 1.3 km from boundary fence entry	29/09/1990
Eremophila mirabilis	2	Shrub to 1.5 m high, most ca 0.5 m.	On clayey sand in granite country.				Niagara Dam Nature Reserve	5/09/1990
Eremophila mirabilis	2	Erect compact shrub 2 m x 75 cm. Flowers cream, calyx pink.	Brown sandy clay over granite.	Open scrub.		Abundance: occasional.	1.5 km W of Niagara Dam	6/07/1995
Eremophila mirabilis	2	Spreading dwarf shrub to 80 cm. Leaves green/grey; flowers yellow with purple spots.	Stripped granite surface, red brown loamy sand over granite.	Woodland, Acacia aneura, A. quadrimarginea.		Abundance: occasional	Morapoi Station	//
Eremophila mirabilis	2	Rounded shrub to 1.5 x 2 m, but most ca 0.8 m high.			common.		43 km S of Leonora, Austin Botanical District,	30/10/1993
Eremophila mirabilis	2	2 foot high.	Rocky soil.				Niagara Dam	13/09/1966
Eremophila mirabilis	2		Nature Reserve. Drainage line. Laterite. Brown dry gravelly loam.	Acacia aneura, A. tetraonophylla, Micromyrtus sp., Eremophila forrestii, Calytrix sp., Sarcostemma viminale subsp. australe.	40 plants.	Healthy population. Area unlikely to ever burn due to rocky soil. Some plants extend outside reserve which is fenced.	Niagara Dam Nature Reserve, Leonora Shire	15/02/2006
Eremophila mirabilis	2	Shrub to 1.5 m high, most to 0.5 m.	Clayey sand on granite country.				Niagara Dam Nature Reserve	5/09/1990
Eremophila mirabilis	2	Low shrubs 0.3-1 m x 0.4 - 1.6 m. Calyx dull carmine more rarely yellowish outside, inside carmine, pale yellow in the lower part or yellowish corolla pale yellow, prominently purple spotted outside on the tube and lobes, unspotted inside.	On stony brown clay loams.	In open mixed Acacia shrubland over Eremophila / Myrtaceae low shrubland.		Abundance: occasional. Population sample: 1 branch per individual.	Niagara Dam, 1.3 km from boundary fence entry, Austin Botanical District	29/09/1990
Eremophila mirabilis	2	60 cm high.	In rocky soil.				Niagara Dam	13/09/1966
Eremophila mirabilis	2						Near Lake Raeside, 30 miles S of Leonora	/08/1974
Eremophila shonae subsp. diffusa	3	Erect open straggly shrub. Flowers purple. Leaves linear, resinous.	Stony yellow sand associated with granite.				4 km NW of Helens Well, Nambi Station	16/10/1989
Eremophila simulans subsp. megacalyx	3	Shrub 3-4 ft. Flowers pale to dark violet.					Ca 20 miles N of Leonora	5/09/1961
Eremophila veronica	3				repperi haud rarum [not at all rare].		Gibraltar [Rock], Western Australian Goldfields	//1895
Eucalyptus jutsonii subsp. jutsonii	4	Erect mallee 4 m high. Stems orange.	Red sand.	Closed scrub.		Abundance: occasional.	600 metres ESE of Alexander Bore, Jeedamya Station	16/06/1988
Frankenia georgei	1	Shrub 40 cm high.	Flat. Red-orange clay-loam.	Low open woodland, Acacia aneura var. aneura, Hakea preissii, Solanum lasiophyllum, Marieana villosa, Atriplex nummularia.			Site T59, Tarmoola, 40 km N of Leonora	9/04/2006
Frankenia georgei	1	Shrub 30 cm high.	Flow line. Moist loam - clay.	Acacia ayersiana, Dactyctenium radulans, Maireana villosa, Atriplex sp., Ptilotus obovatus.			Site T8, Tarmoola, 30 km N of Leonora	7/04/2007
Goodenia lyrata	3	Prostrate; flowers yellow.	In red sandy loam, near claypan.				20 miles W of Laverton	22/08/1961
Grevillea erectiloba	4						1.6 miles S of Menzies Road	28/10/1980
Grevillea erectiloba	4						1.6 miles S of Menzies Road	28/10/1980
Grevillea inconspicua	4			With mulga (Acacia aneura) and Eucalyptus camaldulensis.		Abundance: occurring in drainage line, ca 1000 plants.	Weebo Station, Leinster	23/08/1997
Grevillea inconspicua	4		Greenstone outcrop.	In open Acacia shrubland.			Mount Roberts, 400 m W of track running N-S along range	19/12/1990

Grevillea inconspicua	4	Bush 1 m.	Along small creek.	In Acacia scrub.		Abundance: common.	2 km W of Mount Clifford, S of Teutonic	16/08/1981
Grevillea subterlineata	3		Island in salt lake. White sand over limestone.				Lake Ballard, 20 km NNW of Menzies	18/09/1986
Grevillea subterlineata	3	Erect compact shrub 3 m high. Pollen presenter oblique.	White-grey clay. Kopi dune.	In low open woodland. Assoc. with Eucalyptus striaticalyx.		Abundance: Frequent.	S side of Lake Ballard, boundary of Riverina Station and Adelong Station	14/06/1988
Hemigenia exilis	4		Slope. Well drained red clay loam over ironstone, 50-100%loose rock. Collection site: Pastoral lease/mine lease.	Isolated Acacia quadrimarginea, A. aneura tall shrubs. Mid to tall Hemigenia exilis isolated shrubs. Isolated low Solanum lasiophyllum and Ptilotus obovatus shrubs. Isolated Aristida contorta and Eriachne sp. bunch grasses.	50+ plants.	Population structure: mature. 2% flowering. Condition of plants: healthy. Exploration disturbance.	Murrin Murrin ca 60 km Leonora	9/03/2012
Hemigenia exilis	4	Erect multistemmed shrub 0.75 m high. Fruiting.	Hill slope, red laterite over ultramatic.	Shrubland, Acacia, Ptilotus schwartzii, Scaevola spinescens.	abundant.	Population HE 4.	Glenorn/Minara Station, E of Leonora	14/11/1995
Hemigenia exilis	4	Erect, multistemmed shrub 2 m high. Flowers mauve, fruit developing.	Edge of breakaway, red laterite, ultramatics.	Shrubland, Acacia subtessarogona, Acacia aneura, Dodonaea rigida, Olearia muelleri, Ptilotus obovatus, Eremophila sp.	occasional.	Less than 50 plants. Population H 9.	Copperfield Base Station, (Newcrest) Mount Ida, S ca. 109 km SW of Leonora	15/11/1995
Hemigenia exilis	4	Erect, multistemmed shrub 0.75 m high. Flowers mauve, young fruits maroon.	Above creek on raised bank. Felspar-quartz conglomerate over gneiss. Red sandy clay.	Shrubland, Eucalyptus lucasii, Acacia acuminata ssp. burkittii, Ptilotus obovatus, Acacia craspedocarpa.	dominant/abundant.	Growing in the shade of trees. Some plants still flowering, others not protected by trees fruiting. Population HE 8.	Poison Creek on Leonora - Agnew road	13/11/1995
Hemigenia exilis	4	Erect, multistemmed shrub 0.5-0.75 m high. Young fruits maroon, mature fruits brown.	Flat ground above creek. Quartz-felspar gravel conglomerate 2-3 m thick over- lying a weathered granite/felsic gneiss. Red loam, laterite.	Shrubland, Acacia aneura var. latifolia, var. aneura, Eremophila platycalyx, Eremophila youngii.	dominant/abundant.	Population HE 8. Often in small monocultures through the population.	Poison Creek on Leonora - Agnew Road	13/11/1995
Hemigenia exilis	4	Compact shrub 1.2 x 1.5 m. Corolla very pale whitish-blue, base of medial lobe of lower lip whitish-yellow spotted brownish lilac.	Red brown clay flats. Brown clay loam.	Mulga woodland. Growing with Eremophila margarethae, E. latrobei and small Acacia sp.	common.		Road to Melrose Station, 8.4 km from the Leonora - Leinster Road	28/10/1993
Hemigenia exilis	4	Woody shrub 1.25 m high, flowers pale cream, many stamens.	Uneven, lateritic chert.	Shrubland, Acacia aneura, Ptilotus schwartzii.	17 plants on 22/9/1995, resurvey more than 200 plants in population.		Minara Station	20/09/1995
Hemigenia exilis	4	Erect, multistemmed shrub 1.25 m high.	Red sandy clay over laterite, young ultramatic soil.	Shrubland, Dodonaea, lobulata, Scaevola spinescens.	occasional.	Most of the plants were sterile, few with immature fruits. Population HE 7	Rio Tinto mine on Minara Station, E of Leonora	14/11/1995
Hemigenia exilis	4	Shrub 1-1.5 m.	Low plain gently sloping into drainage gullies and creeks. Residual laterite formation. Ferruginous lateritic colluvium.	Acacia aneura, A. quadrimarginea, Scaevola spinescens.			Wilson Creek, W of Teutonic Bore Mining Centre, Leonora, Goldfields	28/05/1996
Hemigenia exilis	4	Shrub 1-1.5 m.	Low plains gently sloping into drainage gullies and creeks.	Acacia shrubland.			Wilson Creek, N of Minniritchie Well, Leonora	/06/1996
Hemigenia exilis	4		Ridge, greenstone belt, saline.	Acacia shrubland over low mixed shrubs. Acacia stowardii, Acacia acuminata subsp. burkittii, Ptilotus obovatus, Acacia aneura, Senna glutinosa subsp. filifolia, Alyxia buxifolia.	20 plants.	Edge of population has track through it.	Mining and Pastoral Lease, Minara Station, Murrin Murrin, c. 40 km E of Leonora	19/08/1995
Hemigenia exilis	4	Erect shrub 1-1.5 m high. Flowers mauve, occasionally white. Multistemmed shrub brown base.	Uneven, lateritic, greenstone and chert.	Shrubland, Acacia aneura, A. quadrimarginea, Hybathus floribunda, Eremophila latrobei.	c. 16 seedlings and 25 along track margin or in centre.		Minara Station, between Leonora and Laverton	20/09/1995
Hemigenia exilis	4	Erect compact shrub.	Plain.	Shrubland, associated with Mulga's.			1 km W of Bullock Hole Creek, Glenorn Station near Yerilla Station boundary	21/07/1989
Hemigenia exilis	4	Erect, multistemmed shrub 75 cm high. Fruits immature and mature.	Slope, red laterite, ultramatic.	Shrubland, Acacia aneura, Hybanthus floribundus, Scaevola spinescens.	abundant.	Population HE 1.	Minara Station, E of Leonora	14/11/1995
Hemigenia exilis	4	Shrub 1-1.5 m.	Low plain adjacent to creek, sloping into drainage gullies and creeks. Ferruginous lateritic colluvium.	Acacia shrubland with Acacia aneura, A. quadrimarginea, Scaevola spinescens, Hybanthus floribundus subsp. curvifolius, Grevillea extorris.			Wilson Creek, W of Teutonic Bore Mining Centre, Leonora, Goldfields	28/05/1996
Hemigenia exilis	4	Erect multistemmed shrub 1 m high, fruiting.	Hill slope, red laterite over ultramatic.	Shrubland, Acacia aneura var. aneura, Scaevola spinescens, Ptilotus obovatus, Hybanthus floribundus.	abundant.	Population HE 6.	Glenorn Station	14/11/1995
Hemigenia exilis	4	Spreading shrub with pink to white flowers growing up to 1.5 m tall.	Low hard pan residual with thin gravelly soil.	Very sparse vegetation.	locally common.		"Keep it dark" gold prospect, ca 10 km E of Minara Station Homestead,	22/09/1998
Hemigenia exilis	4	Erect, multistemmed shrub 0.75 m high. Few plants with mauve flowers mostly fruiting.	Hilly, red laterite, ultramatic.	Shrubland, Acacia aneura, Ptilotus schwartzii, Scaevola spinescens, Eremophila latrobei.	occasional.	Population HE 3.	Glenorn/Minara Station, E of Leonora	14/11/1995
Hemigenia exilis	4	Shrub 1-1.5 m.	Low plains gently sloping into drainage gullies and creeks.	Acacia shrubland.			Wilson Creek, N of Minniritchie Well, Leonora	/06/1996
Hemigenia exilis	4	Shrub 1-1.5 m.	Low plains gently sloping into drainage gullies and creeks.	Acacia shrubland.			Marshall Creek, E of Heather Well, Leonora, Goldfields	/06/1996
Hemigenia exilis	4	Erect, multistemmed shrub 1.25 m high, fruiting.	Hill slope, red laterite, ultramatic.	Shrubland, Acacia aneura var. aneura, Hybanthus floribundus, Ptilotus swartzii.	frequent.	Population HE 5	Glenorn Station, E of Leonora	14/11/1995
Hemigenia exilis	4	Multi stemmed shrub 1.2 m tall.		Eriostemon brucei, Hybanthus floribundus subsp. chloroxanthus, Eremophila oppositifolia. Acacia aneura woodland.			ca 5 km E of Lake Carey on Glenorn Station	29/10/1997
Hemigenia exilis	4	Multi stemmed shrub 1.2 m tall.	Outcropping laterite.	Very open Acacia aneura woodland. Ptilotus helipteroides, P. obovatus.			Low rise above Lake Carey	29/10/1997
Hemigenia exilis	4	Multi stemmed shrub, 1.2 m tall.	Crest of slope with massive laterite outcropping.	Acacia ramulosa, A. aneura, Hemigenia exilis.			Murrin Murrin lease, Glenorn Station	30/10/1997
Hemigenia exilis	4	Multi stemmed shrub regrowth, 30 cm tall.	Crest of slope with massive laterite outcropping.	Acacia ramulosa, A. aneura, Hemigenia exilis.			Murrin Murrin lease. Glenorn Station	30/10/1997
Hemigenia exilis	4	Multi stemmed shrub 1 m tall. Flowers purple.		Hakea preissii, Acacia ramulosa, Ptilotus obovatus. Very open shrubland.			Eucalyptus lease ca 2 km E of Lake Carey	29/12/1997
Hemigenia exilis	4	Shrub with pale blue flowers.	Creek bed with ironstone boulders.	Eucalyptus sp., Acacia grasbyi and Eremophila spp.	20 to 25 plants.		Sturt Meadows Station, Codys Creek	/10/2004
Hemigenia exilis	4	Low shrub growing 0.6 to 1.2 m tall with a spread of 1 m diameter.	Rocky pavement adjacent to mid slopes of low hills. Shallow red sandy loam on pavements.	Scattered mulga to 3 m tall over mixed Open Dwarf Scrub (Muir 1977).	20 plants in 50m diameter area of pavement.		47.3 km by road E of Leonora by road to mine turn off, 920 m from Laverton Leonora road, then 280 m E along gridline 6,806600mN, then 40 m S on edge of pavement	19/04/2007
Hemigenia exilis	4	Shrub to 2 m tall with a spread to 1.2 m.	Rocky lower slopes of hill side. Red sandy loam.	Mulga Scrub over Dwarf Scrub (Muir 1977).	10 scattered over 50 m area.		Adjacent to gridline, 1.3 km S of Laverton Leonora Road, 1.3 km E of Pearl Shell Well, 45 km E of Leonora	19/10/2007
Hemigenia exilis	4	Erect shrub 0.75 m high. Flowers mauve or white. Few bushes only in flower.	Slope, weathered laterite with chalcedony.	Mixed Acacia woodland, Acacia linophylla, Ptilotus schwartzii, Hybanthus floribundus, Scaevola spinescens, Ptilotus obovatus, Acacia tetanophylla.	lot of regrowth along side and down centre of track, more than 50 plants.	Lots more dead wood than in previous population.	Minara Station	21/09/1995
Hybanthus floribundus subsp. chloroxanthus	3	Compact rounded shrub 60 cm high x 80 cm wide. White flowers.	Slope of a low hill. Red clay loam. Ironstone rocks. Burnt > 10 years.	A low open Acacia incurvaneura woodland over a low open Hybanthus floribundus subsp. chloroxanthus and Scaevola spinescens shrubland. Acacia incurvaneura, A. ramulosa, A. tetragonophylla, Dodonaea rigida, Eremophila georgei, E. oldfieldii, Maireana georg			Murrin Murrin, Leonora, Murchison Bioregion	29/08/2011
Hybanthus floribundus subsp. chloroxanthus	3	Multistemmed shrub 70 cm tall.	Lateritic caprock underlying ultramatic bedrock.	Very Open Low Woodland of Acacia spp. Associated species: Acacia aneura, Acacia ramulosa, Eremophila oppositifolia, Ptilotus obovatus.			2 km E of Hage Bone, Yundamindra Station, E of Leonora	1/08/1997

