

Clearing Permit Decision Report

. Application details

1.1. Permit application details

Permit application No.: 1632/1

Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: Anglo Australian Resources NL

1.3. Property details

Property: M15/96

Local Government Area: Shire Of Coolgardie
Colloquial name: Mandilla Gold Project

1.4. Application

Clearing Area (ha) No. Trees Method of Clearing For the purpose of:

10 Mechanical Removal Mineral Production

2. Site Information

2.1. Existing environment and information

2.1.1. Description of the native vegetation under application

Vegetation Description

Beard Vegetation Association 936: Medium woodland; Salmon Gum (*Eucalyptus salmonophloia*). According to Shepherd et al (2001), there is approximately 100% of this vegetation type remaining in the Coolgardie Bioregion.

Outback Ecology (2005) undertook a vegetation survey of the Mandilla project area between 11 - 12 January 2005. This survey included the uppermost northern section of the proposed clearing area. Vegetation in this area was mapped as:

- 1). Open Woodland of *Eucalyptus* salmonophloia over a Tall Open Shrubland of *Eremophila scoparia* over a Sparse Mixed Shrubland of *Cratystylis conocephala* and *Olearia muelleri;* and
- 2). Open Mixed Woodland of *Eucalyptus* transcontinentalis, *E. lesouefii* and *E. salmonophloia* over a Tall Sparse Shrubland of *Eremophila scoparia* over an Open Shrubland of *Cratystylis conocephala*. No weed species were identified from the proposed clearing area (Outback Ecology, 2005).

Jim's Seeds, Weeds & Trees conducted a flora survey of the proposed clearing area and surrounds on 9 June 2006. One broad vegetation community was described:
Transitional *Eucalyptus* Woodland. Thirteen families, twenty one genera and forty one species were recorded within the 40.5 hectare survey area. Dominant genera included *Eucalyptus*, *Acacia*, *Eremophila* and *Maireana*. One weed species was recorded during the survey: Afghan Thistle (*Solanum hoplopetalum*) (Jim's Seeds, Weeds & Trees, 2006).

Clearing Description

The proposed clearing of 10 hectares of native vegetation on Mining Lease 15/96 will allow the proponent to expand the Mandilla and Endymion open pits and waste dumps. Operations commenced at the West Mandilla pit in May 2006. Development at the Endymion pit has not yet commenced (Lindbeck and Associates, 2006). Given that the Mandilla operations are relatively new, they are not captured in existing aerial photography of the area which was used to produce Plan 1632/1.

Vegetation Condition

Good: Structure significantly altered by multiple disturbance; retains basic structure/ability to regenerate (Keighery 1994)

to

Very Good: Vegetation structure altered; obvious signs of disturbance (Keighery 1994)

Comment

Some vehicle access tracks dissect the area applied to clear. Some vegetation disturbance has also resulted from exploration drilling. Outback Ecology (2005) reported some evidence of goats and rabbits in the Mandilla project area.

Previous gold and nickel exploration and mining activities have taken place in the surrounding area, including the abandoned Spargoville operations west of the M15/96 tenement boundary.

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 not likely to be at variance to this Principle

The area applied to clear is located immediately south of the Mandilla gold operations. Whilst most of the vegetation is of 'good' to 'very good' condition, there are areas of disturbance along vehicle access tracks and exploration drilling sites. Goat and rabbit activity in the general area was also noted by Outback Ecology (2005). Disturbances associated with tracks, exploration drilling and feral animals have diminished habitat values of the area.

Overstorey species throughout the area proposed to clear consist largely of common Goldfields species, especially Salmon Gum; *Eucalyptus salmonophloia*. Midstorey and understorey species consist largely of a mixture of *Eremophila*, *Acacia* and *Maireana* species (Jim's Seeds, Weeds & Trees, 2006). No unique or restricted habitats were located in the area. There is no evidence to suggest that the proposed clearing area has a higher biodiversity value than could be expected from any other area of native vegetation in the local or regional area.

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

Methodology Outback Ecology (2005).

Jim's Seeds, Weeds & Trees (2006).

(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

There are no records of Priority or Threatened fauna within a 15km radius of the application area (GIS Database). Vegetation surveys of the Mandilla Project area undertaken by Outback Ecology in 2005 and Jim's Seeds, Weeds & Trees in 2006 did not identify any restricted terrestrial habitats such as rocky outcrops or breakaways (Lindbeck and Associates, 2006). The proposed clearing area supports Transitional *Eucalyptus* Woodlands which are regionally abundant (Lindbeck and Associates, 2006). It is therefore unlikely that the small area applied to clear represents significant habitat for any indigineous fauna species.

