Toro Energy Ltd

Lake Way and Centipede Baseline Vegetation and Flora Survey

October 2007

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EXECUTIVE SUMMARY

Toro Energy Ltd (Toro) is currently undertaking a Pre-Feasibility Study (PFS) in respect to conducting detailed explorative surveys over a series of prospective uranium exploration tenements located at Lake Way (E53/1132 and E53/1168) and Centipede (M53/224) project areas, located near the town of Wiluna. Toro commissioned Outback Ecology Services (Outback) to undertake a baseline flora and vegetation survey over areas containing ore bodies at the Lake Way (E53/1132 and E53/1168) and Centipede (M53/224) project areas, which was commenced in October 2007. The flora and vegetation surveys were one component of a broader assessment undertaken concurrently by Outback that also considered vertebrate and invertebrate fauna, aquatic ecology, stygofauna and soils.

During the October 2007 survey, a total of 132 taxa (including subspecies and variants) from 65 genera and 32 families were recorded across the Centipede and Lake Way Project Areas. The flora was dominated by the Chenopodiaceae, with 32 taxa from 10 genera. No Declared Rare or Priority Flora were observed during the survey. One record of an alien taxon, **Anagallis arvensis*, was made at a single site. In addition to this record, one species from the Aizoaceae family (tentatively identified as *Carpobrotus* sp.) may potentially be an alien taxon.

A total of 108 quadrats were assessed during the survey, with 46 located at the Centipede project area and 62 located at the Lake Way project area. Based on data collected from these quadrats, a total of 22 vegetation associations were described. The vegetation associations were defined based on floristic affinities that were conspicuously influenced by location within the landscape. Vegetation associations were broken up into five distinct groupings:

- Playa Vegetation
- Claypan Vegetation
- Fringing Vegetation
- Calcrete Vegetation
- Dune and Plains Vegetation

The majority of vegetation associations observed during the October 2007 survey were located across both project areas and were relatively widespread; however, a limited number of associations were restricted to one project area and had narrow distributions when observed.

No Threatened Ecological Communities are known to occur within the areas surveyed. A total of 17 'at risk' ecosystems have been identified within the Murchison 1 Bioregion. One of these, "*Melaleuca* sp nov (*M. xerophila*) Low Closed to Open Forest Strand Community near Wiluna" was identified as occurring within the Centipede and Lake Way project areas.

The majority of vegetation within the areas surveyed was assessed as being in very good to excellent condition according to the scale of Keighery (1994). No vegetation was assessed as being degraded or completely degraded. The most commonly observed disturbances to vegetation were due to the

activities of cattle or rabbits. There were several observations of disturbance due to the development of vehicle tracks, the majority of which were noted in the Centipede project area.

It is recommended that any future works that may cause further disturbance to the recognized 'at risk' ecosystem of "*Melaleuca* sp. nov (*M. xerophila*) Low Closed to Open Forest Strand Community near Wiluna" recorded in the Lake Way and Centipede project areas should be avoided. Current disturbances to this fringing vegetation should be minimized by using alternate access tracks to avoid further dissection of the vegetation. Halting track development and unnecessary usage of multiple tracks will improve vegetation condition in areas degraded by current track usage. Due to the presence of weed species in the Lake Way and Centipede project areas, it is recommended that cleaning of vehicles and appropriate precaution in movement of soil and materials between sites should be taken to minimise further spread of these weeds.

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1.0 INTRODUCTION

1.1 Project Background

Toro Energy Ltd. (Toro Energy) is currently undertaking a Pre-feasibility Study (PFS) in respect to the development of the Wiluna Uranium Assets, which comprise the Lake Way and Centipede uranium deposits. Wiluna is located approximately 750km northeast of Perth and 180km east of Meekatharra in the East Murchison Mineral Field. The two deposits of Lake Way and Centipede are located on the northern and western edges of Lake Way, which is a large temporary salt lake.

Toro Energy commissioned Outback Ecology Services (Outback) to commence baseline flora and vegetation surveys over the two project areas during 2007. The flora and vegetation survey was a component of a broader assessment undertaken concurrently by Outback that also considered fauna, aquatic ecology, stygofauna, and soils.

1.2 Scope and Objectives of the Study

This report documents the results of the flora and vegetation survey over the Lake Way (E53/1132 and E53/1168) and Centipede (M53/224) Project Areas. The methods used in the survey were consistent with a Level 2 survey as described in the Environmental Protection Authority (EPA) Position Statement No 3. “Terrestrial Biological Surveys as an Element of Biodiversity Protection” (EPA, 2002), and Guidance Statement No 51 “Terrestrial Flora and Vegetation Surveys for Environmental Impact Assessment in Western Australia (EPA, 2004).

The overall objectives of the baseline flora and vegetation survey were to:

i. Undertake a review of databases to determine significant flora species (including Declared Rare and Priority Flora) and Threatened Ecological Communities (TECs) known from, or likely to occur within or in close proximity to, the project areas;
ii. Undertake a census and develop an inventory of flora located in, or in close proximity to, the project areas. This would incorporate a desktop review of available information for the project areas and a detailed quadrat-based field survey and opportunistic sampling;
iii. Define, describe and map vegetation associations across the survey area, based on data collected during the detailed quadrat-based field survey, interpretations of aerial photography of the project areas and the results of statistical analyses;
iv. Provide an initial assessment of the local and regional conservation value of the flora and vegetation; and
v. Provide quantitative data that can form a baseline against which future impacts and rehabilitation can be assessed, and provide the basis of a monitoring programme.

1.3 Location of Project Areas

The Lake Way project area consists of an exploration lease (E53/1132) and a mining lease (M53/832) and is located along the northern edge of Lake Way, approximately 16km SE of the town of Wiluna in Western Australia (**Figure 1**). The Centipede project area consists of a single mining lease (M53/224) and is located in the south west corner of Lake Way, approximately 28km SE of the town of Wiluna (**Figure 1**).

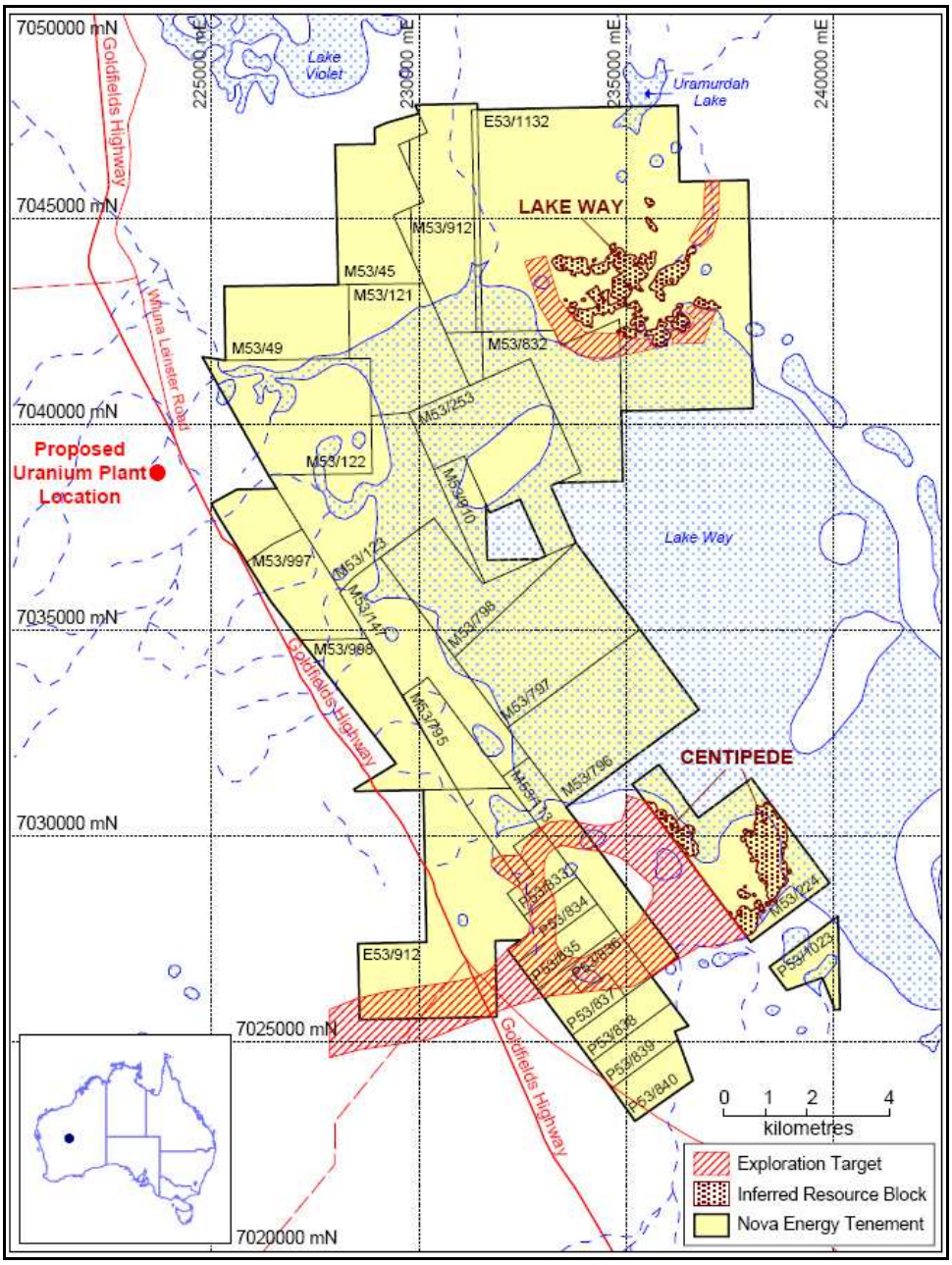

Figure 1 Map showing location of Lake Way and Centipede project areas surveyed in November 2007. The town of Wiluna is located NW of Lake Way. The inset shows the location of the project area within Western Australia

2.0 EXISTING ENVIRONMENT

2.1 IBRA Region – Murchison 1 Biogeographic Region

The Lake Way and Centipede project areas are located near Wiluna, which is situated in the semi-arid to arid Eyrean Sub-region, one of three very broad sub-regions defined by Heatwole (1987) covering the entire Australian continent, with the others being the tropical Torresian sub-region and the temperate Bassian sub-regions.

Thackway and Cresswell (1995) describe a system of 85 bioregions covering the whole of Australia in the Interim Biogeographic Regionalisation of Australia (IBRA); the result of collaboration between all state conservation agencies with co-ordination by the Australian Government Department of Environment and Heritage (now the Department of Environment, Heritage and Water Resources). Biogeographic regions (bioregions) are defined on the basis of climate, geology, landforms, vegetation and fauna.

The Lake Way and Centipede project areas are located within the Murchison bioregion of the IBRA (Thackway and Cresswell, 1995). The Murchison bioregion comprises the northern part of the Yilgarn Craton and includes two major components, or subregions; the Eastern Murchison (MUR1), and the Western Murchison (MUR2).

The Lake Way and Centipede project areas lie within the Eastern Murchison (MUR1) subregion, which is characterised by internal drainage, red sandplains, salt lake systems that are associated with an occluded paleodrainage system, plains of red-brown soils, and breakaways (Cowan, 2001). The Eastern Murchison subregion is 7,847,996 ha in size and comprises the “Southern Cross” and “Eastern Goldfields” terranes of the Yilgarn Craton (Cowan, 2001; NLWRA, 2002). Vegetation is dominated by Mulga woodlands, frequently rich in ephemeral species, hummock grasslands, saltbush and samphire shrublands (Cowan, 2001).

2.2 Climate

The nearest Bureau of Meteorology (BOM) weather station to the Lake Way and Centipede project areas is Wiluna. Daily temperatures recorded at Wiluna range from 21°C to 38°C during summer and 5.5°C to 22°C during winter (BOM, 2007) (**Figure 2**). Rainfall within the survey area is unreliable. The long-term mean annual rainfall is 257.3mm, the majority of which falls during the summer-autumn months. Occasional remnant tropical depressions and more isolated storms cause Lake Way to become temporarily inundated, which occurred as recently as 2006. Winter weather patterns are directly influenced by the anticyclone system which results in the generation of westerly winds and rain-bearing frontal systems (Gilligan 1994). Winter rains are usually heaviest around late May into July, and subside during the months of September and October as the anticyclone conditions stabilise.

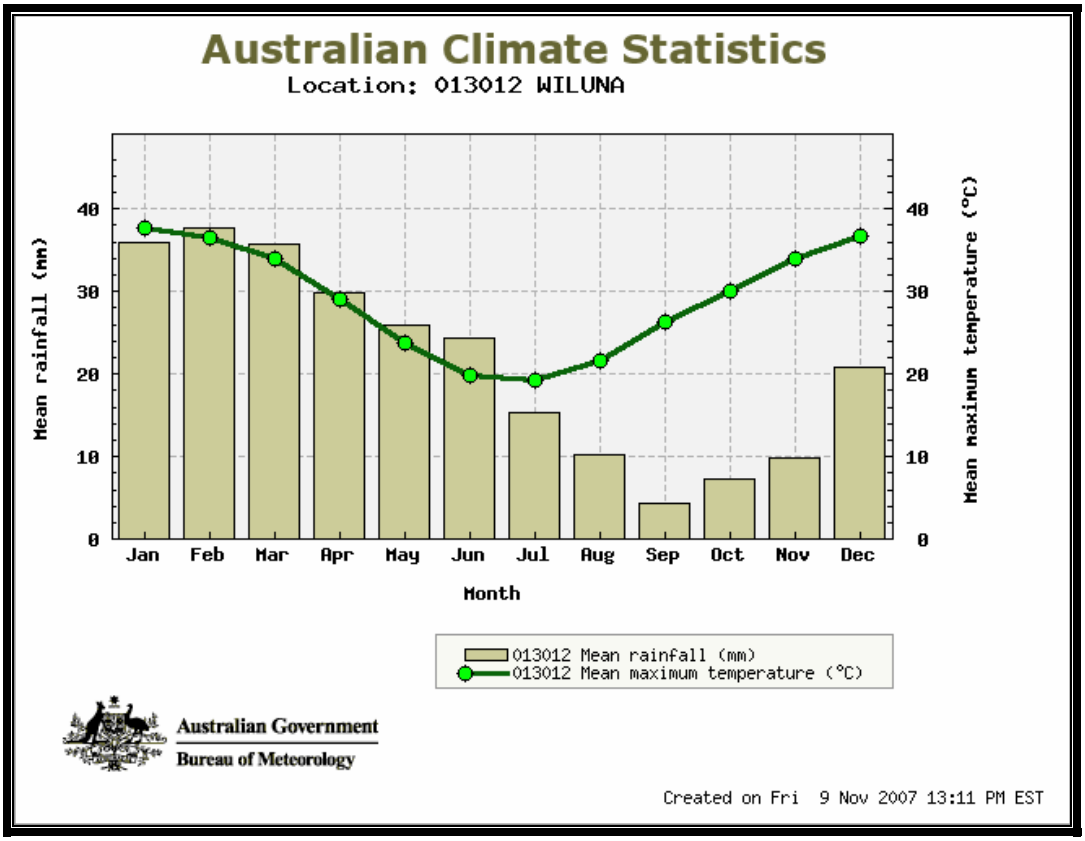

Figure 2 Climate data for Wiluna (BOM, 2007).

3.0 METHODS

3.1 EPA Survey Guidelines

The methods adopted for the survey were formulated as far as practicable in context with the Environmental Protection Authority (EPA) Position Statement No 3. "Terrestrial Biological Surveys as an Element of Biodiversity Protection" (EPA, 2002), and Guidance Statement No 51 "Terrestrial Flora and Vegetation Surveys for Environmental Impact Assessment in Western Australia" (EPA, 2004). The purpose of Guidance Statement No 51 (EPA, 2004) is to provide an overarching guide to the principles employed by the EPA when assessing the potential environmental impacts of an activity. Within the Position Statement, two levels of biological survey (fauna and flora) are detailed. The requirements of the two levels of survey are summarised below:

Level 1 survey

- Desktop review – incorporating a literature review, database searches and reviews of maps of proposed area of disturbance; and
- Reconnaissance survey – a site visit by suitably qualified personnel to:
    - Verify desktop review;
    - Catalogue flora, with a focus on the potential sensitivity of flora to disturbance; and
    - Broad-scale vegetation and vegetation condition mapping based on selected sites.

Level 2 survey

- Desktop review;
- Reconnaissance survey; and
- Comprehensive flora survey – comprehensive survey of the site and surrounding area, if appropriate, to assess vegetation in a local – regional context. Key features:
    - Quadrat-based survey
    - Application of statistical analyses to data
    - Multi-seasonal surveys, with a minimum of one survey conducted in the season following the majority of rainfall for the region.

Guidance Statement No 51 (EPA, 2004) provides proponents with a guide to the instances within which the different levels of survey would be considered appropriate. The suitability of the two levels of surveys is a product of the location (bioregion) of the project and the proposed scale and nature of the impact. Where the scale and nature of impact is low, a Level 1 survey is considered adequate (EPA, 2002). Where the scale and nature of the impact is moderate to high, a Level two survey is required (EPA, 2002). In light of the scale and nature of the proposed activities at Lake Way and Centipede, a Level 2 survey was deemed the correct level of survey. The survey to which this report relates was a first survey over the area and was based on the methods prescribed by the EPA (2004). Additional surveys would be required to meet the requirements of a Level 2 survey.

3.2 Desktop Review

A review of databases and publicly available information was conducted prior to the field surveys. The desktop review consisted of the following:

- A search of the *Environment Protection and Biodiversity Conservation (EPBC) Act 1999* Protected Matters database for flora of conservation significance and Threatened Ecological Communities (TEC) known, or likely, to occur within the survey areas;
- A search of the Department of Environment and Conservation (DEC) Threatened (Declared Rare) Flora database, the Western Australian Herbarium (WAHERB) database and the Declared Rare and Priority Flora List for rare and priority flora known, or likely, to occur within the survey areas;
- A search of the DEC TEC database for listings of communities known, or likely, to occur within the survey areas;
- A limited review of publicly available ecological information pertaining to the survey areas and surrounds.

3.2.1 Environment Protection and Biodiversity Conservation (EPBC) Act 1999 Protected Matters Database Search

The *EPBC Act* is a federal government act with a focus on matters of National Environmental Significance (DEWHA, 2008). The act serves to provide a means to manage threats to the natural environment by:

- providing for the protection of biodiversity conservation through the identification of threatening processes, protecting critical habitat, preparation of management plans and issuing conservation orders;
- providing for compliance and enforcement through a range of actions including court injunctions and environmental auditing; and
- providing for an additional level of approval for activities likely to impact on aspects of the natural environment protected under the Act.

The Protected Matters database has been established to manage listings under the Act. A search of the Commonwealth *EPBC Protected Matters* database was undertaken for an area within a radius of 100km around a centre of S 26°45' 57.59" and E 120 °20' 22.24" (WGS84) (the approximate centre of Lake Way) to determine whether there were any listings under the Act for the Lake Way and Centipede project areas. In particular, the search was employed to determine whether there were any Threatened Ecological Communities or protected flora known or likely to occur within the project areas. Threatened Ecological Communities (TECs) classified as threatened are protected under Schedule 2 of the *Environment Protection and Biodiversity Conservation (EPBC) Act 1999.* Approval from the Minister for the Environment and Heritage must be sought to undertake any action that is likely to have a significant impact on a listed threatened ecological community. There are three categories of TECs under the *EPBC Act 1999* – 'Critically Endangered', 'Endangered' and 'Vulnerable'.

3.2.2 Declared Rare and Priority Flora – DEC Database Search

Rare Flora are gazetted under subsection 2 of section 23F of the Western Australian *Wildlife Conservation Act 1950* and it is an offence to disturb rare flora. The Priority Flora list does not have the same legal status as the DRF Schedule, however Priority Flora are considered under the *Environmental Protection Act 1986* as enforced by the *Environmental Protection (Clearing of Native Vegetation) Regulations 2004*, when determining biodiversity value of an area (DoIR, 2006). Definitions of Declared Rare and Priority Flora categories are provided in **Appendix A**.

Prior to the field survey, a search was conducted of the Department of Environment and Conservation's *Threatened (Declared Rare) Flora* database, the *Western Australian Herbarium Specimen* database and the Declared Rare and Priority Flora List for rare and priority species opportunistically collected within a radius of approximately 100km surrounding the Lake Way and Centipede Project Areas, using the following centre co-ordinates:

- S 26°45' 57.59" and E 120°22' 22.24" (WGS84)

3.2.3 Threatened Ecological Communities – DEC Database Search

In Western Australia, the Department of Environment and Conservation (DEC) recognizes four categories of TEC within WA, as developed by English and Blyth (1997). These are – 'Presumed Totally Destroyed', 'Critically Endangered', 'Endangered' and 'Vulnerable' (**Appendix B**). Other ecological communities that are considered to possibly be under threat but do not meet the survey criteria associated with TECs, are listed under the Department's Priority Ecological Community List under Priorities 1, 2 and 3. Those ecological communities considered to be adequately known and are rare but not threatened, or that have been recently removed from the threatened list, are classified as Priority 4 and require regular monitoring. Conservation Dependent ecological communities are placed in Priority 5 (Naturebase, 2006).

In addition to TECs, ecosystems are also described as being 'at risk'. The status of 'at risk' is recognised by the DEC and the Department of Environment, Water, Heritage and the Arts. Whilst not conferring any form of legislative protection, the application of the 'at risk' status is a useful tool that highlights ecosystems that may be subject to threatening processes and as such, could potentially become a Threatened Ecological Community in the future.

A search of the DEC TEC-PEC (Priority Ecological Community) database was undertaken for an area of approximately 100km around a centre of S 26° 45' 57.59" and E 120° 22' 22.24". In addition to the database search for TECs and PECs, the potential presence of 'at risk' ecosystems within the survey areas was determined by reviewing listings in the DEC biodiversity audit report for the Murchison 1 bioregion (Cowan, 2001).

3.2.4 Review of Existing Reports

The following reports were reviewed:

- Mabbutt *et al* (1963) *General report on the lands of the Wiluna-Meekatharra area, Western Australia, 1958.*
- Lancaster and Associates (1981). Lake Way Joint Venture: Environmental Review and Management Programme. Draft Environmental Impact Statement. (Incorporating a summary of the findings of Blackwell, M.I. and Trudgen, M.E. (1980) *Report on the flora and vegetation of the Lake Way Joint Venture uranium project area together with an assessment of the impact of this project upon the landscape, flora and vegetation of this area and its regeneration potential*.
- Bennett Environmental Consulting Pty. Ltd. (2002) *Vegetation of areas impacted by construction of a causeway for exploration drilling at Lake Way Wiluna Gold Mine*
- Outback Ecology (2004) *Wiluna Gold Mine: Lake Way Baseline Study*

3.3 Field Survey

3.3.1 Timing of Surveys

The survey was undertaken between October 15th – 22nd, 2007. Rainfall in the month (September) immediately preceding the survey was below average with 0.4mm recorded (**Figure 3**). Two rainfall events occurred during the survey; however, these would have had no immediate obvious impact on vegetation.

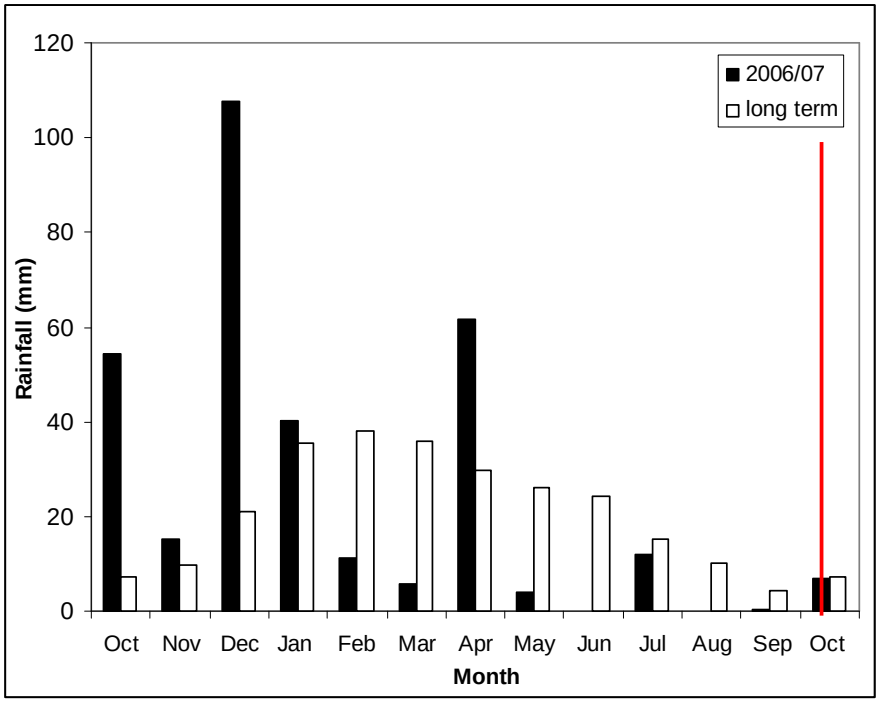

Figure 3 Monthly rainfall received at Wiluna from October 2006 – October 2007 in comparison to the long-term mean monthly rainfall. The red line indicates the timing of survey.

3.3.2 Survey personnel

Personnel involved in the flora and vegetation survey over the Lake Way and Centipede Project Areas were:

Mr Brett Neasham	BSc. (Biol) Hons (Env. Man)	Botanist/Environmental Scientist
Ms Belinda Jeanes	BSc. Env Biol	Botanist/Environmental Scientist

Specimen identifications:

Mr Brett Neasham	BSc. (Env Man) Hons	Botanist/Environmental Scientist
Ms Belinda Jeanes	BSc. Env Biol	Botanist/Environmental Scientist

Specialist identifications:

Mrs Bindy Datson, a botanist specialising in salt lake ecology.

Mr Russell Barrett

Mr Malcolm Trudgen – consulted regarding *Melaleuca* sp. nov (Trudgen)

3.3.3 Survey Methods

A total of 46 30m x 30m quadrats were sampled at the Centipede project area (**Figure 4**) (summary in **Appendix G**) and 62 30m x 30m quadrats were sampled at the Lake Way project area during the October 2007 survey (**Figure 5**) (summary in **Appendix G**). Initial site selection was based on interpretations of aerial photography, with further refinement in the field, with the aim of ensuring that each vegetation unit observed was surveyed using a minimum of two quadrats. A minimum of one quadrat was located in small vegetation units.

In each quadrat, the following was recorded:

- Location (recorded in WGS84 UTM)
- Estimated height and percentage foliar cover of all flora species. Minimum cut-off cover value was 2%, below 2% was scored as <2%. Height values were derived based on an approximate mean height value. Where species had a significant disparity in heights, values were based on the most commonly observed range of heights.
- Topographic position.
- Slope.
- Soil type.
- Type of litter and percent cover.
- Type and percent cover of exposed rock or surface rocks (where appropriate).
- Assessment of the condition of vegetation, based on the scale developed by Keighery (1994) (**Appendix D**).
- A photograph of the vegetation

All specimens collected were assigned a sample number in the field, with a sample collected for identification and a sample placed in a field herbarium. Where possible, multiple samples were collected to allow for variation between populations to be accounted for. Fruit was collected when possible. A tag was attached to each specimen, identifying location, date of collection, height, presence of flowers/fruit and brief description, specimen number and additional information to aid description of habitat if required. Specimens collected were identified by reference to taxonomic guides and Western Australian Herbarium samples. Where specimens could not be identified by botanists from OES, a specialist botanist was utilized. A complete list of species identified during the surveys is presented in **Appendix C**. Nomenclature follows Paczkowska and Chapman (2000) except for name changes, which were sourced from the Western Australian Herbarium (2007).

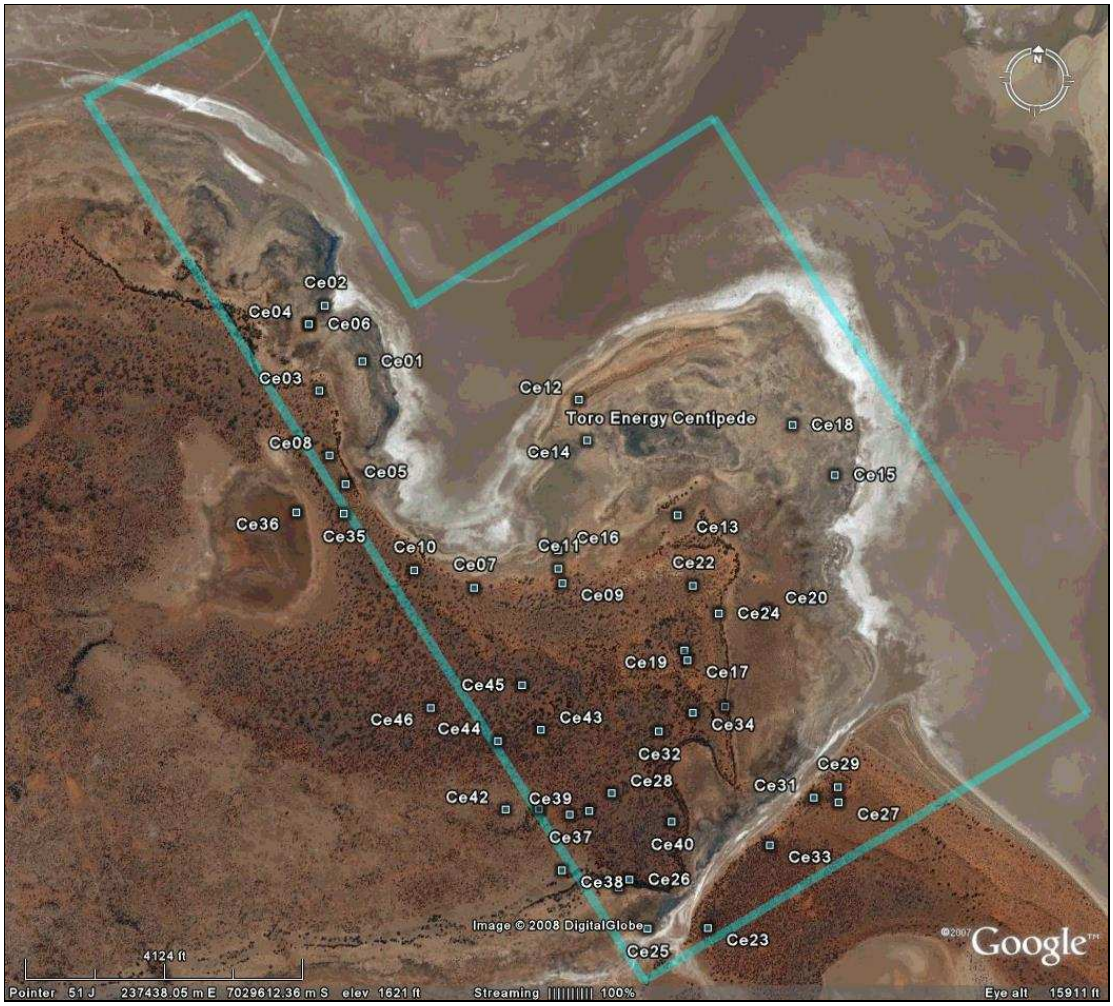

Figure 4 Location of quadrats at Centipede project area surveyed during October 2007.

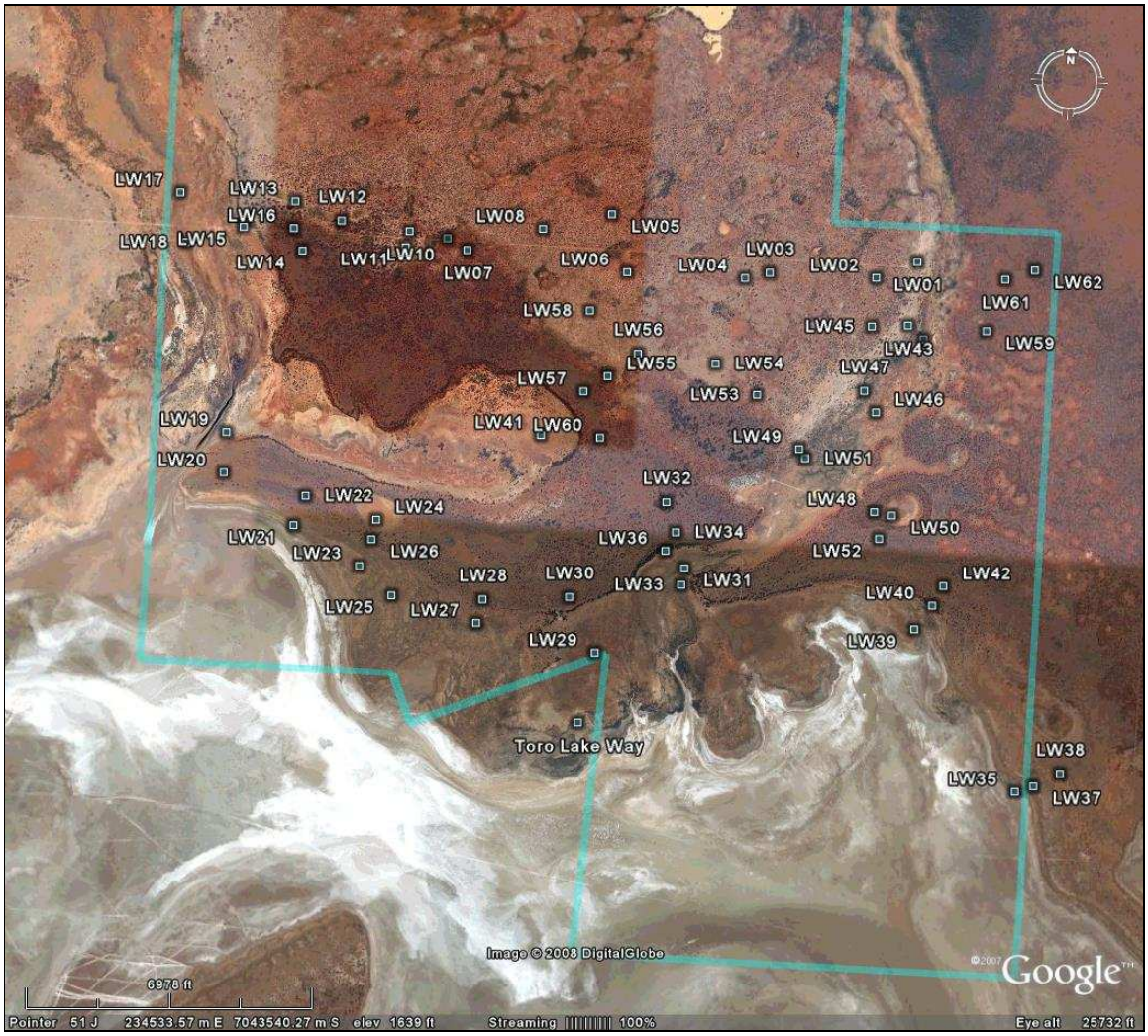

Figure 5 Location of quadrats at Lake Way project area surveyed during October 2007.

3.3.4 Assessment of Conservation Significance

The conservation significance of vegetation observed at the Centipede and Lake Way project areas was assessed in the field based on the following factors:

i. The presence of a previously identified TEC or 'at risk' vegetation community;
ii. The observation of a potentially unique and previously un-described vegetation association;
iii. The extent (local significance) of any vegetation association, irrespective of whether it was perceived as a TEC, 'at risk' or novel assemblage;
iv. The condition of any vegetation;
v. The presence of any priority flora, new species or range extensions

3.4 Data Analysis and Interpretation

3.4.1 Analysis of Floristic Data

Data were entered into excel spreadsheets to facilitate analysis in PRIMER, with nil and <2% cover values scored as 0 and all other values entered as recorded. Data were square root transformed prior to performing a resemblance analysis between samples using Bray-Curtis similarity as the measure. The resemblance output was then further analysed using CLUSTER and MDS (Multi-Dimensional Scaling). During the first pass MDS, two clear outliers were observed, Ce16 and Ce17 (both from the Centipede project area), which prevented any separation of the remaining quadrats. These quadrats were removed and the MDS and CLUSTER analyses were re-run.

3.4.2 Vegetation Mapping

Vegetation mapping was based on the outputs from the PRIMER analysis, field observations and interpretations of aerial photography of the project areas. The boundaries of vegetation types were identified and marked on aerial photography for plotting. Mapping of vegetation over the two project areas was undertaken at a scale of 1:10,000.

3.5 Limitations of Survey

The EPA (2004) lists a number of possible limitations that may limit the adequacy of flora and vegetation surveys. These are replicated in **Table 1** with an assessment of the current survey.

Table 1 Summary of Potential Flora and Vegetation Survey Constraints

Aspect	Constraint?	Comment Regarding Current Survey
Competency/experience of consultants	No	The senior botanist on this project had 8 years experience
Scope	No	The scope was clearly defined and realistically achievable within the designated timeframe.
Proportion of flora identified	Limited	A limited number of species were not able to be identified due to insufficient structures present to facilitate identification
Information sources (eg historic or recent)	Limited	No historical data was available for the Centipede project area, but there was data available for areas to the north of this site
Proportion of task achieved, and further work which might be needed	Limited	Sampling across the project areas was considered to be adequate. Additional surveying is recommended to enhance census data
Timing / weather / season / cycle	Limited	The survey was conducted in an area with bimodal rain. Additional surveys should be conducted to complement this survey
Disturbances	Limited	Whilst the majority of the survey areas were disturbed due to grazing and vehicular movement, these disturbances were not considered to be of such a magnitude that describing and assessing vegetation was affected. Some areas had been burnt, but the fires were not recent and the vegetation was in an advanced state of recovery.
Intensity	Limited.	The area was intensively surveyed; with 46 quadrats located within the Centipede project area and 62 quadrats located within the Lake Way project area. The majority of vegetation, as far as could be reasonably assessed, was surveyed.
Completeness	Limited	The census of flora was constrained by the effects of poor rainfall prior to the survey
Resources	No	
Remoteness / access problems	No	
Availability of contextual information	Limited	Some survey work conducted over Lake Way Project Area was conducted by Lancaster and Associates (1981) whilst smaller areas of Lake Way were surveyed by Eleanor Bennett in 2002) and Outback Ecology (2004).

4.0 RESULTS

4.1 Desktop Review

4.1.1 Environment Protection and Biodiversity Conservation (EPBC) Act 1999 Protected Matters Database Search

One threatened species, *Pityrodia augustensis* (Lamiaceae), was listed in the Protected Matters database search (**Appendix F**). This species was listed as being vulnerable. Western Australian Herbarium records list this species as Declared Rare (Western Australian Herbarium, 2007). The herbarium information indicates that this species is distributed to the north west of the survey areas (Western Australian Herbarium, 2007).

There were no TECs as defined under the Act within the search area. There were no World Heritage areas, National Heritage areas or RAMSAR wetlands within the search area. There were three places on the Register of the National Estate, one of which was Wanjarri, which is an A Class Reserve vested in the DEC (refer 2.3 for details). Wanjarri was also listed as a State Reserve.

4.1.2 Declared Rare and Priority Flora – DEC Database Search

No Declared Rare Flora, as defined under the Western Australian *Wildlife Conservation Act 1950*, have been recorded from within the DEC database search area as defined within this report. A total of 17 priority taxa have previously been collected and vouchered at the WA Herbarium from within the search area (**Table 2**). Of these, six taxa were Priority 1, two were Priority 2, six were Priority 3 and the remaining three were Priority 4 (**Table 2**). No record of the DRF *Pityrodia augustensis* was returned in this database search.

The known habitat of these species was reviewed to determine the likelihood of occurrence within the two project areas (**Table 3**). The majority of priority taxa were considered unlikely to occur within the project areas. The majority of priority flora recorded in the database searches were associated with banded ironstone formations (BIF), laterite or quartz breakaways. These landforms do not occur within the areas surveyed

Table 2 Priority Flora identified within the Wiluna area (DEC, 2007; Western Australian Herbarium, 2007) and a preliminary habitat assessment to determine potential occurrence within Centipede and Lake Way project areas

Cons. Code	Species	Habitat	Likelihood of occurrence in survey areas
P4	*Acacia balsamea*	Occurs on red earth & gravel. Associated with rocky hills, granite breakaways.	Unlikely in salt lake and fringing areas; however, records have been made close to Centipede project area
P3	*Baeckea* sp. Melita Stn	Occurs on dark red rocky soil over ironstone. Found in Mulga shrubland.	Unlikely, habitat not in survey areas
P2	*Beyeria* sp. Murchison	Found on BIF outcrop.	Unlikely, habitat not in survey areas
P3	*Calytrix uncinata*	Occurs on white or red sand and sandy clay. Associated with granite or sandstone breakaways and rocky rises.	Unlikely in salt lake or fringing areas; however, records have been made close to the Centipede Project Area
P1	*Eremophila congesta* ms	Found on lateritic outcrops in greenstone hills and stony quartzite slopes.	Unlikely, habitat not in survey areas
P1	*Eremophila flaccida* subsp. *attenuata*	Occurs on stony clay over quartzite. Found on hillslopes and ridges.	Unlikely, habitat not in survey areas
P4	*Eremophila pungens* ms	Occurs on sandy loam and clayey sand over laterite. Associated with plains, ridges and breakaways.	Unlikely in salt lake and fringing areas; however, records have been made close to Centipede project area
P1	*Euryomyrtus inflata*	Occurs on deep red sand on flat plains.	Unlikely, habitat and vegetation not in survey areas
P4	*Hemigenia exilis*	Found on laterite, breakaways and slopes.	Potential to occur in project area, mainly due to proximity of Lake Way to record
P3	*Homalocalyx echinulatus*	Occurs on red sands. Found on sandplains.	Unlikely, local records appear to be on BIF ridges or remnants
P3	*Maireana prosthecochaeta*	Occurs on sand and clay. Associated with the margins of lakes and watercourses.	Habitat is suitable for this species, local record is at base of a breakaway, none of which were observed during surveys
P3	*Myriocephalus appendiculatus*	Occurs on sand & clay soils. Associated with moist depressions, swamps, claypans.	Habitat is suitable for this species. Local record on Kopi ridges, non of which occurred within areas surveyed
P2	*Olearia mucronata*	Found on schistose hills and along drainage channels.	Potential to occur within project areas. Local records note occurrence on ironstone and quartz ridges
P3	*Prostanthera ferricola*	Local records on banded ironstone ridges	Unlikely to occur within project areas
P1	*Ptilotus astrolasius* var. *luteolus*	Found on red sandy soils, basalt and stony hills.	Unlikely to occur in project area. Local records from low quartz ridge, which do not occur within project areas.
P1	*Ptilotus chrysocamus*	Brown sandy clays. Bases of breakaways, rocky scree slopes.	Unlikely to occur within project area. Local record is at the base of a rocky breakaway
P1	*Stackhousia clementii*	Found on skeletal soils and sandstone hills. Recorded near watercourse.	Unlikely, habitat does not occur within the project areas.

4.1.3 Threatened Ecological Communities – DEC database search

One TEC was listed as occurring within the DEC search parameters; the Wiluna West vegetation complexes on banded ironstone formation. This TEC does not occur within the areas surveyed in October 2007. A total of 17 'at risk' ecosystems have been identified within the Murchison 1 bioregion, of which one, "*Melaleuca* sp. nov (*M. xerophila*) Low Closed to Open Forest Strand Community near Wiluna" (Cowan, 2001) was considered as occurring within the Centipede and Lake Way Project Areas. Details on the distribution and conservation significance of this association are discussed in the vegetation results section.

4.1.4 Review of Existing Reports

Mabbutt *et al* (1963) *General report on the lands of the Wiluna-Meekatharra area, Western Australia, 1958.*

The Wiluna – Meekatharra area, within which the project areas are located, was surveyed in 1958 by personnel from the CSIRO Division of Land Research and Regional Survey (Mabbutt *et al.,* 1963). The objective of the survey was to map and describe sections of Australia. The main descriptive unit employed during the survey was the land system, which was essentially an area within which patterns of vegetation, soil and landforms were observed. The land systems were developed to provide a means of assessing the potential use of land for pastoral activities across large survey areas.

The surveys conducted by the CSIRO Division of Land Research and Regional Survey utilise the same descriptive terminologies and survey methodologies as those employed in the inventory and condition surveys subsequently undertaken by the Department of Agriculture and Food (formerly Department of Agriculture). This provides for a degree of confidence and relevance in the broad descriptions of Mabbutt *et al.* (1963) datasets, in spite of the age of the surveys. Any assessments regarding condition of vegetation or soils were ignored due to the lack of recent supporting data.

The Lake Way Project Area was located over three land systems (**Table 3**). Of the land systems noted for the Lake Way Project Area, the Carnegie and Cunyu systems are the most widespread. The Centipede Project Area was located over the same two land systems (**Table 3**). The comparative dominance of these two land systems within the project areas is a reflection of the location of the ore bodies in calcrete paleochannels.

Table 3 Summary of Land Systems over the Lake Way and Centipede Project Areas (adapted from Mabbutt *et al.,* 1963).

Land Type (broad descriptive unit)	Land System	Description.	Total area and % of Wiluna – Meekatharra survey area*	Occurrence over Project Areas
Depositional Surfaces – Calcreted valley fills	Cunyu	The Cunyu Land System is comprised of tertiary calcrete in the form of valley fills with a mosaic of calcrete platforms and alluvial floors and plains. The Land System has a low gradient. The majority of vegetation within the Cunyu Land System is mulga or *Acacia* spp grading to fringing communities or halophytic vegetation.	1554km^2 (2.4%)	Widespread at Lake Way, small occurrence at Centipede
Depositional Surfaces – Partly saline alluvial plains	Barwidgee	The Barwidgee Land System is comprised of fine-textured saline alluvium in the form of partly saline plains, tributary plains and small clay-pans. Vegetation is variable but is dominated by halophytic shrublands with the remaining areas ranging from eucalpyt and mulga communities to bare areas.	674km^2 (1%)	Lake Way Project Area.
Depositional Surfaces – Mainly non-saline alluvial plains	Mitchell	The Mitchell Land System is comprised of quarternary alluvium and aeolian sands in the form of non-saline alluvial sandy plains grading to saline alluvial flats in lower areas. Vegetation ranges from mulga on sand plains and groves to halophytic shrublands on saline plains and intergroves and wanderrie flats.	466km^2 (0.7%)	Restricted to a small area on the northern edge of Lake Way Project Area.
Depositional Surfaces – Sand plain and dunes	Bullimore	The Bullimore Land System is comprised of quarternary aeolian sand in the forms of depositional sand plains and dunes and occasional breakaways. Vegetation is predominately spinifex with a canopy of mallee or mulga grading to spinifex and forbs. A small percentage of the Land System is host to mulga with mallee over mixed grasses and forbs.	13985km^2 (21.6%)	Lake Way Project Area
Depositional Surfaces – Salt lakes and dunes	Carnegie	The Carnegie Land System is comprised of quarternary lacustrine saline clay and sand, saline alluvium and aeolian sand in the form of salt lakes and fringing dunes, with kopi banks to the south and east of lakes. Vegetation ranges from samphire or halophytic shrublands to fringing communities of *Melaleuca* spp or mulga to mulga over chenopods to mainly bare.	3625km^2 (5.6%)	Main Land System at Centipede, widespread at Lake Way

* area converted from square miles – conversion factor of 2.5899 used to derive area in square kilometres

Lancaster B, and Associates (1981). Lake Way Joint Venture: Environmental Review and Management Programme. Draft Environmental Impact Statement. (Incorporating a summary of the findings of Blackwell, M.I. and Trudgen, M.E. (1980) *Report on the flora and vegetation of the Lake Way Joint Venture uranium project area together with an assessment of the impact of this project upon the landscape, flora and vegetation of this area and its regeneration potential*.

The Lake Way project area was surveyed by Blackwell and Trudgen (1980) as a component of the Lake Way Joint Venture environmental review. In the course of the survey, a total of 204 species were collected from the broader survey area, with 141 species collected from within the detailed study area. A number of the specimens collected during the survey were considered vulnerable but could not be

identified to the species level. However, the species in question were not considered to be severely impacted by the proposed development. Species named included:

- *Melaleuca* sp nov – subsequently confirmed as *M. xerophila*, a species that does not currently occur in any conservation listing
- *Amyema* sp (Loranthaceae) – undescribed species
- *Rhagodia sp* (Chenopodiaceae) – undescribed species
- *Lawrencia* sp (Malvaceae) – undescribed species. This species is described as a small herb and is potentially *L. densiflora*
- *Swainsona* cf *unifoliata* – similar to *S. unifoliata*.
- *Eremophila arachnoides* – an undescribed subspecies. This is potentially a reference to *E. arachnoides* subsp. *arachnoides*, which is a Priority 3 taxon and the only *E. arachnoides* subspecies recorded within the Murchison bioregion (Western Australian Herbarium, 2007); however, no record of this species exists within the survey areas. The closest confirmed record of this species is over 100km north of Wiluna (Western Australian Herbarium, 2007).

Vegetation observed during the survey by Blackwell and Trudgen (1980) was considered to be typical of salt lake edges within the Austin botanical province – with the exception of the low closed to open forest *Melaleuca* sp. nov, located in fringing areas between halophytic flats and upslope vegetation units (Lancaster and Associates, 1981). *Melaleuca* sp. nov has been confirmed as *M. xerophila* (M. Trudgen, pers. comm.). This association has been classed as 'at risk' and is referred to in the biodiversity audit for the East Murchison bioregion (Cowan, 2001). Fringing vegetation was dominated by Chenopodiaceae, consistent with halophytic vegetation communities. Inland from the lake's edge, vegetation is comprised of Low Open Calcrete Woodlands and Mallee – Spinifex or Mulga – Spinifex Hummock Grassland Associations (Lancaster and Associates, 1981).

The Low Open Calcrete Associations were considered to be diverse but with a comparatively poor ground cover layer (Lancaster and Associates, 1981). This was considered to be due to a mix of drought, grazing and the effects of erosion. The Hummock Grassland Associations were highly variable, with cover of emergent species ranging from scattered to 30% cover (Lancaster and Associates, 1981). The development of individual and clusters of spinifex were similarly variable.

Bennett Environmental Consulting Pty. Ltd. (2002) *Vegetation of areas impacted by construction of a causeway for exploration drilling at Lake Way Wiluna Gold Mine*

This survey was focused on an island located within Lake Way and an area adjacent to the island. Vegetation within the areas surveyed was dominated by *Halosarcia* Low Heath and *Acacia* Shrubland or Woodland (Bennett Environmental Consulting, 2002). None of the vegetation was identified as having conservation significance. The vegetation within the Lake Way Project Area was described as being in very good condition. Whilst there was some evidence of degradation due to grazing, the area had been destocked at the time of the survey.

Bennett Environmental Consulting (2002) recorded flora from 26 families, 54 genera and 97 taxa (species and subspecies) during the survey. The dominant families were Chenopodiaceae (10 genera, 24 species), Poaceae (11 species, 18 genera), Myoporaceae (1 genus, 7 species), Amaranthaceae (2 genera, 6 species) and Malvaceae (2 genera, 6 species). No DRF or Priority Flora were recorded during this survey.

Outback Ecology (2004) *Wiluna Gold Mine: Lake Way Baseline Study*

Flora and vegetation in this report was located on the fringing areas of Lake Way to the north of the Centipede project area and was described as samphire vegetation (Outback Ecology, 2004). During the survey, Outback Ecology (2004) recorded eight species, of which five were species of *Halosarcia* (Chenopodiaceae). Other species recorded were *Maireana brevifolia* (Chenopodiaceae)*, Frankenia cinerea* (Frankeniaceae) and *Lawrencia helmsii* (Malvaceae).

4.2 Field Survey

4.2.1 Vegetation – Statistical Analysis

A cutoff line to determine similarity between quadrats was set at 25% on the CLUSTER dendrogram (**Figure 6**). Whilst a higher level of similarity would typically be employed, this was considered unnecessary as it would have led to the delineation of more vegetation units within the survey area than was considered accurate. The effects of a high number of quadrats and a comparatively low number of species (for the number of quadrats) were also considered in determining the cutoff. The ordination produced in the MDS analysis had a stress value of 0.16 (**Figure 7**), indicating that the representation of the relationship between quadrats in the ordination was due to an underlying similarity. The output in the MDS was considered to be consistent with the delineation of vegetation from the CLUSTER analysis.

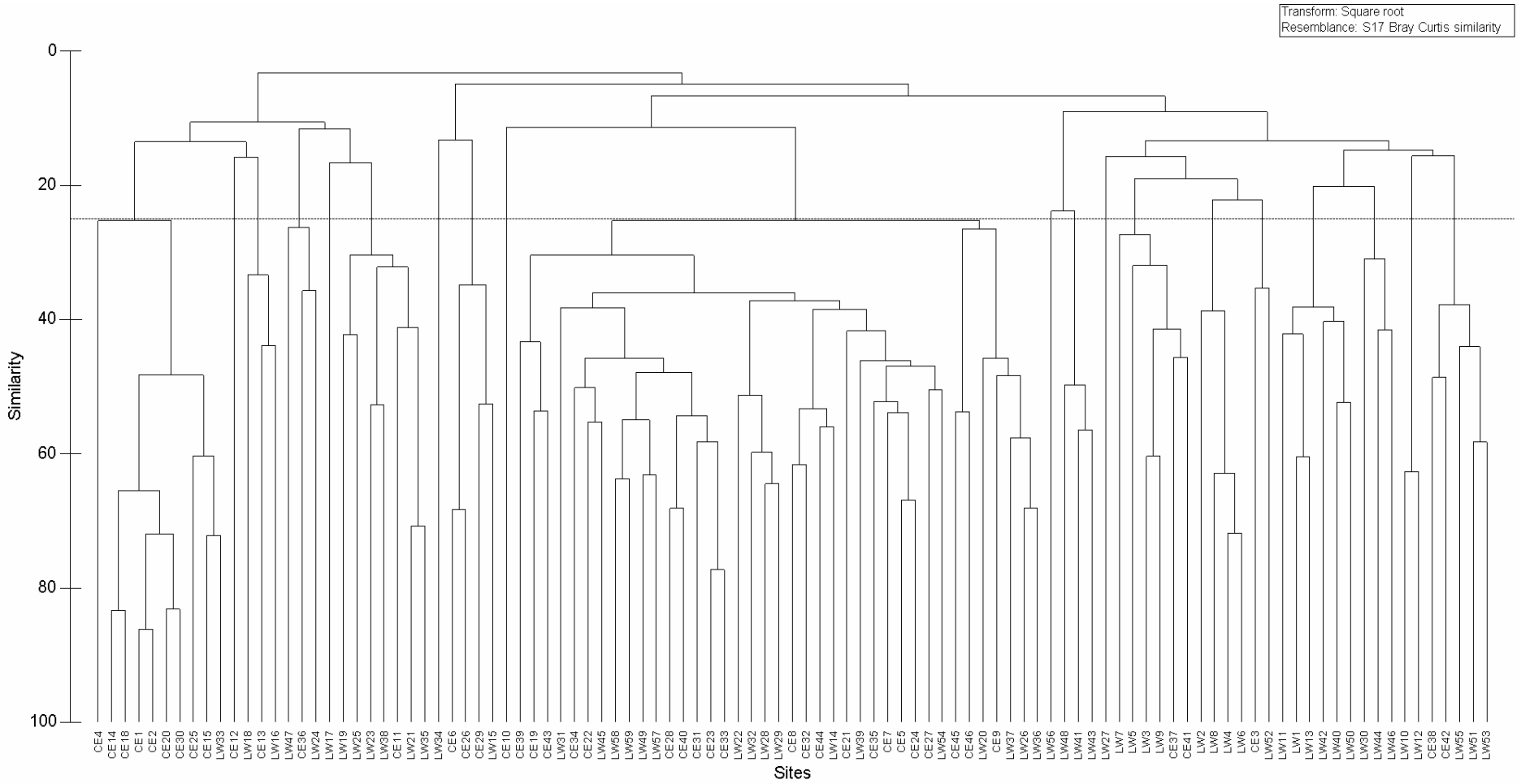

Figure 6 Dendrogram produced from CLUSTER analysis in PRIMER, showing the relationship between quadrats at the Centipede and Lake Way project areas as surveyed in October 2007, based on cover adjusted (<2% removed) square root transformed species composition.

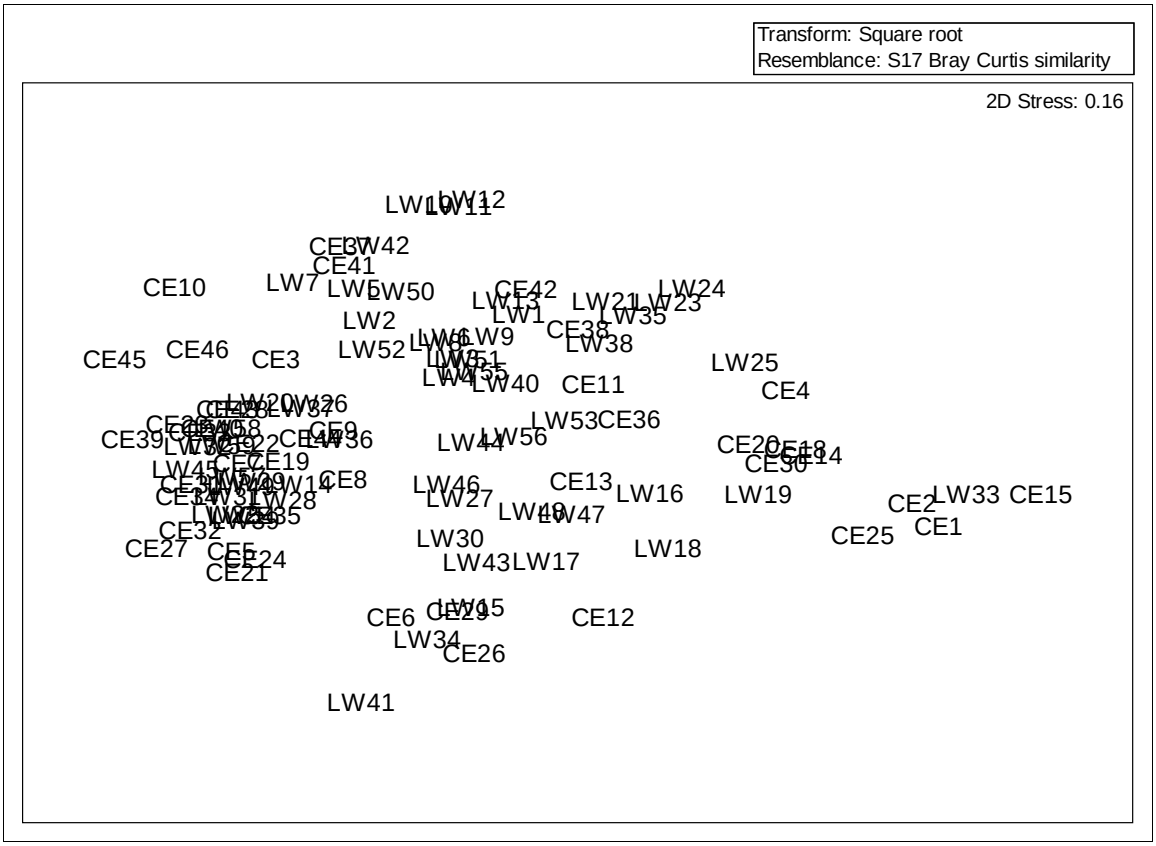

Figure 7 Multi-dimensional scaling (MDS) ordination produced from analysis in PRIMER showing the relationship between quadrats at the Centipede and Lake Way Project Areas as surveyed in October 2007, based on cover adjusted (<2% removed) square root transformed species composition.

4.2.2 Vegetation – Descriptions

A total of 22 vegetation units were described and delineated within the Centipede and Lake Way project areas based on analysis and interpretation of data collected during the October 2007 survey. The delineation of vegetation within the survey areas was affected by edaphic variables, with the distribution of many taxa and, subsequently, vegetation clearly delineated by underlying geology, hydrology and salinity or a combination of all these factors, which led to the definition of five key groups:

- Playa Vegetation
- Fringing Vegetation
- Dune and Plains Vegetation
- Calcrete Vegetation
- Clay-Pan Vegetation

Vegetation maps were produced for Centipede (Figure 8) and Lake Way (Figure 9)

Salt Lake (playa) Vegetation

Ha1 – *Halosarcia indica* subsp. *leiostachya* and *Halosarcia auriculata* Dense Low Heath over *Eragrostis* spp. Very Sparse Grass

This vegetation was widely observed at the Centipede project area but was only recorded in one quadrat at the Lake Way project area. This association was recorded in Ce1, Ce2, Ce14, Ce15, Ce18, Ce20, Ce25, Ce30 and LW33. This vegetation association was dominated by the two *Halosarcia* species, which change in relative abundance across the area in which they occur. Abundances and relative ratios of the two species change quite abruptly, and as such, it was considered appropriate to view changes in abundance as secondarily significant and not adequate to justify further delineation. .

Ha2 – *Halosarcia indica* subsp. *bidens, Atriplex bunburyana* and *Frankenia* sp1 Mid Density Low Heath.

This vegetation was recorded in one quadrat, LW17. Whilst not technically occurring on the playa, this association was recorded in a low lying area which was considered to act as a drainage channel into Lake Way. The halophytic nature of the species recorded is consistent with playa vegetation.

Ha3 – *Halosarcia* spp., *Frankenia* spp. Mid Density Low Heath over *Eragrostis* spp. and *Aristida contorta* Sparse Open Grass.

This vegetation was widespread at the Lake Way project area, but was only recorded once at the Centipede project area. This association was recorded in LW19, LW21, LW23, LW25, LW35, LW38 and Ce11.

Te1 – *Tecticornia tenuis* and *Halosarcia auriculata* Mid Density Low Heath over *Eragrostis* spp. Very Sparse Grass.

This vegetation was recorded at both project areas, but was not widespread where it occurred. It was recorded in Ce12, Ce13, LW16 and LW18.

Fr1 – *Frankenia* spp. and *Muellerolimon salicorniaceum* and mixed species Low Density Heath over *Aristida contorta* Sparse Grass

This vegetation was recorded in one quadrat, LW27.

La1 – *Lawrencia helmsii* and *Halosarcia indica* subsp. *leiostachya* Very Sparse Dwarf Scrub over *Ptilotus obovatus* var. *obovatus* Very Sparse Herbs over *Eragrostis* spp. Very Open Grass.

This vegetation was recorded in one quadrat at the Centipede project area, Ce4 and was noted as a discrete patch within Ha1.

Claypan Vegetation

Fr2 – *Frankenia* spp. and *Halosarcia calyptrata* Mid Density Low Heath over *Eragrostis* spp. Very Sparse Grass.

This vegetation was recorded in one large isolated claypan at Centipede (Ce36) (not included in vegetation map), one isolated claypan at Lake Way (LW24) and in one claypan that was a part of a chain of claypans located to the east of the Lake Way project area (LW47).

Te2 – *Tecticornia arbuscula, Maireana amoena* and mixed species Sparse Dwarf Scrub over *Triodia melvillei* Sparse Hummock Grass and *Eragrostis* spp. Sparse Grass.

This vegetation was recorded in a chain of claypans located to the east of the Lake Way project area in three quadrats, LW41, LW43 and LW48.

Ly1 – *Lycium australe, Cratystylis spinescens* and mixed species Mid Density Heath over *Eragrostis* spp. Mid Density Grass.

This vegetation was recorded in one quadrat, LW56, at the Lake Way project area in an isolated claypan.

Fringing Vegetation

Me1 – *Melaleuca xerophila* Mid Density Low Forest

This vegetation was recorded in three quadrats at the Centipede project area, Ce6, Ce26 and Ce29 and one quadrat at the Lake Way project area, LW15. This is an 'at risk' vegetation association referred to in Cowan (2001).

Calcrete Vegetation

Ac1 – *Acacia* spp., *Eucalyptus striaticalyx* subsp. *striaticalyx* and *Casuarina pauper* Mid Density Low Forest over *Maireana villosa* Mid Density Low Heath and *Ptilotus obovatus* var. *obovatus, Aristida contorta* and *Eragrostis* spp. Mid Density Herbs and Grass.

This vegetation was recorded only on areas of calcrete located at the Lake Way project area. This association was recorded in quadrats LW2, LW4, LW6 and LW8.

Ac2 – *Acacia ramulosa* var. *linophylla* and *Acacia victoriae* Sparse Low Woodland over mixed species Very Sparse Open Dwarf Scrub over *Neurachne munroi* and *Eragrostis dielsii* Mid Density Grass

This vegetation was widespread across the Lake Way project area and was recorded in LW1, LW11, LW13, LW40, LW42 and LW50.

Plains and Dune Vegetation

Hu1 – Mixed species Sparse Scrub over *Triodia melvillei* Mid Density Hummock Grass over *Eragrostis* spp and *Aristida contorta* Open Grass.

This vegetation was recorded in one quadrat, LW34.

Ca1 – *Callitris preissii* and *Acacia jennerae* Sparse Low Woodland over *Halgania* aff. *cyanea* Very Sparse Open Dwarf Scrub over *Triodia basedowii* Mid Density Hummock Grass.

This vegetation was recorded in one quadrat, Ce10.

Ca2 – *Callitris preissii* Woodland over *Triodia basedowii* Mid Density Hummock Grass.

This vegetation was recorded in one quadrat, Ce17 (not included in vegetation map).

Ac3 – *Acacia* spp., *Eucalyptus eremicola* subsp. *peeneri* and *Grevillea sarissa* subsp. *succincta* Sparse Low Woodland over *Eremophila* spp. and *Dodonaea viscosa* subsp. *angustissima* Very Sparse Open Dwarf Scrub and *Triodia melvillei* Mid Density Hummock Grass.

This was a very widespread and highly variable vegetation unit that was recorded at Centipede and Lake Way. This association was recorded on dunes and plains. This vegetation was recorded in Ce5, Ce7, Ce8, Ce19, Ce21, Ce22, Ce23, Ce24, Ce27, Ce28, Ce31, Ce32, Ce33, Ce34, Ce35, Ce39, Ce40, Ce43, Ce44, LW14, LW22, LW28, LW29, LW31, LW32, LW39, LW45, LW49, LW54, LW57, LW58 and LW59.

Ac4 – *Acacia ayersiana* var. *latifolia, Acacia aneura* var. *aneura* and *Acacia aneura* var. *major* Sparse Low Woodland over mixed species Sparse Low Scrub and *Triodia* spp. Mid Density Hummock Grass.

This vegetation was observed at both project areas. The association was recorded in Ce9, CE45, Ce46, LW20, LW26, LW36 and LW37.

Ac5 – *Acacia* spp. Very Sparse Open Low Woodland over *Eremophila* spp., *Senna* spp. and *Maireana pyramidata* Sparse Low Scrub and *Ptilotus obovatus* var. *obovatus* and *Eragrostis* spp. Very Sparse Herbs and Grass.

This vegetation was recorded in Ce37, Ce41, LW3, LW5, LW7 and LW9.

Ac6 – *Acacia* spp. Sparse Low Woodland over mixed species Very Sparse to Very Open Dwarf Scrub.

This vegetation was recorded at both project areas; however, it was noted in only quadrat at each (Ce3 and LW52).

Ac7 – *Acacia jennerae* and *Grevillea sarissa* subsp. *succincta* Sparse Low Woodland over *Cratystylis spinescens* Mid Density Low Heath and *Triodia melvillei* Dense Hummock Grass.

This vegetation was only observed at the Lake Way project area, in LW30, LW44 and LW46.

Ac8 – *Acacia* spp. Sparse Low Woodland over *Senna artemisioides* subsp. *filifolia* and *Eremophila* spp. Mid Density Heath over *Eragrostis dielsii* and *Neurachne munroi* Sparse Grass.

This vegetation was observed at both project areas, in CE38, CE42, LW51, LW53 and LW55.

Eu1 – *Eucalyptus striaticalyx* subsp. *striaticalyx* and *Acacia* spp Mid Density Forest over *Senna artemisioides* subsp. *filifolia* and *Eremophila* spp. Sparse Low Scrub.

This vegetation was only observed at the Lake Way project area, in LW10 and LW12.

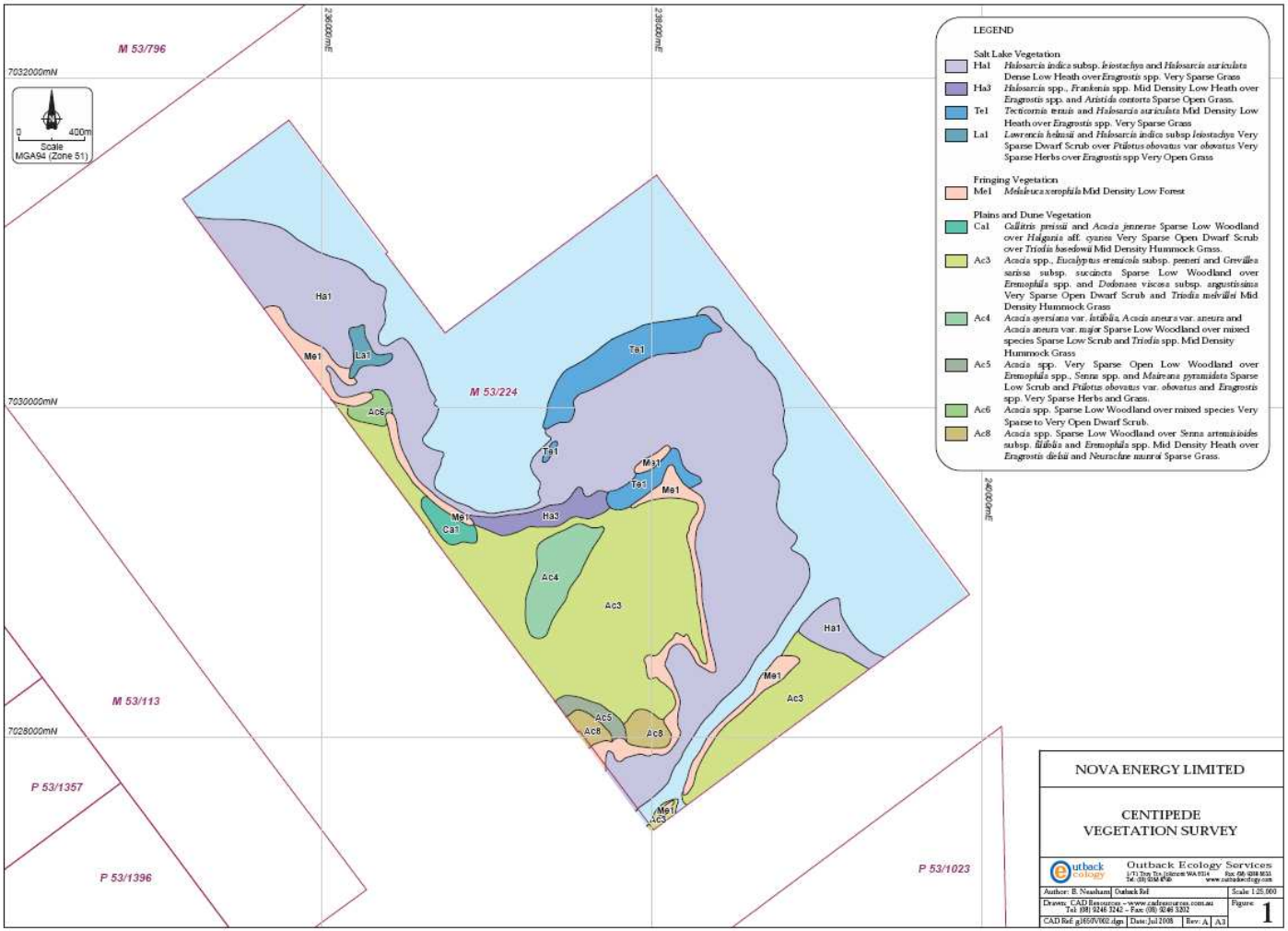

Figure 8 Vegetation map of the Nova Energy Centipede project area

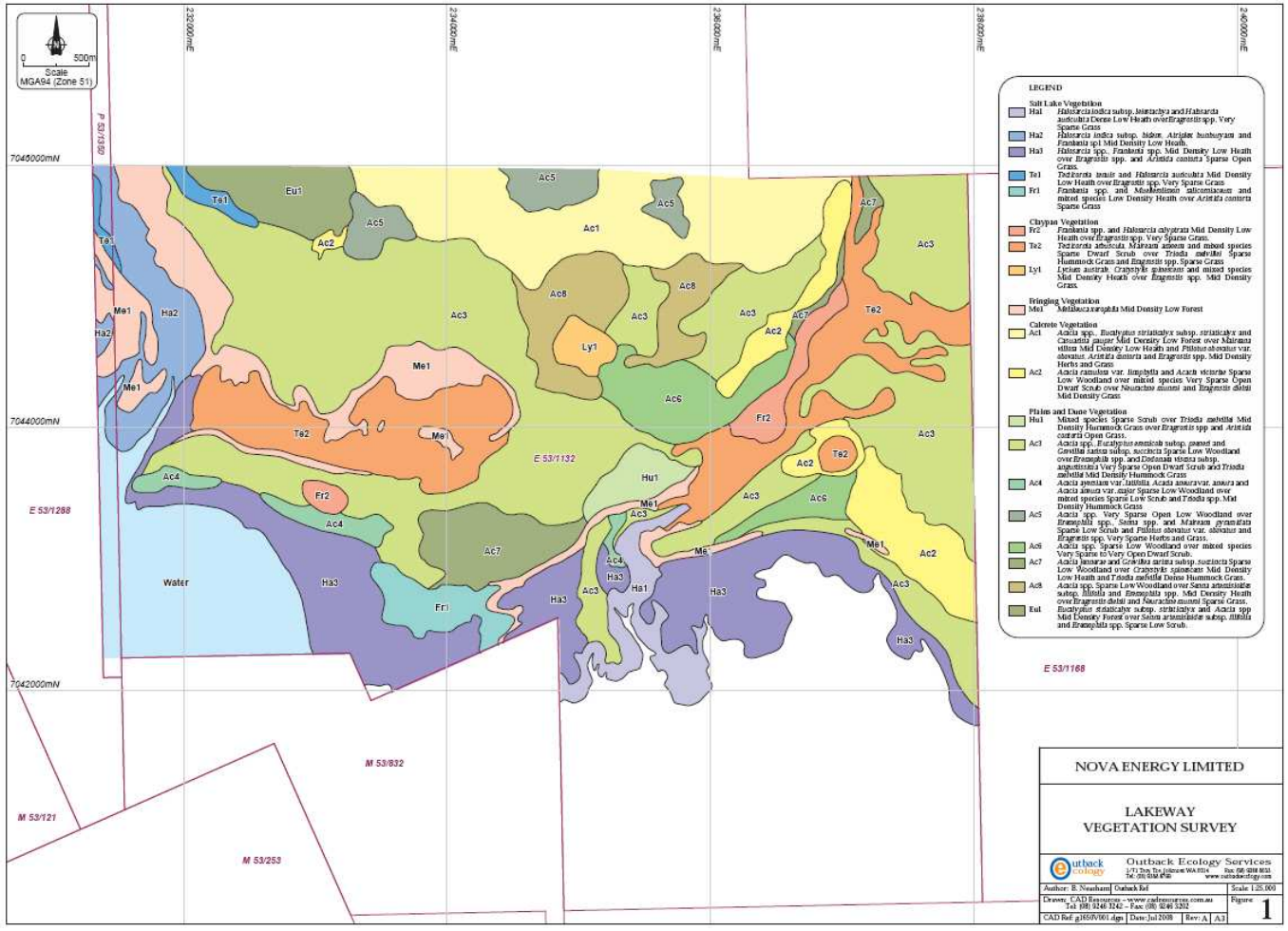

Figure 9 Vegetation map of the Nova Energy Lake Way project area

4.2.3 Vegetation Condition Assessment

The majority of vegetation surveyed during the October 2007 survey of the Lake Way and Centipede project areas was assessed as being in very good to excellent condition (**Table 4**), according to the scale of Keighery (1994) (**Appendix D**). No vegetation was assessed as being degraded or completely degraded (**Table 4**). One quadrat at the Centipede project area, Ce23, was assessed as being in pristine condition. The absence of any vegetation in the assessment categories degraded and completely degraded is a reflection of sampling bias, with quadrats located to best capture vegetation representative of the area. In areas where frequently used vehicle tracks were located, the vegetation was either degraded or completely degraded.

Table 4 Summary of assessment of condition of vegetation according to the scale of Keighery (1994) in quadrats surveyed at Lake Way and Centipede project areas in October 20007

Condition assessment	Lake Way project area	Centipede project area
Pristine	0%	2.2%
Excellent	57.6%	69.6%
Very Good	40.7%	26%
Good	1.7%	2.2%
Degraded	0%	0%
Completely degraded	0%	0%

The main causes of disturbance of vegetation at both the project areas were related primarily to the activities of cattle and, to a lesser extent, rabbits (**Table 5**). Impacts related to cattle activities ranged from cattle pats through to complete grazing to ground level of grass species, most notably *Eragrostis eriopoda* (Woolly Butt). Impacts from rabbits were typically in the form of scratchings, burrows and the presence of latrines. The impact of vehicles on vegetation is rated comparatively low at Lake Way, but was more widespread at the Centipede project area (**Table 5**), where numerous vehicle tracks were noted across the samphire vegetation on the playa and through the dune systems.

Table 5 Summary of main causes of disturbance to vegetation in quadrats surveyed at Lake way and Centipede project areas in October 2007.

Disturbance	Lake Way project area	Centipede project area
Cattle (grazing, tracks, scats)	55%	50%
Rabbits (burrows, scratchings, scats)	22%	18.9%
Vehicle tracks	6.6%	24.3%
Kangaroos (tracks, scats)	1.3%	4%
Clearing	1.3%	1.4%
Fire	6.6%	0%
Drill lines/drill holes	0%	1.4%

4.2.4 Conservation Significance of Vegetation

The 'at risk' vegetation association, "*Melaleuca* sp nov Low Closed to Open Forest Strand Community Near Wiluna" (Cowan, 2001) was considered to be the *Melaleuca* vegetation observed at both the Centipede and Lake Way project areas. *Melaleuca* sp nov has been confirmed as *M. xerophila* by Malcolm Trudgen (pers. comm.), who recommended that this association was 'at risk'. This association occurs on both the Centipede and Lake Way project areas. This association, where observed, was typically in narrow bands located between the playa and the dune or plains vegetation.

There is also the potential that the halophytic vegetation located at the Centipede and Lake Way project areas are potentially unique assemblages. Samphire specimens collected during this survey were identified by Bindy Datson, a specialist salt lake biologist, who observed that the samphire assemblages at Centipede and Lake Way were considered to be somewhat unique when compared to other assemblages located on similar habitat in the general area (Bindy Datson, pers. comm.). In the absence of additional evidence, this would qualify this association as having some level of conservation significance, although this is most likely to be a local significance.

The remaining vegetation at the Centipede and Lake Way project areas was not considered to have any conservation significance. Whilst there is a listing in Cowan (2001) noting that calcrete platform woodlands of the north-eastern Goldfields are 'at risk', this is a broad description and may not encompass all calcrete vegetation. In the absence of further evidence, the calcrete vegetation at the Lake Way project area as observed during this survey was not considered to be of conservation value consistent with being placed in the 'at risk' category.

No Declared Rare Flora or Priority Flora were recorded during the survey, and as such the vegetation does not have conservation significance as a host to protected flora. The remaining vegetation was considered to be locally widespread and as such was not assessed as having high conservation value.

4.3 Summary of Flora

A total of 132 taxa (including subspecies and variants) from 65 genera and 32 families were recorded across the Centipede and Lake Way Project Areas. The flora was dominated by the Chenopodiaceae, with 32 taxa from 10 genera (**Table 6**). The Poaceae and Mimosaceae were the next two most speciose families, with 14 taxa. However, the figure for Poaceae should be considered as the minimum for this family. This assertion is based on the *Eragrostis* group, within which several species are known to have been recorded in the area (Bennett, 2002) but the condition of samples limited identification with high levels of accuracy. For the purposes of this report, this group is listed as *Eragrostis* spp. Within this group, *E. dielsii* is considered to be the dominant species. *Eragrostis eriopoda* is not included within *Eragrostis* spp. as this species was readily identifiable.

In addition to the identified taxa, four records could not be identified, eight samples could only be identified to genus and a further eight have been tentatively identified to species. Further sampling will be required to confirm identification of these samples

One record of an alien taxon, **Anagallis arvensis,* was made at a single site. In addition to this record, an Aizoaceae (tentatively identified as *Carpobrotus* sp) may potentially be an alien taxon. Further samples are required to confirm the identification of this record.

Table 6 Summary of dominant flora within the Centipede and Lake Way Project Areas, based on data collected in October 2007.

Family	Number of taxa	Number of genera
Chenopodiaceae	32	10
Poaceae	14*	10
Mimosaceae	14	1
Myoporaceae	7	1
Asteraceae	7	6

* this figure includes *Enneapogon* spp, which is considered to potentially be more than one species

It is important to note that the figure of 132 taxa recorded in this survey is higher than the records of Bennett Environmental Consulting (2002) with 92 taxa but lower than the Lancaster and Associates (1981) survey with 141 taxa. It should be noted that Bennett Environmental Consulting (2002) is a survey over areas including Peanut Island, whilst the survey by Blackwell and Trudgen (1980) outlined by Lancaster and Associates (1981) is only reporting on the Lake Way area. Therefore, the number of taxa recorded in this survey represents a record that should be considered as a low figure.

5.0 DISCUSSION AND RECOMMENDATIONS

The majority of vegetation at both the Lake Way and Centipede project areas has been affected by historic and current exploration and pastoral activities. Impacts directly related to exploration are the proliferation of tracks, the presence of drill holes and the concomitant clearing for drill rig access. Moving forward, these impacts will need to be monitored and managed. In particular, the development and use of the area between the playa and the fringing *Melaleuca xerophila* vegetation will need to be limited. Continued pressure on this 'at risk' association and demonstrated loss of cover may be sufficient to elevate this association to the rating of Threatened Ecological Community.

The *Melaleuca xerophila* vegetation, where observed, was typically narrow in width but continued over long distances. In many areas, the width of the association was 1-2 plants deep. The spatial arrangement of this association within the landscape is potentially an artifact of an underlying edaphic variable rather than a side effect of human activity. Notwithstanding this, the association should be viewed as potentially susceptible to the effects of prolonged disturbance. The association is essentially a long corridor, which may create the potential for invasion by alien taxa should they be introduced into the project area.

In addition to the problems associated with the development of tracks in close proximity to the *Melaleuca xerophila* fringing associations, there are also likely to be issues associated with changes to hydrological properties within the project area and surrounds. *Melaleuca xerophila* is a phreatophytic species and will be affected by any alterations to local hydrology. In the short term, compacting soil in the root zones of *Melaleuca xerophila* by the ongoing use of tracks may lead to alterations in infiltration and run-off patterns. This may lead to a loss of vigour or, in the worst case scenario, high levels of mortality. Pit dewatering during mining may also have a pronounced impact on this association. Monitoring of this association will help to ensure that any impacts associated with altered hydrology is detected and managed.

The development of tracks is having an impact on the halophytic vegetation located on the playa. As a consequence of exploration across this area, a network of tracks is evident, with a corresponding noticeable impact on vegetation. Given the location of the ore body, disturbance of this vegetation is unavoidable. In light of the inability to avoid further disturbance of the halophytic vegetation, it may be prudent to undertake further sampling of the rest of the playa vegetation of Lake Way, with the specific focus of finding analogous vegetation. This vegetation may then be managed and may serve as an offset for vegetation disturbed as a consequence of exploration in the immediate future and future mining activities.

In light of the results of this survey it is recommended that any disturbance to the *Melaleuca xerophila* fringing vegetation should be avoided or minimized where disturbance is inevitable. It is also recommended that the proliferation of tracks through vegetation is stopped, particularly where there are multiple tracks in close proximity. Halting track development and unnecessary usage of multiple

tracks will improve vegetation condition in areas degraded by current track usage. Track usage should be addressed and rectified in the area between the playa and fringing *Melaleuca xerophila* vegetation. It is recommended that vehicles be cleaned and appropriate precaution be taken to minimize the spread of weed species throughout vegetation associations.

6.0 References

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Appendix A

Definitions of Declared Rare and Priority Flora

Definition of Declared Rare and Priority Flora Species (CALM, 2005)

Conservation Code	Category Description
R	*Declared Rare Flora – Extant Taxa* "Taxa which have been adequately searched for and are deemed to be in the wild either rare, in danger of extinction, or otherwise in need of special protection, and have been gazetted as such."
P1	*Priority One – Poorly Known Taxa* "Taxa which are known from one or a few (generally <5) populations which are under threat, either due to small population size, or being on lands under immediate threat, e.g. road verges, urban areas, farmland, active mineral leases, etc. May include taxa with threatened populations on protected lands. Such taxa are under consideration for declaration as 'rare flora', but are in urgent need of further survey."
P2	*Priority Two – Poorly Known Taxa* "Taxa which are known from one or a few (generally <5) populations, at least some of which are not believed to be under immediate threat (i.e. not currently endangered). Such taxa are under consideration for declaration as 'rare flora' but are in urgent need of further survey."
P3	*Priority Three – Poorly Known Taxa* "Taxa which are known from several populations, and the taxa are not believed to be under immediate threat (i.e. not currently endangered), either due to the number of known populations (generally >5), or known populations being large, and either widespread or protected. Such taxa are under consideration for declaration as 'rare flora' but are in need of further survey."
P4	*Priority Four – Poorly Known Taxa* "Taxa which are considered to have been adequately surveyed and which, whilst being rare (in Australia) are not currently threatened by any identifiable factors. These taxa require monitoring every 5 – 10 years."

Appendix B

Definitions of Threatened Ecological Community Classifications

Definition of Threatened Ecological Community classifications (English, 2003)

TEC Classification	Description
Presumed Totally Destroyed	Community is unlikely to be able to be rehabilitated.
Critically Endangered	There are immediate threats throughout its range.
Endangered	Threatened throughout most of its range in near future.
Vulnerable	Vulnerable to threatening processes/may move into higher threat category.

Appendix C

Flora Species Recorded over the Project Area

Family	Genus	Species		CE1	CE2	CE3	CE4	CE5	CE6	CE7	CE8	CE9	CE10
Cupressaceae	*Callitris*	*preissii*											
Poaceae	*Aristida*	*contorta*											
	Aristida	*holathera*	subsp *holathera*										
	?Austrostipa	sp											
	Enneapogon	*caerulescens*											
	Enteropogon	*ramosus*											
	Eragrostis	spp[1]											
	Eragrostis	*eriopoda*											
	Eriachne	*helmsii*											
	Neurachne	*munroi*											
	Panicum	*laevinode*											
	Paspalidium	sp											
	?Themeda	sp											
	Triodia	*basedowii*											
	Triodia	*melvillei*											
Casuarinaceae	*Casuarina*	*pauper*											
Proteaceae	*Grevillea*	*nematophylla*	subsp *nematophylla*										
	Grevillea	*nematophylla*	subsp *supraplana*										
	Grevillea	*sarissa*	subsp *succincta*										
	Grevillea	*stenobotyra*											
	Hakea	*francissiana*											
Santalaceae	*Exocarpos*	*aphyllus*											
	Santalum	*spicatum*											
Loranthaceae	*Amyema*	*gibberula*											
	Amyema	*maidenii*											
	Amyema	*microphylla*											
Chenopodiaceae	*Atriplex*	*amnicola*											
	Atriplex	*bunburyana*											
	Atriplex	*holocarpa*											
	Atriplex	*nummularia*	subsp *spathulata*										
	Dissocarpus	*paradoxus*											
	Dysphania	*kalpari*											
	Enchylaena	*tomentosa*											
	Halosarcia	*auriculata*											

Family	Genus	Species		CE1	CE2	CE3	CE4	CE5	CE6	CE7	CE8	CE9	CE10
Chenopodiaceae	*Halosarcia*	*calyptrata*											
	Halosarcia	*indica*	subsp *bidens*										
	Halosarcia	*indica*	subsp *leiostachya*										
	Halosarcia	sp											
	Maireana	*amoena*											
	Maireana	*georgei*											
	Maireana	*luehmannii*											
	Maireana	*pentatropis*											
	Maireana	*pyramidata*											
	Maireana	*thesioides*											
	Maireana	*tomentosa*	subsp *tomentosa*										
	Maireana	*triptera*											
	Maireana	*villosa*											
	Rhagodia	*drummondii*											
	Rhagodia	*eremaea*											
	Salsola	*australis*											
	Salsola	*tragus*											
	Sclerolaena	*articulata*											
	Sclerolaena	*bicornis*											
	Sclerolaena	*dicantha*											
	Sclerolaena	*fimbriolata*											
	Tecticornia	*arbuscula*											
	Tecticornia	*disarticula*											
	Tecticornia	*tenuis*											
Amaranthaceae	*Ptilotus*	*exaltatus*											
	Ptilotus	*obovatus*	var *obovatus*										
Aizoaceae	*?Carpobrotus*	sp											
Brassicaceae	*Lepidium*	*muelleri-ferdinandii*											
Pittosporaceae	*Pittosporum*	*phylliraeoides*											
Mimosaceae	*Acacia*	*aneura*	var *aneura*										
	Acacia	*ayersiana*	var *latifolia*										
	Acacia	*aneura*	var *intermedia*										
	Acacia	*aneura*	var *major*										
	Acacia	*aneura*	var *tenuis*										
	Acacia	*burkittii*											

Family	Genus	Species		CE1	CE2	CE3	CE4	CE5	CE6	CE7	CE8	CE9	CE10
Mimosaceae	*Acacia*	*jennerae*											
	Acacia	*minyura*											
	Acacia		aff *oswaldii*										
	Acacia	*quadrimarginea*											
	Acacia	*ramulosa*	var *linophylla*										
	Acacia	*tetragonophylla*											
	Acacia	*victoriae*											
	Acacia	*?xanthocarpa*											
Caesalpiniaceae	*Senna*	*artemisioides*	subsp *filifolia*										
	Senna	*artemisioides*	x sturtii										
	Senna	sp Billabong											
Papilionaceae	*Leptosema*	*chambersii*											
Zygophyllaceae	*Zygophyllum*	*aurantiacum*											
	Zygophyllum	*compressum*											
Euphorbiaceae	*Euphorbia*	*boophthana*											
Celastraceae	*Psammomoya*	sp											
Sapindaceae	*Dodonaea*	*viscosa*	subsp *angustissima*										
Malvaceae	*Alyogyne*	*pinoniana*											
	Lawrencia	*densiflora*											
	Lawrencia	*helmsii*											
	Sida	*ammophila*											
	Sida	*calyxhymenia*											
Frankeniaceae	*Frankenia*	*cinerea*											
	Frankenia	*cordata*											
	Frankenia	*punctata*											
	Frankenia	sp1											
	Frankenia	sp2											
	Frankenia	*sp3*											
Thymelaceae	*Pimelea*	*microcephala*	subsp *microcephala*										
Myrtaceae	*Eucalyptus*	*eremicola*	subsp *peeneri*										
	Eucalyptus	*striaticalyx*	subsp *striaticalyx*										
	Eucalyptus	*?transcontinentalis*	subsp *transcontinentalis*										
	Melaleuca	xerophila											
	Melaleuca	*uncinata*											

Family	Genus	Species		CE1	CE2	CE3	CE4	CE5	CE6	CE7	CE8	CE9	CE10
Primulaceae	*Samolus*	sp											
	Aanagallis	*arvensis**											
Plumbaginaceae	*Muellerolimon*	*salicorniaceum*											
Asclepiadaceae	*Marsdenia*	*australis*											
	Rhyncharrhena	*linearis*											
Boraginaceae	*Halgania*		aff *cyanea*										
Lamiaceae	*Dicrastylis*	*exsuccosa*	var *tomentosa*										
	Spartothamnella	*?tuecriiflora*											
Solanaceae	*Lycium*	*australe*											
	Solanum	*lasiophyllum*											
	Solanum	*nummularium*											
	Solanum	*orbiculatum*											
Myoporaceae	*Eremophila*	*forestii*	subsp *forestii*										
	Eremophila	*georgei*											
	Eremophila	*glabra*	subsp *glabra*										
	Eremophila	*latrobei*	subsp *latrobei*										
	Eremophila	*?maculata*	subsp *brevifolia*										
	Eremophila	*oppositifolia*	subsp *angustifolia*										
	Eremophila	sp											
Rubiaceae	*Psydrax*	*suaveolens*											
Goodenia	*Goodenia*	sp	aff *corynocarpa*										
	Scaevola	*spinescens*											
Asteraceae	*Angianthus*	*cyanifera*											
	Chrysocephalum	*apiculatum*											
	Cratystylis	*spinescens*											
	Myriocephalus	*rudallii*											
	Olearia	*stuartii*											
	Podolepis	*capillaris*											
	Podolepis	*kendallii*											

Family	Genus	Species		CE11	CE12	CE13	CE14	CE15	CE16	CE17	CE18	CE19	CE20
Cupressaceae	*Callitris*	*preissii*											
Poaceae	*Aristida*	*contorta*											
	Aristida	*holathera*	subsp *holathera*										
	?Austrostipa	sp											
	Enneapogon	*caerulescens*											
	Enteropogon	*ramosus*											
	Eragrostis	spp[1]											
	Eragrostis	*eriopoda*											
	Eriachne	*helmsii*											
	Neurachne	*munroi*											
	Panicum	*laevinode*											
	Paspalidium	sp											
	?Themeda	sp											
	Triodia	*basedowii*											
	Triodia	*melvillei*											
Casuarinaceae	*Casuarina*	*pauper*											
Proteaceae	*Grevillea*	*nematophylla*	subsp *nematophylla*										
	Grevillea	*nematophylla*	subsp *supraplana*										
	Grevillea	*sarissa*	subsp *succincta*										
	Grevillea	*stenobotyra*											
	Hakea	*francissiana*											
Santalaceae	*Exocarpos*	*aphyllus*											
	Santalum	*spicatum*											
Loranthaceae	*Amyema*	*gibberula*											
	Amyema	*maidenii*											
	Amyema	*microphylla*											
Chenopodiaceae	*Atriplex*	*amnicola*											
	Atriplex	*bunburyana*											
	Atriplex	*holocarpa*											
	Atriplex	*nummularia*	subsp *spathulata*										
	Dissocarpus	*paradoxus*											
	Dysphania	*kalpari*											
	Enchylaena	*tomentosa*											
	Halosarcia	*auriculata*											

Family	Genus	Species		CE11	CE12	CE13	CE14	CE15	CE16	CE17	CE18	CE19	CE20
Chenopodiaceae	*Halosarcia*	*calyptrata*											
	Halosarcia	*indica*	subsp *bidens*										
	Halosarcia	*indica*	subsp *leiostachya*										
	Halosarcia	sp											
	Maireana	*amoena*											
	Maireana	*georgei*											
	Maireana	*luehmannii*											
	Maireana	*pentatropis*											
	Maireana	*pyramidata*											
	Maireana	*thesioides*											
	Maireana	*tomentosa*	subsp *tomentosa*										
	Maireana	*triptera*											
	Maireana	*villosa*											
	Rhagodia	*drummondii*											
	Rhagodia	*eremaea*											
	Salsola	*australis*											
	Salsola	*tragus*											
	Sclerolaena	*articulata*											
	Sclerolaena	*bicornis*											
	Sclerolaena	*dicantha*											
	Sclerolaena	*fimbriolata*											
	Tecticornia	*arbuscula*											
	Tecticornia	*disarticula*											
	Tecticornia	*tenuis*											
Amaranthaceae	*Ptilotus*	*exaltatus*											
	Ptilotus	*obovatus*	var *obovatus*										
Aizoaceae	*?Carpobrotus*	sp											
Brassicaceae	*Lepidium*	*muelleri-ferdinandii*											
Pittosporaceae	*Pittosporum*	*phylliraeoides*											
Mimosaceae	*Acacia*	*aneura*	var *aneura*										
	Acacia	*ayersiana*	var *latifolia*										
	Acacia	*aneura*	var *intermedia*										
	Acacia	*aneura*	var *major*										
	Acacia	*aneura*	var *tenuis*										
	Acacia	*burkittii*											

Family	Genus	Species		CE11	CE12	CE13	CE14	CE15	CE16	CE17	CE18	CE19	CE20
Mimosaceae	*Acacia*	*jennerae*											
	Acacia	*minyura*											
	Acacia		aff *oswaldii*										
	Acacia	*quadrimarginea*											
	Acacia	*ramulosa*	var *linophylla*										
	Acacia	*tetragonophylla*											
	Acacia	*victoriae*											
	Acacia	*?xanthocarpa*											
Caesalpiniaceae	*Senna*	*artemisioides*	subsp *filifolia*										
	Senna	*artemisioides*	x sturtii										
	Senna	sp Billabong											
Papilionaceae	*Leptosema*	*chambersii*											
Zygophyllaceae	*Zygophyllum*	*aurantiacum*											
	Zygophyllum	*compressum*											
Euphorbiaceae	*Euphorbia*	*boophthana*											
Celastraceae	*Psammomoya*	sp											
Sapindaceae	*Dodonaea*	*viscosa*	subsp *angustissima*										
Malvaceae	*Alyogyne*	*pinoniana*											
	Lawrencia	*densiflora*											
	Lawrencia	*helmsii*											
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	Frankenia	*cordata*											
	Frankenia	*punctata*											
	Frankenia	sp1											
	Frankenia	sp2											
	Frankenia	*sp3*											
Thymelaceae	*Pimelea*	*microcephala*	subsp *microcephala*										
Myrtaceae	*Eucalyptus*	*eremicola*	subsp *peeneri*										
	Eucalyptus	*striaticalyx*	subsp *striaticalyx*										
	Eucalyptus	*?transcontinentalis*	subsp *transcontinentalis*										
	Melaleuca	xerophila											
	Melaleuca	*uncinata*											