Hybanthus floribundus subsp. chloroxanthus	3	Multistemmed shrub 70 cm tall.	Lateritic caprock underlying ultramatic bedrock.	Very Open Low Woodland of Acacia spp. Associated species: Acacia aneura, Acacia ramulosa, Eremophila oppositifolia, Ptilotus obovatus.			2 km E of Hage Bone, Yundamindra Station, E of Leonora,	1/08/1997
Hybanthus floribundus subsp. chloroxanthus	3	Multi stemmed shrub, 40 cm tall.	Outcropping laterite.	Eremophila oppositifolia, Acacia aneura woodland. Associated species: Eristemon baucii, Hemigenia exilis, Eremophila oppositifolia			Eucalyptus lease Glenorn Station. E of Laverton	29/10/1997
Hybanthus floribundus subsp. chloroxanthus	3	Multi stemmed shrub 60 cm tall. Flowers white.		Acacia aneura woodland. Solanum lasiophyllum, Ptilotus obovatus, P. helipteroides.			Murrin Murrin, E of Leonora	30/10/1997
Hybanthus floribundus subsp. chloroxanthus	3	Multi stemmed shrub 40 cm tall.		Hakea preissii, Acacia ramulosa. Very open shrubland.			Eucalyptus lease, Glenorn Station	29/10/1997
Hybanthus floribundus subsp. chloroxanthus	3	Multi stemmed shrub 1.2 m tall.	On crest with massive laterite outcropping.	Very open Acacia aneura woodland. A. ramulosa, Hemigenia exilis, Ptilotus obovatus.			Murrin Murrin lease, Glenorn Station	30/10/1997
Hybanthus floribundus subsp. chloroxanthus	3	Multi stemmed shrub 70 cm tall.	In creek bed.	Casuarina pauper, Canthium latifolium.			Murrin Murrin lease, Glenorn Station	30/10/1997
Hybanthus floribundus subsp. chloroxanthus	3	Multi stemmed shrub 1 m tall.	On a S facing upper slope with outcropping laterite.	Very open Acacia aneura woodland. Scaevola spinescens, Acacia aneura, Ptilotus obovatus.			Glenorn Station	30/10/1997
Hybanthus floribundus subsp. chloroxanthus	3	Multi stemmed shrub 70 cm tall with white flowers.		Ptilotus obovatus, Aristida contorta, Acacia aneura, A. acuminata. Woodland of Acacia acuminata and A. aneura.			Crest slope with quartzite pebbles	30/10/1997
Hybanthus floribundus subsp. chloroxanthus	3	Multi stemmed shrub 40 cm tall. Flowers white.		Ptilotus schwartzii, Hemigenia exilis, Acacia tetragonophylla, A. aneura, A. ramulosa. Very open woodland of Acacia ramulosa and A. tetragonophylla.			Murrin Murrin lease Glenorn Station	30/10/1997
Hybanthus floribundus subsp. chloroxanthus	3	Multi stemmed shrub 60 cm tall. Flowers white, capsule green.	Many pebbles on surface.	Solanum lasiophyllum, Ptilotus obovatus, P. helipteroides. Acacia aneura woodland.			Murrin Murrin lease, Glenorn Station	30/10/1997
Hybanthus floribundus subsp. chloroxanthus	3	Multi stemmed shrub 40 cm tall.	Outcropping laterite, quartz and dolerite.	Eucalyptus clelandii, Acacia aneura, Eremophila oppositifolia woodland. Ptilotus obovatus.			Eucalyptus lease ca 5 km E of Lake Carey, Glenorn Station	29/10/1997
Hybanthus floribundus subsp. chloroxanthus	3	Multi stemmed shrub 40 cm tall.	Outcropping laterite.	Dodonaea rigida, Ptilotus helichrysoides, Acacia aneura, A. tetragonophylla very open shrubland.			Eucalyptus lease Glenorn Station. E of Laverton	29/10/1997
Hybanthus floribundus subsp. chloroxanthus	3	Low shrub to 30 cm tall x 20 cm in diameter.	Low slopes of hills. Orange sandy loamy with rocky laterite.	Scrub mulga 3 - 5 m tall.	20 plants in 20 m area inspected.		50 N of main track; 2.2 km E of Eucalyptus Bore; 3.5 km SE of Eucalyptus Dam; 19.6 km SE of Yudaminderan airstrip. 67.9 km SW of Laverton	10/09/2008
Hybanthus floribundus subsp. chloroxanthus	3	Low shrub to 30 cm tall x 20 cm in diameter.	Low hills. Brown - red sandy loamy.	Open Scrub Mulga (Muir 1977).	10 plants in 50 m area inspected.		1.4 km E of Pearl Shell Well, 28.3 km E of Malcolm rail head, 45.3 km E of Leonora	20/02/2008
Hybanthus floribundus subsp. chloroxanthus	3	Low shrub to 30 cm tall x 20 cm in diameter.	Mid slopes of hills. Orange sandy clay loamy.	Scrub Mulga 3 - 5 m tall (Muir 1977).	50 plants in 20 m area inspected.		Adjacent to mine exploration gridline, 1.8 km SE of Eucalyptus Dam, 3.1 km E of Eucalyptus Bore, 18.2 km SE of Yundamindera airstrip, 66.2 km SW of Laverton	9/09/2008
Hybanthus floribundus subsp. chloroxanthus	3	Shrub, multi-stemmed 60 cm. Flowers white. Capsule immature greenish-blue colour.	Pinkish-red clayey loam along creek.	Acacia aneura, A. burkittii woodland. Ptilotus obovatus, Acacia ramulosa, Ptilotus exaltatus, Hemigenia exilis, Dodonaea rigida.			Murrin Murrin lease on Glenorn Station	29/10/1997
Hybanthus floribundus subsp. chloroxanthus	3	Low shrub growing up to 0.6 m tall with a spread of 0.4 m diam.	Upper slopes of low hills. Red sandy loam with some rocky outcropping.	Mulga Scrub 3-4 m tall over mixed Dwarf Scrub (Muir 1977).	ca 100 plants in 50 m diam. area.		47.3 km by road E of Leonora by road to mine turn off, 920 m from Laverton Leonora Road, then 120 m E along gridline	19/04/2007
Hybanthus floribundus subsp. chloroxanthus	3		Drainage line. Well drained dry red clay loam over ironstone/quartz, 0-10%loose rock. site: Pastoral lease/mine lease.	Acacia aneura and A. incurvaneura low woodland. Isolated low to mid mixed shrubs. Isolated low Enneapogon caerulescens and Aristida contorta bunch grasses. With Ptilotus obovatus, Eremophila platycalyx, Sida calyxhymenia, Acacia tetragonophylla, Senna ar	100'2 - 1000's.	Population structure: mature. 100% flowering. Condition of plants; healthy. Threats: mining.	Murchison Bioregion, ca 60 km N of Leonora	7/03/2012
Hysterobaeckea ochropetala subsp. cometes	3	S[hrub] 2-3.5 ft.					Menzies, between Kalgoorlie and Leonora	/09/1927
Micromyrtus chrysoderma	1		Flat plain. Red loamy sand to red sand.	Emergent Eucalyptus gongylocarpa growing to 6 m tall over Scrub dominated by Acacia aneura 3-4 m tall over Low Scrub of mixed Acacia and Eremophila species 1-2 m tall over Hummock Grass of Triodia basedowii.			Ca 40 km SE of Leinster on Leinster to Leonora Road and 1 km E of road along the Waterloo Mine water pipeline	11/03/2004
Micromyrtus serrulata	3	Erect, open shrub 40 cm high with white flowers.	In brown sandy clay on exposed breakaway platform (degraded). Granite-laterite.		frequent.		Wedge, Melita Station	13/06/1988
Micromyrtus serrulata	3	Low shrub to 0.5 m high.	Clayey soil in granite.	With Eremophila sp.			Niagara Dam Nature Reserve	5/09/1990
Micromyrtus serrulata	3	Erect compact shrub 50 x 40 cm, flowers white.	Brown sandy clay over granite.	Open scrub.	abundant.		15 km W of Niagara Dam	6/07/1995
Micromyrtus serrulata	3	Erect, compact shrub 37 cm high with white flowers.	In red sand.	In open scrub.		Abundance: frequent.	1.6 km SE of Alexandra Bore, Jeedamya Station	16/06/1988
Newcastelia insignis	2						Goldfields, S of Menzies	/10/1901
Newcastelia insignis	2	Flowers villous-yellow.	In arenosis.				Near Menzies	/10/1901
Olearia mucronata	3	shrub 2-3 ft apparently yellow				Checked in W.E. Blackall's collecting book. - M.A. Lewington 31.03.2015.	Mount Margaret	12/08/1931
Olearia mucronata	3	Shrub 2-3 feet tall, erectly and densely branched.	On schistose hills.				Mount Margaret	12/08/1931
Philotheca coateana	3						near Menzies, 55 m N of Kalgoorlie	/09/1927
Philotheca tubiflora	1	Low shrub. Flowers white, anthers exserted. Leaves globular, glandular.	On breakaway plateaux silcrete on kaolinitic decaying granite.			Abundance: occasional.	24 km E of Lichman Well, Vacant Crown Land E of Eristoun Station, 500 metres W of Yundugabbie Rock Hole	24/10/1989
Pterostylis virens	3		Low granite sheet complex, red sandy loam margins.	Scattered low shrubs.	scattered.		300 m NW of the Menzies - Sandstone Road, 3.8 km N of the road to Mt Ida	30/09/1997
Ptilotus sp. Kookynie (J. Jackson & B. Moyle 261)	1	Small perennial herb to 12 cm high, 12 cm wide, green flowers, small succulent basal leaves.	Area of dense quartz.	Eucalyptus salubris, Eremophila scoparia, Frankenia sp.	thousands of plants over and about 5 hectares.	This is the population Weber collected from in 1975. Growing on and around an old area of mining/prospecting.	Niagara Dam area, NE of Menzies. About 600 m by track SW of the Dam lower camping area	27/09/2013
Ptilotus sp. Kookynie (J. Jackson & B. Moyle 261)	1		On rock on rocky hill.				1 km SW of Niagara Dam (ca 50 km NE of Menzies)	20/09/1975
Ptilotus tetrandrus	1	Flowers hermaphrodite, 4 stamens, shortly united, 2 locular.					Near Carslakes Well, Glenorn Station	2/10/1974
Seringia exastia	T	More or less compact shrub ca 45 cm tall. Flowers - Calyx segments blue-purple when young, pinkish-purple when mature.	Loam.	Eucalyptus - Triodia association.			At junction of Windarra - Leonora road with Laverton road, ca 19 km from Laverton	9/10/1983

Seringia exastia	T	Dwarf shrub to 30 cm.	Flat sandplain of deep red brown sandy soil.	Open tall shrubland and woodland of Acacia effusifolia and Eucalyptus youngiana over hummock grassland of Triodia basedowii.	isolated plants (<1%).		SWATT Sandplain Survey, Weebo Pastoral Lease, survey site SWA0902C, ca. 35.62 km ESE (132.93 degrees) of Leinster and ca. 17.74 km SSW (219.32 degrees) of Weebo Homestead	30/08/2013
Stenanthemum patens	1	Erect shrub 100 cm high.	Slope. Dry red sand/loam. Fire: 10+ years. Collection site: mining lease.	Shrubland. With Acacia rhodophloia, Calytrix desolata, Grevillea inconspicua (P4), Acacia xanthocarpa, Senna manicula, Ptilotus obovatus.	6-20 plants.		Ca 40 km NW Leonora. Ca 8 km NW Tarmoola Minesite	3/05/2007
Stenanthemum patens	1						Site 18, Marshall Pool, 70 km N of Leonora	20/07/1997
Stenanthemum patens	1	Tangled shrub, very round shape 0.8 m x 0.7 m.	Low basalt hills.	Open shrubland with Hemigenia exilis, Grevillea inconspicua, very little understorey.	infrequent, 50-100 plants noted.	Also found in drainage line adjacent to this site.	Site 49, Marshall Pool, 70 km N of Leonora	18/06/1997
Stenanthemum patens	1	100 cm high. Flowers white.	Slope. Loam, clay.	Ptilotus obovatus, Enneapogon caerulescens, Prostanthera albiflora, Eremophila caerula, Eriachne pulchella subsp. dominii, Acacia nigripilosa subsp. nigripilosa, Acacia aneura var. fuliginea.			Tarmoola	7/04/2006
Stenanthemum patens	1	Bush 0.5 m high.	On rocky hillside.	Low Acacia scrub.	common.		2 km N of Mount Clifford, S of Teutonic,	16/08/1981
Tecticornia cymbiformis	3		Calcrete area.	Between stands of spinifex and mulga.			To N of Mount Margaret, near Lake Carey Map Ref. 428589 KJ 6813199	26/05/1996
Tecticornia mellarium	1	Rounded 30 cm high shrub. Fleshy, pea-shaped segments.	Gypsiferous dunes. Growing close to salt lake.				Cleo area, Lake Carey,	23/01/1996
Tecticornia sp. Lake Way (P. Armstrong 05/961)	1	Shrub to 50 cm, dense succulent, foliage yellow and green.	Flat, clay, salt lake on playa surface at edge of lake.	Samphires.			c. 2 km SE from Mount Margaret trig on the edge of Lake Carey	15/03/2004
Thryptomene eremaea	2						Near Menzies, between Kalgoorlie and Leonora	/09/1927
Thryptomene eremaea	2	Shrub 4-5 ft, flowers pale pink.	Red sand.				6 miles N of Menzies	16/09/1927
Thryptomene eremaea	2	Shrub 1-2 m tall.					Niagara Dam, 45 km NE of Menzies	11/04/2006
Thryptomene eremaea	2	Erect, compact, perennial shrub 45 cm high x 35 cm wide. Flowers pale pink.	Plain. Brown sand, stony.		occasional.	Percentage of population flowering 80%.	Niagara Dam	28/09/2003
Thryptomene sp. Leinster (B.J. Lepschi & L.A. Craven 4362)	3	Shrub 1 to 2 m tall.	Flat top of breakaway.	Open mulga with scattered tall shrubs to 2 m tall over open herbs.	uncommon - 10 plants in suitable habitats.	Same population as PA 03.	Adjacent to proposed Rainbow Mine site, 3.7 km NNE of Goldfields Highway; 39 km SE of Leinster	13/10/2004
Thryptomene sp. Leinster (B.J. Lepschi & L.A. Craven 4362)	3	Shrub 1.8 m tall.	Plateau amongst steep rocky outcrops.	Scattered tall shrubs in deeper soil pockets, with small shrubs in other areas.	uncommon - 20 plants in suitable habitats.		Adjacent to proposed Rainbow Mine site, 2.4 km NNE of Goldfields Highway, 37 km SE of Leinster	13/10/2004
Thryptomene sp. Leinster (B.J. Lepschi & L.A. Craven 4362)	3	Shrub 1-2 m tall.	Flat top of breakaway.	Open mulga with scattered tall shrubs to 2 m tall over open herbs.	uncommon - 10 plants in suitable habitats.	Same population as PA 1.	Adjacent to proposed Rainbow Mine site, 3.7 km NNE of Goldfields Highway, 39 km SE of Leinster	13/10/2004
Thryptomene sp. Leinster (B.J. Lepschi & L.A. Craven 4362)	3	Small shrub to 0.3 m tall.	On top and adjacent to breakway. Shallow red sandy loam.	Open scrub dominated by Acacia aneura growing to 2 m tall; over Open Low Scrub and Open Dwarf Scrub (Muir). Acacia quadrimarginea and Baeckea sp. Melita Station.	20 in the immediate area - 200 m diameter.		Approximately 36.8 km W to Leinster town, 6.1 km W (270deg) to Goldfields Highway and Darlott Weebo Road turnoff and 3.4 km NE (27deg) to Otto Well	17/03/2006
Thryptomene sp. Leinster (B.J. Lepschi & L.A. Craven 4362)	3	Low compact shrub to 1.0 m tall.	Edge of low breakaway. Rocky brown sandy clay loam.	Dwarf Scrub (Muir 1977) - long unburnt.			2.87 km W of Goldfields Highway and Weebo-Wildara Road intersection. 4.5 km S of White Well, 30.7 km SW of Leinster	16/02/2005
Triglochin protuberans	3	Fruit green.	In red loam along creek.				8 miles E of Malcolm	22/08/1961

