

Legend

- Proposed Infrastructure
 - Boundaries
 - 2017 Quadrats Locations
 - 2017 Revele Locations
 - Existing Tracks
- Vegetation Complex**
- Claypan Complex (48.82 ha)
 - Dune Complex (216.43 ha)
 - Lake Margin (56.64 ha)
 - Saline Flats and Depressions (33.22 ha)
 - Sandplain Complex (607.21 ha)

NOTE THAT POSITION ERRORS CAN BE SEEN IN SOME AREAS
 - LOCALITY MAP SOURCED LANDGATE 2008
 - CADASTRE SOURCED FROM LANDGATE 22 DEC 2015
 - AERIAL PHOTOGRAPHY SOURCED LANDGATE SEPT 2015
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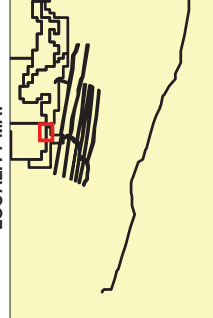
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LOCALITY MAP



PROJECT ID	DATE		
2188	1/08/2017		
HORIZONTAL DATUM AND PROJECTION			
GDA 1994 MGA Zone 52			
CREATED	CHECKED	APPROVED	REVISION
J/A	CT	NW	0

Agrimin Sulphate of Potash Project
 Lake Mackay, WA
 Detailed Flora and Vegetation Assessment

Figure 10k: Vegetation Complexes

Table 6: Vegetation associations, broad vegetation complexes and their extent in the Survey Area.

LANDFORM/BROAD VEGETATION COMPLEX	BROAD FLORISTIC FORMATION	HABITAT	VEGETATION ASSOCIATION	VEGETATION ASSOCIATION DESCRIPTION	SITES	EXTENT IN THE SURVEY AREA (HA)
Sandplain Complex	Eucalyptus and/or Corymbia open woodland, over Acacia open shrubland, over Triodia hummock grassland on sandplains.	Sandplains	EgCo	Eucalyptus gamophylla (\pm Corymbia opaca) open woodland over Acacia (A. adsurgens, A. ancistrocarpa A. elecantha. Or A. ligulata) open woodland over Triodia (T. basedowii, T. salina, or T. schinzii, A. tenuissima) hummock grassland.	LMQ11, LMQ15, LMQ18, Q19, LMQ25 *LMRQ89, LMQ10	1,071.92
		Sandplains	Ep	Eucalyptus pachyphylla (\pm Corymbia opaca) open woodland over mixed Acacia (A. adsurgens, A. elecantha, A. ancistrocarpa, A. cuthbertsonii, A. ligulata, or A. maitlandii) over Triodia basedowii hummock grassland.	LMQ26, LM Q27, LMQ28, LMR7	
		Sandplains	Ev	Eucalyptus victrix open woodland over Triodia (T. salina or T. basedowii) hummock grassland.	LMQ16, LMQ17, LMQ21 *LMRQ60	
Dune Complex	Acacia open shrubland, over Triodia hummock grassland on sandplains.	Depressions, Claypans	AaSa	Acacia aptaneura (\pm Eucalyptus victrix) woodland over Senna artemisioides subsp. oligophylla low open shrubland over Aristida holathera sparse tussock grassland.	*LMRQ84	664.90
		Sandplains	AT	Acacia (A. adsurgens, A. elecantha, A. ligulata) open shrubland over Triodia (T. basedowii or T. schinzii) hummock grassland.	LMQ20, LMR4 LMR11	
		Dune Swales	EgAIALM	(\pm E. gamophylla) Acacia ligulata and Acacia sp. Lake Mackay open shrubland over Triodia (Triodia salina, T. schinzii, T. basedowii, or T. pungens).	LMQ12, LMQ14 LMR3	
	Corymbia open woodland, over Acacia open woodland, over Triodia hummock	Dune Crests	Cc	Corymbia chippendalei open woodland over Acacia (A. ligulata, A. sp. Lake Mackay, or A. melleodora) open shrubland over Newcastelia spodiotricha and Dicrastylis	LMQ13, LMQ22, *LMRQ76	

LANDFORM/BROAD VEGETATION COMPLEX	BROAD FLORISTIC FORMATION	HABITAT	VEGETATION ASSOCIATION	VEGETATION ASSOCIATION DESCRIPTION	SITES	EXTENT IN THE SURVEY AREA (HA)
	grassland on dune crests.			<i>doranii</i> low open shrubland over <i>Triodia</i> (<i>T. schinzii</i> or <i>T. pungens</i>) hummock grassland.		
Island Dunes	Acacia open woodland, over <i>Triodia</i> hummock grassland on dune crests.	Dune Crests	ALM	Acacia sp. Lake Mackay open shrubland over <i>Newcastelia spodiotechia</i> low open shrubland over <i>Triodia pungens</i> hummock grassland.	LMQ3, *LMRQ27	856.97
Saline Flats and Depressions	<i>Frankenia</i> and/or <i>Tecticornia</i> low open shrubland, over <i>Triodia</i> hummock grassland on saline flats and depressions.	Saline Flats and Depressions	FcTi	<i>Frankenia cordata</i> (\pm <i>Tecticornia indica</i> subsp. <i>leiotachya</i>) low open shrubland over mixed low chenopods over <i>Eragrostis falcata</i> scattered tussock grasses and <i>Triodia salina</i> hummock grassland.	LMQ7, LMQ9, LMR1	447.66
		Saline Flats and Depressions	Ti	<i>Tecticornia</i> (<i>T. verrucosa</i>) low open shrubland over <i>Eragrostis falcata</i> scattered tussock grasses.	LMR9	
Claypan Plains	<i>Melaleuca</i> and/or <i>Senna</i> open shrubland over <i>Triodia</i> hummock grassland associated with claypans.	Plains with Small Claypans	Mg	<i>Melaleuca glomerata</i> open shrubland over <i>Triodia</i> (<i>T. basedowii</i> , <i>T. salina</i> , or <i>T. schinzii</i>) hummock grassland.	LMQ24, LMR5, LMR6, LMR13	698.77
		Plains with Small Claypans	SaFc	(\pm <i>Acacia ligulata</i>) <i>Senna artemisoides</i> subsp. <i>oligophylla</i> and <i>Frankenia cordata</i> low open shrubland over mixed low chenopods over <i>Triodia</i> (<i>T. salina</i>).	LMQ23	
Island Swales	<i>Allocastraria</i> open woodland over <i>Triodia</i> hummock grassland in island dunes swales.	Dune Swales (Islands)	AdTp	<i>Allocastraria decaisneana</i> open woodland over <i>Triodia pungens</i> hummock grassland.	LMQ6	3,979.33
		Calcrete Swales (Island)	AITp	<i>Acacia ligulata</i> open shrubland over <i>Triodia pungens</i> hummock grassland.	LMQ2, LMQ5	
		Calcrete Swales	MgFcTp	<i>Melaleuca</i> (<i>M. glomerata</i> and or <i>M. lasiandra</i>) open shrubland over <i>Frankenia cordata</i> low open shrubland over	LMQ4, LMQ5, LMR2	

LANDFORM/BROAD VEGETATION COMPLEX	BROAD FLORISTIC FORMATION	HABITAT	VEGETATION ASSOCIATION	VEGETATION ASSOCIATION DESCRIPTION	SITES	EXTENT IN THE SURVEY AREA (HA)
		(Island)		<i>Triodia pungens</i> hummock grassland.		
Lake Margin Complex	<i>Frankenia</i> and/or <i>Tecticornia</i> low open shrubland on lake margin.	Salt Lake Margin	LakeUpper	Upper lake profile typically dominated by <i>Frankenia cordata</i> , <i>Scaevola collaris</i> , <i>Maireana luehmannii</i> , and <i>Triodia salina</i> (<i>T. pungens</i> on islands).	LMQ1, LMQ8, *LMRT5305, *LMRT5306, LMT203, LMT306, LMT106	
		Salt Lake Margin	LakeMid	Interzone between upper and lower lake profiles typically dominated by <i>Maireana luehmannii</i> , <i>Lawrenca viridigrisea</i> , <i>Sclerolaena crenata</i> , <i>Surreya diandra</i> , <i>Scaevola collaris</i> , <i>Tecticornia calytrata</i> and <i>Tecticornia indica</i> subsp. <i>leiostrachya</i> .	LMT105, LMT206, LM T205, LMT202, LMT305, LMT303, LMT304, T104	992.40
		Salt Lake Margin	LakeLower	Species poor and highly saline lower lake profiled dominated by <i>Tecticornia calytrata</i> , <i>Tecticornia halocnemoides</i> subsp. <i>longispicata</i> , <i>Tecticornia globulifera</i> (P1) (at one island site only), <i>Maireana luehmannii</i> and <i>Eragrostis falcata</i> .	*LMRT5301 *LMRT5302, *LMRT5303, *LMRT5304, LMT103, LMT102, LMT101, LMT201, LMT302, LMT301	
		NA	NA	NA	NA	NA

*Sites revisited by 360 Environmental in this current survey from the Ecologia survey.

4.2.8 Vegetation Condition

Vegetation condition within the Survey Area was assessed as being in Excellent condition. Outside of these areas within the wider Study Area, one quadrat (*LMRQ84) was assessed as being in Very Good condition due to the presence of the weed **Malvastrum americanum* (Appendix G) (Figure 9).

Disturbance affecting vegetation condition was considered minor and included animal tracks and some signs of browsing by camels, recent fire (particularly in the western proposed infrastructure area), and some evidence of relatively recent historic mining activity such as tracks and some rubbish.

Time elapsed since last fire occurrence across most of the vegetation was estimated to be more than 12 years (Appendix G).

4.2.9 Threatened and Priority Ecological Communities

None of the vegetation associations recorded is considered to represent any Federal or State listed TECs or DPaW listed PECs.

Based on a combination of the database searches and a comparison of the vegetation present in the Survey Area, with descriptions of known PECs and TECs of the Great Sandy Desert Region (DPaW boundaries), none of the vegetation associations recorded during the survey is likely to represent a TEC or PEC.

4.2.10 Regional Representation

There are four pre-European, broad vegetation types mapped for the Survey Area (Table 7), with Low to High reservation priorities (CALM 2002). The vegetation in the proposed Survey Area and the wider Study Area was correlated with the Shepherd *et al.* (2001) broad vegetation types as much as possible.

Differences exist with the terminology used in the descriptions as they are based on different methods of classifying vegetation types and spatial scale of the mapping and analysis i.e. vegetation mapping across the state has been undertaken at a very broad scale in some instances and comparing these to local scale mapping to establish significance can be problematic.

Table 7: Representation of Broad Vegetation Types within the Survey Area and their State and Regional Representation along with their reservation priorities (Government of WA 2013 and CALM 2002).

SHEPHERD VEGETATION UNIT	PRE-EUROPEAN AREA (HA)	CURRENT EXTENT (HA)	% PRE-EUROPEAN EXTENT REMAINING ¹	CURRENT EXTENT IN IUCN CLASS I-IV RESERVES (%)	RESERVATION PRIORITY ²
Vegetation Types (Shepherd <i>et al.</i> 2001) in the State					
125 – Great Sandy Desert	3,485,786.61	3,146,496.09	90.27	5.41	Low

SHEPHERD VEGETATION UNIT	PRE-EUROPEAN AREA (HA)	CURRENT EXTENT (HA)	% PRE-EUROPEAN EXTENT REMAINING ¹	CURRENT EXTENT IN IUCN CLASS I-IV RESERVES (%)	RESERVATION PRIORITY ²
134 – Great Sandy Desert	26,026,864.86	26,022,995.26	99.99	3.34	Low
2041 – Great Sandy Desert	435,297.20	434,711.49	99.87	7.10	High
174 – Great Sandy Desert	1,575,547.45	1,573,860.02	99.89	-	Medium
Vegetation Types (Shepherd <i>et al.</i> 2001) in the Great Sandy Desert Bioregion					
125 – Great Sandy Desert	706,027.95	705,758.53	99.96	6.44	Low
134 – Great Sandy Desert	13,595,888.18	13,593,950.57	99.99	4.97	Low
2041 – Great Sandy Desert	371,994.60	371,911.94	99.98	8.31	High
174 – Great Sandy Desert	1,435,211.67	1,435,092.93	99.99	-	Medium
Vegetation Types (Shepherd <i>et al.</i> 2001) in the Great Sandy Desert (Mackay) Subregion					
125 – Great Sandy Desert	670,536.18	670,266.76	99.96	6.78	Low
134 – Great Sandy Desert	13,589,536.40	13,587,598.80	99.99	4.97	Low
2041 – Great Sandy Desert	342,650.64	342,567.98	99.98	9.03	High
174 – Great Sandy Desert	1,435,211.67	1,435,092.93	99.99	-	Medium

¹Extent remaining based on Government of Western Australia (2015).

²according to their reservation status (IUCN I-IV, V-VI, CALM leasehold or other) and priority for acquisition in a Biodiversity Audit of Western Australia's 53 Biogeographical Subregions in 2002 (CALM 2002).

5 Discussion

5.1 Flora

5.1.1 General flora

A total of 253 taxa (including species, subspecies, varieties and forms) from 117 genera and 42 families were identified from quadrats, relevés and opportunistic collections in the Survey Area and wider Study Area. Whilst 219 taxa were recorded from the quadrat sites, the species extrapolator curves estimated that between 260 to 340 species would be recorded for the Survey Area and wider Study Area. The extrapolator curves indicate that extra quadrats may have yielded additional taxa, however, extrapolator curves can overestimate expected species richness for various reasons such as the patchiness of species (Colwell *et al.* 2004).

The species composition was similar between this current survey and the Ecologia survey. A total of 214 taxa were recorded in the Ecologia survey and 253 in this current survey. The most commonly occurring families from the Ecologia survey were Fabaceae (30 taxa), Chenopodiaceae (25 taxa) and Poaceae (23 taxa). This is comparable to the current survey, Fabaceae (35 taxa), Poaceae (29 taxa) and Malvaceae (21 taxa). Likewise, the two most frequently recorded genera were also the same between the two surveys, *Acacia* (12 taxa vs 12 from the current survey) and *Sida* (8 taxa vs 10 from the current survey).

The timing of the survey was considered appropriate with a high number of annual species being recorded during the survey.

5.1.2 Recorded Flora of Conservation Significance

No Threatened species listed under the EPBC Act and/or gazetted as Threatened under the WC Act were recorded during the survey, however, three Priority listed flora were recorded during the survey.

The Priority 1, 2 and 3 flora represent taxa that are known from several existing locations or from a few but widespread locations. *Tecticornia globulifera* (P1) and *Goodenia virgata* (P2) were recorded once during the survey with *Goodenia modesta* (P3) being recorded twice during the survey. These priority flora species were only recorded outside of the proposed Survey Area.

If targeted searches are undertaken that focus on suitable habitat, further populations in and adjacent to the Survey Area are likely to be recorded.

5.1.3 Potential Occurrences of Conservation Significance Flora

The review of the DPaW flora database and EPBC searches did not identify any Threatened/EPBC listed species, however, ten taxa listed as Priority flora were

identified as potentially occurring in the Survey Area (Table 3). Of these ten conservation significant flora, four are considered Likely to occur - *Goodenia virgata* (P2) (recorded during the survey), *Thysanotus* sp. Desert East of Newman (P2), *Dampiera atriplicina* (P2) and *Goodenia modesta* (P3) (recorded during the survey).

The Survey Area contains suitable habitat for these taxa as well as having previous records of them occurring in the Survey Area. Targeted searches in suitable habitat may yield new records for these taxa in and adjacent to the Survey Area.

The likelihood assessment of these ten conservation significant flora occurring in the Survey Area is presented Appendix E.

5.2 Vegetation

5.2.1 Vegetation Associations

A total of 18 vegetation associations represented by 10 broad floristic communities from 8 landforms were identified in the Survey Area.

The most species rich sites were in the Depressions (quadrat *LMRQ84 in vegetation association AaSa) and Plains (quadrat LMQ27 in vegetation association Ep and quadrat LMQ21 in vegetation association Ev). The broadest communities were the Acacia woodlands and shrublands that occurred across a number of landforms. These broad communities represented 75% of the total Survey Area. Vegetation was largely uniform between the three islands surveyed, with a small area of the lake margin vegetation occurring on the edge of the islands and the lake edge, which included samphire flats dominated by *Tecticornia*.

The most restricted communities were generally limited to unique landforms such as watercourses and clays pans and these communities were the most floristically distinct communities.

The landforms and consequently the vegetation associations of the Survey Area are considered common and widespread in the Survey Area and wider Study Area, but also more broadly surrounding Lake Mackay and, more importantly, in the region.

5.2.2 Vegetation of Conservation Significance

No TECs or PECs or vegetation units likely to be TECs or PECs were located during the survey; therefore, no vegetation associations of conservation significance were recorded.

5.3 Vegetation Condition and Introduced Flora

Overall, there has been little to no disturbance to vegetation in the Survey Area and the wider Study Area. The vegetation condition within the Survey Area was considered to be in Excellent condition. In the wider Study Area, all quadrats besides one were assessed

as being in Excellent condition. Quadrat *LMRQ84 was located outside of the Survey Area and its condition was assessed as being in Very Good (Appendix G).

Minor impacts on vegetation condition included animal tracks, recent fire and vehicle tracks. It was noted that a large section of the proposed infrastructure area (west) was recently burnt (1-4 years). The three islands and the remaining Survey Area has not been burnt for some time (Appendix G).

There was only one weed species recorded in one location in the Study Area, **Malvastrum americanum*. This weed species is not considered a Declared species or a WONS. **Malvastrum americanum* is considered a common and widespread weed of the region (WAH 2016, Hussey *et al.* 2007).