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	Aanagallis	*arvensis**											
Plumbaginaceae	*Muellerolimon*	*salicorniaceum*											
Asclepiadaceae	*Marsdenia*	*australis*											
	Rhyncharrhena	*linearis*											
Boraginaceae	*Halgania*		aff *cyanea*										
Lamiaceae	*Dicrastylis*	*exsuccosa*	var *tomentosa*										
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	Eremophila	*latrobei*	subsp *latrobei*										
	Eremophila	*?maculata*	subsp *brevifolia*										
	Eremophila	*oppositifolia*	subsp *angustifolia*										
	Eremophila	sp											
Rubiaceae	*Psydrax*	*suaveolens*											
Goodenia	*Goodenia*	sp	aff *corynocarpa*										
	Scaevola	*spinescens*											
Asteraceae	*Angianthus*	*cyanifera*											
	Chrysocephalum	*apiculatum*											
	Cratystylis	*spinescens*											
	Myriocephalus	*rudallii*											
	Olearia	*stuartii*											
	Podolepis	*capillaris*											
	Podolepis	*kendallii*											

Family	Genus	Species		CE21	CE22	CE23	CE24	CE25	CE26	CE27	CE28	CE29	CE30
Cupressaceae	*Callitris*	*preissii*											
Poaceae	*Aristida*	*contorta*											
	Aristida	*holathera*	subsp *holathera*										
	?Austrostipa	sp											
	Enneapogon	*caerulescens*											
	Enteropogon	*ramosus*											
	Eragrostis	spp[1]											
	Eragrostis	*eriopoda*											
	Eriachne	*helmsii*											
	Neurachne	*munroi*											
	Panicum	*laevinode*											
	Paspalidium	sp											
	?Themeda	sp											
	Triodia	*basedowii*											
	Triodia	*melvillei*											
Casuarinaceae	*Casuarina*	*pauper*											
Proteaceae	*Grevillea*	*nematophylla*	subsp *nematophylla*										
	Grevillea	*nematophylla*	subsp *supraplana*										
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	Hakea	*francissiana*											
Santalaceae	*Exocarpos*	*aphyllus*											
	Santalum	*spicatum*											
Loranthaceae	*Amyema*	*gibberula*											
	Amyema	*maidenii*											
	Amyema	*microphylla*											
Chenopodiaceae	*Atriplex*	*amnicola*											
	Atriplex	*bunburyana*											
	Atriplex	*holocarpa*											
	Atriplex	*nummularia*	subsp *spathulata*										
	Dissocarpus	*paradoxus*											
	Dysphania	*kalpari*											
	Enchylaena	*tomentosa*											
	Halosarcia	*auriculata*											

Family	Genus	Species		CE21	CE22	CE23	CE24	CE25	CE26	CE27	CE28	CE29	CE30
Chenopodiaceae	*Halosarcia*	*calyptrata*											
	Halosarcia	*indica*	subsp *bidens*										
	Halosarcia	*indica*	subsp *leiostachya*										
	Halosarcia	sp											
	Maireana	*amoena*											
	Maireana	*georgei*											
	Maireana	*luehmannii*											
	Maireana	*pentatropis*											
	Maireana	*pyramidata*											
	Maireana	*thesioides*											
	Maireana	*tomentosa*	subsp *tomentosa*										
	Maireana	*triptera*											
	Maireana	*villosa*											
	Rhagodia	*drummondii*											
	Rhagodia	*eremaea*											
	Salsola	*australis*											
	Salsola	*tragus*											
	Sclerolaena	*articulata*											
	Sclerolaena	*bicornis*											
	Sclerolaena	*dicantha*											
	Sclerolaena	*fimbriolata*											
	Tecticornia	*arbuscula*											
	Tecticornia	*disarticula*											
	Tecticornia	*tenuis*											
Amaranthaceae	*Ptilotus*	*exaltatus*											
	Ptilotus	*obovatus*	var *obovatus*										
Aizoaceae	*?Carpobrotus*	sp											
Brassicaceae	*Lepidium*	*muelleri-ferdinandii*											
Pittosporaceae	*Pittosporum*	*phylliraeoides*											
Mimosaceae	*Acacia*	*aneura*	var *aneura*										
	Acacia	*ayersiana*	var *latifolia*										
	Acacia	*aneura*	var *intermedia*										
	Acacia	*aneura*	var *major*										
	Acacia	*aneura*	var *tenuis*										
	Acacia	*burkittii*											

Family	Genus	Species		CE21	CE22	CE23	CE24	CE25	CE26	CE27	CE28	CE29	CE30
Mimosaceae	*Acacia*	*jennerae*											
	Acacia	*minyura*											
	Acacia		aff *oswaldii*										
	Acacia	*quadrimarginea*											
	Acacia	*ramulosa*	var *linophylla*										
	Acacia	*tetragonophylla*											
	Acacia	*victoriae*											
	Acacia	*?xanthocarpa*											
Caesalpiniaceae	*Senna*	*artemisioides*	subsp *filifolia*										
	Senna	*artemisioides*	x sturtii										
	Senna	sp Billabong											
Papilionaceae	*Leptosema*	*chambersii*											
Zygophyllaceae	*Zygophyllum*	*aurantiacum*											
	Zygophyllum	*compressum*											
Euphorbiaceae	*Euphorbia*	*boophthana*											
Celastraceae	*Psammomoya*	sp											
Sapindaceae	*Dodonaea*	*viscosa*	subsp *angustissima*										
Malvaceae	*Alyogyne*	*pinoniana*											
	Lawrencia	*densiflora*											
	Lawrencia	*helmsii*											
	Sida	*ammophila*											
	Sida	*calyxhymenia*											
Frankeniaceae	*Frankenia*	*cinerea*											
	Frankenia	*cordata*											
	Frankenia	*punctata*											
	Frankenia	sp1											
	Frankenia	sp2											
	Frankenia	*sp3*											
Thymelaceae	*Pimelea*	*microcephala*	subsp *microcephala*										
Myrtaceae	*Eucalyptus*	*eremicola*	subsp *peeneri*										
	Eucalyptus	*striaticalyx*	subsp *striaticalyx*										
	Eucalyptus	*?transcontinentalis*	subsp *transcontinentalis*										
	Melaleuca	xerophila											
	Melaleuca	*uncinata*											

Family	Genus	Species		CE21	CE22	CE23	CE24	CE25	CE26	CE27	CE28	CE29	CE30
Primulaceae	*Samolus*	sp											
	Aanagallis	*arvensis**											
Plumbaginaceae	*Muellerolimon*	*salicorniaceum*											
Asclepiadaceae	*Marsdenia*	*australis*											
	Rhyncharrhena	*linearis*											
Boraginaceae	*Halgania*		aff *cyanea*										
Lamiaceae	*Dicrastylis*	*exsuccosa*	var *tomentosa*										
	Spartothamnella	*?tuecriiflora*											
Solanaceae	*Lycium*	*australe*											
	Solanum	*lasiophyllum*											
	Solanum	*nummularium*											
	Solanum	*orbiculatum*											
Myoporaceae	*Eremophila*	*forestii*	subsp *forestii*										
	Eremophila	*georgei*											
	Eremophila	*glabra*	subsp *glabra*										
	Eremophila	*latrobei*	subsp *latrobei*										
	Eremophila	*?maculata*	subsp *brevifolia*										
	Eremophila	*oppositifolia*	subsp *angustifolia*										
	Eremophila	sp											
Rubiaceae	*Psydrax*	*suaveolens*											
Goodenia	*Goodenia*	sp	aff *corynocarpa*										
	Scaevola	*spinescens*											
Asteraceae	*Angianthus*	*cyanifera*											
	Chrysocephalum	*apiculatum*											
	Cratystylis	*spinescens*											
	Myriocephalus	*rudallii*											
	Olearia	*stuartii*											
	Podolepis	*capillaris*											
	Podolepis	*kendallii*											

Family	Genus	Species		CE31	CE32	CE33	CE34	CE35	CE36	CE37	CE38	CE39	CE40
Cupressaceae	*Callitris*	*preissii*											
Poaceae	*Aristida*	*contorta*											
	Aristida	*holathera*	subsp *holathera*										
	?Austrostipa	sp											
	Enneapogon	*caerulescens*											
	Enteropogon	*ramosus*											
	Eragrostis	spp[1]											
	Eragrostis	*eriopoda*											
	Eriachne	*helmsii*											
	Neurachne	*munroi*											
	Panicum	*laevinode*											
	Paspalidium	sp											
	?Themeda	sp											
	Triodia	*basedowii*											
	Triodia	*melvillei*											
Casuarinaceae	*Casuarina*	*pauper*											
Proteaceae	*Grevillea*	*nematophylla*	subsp *nematophylla*										
	Grevillea	*nematophylla*	subsp *supraplana*										
	Grevillea	*sarissa*	subsp *succincta*										
	Grevillea	*stenobotyra*											
	Hakea	*francissiana*											
Santalaceae	*Exocarpos*	*aphyllus*											
	Santalum	*spicatum*											
Loranthaceae	*Amyema*	*gibberula*											
	Amyema	*maidenii*											
	Amyema	*microphylla*											
Chenopodiaceae	*Atriplex*	*amnicola*											
	Atriplex	*bunburyana*											
	Atriplex	*holocarpa*											
	Atriplex	*nummularia*	subsp *spathulata*										
	Dissocarpus	*paradoxus*											
	Dysphania	*kalpari*											
	Enchylaena	*tomentosa*											
	Halosarcia	*auriculata*											

Family	Genus	Species		CE31	CE32	CE33	CE34	CE35	CE36	CE37	CE38	CE39	CE40
Chenopodiaceae	*Halosarcia*	*calyptrata*											
	Halosarcia	*indica*	subsp *bidens*										
	Halosarcia	*indica*	subsp *leiostachya*										
	Halosarcia	sp											
	Maireana	*amoena*											
	Maireana	*georgei*											
	Maireana	*luehmannii*											
	Maireana	*pentatropis*											
	Maireana	*pyramidata*											
	Maireana	*thesioides*											
	Maireana	*tomentosa*	subsp *tomentosa*										
	Maireana	*triptera*											
	Maireana	*villosa*											
	Rhagodia	*drummondii*											
	Rhagodia	*eremaea*											
	Salsola	*australis*											
	Salsola	*tragus*											
	Sclerolaena	*articulata*											
	Sclerolaena	*bicornis*											
	Sclerolaena	*dicantha*											
	Sclerolaena	*fimbriolata*											
	Tecticornia	*arbuscula*											
	Tecticornia	*disarticula*											
	Tecticornia	*tenuis*											
Amaranthaceae	*Ptilotus*	*exaltatus*											
	Ptilotus	*obovatus*	var *obovatus*										
Aizoaceae	*?Carpobrotus*	sp											
Brassicaceae	*Lepidium*	*muelleri-ferdinandii*											
Pittosporaceae	*Pittosporum*	*phylliraeoides*											
Mimosaceae	*Acacia*	*aneura*	var *aneura*										
	Acacia	*ayersiana*	var *latifolia*										
	Acacia	*aneura*	var *intermedia*										
	Acacia	*aneura*	var *major*										
	Acacia	*aneura*	var *tenuis*										
	Acacia	*burkittii*											

Family	Genus	Species		CE31	CE32	CE33	CE34	CE35	CE36	CE37	CE38	CE39	CE40
Mimosaceae	*Acacia*	*jennerae*											
	Acacia	*minyura*											
	Acacia		aff *oswaldii*										
	Acacia	*quadrimarginea*											
	Acacia	*ramulosa*	var *linophylla*										
	Acacia	*tetragonophylla*											
	Acacia	*victoriae*											
	Acacia	*?xanthocarpa*											
Caesalpiniaceae	*Senna*	*artemisioides*	subsp *filifolia*										
	Senna	*artemisioides*	x sturtii										
	Senna	sp Billabong											
Papilionaceae	*Leptosema*	*chambersii*											
Zygophyllaceae	*Zygophyllum*	*aurantiacum*											
	Zygophyllum	*compressum*											
Euphorbiaceae	*Euphorbia*	*boophthana*											
Celastraceae	*Psammomoya*	sp											
Sapindaceae	*Dodonaea*	*viscosa*	subsp *angustissima*										
Malvaceae	*Alyogyne*	*pinoniana*											
	Lawrencia	*densiflora*											
	Lawrencia	*helmsii*											
	Sida	*ammophila*											
	Sida	*calyxhymenia*											
Frankeniaceae	*Frankenia*	*cinerea*											
	Frankenia	*cordata*											
	Frankenia	*punctata*											
	Frankenia	sp1											
	Frankenia	sp2											
	Frankenia	*sp3*											
Thymelaceae	*Pimelea*	*microcephala*	subsp *microcephala*										
Myrtaceae	*Eucalyptus*	*eremicola*	subsp *peeneri*										
	Eucalyptus	*striaticalyx*	subsp *striaticalyx*										
	Eucalyptus	*?transcontinentalis*	subsp *transcontinentalis*										
	Melaleuca	xerophila											
	Melaleuca	*uncinata*											

Family	Genus	Species		CE31	CE32	CE33	CE34	CE35	CE36	CE37	CE38	CE39	CE40
Primulaceae	*Samolus*	sp											
	Aanagallis	*arvensis**											
Plumbaginaceae	*Muellerolimon*	*salicorniaceum*											
Asclepiadaceae	*Marsdenia*	*australis*											
	Rhyncharrhena	*linearis*											
Boraginaceae	*Halgania*		aff *cyanea*										
Lamiaceae	*Dicrastylis*	*exsuccosa*	var *tomentosa*										
	Spartothamnella	*?tuecriiflora*											
Solanaceae	*Lycium*	*australe*											
	Solanum	*lasiophyllum*											
	Solanum	*nummularium*											
	Solanum	*orbiculatum*											
Myoporaceae	*Eremophila*	*forestii*	subsp *forestii*										
	Eremophila	*georgei*											
	Eremophila	*glabra*	subsp *glabra*										
	Eremophila	*latrobei*	subsp *latrobei*										
	Eremophila	*?maculata*	subsp *brevifolia*										
	Eremophila	*oppositifolia*	subsp *angustifolia*										
	Eremophila	sp											
Rubiaceae	*Psydrax*	*suaveolens*											
Goodenia	*Goodenia*	sp	aff *corynocarpa*										
	Scaevola	*spinescens*											
Asteraceae	*Angianthus*	*cyanifera*											
	Chrysocephalum	*apiculatum*											
	Cratystylis	*spinescens*											
	Myriocephalus	*rudallii*											
	Olearia	*stuartii*											
	Podolepis	*capillaris*											
	Podolepis	*kendallii*											

Family	Genus	Species		CE41	CE42	CE43	CE44	CE45	CE46	CE47	LW1	LW2	LW3
Cupressaceae	*Callitris*	*preissii*											
Poaceae	*Aristida*	*contorta*											
	Aristida	*holathera*	subsp *holathera*										
	?Austrostipa	sp											
	Enneapogon	*caerulescens*											
	Enteropogon	*ramosus*											
	Eragrostis	spp[1]											
	Eragrostis	*eriopoda*											
	Eriachne	*helmsii*											
	Neurachne	*munroi*											
	Panicum	*laevinode*											
	Paspalidium	sp											
	?Themeda	sp											
	Triodia	*basedowii*											
	Triodia	*melvillei*											
Casuarinaceae	*Casuarina*	*pauper*											
Proteaceae	*Grevillea*	*nematophylla*	subsp *nematophylla*										
	Grevillea	*nematophylla*	subsp *supraplana*										
	Grevillea	*sarissa*	subsp *succincta*										
	Grevillea	*stenobotyra*											
	Hakea	*francissiana*											
Santalaceae	*Exocarpos*	*aphyllus*											
	Santalum	*spicatum*											
Loranthaceae	*Amyema*	*gibberula*											
	Amyema	*maidenii*											
	Amyema	*microphylla*											
Chenopodiaceae	*Atriplex*	*amnicola*											
	Atriplex	*bunburyana*											
	Atriplex	*holocarpa*											
	Atriplex	*nummularia*	subsp *spathulata*										
	Dissocarpus	*paradoxus*											
	Dysphania	*kalpari*											
	Enchylaena	*tomentosa*											
	Halosarcia	*auriculata*											

Family	Genus	Species		CE41	CE42	CE43	CE44	CE45	CE46	CE47	LW1	LW2	LW3
Chenopodiaceae	*Halosarcia*	*calyptrata*											
	Halosarcia	*indica*	subsp *bidens*										
	Halosarcia	*indica*	subsp *leiostachya*										
	Halosarcia	sp											
	Maireana	*amoena*											
	Maireana	*georgei*											
	Maireana	*luehmannii*											
	Maireana	*pentatropis*											
	Maireana	*pyramidata*											
	Maireana	*thesioides*											
	Maireana	*tomentosa*	subsp *tomentosa*										
	Maireana	*triptera*											
	Maireana	*villosa*											
	Rhagodia	*drummondii*											
	Rhagodia	*eremaea*											
	Salsola	*australis*											
	Salsola	*tragus*											
	Sclerolaena	*articulata*											
	Sclerolaena	*bicornis*											
	Sclerolaena	*dicantha*											
	Sclerolaena	*fimbriolata*											
	Tecticornia	*arbuscula*											
	Tecticornia	*disarticula*											
	Tecticornia	*tenuis*											
Amaranthaceae	*Ptilotus*	*exaltatus*											
	Ptilotus	*obovatus*	var *obovatus*										
Aizoaceae	*?Carpobrotus*	sp											
Brassicaceae	*Lepidium*	*muelleri-ferdinandii*											
Pittosporaceae	*Pittosporum*	*phylliraeoides*											
Mimosaceae	*Acacia*	*aneura*	var *aneura*										
	Acacia	*ayersiana*	var *latifolia*										
	Acacia	*aneura*	var *intermedia*										
	Acacia	*aneura*	var *major*										
	Acacia	*aneura*	var *tenuis*										
	Acacia	*burkittii*											

Family	Genus	Species		CE41	CE42	CE43	CE44	CE45	CE46	CE47	LW1	LW2	LW3
Mimosaceae	*Acacia*	*jennerae*											
	Acacia	*minyura*											
	Acacia		aff *oswaldii*										
	Acacia	*quadrimarginea*											
	Acacia	*ramulosa*	var *linophylla*										
	Acacia	*tetragonophylla*											
	Acacia	*victoriae*											
	Acacia	*?xanthocarpa*											
Caesalpiniaceae	*Senna*	*artemisioides*	subsp *filifolia*										
	Senna	*artemisioides*	x sturtii										
	Senna	sp Billabong											
Papilionaceae	*Leptosema*	*chambersii*											
Zygophyllaceae	*Zygophyllum*	*aurantiacum*											
	Zygophyllum	*compressum*											
Euphorbiaceae	*Euphorbia*	*boophthana*											
Celastraceae	*Psammomoya*	sp											
Sapindaceae	*Dodonaea*	*viscosa*	subsp *angustissima*										
Malvaceae	*Alyogyne*	*pinoniana*											
	Lawrencia	*densiflora*											
	Lawrencia	*helmsii*											
	Sida	*ammophila*											
	Sida	*calyxhymenia*											
Frankeniaceae	*Frankenia*	*cinerea*											
	Frankenia	*cordata*											
	Frankenia	*punctata*											
	Frankenia	sp1											
	Frankenia	sp2											
	Frankenia	*sp3*											
Thymelaceae	*Pimelea*	*microcephala*	subsp *microcephala*										
Myrtaceae	*Eucalyptus*	*eremicola*	subsp *peeneri*										
	Eucalyptus	*striaticalyx*	subsp *striaticalyx*										
	Eucalyptus	*?transcontinentalis*	subsp *transcontinentalis*										
	Melaleuca	xerophila											
	Melaleuca	*uncinata*											

Family	Genus	Species		CE41	CE42	CE43	CE44	CE45	CE46	CE47	LW1	LW2	LW3
Primulaceae	*Samolus*	sp											
	Aanagallis	*arvensis**											
Plumbaginaceae	*Muellerolimon*	*salicorniaceum*											
Asclepiadaceae	*Marsdenia*	*australis*											
	Rhyncharrhena	*linearis*											
Boraginaceae	*Halgania*		aff *cyanea*										
Lamiaceae	*Dicrastylis*	*exsuccosa*	var *tomentosa*										
	Spartothamnella	*?tuecriiflora*											
Solanaceae	*Lycium*	*australe*											
	Solanum	*lasiophyllum*											
	Solanum	*nummularium*											
	Solanum	*orbiculatum*											
Myoporaceae	*Eremophila*	*forestii*	subsp *forestii*										
	Eremophila	*georgei*											
	Eremophila	*glabra*	subsp *glabra*										
	Eremophila	*latrobei*	subsp *latrobei*										
	Eremophila	*?maculata*	subsp *brevifolia*										
	Eremophila	*oppositifolia*	subsp *angustifolia*										
	Eremophila	sp											
Rubiaceae	*Psydrax*	*suaveolens*											
Goodenia	*Goodenia*	sp	aff *corynocarpa*										
	Scaevola	*spinescens*											
Asteraceae	*Angianthus*	*cyanifera*											
	Chrysocephalum	*apiculatum*											
	Cratystylis	*spinescens*											
	Myriocephalus	*rudallii*											
	Olearia	*stuartii*											
	Podolepis	*capillaris*											
	Podolepis	*kendallii*											

Family	Genus	Species		LW4	LW5	LW6	LW7	LW8	LW9	LW10	LW11	LW12	LW13
Cupressaceae	*Callitris*	*preissii*											
Poaceae	*Aristida*	*contorta*											
	Aristida	*holathera*	subsp *holathera*										
	?Austrostipa	sp											
	Enneapogon	*caerulescens*											
	Enteropogon	*ramosus*											
	Eragrostis	spp[1]											
	Eragrostis	*eriopoda*											
	Eriachne	*helmsii*											
	Neurachne	*munroi*											
	Panicum	*laevinode*											
	Paspalidium	sp											
	?Themeda	sp											
	Triodia	*basedowii*											
	Triodia	*melvillei*											
Casuarinaceae	*Casuarina*	*pauper*											
Proteaceae	*Grevillea*	*nematophylla*	subsp *nematophylla*										
	Grevillea	*nematophylla*	subsp *supraplana*										
	Grevillea	*sarissa*	subsp *succincta*										
	Grevillea	*stenobotyra*											
	Hakea	*francissiana*											
Santalaceae	*Exocarpos*	*aphyllus*											
	Santalum	*spicatum*											
Loranthaceae	*Amyema*	*gibberula*											
	Amyema	*maidenii*											
	Amyema	*microphylla*											
Chenopodiaceae	*Atriplex*	*amnicola*											
	Atriplex	*bunburyana*											
	Atriplex	*holocarpa*											
	Atriplex	*nummularia*	subsp *spathulata*										
	Dissocarpus	*paradoxus*											
	Dysphania	*kalpari*											
	Enchylaena	*tomentosa*											
	Halosarcia	*auriculata*											

Family	Genus	Species		LW4	LW5	LW6	LW7	LW8	LW9	LW10	LW11	LW12	LW13
Chenopodiaceae	*Halosarcia*	*calyptrata*											
	Halosarcia	*indica*	subsp *bidens*										
	Halosarcia	*indica*	subsp *leiostachya*										
	Halosarcia	sp											
	Maireana	*amoena*											
	Maireana	*georgei*											
	Maireana	*luehmannii*											
	Maireana	*pentatropis*											
	Maireana	*pyramidata*											
	Maireana	*thesioides*											
	Maireana	*tomentosa*	subsp *tomentosa*										
	Maireana	*triptera*											
	Maireana	*villosa*											
	Rhagodia	*drummondii*											
	Rhagodia	*eremaea*											
	Salsola	*australis*											
	Salsola	*tragus*											
	Sclerolaena	*articulata*											
	Sclerolaena	*bicornis*											
	Sclerolaena	*dicantha*											
	Sclerolaena	*fimbriolata*											
	Tecticornia	*arbuscula*											
	Tecticornia	*disarticula*											
	Tecticornia	*tenuis*											
Amaranthaceae	*Ptilotus*	*exaltatus*											
	Ptilotus	*obovatus*	var *obovatus*										
Aizoaceae	*?Carpobrotus*	sp											
Brassicaceae	*Lepidium*	*muelleri-ferdinandii*											
Pittosporaceae	*Pittosporum*	*phylliraeoides*											
Mimosaceae	*Acacia*	*aneura*	var *aneura*										
	Acacia	*ayersiana*	var *latifolia*										
	Acacia	*aneura*	var *intermedia*										
	Acacia	*aneura*	var *major*										
	Acacia	*aneura*	var *tenuis*										
	Acacia	*burkittii*											

Family	Genus	Species		LW4	LW5	LW6	LW7	LW8	LW9	LW10	LW11	LW12	LW13
Mimosaceae	*Acacia*	*jennerae*											
	Acacia	*minyura*											
	Acacia		aff *oswaldii*										
	Acacia	*quadrimarginea*											
	Acacia	*ramulosa*	var *linophylla*										
	Acacia	*tetragonophylla*											
	Acacia	*victoriae*											
	Acacia	*?xanthocarpa*											
Caesalpiniaceae	*Senna*	*artemisioides*	subsp *filifolia*										
	Senna	*artemisioides*	x sturtii										
	Senna	sp Billabong											
Papilionaceae	*Leptosema*	*chambersii*											
Zygophyllaceae	*Zygophyllum*	*aurantiacum*											
	Zygophyllum	*compressum*											
Euphorbiaceae	*Euphorbia*	*boophthana*											
Celastraceae	*Psammomoya*	sp											
Sapindaceae	*Dodonaea*	*viscosa*	subsp *angustissima*										
Malvaceae	*Alyogyne*	*pinoniana*											
	Lawrencia	*densiflora*											
	Lawrencia	*helmsii*											
	Sida	*ammophila*											
	Sida	*calyxhymenia*											
Frankeniaceae	*Frankenia*	*cinerea*											
	Frankenia	*cordata*											
	Frankenia	*punctata*											
	Frankenia	sp1											
	Frankenia	sp2											
	Frankenia	*sp3*											
Thymelaceae	*Pimelea*	*microcephala*	subsp *microcephala*										
Myrtaceae	*Eucalyptus*	*eremicola*	subsp *peeneri*										
	Eucalyptus	*striaticalyx*	subsp *striaticalyx*										
	Eucalyptus	*?transcontinentalis*	subsp *transcontinentalis*										
	Melaleuca	xerophila											
	Melaleuca	*uncinata*											

Family	Genus	Species		LW4	LW5	LW6	LW7	LW8	LW9	LW10	LW11	LW12	LW13
Primulaceae	*Samolus*	sp											
	Aanagallis	*arvensis**											
Plumbaginaceae	*Muellerolimon*	*salicorniaceum*											
Asclepiadaceae	*Marsdenia*	*australis*											
	Rhyncharrhena	*linearis*											
Boraginaceae	*Halgania*		aff *cyanea*										
Lamiaceae	*Dicrastylis*	*exsuccosa*	var *tomentosa*										
	Spartothamnella	*?tuecriiflora*											
Solanaceae	*Lycium*	*australe*											
	Solanum	*lasiophyllum*											
	Solanum	*nummularium*											
	Solanum	*orbiculatum*											
Myoporaceae	*Eremophila*	*forestii*	subsp *forestii*										
	Eremophila	*georgei*											
	Eremophila	*glabra*	subsp *glabra*										
	Eremophila	*latrobei*	subsp *latrobei*										
	Eremophila	*?maculata*	subsp *brevifolia*										
	Eremophila	*oppositifolia*	subsp *angustifolia*										
	Eremophila	sp											
Rubiaceae	*Psydrax*	*suaveolens*											
Goodenia	*Goodenia*	sp	aff *corynocarpa*										
	Scaevola	*spinescens*											
Asteraceae	*Angianthus*	*cyanifera*											
	Chrysocephalum	*apiculatum*											
	Cratystylis	*spinescens*											
	Myriocephalus	*rudallii*											
	Olearia	*stuartii*											
	Podolepis	*capillaris*											
	Podolepis	*kendallii*											

Family	Genus	Species		LW14	LW15	LW16	LW17	LW18	LW19	LW20	LW21	LW22	LW23
Cupressaceae	*Callitris*	*preissii*											
Poaceae	*Aristida*	*contorta*											
	Aristida	*holathera*	subsp *holathera*										
	?Austrostipa	sp											
	Enneapogon	*caerulescens*											
	Enteropogon	*ramosus*											
	Eragrostis	spp[1]											
	Eragrostis	*eriopoda*											
	Eriachne	*helmsii*											
	Neurachne	*munroi*											
	Panicum	*laevinode*											
	Paspalidium	sp											
	?Themeda	sp											
	Triodia	*basedowii*											
	Triodia	*melvillei*											
Casuarinaceae	*Casuarina*	*pauper*											
Proteaceae	*Grevillea*	*nematophylla*	subsp *nematophylla*										
	Grevillea	*nematophylla*	subsp *supraplana*										
	Grevillea	*sarissa*	subsp *succincta*										
	Grevillea	*stenobotyra*											
	Hakea	*francissiana*											
Santalaceae	*Exocarpos*	*aphyllus*											
	Santalum	*spicatum*											
Loranthaceae	*Amyema*	*gibberula*											
	Amyema	*maidenii*											
	Amyema	*microphylla*											
Chenopodiaceae	*Atriplex*	*amnicola*											
	Atriplex	*bunburyana*											
	Atriplex	*holocarpa*											
	Atriplex	*nummularia*	subsp *spathulata*										
	Dissocarpus	*paradoxus*											
	Dysphania	*kalpari*											
	Enchylaena	*tomentosa*											
	Halosarcia	*auriculata*											

Family	Genus	Species		LW14	LW15	LW16	LW17	LW18	LW19	LW20	LW21	LW22	LW23
Chenopodiaceae	*Halosarcia*	*calyptrata*											
	Halosarcia	*indica*	subsp *bidens*										
	Halosarcia	*indica*	subsp *leiostachya*										
	Halosarcia	sp											
	Maireana	*amoena*											
	Maireana	*georgei*											
	Maireana	*luehmannii*											
	Maireana	*pentatropis*											
	Maireana	*pyramidata*											
	Maireana	*thesioides*											
	Maireana	*tomentosa*	subsp *tomentosa*										
	Maireana	*triptera*											
	Maireana	*villosa*											
	Rhagodia	*drummondii*											
	Rhagodia	*eremaea*											
	Salsola	*australis*											
	Salsola	*tragus*											
	Sclerolaena	*articulata*											
	Sclerolaena	*bicornis*											
	Sclerolaena	*dicantha*											
	Sclerolaena	*fimbriolata*											
	Tecticornia	*arbuscula*											
	Tecticornia	*disarticula*											
	Tecticornia	*tenuis*											
Amaranthaceae	*Ptilotus*	*exaltatus*											
	Ptilotus	*obovatus*	var *obovatus*										
Aizoaceae	*?Carpobrotus*	sp											
Brassicaceae	*Lepidium*	*muelleri-ferdinandii*											
Pittosporaceae	*Pittosporum*	*phylliraeoides*											
Mimosaceae	*Acacia*	*aneura*	var *aneura*										
	Acacia	*ayersiana*	var *latifolia*										
	Acacia	*aneura*	var *intermedia*										
	Acacia	*aneura*	var *major*										
	Acacia	*aneura*	var *tenuis*										
	Acacia	*burkittii*											

Family	Genus	Species		LW14	LW15	LW16	LW17	LW18	LW19	LW20	LW21	LW22	LW23
Mimosaceae	*Acacia*	*jennerae*											
	Acacia	*minyura*											
	Acacia		aff *oswaldii*										
	Acacia	*quadrimarginea*											
	Acacia	*ramulosa*	var *linophylla*										
	Acacia	*tetragonophylla*											
	Acacia	*victoriae*											
	Acacia	*?xanthocarpa*											
Caesalpiniaceae	*Senna*	*artemisioides*	subsp *filifolia*										
	Senna	*artemisioides*	x sturtii										
	Senna	sp Billabong											
Papilionaceae	*Leptosema*	*chambersii*											
Zygophyllaceae	*Zygophyllum*	*aurantiacum*											
	Zygophyllum	*compressum*											
Euphorbiaceae	*Euphorbia*	*boophthana*											
Celastraceae	*Psammomoya*	sp											
Sapindaceae	*Dodonaea*	*viscosa*	subsp *angustissima*										
Malvaceae	*Alyogyne*	*pinoniana*											
	Lawrencia	*densiflora*											
	Lawrencia	*helmsii*											
	Sida	*ammophila*											
	Sida	*calyxhymenia*											
Frankeniaceae	*Frankenia*	*cinerea*											
	Frankenia	*cordata*											
	Frankenia	*punctata*											
	Frankenia	sp1											
	Frankenia	sp2											
	Frankenia	*sp3*											
Thymelaceae	*Pimelea*	*microcephala*	subsp *microcephala*										
Myrtaceae	*Eucalyptus*	*eremicola*	subsp *peeneri*										
	Eucalyptus	*striaticalyx*	subsp *striaticalyx*										
	Eucalyptus	*?transcontinentalis*	subsp *transcontinentalis*										
	Melaleuca	xerophila											
	Melaleuca	*uncinata*											