DBCA Threatened and Priority Ecological Communities Database Search Results

COM_ID	COM_NAME	STATE_CATG	COMM_CATG	BUFFER
Sturt Meadows Calcrete	Sturt Meadows calcrete groundwater assemblage type on Raeside palaeodrainage on Sturt Meadows Station	Priority 1		2000
Melita Calcrete	Melita calcrete groundwater assemblage type on Raeside palaeodrainage on Melita (Sons of Gwalia) Station	Priority 1		2000

NatureMap
Mapping Western Australia's biodiversity

NatureMap Species Report

Created By Guest user on 25/05/2021

Current Names Only Yes
Core Datasets Only Yes
Species Group All Plants
Method 'By Circle'
Centre 121° 19' 14" E,28° 52' 49" S
Buffer 40km

	Name ID	Species Name	Naturalised	Conservation Code	[1]Endemic To Query Area
1.	3217	*Acacia aneura (Mulga, Wanari)*			
2.	37260	*Acacia aptaneura*			
3.	3248	*Acacia burkittii (Sandhill Wattle)*			
4.	36417	*Acacia caesaneura*			
5.	3273	*Acacia craspedocarpa (Hop Mulga)*			
6.	32118	*Acacia effusifolia*			
7.	36781	*Acacia fuscaneura*			
8.	36418	*Acacia incurvaneura*			
9.	3419	*Acacia ligulata (Umbrella Bush, Watarka)*			
10.	37240	*Acacia macraneura*			
11.	36416	*Acacia mulganeura*			
12.	3452	*Acacia murrayana (Sandplain Wattle)*			
13.	3473	*Acacia oswaldii (Miljee, Nelia)*			
14.	36800	*Acacia pteraneura*			
15.	3507	*Acacia quadrimarginea*			
16.	3510	*Acacia ramulosa (Horse Mulga)*			
17.	19483	*Acacia ramulosa var. linophylla*			
18.	19499	*Acacia ramulosa var. ramulosa*			
19.	3513	*Acacia resinimarginea*			
20.	8949	*Acacia sibirica (Bastard Mulga)*			
21.	18424	*Acacia sp. Marshall Pool (G. Cockerton 3024)*		P3	
22.	3577	*Acacia tetragonophylla (Kurara, Wakalpuka)*			
23.	31511	*Acacia victoriae subsp. victoriae*			
24.	1505	*Agave americana (Century Plant)*	Y		
25.	11487	*Alectryon oleifolius subsp. oleifolius*			
26.	19470	*Aluta maisonneuvei subsp. auriculata*			
27.	4907	*Alyogyne pinoniana (Sand Hibiscus)*			
28.	2372	*Amyema fitzgeraldii (Pincushion Mistletoe)*			
29.	13265	*Amyema miraculosa subsp. boormanii*			
30.	40910	*Androcalva luteiflora (Yellow-flowered Rulingia)*			
31.	7826	*Angianthus cornutus*			
32.	7834	*Angianthus prostratus*		P3	
33.	7836	*Angianthus tomentosus (Camel-grass)*			
34.	2333	*Anthobolus leptomerioides*			
35.	207	*Aristida contorta (Bunched Kerosene Grass)*			
36.	7846	*Asteridea athrixioides*			
37.	2451	*Atriplex bunburyana (Silver Saltbush)*			
38.	17801	*Atriplex cephalantha*			
39.	2453	*Atriplex codonocarpa (Flat-topped Saltbush)*			
40.	2476	*Atriplex semilunaris (Annual Saltbush)*			
41.	2478	*Atriplex spongiosa (Pop Saltbush)*			
42.	2481	*Atriplex vesicaria (Bladder Saltbush)*			
43.	17246	*Austrostipa nitida*			
44.	17251	*Austrostipa scabra*			
45.	11726	*Bergia perennis subsp. exigua*			
46.	3722	*Bossiaea walkeri*			
47.	4999	*Brachychiton gregorii (Desert Kurrajong, Ngalta)*			
48.	7871	*Brachyscome ciliaris*			
49.	20170	*Calandrinia pleiopetala*			
50.	48773	*Calandrinia quartzitica*		P1	
51.	5395	*Callistemon phoeniceus (Lesser Bottlebrush, Dubarda)*			
52.	7895	*Calocephalus multiflorus (Yellow-top)*			

	Name ID	Species Name	Naturalised	Conservation Code	[1]Endemic To Query Area
53.	5398	*Calothamnus aridus*			
54.	7903	*Calotis hispidula (Bindy Eye)*			
55.	7905	*Calotis multicaulis (Many-stemmed Burr-daisy)*			
56.	5456	*Calytrix erosipetala*			
57.	43546	*Calytrix hislopii*		P3	
58.	5473	*Calytrix praecipua*		P3	
59.	12373	*Calytrix uncinata*			
60.	3008	*Carrichtera annua (Ward's Weed)*	Y		
61.	1742	*Casuarina obesa (Swamp Sheoak, Kuli)*			
62.	7916	*Centaurea melitensis (Maltese Cockspur, Malta Thistle)*	Y		
63.	7921	*Centipeda thespidioides (Desert Sneezewood)*			
64.	7922	*Cephalipterum drummondii (Pompom Head)*			
65.	1216	*Chamaexeros macranthera*			
66.	2489	*Chenopodium gaudichaudianum (Cottony Saltbush)*			
67.	6614	*Convolvulus remotus*			
68.	48865	*Cucumis myriocarpus subsp. myriocarpus*	Y		
69.	6747	*Cyanostegia angustifolia (Tinsel-flower)*			
70.	20759	*Cylindropuntia fulgida var. mamillata*	Y		
71.	33077	*Cylindropuntia imbricata*	Y		
72.	279	*Cymbopogon ambiguus (Scentgrass)*			
73.	281	*Cymbopogon obtectus (Silkyheads)*			
74.	12034	*Dodonaea microzyga var. acrolobata*			
75.	4773	*Dodonaea petiolaris*			
76.	4775	*Dodonaea pinifolia*			
77.	4779	*Dodonaea rigida*			
78.	11674	*Dodonaea viscosa subsp. mucronata*			
79.	33501	*Dysphania cristata (Crested Goosefoot)*			
80.	2500	*Dysphania glandulosa*			
81.	2502	*Dysphania kalpari (Rat's Tail, Kalpari)*			
82.	33479	*Dysphania melanocarpa (Black Crumbweed)*			
83.	2506	*Dysphania rhadinostachya*			
84.	33483	*Dysphania saxatilis*			
85.	2511	*Enchylaena tomentosa (Barrier Saltbush)*			
86.	12064	*Enchylaena tomentosa var. tomentosa (Barrier Saltbush)*			
87.	19846	*Enekbatus eremaeus*			
88.	357	*Enneapogon caerulescens (Limestone Grass)*			
89.	365	*Enneapogon polyphyllus (Leafy Nineawn)*			
90.	378	*Eragrostis dielsii (Mallee Lovegrass)*			
91.	387	*Eragrostis lanipes (Creeping Wanderrie)*			
92.	7180	*Eremophila alternifolia (Poverty Bush)*			
93.	7189	*Eremophila clarkei (Turpentine Bush)*			
94.	17157	*Eremophila compacta subsp. compacta*			
95.	7204	*Eremophila eriocalyx (Desert Pride)*			
96.	7207	*Eremophila foliosissima*			
97.	7208	*Eremophila forrestii (Wilcox Bush)*			
98.	15052	*Eremophila forrestii subsp. forrestii*			
99.	29532	*Eremophila galeata*			
100.	7211	*Eremophila georgei*			
101.	17176	*Eremophila gilesii subsp. variabilis*			
102.	14340	*Eremophila glabra subsp. glabra*			
103.	14191	*Eremophila glabra subsp. tomentosa*			
104.	19560	*Eremophila glabra subsp. verrucosa*			
105.	16475	*Eremophila glandulifera*			
106.	7219	*Eremophila granitica (Thin-leaved Poverty Bush)*			
107.	7221	*Eremophila homoplastica*			
108.	17189	*Eremophila hygrophana*			
109.	7230	*Eremophila latrobei (Warty Fuchsia Bush, Mintjingka)*			
110.	17576	*Eremophila latrobei subsp. latrobei*			
111.	7234	*Eremophila longifolia (Berrigan, Tulypurpa)*			
112.	15158	*Eremophila mackinlayi subsp. spathulata*			
113.	16362	*Eremophila maculata subsp. maculata*			
114.	7239	*Eremophila margarethae (Sandbank Poverty Bush)*			
115.	7240	*Eremophila metallicorum*			
116.	7242	*Eremophila miniata (Kopi Poverty Bush)*			
117.	15003	*Eremophila oldfieldii subsp. angustifolia*			
118.	18570	*Eremophila oppositifolia subsp. angustifolia*			
119.	7250	*Eremophila pantonii*			
120.	48951	*Eremophila platycalyx subsp. Leonora (J. Morrisey 252)*			
121.	7257	*Eremophila punicea (Crimson Eremophila)*			
122.	7261	*Eremophila ramiflora*			

	Name ID	Species Name	Naturalised	Conservation Code	[1]Endemic To Query Area
123.	7267	*Eremophila scoparia (Broom Bush ()*			
124.	7269	*Eremophila serrulata (Serrate-leaved Eremophila)*			
125.	17165	*Eremophila simulans subsp. megacalyx*		P3	
126.	7278	*Eremophila veronica*		P3	
127.	15155	*Eremophila youngii subsp. youngii*			
128.	16485	*Eriachne pulchella subsp. dominii*			
129.	16486	*Eriachne pulchella subsp. pulchella*			
130.	2514	*Eriochiton sclerolaenoides (Woolly Bindii)*			
131.	7970	*Erodiophyllum acanthocephalum*			
132.	4334	*Erodium crinitum (Corkscrew)*			
133.	14377	*Erymophyllum ramosum subsp. ramosum*			
134.	35344	*Eucalyptus camaldulensis subsp. arida*			
135.	35345	*Eucalyptus camaldulensis subsp. obtusa (Blunt-budded River Red Gum)*			
136.	5583	*Eucalyptus carnei (Carne's Blackbutt)*			
137.	5660	*Eucalyptus gongylocarpa (Marble Gum, Baarla)*			
138.	5684	*Eucalyptus kingsmillii (Kingsmill's Mallee)*			
139.	13058	*Eucalyptus leptopoda subsp. elevata*			
140.	5697	*Eucalyptus lesouefii (Goldfields Blackbutt)*			
141.	13037	*Eucalyptus loxophleba subsp. lissophloia*			
142.	5703	*Eucalyptus lucasii (Barlee Box)*			
143.	5803	*Eucalyptus youngiana (Large-fruited Mallee, Yarldarlba)*			
144.	35303	*Euphorbia australis var. subtomentosa*			
145.	42869	*Euphorbia porcata*			
146.	12097	*Euphorbia tannensis subsp. eremophila (Desert Spurge)*			
147.	16722	*Euryomyrtus maidenii*			
148.	5191	*Frankenia cinerea*			
149.	5200	*Frankenia fecunda*			
150.	5201	*Frankenia georgei*		P1	
151.	5206	*Frankenia laxiflora (Loose Flowered Frankenia)*			
152.	14297	*Frankenia pauciflora var. pauciflora*			
153.	5212	*Frankenia setosa (Bristly Frankenia)*			
154.	11008	*Gilruthia osbornii*			
155.	7060	*Glossostigma diandrum*			
156.	12624	*Gnephosis angianthoides*			
157.	7988	*Gnephosis arachnoidea (Cobwebby-headed Gnephosis)*			
158.	7989	*Gnephosis brevifolia (Short-leaved Gnephosis)*			
159.	7998	*Gnephosis macrocephala*			
160.	8002	*Gnephosis tenuissima*			
161.	7514	*Goodenia havilandii*			
162.	12530	*Goodenia macroplectra*			
163.	7527	*Goodenia mimuloides*			
164.	7529	*Goodenia mueckeana*			
165.	7531	*Goodenia occidentalis*			
166.	1949	*Grevillea acuaria*			
167.	1963	*Grevillea berryana*			
168.	2004	*Grevillea extorris*			
169.	2019	*Grevillea inconspicua (Cue Grevillea)*		P4	
170.	19542	*Grevillea nematophylla subsp. supraplana*			
171.	15978	*Grevillea oligomera*			
172.	2807	*Gunniopsis quadrifida (Sturts Pigface)*			
173.	19137	*Hakea lorea subsp. lorea*			
174.	2182	*Hakea minyma*			
175.	2196	*Hakea preissii (Needle Tree, Dandjin)*			
176.	17557	*Hakea recurva subsp. recurva*			
177.	6176	*Haloragis odontocarpa (Mulga Nettle)*			
178.	6180	*Haloragis trigonocarpa*			
179.	8045	*Helipterum craspedioides (Yellow Billy Buttons)*			
180.	43022	*Hibiscus sp. Gardneri (A.L. Payne PRP 1435)*			
181.	15448	*Hyalosperma glutinosum subsp. venustum*			
182.	11973	*Hybanthus floribundus subsp. curvifolius*			
183.	48648	*Hysterobaeckea occlusa*			
184.	3974	*Indigofera georgei (Bovine Indigo)*			
185.	459	*Iseilema eremaeum*			
186.	7397	*Isotoma petraea (Rock Isotome, Tundiwari)*			
187.	4953	*Lawrencia densiflora*			
188.	4956	*Lawrencia helmsii (Dunna Dunna)*			
189.	4959	*Lawrencia squamata*			
190.	19727	*Leiocarpa semicalva subsp. semicalva*			
191.	19237	*Leiocarpa websteri*			
192.	3032	*Lepidium muelleri-ferdinandii*			