5.4 Regional Representation

To encompass current recognised levels of remnant native vegetation retention, the EPA uses a standard level of native vegetation retention of at least 30% of the pre-clearing extent of the ecological communities. These levels have been most recently recognised in the National Objectives and Targets for Biodiversity Conservation 2001-2005 which recognised that the retention of 30%, or more, of the pre-clearing extent of each ecological community was necessary if Australia's biological diversity was to be protected (EPA 2002).

Vegetation complexes which have 10%-30% remaining may be considered regionally significant while proposals that would affect a vegetation complex with 10% or less remaining are likely to be formally assessed by the EPA (EPA 2000).

The proposed development of the Survey Area would not result in any vegetation associations extent falling below the 30% threshold.

6 Conclusion

In summary, the following conclusions on the existing flora and vegetation are made:

- No Threatened flora species pursuant to the EPBC Act and/or gazetted as Declared Rare Flora pursuant to the WC Act were recorded during the survey or are considered likely to occur in the Survey Area;
- Three Priority listed flora were recorded during the survey comprising one Priority 1 taxon (*Tecticornia globulifera*), one Priority 2 taxon (*Goodenia virgata*) and one Priority 3 taxon (*Goodenia modesta*);
- A further two Priority flora taxa are considered Likely to occur in the Survey Area (*Thysanotus sp.* Desert East of Newman [P2] and *Dampiera atriplicina* [P3]);
- One introduced species was recorded during the survey. This species is not listed as a Weed of National Significance or a Declared species for the region;
- None of the 18 vegetation associations recorded are considered to represent any Federal or State listed TEC or PECs;
- The Survey Area had minimal to no disturbance and was considered to be in Excellent condition;
- The clearing of vegetation for the proposed development would not cause any of the Shepherd *et al.* (2001) vegetation associations to fall below the 30% threshold recommended for biodiversity retention; and
- The landforms and, consequently, the vegetation associations are considered common and widespread in the Survey Area, but also more broadly surrounding Lake Mackay and, more importantly, in the region.

7 References

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APPENDIX A

Definition Of Declared Rare / Priority / Threatened Flora Species

Categories of Declared Rare Flora (WC act) and Priority listings (DPaW)

CONSERVATION CODE	DESCRIPTION
X	<p>Presumed Extinct Flora (Declared Rare Flora – Extinct) “Taxa which have been adequately searched for and there is no reasonable doubt that the last individual has died, and have been gazetted as such (Schedule 2 under the <i>Wildlife Conservation Act 1950</i>).”</p>
T	<p>Threatened Flora (Declared Rare Flora – Extant) “Taxa which have been adequately searched for and are deemed to be in the wild either rare, in danger of extinction, or otherwise in need of special protection, and have been gazetted as such (Schedule 1 under the <i>Wildlife Conservation Act 1950</i>).” “Threatened Flora (Schedule 1) are further ranked by the Department according to their level of threat using IUCN Red List criteria: CR: Critically Endangered – considered to be facing an extremely high risk of extinction in the wild; EN: Endangered – considered to be facing a very high risk of extinction in the wild; VU: Vulnerable – considered to be facing a high risk of extinction in the wild.”</p>
P1	<p>Priority One: Poorly-known taxa “Taxa which are known from one or a few collections or sight records (generally less than five), all on lands not managed for conservation, e.g. agricultural or pastoral lands, urban areas, Shire, Westrail and Main Roads WA road, gravel and soil reserves, and active mineral leases and under threat of habitat destruction or degradation. Taxa may be included if they are comparatively well known from one or more localities but do not meet adequacy of survey requirements and appear to be under immediate threat from known threatening processes.”</p>
P2	<p>Priority Two: Poorly-known taxa “Taxa which are known from one or a few collections or sight records, some of which are on lands not under imminent threat of habitat destruction or degradation, e.g. national parks, conservation parks, nature reserves, State forest, vacant Crown Land, water reserves, etc. Taxa may be included if they are comparatively well known from one or more localities but do not meet adequacy of survey requirements and appear to be under threat from known threatening processes.”</p>

CONSERVATION CODE	DESCRIPTION
P3	<p>Priority Three: Poorly-known taxa</p> <p>“Taxa which are known from collections or sight records from several localities not under imminent threat, or few but widespread localities with either large population size or significant remaining areas of apparently suitable habitat, much of it not under imminent threat. Taxa may be included if they are comparatively well known from several localities but do not meet adequacy of survey requirements and known threatening processes exist that could affect them.”</p>
P4	<p>Priority Four: Rare, Near Threatened and other taxa in need of monitoring</p> <p>a. Rare. “Taxa which are considered to have been adequately surveyed, or for which sufficient knowledge is available, and that are considered not currently threatened or in need of special protection, but could be if present circumstances change. These taxa are usually represented on conservation lands.”</p> <p>b. Near Threatened. “Taxa that are considered to have been adequately surveyed and that do not qualify for Conservation Dependent, but that are close to qualifying for Vulnerable.”</p> <p>c. “Taxa that have been removed from the list of threatened species during the past five years for reasons other than taxonomy.”</p>
P5	<p>Priority Five: Conservation Dependent taxa</p> <p>“Taxa that are not threatened but are subject to a specific conservation program, the cessation of which would result in the taxon becoming threatened within five years.”</p>

Source: Department of Parks and Wildlife (2013). Online: <http://florabase.dpaw.wa.gov.au>.

Categories of Threatened Flora Species under the EPBC Act

CONSERVATION CODE	DESCRIPTION
Ex	<p>Extinct</p> <p>Taxa which at a particular time if, at the time, there is no reasonable doubt that the last member of the species has died.</p>
ExW	<p>Extinct in the Wild</p> <p>Taxa which is known only to survive in cultivation, in captivity or as a naturalised population well outside its past range; or it has not been recorded in its known and/or expected habitat, at appropriate seasons, anywhere in its past range, despite exhaustive surveys over a time frame appropriate to its life cycle and form.</p>
CE	<p>Critically Endangered</p> <p>Taxa which at a particular time, it is facing an extremely high risk of extinction in the wild in the immediate future, as determined in accordance with the prescribed criteria.</p>

CONSERVATION CODE	DESCRIPTION
E	Endangered Taxa which is not critically endangered and it is facing a very high risk of extinction in the wild in the medium-term future, as determined in accordance with the prescribed criteria.
V	Vulnerable Taxa which is not critically endangered or endangered and is facing a high risk of extinction in the wild in the medium-term future, as determined in accordance with the prescribed criteria.
CD	Conservation Dependent Taxa which at a particular time if, at that time, the species is the focus of a specific conservation program, the cessation of which would result in the species becoming vulnerable, endangered or critically endangered within a period of 5 years.

Source: *Environment Protection and Biodiversity Conservation Act 1999*

APPENDIX B

Definition of Threatened and Priority Ecological Communities

Definitions of Threatened Ecological Communities as Endorsed by the Western Australian Minister for the Environment

Presumed Totally Destroyed (PD)

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

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

Critically Endangered (CR)

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

- A) The estimated geographic range, and/or total area occupied, and/or number of discrete occurrences since European settlement have been reduced by at least 90% and either or both of the following apply (i or ii)
 - i) geographic range, and/or total area occupied and/or number of discrete occurrences are continuing to decline such that total destruction of the community is imminent (within approximately 5 years)
 - ii) modification throughout its range is continuing such that in the immediate future (within approximately 5 years) the community is unlikely to be capable of being substantially rehabilitated.
- B) Current distribution is limited, and one or more of the following apply (i, ii or iii):
 - i) geographic range and/or number of discrete occurrences, and/or area occupied is highly restricted and the community is currently subject to known threatening processes which are likely to result in total destruction throughout its range in the immediate future (within approximately 5 years)
 - ii) there are very few occurrences, each of which is small and/or isolated and extremely vulnerable to known threatening processes
 - iii) there may be many occurrences but total area is very small and each occurrence is small and/or isolated and extremely vulnerable to known threatening processes
- C) The ecological community exists only as highly modified occurrences which may be capable of being rehabilitated if such work begins in the immediate future (within approximately 5 years)

Endangered (EN)

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

- A) The estimated geographic range, and/or total area occupied, and/or number of discrete occurrences since European settlement have been reduced by at least 70% and either or both of the following apply (i or ii)

- i) geographic range, and/or total area occupied and/or number of discrete occurrences are continuing to decline such that total destruction of the community is likely in the short term (within approximately 10 years)
 - ii) modification throughout its range is continuing such that in the short term future (within approximately 10 years) the community is unlikely to be capable of being substantially restored or rehabilitated.
- B) Current distribution is limited, and one or more of the following apply (i, ii or iii):
- i) geographic range and/or number of discrete occurrences, and/or area occupied is highly restricted and the community is currently subject to known threatening processes which are likely to result in total destruction throughout its range in the short term future (within approximately 10 years)
 - ii) there are very few occurrences, each of which is small and/or isolated and extremely vulnerable to known threatening processes
 - iii) there may be many occurrences but total area is very small and each occurrence is small and/or isolated and extremely vulnerable to known threatening processes
- C) The ecological community exists only as highly modified occurrences which may be capable of being rehabilitated if such work begins in the short term future (within approximately 10 years).

Vulnerable (VU)

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

- A) The ecological community exists largely as modified occurrences which are likely to be capable of being substantially restored or rehabilitated.
- B) The ecological community can be modified or destroyed and would be vulnerable to threatening processes, is restricted in area and/or range and/or is only found at a few locations.
- C) The ecological community may still be widespread but is believed likely to move into a category of higher threat in the medium to long term future because of existing or impending threatening processes.

Source: Department of Environment and Conservation (2010). Definitions, Categories and Criteria for Threatened and Priority Ecological Communities. Department of Environment and Conservation, Perth, Western Australia. Online: www.naturebase.net/

Definitions of Priority Ecological Communities as listed DPaW

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

Priority One: Poorly known ecological communities

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

Priority Two: Poorly known ecological communities

Communities that are known from few small occurrences, all or most of which are actively managed for conservation (e.g. within national parks, conservation parks, nature reserves, State forest, unallocated Crown land, water reserves, etc.) and not under imminent threat of destruction or degradation.

Communities may be included if they are comparatively well known from one or more localities but do not meet adequacy of survey requirements, and/or are not well defined, and appear to be under threat from known threatening processes.

Priority Three: Poorly known ecological communities

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

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

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

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

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

These communities require regular monitoring.

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

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

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

Priority Five: Conservation Dependent ecological communities.

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

Source: Department of Parks and Wildlife (2013). Definitions, Categories and Criteria for Threatened and Priority Ecological Communities. Department of Environment and Conservation, Perth, Western Australia. Online: www.naturebase.net/

APPENDIX C

Environmental Weeds and Declared Plant Categories

Criteria used for Ranking Environmental Weeds

The Weed Prioritisation Process for DPaW contains criteria for the assessment and ranking of weeds in terms of their environmental impact on biodiversity. These criteria are as follows:

Potential Distribution – Area of potential habitat in the Region that could be occupied or the area at risk of invasion by the weed.

Current Distribution - Area of habitat in the Region currently occupied by the weed, in relation to the habitat that it could invade.

Ecological Impact - Impact of species within the Region, from low impact (causes minimal disruption to ecological processes or loss of biodiversity) to high (causes acute disruption of ecological processes, dominates and/or significantly alters vegetation structure, composition and function of ecosystems).

Invasiveness – rate of spread of a weed in native vegetative, encompassing factors of establishment, reproduction and long distance dispersal (>100m).

Feasibility of Control - The longer a coordinated control program takes to achieve its desired goal, the more expensive and less feasible it becomes. Is it feasible to eradicate or at least contain the infestation?

Source: DPaW (2013). Weed Prioritisation Process for DPaW (formerly DEC) – “An integrated approach to Weed Management on DPaW-managed lands in WA”

Standard Meanings of Declared Plant Categories

Under the Biosecurity and Agriculture Management Act 2007 (the BAM Act), all declared pests are placed in one of three categories, namely C1 (exclusion), C2 (eradication) or C3 (management).

C1 category (Exclusion) - Pests will be assigned to this category if they are not established in Western Australia and control measures are to be taken, including border checks, in order to prevent them entering and establishing in the State.

C2 category (Eradication) – Pests will be assigned to this category if they are present in Western Australia in low enough numbers or in sufficiently limited areas that their eradication is still a possibility.

C3 category (Management) – Pests will be assigned to this category if they are established in Western Australia but it is feasible, or desirable, to manage them in order to limit their damage. Control measures can prevent a C3 pest from increasing in population size or density or moving from an area in which it is established into an area which currently is free of that pest.

Source: Department of Agriculture and Food, Western Australia. Online:
<http://www.biosecurity.wa.gov.au/western-australian-organism-list-waol>

APPENDIX D

Vegetation Condition Scale

CONDITION SCALE CODE	CONDITION SCALE
E	<p>Excellent</p> <p>Pristine or nearly so, no obvious signs of damage caused by human activities since European settlement.</p>
VG	<p>Very Good</p> <p>Some relatively slight signs of damage caused by human activities since European settlement. For example, some signs of damage to tree trunks caused by repeated fire, the presence of some relatively non-aggressive weeds, or occasional vehicle tracks.</p>
G	<p>Good</p> <p>More obvious signs of damage caused by human activity since European settlement, including some obvious impact on the vegetation structure such as that caused by low levels of grazing or slightly aggressive weeds.</p>
P	<p>Poor</p> <p>Still retains basic vegetation structure or ability to regenerate it after very obvious impacts of human activities since European settlement, such as grazing, partial clearing, frequent fires or aggressive weeds.</p>
D	<p>Degraded</p> <p>Severely impacted by grazing, very frequent fires, clearing or a combination of these activities. Scope for some regeneration but not to a state approaching good condition without intensive management. Usually with a number of weed species present including very aggressive species.</p>
CD	<p>Completely Degraded</p> <p>Areas that are completely or almost completely without native species in the structure of their vegetation; i.e. areas that are cleared or 'parkland cleared' with their flora comprising weed or crop species with isolated native trees or shrubs.</p>

Source: Trudgen Vegetation Condition Scale as developed by Trudgen (1988).

APPENDIX E

Likelihood Assessment

Appendix E: Assessment of the Likely Occurrence of DRF and Priority Flora (as per DPaW and EPBC Database Searches) in the Survey Area

Closest record to Survey Area based on DPaW 2016. Likely = Suitable habitat present and records less than 5 km from the Survey Area. Possible = Suitable habitat present and records between 5 km and 10 km from the Survey Area, and Unlikely = No suitable habitat present and/or records greater than 10 km from the Survey Area. En = Listed as Endangered under the EBPC Act, Vu = Listed as Vulnerable under the EBPC, Ce = Critically Endangered under the EBPC Act, P = Listed as Priority by the DPaW DRF = Declared Rare Flora as listed by the State.

SOURCE	CONSERVATION STATUS		SPECIES	HABITAT INFORMATION	DISTANCE TO NEAREST RECORD	SUITABLE HABITAT PRESENT	LIKELIHOOD OF OCCURRENCE IN THE SURVEY AREA
	EPBC	DPaW					
DPaW	-	P1	<i>Maireana</i> sp. Patience	Red sand, laterite. Edge of gully.	Unknown	No	Unlikely
DPaW	-	P1	<i>Mitrasacme katjarranka</i>	Recent rain, fire. Red sand-laterite over sandstone. Amongst <i>Triodia</i> sp.	280 km	No	Unlikely
DPaW	-	P1	<i>Philothea eremicola</i>	Red skeletal laterite. Rocky slopes in shrubland.	460 km	No	Unlikely
DPaW	-	P2	<i>Eremophila jamesiorum</i>	Unknown.	400 km	Unknown	Unlikely
DPaW Ecologia 2017	-	P2	<i>Goodenia virgata</i>	Red sandy loam. Near salt pans.	Records in Survey Area	Yes	Likely (recorded in current survey)
DPaW Ecologia 2017	-	P2	<i>Thysanotus</i> sp. Desert East of Newman	Red-brown loamy sand or red sand, sometimes silty. Sand plain, pisolitic buckshot plain.	Records in Survey Area	Yes	Likely
DPaW Desert Wildlife Services 2010	-	P3	<i>Dampiera atriplicina</i>	Red sand. Sand ridges.	Records in Survey Area	Yes	Likely

SOURCE	CONSERVATION STATUS		SPECIES	HABITAT INFORMATION	DISTANCE TO NEAREST RECORD	SUITABLE HABITAT PRESENT	LIKELIHOOD OF OCCURRENCE IN THE SURVEY AREA
	EPBC	DPaW					
DPaW	-	P3	<i>Eragrostis lanicaulis</i>	Red sand clay. Flats.	280 km	Yes	Unlikely
DPaW	-	P3	<i>Goodenia modesta</i>	Red loam, sand.	Records in Survey Area	Yes	Likely (recorded in current survey)
DPaW	-	P3	<i>Korthalsella leucothrix</i>	On <i>Acacia acuminata</i> and <i>A. craspedocarpa</i> .	489 km	No	Unlikely

APPENDIX F

Taxa Inventory

Family	Name
Aizoaceae	<i>Trianthera pilosum</i>
Aizoaceae	<i>Trianthera triquetrum</i>
Amaranthaceae	<i>Alternanthera angustifolia</i>
	<i>Surreya diandra</i>
	<i>Ptilotus calostachyus</i>
	<i>Ptilotus clementii</i>
	<i>Ptilotus fusiformis</i>
	<i>Ptilotus latifolius</i>
	<i>Ptilotus obovatus</i>
	<i>Ptilotus obovatus var. obovatus</i>
	<i>Ptilotus polystachyus</i>
Apocynaceae	<i>Carissa lanceolata</i>
Araliaceae	<i>Trachymene glaucifolia</i>
Asteraceae	<i>Angianthus tomentosus</i>
	<i>Calocephalus platycephalus</i>
	<i>Chrysocephalum eremaeum</i>
	<i>Leiocarpa semicalva</i>
	<i>Pluchea dunlopia</i>
	<i>Pluchea ferdinandi-muelleri</i>
	<i>Pluchea rubelliflora</i>
	<i>Pterocaulon sp.</i>
	<i>Pterocaulon sphacelatum</i>
	<i>Streptoglossa bubakii</i>
	<i>Streptoglossa decurrens</i>
	<i>Streptoglossa macrocephala</i>
	<i>Streptoglossa odora</i>
	<i>Vittadinia eremaea</i>
Boraginaceae	<i>Halgania gustafsenii</i>
	<i>Heliotropium ammophilum</i>
	<i>Heliotropium glabellum</i>
	<i>Trichodesma zeylanicum</i>
Caryophyllaceae	<i>Polycarpaea corymbosa</i>
Casuarinaceae	<i>Allocasuarina decaisneana</i>
Celastraceae	<i>Macgregoria racemigera</i>
	<i>Stackhousia intermedia</i>
Chenopodiaceae	<i>Atriplex ?vesicaria</i>
	<i>Atriplex limbata</i>
	<i>Dysphania ?rhadinostachya</i>
	<i>Dysphania simulans</i>
	<i>Dysphania sphaerosperma</i>
	<i>Einadia nutans subsp. eremaea</i>
	<i>Enchylaena tomentosa</i>
	<i>Enchylaena tomentosa var. tomentosa</i>

	<i>Maireana luehmannii</i>
	<i>Neobassia astrocarpa</i>
	<i>Rhagodia eremaea</i>
	<i>Salsola australis</i>
	<i>Sclerolaena clelandii</i>
	<i>Sclerolaena cornishiana</i>
	<i>Sclerolaena crenata</i>
	<i>Sclerolaena deserticola</i>
	<i>Sclerolaena recurvicauspis</i>
	<i>Tecticornia aff calyprata</i>
	<i>Tecticornia globulifera</i> (P1)
	<i>Tecticornia halocnemoides</i>
	<i>Tecticornia halocnemoides subsp. longispicata</i>
	<i>Tecticornia indica subsp. leiostachya</i>
	<i>Tecticornia pergranulata subsp. elongata</i>
	<i>Tecticornia sp.</i>
	<i>Tecticornia sp. Dennys Crossing</i> (K.A. Shepherd & J. English KS 552)
	<i>Tecticornia tenuis</i>
	<i>Tecticornia verrucosa</i>
Cleomaceae	<i>Cleome viscosa</i>
Convolvulaceae	<i>Bonamia erecta</i>
	<i>Evolvulus alsinoides var. villosicalyx</i>
Cucurbitaceae	<i>Cucumis argenteus</i>
Cyperaceae	<i>Bulbostylis barbata</i>
	<i>Cyperus blakeanus</i>
	<i>Cyperus bulbosus</i>
	<i>Cyperus concinnus</i>
	<i>Cyperus cunninghamii</i>
	<i>Cyperus iria</i>
	<i>Cyperus rigidellus</i>
	<i>Cyperus sp.</i>
	<i>Cyperus squarrosus</i>
	<i>Fimbristylis depauperata</i>
	<i>Fimbristylis dichotoma</i>
	<i>Fimbristylis eremophila</i>
	<i>Fimbristylis oxystachya</i>
Elatinaceae	<i>Bergia ammannioides</i>
	<i>Bergia henshallii</i>
	<i>Bergia trimera</i>
Euphorbiaceae	<i>Euphorbia biconvexa</i>
	<i>Euphorbia boophthona</i>
	<i>Euphorbia drummondii</i>
	<i>Euphorbia sp.</i>
	<i>Euphorbia tannensis subsp. eremophila</i>

	<i>Euphorbia vaccaria</i>
	<i>Euphorbia wheeleri</i>
Fabaceae	<i>Acacia ?adsurgens</i>
	<i>Acacia adsurgens</i>
	<i>Acacia ancistrocarpa</i>
	<i>Acacia aptaneura</i>
	<i>Acacia elachantha</i>
	<i>Acacia ligulata</i>
	<i>Acacia maitlandii</i>
	<i>Acacia melleodora</i>
	<i>Acacia pruinocarpa</i>
	<i>Acacia sp. Lake Mackay (P.K. Latz 12836)</i>
	<i>Acacia stipuligera</i>
	<i>Acacia tenuissima</i>
	<i>Aenictophyton reconditum</i>
	<i>Chamaecrista symonii</i>
	<i>Crotalaria cunninghamii</i>
	<i>Cullen martinii</i>
	<i>Gompholobium simplicifolium</i>
	<i>Indigofera colutea</i>
	<i>Indigofera georgei</i>
	<i>Indigofera linifolia</i>
	<i>Isotropis atropurpurea</i>
	<i>Muelleranthus stipularis</i>
	<i>Petalostylis cassioides</i>
	<i>Senna artemisioides subsp. oligophylla</i>
	<i>Senna artemisioides subsp. oligophylla x sericea</i>
	<i>Senna curvistyla</i>
	<i>Senna glaucifolia</i>
	<i>Senna notabilis</i>
	<i>Senna pleurocarpa</i>
	<i>Senna pleurocarpa var. pleurocarpa</i>
	<i>Senna sericea</i>
	<i>Senna stricta</i>
	<i>Swainsona acuticarinata</i>
	<i>Swainsona cyclocarpa</i>
	<i>Tephrosia sp. deserts</i>
	<i>Tephrosia sp. Bungaroo Creek (M.E. Trudgen 11601)</i>
Frankeniaceae	<i>Frankenia cordata</i>
Gentianaceae	<i>Schenkia clementii</i>
Goodeniaceae	<i>Brunonia sp. Long hairs (D.E. Symon 2440)</i>
	<i>Dampiera cinerea</i>
	<i>Goodenia armitiana</i>
	<i>Goodenia lamprosperma</i>

	<i>Goodenia maideniana</i>
	<i>Goodenia modesta</i> (P3)
	<i>Goodenia virgata</i> (P2)
	<i>Scaevola amblyanthera</i>
	<i>Scaevola basedowii</i>
	<i>Scaevola collaris</i>
	<i>Scaevola parvifolia</i> subsp. <i>parvifolia</i>
	<i>Scaevola spinescens</i>
Gyrostemonaceae	<i>Codonocarpus cotinifolius</i>
Haloragaceae	<i>Gonocarpus eremophilus</i>
Hemerocallidaceae	<i>Corynotheca micrantha</i>
Lamiaceae	<i>Clerodendrum floribundum</i>
	<i>Dicrastylis doranii</i>
	<i>Dicrastylis exsuccosa</i>
	<i>Newcastelia cladotricha</i>
	<i>Newcastelia spodiotricha</i>
Lauraceae	<i>Cassytha capillaris</i>
Malvaceae	<i>Abutilon otocarpum</i>
	<i>Corchorus sidoides</i>
	<i>Hibiscus brachychlaenus</i>
	<i>Hibiscus leptocladus</i>
	<i>Hibiscus sturtii</i> var. <i>grandiflorus</i>
	<i>Hibiscus sturtii</i> var. <i>platychlamys</i>
	<i>Seringia elliptica</i>
	<i>Lawrenca viridigrisea</i>
	<i>Melhania oblongifolia</i>
	<i>Sida ammophila</i>
	<i>Sida arenicola</i>
	<i>Sida cardiophylla</i>
	<i>Sida echinocarpa</i>
	<i>Sida fibulifera</i>
	<i>Sida intricata</i>
	<i>Sida rohlenae</i> subsp. <i>rohlenae</i>
	<i>Sida</i> sp.
	<i>Sida</i> sp. Rabbit Flat (B.J. Carter 626)
	<i>Sida</i> sp. sand dunes (A.A. Mitchell PRP1208)
	<i>Triumfetta winneckeana</i>
	* <i>Malvastrum americanum</i>
Marsileaceae	<i>Marsilea exarata</i>
Molluginaceae	<i>Hypertelis cerviana</i>
Myrtaceae	<i>Calytrix carinata</i>
	<i>Corymbia candida</i> subsp. <i>dipsodes</i>
	<i>Corymbia chippendalei</i>
	<i>Corymbia opaca</i>

	<i>Eucalyptus gamophylla</i>
	<i>Eucalyptus pachyphylla</i>
	<i>Eucalyptus victrix</i>
	<i>Melaleuca glomerata</i>
	<i>Melaleuca interioris</i>
	<i>Melaleuca lasiandra</i>
Nyctaginaceae	<i>Boerhavia coccinea</i>
	<i>Boerhavia sp.</i>
Phymaceae	<i>Uvedalia linearis var. linearis</i>
	<i>Peplidium aithocheilum</i>
Plantaginaceae	<i>Stemodia florulenta</i>
	<i>Stemodia sp. Tanami</i>
Poaceae	<i>Aristida holathera</i>
	<i>Aristida holathera var. holathera</i>
	<i>Aristida inaequiglumis</i>
	<i>Dactyloctenium radulans</i>
	<i>Enneapogon polyphyllus</i>
	<i>Enneapogon robustissimus</i>
	<i>Enteropogon ramosus</i>
	<i>Eragrostis cumingii</i>
	<i>Eragrostis dielsii</i>
	<i>Eragrostis eriopoda</i>
	<i>Eragrostis exigua</i>
	<i>Eragrostis falcata</i>
	<i>Eragrostis laniflora</i>
	<i>Eragrostis setifolia</i>
	<i>Eriachne aristidea</i>
	<i>Iseilema dolichotrichum</i>
	<i>Paractaenum novae-hollandiae subsp. reversum</i>
	<i>Paractaenum refractum</i>
	<i>Paraneurachne muelleri</i>
	<i>Paspalidium clementii</i>
	<i>Paspalidium rarum</i>
	<i>Paspalidium reflexum</i>
	<i>Setaria surgens</i>
	<i>Triodia basedowii</i>
	<i>Triodia pungens</i>
	<i>Triodia salina</i>
	<i>Triodia schinzii</i>
	<i>Triraphis mollis</i>
	<i>Yakirra australiensis var. australiensis</i>
Polygalaceae	<i>Polygala isingii</i>
	<i>Polygala glaucifolia</i>
Portulacaceae	<i>Calandrinia pleiopetala</i>

	<i>Calandrinia pumila</i>
	<i>Portulaca filifolia</i>
	<i>Portulaca oleracea</i>
Proteaceae	<i>Grevillea eriostachya</i>
	<i>Grevillea stenobotrya</i>
	<i>Grevillea striata</i>
	<i>Hakea divaricata</i>
	<i>Hakea lorea</i> subsp. <i>lorea</i>
Rubiaceae	<i>Oldenlandia pterospora</i>
	<i>Synaptantha tillaeacea</i> var. <i>hispidula</i>
	<i>Synaptantha tillaeacea</i> var. <i>tillaeacea</i>
Santalaceae	<i>Anthobolus leptomerioides</i>
	<i>Exocarpos sparteus</i>
Sapindaceae	<i>Diplopeltis stuartii</i> var. <i>stuartii</i>
	<i>Dodonaea coriacea</i>
Scrophulariaceae	<i>Eremophila latrobei</i> subsp. <i>latrobei</i>
	<i>Eremophila longifolia</i>
	<i>Eremophila platythamnus</i> subsp. <i>exotrachys</i>
	<i>Eremophila</i> sp.
	<i>Eremophila spinescens</i>
	<i>Eremophila willsii</i> subsp. <i>willsii</i>
Solanaceae	<i>Nicotiana rosulata</i>
	<i>Nicotiana rosulata</i> subsp. <i>ingulba</i>
	<i>Nicotiana</i> sp.
	<i>Solanum centrale</i>
	<i>Solanum chippendalei</i>
	<i>Solanum cleistogamum</i>
	<i>Solanum gilesii</i>
Stylidiaceae	<i>Stylidium desertorum</i>
Surianaceae	<i>Stylobasium spathulatum</i>
Violaceae	<i>Hybanthus aurantiacus</i>
Zygophyllaceae	<i>Tribulopsis angustifolia</i>
	<i>Tribulus occidentalis</i>
	<i>Zygophyllum compressum</i>

APPENDIX G

Flora Site Data Sheets

**Lake Mackay, Detailed Flora
Site LMQ2**



Described by AD **Date** 14/05/2017 **Type** Quadrat **50 x 50 m**
Location Island 2, Lake Mackay
MGA Zone 52 484963 mE 7519612 mN 128.853878 E -22.429539 S
Habitat Sandy calcrete low rise
Soil Red brown sand
Rock Type Calcrete outcropping
Vegetation *Acacia ligulata* shrubland over *Triodia schinzii* hummock grassland
Veg Condition Excellent
Fire Age Very Old (>12yrs)

SPECIES LIST:

Name	Cover	Height
<i>Acacia ligulata</i>	15	240
<i>Aristida holathera</i> var. <i>holathera</i>	1	30
<i>Boerhavia coccinea</i>		
<i>Bulbostylis barbata</i>	+	20
<i>Cleome viscosa</i>	+	50
<i>Enneapogon polyphyllus</i>	3-4	20
<i>Eremophila latrobei</i> subsp. <i>latrobei</i>	1	220
<i>Eremophila latrobei</i> subsp. <i>latrobei</i>	6-7	220
<i>Euphorbia tannensis</i> subsp. <i>eremophila</i>	+	30
<i>Ptilotus obovatus</i>		
<i>Salsola australis</i>	+	30
<i>Triodia pungens</i>	6-10	80
<i>Triraphis mollis</i>		
<i>Triumfetta winneckeana</i>		
<i>Yakirra australiensis</i> var. <i>australiensis</i>	+	15

**Lake Mackay, Detailed Flora
Site LMQ3**



Described by BM **Date** 14/04/2017 **Type** Quadrat **Size** 50 x 50 m
Location Island
MGA Zone 52 **484988 mE** **7519237 mN** **128.854117 E** **-22.432927 S**
Habitat Low dune (long linear form)
Soil Reddish brown sand
Vegetation *Acacia* sp. Lake Mackay shrubland over *Triodia pungens* hummock grassland
Veg Condition Excellent
Fire Age Very Old (>12yrs)

SPECIES LIST:

Name	Cover	Height
<i>Acacia ligulata</i>	+	250
<i>Acacia</i> sp. Lake Mackay (P.K. Latz 12836)	20-25	250
<i>Aristida holathera</i> var. <i>holathera</i>	1	30-40
<i>Bulbostylis barbata</i>	+	15
<i>Enchylaena tomentosa</i> var. <i>tomentosa</i>	1	40
<i>Eragrostis laniflora</i>	1-2	40
<i>Eremophila latrobei</i> subsp. <i>latrobei</i>	3	250
<i>Euphorbia wheeleri</i>	+	25
<i>Paractaenum refractum</i>	1	50
<i>Ptilotus latifolius</i>	+	30
<i>Ptilotus polystachyus</i>	+	20
<i>Salsola australis</i>	2-3	30
<i>Scaevola spinescens</i>	+	90
<i>Sclerolaena deserticola</i>	1	40
<i>Sida ammophila</i>	+	35
<i>Sida</i> sp. sand dunes (A.A. Mitchell PRP1208)	+	35
<i>Trianthema pilosa</i>	+	30
<i>Triodia pungens</i>	2-3	110
<i>Vittadinia eremaea</i>	+	30

Lake Mackay, Detailed Flora Site LMQ4



Described by BM **Date** 15/04/2017 **Type** Quadrat **50 x 50 m**
Location Island 2, Lake Mackay
MGA Zone 52 484824 mE 7518584 mN 128.852517 E -22.438824 S
Habitat Plain - Flat to very gently undulating plain
Soil Reddish brown sand
Rock Type Calcrete outcrop
Vegetation *Acacia ligulata* and *Melaleuca glomerata* shrubland over *Triodia pungens* open hummock grassland over *Eragrostis falcata* open tussock grassland.
Veg Condition Excellent
Fire Age Very Old (>12yrs)

SPECIES LIST:

Name	Cover	Height
<i>Abutilon otocarpum</i>	+	25
<i>Acacia ligulata</i>	8-10	250
<i>Aristida holathera</i> var. <i>holathera</i>	+	30-40
<i>Boerhavia</i> cf. <i>coccinea</i>	+	30
<i>Bulbostylis barbata</i>	1	20
<i>Cleome viscosa</i>	+	50
<i>Dactyloctenium radulans</i>	+	10
<i>Dysphania simulans</i>	+	10
<i>Enchylaena tomentosa</i> var. <i>tomentosa</i>	+	40
<i>Enneapogon polyphyllus</i>	+	20
<i>Eragrostis falcata</i>	8-10	40
<i>Eremophila latrobei</i> subsp. <i>latrobei</i>	+	160
<i>Eremophila spinescens</i>	+	20
<i>Euphorbia tannensis</i> subsp. <i>eremophila</i>	+	40-50
<i>Fimbristylis dichotoma</i>	+	20
<i>Lawrenca viridigrisea</i>	+	30
<i>Melaleuca glomerata</i>	5-6	160-250
<i>Neobassia astrocarpa</i>	+	15
<i>Paspalidium reflexum</i>	+	50
<i>Pterocaulon</i> sp.	+	20
<i>Ptilotus obovatus</i>	+	60
<i>Salsola australis</i>	+	40
<i>Scaevola spinescens</i>	2-3	150
<i>Solanum cleistogamum</i>	+	30
<i>Streptoglossa odora</i>	+	20
<i>Trianthes pilosa</i>	+	15
<i>Trianthes triquetra</i>	+	50
<i>Tribulus occidentalis</i>	+	30
<i>Triodia pungens</i>	10-12	120
<i>Zygophyllum compressum</i>	+	20