Salmon Gums (*Eucalyptus salmonophloia*) are present in the proposed clearing area. These trees have the potential to develop hollows which provide important habitat for a number of mammal and bird species. Studies by Rose (1993) suggest that the average height of dominant Salmon Gums in the eastern Wheatbelt is 22 metres. Average annual rainfall in the area sampled in Rose's study is similar to the proposed clearing area (300- 400mm). The vegetation survey of the Mandilla project area by Outback Ecology (2005) described Salmon Gums in the northern section of the proposed clearing area as 9 - 12 metres in height, suggesting that these trees are relatively young. According to Rose (1993), zero percent of Salmon Gums aged 60 years or younger in the eastern Wheatbelt have hollows. At 120 years of age it is estimated that five percent will have hollows. Based on this information and assuming that based on rainfall alone the height of mature Salmon Gum within the clearing permit area would be greater than 12 metres, Salmon Gums in the proposed clearing area are less likely to provide important hollows than taller and more mature Salmon Gums that may occur in the regional area.

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

Methodology

GIS Database - Threatened Fauna - CALM 30/09/05.

Jims Seeds, Weeds & Trees (2006). Lindbeck and Associates (2006). Outback Ecology (2005).

Rose (1993).

(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 search of the Department of Conservation and Land Management's Threatened (Declared Rare) Flora database and the Western Australian Herbarium Specimen database was undertaken for coordinates 31°0'-31°30'S and 121°0'-122°0'E. Twenty Priority species and one Declared Rare Flora (DRF) species have previously been collected within these coordinates and vouchered at the Western Australian Herbarium (Outback Ecology, 2005). The nearest vouchered species to the Mandilla Project area are *Acacia pritzeliana* (P3) and *Acacia kerryana* (P2), both approximately 13km to the north, as well as *Pityrodia Scabra* (R) which has been recorded approximately 15km to the southwest (Outback Ecology, 2005). None of these species were recorded in the proposed clearing area during vegetation surveys by Outback Ecology (2005) and Jim's Seeds, Weeds & Trees (2006).

Outback Ecology undertook a vegetation survey of the Mandilla project area in January 2005, which included the northern most section of the proposed clearing area. No Declared Rare Flora (DRF) or Priority Flora species

were located (Outback Ecology, 2005).

On the 9 June 2006, Jim's Seeds, Weeds & Trees was commissioned to search for DRF and Priority Flora species in the Mandilla project area. The broad vegetation community was also described. This survey was carried out in accordance with Jim's Seeds, Weeds & Trees Safety and Environmental Management Plan as well as EPA Guidance Statement 51 (Jim's Seeds, Weeds & Trees, 2006). An area of approximately 40.5 hectares which included the proposed clearing area was traversed by foot and vehicle during this search (Jim's Seeds, Weeds & Trees, 2006). No DRF or Priority Flora species were identified.

Given that no DRF or Priority Flora species were located in the Mandilla project area, the proposed clearing is not likely to have a significant impact upon any flora species of conservation significance.

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

Methodology

Jim's Seeds, Weeds & Trees (2006).

Outback Ecology (2005).

(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 (TEC's) in the vicinity of the proposed clearing area (GIS Database). The nearest known TEC is approximately 95km southeast of the proposed clearing area (GIS Database).

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

Methodology

GIS Database - Threatened Ecological Communities - CALM 12/04/05.

(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 area applied to clear are within the IBRA Coolgardie Bioregion (GIS Database). According to Shepherd et al (2001) there is approximately 98.4% of the pre-European vegetation remaining in this Bioregion.

The vegetation of the application area is classified as Beard Vegetation Association 936: Medium woodland; salmon gum (*Eucalyptus salmonophloia*). Approximately 96.7% of this vegetation association remains (Shepherd et al, 2001). The area proposed to clear does not represent a significant remnant of vegetation in the local or regional area.

	Pre-European Area (ha)*	Current extent (ha)*	Remaining %*	Conservation Status**	% in IUCN Class I-IV Reserves*
IBRA Bioregion - Coolgardie Shire of Coolgardie Beard Vegetation Associations - -936	12,912,208 No Information A	12,707,623 Available	98.4%	Least concern	9.9%
	698,754	675,658	96.7%	Least concern	2.8%

^{*} Shepherd et al. (2001)

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

Methodology GIS

GIS Database:

- IBRA EA 18/10/00.
- Pre-European Vegetation DA 01/01

Shepherd et al (2001).