	Name ID	Species Name	Naturalised	Conservation Code	[1]Endemic To Query Area
193.	3033	*Lepidium oxytrichum*			
194.	3039	*Lepidium platypetalum (Slender Peppercress)*			
195.	4061	*Lotus cruentus (Redflower Lotus)*			
196.	2396	*Lysiana casuarinae*			
197.	2398	*Lysiana murrayi (Mistletoe, Parka-Parka)*			
198.	36375	*Lysimachia arvensis (Pimpernel)*	Y		
199.	2533	*Maireana amoena*			
200.	2536	*Maireana atkinsiana (Bronze Bluebush)*			
201.	2538	*Maireana carnosa (Cottony Bluebush)*			
202.	2539	*Maireana convexa (Mulga Bluebush)*			
203.	2543	*Maireana eriosphaera*			
204.	2544	*Maireana georgei (Satiny Bluebush)*			
205.	2545	*Maireana glomerifolia (Ball Leaf Bluebush)*			
206.	2556	*Maireana planifolia (Low Bluebush)*			
207.	2560	*Maireana pyramidata (Sago Bush)*			
208.	2563	*Maireana sedifolia (Pearl Bluebush, Myall)*			
209.	2566	*Maireana thesioides (Lax Bluebush)*			
210.	11662	*Maireana tomentosa subsp. tomentosa*			
211.	2568	*Maireana trichoptera (Downy Bluebush)*			
212.	2569	*Maireana triptera (Threewinged Bluebush)*			
213.	2571	*Maireana villosa*			
214.	12949	*Marsdenia australis*			
215.		*Marsilea sp.*			
216.	20288	*Melaleuca interioris*			
217.	5991	*Melaleuca xerophila*			
218.	3054	*Menkea villosula*			
219.	6001	*Micromyrtus serrulata*		P3	
220.	8107	*Minuria cunninghamii (Bush Minuria)*			
221.	8110	*Minuria leptophylla (Minnie Daisy)*			
222.	4098	*Mirbelia rhagodioides*			
223.	490	*Monachather paradoxus*			
224.	29418	*Monoculus monstrosus*	Y		
225.	17925	*Myriocephalus oldfieldii*			
226.	14186	*Myriocephalus pygmaeus*			
227.	11327	*Nicotiana occidentalis subsp. hesperis*			
228.	11331	*Nicotiana occidentalis subsp. obliqua*			
229.	11734	*Nicotiana rosulata subsp. rosulata*			
230.	17	*Ophioglossum lusitanicum (Adders Tongue)*			
231.	31799	*Opuntia elata*	Y		
232.	46205	*Opuntia microdasys*	Y		
233.	29276	*Opuntia monacantha (Barbary Fig)*	Y		
234.	12642	*Ozothamnus cassiope*			
235.	12670	*Parietaria cardiostegia*			
236.	10975	*Paspalidium basicladum*			
237.	17206	*Physopsis viscida*			
238.	19744	*Pittosporum angustifolium*			
239.	7299	*Plantago debilis*			
240.	7300	*Plantago drummondii (Sago Weed)*			
241.	8167	*Pluchea dentex*			
242.	45238	*Podolepis aristata subsp. affinis*			
243.	8173	*Podolepis capillaris (Wiry Podolepis)*			
244.	8174	*Podolepis gardneri*			
245.	8176	*Podolepis kendallii*			
246.	8177	*Podolepis lessonii*			
247.	8188	*Pogonolepis stricta*			
248.	581	*Polypogon maritimus (Coast Beardgrass)*	Y		
249.	15822	*Prostanthera althoferi subsp. althoferi*			
250.	41650	*Prostanthera prostantheroides*			
251.	18210	*Psydrax rigidula*			
252.	18155	*Psydrax suaveolens*			
253.	2690	*Ptilotus aervoides*			
254.	2717	*Ptilotus divaricatus (Climbing Mulla Mulla)*			
255.	2718	*Ptilotus drummondii (Narrowleaf Mulla Mulla)*			
256.	11797	*Ptilotus drummondii var. minor*			
257.	2721	*Ptilotus exaltatus (Tall Mulla Mulla)*			
258.	2727	*Ptilotus gaudichaudii*			
259.	2731	*Ptilotus helipteroides (Hairy Mulla Mulla)*			
260.	2747	*Ptilotus obovatus (Cotton Bush)*			
261.	11396	*Ptilotus obovatus var. obovatus*			
262.	2754	*Ptilotus roei*			

	Name ID	Species Name	Naturalised	Conservation Code	[1]Endemic To Query Area
263.	2757	*Ptilotus schwartzii*			
264.	15855	*Ptilotus schwartzii var. schwartzii*			
265.	8196	*Quinqueremulus linearis*			
266.	2937	*Ranunculus sessiliflorus (Smallflower Buttercup)*			
267.	11927	*Ranunculus sessiliflorus var. sessiliflorus*			
268.	2582	*Rhagodia eremaea (Thorny Saltbush)*			
269.	13306	*Rhodanthe battii*			
270.	13308	*Rhodanthe charsleyae*			
271.	13241	*Rhodanthe chlorocephala subsp. rosea*			
272.	13242	*Rhodanthe chlorocephala subsp. splendida*			
273.	13234	*Rhodanthe manglesii*			
274.	13238	*Rhodanthe maryonii*			
275.	13251	*Rhodanthe propinqua*			
276.	13252	*Rhodanthe pygmaea*			
277.	13254	*Rhodanthe stricta*			
278.	45148	*Roebuckiella ciliocarpa*			
279.	2443	*Rumex vesicarius (Ruby Dock)*	Y		
280.	17985	*Rutidosis helichrysoides subsp. helichrysoides*			
281.	6484	*Samolus repens (Creeping Brookweed)*			
282.	2357	*Santalum lanceolatum (Northern Sandalwood, Yarnguli)*			
283.	2359	*Santalum spicatum (Sandalwood, Wilarak)*			
284.	7644	*Scaevola spinescens (Currant Bush, Maroon)*			
285.	8200	*Schoenia cassiniana (Schoenia)*			
286.	48355	*Schoenoplectiella dissachantha*			
287.	2606	*Sclerolaena cuneata (Yellow Bindii)*			
288.	2607	*Sclerolaena densiflora*			
289.	2608	*Sclerolaena deserticola*			
290.	2611	*Sclerolaena eriacantha (Tall Bindii)*			
291.	2612	*Sclerolaena eurotioides (Fluffy Bindii)*			
292.	8877	*Sclerolaena gardneri*			
293.	2619	*Sclerolaena lanicuspis (Spinach Burr)*			
294.	8207	*Senecio glossanthus (Slender Groundsel)*			
295.	9366	*Senecio gregorii (Fleshy Groundsel)*			
296.	25881	*Senecio lacustrinus*			
297.	8213	*Senecio magnificus (Showy Groundsel)*			
298.	17645	*Senna artemisioides*			
299.	12276	*Senna artemisioides subsp. filifolia*			
300.	12279	*Senna artemisioides subsp. helmsii*			
301.	12280	*Senna artemisioides subsp. oligophylla*			
302.	12283	*Senna artemisioides subsp. x sturtii*			
303.	18430	*Senna cardiosperma*			
304.	18444	*Senna charlesiana*			
305.	12305	*Senna glutinosa subsp. chatelainiana*			
306.	18440	*Senna manicula*			
307.	14577	*Senna sp. Meekatharra (E. Bailey 1-26)*			
308.	31759	*Sida ectogama*			
309.	19712	*Sida sp. dark green fruits (S. van Leeuwen 2260)*			
310.	6998	*Solanum cleistogamum*			
311.	7008	*Solanum ferocissimum*			
312.	7018	*Solanum lasiophyllum (Flannel Bush, Mindjulu)*			
313.	11241	*Solanum orbiculatum subsp. orbiculatum (Round-leaved Solanum)*			
314.	19705	*Stenanthemum patens*		P1	
315.	3074	*Stenopetalum anfractum*			
316.	3076	*Stenopetalum filifolium*			
317.	8238	*Streptoglossa liatroides*			
318.	7740	*Stylidium induratum (Desert Triggerplant)*			
319.	7754	*Stylidium longibracteatum (Long-bracted Trigger Plant)*			
320.	12355	*Swainsona affinis*			
321.	4220	*Swainsona canescens (Grey Swainsona)*			
322.	12356	*Swainsona formosa*			
323.	4243	*Swainsona rostellata*			
324.	13339	*Synaptantha tillaeacea var. tillaeacea*			
325.	33319	*Tecticornia indica subsp. bidens*			
326.	35841	*Templetonia incrassata*			
327.	2822	*Tetragonia eremaea*			
328.	48603	*Teucrium teucriiflorum*			
329.	2644	*Threlkeldia diffusa (Coast Bonefruit)*			
330.	6279	*Trachymene ornata (Spongefruit)*			
331.	678	*Tragus australianus (Small Burrgrass)*			
332.	12652	*Trichanthodium skirrophorum*			

	Name ID	Species Name	Naturalised	Conservation Code	[1]Endemic To Query Area
333.	6727	*Trichodesma zeylanicum (Camel Bush, Kumbalin)*			
334.	18587	*Triglochin nana*			
335.	19038	*Triglochin protuberans*		P3	
336.	7661	*Velleia hispida (Hispid Velleia)*			
337.	7664	*Velleia rosea (Pink Velleia)*			
338.	15725	*Verbesina encelioides*	Y		
339.	12436	*Verticordia interioris*			
340.	8265	*Vittadinia eremaea*			
341.	8268	*Vittadinia humerata*			
342.	20153	*Vittadinia sp. Earaheedy (D.J. Edinger 3106)*			
343.		*Wahlenbergia sp.*			
344.	7393	*Wahlenbergia tumidifructa*			
345.	1391	*Wurmbea densiflora*			

Conservation Codes
T - Rare or likely to become extinct
X - Presumed extinct
IA - Protected under international agreement
S - Other specially protected fauna
1 - Priority 1
2 - Priority 2
3 - Priority 3
4 - Priority 4
5 - Priority 5

[1] For NatureMap's purposes, species flagged as endemic are those whose records are wholely contained within the search area. Note that only those records complying with the search criterion are included in the calculation. For example, if you limit records to those from a specific datasource, only records from that datasource are used to determine if a species is restricted to the query area.

Australian Government
Department of Agriculture, Water and the Environment

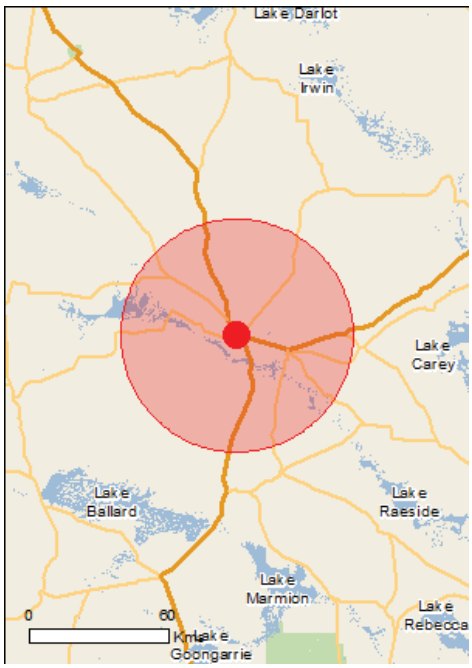
EPBC Act Protected Matters Report

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.

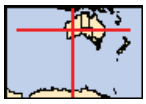
Information on the coverage of this report and qualifications on data supporting this report are contained in the caveat at the end of the report.

Information is available about Environment Assessments and the EPBC Act including significance guidelines, forms and application process details.

Report created: 25/05/21 19:00:46



Coordinates
Buffer: 50.0Km



Summary

Matters of National Environmental 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:	None
Great Barrier Reef Marine Park:	None
Commonwealth Marine Area:	None
Listed Threatened Ecological Communities:	None
Listed Threatened Species:	5
Listed Migratory Species:	8

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 http://www.environment.gov.au/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 Land:	1
Commonwealth Heritage Places:	None
Listed Marine Species:	11
Whales and Other Cetaceans:	None
Critical Habitats:	None
Commonwealth Reserves Terrestrial:	None
Australian Marine Parks:	None

Extra Information

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

State and Territory Reserves:	None
Regional Forest Agreements:	None
Invasive Species:	15
Nationally Important Wetlands:	None
Key Ecological Features (Marine)	None

Details

Matters of National Environmental Significance

Listed Threatened Species		[Resource Information]
Name	Status	Type of Presence
Birds		
Falco hypoleucos Grey Falcon [929]	Vulnerable	Species or species habitat may occur within area
Leipoa ocellata Malleefowl [934]	Vulnerable	Species or species habitat known to occur within area
Pezoporus occidentalis Night Parrot [59350]	Endangered	Species or species habitat may occur within area
Polytelis alexandrae Princess Parrot, Alexandra's Parrot [758]	Vulnerable	Species or species habitat known to occur within area
Mammals		
Dasyurus geoffroii Chuditch, Western Quoll [330]	Vulnerable	Species or species habitat may occur within area

Listed Migratory Species		[Resource Information]
* Species is listed under a different scientific name on the EPBC Act - Threatened Species list.		
Name	Threatened	Type of Presence
Migratory Marine Birds		
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area
Migratory Terrestrial Species		
Motacilla cinerea Grey Wagtail [642]		Species or species habitat may occur within area
Motacilla flava Yellow Wagtail [644]		Species or species habitat may occur within area
Migratory Wetlands Species		
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat known to occur within area
Calidris acuminata Sharp-tailed Sandpiper [874]		Species or species habitat may occur within area

Name	Threatened	Type of Presence
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat may occur within area
Charadrius veredus Oriental Plover, Oriental Dotterel [882]		Species or species habitat may occur within area
Tringa nebularia Common Greenshank, Greenshank [832]		Species or species habitat likely to occur within area

Other Matters Protected by the EPBC Act

Commonwealth Land [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.