**Lake Mackay, Detailed Flora
Site LMQ5**



Described by BM **Date** 15/04/2017 **Type** Quadrat **50 x 50 m**

Location Island 1, Lake Mackay

MGA Zone 52 483614 mE 7523896 mN 128.840813 E -22.390824 S

Habitat Slight depression in narrow plain between sandy rises

Soil Reddish brown sand

Rock Type Some calcrete outcrop <2%

Vegetation *Acacia ligulata* over *Triodia pungens* open hummock grassland over *Aristida holathera*, *Eragrostis falcata* and *Fimbristylis dichotoma* grassland

Veg Condition Excellent

Fire Age Very Old (>12yrs)

SPECIES LIST:

Name	Cover	Height
<i>Acacia ligulata</i>	4-5	230
<i>Aristida holathera</i>	15-20	30
<i>Atriplex ? vesicaria</i>	+	40
<i>Atriplex limbata</i>	3-4	50
<i>Atriplex limbata</i>	+	50
<i>Boerhavia sp.</i>	+	
<i>Bulbostylis barbata</i>	1	15
<i>Centaurium clementii</i>	+	25
<i>Cleome viscosa</i>	+	50
<i>Dactyloctenium radulans</i>	+	10
<i>Enchylaena tomentosa var. tomentosa</i>	+	50
<i>Enneapogon polyphyllus</i>	+	20
<i>Eragrostis dielsii</i>	+	10
<i>Eragrostis falcata</i>	5-10	40
<i>Eragrostis laniflora</i>	+	60
<i>Eremophila spinescens</i>	1	25
<i>Euphorbia drummondii</i>		
<i>Euphorbia tannensis subsp. eremophila</i>	+	6
<i>Fimbristylis dichotoma</i>	3-4	20
<i>Frankenia cordata</i>	1	40
<i>Goodenia maideniana</i>	+	20
<i>Heliotropium ammophilum</i>	+	30
<i>Melaleuca glomerata</i>	1	190-220
<i>Neobassia astrocarpa</i>	+	30
<i>Nicotiana sp.</i>	+	60
<i>Pluchea ferdinandi-muelleri</i>	+	50
<i>Pluchea rubelliflora</i>	+	30
<i>Pterocaulon sp.</i>	+	20
<i>Salsola australis</i>	+	40
<i>Scaevola spinescens</i>	1	120
<i>Sida ammophila</i>	+	40
<i>Solanum cleistogamum</i>	+	40
<i>Streptoglossa bubakii</i>	+	30
<i>Streptoglossa odora</i>	+	30

Tecticornia tenuis
Triodia pungens

+

60
160

**Lake Mackay, Detailed Flora
Site LMQ6**



Described by BM **Date** 15/04/2017 **Type** Quadrat **Size** 50 x 50 m

Location Lake Mackay, Island 1

MGA Zone 52 481984 mE 7525362 mN 128.824995 E -22.377564 S

Habitat Plain between interdunal dunes. More elevated than Melaleuca plains.

Soil Reddish brown sand

Vegetation *Allocasuarina decaisneana* open woodland woodland over *Acacia* sp. Lake Mackay and *Acacia adsurgens* and *Melaleuca lasiandra* shrubland over *Triodia pungens* hummock grassland

Veg Condition Excellent

Fire Age Very Old (>12yrs)

SPECIES LIST:

Name	Cover	Height
<i>Acacia adsurgens</i>	1	
<i>Acacia</i> sp. Lake Mackay (P.K. Latz 12836)	1	250
<i>Allocasuarina decaisneana</i>	2	150
<i>Aristida holathera</i> var. <i>holathera</i>	1	30
<i>Boerhavia coccinea</i>		
<i>Calandrinia pleiopetala</i>		
<i>Cassytha capillaris</i>	1	60
<i>Cucumis maderaspatanus</i>	+	c
<i>Enchylaena tomentosa</i>	+	60
<i>Eragrostis eriopoda</i>	+	40
<i>Eremophila latrobei</i> subsp. <i>latrobei</i>	1	150
<i>Eremophila latrobei</i> subsp. <i>latrobei</i>	+	150
<i>Eriachne aristidea</i>	+	30
<i>Euphorbia tannensis</i> subsp. <i>eremophila</i>	+	50
<i>Hakea lorea</i> subsp. <i>lorea</i>	+	300
<i>Melaleuca lasiandra</i>	4-5	150
<i>Oldenlandia pterospora</i>	+	20
<i>Pluchea ferdinandi-muelleri</i>	+	30
<i>Ptilotus calostachyus</i>	+	40
<i>Ptilotus fusiformis</i>	+	30
<i>Ptilotus polystachyus</i>	+	40
<i>Senna artemisioides</i> subsp. <i>oligophylla</i>	+	80
<i>Sida intricata</i>	+	20
<i>Sida</i> sp. Rabbit Flat (B.J. Carter 626)	+	20
<i>Streptoglossa bubakii</i>	+	10
<i>Stylobasium spathulatum</i>	1	280
<i>Tephrosia</i> sp. deserts	+	c
<i>Trianthera pilosa</i>	+	35
<i>Tribulus angustifolius</i>	+	10
<i>Triodia basedowii</i>	+	100
<i>Triodia pungens</i>	30-40	160
<i>Yakirra australiensis</i> var. <i>australiensis</i>	+	15

**Lake Mackay, Detailed Flora
Site LMQ7**



Described by BM **Date** 16/04/2017 **Type** Quadrat **50 x 50 m**
Location Proposed Infrastructure, West
MGA Zone 52 441093 mE 7499578 mN 128.426836 E -22.609568 S
Habitat Interdunal plain
Soil Reddish brown sand
Vegetation *Frankenia cordata* low open shrubland with *Triodia salina* hummock grassland and *Eragrostis falcata*, *Dactyloctenium radulans* very open tussock grassland.
Veg Condition Excellent
Fire Age Very Old (>12yrs)
Notes Quadrat includes depressions which may form flow areas

SPECIES LIST:

Name	Cover	Height
<i>Aristida holathera</i>	+	30
<i>Atriplex ? vesicaria</i>	+	40
<i>Bulbostylis barbata</i>	+	15-20
<i>Calocephalus platycephalus</i>	+	12
<i>Corchorus sidoides</i>	+	35
<i>Cucumis maderaspatanus</i>	+	40
<i>Cyperus blakeanus</i>	+	40
<i>Cyperus bulbosus</i>	1	30
<i>Cyperus squarrosus</i>	+	12
<i>Dactyloctenium radulans</i>	+	15-20
<i>Dysphania sphaerosperma</i>	+	12
<i>Eragrostis falcata</i>	8-10	40
<i>Eragrostis falcata</i>	+	20
<i>Eremophila spinescens</i>	1	30
<i>Eriachne aristidea</i>	+	30
<i>Euphorbia boophthona</i>	+	40
<i>Fimbristylis dichotoma</i>	+	40
<i>Frankenia cordata</i>	3-4	30
<i>Heliotropium ammophilum</i>	+	20
<i>Iseilema dolichotrichum</i>	+	10
<i>Lawrenca viridigrisea</i>	+	60
<i>Macgregoria racemigera</i>	+	10-12
<i>Maireana luehmannii</i>	+	15-20
<i>Pluchea rubelliflora</i>	+	15
<i>Polycarpaea corymbosa</i>	+	20
<i>Pterocaulon sphacelatum</i>	+	20
<i>Sclerolaena crenata</i>	+	15
<i>Sclerolaena crenata</i>	+	20
<i>Streptoglossa bubakii</i>	+	30
<i>Streptoglossa decurrens</i>	+	20
<i>Stylidium desertorum</i>	+	15
<i>Tecticornia indica subsp. leiostachya</i>	1	30

<i>Trianthema triquetra</i>	+	6
<i>Triodia salina</i>	30-40	40
<i>Yakirra australiensis</i> var. <i>australiensis</i>	+	10

**Lake Mackay, Detailed Flora
Site LMQ8**



Described by AD **Date** 16/04/2017 **Type** Quadrat **50 x 50 m**
Location Proposed infrastructure area, west
MGA Zone 52 442679 mE 7500315 mN 128.442294 E -22.602964 S
Habitat Plain between lake and dune
Soil Reddish brown sand
Vegetation *Frankenia cordata* low open shrubland *Triodia salina* and *Triodia pungens* hummock grassland over *Eragrostis falcata* low tussock grassland.
Veg Condition Excellent
Notes Dog tracks
Fire Age Very Old (>12yrs)

SPECIES LIST:

Name	Cover	Height
<i>Aristida holathera</i> var. <i>holathera</i>	+	30
<i>Bulbostylis barbata</i>	1	15
<i>Calandrinia pleiopetala</i>		
<i>Calocephalus platycephalus</i>	+	20
<i>Dactyloctenium radulans</i>	+	10
<i>Dysphania simulans</i>	+	10
<i>Eragrostis eriopoda</i>	+	15
<i>Eragrostis falcata</i>	10	30
<i>Eremophila</i> sp.	+	10
<i>Eremophila spinescens</i>	+	15
<i>Eriachne aristidea</i>	+	15
<i>Eriachne aristidea</i>	+	20
<i>Euphorbia wheeleri</i>	+	10-15
<i>Frankenia cordata</i>	2-3	20-30
<i>Heliotropium ammophilum</i>	+	30
<i>Lawrenca viridigrisea</i>	1	30-90
<i>Maireana luehmannii</i>	1	20
<i>Maireana luehmannii</i>	1	20
<i>Mollugo cerviana</i>	+	10
<i>Pluchea ferdinandi-muelleri</i>	+	30-50
<i>Pluchea rubelliflora</i>	+	5
<i>Sclerolaena crenata</i>	1	20-25
<i>Sida ammophila</i>	+	20-30
<i>Streptoglossa odora</i>	1	15-20
<i>Synaptantha tillaeacea</i> var. <i>hispidula</i>	+	15
<i>Triodia pungens</i>	25	
<i>Triodia salina</i>		
<i>Triodia salina</i>	20-30	80

**Lake Mackay, Detailed Flora
Site LMQ10**



Described by BM **Date** 16/04/2017 **Type** Quadrat **Quadrat** 50 x 50 m
Location Proposed infrastructure west
MGA Zone 52 444983 mE 7499325 mN 128.464675 E -22.611984 S
Habitat Interdunal plain (swale) between low parallel dunes
Soil Red sand
Vegetation *Eucalyptus gamophylla* open woodland over *Melaleuca lasiandra* and *Acacia ligulata* shrubland over *Triodia basedowii* hummock grassland
Veg Condition Excellent
Notes Disturbance: fire close to area

Fire Age Very Old (>12yrs)

SPECIES LIST:

Name	Cover	Height
<i>Abutilon otocarpum</i>	+	45
<i>Acacia ligulata</i>	8	280
<i>Acacia melleodora</i>	+	100
<i>Aristida holathera</i> var. <i>holathera</i>	+	60
<i>Cucumis maderaspatanus</i>	+	c
<i>Eragrostis laniflora</i>	+	35
<i>Eremophila latrobei</i> subsp. <i>latrobei</i>	+	100
<i>Eremophila platythamnus</i> subsp. <i>exotrachys</i>		70
<i>Eriachne aristidea</i>	+	20
<i>Eucalyptus gamophylla</i>	2-3	300
<i>Euphorbia tannensis</i> subsp. <i>eremophila</i>	+	60
<i>Grevillea stenobotrya</i>	+	180
<i>Heliotropium ammophilum</i>	+	30-50
<i>Melaleuca lasiandra</i>	+	200
<i>Ptilotus obovatus</i>	+	35
<i>Salsola australis</i>	+	30
<i>Scaevola parvifolia</i> subsp. <i>parvifolia</i>	+	30
<i>Scaevola spinescens</i>	+	160
<i>Senna artemisioides</i> subsp. <i>oligophylla</i>	+	80
<i>Stylobasium spathulatum</i>	+	150
<i>Triodia basedowii</i>	40	80-100
<i>Yakirra australiensis</i> var. <i>australiensis</i>	+	15

**Lake Mackay, Detailed Flora
Site LMQ11**



Described by BM **Date** 17/04/2017 **Type** Quadrat **50 x 50 m**
MGA Zone 52 **463001 mE** **7484223 mN** **128.639634 E** **-22.748898 S**
Habitat Plain (broad flat plain)
Soil Reddish brown sand
Vegetation *Acacia ligulata* over *Triodia basedowii* hummock grassland
Veg Condition Excellent
Fire Age Very Old (>12yrs)

SPECIES LIST:

Name	Cover	Height
<i>Acacia ligulata</i>	3-4	190-300
<i>Aristida holathera</i>	1-2	35
<i>Cleome viscosa</i>	+	20
<i>Corchorus sidioides</i>	+	35
<i>Corymbia opaca</i>	1-2	350
<i>Enneapogon polyphyllus</i>	+	15
<i>Eragrostis eriopoda</i>	5-6	40
<i>Eriachne aristidea</i>	+	35
<i>Eucalyptus gamophylla</i>	1	120
<i>Euphorbia biconvexa</i>	+	30
<i>Euphorbia tannensis</i> subsp. <i>eremophila</i>	+	60
<i>Euphorbia vaccaria</i>	+	3
<i>Hakea divaricata</i>	+	205
<i>Heliotropium ammophilum</i>	+	35
<i>Hibiscus leptocladus</i>	+	40
<i>Hibiscus sturtii</i> var. <i>platychlamys</i>	+	30
<i>Melhania oblongifolia</i>	+	30
<i>Paraneurachne muelleri</i>	+	40
<i>Pluchea ferdinandi-muelleri</i>	+	80
<i>Polygala</i> sp. <i>Prostrate</i> (P.K. Latz 4900)	+	5
<i>Ptilotus clementii</i>	+	35
<i>Ptilotus obovatus</i>	+	20
<i>Scaevola amblyanthera</i>	+	20
<i>Senna artemisioides</i> subsp. <i>oligophylla</i>	15	110-160
<i>Sida echinocarpa</i>	+	50
<i>Streptoglossa bubakii</i>	+	20
<i>Streptoglossa macrocephala</i>	+	80
<i>Stylobasium spathulatum</i>	+	120
<i>Tephrosia</i> sp.	+	5
<i>Triodia basedowii</i>	10-12	50
<i>Vittadinia eremaea</i>	+	20

**Lake Mackay, Detailed Flora
Site LMQ12**



Described by AD **Date** 16/04/2017 **Type** Quadrat **30**
x 70 m Location Proposed infrastructure west
MGA Zone 52 442370 mE 7499196 mN 128.439247 E -22.613062 S
Habitat Dune crest
Soil Red sand
Vegetation *Acacia ligulata* and *Acacia* sp. Lake Mackay shrubland over *Aristida holathera* tussock grassland and *Triodia basedowii* hummock grassland
Veg Condition Excellent
Fire Age Old (8-12yrs)
Notes 30m x 70m to fit on dune vegetation and a recent fire close to quadrat on plain

SPECIES LIST:

Name	Cover	Height
<i>Acacia ligulata</i>	5-6	280
<i>Acacia</i> sp. Lake Mackay (P.K. Latz 12836)	12	280
<i>Aristida holathera</i>	1	40
<i>Aristida holathera</i> var. <i>holathera</i>	+	50
<i>Bulbostylis barbata</i>	+	20
<i>Cucumis maderaspatanus</i>	+	c
<i>Dactyloctenium radulans</i>	+	10
<i>Dicrastylis doranii</i>	+	150
<i>Eremophila willsii</i> subsp. <i>willsii</i>	+	100
<i>Eriachne aristidea</i>	+	25
<i>Euphorbia tannensis</i> subsp. <i>eremophila</i>	+	60
<i>Euphorbia wheeleri</i>	+	15
<i>Grevillea stenobotrya</i>	2	300
<i>Heliotropium ammophilum</i>		
<i>Indigofera georgei</i>	2	60
<i>Oldenlandia pterospora</i>	+	10
<i>Paractaenum refractum</i>	+	50
<i>Salsola australis</i>	+	30-60
<i>Senna artemisioides</i> subsp. <i>oligophylla</i>	+	100
<i>Sida</i> sp. Rabbit Flat (B.J. Carter 626)	+	20
<i>Stylidium desertorum</i>	+	50
<i>Stylobasium spathulatum</i>	1	120
<i>Trianthema pilosa</i>	+	10
<i>Triodia basedowii</i>	+	150
<i>Triodia basedowii</i>	1	80
<i>Triodia basedowii</i>	20-25	80
<i>Yakirra australiensis</i> var. <i>australiensis</i>	+	10

**Lake Mackay, Detailed Flora
Site LMQ13**



Described by BM
x 50 m **Location** Proposed track
MGA Zone 52 461002 mE 7477697 mN 128.620001 E -22.807806 S
Habitat Dune crest
Soil Red sand
Vegetation *Corymbia chippendalei* over *Acacia melleodora* shrubland over *Triodia basedowii* and *Aristida holathera* grassland
Veg Condition Excellent
Fire Age Old (8-12yrs)

SPECIES LIST:

Name	Cover	C Class	Height
<i>Acacia melleodora</i>	+		170
<i>Aristida holathera</i>	1-2		40
<i>Calytrix carinata</i>	+		50
<i>Corymbia chippendalei</i>	4-5		400
<i>Crotalaria cunninghamii</i>	+		20
<i>Cullen martinii</i>	+		30
<i>Dicrastylis doranii</i>	1		60
<i>Eragrostis eriopoda</i>	+		40
<i>Eriachne aristidea</i>	+		40
<i>Euphorbia wheeleri</i>	+		30
<i>Grevillea stenobotrya</i>	+		200
<i>Oldenlandia pterospora</i>	+		15
<i>Paractaenum refractum</i>	5-7		120
<i>Paractaenum refractum</i>	+		30
<i>Sida sp. sand dunes (A.A. Mitchell PRP1208)</i>	4-5		90
<i>Sida sp. sand dunes (A.A. Mitchell PRP1208)</i>	+		70
<i>Solanum gilesii</i>	+		40
<i>Trianthema pilosa</i>	+		15
<i>Triodia basedowii</i>	+		100

**Lake Mackay, Detailed Flora
Site LMQ14**



Described by AD **Date** 17/04/2017 **Type** Quadrat 30 x 70m
Location Proposed infrastructure east
MGA Zone 52 463844 mE 7494115 mN 128.648073 E -22.659556 S
Habitat Dune crest
Soil Red brown sand
Vegetation *Acacia* sp. Lake Mackay shrubland over *Troidia basedowii* hummock grassland
Veg Condition Excellent
Notes 30m x 70m to capture dune vegetation
 Fire Age Old (8-12yrs)

SPECIES LIST:

Name	Cover	Height
<i>Acacia</i> sp, Lake Mackay	+	20
<i>Calocephalus platycephalus</i>	+	20
<i>Cucumis maderaspatanus</i>	+	c
<i>Eragrostis eriopoda</i>	+	35
<i>Eragrostis laniflora</i>	1	35
<i>Eriachne aristidea</i>	+	30
<i>Eriachne aristidea</i>	+	25
<i>Euphorbia wheeleri</i>	+	15
<i>Indigofera georgei</i>	+	60-80
<i>Oldenlandia pterospora</i>	+	15
<i>Ptilotus latifolius</i>	+	30
<i>Ptilotus polystachyus</i>	+	35
<i>Salsola australis</i>	+	40
<i>Sida rohlenae</i> subsp. <i>rohlenae</i>	+	20
<i>Sida</i> sp. sand dunes (A.A. Mitchell PRP1208)	+	100
<i>Stylobasium spathulatum</i>	1	150
<i>Trianthema pilosa</i>	1	15
<i>Trichodesma zeylanicum</i>	+	20
<i>Troidia basedowii</i>	20-30	80-100
<i>Triumfetta winneckeana</i>	+	30

**Lake Mackay, Detailed Flora
Site LMQ15**

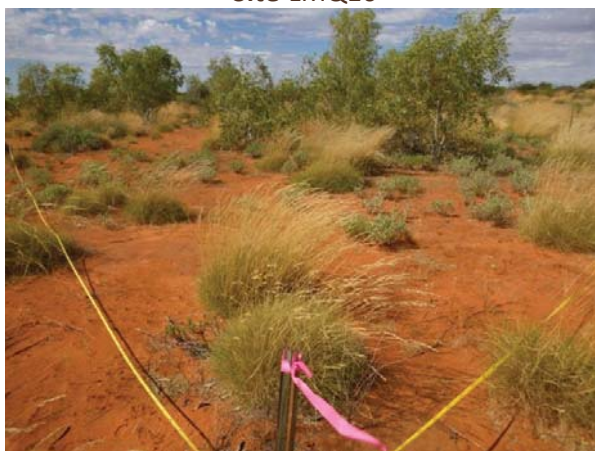


Described by BM **Date** 18/04/2017 **Type** Quadrat **50 x 50 m**
Location Proposed access track
MGA Zone 52 455291 mE 7468540 mN 128.564090 E -22.890381 S
Habitat Plain
Soil Reddish brown sand
Vegetation *Corymbia opaca* over *Acacia ancistrocarpa* shrubland over *Triodia basedowii* hummock grassland
Veg Condition Excellent
Fire Age Moderate (4-8yrs)

SPECIES LIST:

Name	Cover	Height
<i>Acacia ?adsurgens</i>	1	160
<i>Acacia ancistrocarpa</i>	2	200
<i>Acacia elachantha</i>	+	180
<i>Aristida holathera</i> var. <i>holathera</i>	+	40
<i>Bulbostylis barbata</i>	+	15
<i>Corymbia opaca</i>	1	450
<i>Dicrastylis exsuccosa</i>	+	40
<i>Eriachne aristidea</i>	+	30
<i>Euphorbia vaccaria</i>	+	12
<i>Goodenia armitiana</i>	+	20
<i>Grevillea stenobotrya</i>	+	160
<i>Hakea divaricata</i>	+	240
<i>Hibiscus brachychlaenus</i>	+	180
<i>Nicotiana</i> sp.	+	30
<i>Polygala</i> sp. <i>Prostrate</i> (P.K. Latz 4900)	+	5
<i>Ptilotus calostachyus</i>	+	60
<i>Scaevola parvifolia</i> subsp. <i>parvifolia</i>	+	25
<i>Senna notabilis</i>	+	5
<i>Streptoglossa macrocephala</i>	+	60
<i>Tephrosia</i> sp. <i>Bungaroo Creek</i> (M.E. Trudgen 11601)	+	40
<i>Triodia basedowii</i>	30-40	40

**Lake Mackay, Detailed Flora
Site LMQ16**



Described by AD **Date** 17/04/2017 **Type** Quadrat 50 x 50m
MGA Zone 52 465050 mE 7493925 mN 128.659807 E -22.661298 S

Habitat Interdunal plain between low parallel dunes

Soil Red brown sand

Vegetation *Eucalyptus victrix* open woodland over *Melaleuca lasiandra* shrubland over *Triodia basedowii* and *Triodia salina* hummock grassland over *Calandrinia pleiopetala* herbland.

Veg Condition Excellent

Fire Age Moderate (4-8yrs)

SPECIES LIST:

Name	Cover	Height
<i>Abutilon otocarpum</i>	+	30
<i>Aristida holathera</i>	+	40
<i>Bulbostylis barbata</i>	1	15
<i>Calandrinia pleiopetala</i>	1	15
<i>Cleome viscosa</i>	+	40
<i>Codonocarpus cotinifolius</i>		
<i>Dactyloctenium radulans</i>	+	
<i>Enchylaena tomentosa</i> var. <i>tomentosa</i>	+	50
<i>Eragrostis eriopoda</i>	+	40
<i>Eragrostis laniflora</i>	+	40
<i>Eremophila latrobei</i> subsp. <i>latrobei</i>	+	200
<i>Eriachne aristidea</i>	+	
<i>Eucalyptus victrix</i>	10	550
<i>Euphorbia tannensis</i> subsp. <i>eremophila</i>	+	50
<i>Fimbristylis depauperata</i>	+	60
<i>Grevillea stenobotrya</i>	+	100
<i>Heliotropium ammophilum</i>	+	30
<i>Melaleuca lasiandra</i>	+	80
<i>Melaleuca lasiandra</i>	+	150
<i>Oldenlandia pterospora</i>	+	15
<i>Paspalidium clementii</i>	+	40-50
<i>Pluchea ferdinandi-muelleri</i>	1	40
<i>Pluchea ferdinandi-muelleri</i>	2-3	50
<i>Polycarpaea corymbosa</i>	+	20
<i>Ptilotus polystachyus</i>	+	30
<i>Scaevola spinescens</i>	+	80
<i>Sclerolaena crenata</i>	+	20
<i>Sida intricata</i>		
<i>Solanum centrale</i>	+	90
<i>Streptoglossa macrocephala</i>	+	30
<i>Streptoglossa odora</i>	+	25
<i>Stylobasium spathulatum</i>	1	120
<i>Trianthea pilosa</i>	+	15
<i>Trianthea triquetra</i>	+	15
<i>Triodia basedowii</i>	15	80
<i>Triodia salina</i>	20-25	90

**Lake Mackay, Detailed Flora
Site LMQ18**



Described by AD **Date** 17/04/2017 **Type** Quadrat **Size** 50 x 50m
Location Proposed infrastructure track
MGA Zone 52 464250 mE 7490849 mN 128.651950 E -22.689069 S
Habitat Plain between dunes
Soil Red brown sand
Vegetation Open shrubland of *Acacia ancistrocarpa* and *Eucalyptus gamophylla* over *Triodia basedowii* and *Triodia salina* hummock grassland
Veg Condition Excellent
Fire Age Moderate (4-8yrs)

SPECIES LIST:

Name	Cover	Height
<i>Abutilon otocarpum</i>	+	30
<i>Acacia ancistrocarpa</i>	5	150
<i>Aristida holathera</i>	+	30
<i>Atriplex limbata</i>	+	
<i>Bulbostylis barbata</i>	+	15
<i>Calandrinia pleiopetala</i>	+	15
<i>Carissa lanceolata</i>	3	180
<i>Cleome viscosa</i>	+	40-50
<i>Eragrostis dielsii</i>	+	15
<i>Eragrostis eriopoda</i>	+	
<i>Eremophila longifolia</i>		
<i>Eucalyptus gamophylla</i>	3	280
<i>Goodenia armitiana</i>	+	50
<i>Heliotropium ammophilum</i>	1	40
<i>Indigofera georgei</i>	+	70
<i>Macgregoria racemigera</i>	+	10
<i>Melaleuca lasiandra</i>	+	180
<i>Paspalidium clementii</i>	2	20
<i>Pluchea ferdinandi-muelleri</i>	+	80
<i>Portulaca oleracea</i>	+	20
<i>Sclerolaena crenata</i>	+	20
<i>Sida arenicola</i>	+	100
<i>Solanum centrale</i>	+	40
<i>Streptoglossa macrocephala</i>	+	50
<i>Stylidium desertorum</i>	+	15
<i>Stylobasium spathulatum</i>	1	180
<i>Triodia basedowii</i>	25	80
<i>Triodia salina</i>	25	80

Lake Mackay, Detailed Flora
Site LMQ19



Described by BM **Date** 21/04/2017 **Type** Quadrat **50 x 50 m**

Location Lake Mackay

MGA Zone 52 462796 mE 7487230 mN 128.637709 E -22.721730 S

Habitat Plain between dunes

Soil Reddish brown loamy sand

Vegetation *Eucalyptus gamophylla* over *Acacia ligulata* and *Senna artemisioides* subsp. *oligophylla* shrubland over *Triodia basedowii* hummock grassland.

Veg Condition Excellent

Fire Age Moderate (4-8yrs)

SPECIES LIST:

Name	Cover	Height
<i>Abutilon otocarpum</i>	+	20
<i>Acacia ancistrocarpa</i>	+	150
<i>Acacia ligulata</i>	9	150
<i>Acacia pruinocarpa</i>	+	150
<i>Acacia tenuissima</i>	+	180
<i>Aristida holathera</i>	+	30
<i>Cleome viscosa</i>	+	50
<i>Corchorus sidoides</i>	+	30
<i>Cucumis maderaspatanus</i>	+	c
<i>Eragrostis eriopoda</i>	+	
<i>Eriachne aristidea</i>	+	30
<i>Eucalyptus gamophylla</i>	3-4	280
<i>Euphorbia biconvexa</i>	+	25
<i>Euphorbia tannensis</i> subsp. <i>eremophila</i>	+	20
<i>Euphorbia vaccaria</i>	+	20
<i>Heliotropium ammophilum</i>	1	40
<i>Hibiscus sturtii</i> var. <i>platyclamys</i>	+	40
<i>Portulaca oleracea</i>	+	10
<i>Ptilotus obovatus</i> var. <i>obovatus</i>	+	30
<i>Ptilotus polystachyus</i>	+	20
<i>Senna artemisioides</i> subsp. <i>oligophylla</i>	1	180
<i>Senna notabilis</i>	+	30
<i>Sida cardiophylla</i>	+	20
<i>Sida echinocarpa</i>	+	25
<i>Sida fibulifera</i>	+	30
<i>Streptoglossa decurrens</i>	+	20
<i>Streptoglossa macrocephala</i>	+	50
<i>Stylobasium spathulatum</i>	+	180
<i>Tephrosia</i> sp. <i>deserts</i>	+	20
<i>Trianthema pilosa</i>	+	10
<i>Trichodesma zeylanicum</i>	+	20
<i>Triodia basedowii</i>	40	100
<i>Yakirra australiensis</i> var. <i>australiensis</i>	+	

Lake Mackay, Detailed Flora
Site LMQ21



Described by BM **Date** 21/04/2017 **Type** Quadrat **50**
x 50 m Location Lake Mackay
MGA Zone 52 **461388 mE** **7486400 mN** **128.623977 E** **-22.729196 S**

Habitat Plain
Soil Reddish brown clay loam

Vegetation *Eucalyptus victrix* low woodland over *Acacia ligulata* and *Senna artemisioides* subsp. *oligophylla* shrubland over *Triodia basedowii* hummock grassland.

Veg Condition Excellent
Fire Age Moderate (4-8 yrs)

Notes

SPECIES LIST:

Name	Cover	Height
<i>Abutilon otocarpum</i>	+	45
<i>Acacia ?adsurgens</i>	+	230
<i>Acacia ligulata</i>	6	350
<i>Boerhavia coccinea</i>	+	15
<i>Bulbostylis barbata</i>	+	15
<i>Calandrinia pleiopetala</i>	+	10
<i>Cleome viscosa</i>	+	40
<i>Corchorus sidoides</i>	+	20
<i>Cucumis maderaspatanus</i>	+	130
<i>Enchylaena tomentosa</i>	+	40
<i>Enneapogon polyphyllus</i>		
<i>Eragrostis laniflora</i>	+	
<i>Eriachne aristidea</i>	+	20
<i>Eucalyptus victrix</i>	15-18	700
<i>Euphorbia boophthona</i>	+	40
<i>Euphorbia vaccaria</i>	+	25
<i>Evolvulus alsinoides</i> var. <i>villosicalyx</i>	+	20
<i>Exocarpos sparteus</i>		
<i>Hibiscus brachychlaenus</i>	+	
<i>Hibiscus leptocladus</i>	+	20
<i>Indigofera linifolia</i>	+	
<i>Melaleuca glomerata</i>	1-2	220
<i>Pluchea ferdinandi-muelleri</i>	+	50
<i>Pluchea ferdinandi-muelleri</i>	+	40
<i>Polycarpaea corymbosa</i>		
<i>Portulaca oleracea</i>	+	12
<i>Pterocaulon</i> sp.	+	20
<i>Ptilotus polystachyus</i>	+	40
<i>Rhagodia eremaea</i>	+	150
<i>Senna artemisioides</i> subsp. <i>oligophylla</i>	3-5	180
<i>Senna notabilis</i>	+	
<i>Sida arenicola</i>	+	30
<i>Sida cardiophylla</i>	+	
<i>Sida echinocarpa</i>	+	100
<i>Sida</i> sp. <i>Rabbit Flat</i> (B.J. Carter 626)	+	

<i>Solanum chippendalei</i>	+	20
<i>Solanum chippendalei</i>	+	50
<i>Streptoglossa bubakii</i>	+	30
<i>Streptoglossa decurrens</i>	+	20
<i>Streptoglossa macrocephala</i>	+	40
<i>Stylobasium spathulatum</i>	+	100
<i>Triodia basedowii</i>	8	
<i>Yakirra australiensis</i> var. <i>australiensis</i>	+	

**Lake Mackay, Detailed Flora
Site LMQ22**



Described by AD **Date** 18/04/2017 **Type** Quadrat **50 x 50 m**
MGA Zone 52 453456 mE 7465672 mN 128.546113 E -22.916239 S

Habitat Dune crest

Soil Red sand

Vegetation *Corymbia chippendalei* low woodland over *Acacia melleodora* and *Grevillea stenobotrya* shrubland over *Triodia basedowii* hummock grassland over open tussock grassland

Veg Condition Excellent

Fire Age Old (8-12yrs)

SPECIES LIST:

Name	Cover	Height
<i>Acacia melleodora</i>	2	280
<i>Aenictophyton reconditum</i>	+	60
<i>Aristida holathera</i>	2	50
<i>Calytrix carinata</i>	1	60
<i>Chamaecrista symonii</i>	+	30
<i>Corymbia chippendalei</i>	10	600
<i>Cucumis maderaspatanus</i>	+	c
<i>Dampiera cinerea</i>	+	80
<i>Dicrastylis doranii</i>	+	50
<i>Eragrostis eriopoda</i>	+	40
<i>Gompholobium simplicifolium</i>	+	50-60
<i>Grevillea stenobotrya</i>	1	200
<i>Grevillea stenobotrya</i>	1	320
<i>Oldenlandia pterospora</i>	+	20
<i>Paractaenum refractum</i>	5-10	90
<i>Paractaenum refractum</i>	+	30
<i>Sida sp. sand dunes</i> (A.A. Mitchell PRP1208)	+	90
<i>Sida sp. sand dunes</i> (A.A. Mitchell PRP1208)	+	100
<i>Trianthema pilosa</i>	+	20
<i>Triodia basedowii</i>	5-10	80
<i>Triumfetta winneckeana</i>	+	
<i>Yakirra australiensis</i> var. <i>australiensis</i>	+	15

