

# Clearing Permit Decision Report

## 1. Application details

### 1.1. Permit application details

Permit application No.: 8785/1  
Permit type: Purpose Permit

### 1.2. Proponent details

Proponent's name: ACH Minerals Pty Ltd

### 1.3. Property details

Property: Mining Lease 74/163  
Local Government Area: Shire of Ravensthorpe  
Colloquial name: Mt Chester

### 1.4. Application

| Clearing Area (ha) | No. Trees | Method of Clearing | For the purpose of: |
|--------------------|-----------|--------------------|---------------------|
| 0.2604             |           | Mechanical Removal | Mineral Exploration |

### 1.5. Decision on application

Decision on Permit Application: Grant  
Decision Date: 2 April 2020

## 2. Site Information

### 2.1. Existing environment and information

#### 2.1.1. Description of the native vegetation under application

|                               |  |
|-------------------------------|--|
| <b>Vegetation Description</b> | The vegetation of the application area is broadly mapped as the following Beard vegetation association:<br><br>691: Thicket; Wattle, casuarina, tea-tree – <i>Acacia</i> , <i>Allocasuarina</i> , <i>Melaleuca alliance</i> (GIS Database).<br><br>A targeted flora survey was conducted over the application area and adjacent areas by Southern Ecology during May and November 2019. The following vegetation types were recorded within the application area (Southern Ecology, 2019), which align with previously mapped units in the Ravensthorpe Range (Craig et al., 2008): <ul style="list-style-type: none"> <li>• <i>Banksia lemniiana</i>, <i>B. heliantha</i> Shrubland;</li> <li>• <i>Banksia laevigata</i> subsp. <i>laevigata</i> Shrubland;</li> <li>• <i>Eucalyptus flocktoniae</i>, <i>E. phenax</i>, <i>E. ecostata</i> Mallee; and</li> <li>• <i>Beaufortia orbifolia</i> Thicket.</li> </ul> |
| <b>Clearing Description</b>   | Mt Chester.<br>ACH Minerals Pty Ltd proposes to clear up to 0.2604 hectares of native vegetation, for the purpose of mineral exploration. The project is located approximately 11 kilometres east, south-east of Ravensthorpe, within the Shire of Ravensthorpe.   |
| <b>Vegetation Condition</b>   | Excellent: Vegetation structure intact; disturbance affecting individual species, weeds non-aggressive (Keighery, 1994).   |
| <b>Comment</b>                | The vegetation condition was derived from a review of aerial imagery (GIS Database) and a flora survey conducted by Southern Ecology (2019).   |

## 3. Assessment of application against Clearing Principles

### (a) Native vegetation should not be cleared if it comprises a high level of biological diversity.

| Comments | Proposal is at variance to this Principle   |
|----------|---|
|          | <p>The application area occurs within the Fitzgerald (ESP1) sub-region of the Esperance Plains Bioregion of the Interim Biogeographic Regionalisation of Australia (IBRA) (GIS Database). This sub-region is characterised by myrtaceous and proteaceous scrub and Mallee heaths on sand plains overlying Eocene sediments. Herb fields and heaths occur on abrupt granite tors and quartzite ranges that rise from the plain, while Eucalypt woodlands occur in the gullies and alluvial foot-slopes (CALM, 2002).</p> <p>The vegetation within the application area is in an 'Excellent' condition based on viewing of aerial imagery (GIS Database) and a targeted flora survey conducted by Southern Ecology (2019). Parts of the application area have been previously disturbed by an existing access track (GIS Database).</p> |

The application area is located within the Ravensthorpe Range Area which is included on the Register of National Estate (GIS Database). The Ravensthorpe Range Area has been identified as a unique biological niche within the State of Western Australia, containing many rare and endemic plant species (DAWE, 2020a).

The application area is noted to occur within an area of high biodiversity, also known as a 'Biodiversity Hotspot' being the Fitzgerald River Ravensthorpe Hotspot, as identified by the Threatened Species Scientific Committee for the Australian Government (DAWE, 2020b).

A desktop review of fauna diversity identified 259 species that occur within the local area (10-kilometre range) (DBCA, 2020). There were eighteen conservation significant fauna species identified within the local area of the proposed clearing (DBCA, 2020). Of these species, nine are considered Threatened, one is listed as Priority 1 and is also endemic to the area, one is Priority 3, five are listed as Priority 4 and two are Specially Protected (DBCA, 2020). DAWE (2020c) also note that twenty species, eight of which are migratory species, may occur in the local area or habitat for these species is known to occur within the local area. The Ravensthorpe Range area is known to have a high level of fauna diversity. Due to the short-term nature of exploration and the small scale of clearing to be undertaken, it is unlikely that the diversity of fauna or fauna habitat will be impacted.

A targeted flora survey was conducted over the application area by Southern Ecology during May and November 2019. The survey area includes a 50-metre buffer around the application area. The following vegetation types were recorded within the application area (Southern Ecology, 2019), which align with previously mapped units in the Ravensthorpe Range (Craig et al., 2008):

- *Banksia lemanniana*, *B. heliantha* Shrubland;
- *Banksia laevigata subsp. laevigata* Shrubland;
- *Eucalyptus flocktoniae*, *E. phenax*, *E. ecostata* Mallee; and
- *Beaufortia orbifolia* Thicket.

The flora survey identified 80 species from 20 families within the wider survey area (Southern Ecology, 2019). Four conservation significant flora were identified within the application area:

- *Daviesia megacalyx* (T);
- *Guichenotia apetala* (P1);
- *Banksia foliosissima* (P4); and
- *Banksia laevigata subsp. laevigata* (P4).

#### *Guichenotia apetala* (P1)

*Guichenotia apetala* is a Priority 1 flora species from the Malvaceae family. It is Endemic to Beard's Ravensthorpe System (Kern et al., 2008). *Guichenotia apetala* is currently known from 5 records over a range of less than 2.5 kilometres in the Mount Chester/Desmond area (Western Australian Herbarium, 1998-2020; GIS Database). One known record occurs within the wider survey area and the remaining records occur within 3 kilometres (Southern Ecology, 2019). Approximately 138 individuals of *Guichenotia apetala* were recorded during the flora survey (Southern Ecology, 2019).

#### *Banksia foliosissima* (P4)

*Banksia foliosissima* is a Priority 4 flora species from the Proteaceae family. It is currently known from 36 records across a range of approximately 235 kilometres between Dumbleyung and the Ravensthorpe Range (GIS Database; Western Australian Herbarium, 1998-2020). Seven known records occur within 1.5 kilometres of the survey area (Southern Ecology, 2019). Within the wider survey area, *Banksia foliosissima* was recorded as one juvenile individual (Southern Ecology, 2019). *Banksia foliosissima* is quite widespread in the local area and across the greater Ravensthorpe Range area (Kern et al., 2008; GIS Database).

#### *Banksia laevigata subsp. laevigata* (P4)

*Banksia laevigata subsp. laevigata* is a Priority 4 flora species from the Proteaceae family. It is currently known from 35 records across a range of approximately 160 kilometres between northeast of the Stirling Range National Park and the Ravensthorpe Range. *Banksia laevigata subsp. laevigata* is a key species of the Priority 1 Listed Priority Ecological Community (PEC): *Banksia laevigata* – *Banksia lemanniana* proteaceous thicket (DBCA, 2019). The majority of records are located in the Ravensthorpe area, the Fitzgerald River National Park and the Munglinup area (Kern et al., 2008; Western Australian Herbarium, 1998-2020; GIS Database). One known record occurs within the survey area and four known records occur within 2 kilometres (Southern Ecology, 2019). There were 44 mature individuals of *Banksia laevigata subsp. laevigata* were recorded during the flora survey (Southern Ecology, 2019). *Banksia laevigata subsp. laevigata* is quite widespread in the local area and across the greater Ravensthorpe Range area (Kern et al., 2008; GIS Database).

The applicant has reduced the area of clearing required and designed the exploration activities so that Priority flora species will be avoided as much as possible. Whilst *Guichenotia apetala*, *Banksia foliosissima* and *Banksia laevigata subsp. laevigata* were recorded in the greater survey area, they have not been recorded within the proposed clearing permit boundary. The proposed clearing may remove potential habitat for these species however, the vegetation proposed to be cleared is not likely to be necessary for their continued existence.