Name
Commonwealth Land -

Listed Marine Species [Resource Information]

* Species is listed under a different scientific name on the EPBC Act - Threatened Species list.

Name	Threatened	Type of Presence
Birds		
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat known to occur within area
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area
Calidris acuminata Sharp-tailed Sandpiper [874]		Species or species habitat may occur within area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat may occur within area
Charadrius veredus Oriental Plover, Oriental Dotterel [882]		Species or species habitat may occur within area
Chrysococcyx osculans Black-eared Cuckoo [705]		Species or species habitat known to occur within area
Merops ornatus Rainbow Bee-eater [670]		Species or species habitat may occur within area
Motacilla cinerea Grey Wagtail [642]		Species or species habitat may occur within area
Motacilla flava Yellow Wagtail [644]		Species or species habitat may occur within

Name	Threatened	Type of Presence
		area
Thinornis rubricollis Hooded Plover [59510]		Species or species habitat known to occur within area
Tringa nebularia Common Greenshank, Greenshank [832]		Species or species habitat likely to occur within area

Extra Information

Invasive Species [Resource Information]

Weeds reported here are the 20 species of national significance (WoNS), along with other introduced plants that are considered by the States and Territories to pose a particularly significant threat to biodiversity. The following feral animals are reported: Goat, Red Fox, Cat, Rabbit, Pig, Water Buffalo and Cane Toad. Maps from Landscape Health Project, National Land and Water Resouces Audit, 2001.

Name	Status	Type of Presence
Birds		
Columba livia Rock Pigeon, Rock Dove, Domestic Pigeon [803]		Species or species habitat likely to occur within area
Streptopelia senegalensis Laughing Turtle-dove, Laughing Dove [781]		Species or species habitat likely to occur within area
Mammals		
Camelus dromedarius Dromedary, Camel [7]		Species or species habitat likely to occur within area
Canis lupus familiaris Domestic Dog [82654]		Species or species habitat likely to occur within area
Capra hircus Goat [2]		Species or species habitat likely to occur within area
Equus asinus Donkey, Ass [4]		Species or species habitat likely to occur within area
Felis catus Cat, House Cat, Domestic Cat [19]		Species or species habitat likely to occur within area
Mus musculus House Mouse [120]		Species or species habitat likely to occur within area
Oryctolagus cuniculus Rabbit, European Rabbit [128]		Species or species habitat likely to occur within area
Vulpes vulpes Red Fox, Fox [18]		Species or species

Name	Status	Type of Presence
		habitat likely to occur within area
Plants		
Carrichtera annua Ward's Weed [9511]		Species or species habitat may occur within area
Cenchrus ciliaris Buffel-grass, Black Buffel-grass [20213]		Species or species habitat may occur within area
Cylindropuntia spp. Prickly Pears [85131]		Species or species habitat likely to occur within area
Opuntia spp. Prickly Pears [82753]		Species or species habitat likely to occur within area
Tamarix aphylla Athel Pine, Athel Tree, Tamarisk, Athel Tamarisk, Athel Tamarix, Desert Tamarisk, Flowering Cypress, Salt Cedar [16018]		Species or species habitat likely to occur within area

Caveat

The information presented in this report has been provided by a range of data sources as acknowledged at the end of the report.

This report is designed to assist in identifying the locations of places which may be relevant in determining obligations under the Environment Protection and Biodiversity Conservation Act 1999. It holds mapped locations of World and National Heritage properties, Wetlands of International and National Importance, Commonwealth and State/Territory reserves, listed threatened, migratory and marine species and listed threatened ecological communities. Mapping of Commonwealth land is not complete at this stage. Maps have been collated from a range of sources at various resolutions.

Not all species listed under the EPBC Act have been mapped (see below) and therefore a report is a general guide only. Where available data supports mapping, the type of presence that can be determined from the data is indicated in general terms. People using this information in making a referral may need to consider the qualifications below and may need to seek and consider other information sources.

For threatened ecological communities where the distribution is well known, maps are derived from recovery plans, State vegetation maps, 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 distributions have been derived through a variety of methods. Where distributions are well known and if time permits, maps are derived using either thematic spatial data (i.e. vegetation, soils, geology, elevation, aspect, terrain, etc) together with point locations and described habitat; or environmental modelling (MAXENT or BIOCLIM habitat modelling) using point locations and environmental data layers.

Where very little information is available for 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 reliable distribution mapping methods are used to update these distributions as time permits.

Only selected species covered by the following provisions of the EPBC Act have been mapped:

- migratory and
- marine

The following species and ecological communities have not been mapped and do not appear in reports produced from this database:

- threatened species listed as extinct or considered as vagrants
- some species and ecological communities that have only recently been listed
- some terrestrial species that overfly the Commonwealth marine area
- migratory species that are very widespread, vagrant, or only occur in small numbers

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

- non-threatened seabirds which have only been mapped for recorded breeding sites
- seals which have only been mapped for breeding sites near the Australian continent

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

Coordinates

-28.88024 121.32071

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 C
Flora Likehood of Occurrence

Appendix C: Assessment of the Likelihood of Occurrence of Threatened and Priority Flora as per Desktop Assessment Database Searches surrounding the Survey Area

Distance to Nearest Record from the Survey Area is based on a distance analysis undertaken against 2020 DBCA database. High = Suitable habitat present and records less than 5 km from the Survey Area, Medium = Suitable habitat present and records between 5 km and 15 km from the Survey Area, and Low = No suitable habitat present and/or records greater than 15 km from the Survey Area, Unknown = Insufficient information available to classify . CR= Listed as Critically Endangered under the EPBC Act, EN = Listed as Endangered under the EBPC Act, VU = listed as Vulnerable under the EBPC Act. T = Threatened under the BC Act, P = Priority Listed, Ranked and Listed by the DBCA. Likelihoods are assessed both pre and post survey based on knowledge of the Survey Area, nearest known records, known flowering period of flora taxa and knowledge gained from the survey effort during ground truthing.

Species	Conservation Status			Source		Distance to Nearest Record (km)	Flowering Period	Prefered Habitat	Habitat occurs within the Survey Area	Pre-Survey Likelihood of Occurrence	Post-Survey Likelihood of Occurrence
	DBCA	EPBC	NatureMap	PMST	DBCA						
Acacia websteri	P1				X	50.9	Jun and Dec - Jan	Red sand, clay or loam. Low-lying areas, flats.	No	Low	Low
Anacampseros sp. Eremaean (F. Hort, J. Hort & J. Shanks 3248)	P1				X	58.6	Sep	Sand patches inside rocks, brown sandy clay, granite. Depressions in rock outcrops, breakaways, flats.	No	Low	Low
Calandrinia quartzitica	P1		X		X	26.6	Sep - Oct	Brown silty sands, red-brown silty loams, Quartz derived geology. Margins of salt lakes and lake channels.	No	Low	Low
Drosera eremaea	P1				X	96.8	Jun - Sep	Quartz grit and loam, winter wet creeks.	No	Low	Low
Eremophila eversa	P1				X	80.8	Sep	Only known from type specimen on Yerilla Station.	Unknown	Unknown	Unknown
Frankenia georgei	P1		X		X	29.5	Dec	Rocky slopes.	No	Low	Low
Korthalsella leucothrix	P1				X	72.3	Aug	Parasitic shrub, on Acacia acuminata and A. craspedocarpa.[2]	No	Low	Low
Micromyrtus chrysodema	P1				X	88.5	Mar	Red sands. Sandplains.	No	Low	Low
Philotheca tubiflora	P1				X	83.2	Jun - Oct	Rocky rises and hills, outcrops.[2]	No	Low	Low
Ptilotus sp. Kookynie (J. Jackson & B. Moyle 261)	P1				X	58.4	Sep	Rocky hills, quartz.	No	Low	Low
Ptilotus tetrandrus	P1				X	49.1	Aug and Oct	Loamy red sand, swales between dunes, low in landscape.	No	Low	Low
Stenanthemum patens	P1		X		X	30.3	Apr - Oct	Red/orange stony-sandy loam. Rocky slopes and hillsides.	No	Low	Low
Tecticornia mellarium	P1				X	89.9	Sep - Oct	Red gypseous dunes or gypseous clay pans on margins of salt lakes.	No	Low	Low
Tecticornia sp. Lake Way (P. Armstrong 05/961)	P1				X	87.1	Unknown	Outwash plains on margins of salt lake.	No	Low	Low
Eremophila mirabilis	P2				X	44.1	Jul - Sep	Clay sand, stony clayey loam. Granite country, lateritic breakaways.	No	Low	Low
Newcastelia insignis	P2				X	93.9	Sep - Nov	Red or yellow sandy soils.	No	Low	Low
Thryptomene eremaea	P2				X	57.3	Jul - Sep	Red or yellow sand. Sandplains.	No	Low	Low

[1] Department of Agriculture, Water and Environment (2020) [2] Western Australian Herbarium (2020)

Species	Conservation Status			Source		Distance to Nearest Record (km)	Flowering Period	Prefered Habitat	Habitat occurs within the Survey Area	Pre-Survey Likelihood of Occurrence	Post-Survey Likelihood of Occurrence
	DBCA	EPBC	NatureMap	PMST	DBCA						
Acacia sp. Marshall Pool (G. Cockerton 3024)	P3		X		X	0.9	May	Low hills of gabbro, basalt and calcrete.	No	Low	Low
Angianthus prostratus	P3		X		X	16.1	Jul - Sep	Red clay or loamy soils. Saline depressions.	No	Low	Low
Baeckea sp. Sandstone (C.A. Gardner s.n. 26 Oct. 1963)	P3				X	94.4	Oct	Orange sand, flats, sandplains.[2]	No	Low	Low
Calandrinia sp. Menzies (F. Hort et al. FH 4100)	P3				X	53.9	Apr and Aug - Oct	Red-brown/orange clayey sands. Flat stony or hardpan plains.	Possibly	Low	Low
Calotis sp. Perrinvale Station (R.J. Cranfield 7096)	P3				X	91.9	Aug - Sep	Red loam, red/orange sandy clay/loam, red clay loam over calcrete. Plains, Banded ironstone formation outcrops, granite slopes.[2]	No	Low	Low
Calytrix hislopii	P3		X		X	36.5	Sep - Nov	Lateritic ridges, top of breakaways and granites.	No	Low	Low
Calytrix praecipua	P3		X		X	22.5	Jun - Jul or Sep - Nov	Skeletal sandy soils over granite or laterite. Breakaways, outcrops.[2]	No	Low	Low
Cratystylis centralis	P3				X	46.3	Aug - Oct	Red sandy loam with ironstone gravel. Flat plains, breakaway country.	Possibly	Low	Low
Eremophila annosicaulis	P3				X	71.4	Jun - Sep	Stony ironstone soils on slopes of low rocky hills.	No	Low	Low
Eremophila shonae subsp. *diffusa*	P3				X	65	Aug - Oct	Stony yellow sands associated with granites, rocky slopes.	No	Low	Low
Eremophila simulans subsp. *megacalyx*	P3		X		X	32.1	Aug - Oct	Rocky and sandy clay soils. Crests and slopes of banded ironstone, sandy plains	No	Low	Low
Eremophila veronica	P3		X		X	38	Oct - Dec	Stony clay, clay loam. Slopes of low lateritic hills and breakaways.	No	Low	Low
Goodenia lyrata	P3				X	76.6	Aug	Red sandy loam. Near claypan.[2]	No	Low	Low
Grevillea subterlineata	P3				X	73.9	May - Sep	Red-brown gravelly clayey sands. Low silstone rises, gypseous dunes, drainage lines.	No	Low	Low
Hybanthus floribundus subsp. *chloroxanthus*	P3				X	45.7	Aug - Oct	Dark red-brown soil, never sandy, rich in iron oxide, laterite. Rocky areas, creek banks, along drainage lines.[2]	No	Low	Low
Hysterobaeckea ochropetala subsp. *cometes*	P3				X	93.9	Jul - Sep	Red-yellow sandy soils.	No	Low	Low
Micromyrtus serrulata	P3		X		X	34.3	Jun - Nov	Brownish sandy and clayey soils over granite.	No	Low	Low
Olearia mucronata	P3				X	84.7	Aug - Jan	Schistose hills, along drainage channels.[2]	No	Low	Low
Philotheca coateana	P3				X	93.9	Aug - Sep	Red-yellow/brown sands, sandy clay loam. Plains, sandplains, slopes, breakaways.	Possibly	Low	Low

[1] Department of Agriculture, Water and Environment (2020) [2]Western Australian Herbarium (2020)

Species	Conservation Status			Source		Distance to Nearest Record (km)	Flowering Period	Prefered Habitat	Habitat occurs within the Survey Area	Pre-Survey Likelihood of Occurrence	Post-Survey Likelihood of Occurrence
	DBCA	EPBC	NatureMap	PMST	DBCA						
Phyllanthus baeckeoides	P3				X	54.5	Jul - Sep	Red lateritic and sandy clay soils Granite outcrops.[2]	No	Low	Low
Pterostylis virens	P3				X	95.7	Sep	Red sandy, gritty loams. Slopes and margins of granites, banded ironstone hills.	No	Low	Low
Tecticornia cymbiformis	P3				X	84.9	Mar - May	Saline soils. Along the edge of creek lines.[2]	No	Low	Low
Thryptomene sp. Leinster (B.J. Lepschi & L.A. Craven 4362)	P3				X	88.3	Oct - Dec	Red sandy loam. Granite breakaways, stony rises and outcrops.	No	Low	Low
Triglochin protuberans	P3		X		X	33.9	Aug - Nov	Red loam, grey mud over clay. Winter-wet sites, claypans, near salt lakes, margins of pools.	No	Low	Low
Conospermum toddii	P4				X	57.2	Jul - Oct	Yellow sand. Sand dunes.	No	Low	Low
Eucalyptus jutsonii subsp. jutsonii	P4				X	57.5	Feb - Mar and Nov - Dec	Red to pale orange deep sands. Undulating areas and on dunes.	No	Low	Low
Grevillea erectiloba	P4				X	94.7	Sep - Oct	Gravelly loam. Lateritic ridges.	No	Low	Low
Grevillea inconspicua	P4		X		X	38.7	Jun - Aug	Loam, gravel. Along drainage lines on rocky outcrops, creeklines.[2]	No	Low	Low

[1] Department of Agriculture, Water and Environment (2020) [2] Western Australian Herbarium (2020)

