



Clearing Permit Decision Report

1. Application details and outcomes

1.1. Permit application details

| | |
|-------------------------------|------------------------------------|
| Permit number: | 7763/2 |
| Permit type: | Purpose Permit |
| Applicant name: | Regan Scott Grant and Melita Grant |
| Application received: | 14 June 2022 |
| Application area: | 65.38 hectares |
| Purpose of clearing: | Gypsum Mining |
| Method of clearing: | Mechanical Removal |
| Tenure: | Mining Lease 70/1346 |
| Location (LGA area/s): | Shire of Lake Grace |
| Colloquial name: | Lake Morris Gypsum Project |

1.2. Description of clearing activities

Clearing permit CPS 7763/1 was granted by the Department of Mines and Petroleum (now the Department of Mines, Industry Regulation and Safety) on 9 November 2017 and was valid from 2 December 2017 to 2 December 2022. The permit authorised the clearing of up to 65.38 hectares of native vegetation within a boundary of 168.899 hectares, for the purpose of gypsum mining.

On 14 June 2022, the Permit Holder applied to amend CPS 7763/1 to extend the duration of the clearing permit by five years and reduce the boundaries of the application area by 1.796 hectares which resulted in the removal of Miscellaneous Licence 70/173. The amount of clearing allowed remains unchanged.

Almost a third of the application area has already been cleared. As of 30 June 2022, approximately 21.69 hectares have been cleared under permit CPS 7763/1 (Accendo Australia, 2022; DMIRS, 2022).

1.3. Decision on application and key considerations

| | |
|-----------------------|-------------------------------------|
| Decision: | Grant |
| Decision date: | 17 November 2022 |
| Decision area: | 65.38 hectares of native vegetation |

1.4. Reasons for decision

This clearing permit application was made in accordance with section 51KA(1) of the *Environmental Protection Act 1986* (EP Act) and was received by the Department of Mines, Industry Regulation and Safety (DMIRS) on 14 June 2022. DMIRS advertised the application for a public comment for a period of 7 days, and no submissions were received.

The assessment identified that the proposed clearing may result in:

- the potential introduction and spread of weeds into adjacent vegetation, which could impact on the quality of the adjacent vegetation and its habitat values; and
- impacts to conservation significant flora.

After consideration of the available information, as well as the applicant's minimisation and mitigation measures (see Section 3.1), the Delegated Officer determined the proposed clearing can be minimised and managed to be unlikely to lead to an unacceptable risk to environmental values.

The Delegated Officer decided to grant a clearing permit subject to conditions to:

- avoid, minimise to reduce the impacts and extent of clearing;
- take hygiene steps to minimise the risk of the introduction and spread of weeds; and
- introducing a 10 metre buffer zone around Priority flora within the application area to prevent their clearing.

The assessment has not changed since the assessment for CPS 7763/1, except in the case of principle (a). This difference is due to updated assessment practices. The Delegated Officer determined that the proposed extension of duration for the clearing permit is not likely to lead to an unacceptable risk to environmental values.

2. Legislative context

The clearing of native vegetation in Western Australia is regulated under the EP Act and the Environmental Protection (Clearing of Native Vegetation) Regulations 2004 (Clearing Regulations).

In addition to the matters considered in accordance with section 51O of the EP Act (see Section 1.4), the Delegated Officer has also had regard to the objects and principles under section 4A of the EP Act, particularly:

- the precautionary principle
- the principle of intergenerational equity
- the principle of the conservation of biological diversity and ecological integrity.

Other legislation of relevance for this assessment include:

- *Biodiversity Conservation Act 2016* (WA) (BC Act)
- *Conservation and Land Management Act 1984* (WA) (CALM Act)
- *Mining Act 1978* (WA)

The key guidance documents which inform this assessment are:

- *A guide to the assessment of applications to clear native vegetation* (DER, December 2014)
- *Procedure: Native vegetation clearing permits* (DWER, October 2021)
- Technical guidance – *Flora and Vegetation Surveys for Environmental Impact Assessment* (EPA, 2016)

3. Detailed assessment of application

3.1. Avoidance and mitigation measures

The proponent will undertake the following mitigation measures during the native vegetation clearing process (Milner, 2015):

- Areas where gypsum mining has been completed and it is feasible to rehabilitate will be progressively levelled and rehabilitated by direct re-spreading of available topsoil and vegetation.
- The site induction will include an environmental element to ensure all staff and contractors are familiar with the potential environment values of the area.
- To assist with weed management all machinery and vehicles will be inspected and cleaned (if necessary) before and leaving entering the tenements, a restriction of vehicular access to designated tracks, and regular inspections to assess possible weed occurrence will be carried out.

The Delegated Officer was satisfied that the applicant has made a reasonable effort to avoid and minimise potential impacts of the proposed clearing on environmental values.

3.2. Assessment of impacts on environmental values

A review of current environmental information (Appendix C) reveals that the assessment against the clearing principles has not changed significantly from the Clearing Permit Decision Report CPS 7763/1 except for the assessment of principle (a). This difference is due to an update in assessment practices.

3.3. Relevant planning instruments and other matters

The clearing permit amendment application was advertised on 28 June 2022 by the Department of Mines, Industry Regulation and Safety inviting submissions from the public. No submissions were received in relation to this application.

There are four native title claims (WC 1996/041, WC1996/109, WC1997/071, and WC1998/058) over the area under application (DPLH, 2022). These claims have been determined by the Federal Court on behalf of the claimant groups. However, the mining tenure has been granted in accordance with the future act regime of the *Native Title Act 1993* and the nature of the act (i.e. the proposed clearing activity) has been provided for in that process, therefore, the granting of a clearing permit is not a future act under the *Native Title Act 1993*.