The vegetation type '*Banksia lemniiana*, *B. heliantha* Shrubland' was identified as being associated with the "Proteaceae Dominated Kwongkan Shrublands of the Southeast Coastal Floristic Province of Western Australia (Endangered)" community which is listed as a Threatened Ecological Community (TEC) under the *Environment Protection and Biodiversity Conservation Act 1999* (Southern Ecology, 2019; GIS Database). The community is also listed as a Priority 3 PEC in Western Australia. This is a broad vegetation assemblage found within the south coast region of Western Australia. The Proteaceae Dominated Kwongkan Shrublands consists of predominantly obligate seeding proteaceous shrubland and heath (Kwongkan) and Mallee heath on sandplain, duplex sand/clay and gravels overlying Eocene sediments, quartzite, schist, Yilgarn and Albany Fraser granite and greenstone ranges. Its flora is characterised by high species diversity and a high degree of endemism, particularly in the Stirling Range, Fitzgerald River National Park, Ravensthorpe Range and Russell Ranges. Due to the high levels of endemism, there are few species that exist across the entire range of the dense, obligate seeding Proteaceae dominated shrublands and Kwongkan of the Esperance Sandplains, however, particular species have been identified as common dominant species in each of its ecodistricts (DAWE, 2020c; DBCA, 2019). A small portion, approximately 0.086ha, of combined TEC/PEC associated vegetation will be cleared within the application area. Given the purpose and the small size of the clearing compared to the range and extent of the TEC, it is considered unlikely that the proposed clearing will result in any significant impact to the TEC/PEC.

The targeted flora survey also identified that the vegetation type '*Banksia laevigata* subsp. *laevigata* Shrubland' is representative of the Priority 1 Listed PEC - *Banksia laevigata* – *Banksia lemniiana* proteaceous thicket (also a component of the 'Proteaceae Dominated Kwongkan Shrublands of the Southeast Coastal Floristic Province of Western Australia' EPBC Act 1999 Listed TEC). The permit boundary has been minimised to avoid clearing of this PEC.

The application area is not known to be within an existing Phytophthora dieback risk area, however it does contain vegetation that is highly susceptible to Phytophthora dieback (Kern et al., 2008). Weed invasion in the Ravensthorpe Range Area is noted as being minimal (Kern et al., 2008). A weed and dieback management condition may minimise the introduction of weeds and dieback to the application area. It is noted that the proponent has a Regional Dieback Management Plan for the wider project area.

The proposed clearing occurs within an area of high biological diversity. Based on the above, the proposed clearing is at variance to this Principle. However, given the small scale of the proposed clearing, the potential impact on local biological diversity is not likely to be significant.

#### Methodology

CALM (2002)  
 Craig et al. (2008)  
 DAWE (2020a)  
 DAWE (2020b)  
 DAWE (2020c)  
 DBCA (2019)  
 DBCA (2020)  
 Kern et al. (2008)  
 Southern Ecology (2019)  
 Western Australian Herbarium (1998-2020)

GIS Database:

- Aerial imagery
- IBRA Australia
- Pre-European Vegetation
- Register of National Estate
- Threatened and Priority Ecological Communities Boundaries
- Threatened and Priority Ecological Communities Buffers
- Threatened and Priority Flora
- WA Herbarium
- Threatened Fauna

**(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 indigenous to Western Australia.**

#### Comments

**Proposal is not likely to be at variance to this Principle**

A desktop fauna assessment identified no conservation significant fauna species within the application area (DBCA, 2020).

There are however 18 conservation significant fauna species known to occur within the local area/region (10 kilometre range). Of these 18 fauna species, nine are considered Threatened species (DAWE, 2020c; DBCA, 2020). These being (DAWE, 2020c; DBCA, 2020; GIS Database):

- *Calyptorhynchus latirostris* (Carnaby's Cockatoo),
- *Dasyornis longirostris* (Western Bristlebird),

- *Dasyurus geoffroii* (Chuditch, Western Quoll),
- *Leipoa ocellata* (Mallefowl),
- *Myrmecobius fasciatus* (Numbat, Walpurti),
- *Parantechinus apicalis* (Dibbler),
- *Pseudomys shortridgei* (Heath Mouse, Heath Rat, Dayang),
- *Psophodes nigrogularis* (Western Whipbird), and
- *Psophodes nigrogularis subsp. nigrogularis* (Western Whipbird (western heath))

There is one Priority 1 listed species which is also endemic to the area being the *Lerista viduata* (Ravensthorpe Range slider, skink) (DBCA, 2020).