Appendix D
Inventory of Vascular Flora

Family	Species
Amaranthaceae	*Ptilotus obovatus*
	Ptilotus schwartzii var. *schwartzii*
Apocynaceae	*Marsdenia australis*
Chenopodiaceae	*Dysphania melanocarpa*
	Enchylaena tomentosa var. *tomentosa*
	Maireana planifolia
	Maireana sp.
	Maireana tomentosa subsp. *tomentosa*
	Maireana triptera
	Maireana villosa
	Rhagodia eremaea
Convolvulaceae	*Duperreya commixta*
Euphorbiaceae	*Euphorbia tannensis* subsp. *eremophila*
Fabaceae	*Acacia aptaneura*
	Acacia ayersiana
	Acacia caesaneura
	Acacia craspedocarpa
	Acacia incurvaneura
	Acacia mulganeura
	Acacia ramulosa var. *ramulosa*
	Acacia tetragonophylla
	Senna artemisioides subsp. x *artemisioides*
	Senna charlesiana
Geraniaceae	*Erodium cygnorum*
Malvaceae	*Hibiscus* sp. Gardneri (A.L. Payne PRP 1435)
	Sida sp.
	Sida sp. dark green fruits (S. van Leeuwen 2260)
Poaceae	**Cenchrus ciliaris*
	Enneapogon caeruluscens
	Enneapogon polyphyllus
	Eragrostis eriopoda
	Eriachne pulchella subsp. *dominii*
	Monachather paradoxus
	Thyridolepis mitchelliana
Portulacaceae	*Portulaca oleracea*
Proteaceae	*Hakea recurva* subsp. *recurva*
Pteridaceae	*Cheilanthes sieberi* subsp. *sieberi*
Santalaceae	*Santalum spicatum*
Scrophulariaceae	*Eremophila forrestii* subsp. *forrestii*
	Eremophila latrobei subsp. *latrobei*
	Eremophila platycalyx subsp. Leonora (J. Morrisey 252)
	Eremophila serrulata
Solanaceae	*Solanum lasiophyllum*

Appendix E
Flora Site Sheets

FLORA SITE SHEET

Project Name 4581 Leonora Biological Survey
Site: LER01
Location MGA 50 336056 **mE** 6804099 **mN**

Described by: BE, LC
Date: 24/06/2021
Type: Relevé

Landform: Gravelly Plain
Slope: Flat
Rock Type: Ironstone, Quartz
Soil Type: Clay, Loam, Sand
Soil Colour: Brown, Orange

Vegetation: *Acacia mulganeura and Acacia caesaneura low woodland over Eremophila forrestii subsp. forrestii and Maireana planifolia mid sparse shrubland over Eragrostis eriopoda low sparse tussock grassland over Ptilotus schwartzii var. schwartzii low sparse herbland*
Condition: Very Good **Disturbance Type:** Rubbish, Vehicle track
Fire Age: >10 years

SPECIES LIST

Taxon	Height (cm)	Cover (%)	Notes
Acacia incurvaneura	600	0.1	
Acacia mulganeura	500	8	Variant 2
Acacia caesaneura	380	6	Narrow phyllode variant
Maireana planifolia	150	1	
Eremophila forrestii subsp. forrestii	130	3	
Marsdenia australis	130	0.1	
Maireana sp.	60	0.1	
Ptilotus schwartzii var. schwartzii	50	4	
Acacia tetragonophylla	40	0.1	
Eragrostis eriopoda	30	1	
Ptilotus obovatus	30	0.1	
Solanum lasiophyllum	30	0.1	
Thyridolepis mitchelliana	20	0.1	
Cheilanthes sieberi subsp. sieberi	10	0.1	
Eriachne pulchella subsp. dominii	5	0.1	
Erodium cygnorum	2	0.1	

FLORA SITE SHEET

Project Name 4581 Leonora Biological Survey
Site: LER02
Location MGA 50 336180 **mE** 6803941 **mN**

Described by: BE, LC
Date: 24/06/2021
Type: Relevé

Landform: Gravelly Plain
Slope: Flat
Rock Type: Ironstone, Quartz
Soil Type: Clay, Loam, Sand
Soil Colour: Brown, Orange

Vegetation: *Acacia caesaneura and Acacia mulganeura low open woodland over Eragrostis eriopoda low sparse tussock grassland*

Condition: Good
Fire Age: >10 years
Disturbance Type: Weeds, Rubbish, Tracks

SPECIES LIST

Taxon	Height (cm)	Cover (%)	Notes
Acacia caesaneura	350	5	Narrow phyllode variant
Acacia mulganeura	350	3	Variant 2
Rhagodia eremaea	100	0.1	
Eremophila platycalyx subsp. Leonora (J. Morrisey 2	70	0.1	
Maireana planifolia	50	0.1	
Ptilotus obovatus	30	0.1	
Eragrostis eriopoda	10	2	
Enchylaena tomentosa var. tomentosa	10	0.1	
**Cenchrus ciliaris*	5	0.1	
Sida sp.	3	0.1	
Erodium cygnorum	2	0.1	

FLORA SITE SHEET

Project Name 4581 Leonora Biological Survey
Site: LER03
Location MGA 50 336266 **mE** 6804160 **mN**

Described by: BE, LC
Date: 24/06/2021
Type: Relevé

Landform: Gravelly Plain
Slope: Flat
Rock Type: Ironstone, Quartz
Soil Type: Clay, Loam, Sand
Soil Colour: Brown, Orange

Vegetation: *Acacia caesaneura, Acacia mulganeura, Acacia ayersiana and Acacia aptaneura low woodland over Eremophila forrestii subsp. forrestii mid sparse shrubland over Eragrostis eriopoda low sparse tussock grassland over Ptilotus obovatus low sparse herbland*
Condition: Very Good **Disturbance Type:** Rubbish
Fire Age: >10 years

SPECIES LIST

Taxon	Height (cm)	Cover (%)	Notes
Acacia caesaneura	500	8	Narrow phyllode variant
Acacia mulganeura	500	2	Variant 2
Acacia ayersiana	480	2	
Acacia aptaneura	400	2	
Eremophila forrestii subsp. forrestii	120	3	
Santalum spicatum	110	0.1	
Enchylaena tomentosa var. tomentosa	80	0.1	
Ptilotus obovatus	50	2	
Eragrostis eriopoda	40	6	
Maireana sp.	40	0.1	
Ptilotus schwartzii var. schwartzii	40	0.1	
Maireana tomentosa subsp. tomentosa	40	0.1	
Eremophila latrobei subsp. latrobei	40	0.1	
Maireana villosa	30	0.1	
Hibiscus sp. Gardneri (A.L. Payne PRP 1435)	30	0.1	
Monachather paradoxus	30	0.1	
Thyridolepis mitchelliana	20	0.1	
Eriachne pulchella subsp. dominii	10	0.1	
Sida sp. dark green fruits (S. van Leeuwen 2260)	10	0.1	
Solanum lasiophyllum	10	0.1	
Euphorbia tannensis subsp. eremophila	10	0.1	
Erodium cygnorum	2	0.1	

FLORA SITE SHEET

Project Name 4581 Leonora Biological Survey
Site: LER04
Location MGA 50 336368 **mE** 6804138 **mN**

Described by: BE, LC
Date: 24/06/2021
Type: Relevé

Landform: Gravelly Plain
Slope: Flat
Rock Type: Ironstone, Quartz
Soil Type: Clay, Loam, Sand
Soil Colour: Brown, Orange

Vegetation: *Acacia incurvaneura low open woodland over Eragrostis eriopoda, Eriachne pulchella subsp. dominii and *Cenchrus ciliaris low sparse grassland*

Condition: Good **Disturbance Type:** Rubbish
Fire Age: >10 years

SPECIES LIST

Taxon	Height (cm)	Cover (%)	Notes
Acacia tetragonophylla	600	0.1	
Acacia incurvaneura	320	7	
**Cenchrus ciliaris*	100	1	
Maireana planifolia	100	0.1	
Maireana tomentosa subsp. tomentosa	60	0.1	
Eragrostis eriopoda	50	2	
Solanum lasiophyllum	40	0.1	
Monachather paradoxus	40	0.1	
Marsdenia australis	40	0.1	
Ptilotus obovatus	30	0.1	
Ptilotus schwartzii var. schwartzii	30	0.1	
Thyridolepis mitchelliana	30	0.1	
Maireana sp.	20	0.1	
Maireana villosa	20	0.1	
Cheilanthes sieberi subsp. sieberi	10	0.1	
Eriachne pulchella subsp. dominii	5	2	
Enneapogon polyphyllus	5	0.1	
Hibiscus sp. Gardneri (A.L. Payne PRP 1435)	5	0.1	
Erodium cygnorum	3	0.1	

Appendix F
Fauna Literature Review and Database Searches Results

Appendix: Database Search and Literature Review Fauna Inventory

[+]State – Conservation status under BC Act or DBCA priority list, Federal – Conservation status under EPBC Act

A: Level 2 Vertebrate Fauna Assessment, King of the Hills Project (Terrestrial Ecosystems, 2020), B: Level 2 Fauna Risk Assessment for Granny Deeps Project Area. (Terrestrial Ecosystems, 2011), C: Biological Survey of the Eastern Goldfields of Western Australia Part 10 (Hall et al., 1994)

Family	Scientific Name	Common Name	Conservation Status[+]		Database					Literature		
			State	Federal	NatureMap	PMST	DBCA	DBCA 15yr	Field Survey	A	B	C
AMPHIBIAN												
Limnodynastidae	*Neobatrachus kunapalari*	Kunapalari Frog	-	-	x						x	
	Neobatrachus sutor	Shoemaker Frog	-	-	x					x	x	
	Platyplectrum spenceri	Centralian Burrowing Frog	-	-	x							
Pelodryadidae	*Cyclorana maini*	Sheep Frog	-	-	x						x	
	Cyclorana occidentalis	Western Water-holding Frog	-	-	x						x	
	Litoria rubella	Little Red Tree Frog	-	-						x		
Myobatrachidae	*Pseudophryne occidentalis*	Western Toadlet	-	-						x		
AVIAN												
Acanthizidae	*Acanthiza apicalis*	Inland Thornbill (Broad-tailed Thornbill)	-	-	x					x	x	
	Acanthiza chrysorrhoa	Yellow-rumped Thornbill	-	-	x					x	x	
	Acanthiza robustirostris	Slaty-backed Thornbill	-	-	x					x	x	
	Acanthiza uropygialis	Chestnut-rumped Thornbill	-	-	x					x		
	Aphelocephala leucopsis	Southern Whiteface	-	-	x					x	x	
	Gerygone fusca	Western Gerygone	-	-	x					x		
	Pyrrholaemus brunneus	Redthroat	-	-						x		
	Smicrornis brevirostris	Weebill	-	-	x					x		
Accipitridae	*Accipiter cirrocephalus*	Collared Sparrowhawk	-	-	x					x		
	Accipiter fasciatus	Brown Goshawk	-	-	x					x		

Family	Scientific Name	Common Name	Conservation Status+		Database					Literature		
			State	Federal	NatureMap	PMST	DBCA	DBCA 15yr	Field Survey	A	B	C
Accipitridae	*Aquila audax*	Wedge-tailed Eagle	-	-	x					x	x	
	Circus approximans	Swamp Harrier	-	-	x							
	Haliastur sphenurus	Whistling Kite	-	-	x							
	Hieraaetus morphnoides	Little Eagle	-	-	x							
	Milvus migrans	Black Kite	-	-	x							
Aegothelidae	*Aegotheles cristatus*	Australian Owlet-nightjar	-	-						x		
Anatidae	*Anas gracilis*	Grey Teal	-	-	x					x	x	
	Anas superciliosa	Pacific Black Duck	-	-	x						x	
	Aythya australis	Hardhead	-	-	x					x	x	
	Biziura lobata	Musk Duck	-	-	x						x	
	Chenonetta jubata	Australian Wood Duck (Wood Duck, Maned Duck)	-	-	x					x	x	
	Cygnus atratus	Black Swan	-	-	x					x		
	Malacorhynchus membranaceus	Pink-eared Duck	-	-	x						x	
	Tadorna tadornoides	Australian Shelduck (Mountain Duck)	-	-	x					x		
Anhingidae	*Anhinga novaehollandiae*	Australasian Darter	-	-	x							
Apodidae	*Apus pacificus*	Pacific Swift (Fork-tailed Swift)	MI	-		x						
Ardeidae	*Ardea modesta*	Eastern Great Egret	-	-	x							
	Ardea pacifica	White-necked Heron	-	-	x							
	Egretta novaehollandiae	White-faced Heron	-	-	x						x	
Artamidae	*Artamus cinereus*	Black-faced Woodswallow	-	-	x					x	x	

Family	Scientific Name	Common Name	Conservation Status+		Database					Literature		
			State	Federal	NatureMap	PMST	DBCA	DBCA 15yr	Field Survey	A	B	C
	Artamus personatus	Masked Woodswallow	-	-	x						x	
	Artamus minor	Little Woodswallow	-	-							x	
Burhinidae	*Burhinus grallarius*	Bush Stone-curlew (Bush Thick-knee)	-	-	x							
Cacatuidae	*Cacatua roseicapilla*	Galah	-	-	x					x		
	Nymphicus hollandicus	Cockatiel	-	-	x							
Campephagidae	*Coracina maxima*	Ground Cuckoo-shrike	-	-	x					x	x	
	Coracina novaehollandiae	Black-faced Cuckoo-shrike	-	-	x					x	x	
	Lalage tricolor	White-winged Triller	-	-							x	
Caprimulgidae	*Eurostopodus argus*	Spotted Nightjar	-	-	x							
Casuariidae	*Dromaius novaehollandiae*	Emu	-	-	x					x	x	
Charadriidae	*Charadrius ruficapillus*	Red-capped Plover	-	-	x							
	Charadrius veredus	Oriental Plover	MI	MI & MA		x						
	Elseyornis melanops	Black-fronted Dotterel	-	-	x					x	x	
	Erythrogonys cinctus	Red-kneed Dotterel	-	-	x							
	Pluvialis fulva	Pacific Golden Plover	MI	MI & MA			x					
	Thinornis cucullatus	Hooded Plover (Hooded Dotterel)	P4	MA	x	x	x					
	Vanellus tricolor	Banded Lapwing	-	-	x							
Cinclosomatidae	*Cinclosoma marginatum*	Western Quail-thrush	-	-	x							
Climacteridae	*Climacteris affinis*	White-browed Treecreeper	-	-						x		
Columbidae	*Columba livia*	Domestic Pigeon (Rock Dove)	-	-	x	x						
	Geopelia cuneata	Diamond Dove	-	-	x							

Family	Scientific Name	Common Name	Conservation Status+		Database					Literature		
			State	Federal	NatureMap	PMST	DBCA	DBCA 15yr	Field Survey	A	B	C
Columbidae	*Ocyphaps lophotes*	Crested Pigeon	-	-	x				x	x	x	
	Phaps chalcoptera	Common Bronzewing	-	-	x					x	x	
	Spilopelia senegalensis	Laughing Turtle Dove	-	-	x	x						
Corvidae	*Corvus bennetti*	Little Crow	-	-	x					x	x	
	Corvus coronoides	Australian Raven	-	-	x					x		
	Corvus orruF	Torresian Crow	-	-	x					x	x	
Cracticidae	*Cracticus nigrogularis*	Pied Butcherbird	-	-	x					x	x	
	Cracticus tibicen	Australian Magpie	-	-	x					x	x	
	Cracticus torquatus	Grey Butcherbird	-	-	x						x	
	Strepera versicolor	Grey Currawong	-	-	x					x		
Cuculidae	*Cacomantis pallidus*	Pallid Cuckoo	-	-	x						x	
	Chrysococcyx basalis	Horsfield's Bronze Cuckoo	-	-						x		
	Chrysococcyx osculans	Black-eared Cuckoo	-	-		x						
Dicaeidae	*Dicaeum hirundinaceum*	Mistletoebird	-	-	x						x	
Falconidae	*Falco berigora*	Brown Falcon	-	-	x					x	x	
	Falco cenchroides	Australian Kestrel (Nankeen Kestrel)	-	-	x					x	x	
	Falco cenchroides cenchroides		-	-	x							
	Falco hypoleucos	Grey Falcon	VU	VU		x	x					
	Falco longipennis	Australian Hobby	-	-	x							
	Falco peregrinus	Peregrine Falcon	OS	-	x		x	6				
Hirundinidae	*Cheramoeca leucosterna*	White-backed Swallow	-	-	x						x	

Family	Scientific Name	Common Name	Conservation Status+		Database					Literature		
			State	Federal	NatureMap	PMST	DBCA	DBCA 15yr	Field Survey	A	B	C
Hirundinidae	*Hirundo neoxena*	Welcome Swallow	-	-	x						x	
	Petrochelidon ariel	Fairy Martin	-	-	x							
	Petrochelidon nigricans	Tree Martin	-	-	x						x	
Laridae	*Larus novaehollandiae*	Silver Gull	-	MA	x							
	Sterna hybrida javanica		-	-	x							
	Sterna nilotica	Gull-billed Tern	MI	-			x					
Maluridae	*Malurus leucopterus*	White-winged Fairywren	-	-	x					x	x	
	Malurus pulcherrimus	Blue-breasted Fairywren	-	-	x							
	Malurus splendens	Splendid Fairywren	-	-	x					x	x	
Megapodiidae	*Leipoa ocellata*	Malleefowl	VU	VU	x	x	x	10				
Meliphagidae	*Acanthagenys rufogularis*	Spiny-cheeked Honeyeater	-	-	x					x	x	
	Anthochaera carunculata	Red Wattlebird	-	-	x							
	Certhionyx variegatus	Pied Honeyeater	-	-	x						x	
	Epthianura albifrons	White-fronted Chat	-	-	x							
	Epthianura aurifrons	Orange Chat	-	-	x							
	Epthianura tricolor	Crimson Chat	-	-	x					x	x	
	Gavicalis virescens	Singing Honeyeater	-	-						x	x	
	Lichmera indistincta	Brown Honeyeater	-	-	x							
	Manorina flavigula	Yellow-throated Miner	-	-	x					x	x	
	Purnella albifrons	White-fronted Honeyeater	-	-	x					x		
Meropidae	*Merops ornatus*	Rainbow Bee-eater	-	-	x	x				x		
Monarchidae	*Grallina cyanoleuca*	Magpie-lark	-	-	x					x	x	

Family	Scientific Name	Common Name	Conservation Status+		Database					Literature		
			State	Federal	NatureMap	PMST	DBCA	DBCA 15yr	Field Survey	A	B	C
Motacillidae	*Anthus australis australis*		-	-						x	x	
	Motacilla cinerea	Grey Wagtail	MI	MI & MA		x						
	Motacilla flava	Yellow Wagtail	MI	MI & MA		x						
Neosittidae	*Daphoenositta chrysoptera*	Varied Sittella	-	-						x		
Oreoicidae	*Oreoica gutturalis*	Crested Bellbird	-	-	x					x	x	
Otididae	*Ardeotis australis*	Australian Bustard	-	-	x							
Pachycephalidae	*Colluricincla harmonica*	Grey Shrikethrush	-	-	x					x	x	
	Pachycephala rufiventris	Rufous Whistler	-	-	x					x	x	
Pardalotidae	*Pardalotus striatus*	Striated Pardalote	-	-	x					x	x	
	Pardalotus striatus westraliensis		-	-	x							
Pelecanidae	*Pelecanus conspicillatus*	Australian Pelican	-	-	x							
Petroicidae	*Melanodryas cucullata*	Hooded Robin	-	-	x					x	x	
	Microeca fascinans	Jacky Winter	-	-	x							
	Petroica goodenovii	Red-capped Robin	-	-	x					x	x	
Phalacrocoracidae	*Phalacrocorax carbo*	Great Cormorant	-	-	x							
	Phalacrocorax melanoleucos	Little Pied Cormorant	-	-	x							
	Phalacrocorax sulcirostris	Little Black Cormorant	-	-	x							
Podargidae	*Podargus strigoides brachypterus*		-	-	x							
Podicipedidae	*Podiceps cristatus*	Great Crested Grebe	-	-	x							

Family	Scientific Name	Common Name	Conservation Status+		Database					Literature		
			State	Federal	NatureMap	PMST	DBCA	DBCA 15yr	Field Survey	A	B	C
	Poliocephalus poliocephalus	Hoary-headed Grebe	-	-	x						x	
Podicipedidae	*Tachybaptus novaehollandiae*	Australasian Grebe (Black-throated Grebe)	-	-	x					x		
Pomatostomidae	*Pomatostomus superciliosus*	White-browed Babbler	-	-	x					x	x	
Procellariidae	*Calonectris leucomelas*	Streaked Shearwater	MI	-			x	6				
Psittacidae	*Melopsittacus undulatus*	Budgerigar	-	-	x							
	Neophema bourkii	Bourke's Parrot	-	-	x					x		
	Pezoporus occidentalis	Night Parrot	CR	EN		x						
	Platycercus varius	Mulga Parrot	-	-	x						x	
	Platycercus zonarius	Australian Ringneck	-	-	x					x	x	
	Polytelis alexandrae	Princess Parrot	P4	VU		x						
Rallidae	*Fulica atra*	Eurasian Coot	-	-	x					x	x	
	Tribonyx ventralis	Black-tailed Nativehen	-	-	x							
Recurvirostridae	*Himantopus himantopus*	Black-winged Stilt	-	-	x						x	
	Recurvirostra novaehollandiae	Red-necked Avocet	-	-	x							
	Cladorhynchus leucocephalus	Banded Stilt	-	-							x	
Scolopacidae	*Calidris acuminata*	Sharp-tailed Sandpiper	MI	MI & MA		x	x					
	Calidris canutus	Red Knot	EN	EN, MI & MA			x					
	Calidris melanotos	Pectoral Sandpiper	MI	-		x						

Family	Scientific Name	Common Name	Conservation Status+		Database					Literature		
			State	Federal	NatureMap	PMST	DBCA	DBCA 15yr	Field Survey	A	B	C
	Tringa glareola	Wood Sandpiper	MI	MI & MA	x		x	2				
	Tringa hypoleucos	Common Sandpiper	MI	MI & MA	x	x	x	3				
Scolopacidae	*Tringa nebularia*	Common Greenshank	MI	MI & MA	x	x	x	5				
Threskiornithidae	*Platalea flavipes*	Yellow-billed Spoonbill	-	-	x							
	Plegadis falcinellus	Glossy Ibis	MI	-			x					
	Threskiornis spinicollis	Straw-necked Ibis	-	-	x							
Alcedinidae	*Todiramphus pyrrhopygius*	Red-backed Kingfisher	-	-	x					x	x	
	Todiramphus sanctus	Sacred Kingfisher	-	-	x							
Estrildidae	*Taeniopygia guttata*	Zebra Finch	-	-	x					x	x	
Psophodidae	*Psophodes occidentalis*	Western Wedgebill (Chiming Wedgebill)	-	-	x							
Ptilonorhynchidae	*Ptilonorhynchus maculatus guttatus*	Western Bowerbird	-	-	x					x	x	
Rhipiduridae	*Rhipidura albiscapa*	Grey Fantail	-	-	x					x		
	Rhipidura albiscapa albicauda	White-tailed Fantail	-	-	x							
	Rhipidura leucophrys	Willie Wagtail	-	-	x					x	x	
Tytonidae	*Tyto javanica delicatula*		-	-	x							
MAMMALIA												
Bovidae	*Bos primigenius taurus*	European Cattle	-	-						x		
	Capra aegagrus hircus	Goat	-	-		x				x		
Camelidae	*Camelus dromedarius*	Dromedary, Camel	-	-		x						x
Canidae	*Canis familiaris familiaris*	Dog	-	-		x				x		

Family	Scientific Name	Common Name	Conservation Status+		Database					Literature		
			State	Federal	NatureMap	PMST	DBCA	DBCA 15yr	Field Survey	A	B	C
	Vulpes vulpes	Red Fox	-	-		x						x
Dasyuridae	*Dasycercus blythi*	Brush-tailed Mulgara, Ampurta	P4	-			x	2				
Dasyuridae	*Dasyurus geoffroii fortis*	Western Quoll, Chuditch	VU	VU (at sp. level)		x						
	Ningaui ridei	Wongai Ningaui	-	-						x		x
	Pseudantechinus woolleyae	Woolley's Pseudantechinus	-	-								x
	Sminthopsis crassicaudata	Fat-tailed Dunnart	-	-								x
	Sminthopsis dolichura	Little long-tailed Dunnart	-	-						x	x	
	Sminthopsis hirtipes	Hairy-footed Dunnart	-	-							x	x
	Sminthopsis longicaudata	Long-tailed Dunnart	P4	-			x	7			x	
	Sminthopsis macroura	Stripe-faced Dunnart	-	-						x	x	x
	Sminthopsis ooldea	Ooldea Dunnart	-	-								x
	Antechinomys laniger	Kultarr	-	-							x	
Equidae	*Equus africanus asinus*	Donkey	-	-		x						
Felidae	*Felis catus*	Cat	-	-		x			x	x		x
Leporidae	*Oryctolagus cuniculus*	Rabbit	-	-		x			x	x		x
Macropodidae	*Osphranter robustus erubescens*	Euro, Biggada	-	-						x		x
	Osphranter rufus	Red Kangaroo, Marlu	-	-	x					x		x
Molossidae	*Austronomus australis*	White-striped Free-tailed Bat	-	-								x
	Ozimops kitcheneri	Western Free-tailed Bat	-	-						x		x
	Ozimops petersi	Inland Free-tailed Bat	-	-						x	x	

Family	Scientific Name	Common Name	Conservation Status+		Database					Literature		
			State	Federal	NatureMap	PMST	DBCA	DBCA 15yr	Field Survey	A	B	C
Muridae	*Mus musculus*	House Mouse	-	-	x	x					x	x
	Notomys alexis alexis	Spinifex Hopping-mouse	-	-							x	x
Muridae	*Pseudomys hermannsburgensis*	Sandy Inland Mouse	-	-	x					x	x	x
Vespertilionidae	*Chalinolobus gouldii*	Gould's Wattled Bat	-	-						x	x	x
	Nyctophilus geoffroyi geoffroyi	Lesser Long-eared Bat	-	-	x							x
	Nyctophilus sp.		-	-						x		
	Scotorepens balstoni	Inland Broad-nosed Bat	-	-						x	x	x
	Vespadelus baverstocki	Inland Forest Bat	-	-						x		
	Vespadelus finlaysoni	Finlayson's Cave Bat	-	-						x	x	
Suidae	*Sus scrofa*	Pig	-	-	x							
Tachyglossidae	*Tachyglossus aculeatus acanthion*	Short-beaked Echidna	-	-					x	x		x
REPTILIA												
Agamidae	*Ctenophorus caudicinctus*	Western Ring-tailed Dragon	-	-	x							
	Ctenophorus fordi	Mallee Sand Dragon	-	-	x							
	Ctenophorus nuchalis	Central Netted Dragon	-	-	x							
	Ctenophorus reticulatus	Western Netted Dragon	-	-	x					x		
	Ctenophorus scutulatus		-	-						x		
	Diporiphora amphiboluroides	Mulga Dragon	-	-						x	x	
	Pogona minor minor	Western Bearded Dragon	-	-						x		

Family	Scientific Name	Common Name	Conservation Status+		Database					Literature		
			State	Federal	NatureMap	PMST	DBCA	DBCA 15yr	Field Survey	A	B	C
	Tympanocryptis cephalus	Coastal pebble-mimic dragons	-	-	x						x	
Carphodactylidae	*Nephrurus vertebralis*		-	-	x					x		
Carphodactylidae	*Nephrurus wheeleri*	Southern Banded Knob-tailed Gecko	-	-	x							
	Underwoodisaurus milii	Southern Barking Gecko	-	-	x					x		
Diplodactylidae	*Diplodactylus conspicillatus*	Variable Fat-tailed Gecko	-	-	x							
	Diplodactylus granariensis	Wheat-Belt Stone Gecko	-	-						x	x	
	Diplodactylus granariensis rex		-	-	x							
	Diplodactylus pulcher		-	-	x					x	x	
	Rhynchoedura ornata	Western Beaked Gecko	-	-	x					x	x	
	Strophurus assimilis	Goldfields Spiny-tailed Gecko	-	-	x							
	Strophurus strophurus		-	-	x							
	Strophurus wellingtonae		-	-	x					x	x	
Elapidae	*Brachyurophis semifasciatus*		-	-						x		
	Parasuta monachus	Inland Hooded Snake	-	-	x					x	x	
	Pseudechis australis	Mulga Snake	-	-	x							
	Pseudechis butleri	Spotted Mulga Snake	-	-						x		
	Pseudonaja mengdeni	Western Brown Snake	-	-	x							
	Pseudonaja modesta	Ringed Brown Snake	-	-	x					x		
	Simoselaps bertholdi	Jan's Banded Snake	-	-						x		
	Suta fasciata	Rosen's Snake	-	-	x							

Family	Scientific Name	Common Name	Conservation Status+		Database					Literature		
			State	Federal	NatureMap	PMST	DBCA	DBCA 15yr	Field Survey	A	B	C
	Suta punctata	Spotted Snake	-	-						x		
Gekkonidae	*Gehyra variegata*	Variegated gehyra	-	-	x					x	x	
Gekkonidae	*Heteronotia binoei*	Bynoe's Gecko	-	-	x					x	x	
Pygopodidae	*Pygopus nigriceps*		-	-	x					x		
Pythonidae	*Antaresia stimsoni stimsoni*		-	-						x		
	Aspidites ramsayi	Woma	P1 (southwest subpop.)	-			x					
Scincidae	*Cryptoblepharus australis*		-	-	x							
	Cryptoblepharus buchananii		-	-	x					x		
	Ctenotus schomburgkii		-	-						x		
	Ctenotus severus		-	-	x					x		
	Ctenotus uber uber		-	-						x		
	Egernia depressa	Southern Pygmy Spiny-tailed Skink	-	-	x					x	x	
	Eremiascincus richardsonii	Broad-banded Sand Swimmer	-	-						x	x	
	Lerista desertorum		-	-	x					x	x	
	Lerista muelleri		-	-						x		
	Lerista timida		-	-	x							
	Liopholis inornata		-	-	x							
	Menetia greyii		-	-						x	x	
	Morethia butleri		-	-	x					x	x	

Family	Scientific Name	Common Name	Conservation Status+		Database					Literature		
			State	Federal	NatureMap	PMST	DBCA	DBCA 15yr	Field Survey	A	B	C
	Ctenotus leonhardii		-	-							x	
	Lerista distinguenda		-	-							x	
	Tiliqua multifasciata	Central Blue-tongue	-	-							x	
Typhlopidae	*Anilios hamatus*		-	-						x		
	Anilios australis		-	-							x	
	Anilios bicolor		-	-							x	
Varanidae	*Varanus caudolineatus*		-	-						x	x	
	Varanus panoptes rubidus		-	-						x	x	