Lake Mackay, Detailed Flora
Site LMQ25



Described by BM **Date** 23/04/2017 **Type** Quadrat **Size** 50 x 50 m
Location Proposed infrastructure east
MGA Zone 52 439128 mE 7489117 mN 128.407312 E -22.703996 S
Habitat Plain
Soil Reddish brown loamy sand
Vegetation *Corymbia opaca* over *Acacia ancistrocarpa* shrubland over *Triodia basedowii* hummock grassland
Veg Condition Excellent
Fire Age Moderate (4-8yrs)
Notes 6-8 years since fire

SPECIES LIST:

Name	Cover	Height
<i>Acacia ancistrocarpa</i>	1-2	160
<i>Acacia ligulata</i>	1	170
<i>Aristida holathera</i>	+	40
<i>Boerhavia coccinea</i>	+	12
<i>Bulbostylis barbata</i>	+	15
<i>Cleome viscosa</i>	+	30-50
<i>Codonocarpus cotinifolius</i>	+	180
<i>Corymbia opaca</i>	+	130
<i>Dicrastylis exsuccosa</i>	+	
<i>Dysphania ?rhadinostachya</i>	+	30
<i>Eragrostis eriopoda</i>	+	40
<i>Eriachne aristidea</i>	+	20-35
<i>Euphorbia tannensis</i> subsp. <i>eremophila</i>	+	45
<i>Frankenia cordata</i>	+	25
<i>Goodenia armitiana</i>		
<i>Goodenia modesta</i> (P3)	+	10
<i>Grevillea stenobotrya</i>	+	150
<i>Hakea divaricata</i>	+	160
<i>Heliotropium glabellum</i>	+	
<i>Hibiscus brachychlaenus</i>	+	90
<i>Melaleuca lasiandra</i>	+	160
<i>Paraneurachne muelleri</i>	+	40
<i>Pluchea ferdinandi-muelleri</i>	+	70
<i>Polycarpaea corymbosa</i>	+	15
<i>Polygala</i> sp. <i>Prostrate</i> (P.K. Latz 4900)	+	10
<i>Portulaca oleracea</i>	+	15-20
<i>Ptilotus calostachyus</i>	+	40
<i>Ptilotus clementii</i>	+	40
<i>Ptilotus fusiformis</i>	+	25
<i>Senna notabilis</i>	+	10
<i>Sida arenicola</i>	+	45
<i>Sida cardiophylla</i>	+	40
<i>Sida echinocarpa</i>	+	60
<i>Streptoglossa bubakii</i>	+	15-20
<i>Streptoglossa macrocephala</i>	+	60-80
<i>Tephrosia</i> sp. <i>deserts</i>	+	20

Triodia basedowii

35-40

30-40

Yakirra australiensis var. *australiensis*

+

10

Lake Mackay, Detailed Flora
Site LMQ26



Described by AD **Date** 22/04/2017 **Type** Quadrat 50 x 50 m
MGA Zone 52 462840 mE 7493233 mN 128.638280 E -22.667502 S
Soil Red brown loam sand
Vegetation *Eucalyptus pachyphylla* shrubland over *Triodia basedowii* hummock grassland
Veg Condition Excellent
Notes Disturbance: Camels
 Fire Age Moderate (4-8yrs)

SPECIES LIST:

Name	Cover	Height
<i>Abutilon otocarpum</i>	+	20
<i>Bulbostylis barbata</i>	+	15
<i>Calandrinia pleiopetala</i>	+	10
<i>Carissa lanceolata</i>	+	20
<i>Cleome viscosa</i>	+	45
<i>Cucumis maderaspatanus</i>	+	80
<i>Enchylaena tomentosa</i>	+	40
<i>Eriachne aristidea</i>	+	20
<i>Eucalyptus gamophylla</i>	+	180
<i>Eucalyptus pachyphylla</i>	9-10	230
<i>Euphorbia boophthona</i>	+	40
<i>Fimbristylis depauperata</i>	+	40
<i>Macgregoria racemigera</i>	+	10
<i>Oldenlandia pterospora</i>	+	30
<i>Pluchea ferdinandi-muelleri</i>	+	60
<i>Polycarpaea corymbosa</i>		
<i>Portulaca oleracea</i>	+	20
<i>Ptilotus obovatus</i>	+	50
<i>Ptilotus polystachyus</i>	+	20
<i>Ptilotus polystachyus</i>	+	40
<i>Rhagodia eremaea</i>	+	50
<i>Sclerolaena crenata</i>	+	20
<i>Senna artemisioides</i> subsp. <i>oligophylla</i>	1	180
<i>Senna artemisioides</i> subsp. <i>oligophylla</i> x <i>sericea</i>	+	50
<i>Sida echinocarpa</i>	+	50
<i>Sida intricata</i>	+	c
<i>Streptoglossa decurrens</i>	+	20
<i>Streptoglossa macrocephala</i>	+	40
<i>Stylobasium spathulatum</i>		
<i>Trianthena pilosa</i>	+	15
<i>Trianthena triquetra</i>	+	15
<i>Triodia basedowii</i>	30-35	90
<i>Yakirra australiensis</i> var. <i>australiensis</i>	+	15

**Lake Mackay, Detailed Flora
Site LMQ27**



Described by BM **Date** 22/04/2017 **Type** Quadrat **Size** 50 x 50 m

Location In southern linear tenement

MGA Zone 52 430054 mE 7481358 mN 128.318619 E -22.773732 S

Habitat Gently undulating plain

Soil Red sandy loam

Rock Type Sandstone and granite?

Vegetation *Corymbia candida* subsp. *candida*, *Corymbia opaca*, *Eucalyptus pachyphylla* and *Acacia elecantha* shrubland over

Veg Condition Excellent

Notes Disturbance: Close to track

Fire Age Moderate (4-8yrs)

SPECIES LIST:

Name	Cover	Height
<i>Abutilon otocarpum</i>	+	45
<i>Acacia ?adsurgens</i>	+	300
<i>Acacia ancistrocarpa</i>	+	280
<i>Acacia elachantha</i>	8	250
<i>Acacia ligulata</i>	+	190
<i>Acacia maitlandii</i>		
<i>Aristida holathera</i>	+	40
<i>Bergia ammannioides</i>	+	20
<i>Bonamia erecta</i>	+	40
<i>Bulbostylis barbata</i>	+	15
<i>Corchorus sidoides</i>	+	20
<i>Corymbia candida</i> subsp. <i>dipsodes</i>	1	500
<i>Corymbia opaca</i>	1	500
<i>Cucumis maderaspatanus</i>	+	c
<i>Dicrastylis exsuccosa</i>	+	40
<i>Diplopeltis stuartii</i> var. <i>stuartii</i>	+	30
<i>Dodonaea coriacea</i>	+	60
<i>Eucalyptus pachyphylla</i>	3-4	380
<i>Euphorbia drummondii</i>		
<i>Euphorbia tannensis</i> subsp. <i>eremophila</i>	+	30
<i>Evolvulus alsinoides</i> var. <i>villosicalyx</i>	+	20
<i>Fimbristylis depauperata</i>	+	35
<i>Fimbristylis oxystachya</i>	+	20
<i>Gonocarpus eremophilus</i>	+	30
<i>Goodenia modesta</i> (P3)	+	15
<i>Goodenia virgata</i> (P2)	+	25
<i>Hakea divaricata</i>	+	150
<i>Halgania gustafsenii</i>	+	50
<i>Hybanthus aurantiacus</i>	+	15
<i>Isotropis atropurpurea</i>	+	35
<i>Keraudrenia velutina</i> subsp. <i>elliptica</i>	+	35
<i>Macgregoria racemigera</i>	+	15
<i>Melaleuca lasiantha</i>	+	120
<i>Muelleranthus stipularis</i>	+	20
<i>Oldenlandia pterospora</i>	+	50
<i>Oldenlandia pterospora</i>	+	25
<i>Paractaenum refractum</i>		

<i>Paraneurachne muelleri</i>	+	40
<i>Polygala sp. Prostrate</i> (P.K. Latz 4900)	+	20
<i>Ptilotus fusiformis</i>	+	30
<i>Senna curvistyla</i>		
<i>Senna notabilis</i>	+	20
<i>Stackhousia intermedia</i>	+	30
<i>Stylidium desertorum</i>	+	10
<i>Triodia basedowii</i>	35-40	80
<i>Yakirra australiensis var. australiensis</i>	+	10

**Lake Mackay, Detailed Flora
Site LMQ28**



Described by AD **Date** 23/04/2017 **Type** Quadrat **50 x 50 m**
Location North of linear tenement, Lake Mackay
MGA Zone 52 436009 mE 7490070 mN 128.376983 E -22.695272 S
Habitat Plain
Soil Red brown sand
Vegetation *Corymbia opaca* over *Eucalyptus pachyphylla* over *Hakea divaricata* and *Acacia ancistrocarpa* shrubland over *Triodia basedowii* hummock grassland
Veg Condition Excellent
Fire Age Young (1-4yrs)

SPECIES LIST:

Name	Cover	Height
<i>Acacia ?adsurgens</i>	1	150
<i>Acacia ancistrocarpa</i>	+	120
<i>Acacia ligulata</i>	+	150
<i>Bonamia erecta</i>	2-3	30
<i>Corchorus sidoides</i>	+	40
<i>Corymbia opaca</i>	+	400-600
<i>Dicrastylis exsuccosa</i>	1	60
<i>Dodonaea coriacea</i>	+	50
<i>Eriachne aristidea</i>	+	30
<i>Eucalyptus pachyphylla</i>	8	280
<i>Frankenia cordata</i>	+	40
<i>Hakea divaricata</i>	1	180
<i>Paraneurachne muelleri</i>	+	40
<i>Polygala sp. Prostrate</i> (P.K. Latz 4900)	+	
<i>Portulaca oleracea</i>	+	20
<i>Scaevola parvifolia subsp. parvifolia</i>	+	40
<i>Senna artemisioides subsp. oligophylla</i>	+	120
<i>Solanum chippendalei</i>	+	40-50
<i>Triodia basedowii</i>	20-30	80
<i>Yakirra australiensis var. australiensis</i>	+	15
<i>Synaptantha tillaeacea var. hispidula</i>		10
<i>Trianthema triquetra</i>	+	10
<i>Triodia basedowii</i>	+	35
<i>Triodia salina</i>	4-5	70

**Lake Mackay, Detailed Flora
Site LMR1**



Described by BM **Date** 16/04/2017 **Type** Releve
Location Proposed infrastructure west
MGA Zone 52 441027 mE 7499571 mN 128.426194 E -22.609629 S
Habitat Margins of saline clay pan
Soil Reddish brown sandy clay
Vegetation *Frankenia cordata*, *Lawrenca viridigrisea*, *Maireana luehmannii*, *Pluchea rubelliflora* low shrubland over *Eragrostis falcata* and *Dactyloctenium radulans* open grassland
Veg Condition Excellent
Fire Age Very Old (>12yrs)

SPECIES LIST:

Name	Cover	Height
<i>Cyperus bulbosus</i>	+	
<i>Dactyloctenium radulans</i>	+	15
<i>Eragrostis falcata</i>	15-20	15
<i>Eremophila spinescens</i>		
<i>Frankenia cordata</i>	5-10	30
<i>Hemichroa diandra</i>	+	20
<i>Lawrenca viridigrisea</i>	1-2	40
<i>Maireana luehmannii</i>	5-6	15
<i>Pluchea rubelliflora</i>	+	15

Lake Mackay, Detailed Flora
Site LMR11



Described by BM **Date** 20/04/2017 **Type** Releve
Location Infrastructure east
MGA Zone 52 463365 mE 7490805 mN 128.643333 E -22.689447 S
Soil Red brown sand
Vegetation *Acacia ligulata* open shrubland over *Triodia basedowii* hummock grassland
Veg Condition Excellent
Fire Age Old (8-12yrs)

SPECIES LIST:

Name	Cover	Height
<i>Abutilon otocarpum</i>	+	30
<i>Acacia ligulata</i>	7-10	150
<i>Corymbia opaca</i>	+	380
<i>Eragrostis eriopoda</i>	+	35
<i>Eriachne aristidea</i>	+	30
<i>Euphorbia boophthona</i>	+	40
<i>Hakea divaricata</i>	+	200
<i>Heliotropium ammophilum</i>	+	60
<i>Hibiscus brachychlaenus</i>	+	170
<i>Melaleuca lasiandra</i>	+	100
<i>Oldenlandia pterospora</i>	+	25
<i>Ptilotus obovatus</i>	+	90
<i>Ptilotus polystachyus</i>	+	20
<i>Senna artemisioides</i> subsp. <i>oligophylla</i>	+	60
<i>Senna artemisioides</i> subsp. <i>oligophylla</i>	2	110
<i>Stylobasium spathulatum</i>	+	180
<i>Trianthena pilosa</i>	+	15
<i>Triodia basedowii</i>	35	45

Lake Mackay, Detailed Flora
Site LMR13



Described by BM **Date** 22/04/2017 **Type** Releve
Location Infrastructure east
MGA Zone 52 464820 mE 7492592 mN 128.657539 E -22.673335 S
Habitat Depression on interdunal flat
Soil Red brown sand
Vegetation *Melaleuca glomerata* shrubland over *Triodia salina* hummock grassland over *Marsilea exarata* small herbland
Veg Condition Excellent
Fire Age Very Old (>12yrs)

SPECIES LIST:

Name	Cover	Height	
<i>Alternanthera angustifolia</i>	1-2	30	
<i>Carissa lanceolata</i>	1-2	280	
<i>Cyperus iria</i>	1	50	
<i>Eragrostis exigua</i>	+	45	
<i>Marsilea exarata</i>	20-30	15	
<i>Melaleuca glomerata</i>	25	3-4	
<i>Paspalidium rarum</i>	+	40	
<i>Senna artemisioides subsp. oligophylla</i>	+	150	
<i>Triodia salina</i>	1-2	40	
<i>Triodia basedowii</i>			+ 40

Lake Mackay, Detailed Flora
Site LMR2



Described by BM
Location Island 1
Date 15/04/2017 **Type** Revele
MGA Zone 52 483314 mE 7524250 mN 128.837903 E -22.387623 S
Habitat Depression between low ridges
Soil Red brown sand
Rock Type Calcrete 1%
Vegetation *Melaleuca lasiandra* shrubland over *Triodia pungens* hummock grassland over *Eragrostis falcata* tussock grassland
Veg Condition Excellent
Fire Age Very Old (>12yrs)

SPECIES LIST:

Name	Cover	Height
<i>Aristida holathera</i>	+	40
<i>Eragrostis falcata</i>	3-5	35
<i>Frankenia cordata</i>	+	30
<i>Lawrenzia viridigrisea</i>	+	
<i>Melaleuca lasiandra</i>	15-20	220
<i>Sclerolaena crenata</i>	+	20
<i>Tephrosia sp. Deserts</i>	+	20
<i>Triodia pungens</i>	20-30	70

**Lake Mackay, Detailed Flora
Site LMR3**



Described by BM **Date** 16/04/2017 **Type** Releve
Location Infrastructure West
MGA Zone 52 443253 mE 7499640 mN 128.447854 E -22.609081 S
Habitat Crest and slopes of low dune
Soil Red brown sand
Vegetation *Acacia* sp. Lake Mackay, *Eucalyptus gamophylla*, *Grevillea stenobotrya* shrubland to tall open shrubland over *Abutilon otocarpum*, *Crotalaria cunninghamii*, *Sida* sp. sand dunes low open shrubland over *Aristida holathera*, *Eriachne aristidea*, *Eragrostis laniflora*, *Triodia schinzii* open tussock grassland.
Veg Condition Excellent
Fire Age 1-4yrs
Notes Large area of west infrastructure burnt 2-5 years ago.

