



Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 8359/1
Permit type: Area Permit

1.2. Proponent details

Proponent's name: Lake Hillman Mining Pty Ltd

1.3. Property details

Property: Mining Lease 70/76
Mining Lease 70/319
Local Government Area: Shire of Dalwallinu
Colloquial name: Lake Hillman Project

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
34.759		Mechanical Removal	Gypsum Mining

1.5. Decision on application

Decision on Permit Application: Grant
Decision Date: 21 March 2019

2. Site Information

2.1. Existing environment and information

2.1.1. Description of the native vegetation under application

Vegetation Description The vegetation of the application area is broadly mapped as the following Beard vegetation associations: 125: Bare areas; salt lakes; and 631: Succulent steppe with woodland and thicket; York gum over *Melaleuca thyoides* & samphire (GIS Database).

Landform Research (2018) has informally assessed the vegetation within the application area on 8 November 2007, 19 June 2008 and on 3 April 2009, and the site inspected each year in June 2014, winter 2015, winter 2016, June and November 2017, and 24 October 2018. The following vegetation association was recorded within the application area (Landform Research, 2018):

Degraded to Sparse Chenopod Groundcover - The vegetation is classified as Dwarf Scrub D to Open Dwarf Scrub D, under the Muir System of Vegetation Classification. Under the vegetation structural classes the vegetation is Open Sedgeland to Very Open Sedgeland.

Clearing Description Lake Hillman Project.
Lake Hillman Mining Pty Ltd proposes to clear up to 34.579 hectares of native vegetation within a boundary of approximately 34.759 hectares, for the purpose of gypsum mining. The project is located approximately six kilometres north-east of Kalannie, within the Shire of Dalwallinu.

Vegetation Condition Very Good: Vegetation structure altered; obvious signs of disturbance (Keighery, 1994).
To:
Completely Degraded: No longer intact; completely/almost completely without native species (Keighery, 1994).

Comment The vegetation condition was derived from a vegetation survey conducted by Landform Research (2018).

3. Assessment of application against Clearing Principles

Comments

The application area occurs within the Merredin subregion of the Avon Wheatbelt Interim Biogeographic Regionalisation for Australia (IBRA) (GIS Database). This subregion is characterised by proteaceous scrubheaths, rich in endemics, on residual lateritic uplands and derived sandplains; missed eucalypt, *Allocasuarina huegeliana* and Jam-York Gum woodlands on Quaternary alluvials and eluvials. There is no connected drainage; salt lake chains occur as remnants of ancient drainage systems that now only function in very wet years (CALM, 2002).

Landform Research (2018) has informally assessed the vegetation and rehabilitation in the local area on a number of occasions, at various times of the year and under different local climate and weather conditions.

Five 100m² sample plots were surveyed in 2017 and 2018 by Landform Research (2018), which identified 10 vascular plant taxa from seven genera and six families. The vegetation within the lakebed is scarce, with the application area lying on an elevated portion of the lake bed, which is dominated by a few Chenopod species (Landform Research, 2018). The vegetation within the application area has been impacted by recreational driving and historical mining activities (Landform Research, 2018). The vegetation communities did not represent any known Threatened or Priority Ecological Communities, and there were no known Threatened or Priority Flora species recorded within the application area (Landform Research, 2018; GIS Database). One species of the genus *Frankenia* was recorded within the application area. The Threatened flora *Frankenia conferta* has been identified in the Lake Hillman area from several locations as well as the presumed extinct flora species *Frankenia parvula* (Landform Research, 2018). The *Frankenia* species recorded on site was examined extensively under microscope and found to compare to *Frankenia pauciflora* that is found from the Goldfields to the coast. The species was subsequently confirmed as *Frankenia pauciflora* (Landform Research, 2018).

There was no fauna survey undertaken over the application area. According to available datasets, there are two fauna species of conservation significance recorded within a 10 kilometre radius of the application area; the Malleefowl (*Leipoa ocellata* – Threatened) and Western Spiny-tailed Skink (*Egernia stokesii* subsp. *badia* – Threatened) (NatureMap, 2019). Based on habitat preference and ecology, the application area does not contain suitable habitat for these species. Aerial imagery suggests that fauna habitat within the application area is limited due to the sparse nature of the native vegetation (GIS Database).

The application area occurs within the Merredin sub-region of the Avon Wheatbelt IBRA, which has been subjected to widespread clearing for agricultural purposes, in which approximately 18.51% of the pre-European vegetation remains (Government of Western Australia, 2018; GIS Database). At a bioregion and subregion level, approximately 9% of Beard vegetation association 125 remains, which equates to an ‘Endangered’ conservation status (Department of Natural Resources and Environment, 2002; Government of Western Australia, 2018). The National Objectives and Targets for Biodiversity Conservation 2001-2005 advise that the retention of 30% or more of the pre-clearing extent of each ecological community is necessary to protect Australia’s biodiversity. The application area has been historically disturbed by recreational driving activities and adjacent mining operations (Landform Research, 2018). Considering the application area is located within Lake Hillman, contains very sparse vegetation cover and is adjacent to mining operations it is considered unlikely to represent a significant ecological linkage or provide a significant buffer or refuge role. The proposed clearing of 37.759 hectares will be rehabilitated to lake bed vegetation, and the taking of gypsum will therefore not lead to any significant decrease in the total area of Beard vegetation association 125 in the longer term (Landform Research, 2018).