Report	Project Area	Survey Timing and limitations	Survey Effort	Conservation Significant Fauna Recorded Onsite	Fauna Habitats
Level 2 Vertebrate Fauna Assessment, King of the Hills Project (Terrestrial Ecosystems, 2020)	King of the Hills Gold Mine 29km North Northwest	Nov 2019 March 2020	• Desktop • Level 2 vertebrate fauna risk assessment	-	Two fauna habitats: • Open Mulga Woodland over mixed shrubs • Woodland of large eucalypts over mixed shrubs along ephemeral creekline
Report for Gwalia Materials, Preliminary Environmental Impact Assessment, Flora Survey and Environmental Management Plan (GHD, 2011)	Leonora-Laverton Road 54km East	Nov 2010	• Desktop • Opportunistic vertebrate fauna (no fauna inventory available)	-	-
Biological Survey of the Eastern Goldfields of Western Australia Part 10 (Hall et al., 1994)	Erlistoun Station 98km Northeast	Feb 1979 May 1980 Aug 1981	• Vertebrate fauna survey	-	-
Vertebrate Fauna Risk Assessment for the Granny Smith Solar Power Farm Project (Terrestrial Ecosystems, 2018)	Granny Smith Gold Mine 100km East	Oct 2018	• Desktop • Level 1 vertebrate fauna risk assessment	-	Four fauna habitats: • Open mulga woodland over scattered low shrubs (stony sandy-clay or sandy-clay substrate) • Open chenopod shrubland (stony sandy-clay or sandy-clay substrate) • Chenopod and Mulga shrubland (stony sandy-clay or sandy-clay substrate) • Banded ironstone rocky ridgeline with scattered Mulga and shrubs.
Level 2 Fauna Risk Assessment for Granny Deeps Project Area. (Terrestrial Ecosystems, 2011)	Granny Smith Gold Mine 100km East	Jan 2011	• Desktop • Level 2 vertebrate fauna survey	• Long-tailed Dunnart (*Sminthopsis longicaudata*)	-
Vertebrate Fauna Risk Assessment Granny Smith Tailing Storage Facility Expansion (Terrestrial Ecosystems, 2020)	Granny Smith Gold Mine 105km East	April 2020	• Desktop • Level 1 vertebrate fauna risk assessment	-	Four fauna habitats: • Open mulga woodland over scattered low shrubs • Mulga Woodland along creekline over grasses and shrubs • Mulga over chenopod shrubland • Mulga Woodland over scattered low on banded ironstone formation

Appendix G
Fauna Likelihood of Occurrence

Appendix: Conservation Significant Fauna Likelihood of Occurrence

High = Previously recorded or Suitable habitat present and records less than 5 km from the Survey Area within the last 10 years, Medium = Suitable habitat present and records between 5 km and 15km from the Survey Area, and Low = No suitable habitat present, records greater than 15km from the Survey Area and/or records are historical

[+]State: Conservation status under BC Act or DBCA priority list, Federal: Conservation status under EPBC Act

Family	Scientific Name	Common Name	Conservation Code		Source				Habitat	Likelihood of Occurrence	Distance and Justification
			State	Federal	NM	PMST	DBCA	Field Survey			
AVIAN											
Apodidae	*Apus pacificus*	Pacific Swift (Fork-tailed Swift)	MI			x			Low to very high airspace over varied habitat, rainforest to semi-desert[2]	Low	Nearest record 168 kms away. Low due to distance and habitat.
Charadriidae	*Charadrius veredus*	Oriental Plover	MI	MI & MA		x			Mainly on grasslands and thinly vegetated plains, preferring open areas.[1]	Medium	Nearest record 17 kms away. Medium due to distance and habitat.
	Pluvialis fulva	Pacific Golden Plover	MI	MI & MA			x		Migrant from north Siberia, Mainly coastal in Australia, most commonly associated with tidal flats but also in other tidal settings like beaches and reefs, especially those with sea-weed[1]	Low	Nearest record 10 kms away. Low due to habitat.
	Thinornis cucullatus	Hooded Plover (Hooded Dotterel)	P4	MA	x	x	x		Ocean beaches and margins of inland salt lakes[1]	Low	Nearest record 11 kms. Low due to habitat.

Family	Scientific Name	Common Name	Conservation Code		Source				Habitat	Likelihood of Occurrence	Distance and Justification
			State	Federal	NM	PMST	DBCA	Field Survey			
Falconidae	*Falco hypoleucos*	Grey Falcon	VU	VU		x	x		Open plains with treed watercourses in arid inland[1]	Medium	Nearest record 60 kms away. Medium due to habitat and high chance that species may fly over the site.
	Falco peregrinus	Peregrine Falcon	OS		x		x		Most environments with suitable nest sites: cliff faces preferred, including man-made ones, commonly uses stick nests built by other species[1]	High	Nearest record 1.5 kms away. High due to habitat and high chance that species may fly over site.
Laridae	*Larus novaehollandiae*	Silver Gull		MA	x				Waters near coast; beaches, reefs, jetties and piers; town lakes, public gardens, sewage ponds etc, to which many gulls commute long distances.[6]	Low	Nearest record 11 kms away. Low due to habitat.
	Gelochelidon nilotica	Gull-billed Tern	MI				x		Strictly coastal, at high tide often roosts with other terns/shorebirds[1]	Low	Nearest record 91 kms away. Low due to habitat.
Megapodiidae	*Leipoa ocellata*	Malleefowl	VU	VU	x	x	x		Unburned mallee and woodland with abundant litter and low scrub[2]	Low	Nearest record 31 kms away. Low due to habitat.
Motacillidae	*Motacilla cinerea*	Grey Wagtail	MI	MI & MA		x			Usually near fresh sandy or rocky streams, but also on mown grass, ploughed land, sewage ponds[2]	Low	Nearest record 551 kms away. Low due to habitat.
Motacillidae	*Motacilla tschutschensis*	Yellow Wagtail	MI	MI & MA		x			Short grass and bare ground; swamp-margins, sewage ponds, saltmarshes, playing fields, airfields, ploughed lands, town lands.[6]	Low	Nearest record 617 kms away. Low due to distance.

Family	Scientific Name	Common Name	Conservation Code		Source				Habitat	Likelihood of Occurrence	Distance and Justification
			State	Federal	NM	PMST	DBCA	Field Survey			
Procellariidae	*Calonectris leucomelas*	Streaked Shearwater	MI				x		In Aust., abundant off n. coast less common further s.[6]	Low	Nearest record 87 kms away. Low due to habitat.
Psittacidae	*Pezoporus occidentalis*	Night Parrot	CR	EN		x			Appears often to have been associated with spinifex, or among samphire bushes on margins of salt lakes[2]	Low	Nearest record 407 kms away. Low due to distance and lack of spinifex.
	Polytelis alexandrae	Princess Parrot	P4	VU		x			Found in spinifex with Eucalyptus, Acacia, desert oaks, hakeas around salt lakes; often far from fresh water.[6]	Medium	Nearest record 8 kms away. Medium due to distance and habitat. Species could fly over site.
Scolopacidae	*Actitis hypoleucos*	Common Sandpiper	MI	MI & MA	x	x	x		Varied coastal and interior wetlands – narrow muddy edges of billabongs, river pools, mangroves, among rocks and snags, reefs or rocky beaches; avoids wide open mudflats. Perches on branches, posts, boats[2]	Low	Nearest record 10 kms away. Low due to habitat.
	Calidris acuminata	Sharp-tailed Sandpiper	MI	MI & MA		x	x		Fresh or salt wetlands – muddy edges of lagoons, swamps, lakes, dams, soaks, sewage farms, temporary floodwaters[2]	Low	Nearest record 10 kms away. Low due to habitat.
	Calidris canutus	Red Knot	EN	EN, MI & MA			x		Restricted to coastal sites with extensive, firm tidal flats[1]	Low	Nearest record 45 kms away. Low due to distance and habitat.

Family	Scientific Name	Common Name	Conservation Code		Source				Habitat	Likelihood of Occurrence	Distance and Justification
			State	Federal	NM	PMST	DBCA	Field Survey			
Scolopacidae	*Calidris melanotos*	Pectoral Sandpiper	MI			x			Usually coastal wetlands, both fresh and saline, but also inland on permanent and temporary wetlands. Uses sites with mudflats, fringing vegetation, swamps with heavy overgrowth of vegetation[2]	Low	Nearest Record 275 kms away. Low due to distance and habitat.
	Tringa glareola	Wood Sandpiper	MI	MI & MA	x		x		Uses freshwater wetlands, especially those with emergent sedges and taller fringing vegetation[1]	Low	Nearest record 0.78 kms away. Low due to habitat.
	Tringa nebularia	Common Greenshank	MI	MI & MA	x	x	x		Diverse inland and coastal spots. Away from the coast - uses both permanent and temporary wetlands – billabongs, swamps, lakes, floodplains, sewage farms and salt works ponds, flooded irrigated crops. On the coast – uses sheltered estuaries and bays with extensive mudflats, mangrove swamps, muddy shallows of harbours and lagoons, occasionally rocky tidal ledges. Prefers wet and flooded mud and clay rather than sand[2]	Low	Nearest record 10 kms away. Low due to habitat.

Family	Scientific Name	Common Name	Conservation Code		Source				Habitat	Likelihood of Occurrence	Distance and Justification
			State	Federal	NM	PMST	DBCA	Field Survey			
Threskiornithidae	*Plegadis falcinellus*	Glossy Ibis	MI				x		Shallow, fresh water, occasionally estuarine waters or dry grasslands[1]	Low	Nearest record 92 kms away. Low due to distance and habitat.
MAMMALIA											
Dasyuridae	*Dasycercus blythi*	Brush-tailed Mulgara, Ampurta	P4				x		Mulgara predominantly occur in hummock grasslands (e.g. Triodia spp.) and shrublands on sandy soils.[7]	Low	Nearest record 80 kms away. Low due to distance.
	Dasyurus geoffroii fortis	Western Quoll, Chuditch	VU	VU (at sp. level)		x			Areas dominated by sclerophyll forest or drier woodland, heath and mallee shrubland[4]	Low	Nearest record 322 kms away. Low due to distance and habitat.
	Sminthopsis longicaudata	Long-tailed Dunnart	P4				x		Rugged, rocky areas in the arid zone: scree slopes, boulder and stony plateaus and adjacent stony plains with shrubs over spinifex hummock grasslands.[5]	Low	Nearest record 45 kms away. Low due to suitable adjacent habitat.
REPTILIA											
Pythonidae	*Aspidites ramsayi*	Woma	P1 (SW subpop.)				x		Woodlands, heaths and shrublands, often with spinifex. Shelters mainly in abandoned monitor and mammal burrows and in soil cracks.[3]	Medium	Nearest record 95kms away. Medium due to habitat similarities. Burrows found on site.

Appendix H
Fauna Habitat Assessments

HAB01

Project:	4581 Horizon Power Leonora Biological		
Date	24/07/2021	**Personnel**	BE, LC
Easting	336056	**Northing**	6804099
Landform and soil		**Rock**	
Landform	Gravelly Plain	**Rock type/s**	Ironstone, Quartz
Soil type	Clay, Loam, Sand	**Surface stone cover**	
Soil colour	Brown, Orange	**Surface stone size classes present**	
Condition			
Quality	Very Good	**Habitat Features**	
Fire History	>10 Years	**Water Source**	Absent
Disturbance	Rubbish, Vehicle Track	**Microhabitats**	Burrows, Leaf litter, Peeling bark, Woody debris
Introduced fauna			

Vegetation			
Upper stratum	Low (<10 m)	Low woodland	*Acacia incurvaneura, Acacia mulganeura*
Mid stratum	Mid (1-2 m)	Mid Sparse Shrubland	*Eremophila forrestii subsp. Forrestii, Maireana planifolia*
Ground stratum	Low (>0.5 m)	Low Sparse Shrubland	*Ptilotus schwartzii var. schwartzii*

Fulcrum photo ID	NA

HAB02

Project:	4581 Horizon Power Leonora Biological		
Date	24/07/2021	**Personnel**	BE, LC
Easting	336180	**Northing**	6803941
Landform and soil		**Rock**	
Landform	Gravelly Plain	**Rock type/s**	Iron Stone, Quartz
Soil type	Clay, Loam, Sand	**Surface stone cover**	
Soil colour	Brown, Orange	**Surface stone size classes present**	
Condition			
Quality	Good	**Habitat Features**	
Fire History	>10 Years	**Water Source**	Absent
Disturbance	Weeds, Rubbish, Tracks	**Microhabitats**	Burrows, Leaf litter, Peeling bark, Woody debris
Introduced fauna			

Vegetation			
Upper stratum	Low (<10 m)	Low open wodland	*Acacia caesaneura, Acacia mulganeura*
Mid stratum	Mid (1-2 m)		
Ground stratum	Low (>0.5 m)	Low sparse tussock grassland	*Eragrostis eriopoda*

Fulcrum photo ID	NA

HAB03

Project:	4581 Horizon Power Leonora Biological		
Date	24/07/2021	**Personnel**	BE, LC
Easting	336266	**Northing**	6804160
Landform and soil		**Rock**	
Landform	Gravelly Plain	**Rock type/s**	Ironstone, Quartz
Soil type	Clay, Loam, Sand	**Surface stone cover**	
Soil colour	Brown, Orange	**Surface stone size classes present**	
Condition			
Quality	Very Good	**Habitat Features**	
Fire History	>10 Years	**Water Source**	Absent
Disturbance	Rubbish	**Microhabitats**	Burrows, Leaf litter, Peeling bark, Woody debris
Introduced fauna			

Vegetation			
Upper stratum	Low (<10 m)	Low woodland	*Acacia caesaneura, Acacia mulganeura, Acacia ayersiana*
Mid stratum	Mid (1-2 m)	Sparse shrubland	*Eremophila forrestii subsp. Forrestii*
Ground stratum	Low (>0.5 m)	low sparse tussock grassland	*Eragrostis eriopoda*

Fulcrum photo ID	NA

HAB04

Project:	4581 Horizon Power Leonora Biological		
Date	24/07/2021	**Personnel**	BE, LC
Easting	336368	**Northing**	6804138
Landform and soil		**Rock**	
Landform	Gravelly Plain	**Rock type/s**	Ironstone, Quartz
Soil type	Clay, Loam, Sand	**Surface stone cover**	
Soil colour	Brown, Orange	**Surface stone size classes present**	
Condition			
Quality	Good	**Habitat Features**	
Fire History	>10 Years	**Water Source**	Absent
Disturbance	Rubbish	**Microhabitats**	Burrows, Leaf litter, Peeling bark, Woody debris
Introduced fauna			

Vegetation			
Upper stratum	Low (<10 m)	Low open woodland	*Acacia incurvanera*
Mid stratum	Mid (1-2 m)		
Ground stratum	Low (>0.5 m)	Low sparse grassland	*Eragrostis eriopoda, *Cenchrus ciliaris*

Fulcrum photo ID	NA

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