There are no registered Aboriginal Sites of Significance within the application area (DPLH, 2022). It is the proponent's responsibility to comply with the *Aboriginal Heritage Act 1972* and ensure that no Aboriginal Sites of Significance are damaged through the clearing process.

Other relevant authorisations required for the proposed land use includes:

- A Mining Proposal / Mine Closure Plan approved under the *Mining Act 1978*.

It is the proponent's responsibility to liaise with the Department of Water and Environmental Regulation and the Department of Biodiversity, Conservation and Attractions, to determine whether a Works Approval, Water Licence, Bed and Banks Permit, or any other licences or approvals are required for the proposed works.

End

Appendix A. Additional information provided by applicant

| Summary of comments | Consideration of comment |
|--|--|
| Targeted Flora Survey conducted by Plantecology Consulting | This survey was conducted per request of the Environmental Officer |

Appendix B. Site characteristics

B.1. Site characteristics

| Characteristic | Details |
|------------------------|---|
| Local context | The area proposed to be cleared is part of a 643.7 hectare isolated patch of native vegetation in the intensive land use zone of Western Australia. It is surrounded by agricultural properties and a chain of salt lakes (GIS Database). |
| Ecological linkage | The amendment area does not form part of any formal or informal ecological linkages but it is located approximately 8.6 kilometres north of a section from the Albany Macro Corridors Project (GIS Database). |
| Conservation areas | The amendment area is located approximately 900 metres east of the Lake Magenta Nature Reserve (GIS Database). |
| Vegetation description | <p>The vegetation of the application area is broadly mapped as the following Beard vegetation associations:</p> <p>125: Bare areas; salt lakes; 511: Medium woodland; salmon gum and morrel; and 519: Shrublands; mallee scrub, <i>Eucalyptus eremophila</i> (GIS Database).</p> <p>A flora and vegetation survey was conducted over the application area by Botanical Consultants during November, 2013. The following vegetation associations were recorded within the application area (Botanical Consultants 2014):</p> <p>Mallee: Mallee trees to 6 metres including <i>Eucalyptus scyphocalyx</i> and scattered trees of <i>Eucalyptus urna</i>. Shrubs over 2 metres including <i>Melaleuca acuminata</i>, <i>Melaleuca lateriflora</i>, <i>Melaleuca thyoides</i>, <i>Melaleuca lanceolata</i> and <i>Melaleuca brophyi</i>. Shrubs to 1.5 metres including <i>Darwinia</i> sp. Karonie, <i>Cyathostemon tenuifolius</i>, <i>Conostephium drummondii</i> and <i>Exocarpos aphyllus</i>. Shrubs to 0.5 metres including <i>Rinzia communis</i>, <i>Darwinia</i> sp. Karonie and <i>Calytrix leschenaultii</i>. Perennial and annual herbs including <i>Waitzia acuminata</i> (abundant), <i>Levenhookia stipitata</i> and <i>Centrolepis pilosa</i>.</p> <p>Melaleuca Scrub/Thicket: Shrubs 2 to 4 metres. Patchy in distribution becoming sparse closer to the lake edge. Species recorded include <i>Melaleuca thyoides</i>, <i>Melaleuca brophyi</i>, <i>Melaleuca halmaturorum</i>, and <i>Melaleuca hamulosa</i>. Shrubs to 0.5 metres including <i>Tecticornia</i> species, <i>Maireana</i> species, <i>Frankenia tetrapetala</i>, <i>Disphyma crassifolia</i>, <i>Carpobrotus modestus</i> and <i>Lycium australe</i>.</p> <p>Tecticornia Scrub/Heath: Shrubs to 20 to 50 centimetres. Samphire shrubs including <i>Tecticornia halocnemoides</i>, <i>Tecticornia loriae</i>, <i>Tecticornia moniliformis</i>, <i>Tecticornia pergranulata</i> and <i>Tecticornia syncarpa</i> as dominant species.</p> <p>Mixed Low Heath: Shrubs 30 to 50 centimetres including <i>Tecticornia moniliformis</i> and <i>Rhagodia drummondii</i>. Samphire shrubs prominent including <i>Tecticornia halocnemoides</i> and <i>Tecticornia syncarpa</i>. Other low shrubs recorded include <i>Disphyma crassifolia</i>, <i>Lawrencina squamata</i> and <i>Maireana oppositifolia</i>.</p> <p>Mapping of the vegetation associations is available in Appendix E</p> |
| Vegetation condition | <p>The vegetation survey (Botanical Consultants, 2014) indicates the vegetation within the proposed clearing area is in Pristine to Very Good (Keighery, 1994) condition.</p> <p>The full Keighery (1994) condition rating scale is provided in Appendix D.</p> |
| Climate and landform | The application area is located in a region with wet winters and low summer rainfall. The annual rainfall average for the region (Newdegate station) is of 348.5 millimetres (BoM, 2022). |
| Soil description | The soil within the application area is mapped as soil unit SV1 (GIS Database). This soil unit is described as saline valleys and salt lakes as salt lake channels, mostly devoid of true soils, and their fringing areas; few freshwater lakes: common soils are gypseous and saline loams on riverine wash and usually underlain by clayey or sandy strata. Associated soil units include various resalinised units on fringe areas, dunes, and lunettes of various sandy, silty, and clayey |