Department of Natural Resources and Environment (2002).

(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

There are no permanent or seasonal watercourses in the application area (GIS Database; Lindbeck and Associates, 2006). The proposed clearing will not impact on any riparian vegetation.

^{**} Department of Natural Resources and Environment (2002)

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

Methodology

GIS Database:

- Hydrography, linear DOE 01/02/04.
- Lakes 1M GA 01/06/00.
- Rivers 250K GA.

Lindbeck and Associates (2006).

(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 area applied to clear is characterised by gently undulating topography with occasional ranges of low hills and sandplains (Lindbeck and Associates, 2006). Soils are typically deep calcereous earths (Lindbeck and Associates, 2006).

The proposed clearing is unlikely to exacerbate land degradation such as water logging and water erosion given the low annual rainfall and minimal surface water flow in the application area. With low average annual rainfall (approximately 200mm) and high annual evaporation rates of 3,800mm (Lindbeck and Associates, 2006), recharge to groundwater would be low, effectively minimising the risk of salinisation.

The proposed clearing area will not remain as an exposed bare surface (except the open pits) as rehabilitation will take place as soon as is practicable to do so (Lindbeck and Associates, 2006). Therefore, land degradation will be minimised and net vegetation loss throughout parts of the project area will be temporary.

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

Methodology

Lindbeck and Associates (2006).

(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 likely to be at variance to this Principle

The Kambalda Timber Reserve and Kambalda Nature Reserve are located approximately 12.5 and 14.5km north-northeast of the proposed clearing area respectively (GIS Database). There are no other conservation areas nearby. Given this distance, the proposed clearing area is unlikely to act as a buffer or an ecological linkage to the above mentioned reserves.

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

Methodology

GIS Database- CALM Managed Lands and Waters - CALM 01/07/05.

(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 likely to be at variance to this Principle

There are no surface water features within, or surrounding the proposed clearing area (GIS Database). It is therefore expected that the proposed clearing will not have an impact upon surface water quality.

A groundwater reserve is located approximately 1.5km north of the proposed clearing area. The Department of Water (DoW) have advised that there is no reason for the clearing to impact on this reserve (DoW, 2006).

The depth to the water table across the application area is approximately 40 metres, with water naturally brackish (Lindbeck and Associates, 2006). The small area to be cleared is unlikely to impact on groundwater levels or increase salinity risk within the area under application. Given the low annual rainfall and high evaporation it is expected that there would be little recharge to the groundwater table (Lindbeck and Associates, 2006). It is unlikely that the proposed clearing will significantly impact upon groundwater levels or quality in any way.

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

Methodology

GIS Database:

- Clearing Regulations Schedule One Areas DOE 10/03/05.
- Hydrography, linear DOE 01/02/04.
- Lakes 1M GA 01/06/00.
- Rivers 250K GA.

DoW (2006).

Lindbeck and Associates, 2006).

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

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

The average annual rainfall at Coolgardie (the closest meterological recording station) is 271mm (Lindbeck and Associates, 2006). Average annual evaporation is approximately 3,800mm (Lindbeck and Associates, 2006). It is therefore expected that there would be little surface water flow during normal seasonal rains.

There are no permanent watercourses in the vicinity of the application area, and the clearing of 10 hectares within the Bandy Creek Catchment (599,847 hectares) is unlikely to increase the incidence or intensity of flooding (GIS Database).

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

Methodology

GIS Database:

- Hydrographic Catchments - Catchments - DOE 23/3/05.

Lindbeck and Associates (2006).

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

Comments

There are two native title claims over the area under application. These claims (WC98/027 & WC99/029) have been registered with the National Native Title Tribunal (GIS Database). However, the mining tenement 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 known sites of Aboriginal significance within the area applied to clear (GIS Database). 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.

Anglo Australian Resources NL submitted a Notice of Intent (NOI) for the West Mandilla open pit in February 2005. The NOI was approved in May 2005 and the project was put on hold. An addendum to the original NOI was submitted in February 2006 for expansions to the West Mandilla open pit and waste dump, as well as development of the Endymion pit. Approval to proceed under the Mining Act 1978 was received from DoIR on 20 July 2006 (Lindbeck and Associates, 2006).

It is the proponent's responsibility to liaise with the Department of Environment and Conservation 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.

Methodology

GIS Database:

area (ha)/ trees

10

- Aboriginal Sites of Significance DIA 04/07/02.
- Native Title Claims DLI 19/12/04.

Assessor's recommendations

Purpose Method Applied Mineral Mechanical Production Removal

Decision

Grant

The clearing principles have been addressed and the proposal is either not at variance or not likely to be at variance to any of the clearing principles. The assessing officer therefore recommends that the permit should be granted, subject to the following conditions:

- 1. The Permit Holder shall record the following for each instance of clearing:
- a) the location of where the clearing occurred, expressed as grid coordinates using the Geocentric Datum of Australia 1994 coordinate system:
- b) the size of the area cleared in hectares;
- c) the dates on which the area was cleared;
- d) the area rehabilitated in hectares:
- e) the method of clearing;

Comment / recommendation

- f) the purpose of clearing.
- 2. The Permit Holder shall provide a report to the Director, Environment, Department of Industry and Resources by 31 July each year for the life of the permit setting out the records required under condition 1 of this permit in relation to clearing carried out between 1 January and 31 December of the previous year. This report can be included as an addendum to the Annual Environmental Report.

Explanatory Notes:

1. In this permit Annual Environmental Report means a report produced as a requirment of tenement conditions under the Mining Act 1978.

5. References

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. DoW (2006) Water Allocation Advice. Advice to Assessing Officer, Native Vegetation Assessment Branch, Department of Industry and Resources (DoIR). Received 21 December 2006. Department of Water, Western Australia.

Jim's Seeds, Weeds & Trees Pty Ltd (2006). Summary letter of Priority/ Declared Rare Flora Survey, 9 June 2006. Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.

Lindbeck and Associates (2006) Mandilla Gold Project: Supporting document for clearing permit application. Prepared for Anglo Australian Resources NL.

Outback Ecology (2005) Flora Survey of the Proposed Mandilla Project Area. Report prepared for Anglo Australian Resources, January 2005.

Rose, P.W (1993) Production of habitat hollows by Wheatbelt Eucalypts: Final Report - Save the bush research grant 1991/92 (Project R053). Prepared for the Department of Conservation and Land Management, Western Australia.

Shepherd, D.P., Beeston, G.R. and Hopkins, A.J.M. (2001) Native Vegetation in Western Australia, Extent, Type and Status. Resource Management Technical Report 249. Department of Agriculture, Western Australia (updated 2005).

6. Glossary

Acronyms:

BoM Bureau of Meteorology, Australian Government.

CALM Department of Conservation and Land Management, Western Australia.

DAFWA Department of Agriculture and Food, Western Australia.

DA Department of Agriculture, Western Australia.

DEH Department of Environment and Heritage (federal based in Canberra) previously Environment Australia

DEP Department of Environment Protection (now DoE), Western Australia.

DIA Department of Indigenous Affairs

DLI Department of Land Information, Western Australia.DoE Department of Environment, Western Australia.

DOLA

Department of Industry and Resources, Western Australia.

Dola

Department of Land Administration, Western Australia.

Environment Protection Act 1986, Western Australia.

EPBC Act Environment Protection and Biodiversity Conservation Act 1999 (Federal Act)

GIS Geographical Information System.

IBRA Interim Biogeographic Regionalisation for Australia.

IUCN International Union for the Conservation of Nature and Natural Resources – commonly known as the World

Conservation Union

RIWI Rights in Water and Irrigation Act 1914, Western Australia.

s.17 Section 17 of the Environment Protection Act 1986, Western Australia.

TECs Threatened Ecological Communities.

Definitions:

{Atkins, K (2005). Declared rare and priority flora list for Western Australia, 22 February 2005. Department of Conservation and Land Management, Como, Western Australia}:-

P1 Priority One - Poorly Known taxa: taxa which are known from one or a few (generally <5) populations which are under threat, either due to small population size, or being on lands under immediate threat, e.g. road verges, urban areas, farmland, active mineral leases, etc., or the plants are under threat, e.g. from disease, grazing by feral animals, etc. May include taxa with threatened populations on protected lands. Such taxa are under consideration for declaration as 'rare flora', but are in urgent need of further survey.

P2 Priority Two - Poorly Known taxa: taxa which are known from one or a few (generally <5) populations, at least some of which are not believed to be under immediate threat (i.e. not currently endangered). Such taxa are under consideration for declaration as 'rare flora', but are in urgent need of further survey.

Priority Three - Poorly Known taxa: taxa which are known from several populations, at least some of which are not believed to be under immediate threat (i.e. not currently endangered). Such taxa are under consideration for declaration as 'rare flora', but are in need of further survey.

P4 Priority Four – Rare taxa: taxa which are considered to have been adequately surveyed and which, whilst being rare (in Australia), are not currently threatened by any identifiable factors. These taxa require monitoring every 5–10 years.

R Declared Rare Flora – Extant taxa (= Threatened Flora = Endangered + Vulnerable): taxa which have been

adequately searched for, and are deemed to be in the wild either rare, in danger of extinction, or otherwise in need of special protection, and have been gazetted as such, following approval by the Minister for the Environment, after recommendation by the State's Endangered Flora Consultative Committee.

X Declared Rare Flora - Presumed Extinct taxa: taxa which have not been collected, or otherwise verified, over the past 50 years despite thorough searching, or of which all known wild populations have been destroyed more recently, and have been gazetted as such, following approval by the Minister for the Environment, after recommendation by the State's Endangered Flora Consultative Committee.

{Wildlife Conservation (Specially Protected Fauna) Notice 2005} [Wildlife Conservation Act 1950] :-

- Schedule 1 Fauna that is rare or likely to become extinct: being fauna that is rare or likely to become extinct, are declared to be fauna that is need of special protection.
- Schedule 2 Schedule 2 Fauna that is presumed to be extinct: being fauna that is presumed to be extinct, are declared to be fauna that is need of special protection.
- Schedule 3 Birds protected under an international agreement: being birds that are subject to an agreement between the governments of Australia and Japan relating to the protection of migratory birds and birds in danger of extinction, are declared to be fauna that is need of special protection.
- Schedule 4 Other specially protected fauna: being fauna that is declared to be fauna that is in need of special protection, otherwise than for the reasons mentioned in Schedules 1, 2 or 3.

{CALM (2005). Priority Codes for Fauna. Department of Conservation and Land Management, Como, Western Australia}:-

- P1 Priority One: Taxa with few, poorly known populations on threatened lands: Taxa which are known from few specimens or sight records from one or a few localities on lands not managed for conservation, e.g. agricultural or pastoral lands, urban areas, active mineral leases. The taxon needs urgent survey and evaluation of conservation status before consideration can be given to declaration as threatened fauna.
- P2 Priority Two: Taxa with few, poorly known populations on conservation lands: Taxa which are known from few specimens or sight records from one or a few localities on lands not under immediate threat of habitat destruction or degradation, e.g. national parks, conservation parks, nature reserves, State forest, vacant Crown land, water reserves, etc. The taxon needs urgent survey and evaluation of conservation status before consideration can be given to declaration as threatened fauna.
- Priority Three: Taxa with several, poorly known populations, some on conservation lands: Taxa which are known from few specimens or sight records from several localities, some of which are on lands not under immediate threat of habitat destruction or degradation. The taxon needs urgent survey and evaluation of conservation status before consideration can be given to declaration as threatened fauna.
- P4 Priority Four: Taxa in need of monitoring: Taxa which are considered to have been adequately surveyed, or for which sufficient knowledge is available, and which are considered not currently threatened or in need of special protection, but could be if present circumstances change. These taxa are usually represented on conservation lands.
- **P5 Priority Five: Taxa in need of monitoring**: Taxa which are not considered threatened but are subject to a specific conservation program, the cessation of which would result in the species becoming threatened within five years.

Categories of threatened species (Environment Protection and Biodiversity Conservation Act 1999)

EX Extinct: A native species for which there is no reasonable doubt that the last member of the species has died.

EX(W) Extinct in the wild: A native species which:

- (a) is known only to survive in cultivation, in captivity or as a naturalised population well outside its past range; or
- (b) has not been recorded in its known and/or expected habitat, at appropriate seasons, anywhere in its past range, despite exhaustive surveys over a time frame appropriate to its life cycle and form.
- **CR Critically Endangered:** A native species which is facing an extremely high risk of extinction in the wild in the immediate future, as determined in accordance with the prescribed criteria.

Endangered: A native species which:

- (a) is not critically endangered; and
- (b) is facing a very high risk of extinction in the wild in the near future, as determined in accordance with the prescribed criteria.

VU Vulnerable: A native species which:

- (a) is not critically endangered or endangered; and
- (b) is facing a high risk of extinction in the wild in the medium-term future, as determined in accordance with the prescribed criteria.
- **CD Conservation Dependent:** A native species which is the focus of a specific conservation program, the cessation of which would result in the species becoming vulnerable, endangered or critically endangered within a period of 5 years.