Family	Genus	Species		LW14	LW15	LW16	LW17	LW18	LW19	LW20	LW21	LW22	LW23
Primulaceae	*Samolus*	sp											
	Aanagallis	*arvensis**											
Plumbaginaceae	*Muellerolimon*	*salicorniaceum*											
Asclepiadaceae	*Marsdenia*	*australis*											
	Rhyncharrhena	*linearis*											
Boraginaceae	*Halgania*		aff *cyanea*										
Lamiaceae	*Dicrastylis*	*exsuccosa*	var *tomentosa*										
	Spartothamnella	*?tuecriiflora*											
Solanaceae	*Lycium*	*australe*											
	Solanum	*lasiophyllum*											
	Solanum	*nummularium*											
	Solanum	*orbiculatum*											
Myoporaceae	*Eremophila*	*forestii*	subsp *forestii*										
	Eremophila	*georgei*											
	Eremophila	*glabra*	subsp *glabra*										
	Eremophila	*latrobei*	subsp *latrobei*									`	
	Eremophila	*?maculata*	subsp *brevifolia*										
	Eremophila	*oppositifolia*	subsp *angustifolia*										
	Eremophila	sp											
Rubiaceae	*Psydrax*	*suaveolens*											
Goodenia	*Goodenia*	sp	aff *corynocarpa*										
	Scaevola	*spinescens*											
Asteraceae	*Angianthus*	*cyanifera*											
	Chrysocephalum	*apiculatum*											
	Cratystylis	*spinescens*											
	Myriocephalus	*rudallii*											
	Olearia	*stuartii*											
	Podolepis	*capillaris*											
	Podolepis	*kendallii*											

Family	Genus	Species		LW24	LW25	LW26	LW27	LW28	LW29	LW30	LW31	LW32	LW33
Cupressaceae	*Callitris*	*preissii*											
Poaceae	*Aristida*	*contorta*											
	Aristida	*holathera*	subsp *holathera*										
	?Austrostipa	sp											
	Enneapogon	*caerulescens*											
	Enteropogon	*ramosus*											
	Eragrostis	spp[1]											
	Eragrostis	*eriopoda*											
	Eriachne	*helmsii*											
	Neurachne	*munroi*											
	Panicum	*laevinode*											
	Paspalidium	sp											
	?Themeda	sp											
	Triodia	*basedowii*											
	Triodia	*melvillei*											
Casuarinaceae	*Casuarina*	*pauper*											
Proteaceae	*Grevillea*	*nematophylla*	subsp *nematophylla*										
	Grevillea	*nematophylla*	subsp *supraplana*										
	Grevillea	*sarissa*	subsp *succincta*										
	Grevillea	*stenobotyra*											
	Hakea	*francissiana*											
Santalaceae	*Exocarpos*	*aphyllus*											
	Santalum	*spicatum*											
Loranthaceae	*Amyema*	*gibberula*											
	Amyema	*maidenii*											
	Amyema	*microphylla*											
Chenopodiaceae	*Atriplex*	*amnicola*											
	Atriplex	*bunburyana*											
	Atriplex	*holocarpa*											
	Atriplex	*nummularia*	subsp *spathulata*										
	Dissocarpus	*paradoxus*											
	Dysphania	*kalpari*											
	Enchylaena	*tomentosa*											
	Halosarcia	*auriculata*											

Family	Genus	Species		LW24	LW25	LW26	LW27	LW28	LW29	LW30	LW31	LW32	LW33
Chenopodiaceae	*Halosarcia*	*calyptrata*											
	Halosarcia	*indica*	subsp *bidens*										
	Halosarcia	*indica*	subsp *leiostachya*										
	Halosarcia	sp											
	Maireana	*amoena*											
	Maireana	*georgei*											
	Maireana	*luehmannii*											
	Maireana	*pentatropis*											
	Maireana	*pyramidata*											
	Maireana	*thesioides*											
	Maireana	*tomentosa*	subsp *tomentosa*										
	Maireana	*triptera*											
	Maireana	*villosa*											
	Rhagodia	*drummondii*											
	Rhagodia	*eremaea*											
	Salsola	*australis*											
	Salsola	*tragus*											
	Sclerolaena	*articulata*											
	Sclerolaena	*bicornis*											
	Sclerolaena	*dicantha*											
	Sclerolaena	*fimbriolata*											
	Tecticornia	*arbuscula*											
	Tecticornia	*disarticula*											
	Tecticornia	*tenuis*											
Amaranthaceae	*Ptilotus*	*exaltatus*											
	Ptilotus	*obovatus*	var *obovatus*										
Aizoaceae	*?Carpobrotus*	sp											
Brassicaceae	*Lepidium*	*muelleri-ferdinandii*											
Pittosporaceae	*Pittosporum*	*phylliraeoides*											
Mimosaceae	*Acacia*	*aneura*	var *aneura*										
	Acacia	*ayersiana*	var *latifolia*										
	Acacia	*aneura*	var *intermedia*										
	Acacia	*aneura*	var *major*										
	Acacia	*aneura*	var *tenuis*										
	Acacia	*burkittii*											

Family	Genus	Species		LW24	LW25	LW26	LW27	LW28	LW29	LW30	LW31	LW32	LW33
Mimosaceae	*Acacia*	*jennerae*											
	Acacia	*minyura*											
	Acacia		aff *oswaldii*										
	Acacia	*quadrimarginea*											
	Acacia	*ramulosa*	var *linophylla*										
	Acacia	*tetragonophylla*											
	Acacia	*victoriae*											
	Acacia	*?xanthocarpa*											
Caesalpiniaceae	*Senna*	*artemisioides*	subsp *filifolia*										
	Senna	*artemisioides*	x sturtii										
	Senna	sp Billabong											
Papilionaceae	*Leptosema*	*chambersii*											
Zygophyllaceae	*Zygophyllum*	*aurantiacum*											
	Zygophyllum	*compressum*											
Euphorbiaceae	*Euphorbia*	*boophthana*											
Celastraceae	*Psammomoya*	sp											
Sapindaceae	*Dodonaea*	*viscosa*	subsp *angustissima*										
Malvaceae	*Alyogyne*	*pinoniana*											
	Lawrencia	*densiflora*											
	Lawrencia	*helmsii*											
	Sida	*ammophila*											
	Sida	*calyxhymenia*											
Frankeniaceae	*Frankenia*	*cinerea*											
	Frankenia	*cordata*											
	Frankenia	*punctata*											
	Frankenia	sp1											
	Frankenia	sp2											
	Frankenia	*sp3*											
Thymelaceae	*Pimelea*	*microcephala*	subsp *microcephala*										
Myrtaceae	*Eucalyptus*	*eremicola*	subsp *peeneri*										
	Eucalyptus	*striaticalyx*	subsp *striaticalyx*										
	Eucalyptus	*?transcontinentalis*	subsp *transcontinentalis*										
	Melaleuca	xerophila											
	Melaleuca	*uncinata*											

Family	Genus	Species		LW24	LW25	LW26	LW27	LW28	LW29	LW30	LW31	LW32	LW33
Primulaceae	*Samolus*	sp											
	Aanagallis	*arvensis**											
Plumbaginaceae	*Muellerolimon*	*salicorniaceum*											
Asclepiadaceae	*Marsdenia*	*australis*											
	Rhyncharrhena	*linearis*											
Boraginaceae	*Halgania*		aff *cyanea*										
Lamiaceae	*Dicrastylis*	*exsuccosa*	var *tomentosa*										
	Spartothamnella	*?tuecriiflora*											
Solanaceae	*Lycium*	*australe*											
	Solanum	*lasiophyllum*											
	Solanum	*nummularium*											
	Solanum	*orbiculatum*											
Myoporaceae	*Eremophila*	*forestii*	subsp *forestii*										
	Eremophila	*georgei*											
	Eremophila	*glabra*	subsp *glabra*										
	Eremophila	*latrobei*	subsp *latrobei*										
	Eremophila	*?maculata*	subsp *brevifolia*										
	Eremophila	*oppositifolia*	subsp *angustifolia*										
	Eremophila	sp											
Rubiaceae	*Psydrax*	*suaveolens*											
Goodenia	*Goodenia*	sp	aff *corynocarpa*										
	Scaevola	*spinescens*											
Asteraceae	*Angianthus*	*cyanifera*											
	Chrysocephalum	*apiculatum*											
	Cratystylis	*spinescens*											
	Myriocephalus	*rudallii*											
	Olearia	*stuartii*											
	Podolepis	*capillaris*											
	Podolepis	*kendallii*											

Family	Genus	Species		LW34	LW35	LW36	LW37	LW38	LW39	LW40	LW41	LW42	LW43
Cupressaceae	*Callitris*	*preissii*											
Poaceae	*Aristida*	*contorta*											
	Aristida	*holathera*	subsp *holathera*										
	?Austrostipa	sp											
	Enneapogon	*caerulescens*											
	Enteropogon	*ramosus*											
	Eragrostis	spp[1]											
	Eragrostis	*eriopoda*											
	Eriachne	*helmsii*											
	Neurachne	*munroi*											
	Panicum	*laevinode*											
	Paspalidium	sp											
	?Themeda	sp											
	Triodia	*basedowii*											
	Triodia	*melvillei*											
Casuarinaceae	*Casuarina*	*pauper*											
Proteaceae	*Grevillea*	*nematophylla*	subsp *nematophylla*										
	Grevillea	*nematophylla*	subsp *supraplana*										
	Grevillea	*sarissa*	subsp *succincta*										
	Grevillea	*stenobotyra*											
	Hakea	*francissiana*											
Santalaceae	*Exocarpos*	*aphyllus*											
	Santalum	*spicatum*											
Loranthaceae	*Amyema*	*gibberula*											
	Amyema	*maidenii*											
	Amyema	*microphylla*											
Chenopodiaceae	*Atriplex*	*amnicola*											
	Atriplex	*bunburyana*											
	Atriplex	*holocarpa*											
	Atriplex	*nummularia*	subsp *spathulata*										
	Dissocarpus	*paradoxus*											
	Dysphania	*kalpari*											
	Enchylaena	*tomentosa*											
	Halosarcia	*auriculata*											

Family	Genus	Species		LW34	LW35	LW36	LW37	LW38	LW39	LW40	LW41	LW42	LW43
Chenopodiaceae	*Halosarcia*	*calyptrata*											
	Halosarcia	*indica*	subsp *bidens*										
	Halosarcia	*indica*	subsp *leiostachya*										
	Halosarcia	sp											
	Maireana	*amoena*											
	Maireana	*georgei*											
	Maireana	*luehmannii*											
	Maireana	*pentatropis*											
	Maireana	*pyramidata*											
	Maireana	*thesioides*											
	Maireana	*tomentosa*	subsp *tomentosa*										
	Maireana	*triptera*											
	Maireana	*villosa*											
	Rhagodia	*drummondii*											
	Rhagodia	*eremaea*											
	Salsola	*australis*											
	Salsola	*tragus*											
	Sclerolaena	*articulata*											
	Sclerolaena	*bicornis*											
	Sclerolaena	*dicantha*											
	Sclerolaena	*fimbriolata*											
	Tecticornia	*arbuscula*											
	Tecticornia	*disarticula*											
	Tecticornia	*tenuis*											
Amaranthaceae	*Ptilotus*	*exaltatus*											
	Ptilotus	*obovatus*	var *obovatus*										
Aizoaceae	*?Carpobrotus*	sp											
Brassicaceae	*Lepidium*	*muelleri-ferdinandii*											
Pittosporaceae	*Pittosporum*	*phylliraeoides*											
Mimosaceae	*Acacia*	*aneura*	var *aneura*										
	Acacia	*ayersiana*	var *latifolia*										
	Acacia	*aneura*	var *intermedia*										
	Acacia	*aneura*	var *major*										
	Acacia	*aneura*	var *tenuis*										
	Acacia	*burkittii*											

Family	Genus	Species		LW34	LW35	LW36	LW37	LW38	LW39	LW40	LW41	LW42	LW43
Mimosaceae	*Acacia*	*jennerae*											
	Acacia	*minyura*											
	Acacia		aff *oswaldii*										
	Acacia	*quadrimarginea*											
	Acacia	*ramulosa*	var *linophylla*										
	Acacia	*tetragonophylla*											
	Acacia	*victoriae*											
	Acacia	*?xanthocarpa*											
Caesalpiniaceae	*Senna*	*artemisioides*	subsp *filifolia*										
	Senna	*artemisioides*	x sturtii										
	Senna	sp Billabong											
Papilionaceae	*Leptosema*	*chambersii*											
Zygophyllaceae	*Zygophyllum*	*aurantiacum*											
	Zygophyllum	*compressum*											
Euphorbiaceae	*Euphorbia*	*boophthana*											
Celastraceae	*Psammomoya*	sp											
Sapindaceae	*Dodonaea*	*viscosa*	subsp *angustissima*										
Malvaceae	*Alyogyne*	*pinoniana*											
	Lawrencia	*densiflora*											
	Lawrencia	*helmsii*											
	Sida	*ammophila*											
	Sida	*calyxhymenia*											
Frankeniaceae	*Frankenia*	*cinerea*											
	Frankenia	*cordata*											
	Frankenia	*punctata*											
	Frankenia	sp1											
	Frankenia	sp2											
	Frankenia	*sp3*											
Thymelaceae	*Pimelea*	*microcephala*	subsp *microcephala*										
Myrtaceae	*Eucalyptus*	*eremicola*	subsp *peeneri*										
	Eucalyptus	*striaticalyx*	subsp *striaticalyx*										
	Eucalyptus	*?transcontinentalis*	subsp *transcontinentalis*										
	Melaleuca	xerophila											
	Melaleuca	*uncinata*											

Family	Genus	Species		LW34	LW35	LW36	LW37	LW38	LW39	LW40	LW41	LW42	LW43
Primulaceae	*Samolus*	sp											
	Aanagallis	*arvensis**											
Plumbaginaceae	*Muellerolimon*	*salicorniaceum*											
Asclepiadaceae	*Marsdenia*	*australis*											
	Rhyncharrhena	*linearis*											
Boraginaceae	*Halgania*		aff *cyanea*										
Lamiaceae	*Dicrastylis*	*exsuccosa*	var *tomentosa*										
	Spartothamnella	*?tuecriiflora*											
Solanaceae	*Lycium*	*australe*											
	Solanum	*lasiophyllum*											
	Solanum	*nummularium*											
	Solanum	*orbiculatum*											
Myoporaceae	*Eremophila*	*forestii*	subsp *forestii*										
	Eremophila	*georgei*											
	Eremophila	*glabra*	subsp *glabra*										
	Eremophila	*latrobei*	subsp *latrobei*										
	Eremophila	*?maculata*	subsp *brevifolia*										
	Eremophila	*oppositifolia*	subsp *angustifolia*										
	Eremophila	sp											
Rubiaceae	*Psydrax*	*suaveolens*											
Goodenia	*Goodenia*	sp	aff *corynocarpa*										
	Scaevola	*spinescens*											
Asteraceae	*Angianthus*	*cyanifera*											
	Chrysocephalum	*apiculatum*											
	Cratystylis	*spinescens*											
	Myriocephalus	*rudallii*											
	Olearia	*stuartii*											
	Podolepis	*capillaris*											
	Podolepis	*kendallii*											

Family	Genus	Species		LW44	LW45	LW46	LW47	LW48	LW49	LW50	LW51	LW52	LW53
Cupressaceae	*Callitris*	*preissii*											
Poaceae	*Aristida*	*contorta*											
	Aristida	*holathera*	subsp *holathera*										
	?Austrostipa	sp											
	Enneapogon	*caerulescens*											
	Enteropogon	*ramosus*											
	Eragrostis	spp[1]											
	Eragrostis	*eriopoda*											
	Eriachne	*helmsii*											
	Neurachne	*munroi*											
	Panicum	*laevinode*											
	Paspalidium	sp											
	?Themeda	sp											
	Triodia	*basedowii*											
	Triodia	*melvillei*											
Casuarinaceae	*Casuarina*	*pauper*											
Proteaceae	*Grevillea*	*nematophylla*	subsp *nematophylla*										
	Grevillea	*nematophylla*	subsp *supraplana*										
	Grevillea	*sarissa*	subsp *succincta*										
	Grevillea	*stenobotyra*											
	Hakea	*francissiana*											
Santalaceae	*Exocarpos*	*aphyllus*											
	Santalum	*spicatum*											
Loranthaceae	*Amyema*	*gibberula*											
	Amyema	*maidenii*											
	Amyema	*microphylla*											
Chenopodiaceae	*Atriplex*	*amnicola*											
	Atriplex	*bunburyana*											
	Atriplex	*holocarpa*											
	Atriplex	*nummularia*	subsp *spathulata*										
	Dissocarpus	*paradoxus*											
	Dysphania	*kalpari*											
	Enchylaena	*tomentosa*											
	Halosarcia	*auriculata*											

Family	Genus	Species		LW44	LW45	LW46	LW47	LW48	LW49	LW50	LW51	LW52	LW53
Chenopodiaceae	*Halosarcia*	*calyptrata*											
	Halosarcia	*indica*	subsp *bidens*										
	Halosarcia	*indica*	subsp *leiostachya*										
	Halosarcia	sp											
	Maireana	*amoena*											
	Maireana	*georgei*											
	Maireana	*luehmannii*											
	Maireana	*pentatropis*											
	Maireana	*pyramidata*											
	Maireana	*thesioides*											
	Maireana	*tomentosa*	subsp *tomentosa*										
	Maireana	*triptera*											
	Maireana	*villosa*											
	Rhagodia	*drummondii*											
	Rhagodia	*eremaea*											
	Salsola	*australis*											
	Salsola	*tragus*											
	Sclerolaena	*articulata*											
	Sclerolaena	*bicornis*											
	Sclerolaena	*dicantha*											
	Sclerolaena	*fimbriolata*											
	Tecticornia	*arbuscula*											
	Tecticornia	*disarticula*											
	Tecticornia	*tenuis*											
Amaranthaceae	*Ptilotus*	*exaltatus*											
	Ptilotus	*obovatus*	var *obovatus*										
Aizoaceae	*?Carpobrotus*	sp											
Brassicaceae	*Lepidium*	*muelleri-ferdinandii*											
Pittosporaceae	*Pittosporum*	*phylliraeoides*											
Mimosaceae	*Acacia*	*aneura*	var *aneura*										
	Acacia	*ayersiana*	var *latifolia*										
	Acacia	*aneura*	var *intermedia*										
	Acacia	*aneura*	var *major*										
	Acacia	*aneura*	var *tenuis*										
	Acacia	*burkittii*											

Family	Genus	Species		LW44	LW45	LW46	LW47	LW48	LW49	LW50	LW51	LW52	LW53
Mimosaceae	*Acacia*	*jennerae*											
	Acacia	*minyura*											
	Acacia		aff *oswaldii*										
	Acacia	*quadrimarginea*											
	Acacia	*ramulosa*	var *linophylla*										
	Acacia	*tetragonophylla*											
	Acacia	*victoriae*											
	Acacia	*?xanthocarpa*											
Caesalpiniaceae	*Senna*	*artemisioides*	subsp *filifolia*										
	Senna	*artemisioides*	x sturtii										
	Senna	sp Billabong											
Papilionaceae	*Leptosema*	*chambersii*											
Zygophyllaceae	*Zygophyllum*	*aurantiacum*											
	Zygophyllum	*compressum*											
Euphorbiaceae	*Euphorbia*	*boophthana*											
Celastraceae	*Psammomoya*	sp											
Sapindaceae	*Dodonaea*	*viscosa*	subsp *angustissima*										
Malvaceae	*Alyogyne*	*pinoniana*											
	Lawrencia	*densiflora*											
	Lawrencia	*helmsii*											
	Sida	*ammophila*											
	Sida	*calyxhymenia*											
Frankeniaceae	*Frankenia*	*cinerea*											
	Frankenia	*cordata*											
	Frankenia	*punctata*											
	Frankenia	sp1											
	Frankenia	sp2											
	Frankenia	*sp3*											
Thymelaceae	*Pimelea*	*microcephala*	subsp *microcephala*										
Myrtaceae	*Eucalyptus*	*eremicola*	subsp *peeneri*										
	Eucalyptus	*striaticalyx*	subsp *striaticalyx*										
	Eucalyptus	*?transcontinentalis*	subsp *transcontinentalis*										
	Melaleuca	xerophila											
	Melaleuca	*uncinata*											

Family	Genus	Species		LW44	LW45	LW46	LW47	LW48	LW49	LW50	LW51	LW52	LW53
Primulaceae	*Samolus*	sp											
	Aanagallis	*arvensis**											
Plumbaginaceae	*Muellerolimon*	*salicorniaceum*											
Asclepiadaceae	*Marsdenia*	*australis*											
	Rhyncharrhena	*linearis*											
Boraginaceae	*Halgania*		aff *cyanea*										
Lamiaceae	*Dicrastylis*	*exsuccosa*	var *tomentosa*										
	Spartothamnella	*?tuecriiflora*											
Solanaceae	*Lycium*	*australe*											
	Solanum	*lasiophyllum*											
	Solanum	*nummularium*											
	Solanum	*orbiculatum*											
Myoporaceae	*Eremophila*	*forestii*	subsp *forestii*										
	Eremophila	*georgei*											
	Eremophila	*glabra*	subsp *glabra*										
	Eremophila	*latrobei*	subsp *latrobei*										
	Eremophila	*?maculata*	subsp *brevifolia*										
	Eremophila	*oppositifolia*	subsp *angustifolia*										
	Eremophila	sp											
Rubiaceae	*Psydrax*	*suaveolens*											
Goodenia	*Goodenia*	sp	aff *corynocarpa*										
	Scaevola	*spinescens*											
Asteraceae	*Angianthus*	*cyanifera*											
	Chrysocephalum	*apiculatum*											
	Cratystylis	*spinescens*											
	Myriocephalus	*rudallii*											
	Olearia	*stuartii*											
	Podolepis	*capillaris*											
	Podolepis	*kendallii*											

Family	Genus	Species		LW54	LW55	LW56	LW57	LW58	LW59	LW60	LW61
Cupressaceae	*Callitris*	*preissii*									
Poaceae	*Aristida*	*contorta*									
	Aristida	*holathera*	subsp *holathera*								
	?Austrostipa	sp									
	Enneapogon	*caerulescens*									
	Enteropogon	*ramosus*									
	Eragrostis	spp[1]									
	Eragrostis	*eriopoda*									
	Eriachne	*helmsii*									
	Neurachne	*munroi*									
	Panicum	*laevinode*									
	Paspalidium	sp									
	?Themeda	sp									
	Triodia	*basedowii*									
	Triodia	*melvillei*									
Casuarinaceae	*Casuarina*	*pauper*									
Proteaceae	*Grevillea*	*nematophylla*	subsp *nematophylla*								
	Grevillea	*nematophylla*	subsp *supraplana*								
	Grevillea	*sarissa*	subsp *succincta*								
	Grevillea	*stenobotyra*									
	Hakea	*francissiana*									
Santalaceae	*Exocarpos*	*aphyllus*									
	Santalum	*spicatum*									
Loranthaceae	*Amyema*	*gibberula*									
	Amyema	*maidenii*									
	Amyema	*microphylla*									
Chenopodiaceae	*Atriplex*	*amnicola*									
	Atriplex	*bunburyana*									
	Atriplex	*holocarpa*									
	Atriplex	*nummularia*	subsp *spathulata*								
	Dissocarpus	*paradoxus*									
	Dysphania	*kalpari*									
	Enchylaena	*tomentosa*									
	Halosarcia	*auriculata*									

Family	Genus	Species		LW54	LW55	LW56	LW57	LW58	LW59	LW60	LW61
Chenopodiaceae	*Halosarcia*	*calyptrata*									
	Halosarcia	*indica*	subsp *bidens*								
	Halosarcia	*indica*	subsp *leiostachya*								
	Halosarcia	sp									
	Maireana	*amoena*									
	Maireana	*georgei*									
	Maireana	*luehmannii*									
	Maireana	*pentatropis*									
	Maireana	*pyramidata*									
	Maireana	*thesioides*									
	Maireana	*tomentosa*	subsp *tomentosa*								
	Maireana	*triptera*									
	Maireana	*villosa*									
	Rhagodia	*drummondii*									
	Rhagodia	*eremaea*									
	Salsola	*australis*									
	Salsola	*tragus*									
	Sclerolaena	*articulata*									
	Sclerolaena	*bicornis*									
	Sclerolaena	*dicantha*									
	Sclerolaena	*fimbriolata*									
	Tecticornia	*arbuscula*									
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	Tecticornia	*tenuis*									
Amaranthaceae	*Ptilotus*	*exaltatus*									
	Ptilotus	*obovatus*	var *obovatus*								
Aizoaceae	*?Carpobrotus*	sp									
Brassicaceae	*Lepidium*	*muelleri-ferdinandii*									
Pittosporaceae	*Pittosporum*	*phylliraeoides*									
Mimosaceae	*Acacia*	*aneura*	var *aneura*								
	Acacia	*ayersiana*	var *latifolia*								
	Acacia	*aneura*	var *intermedia*								
	Acacia	*aneura*	var *major*								
	Acacia	*aneura*	var *tenuis*								
	Acacia	*burkittii*									

Family	Genus	Species		LW54	LW55	LW56	LW57	LW58	LW59	LW60	LW61
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	Acacia		aff *oswaldii*								
	Acacia	*quadrimarginea*									
	Acacia	*ramulosa*	var *linophylla*								
	Acacia	*tetragonophylla*									
	Acacia	*victoriae*									
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	Senna	*artemisioides*	x sturtii								
	Senna	sp Billabong									
Papilionaceae	*Leptosema*	*chambersii*									
Zygophyllaceae	*Zygophyllum*	*aurantiacum*									
	Zygophyllum	*compressum*									
Euphorbiaceae	*Euphorbia*	*boophthana*									
Celastraceae	*Psammomoya*	sp									
Sapindaceae	*Dodonaea*	*viscosa*	subsp *angustissima*								
Malvaceae	*Alyogyne*	*pinoniana*									
	Lawrencia	*densiflora*									
	Lawrencia	*helmsii*									
	Sida	*ammophila*									
	Sida	*calyxhymenia*									
Frankeniaceae	*Frankenia*	*cinerea*									
	Frankenia	*cordata*									
	Frankenia	*punctata*									
	Frankenia	sp1									
	Frankenia	sp2									
	Frankenia	*sp3*									
Thymelaceae	*Pimelea*	*microcephala*	subsp *microcephala*								
Myrtaceae	*Eucalyptus*	*eremicola*	subsp *peeneri*								
	Eucalyptus	*striaticalyx*	subsp *striaticalyx*								
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	Melaleuca	xerophila									
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Family	Genus	Species		LW54	LW55	LW56	LW57	LW58	LW59	LW60	LW61
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	Aanagallis	*arvensis**									
Plumbaginaceae	*Muellerolimon*	*salicorniaceum*									
Asclepiadaceae	*Marsdenia*	*australis*									
	Rhyncharrhena	*linearis*									
Boraginaceae	*Halgania*		aff *cyanea*								
Lamiaceae	*Dicrastylis*	*exsuccosa*	var *tomentosa*								
	Spartothamnella	*?tuecriiflora*									
Solanaceae	*Lycium*	*australe*									
	Solanum	*lasiophyllum*									
	Solanum	*nummularium*									
	Solanum	*orbiculatum*									
Myoporaceae	*Eremophila*	*forestii*	subsp *forestii*								
	Eremophila	*georgei*									
	Eremophila	*glabra*	subsp *glabra*								
	Eremophila	*latrobei*	subsp *latrobei*								
	Eremophila	*?maculata*	subsp *brevifolia*								
	Eremophila	*oppositifolia*	subsp *angustifolia*								
	Eremophila	sp									
Rubiaceae	*Psydrax*	*suaveolens*									
Goodenia	*Goodenia*	sp	aff *corynocarpa*								
	Scaevola	*spinescens*									
Asteraceae	*Angianthus*	*cyanifera*									
	Chrysocephalum	*apiculatum*									
	Cratystylis	*spinescens*									
	Myriocephalus	*rudallii*									
	Olearia	*stuartii*									
	Podolepis	*capillaris*									
	Podolepis	*kendallii*									

Appendix D
Vegetation Condition Scale

Vegetation Condition Scale (Keighery, 1994).

Code	Description
Pristine	Pristine or nearly so. No obvious signs of disturbance.
Excellent	Vegetation structure intact, disturbance affecting individual species and weeds are non-aggressive species.
Very Good	Vegetation structure altered, obvious signs of disturbance. For example, disturbance to vegetation structure caused by repeated fires, the presence of some more aggressive weeds, dieback, logging and grazing.
Good	Vegetation structure significantly altered by very obvious signs of multiple disturbances. Retains basic vegetation structure or ability to regenerate it. For example, disturbance to vegetation structure caused by very frequent fires, the presence of some very aggressive weeds at high density, partial clearing, dieback and grazing.
Degraded	Basic vegetation structure severely impacted by disturbance. Scope for regeneration but not to a state approaching good condition without intensive management. For example, disturbance to vegetation structure caused by very frequent fires, the presence of very aggressive weeds, partial clearing, dieback and grazing.
Completely Degraded	The structure of the vegetation is no longer intact and the area is completely or almost completely without native species. These areas are often described as ‘parkland cleared’ with the flora comprising weed or crop species with isolated native trees or shrubs.

Appendix E

Classification of Vegetation Structural Formation and Height Classes

LIFE FORM/HEIGHT CLASS	CANOPY COVER			
	DENSE **70% - 100%**	**MID DENSE** **30% - 70%**	**SPARSE** **10% - 30%**	**VERY SPARSE** **2% - 10%**
Trees > 30m	Dense Tall Forest	Tall Forest	Tall Woodland	Open Tall Woodland
Trees 15 – 30m	Dense Forest	Forest	Woodland	Open Woodland
Trees 5 – 15m	Dense Low Forest A	Low Forest A	Low woodland A	Open Low Woodland A
Trees < 5m	Dense Low Forest B	Low Forest B	Low Woodland B	Open Low Woodland B
Mallee Tree Form	Dense Tree Mallee	Tree Mallee	Open Tree Mallee	Very Open Tree Mallee
Mallee Shrub Form	Dense Shrub Mallee	Shrub Mallee	Open Shrub Mallee	Very Open Shrub Mallee
Shrubs > 2m	Dense Thicket	Thicket	Scrub	Open Scrub
Shrubs 1.5 – 2m	Dense Heath A	Heath A	Low Scrub A	Open Low Scrub A
Shrubs 1 – 1.5m	Dense Heath B	Heath B	Low Scrub B	Open Low Scrub B
Shrubs 0.5 – 1m	Dense Low Heath C	Low Heath C	Dwarf Scrub C	Open Dwarf Scrub C
Shrubs 0 – 0.5m	Dense Low Heath D	Low Heath D	Dwarf Scrub D	Open Dwarf Scrub D
Mat Plants	Dense Mat Plants	Mat Plants	Open Mat Plants	Very Open Mat Plants
Hummock Grass	Dense Hummock Grass	Mid-dense Hummock Grass	Hummock Grass	Open Hummock Grass
Bunch grass >0.5m	Dense Tall Grass	Tall Grass	Open Tall Grass	Very Open Tall Grass
Bunch grass < 0.5m	Dense Low Grass	Low Gras	Open Low Grass	Very Open Low Grass
Herbaceous spp.	Dense Herbs	Herbs	Open Herbs	Very Open Herbs
Sedges > 0.5m	Dense Tall Sedges	Tall Sedges	Open Tall Sedges	Very Open Tall Sedges
Sedges < 0.5m	Dense Low Sedges	Low Sedges	Open Low Sedges	Very Open Low Sedges
Ferns	Dense ferns	Ferns	Open Ferns	Very Open Ferns
Mosses, liverworts	Dense Mosses	Mosses	Open Mosses	Very Open Mosses

Appendix F

Environment Protection and Biodiversity Conservation (EPBC) Act Protected Matters Database Search

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.

You may wish to print this report for reference before moving to other pages or websites.

The Australian Natural Resources Atlas at http://www.environment.gov.au/atlas may provide further environmental information relevant to your selected area. Information about the EPBC Act including significance guidelines, forms and application process details can be found at http://www.environment.gov.au/epbc/assessmentsapprovals/index.html

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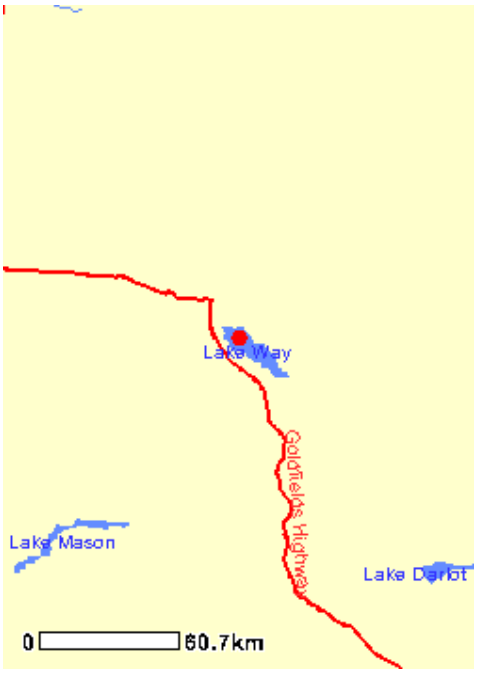


Search Type: Point

Buffer: 100 km

Coordinates: -26.76583,120.3394

Report Contents: Summary

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 - see http://www.environment.gov.au/epbc/assessmentsapprovals/guidelines/index.html.