| Characteristic | Details |
|------------------------|---|
| | soils of slight profile development. Deposits of common salt, gypsum, lime, and alunite occur as do remnants of the old lateritic profile and occasionally outcrops of country rock (Northcote et al, 1960-68). |
| Land degradation risk | The risk for land degradation within the application area is low except for waterlogging and salinity risk (see section B.4). |
| Waterbodies | The desktop assessment and aerial imagery indicated that the application area is located within Lake Morris, a non-perennial lake which forms part of the Magenta salt lake chain (Botanical Consultants, 2014; GIS Database). |
| Hydrogeography | The application area has a mapped groundwater salinity of 14,000-35,000 milligrams per litre total dissolved solids which is described as highly saline (GIS Database). |
| Flora | There are no Threatened flora species within the application area (Botanical Consultants, 2014; GIS Database). The nearest record of a Threatened flora species is approximately 2.8 kilometres northeast of the application area (GIS Database). There are three Priority flora species occurring within the application area (see section B.3) (Botanical Consultants, 2014). |
| Ecological communities | The application area intersects the buffer zone of a Priority 3 Ecological Community (PEC) (GIS Database). The nearest record of a Threatened Ecological Community (TEC) is approximately 7.9 kilometres south of the application area (GIS Database). |
| Fauna | There are several records of Priority and Threatened fauna west of the application area within the Lake Magenta Nature Reserve (GIS Database). There are no records of conservation significant fauna within the application area (GIS Database). |

B.2. Vegetation extent

| | Pre-European area (ha) | Current extent (ha) | Extent Remaining % | Current extent in all DBCA managed land (ha) | Current proportion (%) of pre-European extent in all DBCA Managed Lands |
|---|------------------------|---------------------|--------------------|--|---|
| IBRA Bioregion Mallee | 7,395,894 | 4,180,938 | ~56 | 1,289,384 | ~17 |
| IBRA Subregion Western Mallee | 3,981,718 | 1,471,048 | ~37 | 364,867 | ~9 |
| Local Government Shire of Lake Grace | 1,188,460 | 456,516 | ~38 | 812,116 | ~15 |
| Beard vegetation associations - State | | | | | |
| 125 | 3,485,785 | 3,146,487 | ~90 | 265,740 | ~8 |
| 511 | 700,693 | 520,615 | ~74 | 105,109 | ~15 |
| 519 | 2,333,414 | 1,440,062 | ~62 | 244,096 | ~10 |
| Beard vegetation associations - Bioregion | | | | | |
| 125 | 160,327 | 107,845 | ~67 | 25,032 | ~16 |
| 511 | 139,877 | 67,473 | ~48 | 12,343 | ~9 |
| 519 | 2,100,314 | 1,248,661 | ~59 | 225,928 | ~11 |
| Beard vegetation associations - Subregion | | | | | |
| 125 | 81,605 | 31,802 | ~39 | 18,448 | ~23 |
| 511 | 139,877 | 67,473 | ~48 | 12,343 | ~9 |
| 519 | 1,563,571 | 783,034 | ~50 | 196,334 | ~13 |

Government of Western Australia (2019)

B.3. Flora analysis table

With consideration for the site characteristics set out above, relevant datasets (see Appendix F.1), and biological survey information, impacts to the following conservation significant flora required further consideration.

| Species name | Conservation status | Suitable habitat features? [Y/N] | Suitable vegetation type? [Y/N] | Suitable soil type? [Y/N] | Distance of closest record to application area (km) | Are surveys adequate to identify? [Y, N, N/A] |
|--------------------------------------|---------------------|----------------------------------|---------------------------------|---------------------------|---|---|
| <i>Frankenia sp. southern gypsum</i> | P3 | Y | Y | Y | 0 km | Y |
| <i>Fitzwillia axilliflora</i> | P2 | Y | Y | Y | 0 km | Y |
| <i>Pimelea halophila</i> | P2 | Y | Y | Y | 0 km | Y |

B.4. Land degradation risk table

| Risk categories | Land Unit 1 |
|--------------------------|--|
| Wind erosion | L1: < 3 % of the map unit has a high to extreme wind erosion risk |
| Water erosion | L1: < 3% of the map unit has a very high to extreme water erosion risk |
| Salinity | H2: > 70% of the map unit has a moderate or high salinity risk or is presently saline |
| Subsurface Acidification | L1: < 3% of the map unit has a high subsurface acidification risk or is presently acid |
| Flood risk | L2: 3-10% of the map unit has a moderate to high flood risk |
| Water logging | H2: > 70% of the map unit has a moderate to very high waterlogging risk |
| Phosphorus export risk | L2: 3-10% of the map unit has a high to extreme phosphorus export risk |

(DPIRD, 2022)

Appendix C. Assessment against the clearing principles

| Assessment against the clearing principles | Variance level | Is further consideration required? |
|--|--|------------------------------------|
| Environmental value: biological values | | |
| <p>Principle (a): "Native vegetation should not be cleared if it comprises a high level of biodiversity."</p> <p><u>Assessment:</u></p> <p>A total of 58 flora species were recorded within the application area during the survey conducted by Botanical Consultants (2014). This does not represent a high level of biodiversity in the application area. The area proposed to be cleared contains three Priority flora species (Botanical Consultants, 2014). Recent surveys in the Lake Magenta and Lake King lake chains have found <i>Frankenia sp. southern gypsum</i> to be more common than previously thought (Botanical Consultants, 2014) and the proposed mine should not impact on the overall conservation of this species especially as it was recorded in areas regenerating after previous mining operations at Lake Cobham (Botanical Consultants, 2014). The population extent of <i>Fitzwillia axilliflora</i> has increased since 2014 while the population extent of <i>Pimelea halophila</i> has remained relatively stable since 2014 (Plantecology Consulting, 2022) (Refer to Figure 2 in Appendix E). Impacts to priority flora can be managed by a flora management to condition to prevent the clearing of priority flora.</p> <p>A small portion to the north and south of the application area intersects the buffer zone of the Eucalypt woodlands of the Western Australian Wheatbelt PEC (Priority 3) (GIS Database). However, the vegetation present in the application area is not representative of any known PECs.</p> | <p>May be at variance</p> <p>(changed from CPS 7763/1)</p> | <p>No</p> |