SPECIES LIST:

Name	Cover	Height
<i>Abutilon otocarpum</i>	+	60
<i>Acacia</i> sp. Lake Mackay (P.K. Latz 12836)	+	
<i>Aristida holathera</i>	3-4	40
<i>Crotalaria cunninghamii</i>	+	90-140
<i>Cucumis maderaspatanus</i>	+	
<i>Eragrostis laniflora</i>	3	40
<i>Eriachne aristidea</i>	1-2	40
<i>Eucalyptus gamophylla</i>	1-2	250-300
<i>Euphorbia wheeleri</i>	+	40
<i>Grevillea stenobotrya</i>	1	130
<i>Newcastelia spodiotricha</i>	+	50
<i>Oldenlandia pterospora</i>	+	20
<i>Sida</i> sp. sand dunes (A.A. Mitchell PRP1208)	+	70
<i>Trianthema pilosa</i>	+	20
<i>Trichodesma zeylanicum</i>	+	80
<i>Triodia basedowii</i>	+	40
<i>Triodia schinzii</i>	1-2	50

**Lake Mackay, Detailed Flora
Site LMR5**



Described by BM
Location Infrastructure east
MGA Zone 52 464341 mE 7494922 mN 128.652929 E -22.652277 S
Habitat Plain behind samphire flat
Soil Red brown sand
Veg Condition Excellent
Fire Age Moderate (4-8yrs)

SPECIES LIST:

Name	Cover	Height
<i>Abutilon otocarpum</i>	+	
<i>Abutilon otocarpum</i>	+	15
<i>Aristida holathera</i> var. <i>holathera</i>	3-5	40
<i>Bulbostylis barbata</i>	+	15
<i>Dicrastylis doranii</i>	1-2	30
<i>Eragrostis falcata</i>	5-6	40
<i>Eremophila spinescens</i>	+	30
<i>Eriachne aristidea</i>	+	35
<i>Frankenia cordata</i>	5-7	30
<i>Iseilema dolichotrichum</i>	+	15-20
<i>Melaleuca glomerata</i>	+	210
<i>Pluchea ferdinandi-muelleri</i>	+	60
<i>Polycarpaea corymbosa</i>	+	15
<i>Triodia salina</i>	20	50

Lake Mackay, Detailed Flora
Site LMR6



Described by AD **Date** 17/04/2017 **Type** Releve
MGA Zone 52 463808 mE 7494603 mN 128.647734 E -22.655147 S
Habitat Clay pan between low parallel dunes
Soil Red clay loam
Vegetation *Melaleuca glomerata* shrubland over *Senna artemisioides* subsp. *oligophylla* over *Frankenia cordata* low shrubland over *Triodia salina* hummock grassland over *Sclerolaena cornishiana* herbland.
Veg Condition Excellent
Fire Age 1-4yrs

SPECIES LIST:

Name	Cover	Height
<i>Bulbostylis barbata</i>	+	20
<i>Enneapogon polyphyllus</i>	+	15
<i>Eragrostis falcata</i>	2-3	30
<i>Eriachne aristidea</i>	+	30
<i>Frankenia cordata</i>	1	40
<i>Melaleuca glomerata</i>	5-10	500
<i>Portulaca oleracea</i>	+	15
<i>Sclerolaena cornishiana</i>	1	20
<i>Senna artemisioides</i> subsp. <i>oligophylla</i>	20	120
<i>Triodia salina</i>	+	50
<i>Triodia schinzii</i>		+

Lake Mackay, Detailed Flora
Site LMR7



Described by BM **Date** 18/04/2017 **Type** Releve
Location Infrastructure west
MGA Zone 52 458106 mE 7473547 mN 128.591671 E -22.845224 S
Habitat Plain
Soil shallow red brown sand compact layer
Vegetation *Eucalyptus victrix* low woodland over *Acacia ancistrocarpa* shrubland over *Triodia basedowii* hummock grassland
Veg Condition Excellent
Fire Age 8-12yrs

SPECIES LIST:

Name	Cover	Height
<i>Acacia ?adsurgens</i>	+	160
<i>Acacia ancistrocarpa</i>	1-2	300
<i>Acacia elachantha</i>	+	190
<i>Aristida holathera</i>	+	40
<i>Bulbostylis barbata</i>	+	12
<i>Corchorus sidoides</i>	+	35
<i>Corchorus sidoides</i>	+	30
<i>Corymbia opaca</i>	1	400
<i>Cucumis maderaspatanus</i>	+	60
<i>Eriachne aristidea</i>	+	35
<i>Eucalyptus victrix</i>	7	500-600
<i>Keraudrenia velutina subsp. elliptica</i>	+	70
<i>Melaleuca lasiandra</i>	+	40
<i>Ptilotus clementii</i>	+	40
<i>Scaevola parvifolia subsp. parvifolia</i>	+	30
<i>Sida sp. Rabbit Flat</i> (B.J. Carter 626)	+	35
<i>Triodia basedowii</i>	40-50	40

Lake Mackay, Detailed Flora
Site LMR8



Described by AD **Date** 17/04/2017 **Type** Releve
MGA Zone 52 465041 mE 7493775 mN 128.659716 E -22.662653 S
Habitat Interdunal plain
Soil Red sand
Vegetation *Melaleuca lasiandra* shrubland over *Triodia basedowii* hummock grassland
Veg Condition Excellent
Fire Age 4-8yrs

SPECIES LIST:

Name	Cover	Height
<i>Bulbostylis barbata</i>	+	15
<i>Eragrostis laniflora</i>	1	40
<i>Melaleuca lasiandra</i>	25	280
<i>Paspalidium clementii</i>	1	30
<i>Ptilotus obovatus</i>	+	20
<i>Trianthema pilosa</i>	+	15
<i>Triodia basedowii</i>	15	80
<i>Triodia salina</i>	10	90

**Lake Mackay, Detailed Flora
Site LMR9**



Described by BM **Date** 20/04/2017 **Type** Releve
MGA Zone 52 463365 **mE** 7490805 **mN** 128.643333 **E** -22.689447 **S**
Habitat Clay pan fringe
Soil Red clay
Vegetation *Frankenia cordata* and *Sclerolaena crenata* low shrubland over *Eragrostis dielsii* and *Eragrostis falcata* grassland
Veg Condition Excellent
Fire Age Old (8-12yrs)

SPECIES LIST:

Name	Cover	Height
<i>Alternanthera angustifolia</i>	+	20
<i>Bergia ammannioides</i>	+	2
<i>Calandrinia pleiopedala</i>	+	
<i>Cleome viscosa</i>	+	20
<i>Cyperus</i> sp.	1	20
<i>Eragrostis dielsii</i>	5-6	12
<i>Eragrostis falcata</i>	4-5	
<i>Eragrostis setifolia</i>	+	45
<i>Eriachne aristidea</i>	+	30
<i>Frankenia cordata</i>	+	15-20
<i>Peplidium aithocheilum</i>	+	1
<i>Pluchea dunlopii</i>	+	30
<i>Portulaca oleracea</i>	+	
<i>Sclerolaena crenata</i>	5-6	
<i>Stemodia florulenta</i>	+	40
<i>Streptoglossa decurrens</i>	+	20
<i>Tecticornia verrucosa</i>	+	40
<i>Trianthema triquetra</i>	+	12

Lake Mackay, Detailed Flora
Site LMRQ26

Described by BM
Date 14/04/2017 **Type** Quadrat 50 x 50m
Location Island, Lake Mackay
MGA Zone 52 495784 mE 7520365 mN 128.959033 E -22.422797 S
Habitat Undulating plain
Soil Sandy clay loam
Rock Type Calcrete
Vegetation *Acacia ligulata* shrubland over *Triodia pungens* hummock grassland
Veg Condition Excellent
Fire Age Very Old (>12yrs)
Notes Revisit site from Ecologia 2016 survey

SPECIES LIST:

Name	Cover	Height
<i>Acacia ligulata</i>	1-5	>200
<i>Aristida holathera</i>	+	40
<i>Bulbostylis barbata</i>	+	15
<i>Cleome viscosa</i>	+	30
<i>Enchylaena tomentosa</i>	1-5	100-200
<i>Eragrostis eriopoda</i>	+	40
<i>Eragrostis falcata</i>	+	40
<i>Eremophila spinescens</i>	+	30
<i>Euphorbia tannensis</i> subsp. <i>eremophila</i>	+	30
<i>Grevillea stenobotrya</i>	+	140
<i>Paractaenum novae-hollandiae</i> subsp. <i>reversum</i>	+	20
<i>Salsola australis</i>	+	30
<i>Scaevola spinescens</i>	+	100-200
<i>Solanum cleistogamum</i>	+	20
<i>Triodia pungens</i>	30	90
<i>Zygophyllum compressum</i>	+	20

Lake Mackay, Detailed Flora
Site LMRQ27

Described by BM **Date** 14/04/2017 **Type** Quadrat **50 x 50m**
MGA Zone 52 495891 mE **7521081 mN** **128.960075 E** **-22.416329 S**
Habitat Dune crest
Soil Orange clayey sand
Vegetation *Acacia* sp. Lake Mackay shrubland over *Triodia pungens* hummock grassland
Veg Condition Excellent
Notes Revisit site from Ecologia 2016 survey

SPECIES LIST:

Name	Cover	Height
<i>Acacia</i> sp. Lake Mackay (P.K. Latz 12836)	1-5	100-200
<i>Anthobolus leptomerioides</i>	1-5	100-200
<i>Aristida holathera</i>	1-5	40
<i>Corynotheca micrantha</i>	+	<100
<i>Euphorbia wheeleri</i>	+	30
<i>Grevillea stenobotrya</i>	+	<100
<i>Leiocarpa semicalva</i>	+	<100
<i>Newcastelia spodiotechia</i>	1-5	<100
<i>Nicotiana rosulata</i>	+	30
<i>Ptilotus polystachyus</i>	+	20
<i>Sida</i> sp. sand dunes (A.A. Mitchell PRP1208)	+	100-200
<i>Stylobasium spathulatum</i>	+	<100
<i>Trianthes pilosa</i>	+	20
<i>Triodia pungens</i>	6-20	90
<i>Triumfetta winneckeana</i>	1-5	<100

Lake Mackay, Detailed Flora
Site LMRQ60

Described by BM **Date** 20/04/2017 **Type** Quadrat 50 x 50 m
MGA Zone 52 463624 mE 7489480 mN 128.645824 E -22.701422 S
Habitat Plain
Soil Red clayey sand
Vegetation *Eucalyptus victrix* low woodland over *Acacia adsurgens* and *Melaleuca glomerata* shrubland over *Triodia salina* hummock grassland
Veg Condition Excellent
Fire Age Old (4-8yrs)
Notes Revisit site from Ecologia 2016 survey

SPECIES LIST:

Name	Cover	Height
<i>Acacia adsurgens</i>	1-5	100-200
<i>Aristida holathera</i>	+	40
<i>Bergia ammannioides</i>	+	20
<i>Bulbostylis barbata</i>	+	15
<i>Calandrinia pleiopetala</i>	+	10
<i>Carissa lanceolata</i>	1-5	100-200
<i>Cleome viscosa</i>	+	10
<i>Corchorus sidoides</i>	+	20
<i>Cyperus cunninghamii</i>	+	30
<i>Eriachne aristidea</i>	+	20
<i>Eucalyptus victrix</i>	1-5	500
<i>Fimbristylis eremophila</i>	+	30
<i>Goodenia lamprosperma</i>	1	20
<i>Melaleuca glomerata</i>	6-20	>200
<i>Pluchea dunlopii</i>	1-5	40
<i>Pluchea ferdinandi-muelleri</i>	+	20
<i>Portulaca filifolia</i>	+	20
<i>Portulaca oleracea</i>	+	5
<i>Rhagodia eremaea</i>	+	100
<i>Scaevola spinescens</i>	+	90
<i>Senna artemisioides</i> subsp. <i>oligophylla</i>	1-5	80
<i>Stemodia</i> sp. <i>Tanami</i>	+	20
<i>Stylidium desertorum</i>	10	10
<i>Tephrosia</i> sp. <i>Deserts</i>	+	20
<i>Triodia basedowii</i>	+	90
<i>Triodia salina</i>	30	90
<i>Yakirra australiensis</i> var. <i>australiensis</i>	+	15

Lake Mackay, Detailed Flora
Site LMRQ84

Described by BM
Location Lake Mackay
Date 19/04/2017 **Type** Quadrat 50 x 50 m
MGA Zone 52 441436 mE 7491628 mN 128.429877 E -22.681395 S
Habitat Plain (depression)
Soil Loamy sand
Vegetation *Eucalyptus victrix* and *Acacia aptaneura* woodland over *Senna artemisioides* subsp. *oligophylla* shrubland over *Triodia basedowii* hummock grassland
Veg Condition Very Good
Fire Age Old (4-8yrs)
Notes Revisit site from Ecologia 2016 survey

SPECIES LIST:

Name	Cover	Height
<i>Abutilon otocarpum</i>	+	
<i>Abutilon otocarpum</i>	+	20
<i>Acacia adsurgens</i>	+	>200
<i>Acacia aptaneura</i>	15-20	<1000
<i>Alternanthera angustifolia</i>	+	25
<i>Aristida holathera</i>	1-5	40
<i>Bergia trimera</i>	+	15
<i>Boerhavia coccinea</i>	+	30
<i>Calandrinia pumila</i>	+	10
<i>Cleome viscosa</i>	+	40
<i>Cucumis maderaspatanus</i>	+	c
<i>Cyperus iria</i>	+	40
<i>Dactyloctenium radulans</i>	+	15
<i>Einadia nutans</i> subsp. <i>eremaea</i>	+	50
<i>Enchylaena tomentosa</i>	+	100
<i>Enneapogon robustissimus</i>	+	40
<i>Eragrostis eriopoda</i>	1-5	30
<i>Eragrostis exigua</i>	+	40
<i>Eragrostis setifolia</i>	+	30
<i>Eremophila spinescens</i>	+	<100
<i>Eriachne aristidea</i>	+	30
<i>Eucalyptus gamophylla</i>	+	300
<i>Eucalyptus victrix</i>	1-5	<1000
<i>Euphorbia biconvexa</i>	+	60
<i>Euphorbia boophthona</i>	+	15
<i>Evolvulus alsinoides</i> var. <i>villosicalyx</i>	+	15
<i>Goodenia lamprosperma</i>	+	30
<i>Heliotropium ammophilum</i>	+	30
<i>Hibiscus leptocladus</i>	+	50
<i>Hibiscus sturtii</i> var. <i>grandiflorus</i>	+	<100
<i>Hibiscus sturtii</i> var. <i>platychlamys</i>	+	40
<i>Indigofera colutea</i>	+	50
<i>Indigofera georgei</i>		
<i>Indigofera linifolia</i>	+	
<i>Malvastrum americanum</i>	+	40
<i>Melaleuca lasiandra</i>	+	100
<i>Mimulus uvedaliae</i> var. <i>uvedaliae</i>	+	15
<i>Paraneurachne muelleri</i>	+	25
<i>Paspalidium clementii</i>		
<i>Pluchea dunlopii</i>	+	<100
<i>Pluchea rubelliflora</i>	+	15
<i>Polycarpaea corymbosa</i>	+	
<i>Portulaca filifolia</i>	+	15
<i>Portulaca oleracea</i>	+	20
<i>Pterocaulon sphacelatum</i>	+	30
<i>Rhagodia eremaea</i>	+	<100
<i>Salsola australis</i>	+	60
<i>Senna artemisioides</i> subsp. <i>oligophylla</i>	1-5	100-200
<i>Senna notabilis</i>	+	30
<i>Sida arenicola</i>	+	140
<i>Sida echinocarpa</i>		

<i>Sida</i> sp.	+	80		
<i>Stemodia</i> sp. <i>Tanami</i>			+	15
<i>Streptoglossa bubakii</i>		+	40	
<i>Streptoglossa decurrens</i>			+	30
<i>Synaptantha tillaeacea</i> var. <i>tillaeacea</i>				
<i>Triodia basedowii</i>			1-5	90
<i>Yakirra australiensis</i> var. <i>australiensis</i>			+	15
<i>Yakirra australiensis</i> var. <i>australiensis</i>			+	20

Lake Mackay, Detailed Flora
Site LMRT5302

Described by BM
Location Island (revisit transect)
MGA Zone 52 495680 mE 7519622 mN 128.958020 E -22.429509 S
Habitat Salt lake lower
Soil Sandy clay loam
Veg Condition Excellent
Fire Age Very Old (>12yrs)
Notes Revisit site from Ecologia 2016 survey

SPECIES LIST:

Name	Cover	Height
<i>Eragrostis falcata</i>	1-5	15
<i>Maireana luehmannii</i>	1	5
<i>Maireana luehmannii</i>	1-5	15
<i>Tecticornia calyptrata</i>	1-5	20
<i>Tecticornia pergranulata subsp. elongata</i>	6-20	20

Lake Mackay, Detailed Flora
Site LMRT5303

Described by BM
Location Island
Date 14/04/2017 **Type** Quadrat 3 x 3m
MGA Zone 52 495696 mE 7519667 mN 128.958176 E -22.429102 S
Habitat Salt lake lower zone
Soil Sand clay loam
Veg Condition Excellent
Fire Age Very Old (>12yrs)
Notes Revisit site from Ecologia 2016 survey

SPECIES LIST:

Name	Cover	Height
<i>Eragrostis falcata</i>	1-5	40
<i>Maireana luehmannii</i>	+	10
<i>Maireana luehmannii</i>	1-5	15
<i>Tecticornia halocnemoides</i>	1-5	20
<i>Tecticornia</i> sp. <i>Dennys Crossing</i> (K.A. Shepherd & J. English KS 552)	6-20	20
<i>Tecticornia tenuis</i>	+	10

Lake Mackay, Detailed Flora
Site LMRT5304

Described by BM
Location Island Lake Mackay
Date 14/04/2017 **Type** Quadrat **3 x 3m**
MGA Zone 52 495718 **mE** 7519710 **mN** 128.958390 **E** -22.428714 **S**
Habitat Salt lake lower
Soil Sand clay loam
Veg Condition E
Fire Age Very Old (>12yrs)
Notes Revisit site from Ecologia 2016 survey

SPECIES LIST:

Name	Cover	Height
<i>Eragrostis falcata</i>	+	20
<i>Maireana luehmannii</i>	+	15
<i>Tecticornia calyptrata</i>	+	20
<i>Tecticornia globulifera</i> (P1)		
<i>Tecticornia halocnemoides</i>	6-20	30
<i>Tecticornia pergranulata subsp. elongata</i>	1-6	30
<i>Tecticornia sp.</i> Dennys Crossing (K.A. Shepherd & J. English KS 552)	6-20	20

**Lake Mackay, Detailed Flora
Site LMT101**



Described by BM **Date** 15/04/2017 **Type** Quadrat **3 x 3m**
Location Island 1, Lake Mackay (Transect 1)
MGA Zone 52 484053 **mE** 7523531 **mN** 128.845074 **E** -22.394126 **S**
Habitat Salt flat, lower plain
Soil Red brown sand
Vegetation Samphire flat
Veg Condition Excellent
 Fire Age - not relevant

SPECIES LIST:

Name	Cover	Height
<i>Eragrostis falcata</i>	5-6	15
<i>Tecticornia aff calyptрата</i>		

Lake Mackay, Detailed Flora
Site LMT103



Described by BM
Date 15/04/2017 **Type** Quadrat 3 x 3
Location Island 1, Lake Mackay (Transect 1)
MGA Zone 52 484040 mE 7523557 mN 128.844948 E -22.393891 S
Habitat Flat - Intermediate zone
Soil Red brown zone
Vegetation Samphire flat
Veg Condition Excellent
Fire Age - not relevant
Notes Quadrat 29m along transect