World Heritage Properties:	None
National Heritage Places:	None
Wetlands of International Significance: (Ramsar Sites)	None
Commonwealth Marine Areas:	None
Threatened Ecological Communities:	None
Threatened Species:	6
Migratory Species:	6

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 and the heritage values of a place on the Register of the National Estate. Information on the new heritage laws can be found at http://www.environment.gov.au/heritage/index.html.

Please note that the current dataset on Commonwealth land is not complete. Further information on Commonwealth land would need to be obtained from relevant sources including Commonwealth agencies, local agencies, and land tenure maps.

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. Information on EPBC Act permit requirements and application forms can be found at http://www.environment.gov.au/epbc/permits/index.html.

Commonwealth Lands:	1
Commonwealth Heritage Places:	None
Places on the RNE:	3
Listed Marine Species:	4
Whales and Other Cetaceans:	None
Critical Habitats:	None
Commonwealth Reserves:	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:	1
Other Commonwealth Reserves:	None
Regional Forest Agreements:	None

Details

Matters of National Environmental Significance

Threatened Species [Dataset Information]	Status	Type of Presence
Birds		
*Acanthiza iredalei iredalei** Slender-billed Thornbill (western)	Vulnerable	Species or species habitat likely to occur within area
Leipoa ocellata * Malleefowl	Vulnerable	Species or species habitat likely to occur within area
Polytelis alexandrae * Princess Parrot, Alexandra's Parrot	Vulnerable	Species or species habitat may occur within area
Mammals		
Rhinonicteris aurantius (Pilbara form) * Pilbara Leaf-nosed Bat	Vulnerable	Community likely to occur within area
Reptiles		
Egernia kintorei * Great Desert Skink, Tjakura, Warrarna, Mulyamiji	Vulnerable	Species or species habitat may occur within area
Plants		
Pityrodia augustensis * Mt Augustus Foxglove	Vulnerable	Species or species habitat likely to occur within area
Migratory Species [Dataset Information]	Status	Type of Presence
Migratory Terrestrial Species		
Birds		
Leipoa ocellata * Malleefowl	Migratory	Species or species habitat likely to occur within area
Merops ornatus * Rainbow Bee-eater	Migratory	Species or species habitat may occur within area
Migratory Wetland Species		
Birds		
Ardea alba Great Egret, White Egret	Migratory	Species or species habitat may occur within area
Charadrius veredus Oriental Plover, Oriental Dotterel	Migratory	Species or species habitat may occur within area
Migratory Marine Birds		

Apus pacificus Fork-tailed Swift	Migratory	Species or species habitat may occur within area
Ardea alba Great Egret, White Egret	Migratory	Species or species habitat may occur within area

Other Matters Protected by the EPBC Act

Listed Marine Species [Dataset Information]	Status	Type of Presence
Birds		
Apus pacificus Fork-tailed Swift	Listed - overfly marine area	Species or species habitat may occur within area
Ardea alba Great Egret, White Egret	Listed - overfly marine area	Species or species habitat may occur within area
Charadrius veredus Oriental Plover, Oriental Dotterel	Listed - overfly marine area	Species or species habitat may occur within area
Merops ornatus ***** Rainbow Bee-eater	Listed - overfly marine area	Species or species habitat may occur within area

Commonwealth Lands [Dataset Information]

Unknown

Places on the RNE [Dataset Information]

Note that not all Indigenous sites may be listed.

Indigenous

Yeelirrie Pool Mythological and Occupation Site WA

Yeelirrie Station Mythological Site WA

Natural

Wanjarri Nature Reserve WA

Extra Information

State and Territory Reserves [Dataset Information]

Wanjarri Nature Reserve, WA

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 Heritage and Register of National Estate properties, Wetlands of International 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.

For species where the distributions are well known, maps are digitised from sources such as recovery plans and detailed habitat studies. Where appropriate, core breeding, foraging and roosting areas are indicated under "type of presence". For species whose distributions are less well known, point locations are collated from government wildlife authorities, museums, and non-government organisations; bioclimatic distribution models are generated and these validated by experts. In some cases, the distribution maps are based solely on expert knowledge.

Only selected species covered by the migratory and marine provisions of the Act have been mapped.

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.

Acknowledgments

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

New South Wales National Parks and Wildlife Service

Department of Sustainability and Environment, Victoria

Department of Primary Industries, Water and Environment, Tasmania

Department of Environment and Heritage, South Australia Planning SA

Parks and Wildlife Commission of the Northern Territory

Environmental Protection Agency, Queensland

Birds Australia

Australian Bird and Bat Banding Scheme

Australian National Wildlife Collection

Natural history museums of Australia

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, Atherton and Canberra

University of New England

Other groups and individuals

Appendix G

Quadrat Data

Site	Ce01
Coordinates	51 J 236501 7030185
Description	Samphire Shrubland
Plot size	30 * 30m
Topography	flat
Slope	nil
Soil	lt orange clay
Exposed rock type	nil
Litter cover (%)	*Halosarcia* twigs and branches (6%)
Condition	excellent
Disturbance details	some vehicle tracks in area, rabbit scratchings
Trees	
Shrubs >2m	
Shrubs 1-2m	
Shrubs <1m	*Halosarcia indica* subsp *leiostachya, Halosarcia auriculata, Halosarcia* sp
Hummock grasses	
Grasses	
Herbs/creepers	
Species near plot	*Neurachne* sp, *Eragrostis* spp*, Zygophyllum aurantiacum*

Site	Ce02
Coordinates	51 J 236310 7030423
Description	Samphire Shrubland
Plot size	30 * 30m
Topography	flat
Slope	nil
Soil	pale brown sand
Exposed rock type	nil
Litter cover (%)	dead *Halosarcia* (10%)
Condition	very good
Disturbance details	vehicle tracks in corner, cattle movement
Trees	
Shrubs >2m	
Shrubs 1-2m	
Shrubs <1m	*Halosarcia indica* subsp *leiostachya, Halosarcia auriculata, Frankenia cinerea*
Hummock grasses	
Grasses	
Herbs/creepers	
Species near plot	*Muellerolimon salicorniaceum, Lawrencia helmsii*

Site	Ce03
Coordinates	51 J 236317 7030036
Description	Sparse Woodland over Open Shrubland
Plot size	30 * 30m
Topography	flat
Slope	nil
Soil	orange sand-loam
Exposed rock type	nil
Litter cover (%)	leaf litter, twigs and bracnches (15%)
Condition	good-very good
Disturbance details	grazing
Trees	*Acacia aneura* var *aneura*
Shrubs >2m	*Acacia jennerae*
Shrubs 1-2m	*Acacia aneura* var *major, Senna artemisioides* subsp *filfolia*
Shrubs <1m	*Zygophyllum aurantiacum, Ptilotus obovatus* var *obovatus* *Maireana pentatropis, Scaevola spinescens*
Hummock grasses	
Grasses	*Triodia melvillei*
Herbs/creepers	
Parasites	*Amyema maidenii*
Species near plot	*Melaleuca uncinata*

Site	Ce04
Coordinates	51 J 236244 7030334
Description	Sparse Shrubland over Sparse Samphire Shrubland
Plot size	30 * 30m
Topography	flat
Slope	nil
Soil	pale brown/cream sand-loam
Exposed rock type	nil
Litter cover (%)	dead plants (5%)
Condition	very good
Disturbance details	cattle tracks, vehicle tracks, rabbit droppings
Trees	
Shrubs >2m	
Shrubs 1-2m	
Shrubs <1m	*Lawqrencia helmsii, Halosarcia indica* subsp *leiostachya, Zygophyllum aurantiacum, Frankenia cinerea*
Hummock grasses	
Grasses	*Eragrostis* spp
Herbs/creepers	*Zygophyllum compressum, Ptilotus exaltatus*
Species near plot	

Site	Ce05
Coordinates	51 J 236470 7029624
Description	*Acacia ligulata and Pittosporum phylliraeoides* Sparse Shrubland over *Triodia melvillei* Hummock Grassland
Plot size	30 * 30m
Topography	gently sloping
Slope	<2%
Soil	orange sand-loam
Exposed rock type	nil
Litter cover (%)	dead *Triodia*, branches and twigs (5%)
Condition	very good-excellent
Disturbance details	minor tracks, kangaroos
Trees	
Shrubs >2m	*Pittosporum phylliraeoides*
Shrubs 1-2m	*Acacia jennerae*
Shrubs <1m	*Olearia stuartii, Alyogyne pinoniana*
Hummock grasses	*Triodia melvillei*
Grasses	
Herbs/creepers	
Species near plot	*Acacia ayersiana* var *latifolia, Eremophila glabra* subsp *glabra* *Senna artemisioides* subsp *filifolia*

Site	Ce06
Coordinates	51 J 236246 7030334
Description	*Melaleuca xerophila* and *Acacia aneura* var *fuliginea* Open Forest over Shrubland
Plot size	30 * 30m
Topography	flat
Slope	nil
Soil	red/brown sand
Exposed rock type	nil
Litter cover (%)	*Melaleuca* debris (25%)
Condition	very good
Disturbance details	heavy grazing of grasses, cattle pats, rabbit burrows
Trees	*Acacia ayersiana* var *latifolia, Melaleuca xerophila*
Shrubs >2m	
Shrubs 1-2m	
Shrubs <1m	*Ptilotus obovatus* var *obovatus, Sclerolaena bicornis, Sclerolaena dicantha, Salsola tragus*
Hummock grasses	
Grasses	
Herbs/creepers	
Parasites	*Amyema microphylla*
Species near plot	*Atriplex amnicola, Podolepis capillaris*

Site	Ce07
Coordinates	51 J 237090 7029202
Description	
Plot size	30 * 30m
Topography	flat
Slope	nil
Soil	orange sand-loam
Exposed rock type	nil
Litter cover (%)	dead *Triodia,* twigs and leaf litter (10%)
Condition	very good
Disturbance details	evidence of grazing
Trees	*Acacia ayersiana var latifolia, Eucalyptus eremicola* subsp *peeneri*
Shrubs >2m	*Acacia jennerae, Eremophila latrobei* subsp *latrobei*
Shrubs 1-2m	*Senna artemisioides* subsp *filifolia*
Shrubs <1m	*Ptilotus obovatus* var *obovatus, Scaevola spinescens* *Olearia stuartii*
Hummock grasses	*Triodia melvillei*
Grasses	
Herbs/creepers	
Parasites	*Amyema maidenii*
Species near plot	

Site	Ce08
Coordinates	51 J 236387 7029748
Description	
Plot size	30 * 30m
Topography	gentle
Slope	5-15%
Soil	red/orange sand
Exposed rock type	nil
Litter cover (%)	dead *Triodia, Eucalyptus* litter (30%)
Condition	excellent
Disturbance details	kangaroo tracks, cattle movement, vehicle tracks
Trees	*Eucalyptus eremicola* subps *peeneri*
Shrubs >2m	*Acacia jennerae*
Shrubs 1-2m	*Senna artemisioides* subsp *filifolia*
Shrubs <1m	*Solanum lasiophyllum, Ptilotus obovatus* var *obovatus*
	Atriplex amnicola, Leptosema chambersii, Olearia stuartii
Hummock grasses	*Triodia melvillei*
Grasses	*Eragrostis* spp
Herbs/creepers	
Species near plot	*Acacia ayersiana* var *latifolia, Scaevola spinescens, Grevillea stenobotrya*
	Pittosporum phylliraeoides, Halgania aff *cyanea, Eremophila georgei*

Site	Ce09
Coordinates	51 J 237489 7029255
Description	
Plot size	30 * 30m
Topography	flat
Slope	nil
Soil	orange sand loam
Exposed rock type	nil
Litter cover (%)	twigs, branches and leaves (12%)
Condition	good-very good
Disturbance details	cattle grazing, pats
Trees	*Acacia ayersiana* var *latifolia*
Shrubs >2m	
Shrubs 1-2m	*Senna artemisioides* subsp *filifolia, Eremophila latrobei* var *latrobei*
Shrubs <1m	*Solanum lasiophyllum, Ptilotus obovatus* var *obovatus* *Atriplex bunburyana, Maireana thesioides*
Hummock grasses	*Triodia melvillei*
Grasses	*Eragrostis eriopoda, Arisitda contorta*
Herbs/creepers	*Muellerolimon salicorniaceum*
Species near plot	*Acacia minyura, Melaleuca xerophila*

Site	Ce10
Coordinates	51 J 236812 7029260
Description	
Plot size	30 * 30m
Topography	gentle
Slope	5-15%
Soil	red/brown sand-loam
Exposed rock type	nil
Litter cover (%)	dead *Triodia* (20%)
Condition	excellent
Disturbance details	evidence of limited cattle damage
Trees	*Callitris preissii*
Shrubs >2m	*Acacia jennerae, Senna artemisioides* subsp *filifolia*
Shrubs 1-2m	
Shrubs <1m	*Scaevola spinescens, Halgania* aff *cyanea*
Hummock grasses	*Triodia basedowii*
Grasses	
Herbs/creepers	
Species near plot	

Site	Ce11
Coordinates	51 J 237465 7029318
Description	Samphire Sparse - Open Shrubland and Sparse Chenopod Shrubland over Sparse Frobland over Sparse Grassland
Plot size	30 * 30m
Topography	flat
Slope	nil
Soil	range loam-clay
Exposed rock type	nil
Litter cover (%)	dead grass, *Halosarcia* and *Carpobrotus (8%)*
Condition	good-very good
Disturbance details	cattle grazing
Trees	
Shrubs >2m	
Shrubs 1-2m	
Shrubs <1m	*Solanum lasiophyllum, Maireana villosa, Halosarcia* sp. *Solanum nummularium, Rhagodia eremaea* *Sclerolaena fimbriolata*
Hummock grasses	
Grasses	*Eragrostis* spp, *Neurachne* sp
Herbs/creepers	*Muellerolimon salicorniaceum, ?Carpobrotus* sp
Species near plot	

Site	Ce12
Coordinates	51 J 237499 7030089
Description	Open Shrubland over Samphire Open Shrubland and Sparse Chenopod Shrubland over Forbland over Open Grassland
Plot size	30 * 30m
Topography	gentle slope-flat
Slope	<1%
Soil	pale red/orange sand
Exposed rock type	nil
Litter cover (%)	dead grasses (30%)
Condition	very good
Disturbance details	rabbit burrows, cattle grazing (grasses) and trampling
Trees	
Shrubs >2m	*Grevillea stenobtotrya*
Shrubs 1-2m	*Lycium australe*
Shrubs <1m	*Halosarcia auriculata, Zygophyllum aurantiacum, Atriplex amnicola*
Hummock grasses	
Grasses	*Aristida holathera* subsp *holathera*
Herbs/creepers	*Muellerolimon salicorniaceum*
Species near plot	

Site	Ce13
Coordinates	51 J 237988 7029603
Description	Samphire Sparse-Open Shrubland and Sparse Chenopod Shrubland over Sparse Grassland
Plot size	30 * 30m
Topography	flat
Slope	nil
Soil	orange clay
Exposed rock type	nil
Litter cover (%)	dead grass, *Halosarcia* (50%)
Condition	very good-excellent
Disturbance details	evidence of grazing
Trees	
Shrubs >2m	
Shrubs 1-2m	
Shrubs <1m	*Sclerolaena articulata, Atriplex amnicola, Atriplex bunburyana Tecticornia tenuis, Rhagodia eremaea*
Hummock grasses	
Grasses	*Eragrostis* spp
Herbs/creepers	*?Carpobrotus* sp
Species near plot	

Site	Ce14
Coordinates	51 J 237550 7029908
Description	Samphire Shrubland
Plot size	30 * 30m
Topography	flat
Slope	nil
Soil	cream/brown sand-clay-loam
Exposed rock type	nil
Litter cover (%)	dead annuals and *Halosarcia* (5%)
Condition	excellent
Disturbance details	vehicle tracks
Trees	
Shrubs >2m	
Shrubs 1-2m	
Shrubs <1m	*Halosarcia indica* subsp *leiostachya, Halosarca auriculata*
Hummock grasses	
Grasses	*Eragrostis* spp
Herbs/creepers	*Zygophyllum compressum*
Species near plot	*Frankenia cinerea*

Site	Ce15
Coordinates	51 J 238688 7029840
Description	Open Samphire Shrubland
Plot size	30 * 30m
Topography	flat
Slope	nil
Soil	lt orange clay
Exposed rock type	nil
Litter cover (%)	dead *Halosarcia* (35%)
Condition	very good
Disturbance details	vehicle tracks, drillholes
Trees	
Shrubs >2m	
Shrubs 1-2m	
Shrubs <1m	*Halosarcia indica* subps *leiostachya, Halosarcia* sp
Hummock grasses	
Grasses	
Herbs/creepers	
Species near plot	

Site	Ce16
Coordinates	51 J 237457 7029402
Description	
Plot size	30 * 30m
Topography	sloping
Slope	gentle (5-15%)
Soil	pale brown/red coarse sand-sand-loam
Exposed rock type	nil
Litter cover (%)	*Melaleuca* debris (10%)
Condition	very good (but limited understorey)
Disturbance details	rabbit burrows, grazing by cattle, cattle tracks
Trees	*Melaleuca xerophila*
Shrubs >2m	
Shrubs 1-2m	
Shrubs <1m	
Hummock grasses	
Grasses	*Aristida holathera* subsp *holathera*
Herbs/creepers	
Parasites	*Amyema microphylla*
Species near plot	

Site	Ce17
Coordinates	51 J 238084 7028952
Description	
Plot size	30 * 30m
Topography	valley between dunes
Slope	gentle (<5%)
Soil	orange/red sand-loam
Exposed rock type	nil
Litter cover (%)	dead *Triodia*, *Callitris* trunks and needles (8%)
Condition	excellent
Disturbance details	some evidence of cattle/rabbit activity
Trees	*Callitris preissii*
Shrubs >2m	
Shrubs 1-2m	
Shrubs <1m	
Hummock grasses	*Triodia basedowii*
Grasses	
Herbs/creepers	
Species near plot	

Site	Ce18
Coordinates	51 J 238478 7030052
Description	Samphire Shrubland
Plot size	30 * 30m
Topography	flat
Slope	nil
Soil	brown/cream clay-loam
Exposed rock type	nil
Litter cover (%)	dead *Halosarcia*, some dead annuals (10%)
Condition	excellent
Disturbance details	vehicle tracks through plot
Trees	
Shrubs >2m	
Shrubs 1-2m	
Shrubs <1m	*Halosarcia indica* subsp *leiostachya, Halosarcia auriculata*
Hummock grasses	
Grasses	*Eragrostis* spp
Herbs/creepers	*Angianthus cyathifera*
Species near plot	*Frankenia cinerea*

Site	Ce19
Coordinates	51 J 238066 7028995
Description	
Plot size	30 * 30m
Topography	valley between dunes
Slope	flat
Soil	orange red sand-loam
Exposed rock type	nil
Litter cover (%)	dead *Triodia,* leaf litter (15%)
Condition	excellent
Disturbance details	rabbit scats, some evidence of cattle activity
Trees	*Eucalyptus eremicola* subsp *peeneri*
Shrubs >2m	*Acacia aneura* var *major, Acacia jennerae*
Shrubs 1-2m	*Senna artemisioides* subsp *filifolia*
Shrubs <1m	*Ptilotus obovatus* var *obovatus, Atriplex amnicola, Maireana thesioides Eremophila forestii* subsp *forestii, Maireana amoena, Rhagodia eremaea*
Hummock grasses	*Triodia melvillei, Triodia basedowii*
Grasses	*Eragrostis eriopoda*
Herbs/creepers	*Marsdenia australis*
Species near plot	

Site	Ce20
Coordinates	51 J 238426 7029206
Description	Samphire Shrubland and Sparse Chenopod and Frankenia Shrubland over Sparse Grassland
Plot size	30 * 30m
Topography	flat
Slope	nil
Soil	red/brown clay-loam
Exposed rock type	nil
Litter cover (%)	dead annuals (5%)
Condition	very good-excellent
Disturbance details	rabbit droppings, grasses grazed, vehicle tracks
Trees	
Shrubs >2m	
Shrubs 1-2m	
Shrubs <1m	*Halosarcia indica* subps *leiostachya, Halosarcia auriculata Sclerostegia tenuis, Scleroleana fimbriolata, Frankenia cinerea, Maireana* sp
Hummock grasses	
Grasses	*Eragrostis* spp
Herbs/creepers	
Species near plot	

Site	Ce21
Coordinates	51 J 238272 7028756
Description	
Plot size	30 * 30m
Topography	dune
Slope	gentle (<5%)
Soil	orange sand loam
Exposed rock type	
Litter cover (%)	dead *Triodia* (10%)
Condition	excellent
Disturbance details	some cattle tracks
Trees	*Melaleuca xerophila*
Shrubs >2m	
Shrubs 1-2m	*Scaevola spinescens*
Shrubs <1m	
Hummock grasses	*Triodia melvillei*
Grasses	
Herbs/creepers	
Species near plot	

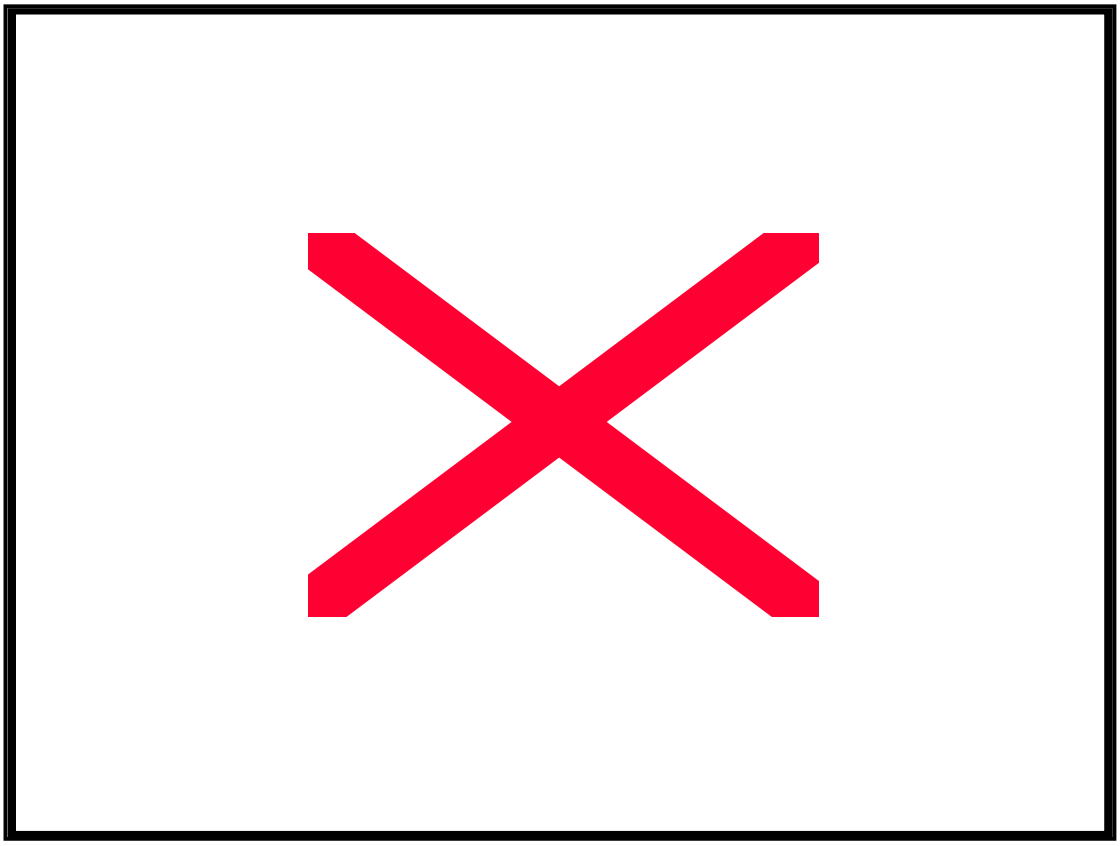
Site	Ce22
Coordinates	51 J 238081 7029290
Description	
Plot size	30 * 30m
Topography	
Slope	gentle (5-15%)
Soil	red/brown sand
Exposed rock type	
Litter cover (%)	dead annuals, *Triodia,* wood (20%)
Condition	very good
Disturbance details	dead Mulgas, heavy grazing, cattle tracks
Trees	*Acacia ayersiana* var *latifolia*
Shrubs >2m	
Shrubs 1-2m	
Shrubs <1m	*Ptilotus obovatus* var *obovatus, Maireana georgei, Maireana pyramidata*
Hummock grasses	*Triodia melvillei*
Grasses	*Eragrostis eriopoda, Aristida contorta*
Herbs/creepers	
Species near plot	

Site	Ce23
Coordinates	51 J 238273 7027750
Description	
Plot size	30 *30m
Topography	flat
Slope	nil
Soil	red/orange sand-loam
Exposed rock type	
Litter cover (%)	leaf litter, twigs and branches (18%)
Condition	excellent
Disturbance details	some evidence of disturbance by roos, rabbits
Trees	*Melaleuca uncinata, Acacia ayersiana* var *latifolia*
Shrubs >2m	*Grevillea sarissa* subsp *succincta*
Shrubs 1-2m	*Acacia minyura, Eremophila forestii* subsp *forestii*
Shrubs <1m	*Atriplex bunburyana,*
Hummock grasses	*Triodia melvillei*
Grasses	
Herbs/creepers	
Species near plot	

Site	Ce24
Coordinates	51 J 238210 7029174
Description	
Plot size	30 * 30m
Topography	dune
Slope	10-20%
Soil	red/brown sand
Exposed rock type	nil
Litter cover (%)	dead *Triodia* (10%)
Condition	excellent
Disturbance details	cattle dung and tracks, but effect limited, grazing
Trees	
Shrubs >2m	*Acacia jennerae, Grevillea stenobotrya*
Shrubs 1-2m	*Scaevola spinescens, Atriplex amnicola*
Shrubs <1m	
Hummock grasses	*Triodia melvillei*
Grasses	*Aristida holathera* subsp *holathera*
Herbs/creepers	
Species near plot	*Callitris preissii, Melaleuca xerophila*

Site	Ce25
Coordinates	51 J 237999 7027725
Description	
Plot size	30 * 30m
Topography	flat
Slope	nil
Soil	lt orange clay
Exposed rock type	nil
Litter cover (%)	dead *Halosarcias*, grasses (15%)
Condition	excellent
Disturbance details	vehicle tracks, some evidence of cattle activity
Trees	
Shrubs >2m	
Shrubs 1-2m	
Shrubs <1m	*Halosarcia indica* subps *leiostachya, Halosarcia* sp, *Frankenia* sp *Eremophila ?maculata* subsp *brevilfolia*
Hummock grasses	
Grasses	
Herbs/creepers	*Muellerolimon salicorniaceum*
Species near plot	*Eragrostis* spp*, Neurachne* sp

Site	Ce26
Coordinates	51 J 237900 7027940
Description	
Plot size	30 * 30m
Topography	flat
Slope	nil
Soil	red/brown sand-loam
Exposed rock type	nil
Litter cover (%)	*Melaleuca* debris (50%)
Condition	excellent
Disturbance details	clearing, proximity to bore, vehicle tracks, dung
Trees	*Melaleuca xerophila*
Shrubs >2m	
Shrubs 1-2m	
Shrubs <1m	*Sclerolaena bicornis, Salsola tragus, Maireana georgei, Enchylaena tomentosa*
Hummock grasses	
Grasses	*Neurachne* sp
Herbs/creepers	
Parasites	*Amyema microphylla*
Species near plot	*Melaleuca uncinata, Acacia ayersiana* var *latifolia*



Site	Ce27
Coordinates	51 J 238821 7028365
Description	
Plot size	30 * 30m
Topography	flat
Slope	nil
Soil	orange/red sand-loam
Exposed rock type	nil
Litter cover (%)	dead *Triodia*, branches, twigs, leaf litter (10%)
Condition	excellent
Disturbance details	grazing by cattle, dung
Trees	
Shrubs >2m	*Grevillea sarissa* subsp *succincta, Grevillea stenobotrya*
Shrubs 1-2m	*Acacia jennerae*
Shrubs <1m	*Alyogyne pinoniana, Halgania* aff *cyanea, Eremophila georgei*
Hummock grasses	*Triodia melvillei*
Grasses	
Herbs/creepers	
Species near plot	*Acacia ayersiana* var *latifolia*

Site	Ce28
Coordinates	51 J 237788 7028326
Description	
Plot size	30 * 30m
Topography	flat
Slope	nil
Soil	red/brown sand-loam
Exposed rock type	nil
Litter cover (%)	data not recorded
Condition	very good-excellent
Disturbance details	vehicle track, grazing
Trees	*Acacia ayersiana* var *latifolia, Eucalyptus eremicola* subsp *peeneri*
Shrubs >2m	*Acacia aneura* var *aneura*
Shrubs 1-2m	*Eremophila forestii* var *forestii*
Shrubs <1m	*Ptilotus obovatus* var *obovatus, Scaevola spinescens* *Rhagodia drummondii*
Hummock grasses	*Triodia melvillei*
Grasses	*Eragrostis eriopoda*
Herbs/creepers	
Species near plot	*Pittosporum phylliraeoides, Eremophila glabra* subsp *glabra* *Grevillea sarissa* subsp *succincta, Amyema gibberula,* *Acacia* aff *oswaldii, Eremophila oppositifolia* subsp *angustifolia* *Acacia tetragonophylla*

Site	Ce29
Coordinates	51 J 238812 7028433
Description	
Plot size	30 * 30m
Topography	flat
Slope	nil
Soil	orange sand-loam
Exposed rock type	nil
Litter cover (%)	branches, leaf litter (4%)
Condition	excellent
Disturbance details	some evidence of grazing
Trees	*Melaleuca xerophila*
Shrubs >2m	
Shrubs 1-2m	
Shrubs <1m	*Solanum lasiophyllum, Scaevola spinescens, Sclerolaena fimbriolata* *Senna artemisioides* subsp x *sturtii*
Hummock grasses	
Grasses	
Herbs/creepers	*Muellerolimon salicorniaceum*
Species near plot	*Senna* sp Billabong

Site	Ce30
Coordinates	51 J 237855 7027900
Description	Samphire Shrubland
Plot size	30 * 30m
Topography	flat
Slope	nil
Soil	brown/cream clay-loam
Exposed rock type	nil
Litter cover (%)	dead *Halosarcias,* annuals (10%)
Condition	excellent
Disturbance details	grasses grazed, vehicle tracks
Trees	
Shrubs >2m	
Shrubs 1-2m	
Shrubs <1m	*Halosarcia indica* subsp *leiostachya, Halosarcia auriculata Sclerolaena fimbriolata, Frankenia cinerea*
Hummock grasses	
Grasses	*Eragrostis* spp
Herbs/creepers	*Podolepis capillaris*
Species near plot	

Site	Ce31
Coordinates	51 J 238707 7028377
Description	
Plot size	30 * 30m
Topography	dune
Slope	gentle (<5%)
Soil	orange sand-loam
Exposed rock type	nil
Litter cover (%)	dead *Triodia*, branches (30%)
Condition	excellent
Disturbance details	evidence of cattle activity
Trees	*Acacia ayersiana* var *latifolia*
Shrubs >2m	
Shrubs 1-2m	*Eremophila latrobei* subsp *latrobei, Eremophila forestii* subsp *forestii*
Shrubs <1m	*Scaevola spinescens*
Hummock grasses	*Triodia melvillei*
Grasses	
Herbs/creepers	
Species near plot	

Site	Ce32
Coordinates	51 J 237980 7028621
Description	
Plot size	30 * 30m
Topography	flat
Slope	nil
Soil	red/brown sand-loam
Exposed rock type	nil
Litter cover (%)	dead *Triodia*, *Eucalyptus* branches (25%)
Condition	excellent
Disturbance details	vehicle tracks in close proximity
Trees	*Eucalyptus eremicola* subsp *peeneri*
Shrubs >2m	*Acacia jennerae, Grevillea sarissa* subsp *succincta*
Shrubs 1-2m	
Shrubs <1m	*Scaevola spinescens, Olearia stuartii*
Hummock grasses	*Triodia melvillei, Triodia basedowii*
Grasses	
Herbs/creepers	
Species near plot	*Callitris preissii, Grevillea stenobotrya*

Site	Ce33
Coordinates	51 J 238524 7028147
Description	
Plot size	30 * 30m
Topography	dune
Slope	gentle (<1%)
Soil	orange/red sand-loam
Exposed rock type	nil
Litter cover (%)	dead *Triodia,* twigs, leaves (8%)
Condition	excellent
Disturbance details	grazing
Trees	*Acacia ayersiana* var *latifolia*
Shrubs >2m	*Grevillea sarissa* subsp *succincta*
Shrubs 1-2m	*Senna artemisioides* subsp *filifolia, Eremophila forestii* subsp *forestii*
Shrubs <1m	*Scaevola spinescens*
Hummock grasses	*Triodia melvillei*
Grasses	*Eragrostis eriopoda*
Herbs/creepers	
Species near plot	

Site	Ce34
Coordinates	51 J 238127 7028717
Description	
Plot size	30 * 30m
Topography	dune
Slope	gentle (5-15%)
Soil	red/brown sand-loam
Exposed rock type	
Litter cover (%)	dead *Triodia* (20%)
Condition	excellent
Disturbance details	cattle tracks, evidence of grazing
Trees	*Acacia ayersiana* var *latifolia, Callitris preissii, Grevillea stenobotrya*
Shrubs >2m	
Shrubs 1-2m	*Acacia jennerae*
Shrubs <1m	
Hummock grasses	*Triodia melvillei*
Grasses	*Eragrostis eriopoda, Aristida contorta*
Herbs/creepers	
Species near plot	

Site	Ce35
Coordinates	51 J 236472 7029490
Description	
Plot size	30 * 30m
Topography	dune
Slope	gentle (<5%)
Soil	orange sand-loam
Exposed rock type	nil
Litter cover (%)	dead branches, *Triodia* (17%)
Condition	very good
Disturbance details	dissected by tracks, cattle grazing
Trees	*Eucalyptus eremicola* subsp *peeneri*
Shrubs >2m	*Acacia aneura* var *major, Acacia jennerae*
Shrubs 1-2m	*Senna artemisioides* subsp *filifolia, Pittosporum phylliraeoides*
Shrubs <1m	*Solanum lasiophyllum, Scaevola spinescens, Eremophila georgei*
Hummock grasses	*Triodia melvillei*
Grasses	*Aristida contorta*
Herbs/creepers	
Species near plot	

Site	Ce36
Coordinates	51 J 236255 7029479
Description	Open Shrubland
Plot size	30 * 30m
Topography	flat
Slope	nil
Soil	red/brown clay-loam
Exposed rock type	small calcrete pebbles (<2%)
Litter cover (%)	dead *Frankenia* (2%)
Condition	excellent
Disturbance details	grasses grazed, rabbit dropppings
Trees	
Shrubs >2m	
Shrubs 1-2m	
Shrubs <1m	*Frankenia cinerea, Maireana amoena, Solanum lasiophyllum*
Hummock grasses	
Grasses	*Eragrostis* spp
Herbs/creepers	
Species near plot	

Site	Ce37
Coordinates	51 J 237605 7028214
Description	Open Shrubland
Plot size	30 * 30m
Topography	flat
Slope	nil
Soil	red/orange clay loam
Exposed rock type	nil
Litter cover (%)	dead shrubs, tree branches, leaf litter (8%)
Condition	very good
Disturbance details	tracks, evidence of cattle activity
Trees	
Shrubs >2m	*Acacia ramulosa* var *linophylla, Eremophila glabra* subsp glabra
Shrubs 1-2m	*Acacia tetragonophylla, Eremophila forestii* subsp *forestii* *Senna artemisioides* subsp *filifolia*
Shrubs <1m	*Maireana pyramidata, Mairena amoena, Solanum lasiophyllum*
Hummock grasses	
Grasses	
Herbs/creepers	
Species near plot	

Site	Ce38
Coordinates	51 J 237590 7027959
Description	
Plot size	30 * 30m
Topography	flat
Slope	nil
Soil	red brown sand loam
Exposed rock type	nil
Litter cover (%)	dead annuals, *Sclerolaena* (30%)
Condition	very good
Disturbance details	cattle and rabbit dung, grazing of grasses
Trees	
Shrubs >2m	*Eremophila glabra* subsp *glabra, E. oppositifolia* subsp *angustifolia*
Shrubs 1-2m	
Shrubs <1m	*Sclerolaena bicornis*
Hummock grasses	
Grasses	*Eragrostis* spp
Herbs/creepers	
Species near plot	*Acacia aneura* var *aneura, Acacia* aff *oswaldii*

Site	Ce39
Coordinates	51 J 237692 7028237
Description	
Plot size	30 * 30m
Topography	flat
Slope	nil
Soil	orange/red clay-loam
Exposed rock type	nil
Litter cover (%)	twigs, branches, leaves (15%)
Condition	excellent
Disturbance details	evidence of grazing, proximity to tracks
Trees	*Acacia anuera* var *major, Pittosporum phylliraeoides* *Eucalyptus eremicola* subsp *peeneri*
Shrubs >2m	
Shrubs 1-2m	*Eremophila forestii* subsp *forestii, Grevillea sarissa* subsp *succincta* *Senna* sp Billabong, *Rhagodia drummondii*
Shrubs <1m	*Maireana thesioides, Acacia tetragonophylla*
Hummock grasses	*Triodia melvillei*
Grasses	
Herbs/creepers	
Parasites	*Amyema gibberula*
Species near plot	

Site	Ce40
Coordinates	51 J 238070 7028218
Description	
Plot size	30 * 30m
Topography	flat
Slope	
Soil	red/brown sand-loam
Exposed rock type	
Litter cover (%)	dead *Triodia* (20%)
Condition	excellent
Disturbance details	proximity to track
Trees	*Acacia ayersiana* var *latifolia, Eucalyptus eremicola* subsp *peeneri*
Shrubs >2m	
Shrubs 1-2m	*Senna artemisioides* subsp *filifolia, Eremophila forestii* subsp *forestii*
Shrubs <1m	*Ptilotus obovatus* var *obovatus*
Hummock grasses	*Triodia melvillei*
Grasses	*Eragrsotis eriopoda*
Herbs/creepers	
Species near plot	*Solanum lasiophyllum, Acacia ligulata, Alyogyne pinoniana* *Dodonaea viscosa* subsp *angustissima, Santalum spicatum*

Site	Ce41
Coordinates	51 J 237464 7028227
Description	
Plot size	30 * 30m
Topography	flat
Slope	nil
Soil	red orange clay
Exposed rock type	nil
Litter cover (%)	branches, twigs, leaves (25%)
Condition	good
Disturbance details	tracks, grazing, extensive rabbit burrows
Trees	*Acacia aneura* var *aneura, Pittosporum phylliraeiodes*
Shrubs >2m	*Acacia tetragonphylla*
Shrubs 1-2m	*Senna artemisioides* subsp *filifolia, Senna* sp Billabong *Acacia ramulosa* var *linophylla*
Shrubs <1m	*Solanum lasiophyllum, Eremophila forestii* subsap *forestii* *Atriplex bunburyana, Rhagodia eremaea, Maireana pyramidata*
Hummock grasses	
Grasses	
Herbs/creepers	
Species near plot	

Site	Ce42
Coordinates	51 J 237312 7028213
Description	
Plot size	30 * 30m
Topography	flat
Slope	nil
Soil	red/brown sand-loam
Exposed rock type	nil
Litter cover (%)	dead grasses, *Sclerolaena* (20%)
Condition	very good-excellent
Disturbance details	dead Mulga, cow dung, tracks, grazing
Trees	*Acacia aneura* var *aneura*
Shrubs >2m	*Eremophila oppositifolia* subsp *angustifolia, Santalum spicatum*
Shrubs 1-2m	*Senna artemisioides* subsp *filifolia*
Shrubs <1m	*Sclerolaena bicornis, Salsola tragus*
Hummock grasses	
Grasses	*Eragrostis* spp*, Neurachne* sp
Herbs/creepers	*Rhyncharrhena linearis*
Parasites	*Amyema maidenii*
Species near plot	

Site	Ce43
Coordinates	51 J 237444 7028586
Description	
Plot size	30 * 30m
Topography	dune
Slope	gentle (<1%)
Soil	red/orange sand-loam
Exposed rock type	
Litter cover (%)	dead *Triodia, Eucalyptus* debris (25%)
Condition	excellent
Disturbance details	grazing by cattle, rabbits
Trees	*Acacia aneura* var *major, Eucalyptus eremicola* subsp *peeneri*
Shrubs >2m	*Eremophila oppositifolia* subsp *angustifolia*
Shrubs 1-2m	*Senna artemisioides* subsp *filifolia*
Shrubs <1m	*Ptilotus obovatus* var *obovatus, Maireana thesioides* *Rhagodia eremaea, Eremophila georgei*
Hummock grasses	*Triodia melvillei*
Grasses	*Eragrostis eriopoda*
Herbs/creepers	
Species near plot	

Site	Ce44
Coordinates	51 J 237253 7028520
Description	
Plot size	30 * 30m
Topography	flat
Slope	nil
Soil	red/brown sand-loam
Exposed rock type	nil
Litter cover (%)	dead *Triodia, Eucalyptus* debris (40%)
Condition	Very good-excellen
Disturbance details	cattle tracks, dung, rabbit scratchings, grazing
Trees	*Acacia ayersiana* var *latifolia, Eucalyptus eremicola* subsp *peeneri*
Shrubs >2m	*Senna artemisioides* subsp *filifolia, Eremophila oppositifolia* subsp *angustifolia*
Shrubs 1-2m	*Maireana pyramidata*
Shrubs <1m	*Solanum lasiophyllum, Ptilotus obovatus* var *obovatus* *Scaevola spinescens, Maireana villosa, Sclerolaena bicornis* *Rhagodia drummondii, Maireana thesioides*
Hummock grasses	*Triodia melvillei*
Grasses	*Eragrostis eriopoda*
Herbs/creepers	
Species near plot	*Acacia* aff *oswaldii*

Site	Ce45
Coordinates	51 J 237343 7028781
Description	
Plot size	30 * 30m
Topography	flat
Slope	nil
Soil	orange sand loam
Exposed rock type	nil
Litter cover (%)	dead *Triodia,* branches, leaves (16%)
Condition	excellent
Disturbance details	some evidence of grazing
Trees	
Shrubs >2m	*Acacia aneura* var *major*
Shrubs 1-2m	*Acacia jennerae, Eremophila forestii* subsp *forestii*
Shrubs <1m	
Hummock grasses	*Triodia melvillei, Triodia basedowii*
Grasses	*Eragrostis eriopoda*
Herbs/creepers	
Species near plot	

Site	Ce46
Coordinates	51 J 236936 7028645
Description	
Plot size	30 * 30m
Topography	flat
Slope	nil
Soil	red/brown sand-loam
Exposed rock type	
Litter cover (%)	Mulga litter, Wilcox bush leaves (15%)
Condition	Very good-excellent
Disturbance details	grazing of grasses
Trees	*Acacia aneura* var *aneura, Acacia ayersiana* var *latifolia* *Pittosporum phylliraeoides*
Shrubs >2m	
Shrubs 1-2m	*Eremophila forestii* subsp *forestii*
Shrubs <1m	*Maireana amoena*
Hummock grasses	*Triodia melvillei, Triodia basedowii*
Grasses	*Eragrsotis eriopoda*
Herbs/creepers	
Species near plot	*Acacia jennerae, Eucalyptus eremicola* subsp *peeneri* *Solanum nummularium, Dissocarpus paradoxus* *Grevillea nematophylla* subsp *supraplana, Acacia tetragonophylla*

Site	LW01
Coordinates	51 J 236926 7045640
Description	
Plot size	30 * 30m
Topography	flat
Slope	nil
Soil	lt orange calcrete
Exposed rock type	calcrete
Litter cover (%)	branches, leaf litter, grass (7%)
Condition	very good-excellent
Disturbance details	cattle tracks, vehicle tracks, grazing, scats
Trees	
Shrubs >2m	*Acacia ramulosa* var *linophylla, Acacia victoriae*
Shrubs 1-2m	*Senna artemisioides* subsp *artemisioides*
Shrubs <1m	*Ptilotus obovatus* var *obovatus, Maireana tomentosa* subsp *tomentosa* *Acacia tetragonophylla*
Hummock grasses	
Grasses	*Eragrsotis* spp*, Neurachne* sp
Herbs/creepers	
Species near plot	*Solanum lasiophyllum, Acacia jennerae, Casuarina pauper*

Site	LW02
Coordinates	51 J 236629 7045498
Description	
Plot size	30 * 30m
Topography	flat
Slope	nil
Soil	red/brown sand-loam
Exposed rock type	calcrete pebbles, caprock (20%)
Litter cover (%)	annual grasses, Mulga wood (15%)
Condition	very good-excellent
Disturbance details	rabbits, grazing of grasses
Trees	
Shrubs >2m	*Acacia burkittii, Acacia tetragonophylla*
Shrubs 1-2m	*Senna artemisioides* subsp *filifolia, Eremophila forestii* subsp *forestii*
Shrubs <1m	*Zygophyllum aurantiacum, Solanum lasiophyllum, Ptilotus obovatus* var *obovatus, Maireana villosa*
Hummock grasses	
Grasses	*Aristida contorta, Enneapogon caerulescens*
Herbs/creepers	
Species near plot	*Scaevola spinescens, Eremophila latrobei* subsp *latrobei, ?Themeda* sp

Site	LW03
Coordinates	51 J 235835 7045473
Description	
Plot size	30 * 30m
Topography	flat
Slope	nil
Soil	orange/red clay
Exposed rock type	small calcrete pebbles (4%)
Litter cover (%)	dead grass, leaf litter (6%)
Condition	data not recorded
Disturbance details	data not recorded
Trees	*Acacia aneura* var *aneura, Pittosporum phylliraeoides, Acacia ramulosa* var *linophylla*
Shrubs >2m	
Shrubs 1-2m	*Maireana pyramidata, Acacia tetragonophylla*
Shrubs <1m	*Solanum lasiophyllum, Ptilotus obovatus* var *obovatus* *Atriplex bunburyana, Rhagodia eremaea, Dissocarpus paradoxus*
Hummock grasses	
Grasses	*Eragrostis* spp*, Enteropogon ramosus*
Herbs/creepers	
Species near plot	

Site	LW04
Coordinates	51 J 235656 7045420
Description	
Plot size	30 * 30m
Topography	flat
Slope	nil
Soil	red/brown sand-loam
Exposed rock type	calcrete pebbles (20%)
Litter cover (%)	annual grasses (20%)
Condition	very good
Disturbance details	cattle tracks, dung, grazing of grasses
Trees	*Acacia aneura* var *aneura, Casuarina pauper*
Shrubs >2m	*Eremophila glabra* subsp *glabra*
Shrubs 1-2m	*Senna artemisioides* subsp *filifolia, Eremophila oppositifolia* subsp *angustifolia*
Shrubs <1m	*Solanum lasiophyllum, Scaevola spinescens, Maireana villosa Acacia ?xanthocarpa, Rhagodia drummondii, Exocarpos aphyllus Maireana pyramidata, Enchylaena tomentosa, Acacia tetragonophylla*
Hummock grasses	
Grasses	*Eragrostis* spp*, Aristida contorta, Enneapogon caerulescens*
Herbs/creepers	
Species near plot	

Site	LW05
Coordinates	51 J 234630 7045814
Description	
Plot size	30 * 30m
Topography	flat
Slope	nil
Soil	orange clay
Exposed rock type	calcrete pebbles (5%)
Litter cover (%)	branches, twigs, leaf litter (5%)
Condition	excellent
Disturbance details	cattle tracks, scats, evidence of grazing
Trees	*Acacia ramulosa* var *linophylla*
Shrubs >2m	*Eremophila oppositifolia* subsp *angustifolia*
Shrubs 1-2m	*Senna artemisioides* subsp *filifolia*
Shrubs <1m	*Ptilotus obovatus* var *obovatus, Atriplex bunburyana, Rhagodia eremaea, Dissocarpus paradoxus, Maireana pyramidata*
Hummock grasses	
Grasses	*Neurachne* sp, *Eragrostis eriopoda*
Herbs/creepers	
Species near plot	

Site	LW06
Coordinates	51 J 234776 7045395
Description	
Plot size	30 * 30m
Topography	flat
Slope	nil
Soil	red/brown sand-loam
Exposed rock type	calcrete pebbles (10%)
Litter cover (%)	dead grass, wood (20%)
Condition	very good
Disturbance details	cattle dung, grazing, rabbit activity
Trees	*Acacia aneura* var *aneura*
Shrubs >2m	
Shrubs 1-2m	*Senna artemisioides* subsp *filifolia, Acacia ?xanthocarpa* *Eremophila oppositifolia* subsp *angustifolia*
Shrubs <1m	*Solanum lasiophyllum, Ptilotus obovatus* var *obovatus, Maireana* sp *Eremophila glabra* subsp *glabra, Maireana villosa,* *Rhagodia drummondii, Maireana pyramidata*
Hummock grasses	
Grasses	*Eragrostis* spp*, Aristida contorta, Enneapogon caerulescens*
Herbs/creepers	
Species near plot	*Maireana triptera*

Site	LW07
Coordinates	51 J 233577 7045465
Description	
Plot size	30 * 30m
Topography	flat
Slope	nil
Soil	orange/red clay-loam
Exposed rock type	nil
Litter cover (%)	twigs and leaves (3%)
Condition	excellent
Disturbance details	no evidence of disturbance
Trees	*Acacia aneura* var *aneura, Acacia aneura* var *tenuis*
Shrubs >2m	*Acacia aneura* var *major*
Shrubs 1-2m	*Eremophila forestii* subsp *forestii, Acacia ?xanthocarpa, Psydrax suaveolens, Acacia tetragonophylla*
Shrubs <1m	*Ptilotus obovatus* var *obovatus, Atriplex bunburyana Rhagodia eremaea*
Hummock grasses	
Grasses	*Eragrostis eriopoda*
Herbs/creepers	
Species near plot	

Site	LW08
Coordinates	51 J 234126 7045665
Description	
Plot size	30 * 30m
Topography	flat
Slope	nil
Soil	red/brown sand-loam
Exposed rock type	fine calcrete gravel/pebbles (<1%)
Litter cover (%)	dead grasses (15%)
Condition	very good
Disturbance details	grazing of grasses
Trees	
Shrubs >2m	*Acacia aneura* var *aneura*
Shrubs 1-2m	*Eremophila oppositifolia* subsp *angustifolia*
Shrubs <1m	*Solanum lasiophyllum, Ptilotus obovatus* var *obovatus, Mairena villosa, Maireana* sp, *Rhagodia drummondii, Sida ammophila, Salsola tragus*
Hummock grasses	
Grasses	*Eragrostis* spp*, Aristida contorta, Enneapogon caerulescens*
Herbs/creepers	
Species near plot	

Site	LW09
Coordinates	51 J 233423 7045541
Description	
Plot size	30 * 30m
Topography	flat
Slope	nil
Soil	orange/red clay-loam
Exposed rock type	nil
Litter cover (%)	dead grass, branches, leaves (8%)
Condition	excellent
Disturbance details	grazing, cattle dung, proximity to tracks
Trees	*Eucalyptus striaticalyx* subsp *striaticalyx*
Shrubs >2m	*Acacia ramulosa* var *linophylla, Acacia victoriae, Acacia aneura* var *major, Acacia aneura* var *tenuis*
Shrubs 1-2m	
Shrubs <1m	*Solanum lasiophyllum, Ptilotus obovatus* var *obovatus* *Atriplex bunburyana, Rhagodia eremaea, Maireana pyramidata*
Hummock grasses	
Grasses	*Eragrsotis* spp*, Enteropogon ramosus*
Herbs/creepers	
Species near plot	*Acacia aneura* var *aneura, Hakea francissiana*

Site	LW10
Coordinates	51 J 233138 7045570
Description	
Plot size	30 * 30m
Topography	flat
Slope	
Soil	red/brown sand-loam
Exposed rock type	caclrete gravel/pebbles (40-50%)
Litter cover (%)	*Eucalyptus* leaf litter (40%)
Condition	excellent
Disturbance details	rabbit burrows
Trees	*Eucalyptus striaticalyx* subsp *striaticalyx*
Shrubs >2m	*Acacia ?xanthocarpa, Acacia aneura* var *tenuis*
Shrubs 1-2m	*Eremophila glabra* subsp *glabra, Senna artemisioides* subsp *filifolia*
Shrubs <1m	*Maireana villosa, Dissocarpus paradoxus, Salsola tragus*
Hummock grasses	
Grasses	*Enneapogon caerulsecens*
Herbs/creepers	
Species near plot	*Sclerolaena bicornis, Podolepis capillaris*

Site	LW11
Coordinates	51 J 233118 7045450
Description	
Plot size	30 * 30m
Topography	flat
Slope	nil
Soil	orange clay
Exposed rock type	small calcrete pebbles (1-5%)
Litter cover (%)	dead grass, branches, leaves (55%)
Condition	very good
Disturbance details	evidence of grazing, rabbit burrows
Trees	*Eucalyptus striaticalyx* subsp *striaticalyx*
Shrubs >2m	*Acacia victoriae*
Shrubs 1-2m	*Senna artemisioides* subsp *filifolia, Acacia ?xanthocarpa*
Shrubs <1m	*Atriplex bunburyana, Dissocarpus paradoxus*
Hummock grasses	
Grasses	*Nuerachne* sp
Herbs/creepers	
Species near plot	*Eremophila latrobei* subsp *latrobei*

Site	LW12
Coordinates	51 J 232627 7045608
Description	
Plot size	30 * 30m
Topography	flat
Slope	nil
Soil	red/brown sand-clay-loam
Exposed rock type	nil
Litter cover (%)	*Eucalyptus* leaf litter (40%)
Condition	very good-excellent
Disturbance details	rabbits, evidence of historic logging
Trees	*Eucalyptus striaticalyx* subsp *striaticalyx*
Shrubs >2m	*Acacia victoriae, Acacia ?xanthocarpa, Eremophila oppositifolia* subsp *angustifolia*
Shrubs 1-2m	*Senna artemisioides* subsp *filifolia*
Shrubs <1m	*Maireana villosa, Maireana* sp, *Salsola tragus*
Hummock grasses	
Grasses	
Herbs/creepers	
Species near plot	*Dissocarpus paradoxus, Ptilotus exaltatus, Solanum nummularium*

Site	LW13
Coordinates	51 J 232272 7045725
Description	
Plot size	30 * 30m
Topography	flat
Slope	nil
Soil	orange clay
Exposed rock type	calcrete pebbles (1-5%)
Litter cover (%)	dead grass, twigs, leaves (15%)
Condition	very good-excellent
Disturbance details	cattle tracks, rabbit burrows, some vehicle tracks
Trees	*Eucalyptus striaticalyx* subsp *striaticalyx*
Shrubs >2m	*Pittosporum phylliraeoides, Eremophila latrobei* subsp *latrobei* *Acacia victoriae, Acacia ramulosa* var *linophylla*
Shrubs 1-2m	
Shrubs <1m	*Solanum lasiophyllum, Dissocarpus paradoxus*
Hummock grasses	
Grasses	*Eragrostis* spp*, Neurachne* sp
Herbs/creepers	
Species near plot	*Acacia ?xanthocarpa*

Site	LW14
Coordinates	51 J 232354 7045364
Description	
Plot size	30 * 30m
Topography	flat
Slope	nil
Soil	red/brown sand-loam
Exposed rock type	nil
Litter cover (%)	dead *Triodia, Eucalyptus* leaf litter (10%)
Condition	excellent
Disturbance details	cattle tracks and dung, grazing of *Enneapogon*
Trees	*Eucalyptus eremicola* subsp *peeneri*
Shrubs >2m	*Dodonaea viscosa* subsp *angustissima*
Shrubs 1-2m	*Eremophila glabra* var *glabra*
Shrubs <1m	*Solanum lasiophyllum, Ptilotus obovatus* var *obovatus*
	Atriplex amnicola, Maireana thesioides, Enchylaena tomentosa
Hummock grasses	*Triodia melvillei*
Grasses	*Eragrostis eriopoda, Aristida contorta, Enneapogon caerulescens*
Herbs/creepers	
Species near plot	*Acacia jennerae, Scaevola spinescens, Pittosporum phylliraeoides*
	Maireana villosa, Grevillea sarissa subsp *succincta, Ptilotus exaltatus*

Site	LW15
Coordinates	51 J 231901 7045507
Description	
Plot size	30 * 30m
Topography	flat
Slope	nil
Soil	orange clay
Exposed rock type	small calcrete pebbles (5%)
Litter cover (%)	branches, leaves, dead grass (5%)
Condition	excellent
Disturbance details	some evidence of cattle activity
Trees	*Melaleuca xerophila*
Shrubs >2m	
Shrubs 1-2m	*Acacia victoriae, Acacia ?xanthocarpa*
Shrubs <1m	*Atriplex amnicola, Maireana thesioides, Rhagodia eremaea*
Hummock grasses	
Grasses	*Sporobolus carolii*
Herbs/creepers	*Muellerolimon salicorniaceum*
Species near plot	

Site	LW16
Coordinates	51 J 232277 7045526
Description	Samphire Shrubland
Plot size	30 * 30m
Topography	flat
Slope	nil
Soil	red/brown clay
Exposed rock type	nil
Litter cover (%)	dead *Halosarcia* (15%)
Condition	very good
Disturbance details	grasses grazed, rabbit activity
Trees	
Shrubs >2m	
Shrubs 1-2m	
Shrubs <1m	*Tecticornia tenuis, Zygophyllum aurantiaucum*
Hummock grasses	
Grasses	*Eragrostis* spp
Herbs/creepers	*Muellerolimon salicorniaceum*
Species near plot	*Maireana villosa, Lawrencia densiflora*

Site	LW17
Coordinates	51 J 231410 7045725
Description	Sparse Chenopod and Samphire Shrubland over Frankenia Shrubland
Plot size	30 * 30m
Topography	flat
Slope	nil
Soil	orange clay
Exposed rock type	nil
Litter cover (%)	dead grass (15%)
Condition	excellent
Disturbance details	some evidence of grazing
Trees	
Shrubs >2m	
Shrubs 1-2m	
Shrubs <1m	*Frankenia* sp, *Scaevola spinescens, Atriplex bunburyana* *Halosarcia indica* subsp *bidens*, *Cratystylis spinescens*
Hummock grasses	
Grasses	
Herbs/creepers	
Species near plot	

Site	LW18
Coordinates	51 J 231479 7045361
Description	
Plot size	30* 30m
Topography	flat
Slope	nil
Soil	red/brown clay
Exposed rock type	fine calcrete pebbles (<5%)
Litter cover (%)	dead *Halosarcias*, annuals (10%)
Condition	excellent
Disturbance details	none noted
Trees	
Shrubs >2m	
Shrubs 1-2m	
Shrubs <1m	*Halosarcia auriculata, Atriplex amnicola, Tecticornia tenuis* *Halosarcia indica* subsp *bidens, Frankenia cinerea*
Hummock grasses	
Grasses	*Eragrostis* spp*, Paspalidium* sp
Herbs/creepers	*Lepidium muelleri-ferdinandii, Samolus* sp
Species near plot	*Frankenia cordata*

Site	LW19
Coordinates	51 J 231894 7043978
Description	
Plot size	30 * 30m
Topography	flat
Slope	nil
Soil	orange clay
Exposed rock type	nil
Litter cover (%)	dead *Halosarcia* (10%)
Condition	excellent
Disturbance details	cattle tracks, evidence of rabbit activity
Trees	
Shrubs >2m	
Shrubs 1-2m	
Shrubs <1m	*Halosarcia indica* subsp *leiostachya, Halosarcia auriculata* *Frankenia* sp, *Halosarcia* sp, *Halosarcia indica* subsp *bidens*
Hummock grasses	
Grasses	*Eragrsotis* spp
Herbs/creepers	*Muellerolimon salicorniaceum, Myriocephalus rudalii, Lawrencia densiflora*
Species near plot	*Podolepis capillaris, Chrysocephalum apiculatum*

Site	LW20
Coordinates	51 J 231898 7043677
Description	
Plot size	30 * 30m
Topography	dune
Slope	moderate (15-20%)
Soil	red/brown sand
Exposed rock type	nil
Litter cover (%)	dead grasses (30%)
Condition	excellent
Disturbance details	cattle dung, minimal grazing
Trees	*Acacia ayersiana* var *latifolia*
Shrubs >2m	
Shrubs 1-2m	*Pittosporum phylliraeoides*
Shrubs <1m	*Solanum lasiophyllum, Ptilotus obovatus* var *obovatus* *Olearia stuartii*
Hummock grasses	*Triodia melvillei*
Grasses	*Eragrostis eriopoda, Aristida contorta*
Herbs/creepers	*Chrysocephalum apiculatum*
Species near plot	

Site	LW21
Coordinates	51 J 232446 7043328
Description	Samphire Sparse - Open Shrubland and Sparse Chenopod Shrubland over Sparse Forbland over Open Grassland
Plot size	30 * 30m
Topography	undulating
Slope	very gentle (<1%)
Soil	orange clay
Exposed rock type	nil
Litter cover (%)	dead grass, *Halosarcia* (15%)
Condition	excellent
Disturbance details	proxmity to tracks, grazing of grass
Trees	
Shrubs >2m	
Shrubs 1-2m	
Shrubs <1m	*Atriplex bunburyana, Maireana villosa, Halosarcia* sp, *Salsola tragus Sclerolaena fimbriolata*
Hummock grasses	
Grasses	*Eragrostis* spp*, Neurachne* sp
Herbs/creepers	*Zygophyllum compressum, Podolepis kendallii*
Species near plot	*Atriplex nummularia* subsp *spathulata,*

Site	LW22
Coordinates	51 J 232520 7043551
Description	
Plot size	30 * 30m
Topography	dune
Slope	gentle (15%)
Soil	red/brown sand
Exposed rock type	nil
Litter cover (%)	dead *Acacia, Triodia* (20%)
Condition	excellent
Disturbance details	limited grazing, dead *Grevillea*, cause not clear
Trees	
Shrubs >2m	*Acacia ligulata, Acacia tetragonophylla*
Shrubs 1-2m	*Eremophila georgei, Dodonaea viscosa* subsp *angustifolia*
	Pimelea microcephala subsp *microcephala*
Shrubs <1m	*Atriplex bunburyana, Olearia sturatii, Alyogyne pinoniana*
Hummock grasses	*Triodia melvillei*
Grasses	*Eragrostis eriopoda, Aristida contorta*
Herbs/creepers	*Euphorbia boophthana*
Species near plot	*Grevillea stenobotrya*

Site	LW23
Coordinates	51 J 232958 7043064
Description	Open Shrubland over Sparse Grassland
Plot size	30 * 30m
Topography	flat
Slope	nil
Soil	orange clay
Exposed rock type	nil
Litter cover (%)	dead grass (8%)
Condition	very good-excellent
Disturbance details	cattle tracks, grazing, dung
Trees	
Shrubs >2m	
Shrubs 1-2m	
Shrubs <1m	*Frankenia* sp, *Maireana villosa, Frankenia punctata, Atriplex nummularia* subsp *spathulata, Maireana luehmanii Sclerolaena fimbriolata*
Hummock grasses	
Grasses	*Eragrostis* spp
Herbs/creepers	*Dysphania kalpari*
Species near plot	

Site	LW24
Coordinates	51 J 233058 7043416
Description	Open Frankenia and Samphire Shrubland over Sparse Grassland and Sparse Forbland
Plot size	30 * 30m
Topography	flat
Slope	nil
Soil	red/brown clay
Exposed rock type	nil
Litter cover (%)	dead grasses (5%)
Condition	very good
Disturbance details	grazing of grasses, cattle tracks
Trees	
Shrubs >2m	
Shrubs 1-2m	
Shrubs <1m	*Maireana villosa, Frankenia punctata, Frankenia cinerea Halosarcia calyptrata*
Hummock grasses	
Grasses	*Eragrostis* spp
Herbs/creepers	*Podolepis kendallii, Dysphania kalpari, Goodenia* sp
Species near plot	

Site	LW25
Coordinates	51 J 233215 7042865
Description	Samphire Sparse - Open Shrubland over Sparse Chenopod Shrubland over Sparse Forbland and Sparse Grassland
Plot size	30 * 30m
Topography	flat
Slope	nil
Soil	orange clay
Exposed rock type	nil
Litter cover (%)	dead grasses, *Halosarcia* (8%)
Condition	excellent
Disturbance details	cattle tracks
Trees	
Shrubs >2m	
Shrubs 1-2m	
Shrubs <1m	*Halosarcia indica* subsp *leiostachya, Frankenia* sp, *Halosarcia* sp *Atriplex nummularia* subsp *spathulata, Maireana luehmannii*
Hummock grasses	
Grasses	*Eragrostis* spp
Herbs/creepers	*?Carpobrotus* sp, *Myriocephalus rudallii, Dysphania kalpari*
Species near plot	

Site	LW26
Coordinates	51 J 233033 7043268
Description	
Plot size	30 * 30m
Topography	dune
Slope	gentle (15%)
Soil	red/brown sand
Exposed rock type	nil
Litter cover (%)	dead grasses, Mulga branches (30%)
Condition	excellent
Disturbance details	minimal grazing
Trees	*Acacia ayersiana* var *latifolia*
Shrubs >2m	
Shrubs 1-2m	*Eremophila glabra* subsp *glabra, Senna artemisioides* subsp *filifolia*
Shrubs <1m	*Ptilotus obovatus* var *obovatus, Atriplex amnicola, Alyogyne pinoniana Atriplex bunburyana, Maireana pyramidata*
Hummock grasses	*Triodia melvillei*
Grasses	*Eragrsotis eriopoda, Aristida contorta, Eriachne helmsii*
Herbs/creepers	
Parasites	*Amyema maidenii*
Species near plot	*Solanum lasiophyllum*

Site	LW27
Coordinates	51 J 233861 7042710
Description	
Plot size	30 * 30m
Topography	flat
Slope	nil
Soil	orange clay
Exposed rock type	nil
Litter cover (%)	dead grass (6%)
Condition	excellent
Disturbance details	evidence of cattle activity
Trees	
Shrubs >2m	
Shrubs 1-2m	*Senna artemisioides* subsp *filifolia, Scaevola spinescens*
Shrubs <1m	*Sclerolaena articulata, Solanum lasiophyllum, Rhagodia eremaea* *Atriplex nummularia* subsp *spathulata, Sclerolaena fimbriolata* *Frankenia* sp, *Maireana pyramidata*
Hummock grasses	
Grasses	*Aristida contorta*
Herbs/creepers	*Muellerolimon salicorniaceum, Podolepis capillaris*
Species near plot	

Site	LW28
Coordinates	51 J 233894 7042888
Description	
Plot size	30 * 30m
Topography	dune
Slope	gentle (15%)
Soil	red/brown sand
Exposed rock type	nil
Litter cover (%)	dead grasses, wood (25%)
Condition	excellent
Disturbance details	limited grazing
Trees	
Shrubs >2m	*Acacia jennerae*
Shrubs 1-2m	*Pimelea microcephala* subsp *microcephala*
Shrubs <1m	*Solanum lasiophyllum, Ptilotus obovatus* var *obovatus*
	Atriplex amnicola, Alyogyne pinoniana, Olearia stuartii
Hummock grasses	*Triodia melvillei*
Grasses	*Eragrostis eriopoda, Aristida contorta, Eriachne helmsii*
Herbs/creepers	*Chrysocephalum apiculatum*
Species near plot	

Site	LW29
Coordinates	51 J 234760 7042559
Description	
Plot size	30 * 30m
Topography	flat
Slope	nil
Soil	red clay
Exposed rock type	nil
Litter cover (%)	dead *Halosarcia,* grass (2%)
Condition	excellent
Disturbance details	evidence of cattle movement
Trees	
Shrubs >2m	
Shrubs 1-2m	
Shrubs <1m	*Tecticornia arbuscula*
Hummock grasses	
Grasses	*Eragrostis* spp
Herbs/creepers	
Species near plot	

Site	LW30
Coordinates	51 J 234536 7042956
Description	
Plot size	30 * 30m
Topography	dune
Slope	gentle (~8%)
Soil	red/brown sand
Exposed rock type	nil
Litter cover (%)	dead *Triodia,* wood (35%)
Condition	excellent
Disturbance details	limited grazing
Trees	
Shrubs >2m	*Grevillea sarissa* subsp *succincta, Acacia aneura* var *tenuis* *Dodonaea viscosa* subsp *angustissima, Acacia jennerae*
Shrubs 1-2m	*Eremophila glabra* subsp *glabra*
Shrubs <1m	*Ptilotus obovatus* var *obovatus, Olearia stuartii*
Hummock grasses	*Triodia melvillei*
Grasses	*Eragrostis eriopoda, Aristida contorta*
Herbs/creepers	
Species near plot	*Acacia ayersiana* var *latifolia, Grevillea stenobotrya*

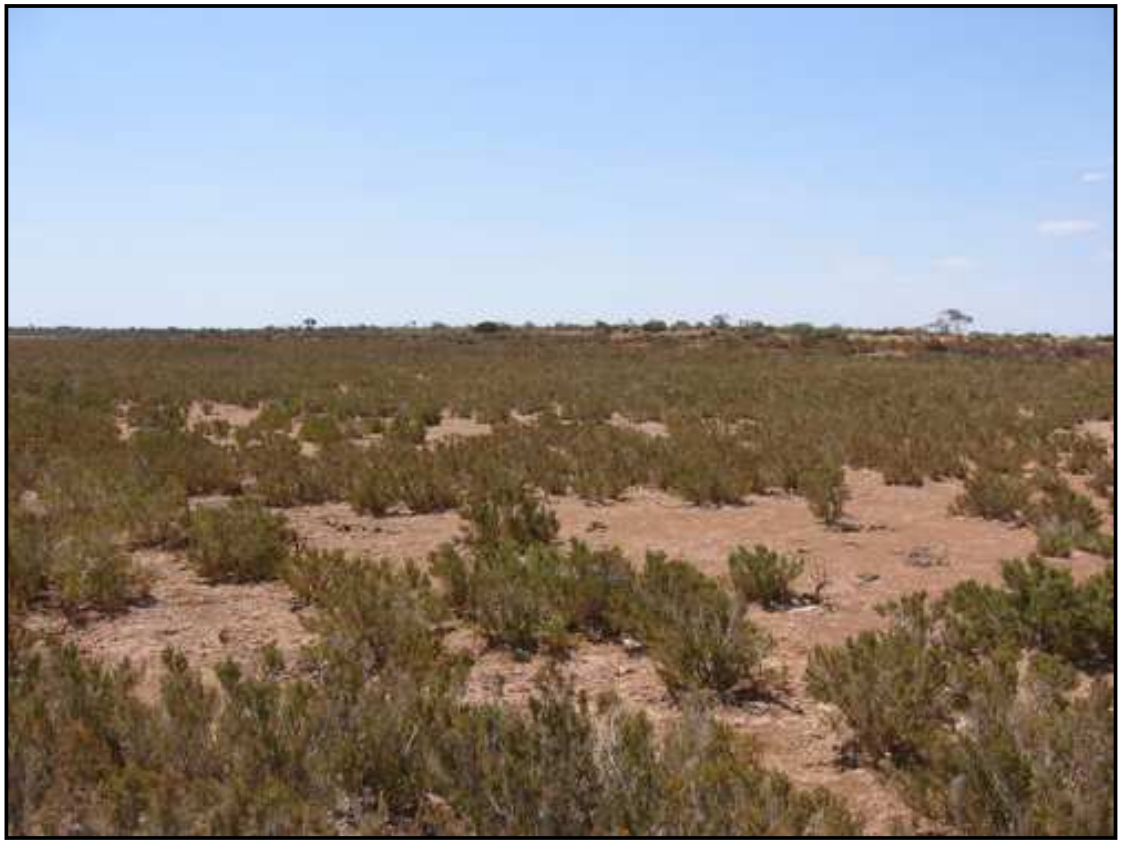
Site	LW31
Coordinates	51 J 235376 7043236
Description	
Plot size	30 * 30m
Topography	flat
Slope	nil
Soil	orange clay
Exposed rock type	nil
Litter cover (%)	dead grass (12%)
Condition	very good-excellent
Disturbance details	cattle tracks, dung
Trees	
Shrubs >2m	
Shrubs 1-2m	*Pittosporum phylliraeoides, Eremophila glabra* subsp *glabra*
Shrubs <1m	*Atriplex amnicola, Rhagodia eremaea, Acacia victoriae, Psammomoya* sp *Scaevola spinescens, Frankenia cordata*
Hummock grasses	
Grasses	
Herbs/creepers	*Anagallis arvensis*
Species near plot	

Site	LW32
Coordinates	51 J 235202 7043714
Description	
Plot size	30 * 30m
Topography	flat
Slope	nil
Soil	red/brown sand-loam
Exposed rock type	nil
Litter cover (%)	dead *Triodia, Eucalyptus* leaf litter and branches (20%)
Condition	excellent
Disturbance details	limited grazing, heavy on *Rhagodia*
Trees	*Acacia ayersiana* var *latifolia, Eucalytpus transcontinentalis* subsp *transcontinentalis*
Shrubs >2m	*Pittosporum phylliraeoides, Grevillea* sarissa *subsp* succincta *Acacia jennerae, Dodonaea viscosa* subsp *angustissima, Santalum acuminatum*
Shrubs 1-2m	*Eremophila forestii* subsp *forestii*
Shrubs <1m	*Atriplex amnicola, Frankenia cordata, Rhagodia drummondii*
Hummock grasses	
Grasses	*Eragrostis eriopoda*
Herbs/creepers	*Samolus* sp
Species near plot	*Eremophila glabra* subsp *glabra*

Site	LW33
Coordinates	51 J 235361 7043111
Description	
Plot size	30 * 30m
Topography	flat
Slope	nil
Soil	orange clay
Exposed rock type	nil
Litter cover (%)	dead grass (20%)
Condition	very good
Disturbance details	extensive cattle tracks
Trees	
Shrubs >2m	
Shrubs 1-2m	
Shrubs <1m	*Atriplex amnicola, Frankenia cordata, Halosarcia* sp
Hummock grasses	
Grasses	
Herbs/creepers	
Species near plot	

Site	LW34
Coordinates	51 J 235291 7043498
Description	
Plot size	30 * 30m
Topography	dune
Slope	gentle (10%)
Soil	red/brown sand
Exposed rock type	nil
Litter cover (%)	dead *Triodia* (25%)
Condition	excellent
Disturbance details	cattle dung, minimal grazing
Trees	*Acacia ayersiana* var *latifolia*
Shrubs >2m	*Eremophila latrobei* subsp *latrobei, Grevillea sarissa* subsp *succincta* *Dodonaea viscosa* subsp *angustissima*
Shrubs 1-2m	
Shrubs <1m	*Ptilotus obovatus* var *obovatus, Olearia stuartii*
Hummock grasses	*Triodia melvillei*
Grasses	*Eragrostis eriopoda, Aristida contorta, Eriachne helmsii*
Herbs/creepers	
Species near plot	

Site	LW35
Coordinates	51 J 237960 7041775
Description	Open Samphire Shrubland
Plot size	30 * 30m
Topography	flat
Slope	nil
Soil	orange clay
Exposed rock type	nil
Litter cover (%)	dead *Halosarcias* (3%)
Condition	excellent
Disturbance details	some evidence of cattle movement
Trees	
Shrubs >2m	
Shrubs 1-2m	
Shrubs <1m	*Halosarcia indica* subsp *leiostachya, Halosarcia auriculata*
Hummock grasses	
Grasses	
Herbs/creepers	
Species near plot	



Site	LW36
Coordinates	51 J 235224 7043355
Description	
Plot size	30 * 30m
Topography	flat
Slope	nil
Soil	red/brown sand
Exposed rock type	nil
Litter cover (%)	leaf and wood litter (40%)
Condition	very good-excellent
Disturbance details	cattle tracks, dung, drilling gridlines, vehicle tracks
Trees	*Melaleuca xerophila*
Shrubs >2m	
Shrubs 1-2m	
Shrubs <1m	*Ptilotus obovatus* var *obovatus, Atriplex amnicola, Sclerolaena bicornis*
Hummock grasses	
Grasses	
Herbs/creepers	*Muellerolimon salicorniaceum*
Species near plot	

Site	LW37
Coordinates	51 J 238095 7041825
Description	Samphire Sparse - Open Shrubland and Sparse Chenopod Shrubland over Sparse Grassland
Plot size	30 * 30m
Topography	flat
Slope	nil
Soil	orange clay
Exposed rock type	nil
Litter cover (%)	dead *Halosarcia,* grass (10%)
Condition	excellent
Disturbance details	rabbit scats
Trees	
Shrubs >2m	
Shrubs 1-2m	
Shrubs <1m	*Frankenia* sp, *Atriplex bunburyana, Maireana villosa, Halosarcia* sp, *Salsola australis*
Hummock grasses	
Grasses	*Eragrostis* spp
Herbs/creepers	*Zygophyllum compressum, Podolepis kendallii*
Species near plot	

Site	LW38
Coordinates	51 J 238285 7041934
Description	
Plot size	30 * 30m
Topography	flat
Slope	nil
Soil	red/brown sand-loam
Exposed rock type	nil
Litter cover (%)	dead grasses, Mulga litter (20%)
Condition	very good
Disturbance details	cow dung, dead Mulga, evidence of fire (not recent)
Trees	*Acacia ayersiana* var *latifolia*
Shrubs >2m	
Shrubs 1-2m	
Shrubs <1m	*Solanum lasiophyllum, Scaevola spinescens, Atriplex amnicola* *Eremophila glabra* subsp *glabra, Maireana villosa, Maireana* sp *Maireana pyramidata, Enchylaena tomentosa*
Hummock grasses	*Triodia melvillei*
Grasses	*Eragrostis eriopoda, Aristida contorta, Enneapogon caerulescens* *Eriachne helmsii*
Herbs/creepers	
Species near plot	

Site	LW39
Coordinates	51 J 237119 7042918
Description	
Plot size	30 * 30m
Topography	flat
Slope	nil
Soil	orange clay
Exposed rock type	nil
Litter cover (%)	dead *Halosarcia,* grass (10%)
Condition	excellent
Disturbance details	no obvious signs of disturbance
Trees	
Shrubs >2m	
Shrubs 1-2m	
Shrubs <1m	*Halosarcia auriculata, Halosarcia* sp, *Frankenia* sp
Hummock grasses	
Grasses	*Eragrostis* spp
Herbs/creepers	
Species near plot	

Site	LW40
Coordinates	51 J 237238 7043103
Description	
Plot size	30 * 30m
Topography	flat
Slope	nil
Soil	red/brown sand
Exposed rock type	nil
Litter cover (%)	Mulga leaf litter (60%)
Condition	very good
Disturbance details	grazing of shrubs, cattle tracks, dead Mulga
Trees	*Melaleuca xerophila, Acacia ayersiana* var *latifolia*
Shrubs >2m	
Shrubs 1-2m	*Eremophila* sp
Shrubs <1m	*Solanum lasiophyllum, Ptilotus obovatus* var *obovatus* *Scaevola spinescens, Pittosporum phylliraeoides, Maireana villosa* *Rhagodia drummondii, Maireana thesioides*
Hummock grasses	*Triodia melvillei*
Grasses	*Eragrostis eriopoda, Aristida contorta, Eriachne helmsii*
Herbs/creepers	
Species near plot	

Site	LW41
Coordinates	51 J 234231 7044139
Description	Sparse Shrubland over Sparse Samphire Shrubland and Sparse Chenopod Shrubland over Sparse Forbland and Sparse Grassland
Plot size	30 * 30m
Topography	flat
Slope	nil
Soil	orange/red clay
Exposed rock type	nil
Litter cover (%)	dead *Halosarcia,* dead grass, twigs (8%)
Condition	very good-excellent
Disturbance details	grazing, cattle dung
Trees	
Shrubs >2m	
Shrubs 1-2m	
Shrubs <1m	*Zygophyllum aurantiacum, Frankenia* sp, *Eremophila glabra* subsp *glabra* *Maireana villosa, Rhagodia eremaea, Tecticornia arbuscula* *Maireana luehmanii, Sclerolaena fimbriolata, Acacia burkittii*
Hummock grasses	
Grasses	*Eragrostis* spp
Herbs/creepers	*Dysphania kalpari*
Species near plot	

Site	LW42
Coordinates	51 J 237309 7043255
Description	
Plot size	30 * 30m
Topography	dune
Slope	gentle (<1%)
Soil	red/brown sand
Exposed rock type	nil
Litter cover (%)	dead *Triodia* (20%)
Condition	very good
Disturbance details	fire (not recent)
Trees	*Acacia ayersiana* var *latifolia*
Shrubs >2m	*Grevillea stenobotrya*
Shrubs 1-2m	*Acacia jennerae, Dodonaea viscosa* subsp *angustissima* *Eremophila georgei*
Shrubs <1m	*Solanum lasiophyllum, Scaevola spinescens, Alyogyne pinoniana* *Enchylaena tomentosa*
Hummock grasses	*Triodia melvillei*
Grasses	*Eriachne helmsii*
Herbs/creepers	
Species near plot	*Grevillea sarissa* subsp *succincta*

Site	LW43
Coordinates	51 J 236894 7045164
Description	
Plot size	30 * 30m
Topography	flat
Slope	nil
Soil	orange clay/calcrete
Exposed rock type	calcrete (25%)
Litter cover (%)	dead grasses, twigs, branches (13%)
Condition	very good
Disturbance details	extensive grazing, rabbit burrows
Trees	*Casuarina pauper*
Shrubs >2m	*Acacia victoriae*
Shrubs 1-2m	*Eremophila glabra* subsp *glabra, Senna artemisioides* subsp *filifolia, Acacia ?xanthocarpa*
Shrubs <1m	*Scaevola spinescens, Atriplex amnicola, Maireana amoena*
Hummock grasses	
Grasses	*Eragrostis* spp*, Neurachne* sp
Herbs/creepers	
Species near plot	

Site	LW44
Coordinates	51 J 237017 7045071
Description	Shrubland over Sparse Samphire Shrubland
Plot size	30 * 30m
Topography	flat
Slope	nil
Soil	red/brown clay-loam
Exposed rock type	nil
Litter cover (%)	dead *Cratystylis* (10%)
Condition	excellent
Disturbance details	cattle tracks
Trees	
Shrubs >2m	
Shrubs 1-2m	
Shrubs <1m	*Cratystylis spinescens, Scaevola spinescens, Tecticornia disarticulata* *Frankenia* sp
Hummock grasses	
Grasses	
Herbs/creepers	
Species near plot	*Eucalyptus* sp

Site	LW45
Coordinates	51 J 236626 7045136
Description	
Plot size	30 * 30m
Topography	flat
Slope	nil
Soil	orange clay/ calcrete
Exposed rock type	calcrete pebbles (10%)
Litter cover (%)	leaf litter, twigs, branches (15%)
Condition	very good-excellent
Disturbance details	rabbit burrows, droppings, cattle tracks, dung, grazing
Trees	
Shrubs >2m	*Acacia aneura* var *aneura, Acacia ramulosa* var *linophylla*
Shrubs 1-2m	*Eremophila latrobei* subsp *latrobei*
Shrubs <1m	*Ptilotus obovatus* var *obovatus, Maireana amoena,* *Sida calyxhymenia*, *Acacia tetragonophylla, Senna* sp Billabong
Hummock grasses	
Grasses	*Neurachne* sp
Herbs/creepers	
Species near plot	

Site	LW46
Coordinates	51 J 236706 7044502
Description	Shrubland over Sparse Shrubland
Plot size	30 * 30m
Topography	drainage flat
Slope	nil
Soil	red/brown clay-loam
Exposed rock type	nil
Litter cover (%)	dead *Cratystylis* (20%)
Condition	excellent
Disturbance details	cattle tracks, rabbits
Trees	
Shrubs >2m	
Shrubs 1-2m	
Shrubs <1m	*Tecticornia tenuis, Dissocarpus paradoxus, Cratystylis spinescens Solanum lasiophyllum, Scaevola spinescens, Atriplex amnicola Spartothamnella ?tuecriflora*
Hummock grasses	
Grasses	*Sporobolus carolii*
Herbs/creepers	
Species near plot	*Enteropogon ramosus, ?Austrostipa* sp

Site	LW47
Coordinates	51 J 236607 7044654
Description	
Plot size	30 * 30m
Topography	flat
Slope	nil
Soil	orange clay/calcrete
Exposed rock type	calcrete pebbles (2%)
Litter cover (%)	twigs, branches, leaves (8%)
Condition	excellent
Disturbance details	rabbits, cattle tracks
Trees	*Melaleuca xerophila*
Shrubs >2m	*Acacia ramulosa* var *linophylla, Acacia victoriae*
Shrubs 1-2m	*Hakea francissiana, Grevillea nematophylla* subsp *nematophylla* *Acacia tetragonophylla*
Shrubs <1m	*Scaevola spinescens, Atriplex amnicola, Maireana villosa* *Atriplex nummularia* subsp *spathulata, Psammomoya* sp
Hummock grasses	
Grasses	*Neurachne* sp, *Austrostipa* sp
Herbs/creepers	
Species near plot	

Site	LW48
Coordinates	51 J 236752 7043763
Description	
Plot size	30 * 30m
Topography	flat
Slope	nil
Soil	red/brown sand-loam
Exposed rock type	
Litter cover (%)	*Triodia, Melaleuca, Acacia* litter (10%)
Condition	excellent
Disturbance details	cattle tracks, minimal grazing
Trees	*Melaleuca xerophila, Acacia ayersiana* var *latifolia*
Shrubs >2m	
Shrubs 1-2m	
Shrubs <1m	*Ptilotus obovatus* var *obovatus*
Hummock grasses	*Triodia melvillei*
Grasses	*Eragrostis eriopoda*
Herbs/creepers	
Species near plot	

Site	LW49
Coordinates	51 J 236159 7044186
Description	
Plot size	30 * 30m
Topography	flat
Slope	nil
Soil	orange clay
Exposed rock type	nil
Litter cover (%)	leaf litter, twigs (4%)
Condition	excellent
Disturbance details	cattle tracks, rabbit scats/scratchings
Trees	*Melaleuca xerophila*
Shrubs >2m	*Pittosporum phylliraeoides, Acacia victoriae, Acacia tetragonophylla*
Shrubs 1-2m	*Senna artemisioides* subsp *filifolia, Exocarpos aphyllus*
Shrubs <1m	*Solanum lasiophyllum, Scaevola spinescens, Atriplex amnicola Eremophila latrobei* subsp *latrobei, Atriplex bunburyana Rhagodia eremaea, Cratystylis spinescens, Spartothamnella teucriflora*
Hummock grasses	
Grasses	*Enteropogon ramosus*
Herbs/creepers	
Species near plot	

Site	LW50
Coordinates	51 J 236885 7043747
Description	Open Shrubland over Sparse grassland
Plot size	30 * 30m
Topography	drainage flat
Slope	flat
Soil	brown clay
Exposed rock type	nil
Litter cover (%)	dead annuals, *Frankenia* (40%)
Condition	very good
Disturbance details	cattle prints, rabbits, grazing of grasses
Trees	
Shrubs >2m	
Shrubs 1-2m	
Shrubs <1m	*Frankenia cinerea, Frankenia* sp, *Tecticornia disarticulata* *Atriplex holocarpa, Atriplex amnicola*
Hummock grasses	
Grasses	*Enneapogon caerulescens, Enteropogon ramosus, Aristida contorta* *Eragrostis* spp
Herbs/creepers	
Species near plot	

Site	LW51
Coordinates	51 J 236208 7044121
Description	
Plot size	30 * 30m
Topography	flat
Slope	nil
Soil	orange clay
Exposed rock type	nil
Litter cover (%)	leaves, twigs (4%)
Condition	excellent
Disturbance details	cattle tracks, rabbit scats
Trees	
Shrubs >2m	
Shrubs 1-2m	*Acacia tetragonophylla*
Shrubs <1m	*Halosarcia indica* subsp *leiostachya, Scaevola spinescens* *Eremophila glabra* subsp *glabra, Atriplex bunburyana* *Cratystylis spinescens*
Hummock grasses	
Grasses	*Enteropogon ramosus*
Herbs/creepers	
Species near plot	

Site	LW52
Coordinates	51 J 236802 7043568
Description	
Plot size	30 * 30m
Topography	base of low dune
Slope	flat
Soil	red/brown sand
Exposed rock type	nil
Litter cover (%)	dead *Triodia* (5%)
Condition	excellent
Disturbance details	historic fires, limited cattle impacts
Trees	*Acacia ayersiana* var *latifolia*
Shrubs >2m	*Acacia jennerae*
Shrubs 1-2m	*Eremophila glabra* subsp *glabra, Eremophila forestii* subsp *forestii* *Grevillea sarissa* subsp *succincta*
Shrubs <1m	*Atriplex amnicola*
Hummock grasses	*Triodia melvillei*
Grasses	*Eragrostis eriopoda, Eriachne helmsii*
Herbs/creepers	
Species near plot	*Pittosporum phylliraeoides*

Site	LW53
Coordinates	51 J 235813 7044562
Description	
Plot size	30 * 30m
Topography	flat
Slope	nil
Soil	orange clay
Exposed rock type	calcrete pebbles (5%)
Litter cover (%)	needles, twigs (20%)
Condition	excellent
Disturbance details	cattle dung, rabbit droppings, grazing
Trees	*Casuarina pauper*
Shrubs >2m	
Shrubs 1-2m	*Acacia jennerae, Senna artemisioides* subsp *filifolia* *Acacia ramulosa* var *linophylla, Acacia victoriae, Acacia ?xanthocarpa* *Acacia quadrimarginea, Maireana pyramidata*
Shrubs <1m	*Ptilotus obovatus* var *obovatus, Scaevola spinescens* *Maireana amoena*
Hummock grasses	
Grasses	*Neurachne* sp
Herbs/creepers	
Species near plot	

Site	LW54
Coordinates	51 J 235487 7044769
Description	
Plot size	30 * 30m
Topography	plain
Slope	nil
Soil	red/brown sand-loam
Exposed rock type	calcrete pebbles (10%)
Litter cover (%)	data not recorded
Condition	good
Disturbance details	grasses grazed, rabbit burrows, dead shrubs
Trees	
Shrubs >2m	
Shrubs 1-2m	*Senna artemisioides* subsp *filifolia, Acacia ?xanthocarpa*
	Lycium australe, Eremophila oppositifolia subsp *angustifolia*
Shrubs <1m	*Solanum lasiophyllum, Acacia ligulata, Ptilotus obovatus* var *obovatus*
	Maireana amoena, Sclerolaena bicornis, Maireana pyramidata
Hummock grasses	
Grasses	*Eragrostis* spp
Herbs/creepers	
Species near plot	

Site	LW55
Coordinates	51 J 234692 7044613
Description	
Plot size	30 * 30m
Topography	flat
Slope	nil
Soil	orange clay
Exposed rock type	
Litter cover (%)	dead *Acacias,*branches, leaves (15%)
Condition	very good-excellent
Disturbance details	cattle tracks, dung, rabbits, grasses heavily grazed
Trees	*Acacia aneura* var *aneura, Pittosporum phylliraeoides* *Grevillea nematophylla* subsp *nematophylla*
Shrubs >2m	
Shrubs 1-2m	*Scaevola spinescens, Senna artemisioides* subsp *filifolia* *Acacia tetragonophylla, Exocarpos aphyllus*
Shrubs <1m	*Solanum lasiophyllum, Ptilotus obovatus* var *obovatus* *Eremophila glabra* subsp *glabra, Rhagodia eremaea*
Hummock grasses	
Grasses	*Enteropogon ramosus*
Herbs/creepers	
Parasites	*Amyema maidenii*
Species near plot	

Site	LW56
Coordinates	51 J 234902 7044799
Description	
Plot size	30 * 30m
Topography	drainage flat
Slope	nil
Soil	pale brown clay loam
Exposed rock type	calcrete pebbles (4%)
Litter cover (%)	nil
Condition	good - very good
Disturbance details	rabbits, cattle tracks, grasses grazed
Trees	
Shrubs >2m	*Eremophila oppositifolia* subsp *angustifolia*
Shrubs 1-2m	*Lycium australe*
Shrubs <1m	*Atriplex amnicola, Maireana amoena, Cratystylis spinescens Sclerolaena bicornis*
Hummock grasses	
Grasses	*Eragrostis* spp
Herbs/creepers	
Species near plot	

Site	LW57
Coordinates	51 J 234523 7044488
Description	
Plot size	30 * 30m
Topography	flat
Slope	nit
Soil	red loam clay
Exposed rock type	nil
Litter cover (%)	dead *Triodia* (2%)
Condition	excellent
Disturbance details	fire recovery
Trees	
Shrubs >2m	*Pittosporum phylliraeoides*
Shrubs 1-2m	*Acacia jennerae, Alyogyne pinoniana, Eremophila glabra* subsp *glabra* *Dodonaea viscosa* subsp *angustissima*
Shrubs <1m	*Ptilotus obovatus* var *obovatus, Olearia stuartii* *Grevillea sarissa* subsp *succincta*
Hummock grasses	*Triodia melvillei*
Grasses	*Enteropogon ramosus*
Herbs/creepers	
Species near plot	

Site	LW58
Coordinates	51 J 234521 7045088
Description	
Plot size	30 * 30m
Topography	plain
Slope	flat
Soil	pale brown sandy loam
Exposed rock type	calcrete pebbles (20%)
Litter cover (%)	
Condition	very good
Disturbance details	rabbit burrows, grazing of grasses
Trees	
Shrubs >2m	*Eremophila glabra* subsp *glabra, Acacia ?xanthocarpa*
Shrubs 1-2m	*Eremophila oppositifolia* subsp *angustifolia, Acacia tetragonophylla*
Shrubs <1m	*Scaevola spinescens, Maireana amoena, Sclerolaena bicornis Salsola tragus, Maireana pyramidata*
Hummock grasses	
Grasses	*Eragrostis* spp*, Eragrostis eriopoda, Enneapogon caerulescens*
Herbs/creepers	
Species near plot	

Site	LW59
Coordinates	51 J 237482 7045170
Description	
Plot size	30 * 30m
Topography	clay pan
Slope	flat
Soil	orange clay
Exposed rock type	nil
Litter cover (%)	dead grass, *Acacia* (12%)
Condition	very good
Disturbance details	signs of heavy grazing, cattle tracks
Trees	
Shrubs >2m	*Acacia aneura* var *aneura, Acacia aneura* var *intermedia*
Shrubs 1-2m	*Grevillea sarissa* subsp *succincta, Acacia tetragonophylla*
Shrubs <1m	*Halosarcia auriculata, Scaevola spinescens, Maireana villosa* *Cratystylis spinescens, Frankenia* sp
Hummock grasses	
Grasses	*Eragrostis* spp*, Enteropogon ramosus*
Herbs/creepers	
Species near plot	

Site	LW60
Coordinates	51 J 234672 7044153
Description	
Plot size	30 * 30m
Topography	plain
Slope	flat
Soil	red brown sand
Exposed rock type	nil
Litter cover (%)	dead wood (20%)
Condition	very good - excellent
Disturbance details	historic fire
Trees	*Acacia ayersiana* var *latifolia, Eucalyptus transcontinentalis* subsp *transcontinentalis*
Shrubs >2m	*Acacia jennerae, Grevillea sarissa* subsp *succincta*
Shrubs 1-2m	*Eremophila glabra* subsp *glabra, Dodonaea viscosa* subsp *angustissima*
Shrubs <1m	*Solanum lasiophyllum, Maireana thesioides*
Hummock grasses	*Triodia melvillei*
Grasses	*Eragrostis eriopoda*
Herbs/creepers	
Species near plot	

Site	LW61
Coordinates	51 J 237591 7045562
Description	
Plot size	30 * 30m
Topography	plain
Slope	flat
Soil	red brown sandy loam
Exposed rock type	nil
Litter cover (%)	dead mulga (5%)
Condition	very good
Disturbance details	burnt area, dead mulgas across fire scar
Trees	*Acacia ayersiana* var *latifolia, Acacia aneura* var *fuliginea*
Shrubs >2m	*Santalum spicatum*
Shrubs 1-2m	*Eremophila glabra* subsp *glabra, Grevillea sarissa* subsp *succincta* *Acacia tetragonophylla*
Shrubs <1m	*Pittosporum phylliraeoides, Dicrastylis exsuccosa* var *tomentosa*
Hummock grasses	*Triodia melvillei*
Grasses	*Eragrostis eriopoda*
Herbs/creepers	
Species near plot	

Site	LW62
Coordinates	51 J 237806 7045645
Description	
Plot size	30 * 30m
Topography	plain
Slope	flat
Soil	red brown sandy loam
Exposed rock type	nil
Litter cover (%)	mulga leaf litter (50%)
Condition	excellent
Disturbance details	
Trees	*Acacia ayersiana* var *latifolia*
Shrubs >2m	*Acacia aneura* var *aneura, Psydrax suaveolens*
Shrubs 1-2m	*Eremophila glabra* subsp *glabra, Grevillea sarissa* subsp *succincta*
Shrubs <1m	*Scaevola spinescens*
Hummock grasses	*Triodia melvillei, Triodia melvillei*
Grasses	*Eragrostis eriopoda*
Herbs/creepers	
Species near plot	*Eremophila forestii* subsp *forestii, Eriachne helmsii* *Acacia tetragonophylla*