

Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 7605/1
Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: Cristal Mining Australia Limited

1.3. Property details

Property: Mining Lease 70/360
Miscellaneous Licence 70/161
Local Government Area: City of Busselton
Colloquial name: Wonnerup North Mineral Sands Project

1.4. Application

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

1.5. Decision on application

Decision on Permit Application: Grant
Decision Date: 20 July 2017

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. One Beard vegetation association has been mapped over the application area (GIS Database):

Beard vegetation association 1136: Medium woodland; marri with some Jarrah, Wandoo, River Gum and Casuarina.

The application area is also mapped as being comprised of four finer scale vegetation complexes as mapped by Mattiske and Havel (1998), which provide a more detailed description of the vegetation:

Abba (AB): Woodland and open forest of *Corymbia calophylla* on flats and low rises in the humid zone.

Abba (Ad): Woodland of *Corymbia calophylla*, *Agonis flexuosa*, *Allocasaurina fraseriana* and *Nuytsia floribunda*.

Abba (AF): Woodland of *Corymbia calophylla*-*Agonis flexuosa* and tall shrubland of Myrtaceae-Proteaceae spp. on terraces and valley floors in the humid zone.

Abba (Aw): Tall shrubland of *Melaleuca viminea* and woodland of *Eucalyptus rudis*, *Melaleuca raphiophylla* with occasional *Corymbia Calophylla*.

Ludlow (Lw): Open woodland of *Melaleuca raphiophylla* and sedgeland of Cyperaceae-Restionaceae spp. on broad depressions in the subhumid zone.

The application area was surveyed in 2013 by Astron Environmental Services (Cristal Mining Ltd, 2017). Most of the trees (approximately 40) are isolated paddock trees. In three small areas, an estimated further 60 trees (Marri, Jarrah and *Melaleuca* spp.) are close enough together to be considered as remnants, but with no identifying community structure or floristics (Astron, 2013; Cristal Mining Ltd, 2017).

Clearing Description Wonnerup North Mineral Sands Project
Cristal Mining Australia Limited proposes to clear up to 2 hectares of native vegetation within a total boundary of approximately 154 hectares, for the purpose of mineral production. The project is located approximately 10 kilometres east of Busselton in the City of Busselton.

Vegetation Condition Completely Degraded: No longer intact; completely/almost completely without native species (Keighery, 1994).
To

Degraded: Basic vegetation structure severely impacted by disturbance (Keighery, 1994).

Comment The vegetation condition was derived from flora and vegetation surveys conducted by Astron Environmental Services (2013).

3. Assessment of application against Clearing Principles

Comments

The application area occurs within the Perth subregion of the Swan Coastal Plain Interim Biogeographic Regionalisation of Australia (IBRA) bioregion (GIS Database). This subregion is dominated by Banksia or Tuart on sandy soils, *Casuarina obesa* on outwash plains and paperbark in swampy areas (CALM, 2002). The outwash plains, once dominated by *C. obesa*-marri woodlands and Melaleuca shrublands, are extensive only in the south (CALM, 2002).

The proposed clearing will allow for the development of the Wonnerup North deposit, associated with the Wonnerup North Minerals Sands Project. In order for development to occur, up to 2 hectares of native vegetation within a clearing permit boundary of approximately 154 hectares is proposed for removal. The clearing permit boundary area was designed to avoid the clearing of any areas of significant remnant vegetation. The clearing permit boundary aligns with approvals obtained under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act 1999) such that it excludes areas designated for retention (EPBC No. 2014/7205).

The vegetation proposed to be cleared is almost entirely comprised of vegetation in a Completely Degraded (Keighery, 1994) condition, which has also been described as 'Paddock Trees' due to the absence of understorey species (Astron, 2013; Cristal Mining Ltd, 2017). The roadside trees to be cleared within L70/161 consist of four individual *C. calophylla*, one *M. raphiophylla* and one *A. saligna*, all of which are regrowth along the road verge (Cristal Mining Ltd, 2017). The areas proposed to be cleared are not considered to represent an area of high biological diversity, as larger more intact areas of remnant vegetation occur in the surrounding areas. A number of introduced flora species (weeds) are known to occur within the application area (Astron, 2013). Clearing activities have the potential to spread existing weed species, and possibly introduce new species to the surrounding environment (such as the nearby Ludlow State Forest and the Tuart Forest National Park), which may negatively impact on the biodiversity of the local area. Potential impacts to biodiversity as a result of the proposed clearing may be minimised by the implementation of a weed management condition.