SPECIES LIST:

Name	Cover	Height
<i>Tecticornia calyptata</i>	8-10	15-20

Lake Mackay, Detailed Flora
Site LMT104



Described by BM **Date** 15/04/2017 **Type** Quadrat 3 x 3m
Location Island 1, Lake Mackay (Transect 1)
MGA Zone 52 484033 mE 7523568 mN 128.844880 E -22.393792 S
Habitat Intermediate zone - flat
Soil Red brown sand
Veg Condition Excellent
Fire Age - not relevant
Notes Quadrat 40m along transect

SPECIES LIST:

Name	Cover	Height
<i>Maireana luehmannii</i>	+	10
<i>Tecticornia calyptrata</i>	15	25

Lake Mackay, Detailed Flora
Site LMT105



Described by BM Date 15/04/2017 Type Quadrat 3 x 3 m
Season Uniformity

Location Island 1, Lake Mackay

MGA Zone 52 484026 mE 7523581 mN 128.844813 E -22.393674 S

Habitat Flat, intermediate zone

Vegetation *Maireana luehmannii*, *Scaevola collaris* and *Lawrenxia viridigrisea* low shrubland over *Tecticornia calyptrata*

Veg Condition Excellent

Fire Age - not relevant

Notes Quadrat 58m along transect

SPECIES LIST:

Name	Cover	Height
<i>Dysphania simulans</i>	+	10
<i>Eragrostis falcata</i>	1	15
<i>Lawrenxia viridigrisea</i>	+	35
<i>Maireana luehmannii</i>	+	10
<i>Maireana luehmannii</i>	+	20
<i>Scaevola collaris</i>	+	20
<i>Tecticornia calyptrata</i>	5-6	20
<i>Tecticornia calyptrata</i>	7	25
<i>Trianthema triquetra</i>	1	20

Lake Mackay, Detailed Flora
Site LMT106



Described by BM **Date** 15/04/2017 **Type** Quadrat **3 x 3m**
Location Island 1, Lake Mackay (Transect 1)
MGA Zone 52 484022 mE 7523592 mN 128.844774 E -22.393575 S

Habitat Upper zone

Soil Reddish brown sand + calcrete

Vegetation *Frankenia cordata*, *Maireana collaris* and *Scaevola collaris* low shrubland over *Eragrostis falcata* low tussock grassland

Veg Condition Excellent

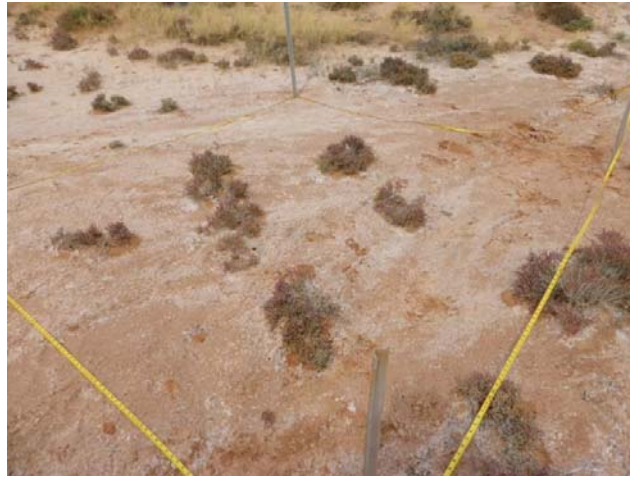
Fire Age - not relevant

Notes Quadrat 70m along transect

SPECIES LIST:

Name	Cover	Height
<i>Dicrastylis doranii</i>	+	20
<i>Eragrostis falcata</i>	1-5	30
<i>Frankenia cordata</i>	+	30
<i>Lawrenia viridigrisea</i>	+	30
<i>Maireana luehmannii</i>	+	15
<i>Scaevola collaris</i>	+	30
<i>Zygophyllum compressum</i>	+	15

Lake Mackay, Detailed Flora
Site LMT201



Described by BM **Date** 16/04/2017 **Type** Quadrat 3 x 3m
Location Infrastructure west
MGA Zone 52 442355 mE 7500344 mN 128.439143 E -22.602691 S
Habitat Margin of salt lake
Soil Reddish brown sand over reddish brown sandy clay
Vegetation *Tecticornia aff calyprata* dominated
Veg Condition Excellent
Fire Age - not relevant

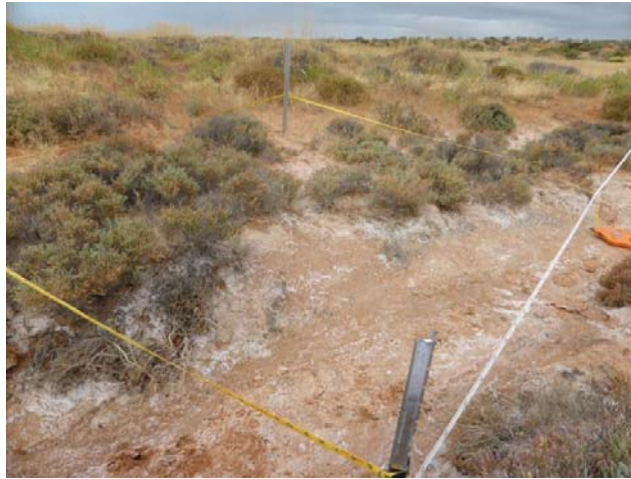
Transect begins on margins of salt lake (narrow fringe of samphire) and follows up a shallow turning

Notes gully with samphire banks.

SPECIES LIST:

Name	Cover	Height
<i>Tecticornia aff calyprata</i>	1-5	20

**Lake Mackay, Detailed Flora
Site LMT202**



Described by BM **Date** 16/04/2017 **Type** Quadrat **3 x 3m**
Location Infrastructure west
MGA Zone 52 442355 **mE** 7500327 **mN** 128.439142 **E** -22.602845 **S**
Habitat Shallow gully banks
Soil Reddish brown sand over reddish brown sandy clay
Veg Condition Excellent
Fire Age Very Old (>12yrs)
Notes Quadrat 11m along transect

SPECIES LIST:

Name	Cover	Height
<i>Angianthus tomentosus</i>	+	3
<i>Cyperus bulbosus</i>	+	25
<i>Cyperus squarrosus</i>	+	150
<i>Eragrostis falcata</i>	1-6	30
<i>Lawrenca viridigrisea</i>	+	10
<i>Maireana luehmannii</i>	+	10
<i>Pluchea ferdinandi-muelleri</i>	+	20
<i>Tecticornia aff calyptrata</i>	+	20
<i>Tecticornia aff calyptrata</i>	25-30	25

Lake Mackay, Detailed Flora
Site LMT205



Described by BM **Date** 16/04/2017 **Type** Quadrat **3 x 3m**
Season **Uniformity**
Location Infrastructure west
MGA Zone 52 442368 mE 7500281 mN 128.439267 E -22.603261 S
Habitat Depression on gently sloping, north facing plain
Soil Reddish brown sand over sandy clay
Veg Condition Excellent
Fire Age Very Old (>12yrs)
Notes Quadrat 62m along transect

SPECIES LIST:

Name	Cover	Height
<i>Angianthus tomentosus</i>	+	2
<i>Dysphania sphaerosperma</i>	+	12
<i>Eragrostis falcata</i>	1-5	40
<i>Lawrenca viridigrisea</i>	1-2	60
<i>Maireana luehmannii</i>	+	20
<i>Pluchea rubelliflora</i>	+	10
<i>Tecticornia indica subsp. leiostachya</i>	18-20	35

Lake Mackay, Detailed Flora
Site LMT206



Described by BM
MGA Zone 52 442368 mE 7500281 mN 128.439267 E -22.603261 S
Date 16/04/2017 **Type** Quadrat 3 x 3m
Habitat Very gently sloping north facing plain between lake edge and dune
Soil Reddish brown sand
Veg Condition Excellent
Fire Age Very Old (>12yrs)
Notes Quadrat 89m along transect

SPECIES LIST:

Name	Cover	Height
<i>Lawrenca viridigrisea</i>	5-7	50
<i>Sclerolaena crenata</i>	1-2	35
<i>Sclerolaena crenata</i>	5-6	30

Lake Mackay, Detailed Flora
Site LMT301



Described by BM
Location Infrastructure east
MGA Zone 52 464437 mE 7495042 mN 128.653866 E -22.651195 S
Habitat Fringe of salt lake
Soil Reddish brown clay
Veg Condition Excellent
Fire Age - not relevant

Date 17/04/2017 **Type** Quadrat 3 x 3m

SPECIES LIST:

Name	Cover	Height
<i>Tecticornia pergranulata</i> subsp. <i>elongata</i>	4-5	30

Lake Mackay, Detailed Flora
Site LMT303

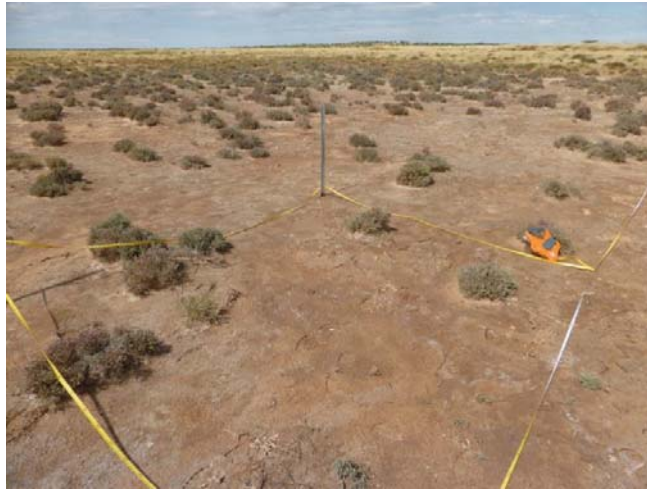


Described by BM
Location Infrastructure east
Date 17/04/2017 **Type** Quadrat **3 x 3m**
MGA Zone 52 464432 mE 7495017 mN 128.653817 E -22.651421 S
Habitat Samphire flat - middle zone
Soil Reddish brown clay
Veg Condition Excellent
 Fire Age - not relevant

SPECIES LIST:

Name	Cover	Height
<i>Eragrostis falcata</i>	2-3	25
<i>Maireana luehmannii</i>	+	10
<i>Tecticornia calyptrata</i>	5-6	20

Lake Mackay, Detailed Flora
Site LMT304

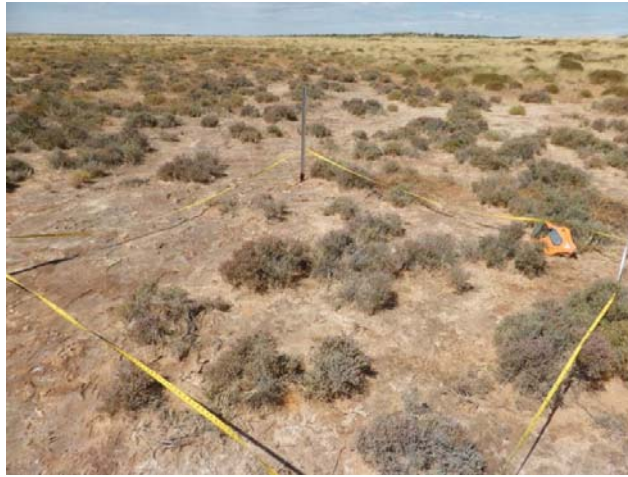


Described by BM **Date** 17/04/2017 **Type** Quadrat **3 x3 m**
Location Infrastructure east (Transect 3)
MGA Zone 52 464426 mE 7494998 mN 128.653758 E -22.651592 S
Habitat Slight depression on samphire flat behind lake margin
Soil Notes Reddish brown clay
Quadrat 44m along transect
Fire Age - not relevant

SPECIES LIST:

Name	Cover	Height
<i>Eragrostis falcata</i>	+	5
<i>Maireana luehmannii</i>	+	10
<i>Tecticornia calyprata</i>	5-6	20

Lake Mackay, Detailed Flora
Site LMT305



Described by BM **Date** 17/04/2017 **Type** Quadrat 3 x 3m
Location Infrastructure east
MGA Zone 52 464423 mE 7494983 mN 128.653728 E -22.651727 S
Habitat Slight depression on samphire flat behind lake margin
Soil Reddish brown clay
Veg Condition Excellent
Fire Age - not relevant
Notes Quadrat 60m along transect

SPECIES LIST:

Name	Cover	Height
<i>Cyperus bulbosus</i>	+	20
<i>Dysphania sphaerosperma</i>	+	10
<i>Eragrostis falcata</i>	+	30
<i>Maireana luehmannii</i>	+	10
<i>Tecticornia calyptрата</i>	10-12	30
<i>Tecticornia sp.</i>	1-2	30

Lake Mackay, Detailed Flora Opportunistic Observations

SPECIES LIST:

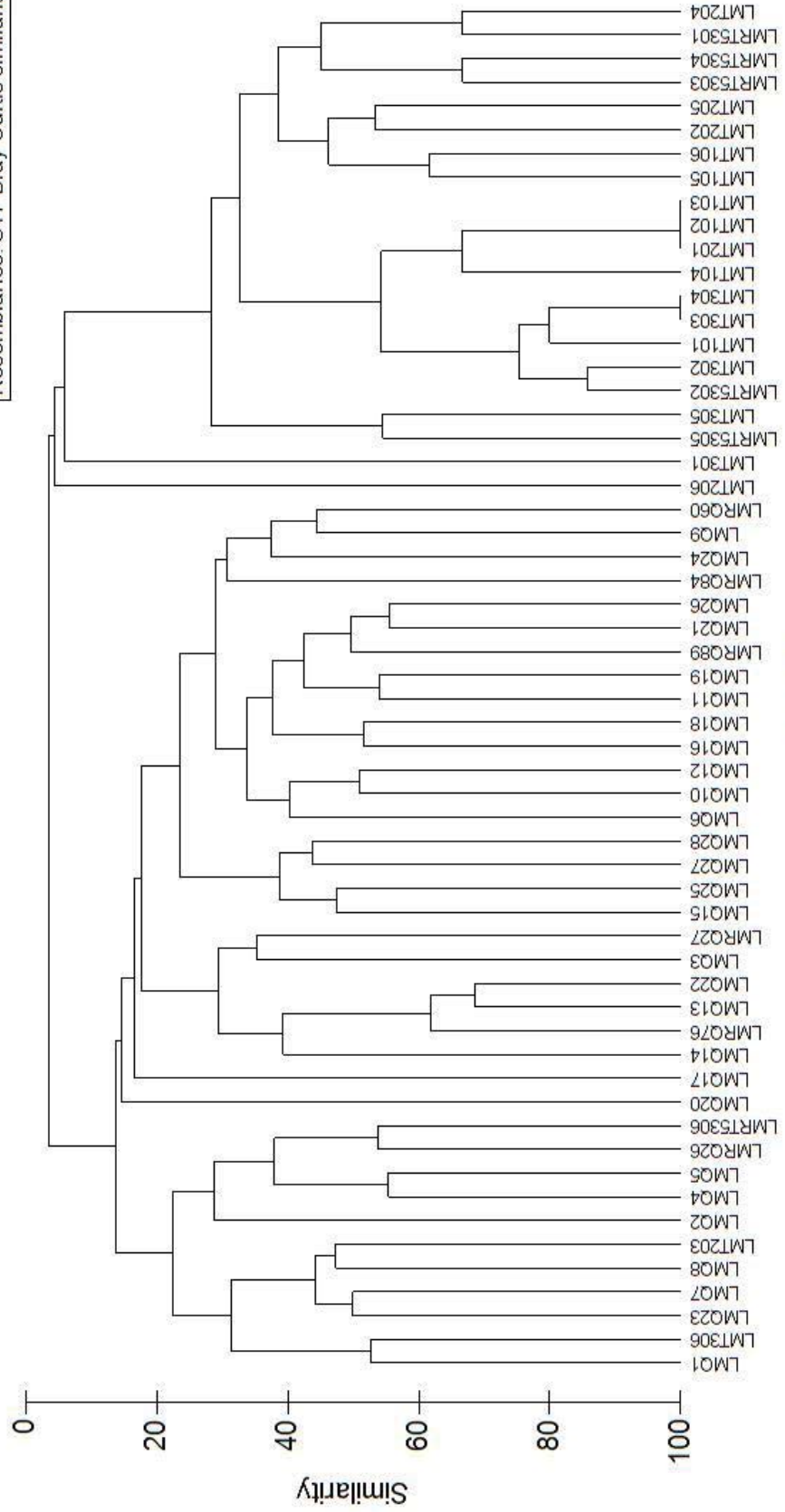
Acacia pruinocarpa
Acacia stipuligera
Brunonia sp. Long hairs (D.E. Symon 2440)
Calandrinia pumila
Chrysocephalum eremaeum
Cullen martinii
Cyperus concinnus
Enneapogon polyphyllus
Eremophila willsii subsp. *willsii*
Gompholobium simplicifolium
Goodenia maideniana
Grevillea eriostachya
Grevillea striata
Newcastelia cladotricha
Nicotiana rosulata subsp. *ingulba*
Petalostylis cassioides
Scaevola basedowii
Senna glaucifolia
Senna pleurocarpa var. *pleurocarpa*
Senna sericea
Senna stricta
Setaria surgens
Sida sp. Rabbit Flat (B.J. Carter 626)
Solanum centrale
Swainsona acuticarinata
Tribulus angustifolius

APPENDIX H

Vegetation Community Dendrogram

Group average

Resemblance: S17 Bray Curtis similarity



Samples