Vegetation within the proposed clearing area and the surrounding local area does provide suitable habitat for indigenous fauna including many of the species listed above however, the same or similar habitat is widely present and intact throughout the surrounding region (GIS Database). The proposed clearing will not fragment the habitat nor significantly impact any known fauna corridors or ecological linkages. Given the small scale of the proposed clearing and the mobile nature of the fauna species present in the area, the proposed clearing is not likely to have an impact on habitat for local fauna species.

Based on the above, the proposed clearing is not likely to be at variance to this Principle.

**Methodology** DAWE (2020c)  
DBCA (2020)

GIS Database:  
- Aerial Imagery  
- Pre-European Vegetation  
- Threatened Fauna

**(c) Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, rare flora.**

**Comments Proposal is not likely to be at variance to this Principle**

A targeted flora survey was conducted over the application area by Southern Ecology during May and November 2019. The survey area includes a 50-metre buffer around the application area.

The Threatened flora species *Daviesia megacalyx* was recorded during the flora survey in the '*Banksia lemnioides*, *B. heliantha* Shrubland' vegetation type. *Daviesia megacalyx* is endemic to Beard's Ravensthorpe System and is currently known from 20 records across a range of approximately 25 kilometres across the Ravensthorpe Range (Kern et al., 2008; Western Australian Herbarium, 1998-2020; GIS Database). Six records occur approximately 2 kilometres south east of the survey area situated along Elverdton road (Southern Ecology, 2019). Within the greater survey area, *Daviesia megacalyx* was recorded as one juvenile individual (Southern Ecology, 2019). The applicant has designed the exploration activities to minimise clearing of conservation significant species. This one individual plant is not located within the permit boundary and is unlikely to be cleared as part of proposed clearing. The conservation status of *Daviesia megacalyx* will not be impacted by this clearing. The vegetation to be cleared is not necessary for the continued existence of this Threatened (rare) flora.

Based on the above, the proposed clearing is not likely to be variance to this Principle.

**Methodology** Craig et al. (2008)  
Kern et al. (2008)  
Southern Ecology (2019)  
Western Australian Herbarium (1998-2020)

GIS Database:  
- Pre-European Vegetation  
- Threatened and Priority Flora  
- WA Herbarium

**(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.**

**Comments Proposal is not likely to be at variance to this Principle**

There are no known Threatened Ecological Communities (TECs) within the application area (GIS Database). A targeted flora survey of the application area was conducted by Southern Ecology. The survey undertaken by Southern Ecology included a 50 metre buffer around the application area. During the field survey it was identified that vegetation present is associated with the "Proteaceae Dominated Kwongkan Shrublands of the Southeast Coastal Floristic Province of Western Australia (Endangered)" community which is listed as a Threatened Ecological Community (TEC) under the *Environment Protection and Biodiversity Conservation Act 1999* (Southern Ecology, 2019; GIS Database). However, no TECs listed under the *Biodiversity Conservation Act 2016*, have been identified in the application area (Southern Ecology, 2019).

Based on the above, the proposed clearing is not likely to be at variance to this Principle.

**Methodology** DAWE (2020c)  
 DBCA (2019)  
 Southern Ecology (2019)

GIS Database:  
 - Threatened and Priority Ecological Communities Boundaries  
 - Threatened and Priority Ecological Communities Buffers

**(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.**

**Comments Proposal is not at variance to this Principle**

The application area falls within the Esperance Plains Bioregion of the Interim Biogeographic Regionalisation for Australia (IBRA) (GIS Database). Approximately 51% and 55% of the pre-European vegetation still exists in the IBRA Esperance Plains Bioregion and the IBRA Fitzgerald (ESP1) Sub-region, respectively (Government of Western Australia, 2019). The application area is broadly mapped as Beard vegetation association 691: Thicket; Wattle, casuarina, tea-tree – *Acacia*, *Allocasuarina*, *Melaleuca alliance* (GIS Database). Approximately 78% and 98% of the pre-European extent of this vegetation association remains uncleared at both the state and bioregional level, respectively (Government of Western Australia, 2019).

Therefore, the application area does not represent a significant remnant of native vegetation in an area that has been extensively cleared nor will it fragment or isolate habitat.

|  | Pre-European area (ha)* | Current extent (ha)* | Remaining %* | Conservation Status** | Pre-European % in DBCA managed lands (and post clearing %) |
|--|-------------------------|----------------------|--------------|-----------------------|--|
| IBRA Bioregion – Esperance Plains                          | 2,899,940.66            | 1,494,450.87         | ~51.53       | Least Concern         | ~28.84 (~55.05)  |
| IBRA Sub-region – Fitzgerald (ESP1)                        | 1,570,678.39            | 865,779.27           | ~55.12       | Least Concern         | ~28.18 (~50.69)  |
| Local Government - Ravensthorpe                            | 982,194.16              | 605,474.80           | ~61.65       | Least Concern         | ~19.97   |
| Beard vegetation associations – WA                         |                         |                      |              |                       |  |
| 691  | 45,588.56               | 35,767.62            | ~78.46       | Least Concern         | ~65.98 (~83.51)  |
| Beard vegetation associations – Esperance Plains Bioregion |                         |                      |              |                       |  |
| 691  | 35,489.88               | 34,896.56            | ~98.33       | Least Concern         | ~84.67 (~85.58)  |
| Beard vegetation associations – Fitzgerald (ESP1)          |                         |                      |              |                       |  |
| 691  | 35,489.88               | 34,896.56            | ~98.33       | Least Concern         | ~84.67 (~85.58)  |

\* Government of Western Australia (2019)  
 \*\* Department of Natural Resources and Environment (2002)

Based on the above, the proposed clearing is not at variance to this Principle.

**Methodology** Department of Natural Resources and Environment (2002)  
Government of Western Australia (2019)

GIS Database:  
- IBRA Australia  
- Pre-European Vegetation

**(f) Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland.**

**Comments Proposal is not at variance to this Principle**

No wetlands of International or National importance occur within the application area or the surrounding local area (Southern Ecology, 2019; GIS Database). There are numerous minor, non-perennial water courses surrounding the application area (GIS Database), however no watercourses are dissected by the application area. Similar drainage lines are extensive throughout the local area, which likely only flow following a significant rain event (BoM, 2020). A targeted flora survey by Southern Ecology did not identify any vegetation associated with a wetland or riparian vegetation (Southern Ecology, 2019).

Based on the above, the proposed clearing is not at variance to this Principle.

**Methodology** BoM (2020)  
Southern Ecology (2019)

GIS Database:  
- Hydrography, Lakes  
- Hydrography, linear  
- RAMSAR, Wetlands

**(g) Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation.**

**Comments Proposal is not likely to be at variance to this Principle**

The application area lies within the Ravensthorpe 1 Subsystem (GIS Database; DPIRD, 2020). These land systems have been mapped and described in technical bulletins produced by the former Department of Agriculture (now the Department of Primary Industries and Regional Development).

The Ravensthorpe 1 land subsystem is described as gently inclined slopes and low undulating hills on Archean greenstone consisting of mafic and ultramafic rocks. The dominant soils are brown non-cracking clays and calcareous loamy earths with associated red shallow loams, sandy duplexes and ironstone gravel soils (DPIRD, 2020). This land system is not generally susceptible to wind or water erosion, the soil is well draining and has nil to moderate salinity risk (DPIRD, 2020).

The proposed clearing of up to 0.2604 hectares of native vegetation is unlikely to cause appreciable land degradation.

Based on the above, the proposed clearing is not likely to be at variance to this Principle.

**Methodology** DPIRD (2020).

GIS Database:  
- Soils, Statewide  
- Groundwater Salinity Statewide

**(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.**

**Comments Proposal is not at variance to this Principle**

There are no conservation areas within the application area. The nearest conservation reserve is the Kundip Reserve approximately 13 kilometres to the south (GIS Database). There are several DBCA (formerly DPaW) managed lands located within 3 – 7 kilometres of the application area (GIS Database). The proposed clearing is unlikely to impact on the environmental values of any conservation area.

Based on the above, the proposed clearing is not at variance to this Principle.

**Methodology** GIS Database:  
- DPaW Tenure

**(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.**

**Comments Proposal is not at variance to this Principle**

There are no Public Drinking Water Source Areas (PDWSA) or RIWI Act Areas within the application area. The Ravensthorpe Catchment Area (PDWSA) is located approximately 3.8 kilometres to the east of the application area (GIS Database). There are two RIWI Act Areas located nearby being the Kondinin – Ravensthorpe Groundwater Area approximately 2.3 kilometres to the north and the Ravensthorpe Surface Water Area approximately 3.8 kilometres to the east. There are no permanent watercourses or wetlands within the area proposed to clear (GIS Database). The Jerdacuttup River is approximately 2.8 kilometres to the north east of the application area (GIS Database). Creek lines in the region are dry for most of the year, only flowing briefly immediately following significant rainfall. The proposed clearing is unlikely to result in significant changes to surface water flows, cause water erosion or to cause deterioration in the quality of underground water.

Based on the above, the proposed clearing is not at variance to this Principle.

**Methodology** GIS Database:  
- Hydrography, Linear  
- Public Drinking Water Source Areas  
- RIWI Act, Surface Water Area and Irrigation Districts  
- RIWI Act, Groundwater Area

**(j) Native vegetation should not be cleared if clearing the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding.**

**Comments Proposal is not at variance to this Principle**

The climate of the region is semi-arid, with a 'dry Mediterranean' rainfall pattern. The area can receive up to 500 millimetres per year (BoM, 2020), however rainfall is usually variable and unreliable (Craig et al. 2008). Drainage lines in the area are dry for most of the year, only flowing briefly immediately following significant rainfall (Southern Ecology, 2019).

There are no permanent water courses or waterbodies within the application area (GIS Database). Seasonal drainage lines are common in the region with temporary localised flooding briefly occurring following heavy rainfall events. The soil is classified as well draining with a low risk of waterlogging or flooding and with a low risk of water erosion impacts (DPIRD, 2020). Given this, the proposed clearing is unlikely to increase the incidence or intensity of natural flooding events.

Based on the above, the proposed clearing is not at variance to this Principle.

**Methodology** BoM (2020)  
Craig et al. (2008)  
DPIRD (2020)  
Southern Ecology (2019)

GIS Database:  
- Hydrographic Catchments - Catchments  
- Hydrography, linear

## Planning Instrument, Native Title, previous EPA decision or other matter.

**Comments** The clearing permit application was advertised on 3 February 2020 by the Department of Mines, Industry Regulation and Safety (DMIRS), inviting submissions from the public. Two submissions were received in relation to this application. One raised concerns regarding waste management, water contamination issues and rehabilitation. These matters will be addressed by approvals issued under the *Mining Act 1978*. The second submission raised concerns regarding biodiversity, Phytophthora dieback, erosion risks and fire risks. These matters have been addressed under the relevant clearing principles with the exception of fire risks which will be addressed by applications made under the *Mining Act 1978*.

There are two native title claims (WC1998/070 and WC2003/006) over the area under application (DPLH, 2020). These claims have been registered with the National Native Title Tribunal and filed at the Federal Court on behalf of the claimant group. 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, 2020). 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.

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, Threatened Flora Authorisation or any other licences or approvals are required for the proposed works.

**Methodology** DPLH (2020)

## 4. References

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- Department of Agriculture, Water and the Environment (2020a) Australian Heritage Database. Department of Agriculture, Water and the Environment. <http://www.environment.gov.au/cgi-bin/ahdb/search.pl> (Accessed 27 February 2020).
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- Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.
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- Southern Ecology (2019) Targeted Flora Survey: Mt Chester. Prepared for ACH Minerals Pty Ltd by Southern Ecology November 2019.
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## 5. Glossary

### Acronyms:

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