Beard vegetation association 1136 has been mapped over the application area (GIS Database). Beard association 1136 retains approximately 7% of its pre-European extent within the state and bioregion (Department of Natural Resources and Environment, 2002; Government of Western Australia, 2016; GIS Database), which is less 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 (EPA, 2000). The application area is also mapped as being comprised of four finer scale vegetation complexes as mapped by Mattiske and Havel (1998), only one of which retains above the 30% threshold (Mattiske and Havel, 1998; GIS Database). However, the vegetation present within the application area is not representative of the mapped Beard vegetation association or other mapped complexes and is instead described as cleared paddock trees with limited understorey (Astron, 2013; Cristal Mining Ltd, 2017). An offset agreement and management plans are already in place as part of the Department of the Environment and Energy (DEE) approval conditions for the Wonnerup North Mineral Sands Project (EPBC No. 2014/7205).

During flora surveys conducted by Astron Environmental Services in 2013, no Threatened or Priority flora species were recorded within the application area (Astron, 2013; Cristal Mining Ltd, 2017). No Threatened Ecological Communities (TECs) or Priority Ecological Communities (PECs) are known to occur, and based on vegetation surveys of the application area; the vegetation present is not analogous to any TECs or PECs (Astron, 2013; DPaW, 2017; GIS Database).

A Level 2 vertebrate fauna survey was conducted over the wider project area and included the application area (Biologic, 2014; Cristal Mining Ltd, 2017). The fauna field survey was conducted by Biologic Environmental Consultants in 2013. Six fauna species of conservation significance were recorded or are known to within the wider project area; Southern brush-tailed phascogale (*Phascogale tapoatafa wambenger* - CD), Western ringtail possum (*Pseudocheirus occidentalis* - CR), Carnaby's cockatoo (*Calyptorhynchus latirostris* - EN), Baudin's cockatoo (*Calyptorhynchus baudinii* - EN), Forest red-tailed cockatoo (*Calyptorhynchus banksii naso* - VU) and the Rainbow Bee-eater (*Merops ornatus* - IA) (Biologic, 2014). Only the Western ringtail possum was recorded within the application area, however, it was noted that all of the remnant woodland habitats are known to, or have the potential to, provide habitat for fauna species of conservation significance (Biologic, 2014). While the vegetation proposed to be cleared offers limited habitat and is unlikely to be necessary for the continued existence of any local fauna, there remains the potential for local fauna species to be present in the vegetation during the time of removal, including fauna species of conservation significance known from the local area, such as the Western ringtail possum and Southern brush-tailed phascogale (DBAC, 2017). It is also possible that black cockatoos may be utilising the vegetation as suitable breeding trees (i.e. Jarrah and/or Marri trees with >200mm diameter at breast height) are known within the application area.

The proponent has developed and will implement an Offset Management Plan (OMP) and a Threatened Fauna Management Plan (TFMP) as required under federal conditions imposed under EPBC Act approvals (EPBC No. 2014/7205). The OMP specifically addresses impacts to the abovementioned fauna species, with the exception of the Rainbow Bee-eater where impacts were not considered to warrant offsets. The TFMP includes measures to minimise impacts to black cockatoo species, Western ringtail possum and Southern brush-tailed phascogale.

DBCA (2017) advised that, if clearing operations are undertaken as per EPBC Act approvals and as per the

steps outlined in the associated TFMP, then impacts to fauna species of conservation significance will likely be negligible. EPBC Act conditions require that a fauna handler be present during clearing operations to ensure the welfare of fauna species. Due to the lack of nearby native vegetation which has been exacerbated by further clearing in the area since EPBC Act conditions were imposed, it is recommended that the fauna handler be required to capture and relocate local fauna species into the nearest area of remnant vegetation, as opposed to shepherding species (especially Western Ringtail Possums) into areas of undisturbed vegetation (DBCA, 2017). The proponent has updated the TFMP to incorporate recent DBCA advice. Potential impacts to local fauna species as a result of the proposed clearing may be minimised by the implementation of a fauna management condition that requires implementation and adherence to the updated TFMP.

Two non-perennial swamps are mapped within the application area. No clearing of vegetation is proposed within these areas (GIS Database). The application area does not intercept any mapped drainage lines and the proposed clearing of up to 2 hectares of paddock tree vegetation is not likely to have any measureable impact or influence on surface or groundwater quality, land degradation, or existing flooding regimes. Conditions to protect native vegetation and the nearby Abba River and the Vasse Wonnerup system have already been imposed (in the form of a Water Management Plan) under EPBC Act approvals associated with the project. Existing management measures are considered appropriate.

Based on the above, the proposed clearing is not likely to be at variance to any of the clearing principles.