The application area is not located within any conservation area (GIS Database). There are no conservation areas within seven kilometres of the application area (GIS Database). The vegetation within the permit area does not form a part of an ecological linkage to any conservation areas.

The application area forms part of a ridge or dune located in a non-perennial lake known as Lake Hillman (Landform Research, 2018; GIS Database). This ridge rises approximately one to two metres above the surrounding lake bed, which is saline and only fills with water occasionally as a result of cyclonic rainfall events (Landform Research, 2018). Generally only small areas of water will occur as a result of local winter rainfall and the ridges are never flooded (Landform Research, 2018). The proposed clearing of native vegetation is not likely to cause deterioration in the quality of surface or underground water or increase the incidence or intensity of flooding (GIS Database).

Based on the informal vegetation assessment by Landform Research (2018), several species of vegetation including the genus ‘*Tecticornia*’ was identified to grow in association with the salt lake. Given the sparse nature of vegetation within the areas under application and the lack of large trees (GIS Database), it is unlikely that the proposed clearing will significantly impact the lake bed.

The risk of wind erosion could be very high once the protective vegetation is removed within the application area (DAFWA, 2012). DAFWA (2012) advised that this risk can be managed by careful management of topsoil and vegetation residue during the clearing operation for the progressive rehabilitation of disturbed cells after mining. Potential impacts from wind erosion as a result of the proposed clearing may be minimised by the implementation of a staged clearing condition.

Care must be taken to ensure that the proposed clearing activities do not spread or introduce weed species to non-infested areas. Potential impacts to biodiversity as a result of the proposed clearing may be minimised by the implementation of a weed management condition.

The application has been assessed against the clearing principles, planning instruments and other matters in accordance with s.51O of the *Environmental Protection Act 1986*, and the proposed clearing is at variance to Principles (f) and (g), and not likely to be at variance to Principles (a), (b), (c), (d), (e), (h), (i) and (j).

Methodology DAFWA (2012)
Department of Natural Resources and Environment (2002)
Government of Western Australia (2018)
Landform Research (2018)
NatureMap (2019)

GIS Database:

- DPaW Tenure
- Hydrography, Lakes
- Hydrography, Linear
- IBRA Australia
- Imagery
- Landsystem Rangelands
- Pre-European Vegetation
- Public Drinking Water Source Areas
- Soils, Statewide
- Threatened and Priority Ecological Communities boundaries
- Threatened and Priority Ecological Communities buffers
- Threatened and Priority Flora
- Threatened Fauna

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

Comments

There are no Native Title claims over the area under application (DPLH, 2019). 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, 2019). 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, or any other licences or approvals are required for the proposed works.

The amendment application was advertised on 18 February 2019 by the Department of Mines, Industry Regulation and Safety inviting submissions from the public. Two submission was received in relation to this application. A written response was provided to both submissions.

Methodology DPLH (2019)

4. References

- CALM (2002) A Biodiversity Audit of Western Australia's 53 Biogeographical Subregions. Department of Conservation and Land Management, Western Australia.
- DAFWA (2012) Advice to the assessing officer for clearing permit application CPS 4961/1. Received on 28 May 2012.
- Department of Natural Resources and Environment (2002) Biodiversity Action Planning. Action planning for native biodiversity at multiple scales; catchment bioregional, landscape, local. Department of Natural Resources and Environment, Victoria.
- DPLH (2019) Aboriginal Heritage Enquiry System. Department of Planning, Lands and Heritage.
<http://maps.daa.wa.gov.au/AHIS/> (Accessed 19 February 2019).
- Government of Western Australia (2018) 2017 Statewide Vegetation Statistics incorporating the CAR Reserve Analysis (Full Report). Current as of December 2017. WA Department of Biodiversity, Conservation and Attractions.
<https://catalogue.data.wa.gov.au/dataset/dbca-statewide-vegetation-statistics>
- Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.
- Landform Research (2018) Flora and Vegetation Assessment in support for Clearing Permit, M70/319 – M70/76 Lake Hillman. Prepared for Lake Hillman Mining Pty Ltd, by Landform Research, December 2018.
- NatureMap (2019) NatureMap - Mapping Western Australia Biodiversity, Department of Biodiversity, Conservation and Attractions, viewed 20 February 2019, <<http://naturemap.dec.wa.gov.au>>.

5. Glossary

Acronyms:

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)
DBCA	Department of Biodiversity Conservation and Attractions, Western Australia
DEC	Department of Environment and Conservation, Western Australia (now DBCA and DWER)
DEE	Department of the Environment and Energy, Australian Government
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)
DPIRD	Department of Primary Industries and Regional Development, Western Australia
DPLH	Department of Planning, Lands and Heritage, Western Australia
DRF	Declared Rare Flora
DoE	Department of the Environment, Australian Government (now DEE)
DoW	Department of Water, Western Australia (now DWER)
DPaW	Department of Parks and Wildlife, Western Australia (now DBCA)
DSEWPac	Department of Sustainability, Environment, Water, Population and Communities (now DEE)
DWER	Department of Water and Environmental Regulation, Western Australia
EPA	Environmental Protection Authority, Western Australia
EP Act	<i>Environmental Protection Act 1986</i> , 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 indigenous to Western Australia.
- (c) Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, rare 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 clearing the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding.