



Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 6890/1
Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: Strother Mining Pty Ltd

1.3. Property details

Property: Mining Lease 70/1318
Local Government Area: Shire of Kondinin
Colloquial name: Lake Carmody Gypsum Project

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
21.43		Mechanical Removal	Mineral Production

1.5. Decision on application

Decision on Permit Application: Grant
Decision Date: 11 February 2016

2. Site Information

2.1. Existing environment and information

2.1.1. Description of the native vegetation under application

Vegetation Description Beard vegetation associations have been mapped for the whole of Western Australia. Two Beard vegetation associations have been mapped within the application area (GIS Database):

Beard vegetation association 125: Bare areas; salt lakes; and
Beard vegetation association 511: Medium woodland; salmon gum and morrel.

Clearing Description Lake Carmody Gypsum Project
Strother Mining Pty Ltd proposes to clear up to 21.43 hectares of native vegetation within a total boundary area of approximately 130.613 hectares for the purpose of mineral production. The proposal is located approximately 45 kilometres east of Hyden in the Shire of Kondinin.

Vegetation Condition Very Good: Vegetation structure altered, obvious signs of disturbance (Keighery, 1994).

Comment The vegetation condition was based off aerial imagery of the area (GIS Database).

3. Assessment of application against clearing principles

Comments

The application area occurs within the Western Mallee subregion of the Mallee Interim Biogeographic Regionalisation of Australia (IBRA) bioregion (GIS Database). The Mallee bioregion is the south-eastern part of the Yilgarn Craton. The Western Mallee subregion's main surface-types comprise clays and silts underlain by Kankar, exposed granite, sandplains and laterite pavements and salt lake systems on a granite basement. Mallee communities occur on a variety of surfaces; Eucalyptus woodlands occur mainly on fine textured soils, with scrub-heath on sands and laterite (CALM, 2002).

Beard vegetation association 125: Bare areas; salt lakes; and Beard vegetation association 511: Medium woodland; salmon gum and morel, were found to occur within the application area (GIS Database). Approximately 90% of vegetation association 125 remains across the State and approximately 67% remains within the bioregion (Government of Western Australia, 2014). For vegetation association 511, approximately 74% remains across the State and 48% remains within the bioregion; which is more than the 30% threshold level recommended in the National Objectives Targets for Biodiversity Conservation below which, species loss appears to accelerate exponentially at an ecosystem level (Commonwealth of Australia, 2001). Based off aerial imagery of the area, and photographs of Lake Carmody, it is likely that the majority of the application area is made up vegetation association 125 due to the proposal occurring within the salt lake where limited vegetation is present (GIS Database). The proposed clearing of 21.43 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 vegetation associations 125 and 511 in the longer term. Given the above, it is unlikely the proposed clearing of 21.43 hectares represents a significant remnant of native vegetation.

No flora or vegetation surveys have been undertaken over the application area, however a desktop study and a search of the *Environment Protection and Biodiversity Conservation Act 1999* Protected Matters search tool has been undertaken (Strother, 2015). According to available databases and the above searches, no Threatened or Priority flora species have been recorded within the application area (DPaW, 2016; Strother, 2015; GIS Database). Several Priority flora species have been recorded within a ten kilometre radius of the application area, with the following 11 species being identified as potentially occurring within the application area (GIS Database):

- *Acacia repanda* (Priority 3);
- *Cryptandra dielsii* (Priority 3);
- *Cryptandra polyclada* subsp. *polyclada* (Priority 3);
- *Daviesia elongate* subsp. *implexa* (Priority 3);
- *Frankenia dummondii* (Priority 3);
- *Gnephosis multiflora* (Priority 3);
- *Microseris scapigera* (Priority 3);
- *Calamphoreus inflatus* (Priority 4);
- *Eremophila biserrata* (Priority 4);
- *Eremophila serpens* (Priority 4);
- *Haegiela tatei* (Priority 4).

None of the above species have been recorded within the immediate vicinity of the application area, and given the majority of the proposed clearing is to occur within Lake Carmody, it is unlikely any of these species will be significantly impacted by the proposed works (DPaW, 2016; Strother, 2015; GIS Database).

No fauna survey has been conducted over the application area. A search of available databases and a desktop study identified the following conservation significant species as potentially occurring within the application area (DPaW, 2016; Strother, 2015):

- Baudin's Cockatoo (*Calyptorhynchus baudinii* – Endangered);
- Carnaby's Cockatoo (*Calyptorhynchus latirostris* - Endangered);
- Malleefowl (*Leipoa ocellata* - Vulnerable);
- Peregrine Falcon (Migratory);
- Sharp-tailed Sandpiper (*Calidris acuminata* - Migratory);
- Rainbow Bee-eater (*Merops ornatus* - Migratory);
- Hooded Plover (*Charadrius rubricollis* - Priority 4);
- Western Rosella (*Platycercus icterotis xanthogenys* - Priority 4).

The application area is almost completely degraded and unlikely to provide habitat or a food source specific for any conservation significant fauna (Keighery, 1994; GIS Database). Aerial imagery identified nearby vegetation in the local area that is in significantly healthier condition in which fauna species are more likely to inhabit (GIS Database). Fauna habitat within the application area is limited due to the sparse nature of the understorey and degraded nature of the vegetation (GIS Database). The ecological values of the potential fauna habitats are therefore considered to be low. The proposed clearing of 21.43 hectares of native vegetation is not likely to impact critical feeding or breeding habitat for any conservation significant fauna species as the application area does not appear to contain significant faunal habitats.

There are no known Threatened Ecological Communities (TECs) or Priority Ecological Communities (PECs), mapped within the application area (GIS Database). The nearest Threatened or Priority Ecological Community is the Priority 3 Ironcap Hills vegetation complexes (North Ironcap Hill) PEC, which is located approximately 27 kilometres to the east of the application area (GIS Database).

The proposed vegetation clearing has the potential to introduce weed species into the local area should adequate hygiene practices not be put in place. Weeds can affect biodiversity in a number of ways, including out competing native species for resources and increasing the fire risk. The potential spread of introduced species as a result of the proposed clearing may be minimised by the implementation of a weed management condition.

There is one mapped soil type within the application area SV1: Saline valleys and salt lakes-salt-lake channels, mostly devoid of true soils, and their fringing areas (Northcote et al., 1960-68). The proposed clearing is located within Lake Carmody, a playa salt lake which is part of a chain of salt lakes in the Hyden region (GIS Database). The proposed clearing is mainly within the lake itself with a small proportion being along the margin of the lake shore (GIS Database). Given the size of the proposed clearing (21.43 hectares) in relation to the size of Lake Carmody (4,049 hectares), it is unlikely to have a significant impact the functioning of the lake, nor cause a deterioration to the quality of water (GIS Database).

The groundwater salinity within the application area is approximately 14,000 - 35,000 milligrams/Litre Total Dissolved Solids (TDS) (GIS Database). This is considered to be hyper saline. Given the size of the area to be cleared (21.43 hectares) and the nature of the clearing, the proposed clearing is not likely to cause salinity levels within the application area to alter significantly.

Wind erosion of the non-perennial lake margins may be exacerbated by loss of stabilising perennial shrubs

given the amount of clearing (21.43 hectares) (GIS Database). It is recommended a staged clearing condition be implemented to minimise the risk of erosion.

The permit boundary does not intersect with any conservation areas (GIS Database).

Based on the above, the proposed clearing is at variance to Principle (f), may be at variance to Principle (g) is not likely to be at variance to Principles (a), (b), (c), (d), (h), (i) and (j) and is not at variance to Principle (e).

Methodology CALM (2002)
Commonwealth of Australia (2001)
DPaW (2016)
Government of Western Australia (2014)
Keighery (1994)
Northcote et al (1960 – 1968)
Strother (2015)
GIS Database:
- DEC tebare
- Hydrography, linear
- IBRA WA (Regions - Sub Regions)
- Pre-European Vegetation
- Public Drinking Water Source Areas (PDWSAs)
- Soils, Statewide
- Threatened and Priority Flora
- Threatened Ecological Sites Buffered
- Topographic Contours, Statewide

Planning instrument, Native Title, Previous EPA decision or other matter.

Comments

There are two native title claims (WC2003/006 and WC2000/007) over the area under application (DAA, 2016). 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*.

According to available databases, there are no registered Aboriginal Sites of Significance within the application area (DAA, 2016). 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 Environment Regulation, Department of Parks and Wildlife and the Department of Water 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 clearing permit application was advertised on 11 January 2016 by the Department of Mines and Petroleum inviting submissions from the public. There were no submissions received.

Methodology DAA (2015)

4. References

- CALM (2002) A Biodiversity Audit of Western Australia's 53 Biogeographical Subregions. Department of Conservation and Land Management, Western Australia.
- Commonwealth of Australia (2001) National objectives and targets for biodiversity conservation 2001-2005. Commonwealth of Australia, Canberra, ACT.
- DAA (2015) Aboriginal Heritage Inquiry System, Government of Western Australia, Department of Aboriginal Affairs, Perth, <<http://maps.dia.wa.gov.au/AHIS2/>> (viewed 8 February 2016).
- DPaW (2016) NatureMap - Mapping Western Australia Biodiversity, Department of Parks and Wildlife, <<http://naturemap.dpaw.wa.gov.au/default.aspx>> (viewed 8 February 2016).
- Government of Western Australia (2014) 2014 Statewide Vegetation Statistics incorporating the CAR Reserve Analysis (Full Report). WA Department of Environment and Conservation, Perth.
- Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.
- Northcote, K. H. with Beckmann G G, Bettenay E., Churchward H. M., van Dijk D. C., Dimmock G. M., Hubble G. D., Isbell R. F., McArthur W. M., Murtha G. G., Nicolls K. D., Paton T. R., Thompson C. H., Webb A. A. and Wright M. J. (1960-68): 'Atlas of Australian Soils, Sheets 1 to 10, with explanatory data'. CSIRO and Melbourne University Press: Melbourne.
- Strother Mining Pty Ltd (2015) Lake Carmody Gypsum Project – Desktop Study; Fauna and Flora. Unpublished report prepared for Strother Mining Pty Ltd by Austwide Title Management Pty Ltd - November 2015.

5. Glossary

Acronyms:

BoM	Bureau of Meteorology, Australian Government
DAA	Department of Aboriginal Affairs, Western Australia
DAFWA	Department of Agriculture and Food, Western Australia
DEC	Department of Environment and Conservation, Western Australia (now DPaW and DER)
DER	Department of Environment Regulation, Western Australia
DMP	Department of Mines and Petroleum, Western Australia
DRF	Declared Rare Flora
DotE	Department of the Environment, Australian Government
DoW	Department of Water, Western Australia
DPaW	Department of Parks and Wildlife, Western Australia
DSEWPaC	Department of Sustainability, Environment, Water, Population and Communities (now DotE)
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:

{DPaW (2015) Conservation Codes for Western Australian Flora and Fauna. Department of Parks and Wildlife, Western Australia):-

- T** **Threatened species:**
Published as Specially Protected under the *Wildlife Conservation Act 1950*, listed under Schedules 1 to 4 of the Wildlife Conservation (Specially Protected Fauna) Notice for Threatened Fauna and Wildlife Conservation (Rare Flora) Notice for Threatened Flora (which may also be referred to as Declared Rare Flora).
Threatened fauna is that subset of 'Specially Protected Fauna' declared to be 'likely to become extinct' pursuant to section 14(4) of the Wildlife Conservation Act.
Threatened flora is flora that has been declared to be 'likely to become extinct or is rare, or otherwise in need of special protection', pursuant to section 23F(2) of the Wildlife Conservation Act.
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. Published as Specially Protected under the *Wildlife Conservation Act 1950*, in Schedule 1 of the Wildlife Conservation (Specially Protected Fauna) Notice for Threatened Fauna and Wildlife Conservation (Rare Flora) Notice for Threatened Flora.
- EN** **Endangered species**
Threatened species considered to be facing a very high risk of extinction in the wild. Published as Specially Protected under the *Wildlife Conservation Act 1950*, in Schedule 2 of the Wildlife Conservation (Specially Protected Fauna) Notice for Threatened Fauna and Wildlife Conservation (Rare Flora) Notice for Threatened Flora.
- VU** **Vulnerable species**
Threatened species considered to be facing a high risk of extinction in the wild. Published as Specially Protected under the *Wildlife Conservation Act 1950*, in Schedule 3 of the Wildlife Conservation (Specially Protected Fauna) Notice for Threatened Fauna and Wildlife Conservation (Rare Flora) Notice for Threatened Flora.
- EX** **Presumed extinct species**
Species which have been adequately searched for and there is no reasonable doubt that the last individual has died. Published as Specially Protected under the *Wildlife Conservation Act 1950*, in Schedule 4 of the Wildlife Conservation (Specially Protected Fauna) Notice for Presumed Extinct Fauna and Wildlife Conservation (Rare Flora) Notice for Presumed Extinct Flora.
- IA** **Migratory birds protected under an international agreement**
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 the Bonn Convention, relating to the protection of migratory birds. Published as Specially Protected under the *Wildlife Conservation Act 1950*, in Schedule 5 of the Wildlife Conservation (Specially Protected Fauna) Notice.
- CD** **Conservation dependent fauna**
Fauna of special conservation need being species dependent on ongoing conservation intervention to prevent it becoming eligible for listing as threatened. Published as Specially Protected under the *Wildlife Conservation Act 1950*, in Schedule 6 of the Wildlife Conservation (Specially Protected Fauna) Notice.
- OS** **Other specially protected fauna**
Fauna otherwise in need of special protection to ensure their conservation. Published as Specially Protected under the *Wildlife Conservation Act 1950*, in Schedule 7 of the Wildlife Conservation (Specially Protected Fauna) Notice.
- P** **Priority species**
Species which are poorly known; or
Species that are adequately known, are rare but not threatened, and 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.