Methodology Astron (2013)
Biologic (2014)
CALM (2002)
Cristal Mining Ltd (2017)
DBCA (2017)
Department of Natural Resources and Environment (2002)
EPA (2000)
Government of Western Australia (2016)
Matiske and Havel (1998)

GIS Database:

- DPaW Tenure
- Hydrography, linear
- IBRA Australia
- Imagery
- Matiske Vegetation
- Pre-European Vegetation
- Public Drinking Water Source Areas (PDWSAs)
- Threatened and Priority Flora List
- Threatened and Priority Ecological Communities Buffers
- Threatened and Priority Ecological Communities Boundaries

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

Comments

There are two native title claims over the application area (WC2003/006 and WC2006/004) (DPLH, 2017). These claims have been registered with the National Native Title Tribunal on behalf of the claimant groups. Claim No. WC2003/006 relates to the South West Native Title Settlement area (Single Noongar Claim – Area 2) (DPLH, 2017). This settlement resolves Native Title rights and interests over an area of approximately 200,000 square kilometres within the south west of Western Australia. 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 Sites of Aboriginal Significance located in the area applied to clear (DPLH, 2017). It is the proponent's responsibility to comply with the *Aboriginal Heritage Act 1972* and ensure that no Sites of Aboriginal Significance are damaged through the clearing process.

The Wonnerup North Mineral Sands project was referred to the Environmental Protection Authority (EPA) by Cristal Mining (Reference No. 14-780092). On 3 June 2014 the EPA set the level of assessment as 'Not Assessed – Public Advice Given. EPA (2014) advised that the proposal is situated on farmland and the majority of the remnant native vegetation on site is in a degraded parkland condition and/or fragmented and is likely to be of limited conservation or fauna habitat value in comparison to other nearby areas (in particular the Tuart National Park).

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. In the event that any relocation of fauna is required, the requirements of the *Wildlife Conservation Act 1950* must also be considered.

It is noted that the proposed clearing may impact on a protected matter under the *Environment Protection and Biodiversity Conservation Act 1999* (the EPBC Act). The project was referred to the (Federal) Department of the Environment and Energy (DEE) for environmental impact assessment under the EPBC Act. DEE imposed a number of conditions upon approval for the Wonnerup North Mineral Sands project (EPBC No. 2014/7205), including conditions to mitigate impacts to local fauna species of conservation significance, river systems and areas of remnant native vegetation. The EPBC Act approval also requires Cristal Mining Ltd to develop and implement an Offset Management Plan. The proponent is advised to contact the Department of the Environment and Energy for further information regarding responsibilities under the EPBC Act that may arise from any clearing permit approvals.

The clearing permit application was advertised on 5 June 2017 by the Department of Mines and Petroleum (now Department of Mines, Industry Regulation and Safety) inviting submissions from the public. No submissions were received.

Methodology DPLH (2017)

4. References

- Astron (2013) Wonnerup North Mineral Sands Project – Flora and Vegetation Assessment. Report prepared for Cristal Mining Australia Ltd by Astron Environmental Services, October 2013.
- Biologic (2014) Wonnerup North Vertebrate Fauna Assessment. Report prepared for Cristal Mining Australia Ltd by Biologic Environmental Survey Pty Ltd, April 2014.
- CALM (2002) A Biodiversity Audit of Western Australia's 53 Biogeographical Subregions. Department of Conservation and Land Management.
- Cristal Mining Ltd (2017) Wonnerup North Minerals Mine, Clearing Permit Application, Supporting Information for CPS 7605/1. Cristal Mining Australia Limited, March 2017.
- DPLH (2017) Aboriginal Heritage Inquiry System, Department of Planning, Lands and Heritage, Perth, Western Australia <<http://maps.daa.wa.gov.au>> Accessed July 2017.
- 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.
- DPaW (2017) NatureMap, Department of Parks and Wildlife <<http://naturemap.dec.wa.gov.au>> Accessed July 2017.
- DBCAs (2017) Fauna advice received in relation to Clearing Permit Application CPS 7605/1. Department of Biodiversity, Conservation and Attractions, Species and Communities Management Branch, South West Region, Western Australia, June 2017.
- EPA (2000) Environmental Protection of Native Vegetation in Western Australia. Clearing of Native Vegetation, with Particular Reference to the Agricultural Area. Position Statement No. 2. December 2000. Environmental Protection Authority, Western Australia.
- Government of Western Australia (2016) 2016 Statewide Vegetation Statistics incorporating the CAR Reserve Analysis (Full Report). Current as of October 2016. 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.
- Mattiske, E.M. and Havel, J.J. (1998) Vegetation Complexes of the South-west Forest Region of Western Australia. Maps and report prepared as part of the Regional Forest Agreement, Western.

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 (now DWER)
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 (2017) Conservation Codes for Western Australian Flora and Fauna. Department of Parks and Wildlife, Western Australia}:-

T	Threatened species: Published as Specially Protected under the <i>Wildlife Conservation Act 1950</i> , 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 <i>Wildlife Conservation Act 1950</i> , 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 <i>Wildlife Conservation Act 1950</i> , 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 <i>Wildlife Conservation Act 1950</i> , 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.