| Assessment against the clearing principles | Variance level | Is further consideration required? |
|--|--|------------------------------------|
| <p>Five weed species were recorded during the survey conducted by Botanical Consultants (2014). None of these species are listed as Declared Pests or Weeds of National Significance. Weeds have the potential to significantly change the dynamics of a natural ecosystem and lower the biodiversity of an area. Potential impacts to the biodiversity as a result of the proposed clearing may be minimised by the implementation of a weed management condition.</p> | | |
| <p><u>Principle (b):</u> <i>“Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a significant habitat for fauna.”</i></p> <p><u>Assessment:</u></p> <p>The flora survey conducted by Botanical Consultants (2014) identified four vegetation types within the application area (see section B.1). These vegetation types are extensive throughout the Lake Magenta salt lake system (Botanical Consultants, 2014). There is a Carnaby’s black cockatoo breeding area approximately 1.1 kilometres west of the application area (GIS Database). There are also records of significant fauna within 20 kilometres of the application area including Carnaby’s black cockatoo and Mallefowl (GIS Database). However, the vegetation types within the application area do not represent suitable habitat for these fauna species. The area proposed to be cleared is unlikely to contain significant habitat for fauna.</p> | <p>Not likely to be at variance</p> <p>(as per CPS 7763/1)</p> | <p>No</p> |
| <p><u>Principle (c):</u> <i>“Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, threatened flora.”</i></p> <p><u>Assessment:</u></p> <p>The flora survey performed by Botanical Consultants (2014) did not record any Threatened flora within the application area. There is a record of two subpopulations of <i>Eremophila verticillata</i> (Threatened flora) approximately 2.5 kilometres northeast of the application area which should not be impacted by the clearing activities (Botanical Consultants, 2014). The vegetation and soil types found in several other records of <i>E. verticillata</i> (Western Australian Herbarium, 1998-) are not present within the application area. Therefore it is unlikely that this species would occur within the application area.</p> | <p>Not likely to be at variance</p> <p>(as per CPS 7763/1)</p> | <p>No</p> |
| <p><u>Principle (d):</u> <i>“Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a threatened ecological community.”</i></p> <p><u>Assessment:</u></p> <p>There are no known Threatened Ecological Communities (TECs) located within the application area (GIS Database). The following ecological community is recorded approximately 9.5 kilometres south of the application area: ‘Herblands and Bunch grasslands on gypsum lunette dunes alongside saline playa lakes’. This community was not found during the survey at Lake Morris (Botanical Consultants, 2014).</p> | <p>Not likely to be at variance</p> <p>(as per CPS 7763/1)</p> | <p>No</p> |
| <p>Environmental value: significant remnant vegetation and conservation areas</p> | | |
| <p><u>Principle (e):</u> <i>“Native vegetation should not be cleared if it is significant as a remnant of native vegetation in an area that has been extensively cleared.”</i></p> <p><u>Assessment:</u></p> <p>The application area occurs within the Western Mallee subregion of the Mallee Interim Biogeographic Regionalisation of Australia bioregion in which approximately 37 percent of the pre-European vegetation still remains (Government of Western Australia, 2019). The majority of the application area (approximately 90 per cent) falls within the vegetation association 125, the rest is split between vegetation associations 511 and 519. The full extent of native vegetation remaining within the application area can be found in</p> | <p>Not at variance</p> <p>(as per CPS 7763/1)</p> | <p>No</p> |

| Assessment against the clearing principles | Variance level | Is further consideration required? |
|--|--|------------------------------------|
| section B.2. Given the extent of native vegetation still remaining in the region, this area does not represent a remnant of native vegetation. | | |
| <p><u>Principle (h):</u> <i>“Native vegetation should not be cleared if the clearing of the vegetation is likely to have an impact on the environmental values of any adjacent or nearby conservation area.”</i></p> <p><u>Assessment:</u></p> <p>The application area is located 900 metres east of Lake Magenta Nature Reserve (GIS Database). Given the distance to the nearest conservation area, the proposed clearing could pose a potential risk to the local environmental values due to an increase in the spread of weeds, if weed communities colonise in the disturbed areas they could spread to the Nature Reserve. Potential impacts from weeds can be minimised by the implementation of a weed management condition.</p> | <p>Not likely to be at variance</p> <p>(as per CPS 7763/1)</p> | <p>No</p> |
| Environmental value: land and water resources | | |
| <p><u>Principle (f):</u> <i>“Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland.”</i></p> <p><u>Assessment:</u></p> <p>The application area is located within Lake Morris, which is mapped as a non-perennial lake (GIS Database). Out of the four vegetation associations identified by Botanical Consultants (2014) within the application area (see section B.1) the <i>Tecticornia</i> scrub/heath vegetation occupies the majority of the application area. This vegetation type is considered to be growing in association with a wetland.</p> <p>However, the vegetation associations recorded within the application area are extensive throughout the Lake Magenta salt lake. Even though the proposed clearing is at variance with this principle, it is not likely to have any significant environmental impacts since approximately 95 per cent of the proposed clearing is to occur on the sparsely vegetated lake bed instead of the densely vegetated areas located on the edges of the lake.</p> | <p>At variance</p> <p>(as per CPS 7763/1)</p> | <p>No</p> |
| <p><u>Principle (g):</u> <i>“Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation.”</i></p> <p><u>Assessment:</u></p> <p>The mapped soils are not highly susceptible to wind or water erosion. The soils within the application area are already highly saline and the vegetation to be cleared consists of predominantly salt tolerant species.</p> <p>Noting the location of the application area, the proposed clearing is not likely to have an appreciable impact on land degradation.</p> | <p>Not likely to be at variance</p> <p>(as per CPS 7763/1)</p> | <p>No</p> |
| <p><u>Principle (i):</u> <i>“Native vegetation should not be cleared if the clearing of the vegetation is likely to cause deterioration in the quality of surface or underground water.”</i></p> <p><u>Assessment:</u></p> <p>The application area is located within Lake Morris, which is mapped as a non-perennial lake (GIS Database). Given the average evaporation rate (1,800 millimetres) in the local area greatly exceeds the local annual rainfall average of 348.5 millimetres (BoM, 2022) any surface water is likely to be short lived and saline in nature. The proposed clearing is unlikely to impact on the quality of surface water.</p> <p>There are no Public Drinking Water Source Areas recorded within the application area (GIS Database). Ground water salinity levels are already high within the application area. The proposed clearing is unlikely to impact ground water quality.</p> | <p>Not likely to be at variance</p> <p>(as per CPS 7763/1)</p> | <p>No</p> |

| Assessment against the clearing principles | Variance level | Is further consideration required? |
|---|--|------------------------------------|
| <p><u>Principle (j):</u> “Native vegetation should not be cleared if the clearing of the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding.”</p> <p><u>Assessment:</u></p> <p>The application area is located within Lake Morrison which is mapped as an area subject to inundation. The application area is located within the Magenta Internal catchment area of the Albany Coast basin (GIS Database). Given the size of the area to be cleared (65.38 hectares) in relation to the size of the catchment area (36,745 hectares) (GIS Database), the proposed clearing is not likely to increase the potential of flooding on a local or catchment scale.</p> | <p>Not likely to be at variance</p> <p>(as per CPS 7763/1)</p> | No |

Appendix D. Vegetation condition rating scale

Vegetation condition is a rating given to a defined area of vegetation to categorise and rank disturbance related to human activities. The rating refers to the degree of change in the vegetation structure, density and species present in relation to undisturbed vegetation of the same type. The degree of disturbance impacts upon the vegetation’s ability to regenerate. Disturbance at a site can be a cumulative effect from a number of interacting disturbance types.

Considering its location, the scale below was used to measure the condition of the vegetation proposed to be cleared. This scale has been extracted from Keighery, B.J. (1994) *Bushland Plant Survey: A Guide to Plant Community Survey for the Community*. Wildflower Society of WA (Inc). Nedlands, Western Australia.

Measuring vegetation condition for the South West and Interzone Botanical Province (Keighery, 1994)

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

Appendix E. Biological survey information excerpts

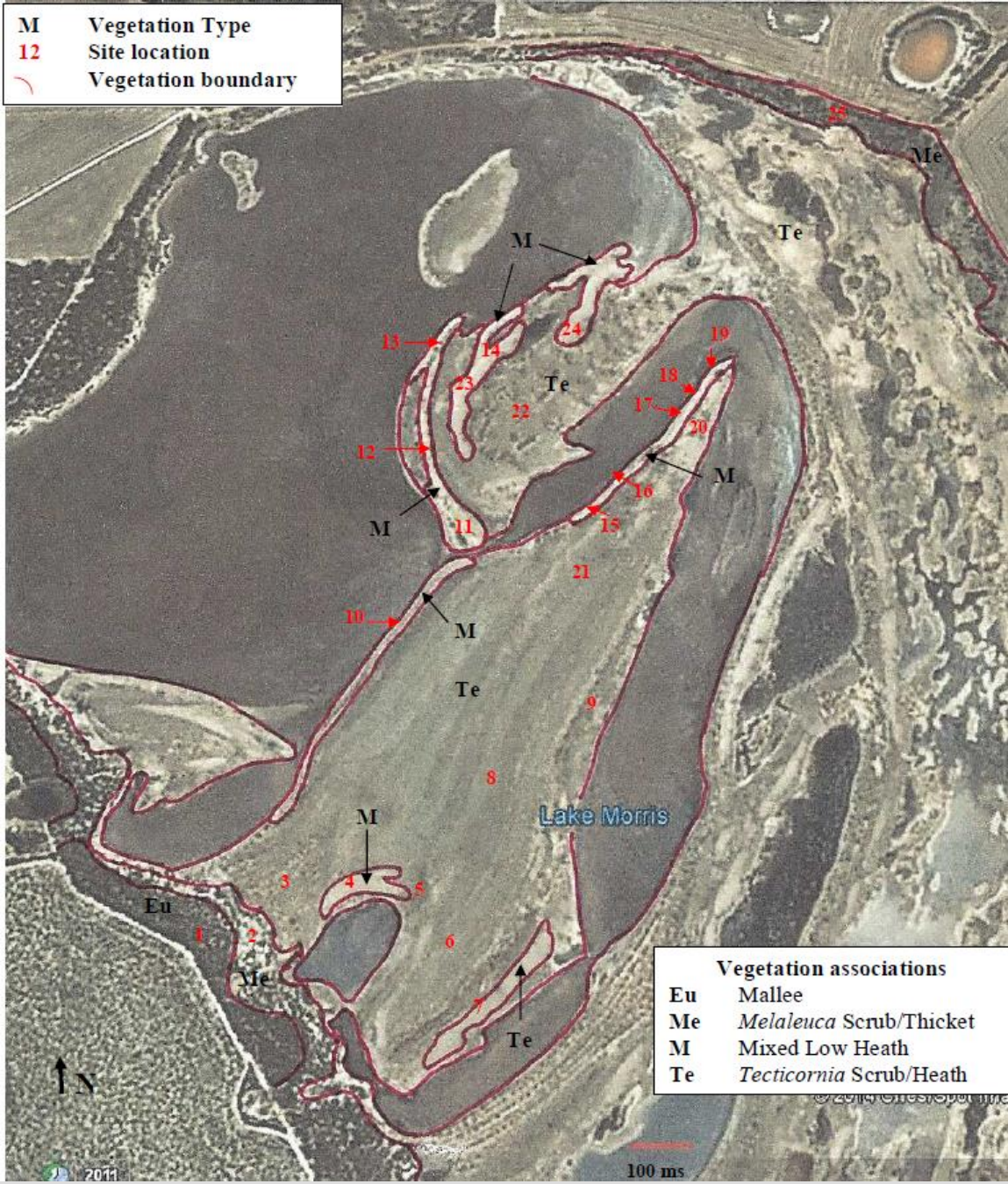


Figure 1. Vegetation associations at proposed gypsum mine (Botanical Consultants, 2014).

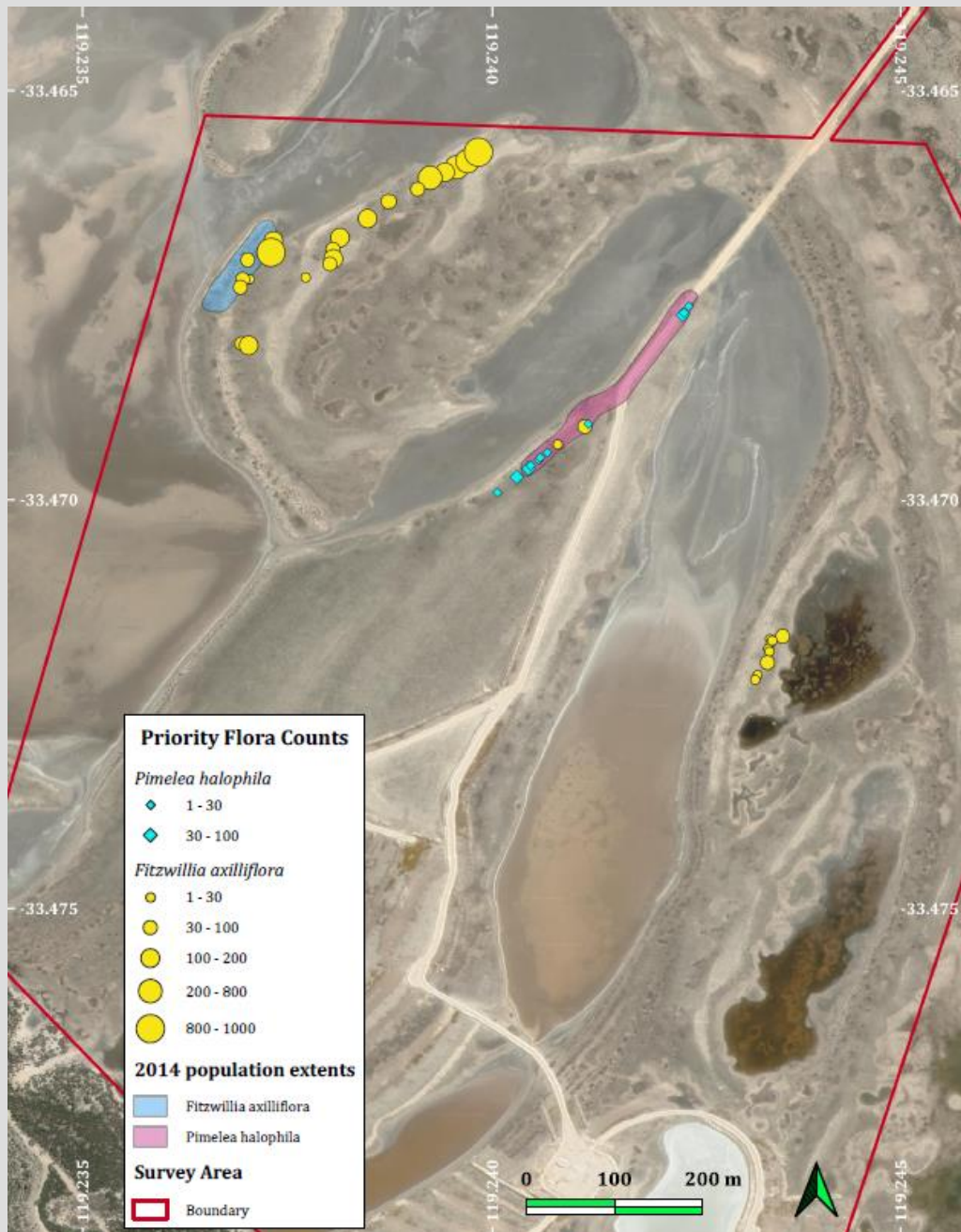


Figure 2. Current and previous Priority flora locations (Plantecology Consulting, 2022).

Appendix F. Sources of information

F.1. GIS databases

Publicly available GIS Databases used (sourced from www.data.wa.gov.au):

- Aboriginal Heritage Places (DPLH-001)
- Clearing Regulations – Schedule One Areas (DWER-057)
- DBCA – Lands of Interest (DBCA-012)
- DBCA Legislated Lands and Waters (DBCA-011)
- Environmentally Sensitive Areas (DWER-046)
- Groundwater Salinity Statewide (DWER-026)
- Hydrographic Catchments – Catchments (DWER-028)
- Hydrography – Inland Waters – Waterlines
- Hydrography, Linear (DWER-031)
- IBRA Vegetation Statistics
- Pre-European Vegetation Statistics
- RIWI Act, Groundwater Areas (DWER-034)
- RIWI Act, Surface Water Areas and Irrigation Districts (DWER-037)
- Soil Landscape Land Quality – Flood Risk (DPIRD-007)

- Soil Landscape Land Quality – Phosphorus Export Risk (DPIRD-010)
- Soil Landscape Land Quality – Subsurface Acidification Risk (DPIRD-011)
- Soil Landscape Land Quality – Water Erosion Risk (DPIRD-013)
- Soil Landscape Land Quality – Water Repellence Risk (DPIRD-014)
- Soil Landscape Land Quality – Waterlogging Risk (DPIRD-015)
- Soil Landscape Land Quality – Wind Erosion Risk (DPIRD-016)
- Soil Landscape Mapping – Best Available (DPIRD-027)
- Soil Landscape Mapping – Rangelands (DPIRD-064)
- WA Now Aerial Imagery
- Wheatbelt Wetlands Stage 1 (DBCA-021)

Restricted GIS Databases used:

- Threatened Flora (TPFL)
- Threatened Flora (WAHerb)
- Threatened Fauna
- Threatened Ecological Communities and Priority Ecological Communities
- Threatened Ecological Communities and Priority Ecological Communities (Buffers)

F.2. References

- Accendo Australia (2022) Annual Compliance Report Clearing Permit 7763/1. Unpublished report prepared by Accendo Australia Pty Ltd for the Department of Mines, Industry Regulation and Safety, July 2022.
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4. Glossary

Acronyms:

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|---------------|---|
| BC Act | <i>Biodiversity Conservation Act 2016</i> , Western Australia |
| BoM | Bureau of Meteorology, Australian Government |
| DAA | Department of Aboriginal Affairs, Western Australia (now DPLH) |
| DAFWA | Department of Agriculture and Food, Western Australia (now DPIRD) |

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|-----------------|---|
| DAWE | Department of Agriculture, Water and the Environment, Australian Government |
| DBCA | Department of Biodiversity, Conservation and Attractions, Western Australia |
| DER | Department of Environment Regulation, Western Australia (now DWER) |
| DMIRS | Department of Mines, Industry Regulation and Safety, Western Australia |
| DMP | Department of Mines and Petroleum, Western Australia (now DMIRS) |
| DoEE | Department of the Environment and Energy (now DAWE) |
| DoW | Department of Water, Western Australia (now DWER) |
| DPaW | Department of Parks and Wildlife, Western Australia (now DBCA) |
| DPIRD | Department of Primary Industries and Regional Development, Western Australia |
| DPLH | Department of Planning, Lands and Heritage, Western Australia |
| DRF | Declared Rare Flora (now known as Threatened Flora) |
| DWER | Department of Water and Environmental Regulation, Western Australia |
| EP Act | <i>Environmental Protection Act 1986</i> , Western Australia |
| EPA | Environmental Protection Authority, Western Australia |
| EPBC Act | <i>Environment Protection and Biodiversity Conservation Act 1999</i> (Federal Act) |
| GIS | Geographical Information System |
| ha | Hectare (10,000 square metres) |
| IBRA | Interim Biogeographic Regionalisation for Australia |
| IUCN | International Union for the Conservation of Nature and Natural Resources – commonly known as the World Conservation Union |
| PEC | Priority Ecological Community, Western Australia |
| RIWI Act | <i>Rights in Water and Irrigation Act 1914</i> , Western Australia |
| TEC | Threatened Ecological Community |

Definitions:

{DBCA (2019) Conservation Codes for Western Australian Flora and Fauna. Department of Biodiversity, Conservation and Attractions, Western Australia}:-

T Threatened species:

Listed by order of the Minister as Threatened in the category of critically endangered, endangered or vulnerable under section 19(1), or is a rediscovered species to be regarded as threatened species under section 26(2) of the *Biodiversity Conservation Act 2016* (BC Act).

Threatened fauna is that subset of ‘Specially Protected Fauna’ listed under schedules 1 to 3 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018* for Threatened Fauna.

Threatened flora is that subset of ‘Rare Flora’ listed under schedules 1 to 3 of the *Wildlife Conservation (Rare Flora) Notice 2018* for Threatened Flora.

The assessment of the conservation status of these species is based on their national extent and ranked according to their level of threat using IUCN Red List categories and criteria as detailed below.

CR Critically endangered species

Threatened species considered to be “*facing an extremely high risk of extinction in the wild in the immediate future, as determined in accordance with criteria set out in the ministerial guidelines*”.

Listed as critically endangered under section 19(1)(a) of the BC Act in accordance with the criteria set out in section 20 and the ministerial guidelines. Published under schedule 1 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018* for critically endangered fauna or the *Wildlife Conservation (Rare Flora) Notice 2018* for critically endangered flora.

EN Endangered species

Threatened species considered to be “*facing a very high risk of extinction in the wild in the near future, as determined in accordance with criteria set out in the ministerial guidelines*”.

Listed as endangered under section 19(1)(b) of the BC Act in accordance with the criteria set out in section 21 and the ministerial guidelines. Published under schedule 2 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018* for endangered fauna or the *Wildlife Conservation (Rare Flora) Notice 2018* for endangered flora.

VU Vulnerable species

Threatened species considered to be “*facing a high risk of extinction in the wild in the medium-term future, as determined in accordance with criteria set out in the ministerial guidelines*”.

Listed as vulnerable under section 19(1)(c) of the BC Act in accordance with the criteria set out in section 22 and the ministerial guidelines. Published under schedule 3 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018* for vulnerable fauna or the *Wildlife Conservation (Rare Flora) Notice 2018* for vulnerable flora.

Extinct Species:

EX Extinct species
Species where “*there is no reasonable doubt that the last member of the species has died*”, and listing is otherwise in accordance with the ministerial guidelines (section 24 of the BC Act).

Published as presumed extinct under schedule 4 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018* for extinct fauna or the *Wildlife Conservation (Rare Flora) Notice 2018* for extinct flora.

EW Extinct in the wild species
Species that “*is known only to survive in cultivation, in captivity or as a naturalised population well outside its past range; and it has not been recorded in its known habitat or expected habitat, at appropriate seasons, anywhere in its past range, despite surveys over a time frame appropriate to its life cycle and form*”, and listing is otherwise in accordance with the ministerial guidelines (section 25 of the BC Act).

Currently there are no threatened fauna or threatened flora species listed as extinct in the wild. If listing of a species as extinct in the wild occurs, then a schedule will be added to the applicable notice.

Specially protected species:

Listed by order of the Minister as specially protected under section 13(1) of the BC Act. Meeting one or more of the following categories: species of special conservation interest; migratory species; cetaceans; species subject to international agreement; or species otherwise in need of special protection.

Species that are listed as threatened species (critically endangered, endangered or vulnerable) or extinct species under the BC Act cannot also be listed as Specially Protected species.

MI Migratory species
Fauna that periodically or occasionally visit Australia or an external Territory or the exclusive economic zone; or the species is subject of an international agreement that relates to the protection of migratory species and that binds the Commonwealth; and listing is otherwise in accordance with the ministerial guidelines (section 15 of the BC Act).

Includes birds that are subject to an agreement between the government of Australia and the governments of Japan (JAMBA), China (CAMBA) and The Republic of Korea (ROKAMBA), and fauna subject to the *Convention on the Conservation of Migratory Species of Wild Animals* (Bonn Convention), an environmental treaty under the United Nations Environment Program. Migratory species listed under the BC Act are a subset of the migratory animals, that are known to visit Western Australia, protected under the international agreements or treaties, excluding species that are listed as Threatened species.

Published as migratory birds protected under an international agreement under schedule 5 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018*.

CD Species of special conservation interest (conservation dependent fauna)
Fauna of special conservation need being species dependent on ongoing conservation intervention to prevent it becoming eligible for listing as threatened, and listing is otherwise in accordance with the ministerial guidelines (section 14 of the BC Act).

Published as conservation dependent fauna under schedule 6 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018*.

OS Other specially protected species
Fauna otherwise in need of special protection to ensure their conservation, and listing is otherwise in accordance with the ministerial guidelines (section 18 of the BC Act).

Published as other specially protected fauna under schedule 7 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018*.

P Priority species:
Possibly threatened species that do not meet survey criteria, or are otherwise data deficient, are added to the Priority Fauna or Priority Flora Lists under Priorities 1, 2 or 3. These three categories are ranked in order of priority for survey and evaluation of conservation status so that consideration can be given to their declaration as threatened fauna or flora.

Species that are adequately known, are rare but not threatened, or meet criteria for near threatened, or that have been recently removed from the threatened species or other specially protected fauna lists for other than taxonomic reasons, are placed in Priority 4. These species require regular monitoring.

Assessment of Priority codes is based on the Western Australian distribution of the species, unless the distribution in WA is part of a contiguous population extending into adjacent States, as defined by the known spread of locations.

P1 Priority One - Poorly-known species

Species that are known from one or a few locations (generally five or less) which are potentially at risk. All occurrences are either: very small; or on lands not managed for conservation, e.g. agricultural or pastoral lands, urban areas, road and rail reserves, gravel reserves and active mineral leases; or otherwise under threat of habitat destruction or degradation. Species may be included if they are comparatively well known from one or more locations but do not meet adequacy of survey requirements and appear to be under immediate threat from known threatening processes. Such species are in urgent need of further survey.

P2 Priority Two - Poorly-known species

Species that are known from one or a few locations (generally five or less), some of which are on lands managed primarily for nature conservation, e.g. national parks, conservation parks, nature reserves and other lands with secure tenure being managed for conservation. Species may be included if they are comparatively well known from one or more locations but do not meet adequacy of survey requirements and appear to be under threat from known threatening processes. Such species are in urgent need of further survey.

P3 Priority Three - Poorly-known species

Species that are known from several locations, and the species does not appear to be under imminent threat, or from few but widespread locations with either large population size or significant remaining areas of apparently suitable habitat, much of it not under imminent threat. Species may be included if they are comparatively well known from several locations but do not meet adequacy of survey requirements and known threatening processes exist that could affect them. Such species are in need of further survey.

P4 Priority Four - Rare, Near Threatened and other species in need of monitoring

(a) Rare. Species 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 species are usually represented on conservation lands.

(b) Near Threatened. Species that are considered to have been adequately surveyed and that are close to qualifying for vulnerable but are not listed as Conservation Dependent.

(c) Species that have been removed from the list of threatened species during the past five years for reasons other than taxonomy.

Principles for clearing native vegetation:

- (a) Native vegetation should not be cleared if it comprises a high level of biological diversity.
- (b) Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a significant habitat for fauna.
- (c) Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, threatened flora.
- (d) Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of a threatened ecological community.
- (e) Native vegetation should not be cleared if it is significant as a remnant of native vegetation in an area that has been extensively cleared.
- (f) Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland.
- (g) Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation.
- (h) Native vegetation should not be cleared if the clearing of the vegetation is likely to have an impact on the environmental values of any adjacent or nearby conservation area.
- (i) Native vegetation should not be cleared if the clearing of the vegetation is likely to cause deterioration in the quality of surface or underground water.
- (j) Native vegetation should not be cleared if the clearing of the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding.