Department of Industry and Resources

Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 2258/1
Permit type: Area Permit

1.2. Proponent details

Proponent's name: **Alcoa of Australia Ltd**

1.3. Property details

Property: LOT 99 ON PLAN 17761 (Lot No. 99 COCKBURN NAVAL BASE 6165)
Local Government Area: Town of Kwinana
Colloquial name: Tank Farm

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
0.02842		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	Clearing Description	Vegetation Condition	Comment
Beard vegetation associations have been mapped at a 1:250,000 scale for the whole of Western Australia, and are a useful tool to examine the vegetation extent in a regional context. One Beard vegetation association is located within the application area: 998: Medium woodland; tuart (GIS Database; Shepherd *et al.*, 2001). The area has also been mapped by Heddle as: - Cottesloe Complex - Central and\South - Woodland and open forest and closed heath (GIS Database). A site visit was conducted on 11 February 2008 within the areas applied to clear. The vegetation within the application area consisted of mainly *Leptospermum laevigatum* and *Olearia axillaris*, with an individual *Eucalyptus gomphocephala* (Tuart) in the south of the application area. Other species noted were eastern-states planted Eucalyptus and *Acacia saligna*.	Alcoa of Australia Ltd (from this point forward referred to as Alcoa) initially applied to clear up to 0.0312 hectares of native revegetation, for the purposes of Tank bunding and compliance with *Explosives and Dangerous Goods (Dangerous Goods Handling and Storage) Regulations 1992* (Alcoa, 2008). Alcoa subsequently used an exemption to clear a portion of the south part of the application area (Alcoa, 2008). The clearing applied for under this permit is for 0.02842 hectares. The proposed clearing is located near the corner of Cockburn Road and Hope Valley Road in the Town of Kwinana.	Degraded: Structure severely disturbed; regeneration to good condition requires intensive management (Keighery 1994)	The vegetation condition is derived from the site visit, and aerial photography. The vegetation within the application area is mostly rehabilitation planting, used for screening of the storage tanks from the road (Alcoa, 2008).

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 proposed clearing is located within the Swan Coastal Plain (SCP) Interim Biogeographic Regionalisation of Australia (IBRA) bioregion, and the Perth IBRA subregion (GIS Database).

The SCP is a part of the South West Botanical Province, which has a high degree of species diversity (Mitchell *et al.*, 2002). However, the area under application has been cleared previously, and consists of mostly non-native vegetation. Therefore, the area under application cannot be considered representative of an area of outstanding biodiversity in the Bioregion.

The application area is located immediately adjacent to existing, well established roads, and storage tanks (Alcoa, 2008).

During the site visit, weeds and non-native species were evident and widespread.

The proposed clearing is a small area of some native vegetation within an extensively cleared area used for storage of caustic soda. As the vegetation within the application area is previous rehabilitation, it is unlikely that the area comprises higher biodiversity values than the surrounding, uncleared vegetation.

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

Methodology Alcoa (2008).
Mitchell *et al.* (2002).
GIS Database:
- Interim Biogeographic Regionalisation of Australia (subregions) - EA 18/10/00.
- Interim Biogeographic Regionalisation of Australia - EA 18/10/00.

(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**
The proposed clearing area is located adjacent to an existing road, and storage tanks, and is planted with non-local species and also contains tuart trees (Alcoa, 2008). A site visit was conducted to examine the potential of the application area to provide significant habitat for fauna indigenous to Western Australia. During the site visit, the whole application area was traversed and no significant fauna habitats were found.

The lack of significant habitat for fauna indigenous to Western Australia is due to the area being highly disturbed.

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

Methodology Alcoa (2008).

(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**
According to available GIS Databases, there are no known records of threatened flora species within the application area (GIS Database). The nearest recorded rare flora is the Priority 4 *Dodonaea hackettiana*, located approximately 4.5 kilometres north west of the application area.

A site inspection of the area under application did not locate any significant flora species.

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

Methodology GIS Database:
- Declared Rare and Priority Flora List.

(d) Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of a threatened ecological community.

Comments **Proposal is not likely to be at variance to this Principle**
There are no known Threatened Ecological Communities (TECs) within the application area (GIS Database). The nearest recorded TEC is located approximately 3.5 kilometres south-east of the application area (GIS Database). Due to the distance between the proposed clearing and the recorded TEC, it is unlikely that the proposed clearing will significantly impact the TEC.

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

Methodology GIS Database:
- Threatened Ecological Communities - CALM.

(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 likely to be at variance to this Principle**
The area under application falls within the Swan Coastal Plain IBRA bioregion, and the Perth IBRA subregion (GIS Database). The proposed clearing is located within the Intensive Land Use Zone (GIS Database; Shepherd *et al.*, 2001). The vegetation proposed to be cleared is classified as Beard vegetation association 998: Medium woodland; tuart (GIS Database; Shepherd *et al.*, 2001). However, considering the degraded nature of the proposed clearing, and the fact it is previously rehabilitated, it is unlikely that the table below represents an accurate assessment of the significance of the vegetation within the application area.

	Pre-European area (ha)*	Current extent (ha)*	Remaining %*	Conservation Status**	% of Pre-European area in IUCN Class I-IV Reserves (and current %)
IBRA Bioregion – Swan Coastal Plain	1,501,457	571,759	~38.1	Depleted	10.4 (24.2)
Local Government Authority	12,024	4,793	~39.9	Depleted	N/A
Beard veg assoc. – State					
998	50,860	21,178	~41.6	Depleted	12.5 (26.9)
Beard veg assoc. – Bioregion					
998	50,860	21,178	~41.6	Depleted	12.5 (26.9)
Beard veg assoc. – Sub-region					
998	50,860	21,178	~41.6	Depleted	12.5 (26.9)

* Shepherd *et al.* (2001) updated 2006
** Department of Natural Resources and Environment (2002)

Available aerial photography shows that the application area is quite moderately cleared and open in structure (GIS Database). The area is located between existing storage tanks and roads. Due to its lack of groundcover, and lack of native species, it is unlikely that the area acts as a corridor for fauna. Available aerial photography and local knowledge also show uncleared areas to the north of the proposed clearing (GIS Database).

Considering that the area under application is previously cleared and rehabilitated, and that the areas directly north of the application area are relatively uncleared, it is unlikely that the area represents a significant remnant of native vegetation within an extensively cleared region.

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

Methodology Department of Natural Resources and Environment (2002).
Shepherd *et al.* (2001).
GIS Database:
- Interim Biogeographic Regionalisation of Australia - EA 18/10/00.
- Pre-European Vegetation - DA 01/01.
- Swan Coastal Plain Central 20cm Orthomosaic - DLI06.

(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 natural watercourses or waterbodies within the application area (GIS Database).

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

Methodology GIS Database:
- Geodata, Lakes.
- Hydrography, Lakes (course scale, 1M GA).
- Hydrography, linear.
- Hydrography, linear (hierarchy).
- Hydrography, pipelines.

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

Comments **Proposal is not likely to be at variance to this Principle**
The application area is relatively steep (GIS Database), however, due to the bunds surrounding the storage tanks, and the small clearing area, it is unlikely that erosion would be a significant problem.

Clearing will occur by a combination of hand and mechanical methods, and disposal of vegetation will be by mulching.

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

Methodology GIS Database:
- Topographic Contours, Statewide.

(h) Native vegetation should not be cleared if the clearing of the vegetation is likely to have an impact on the environmental values of any adjacent or nearby conservation area.

Comments **Proposal is not likely to be at variance to this Principle**
The proposed clearing is not located within a conservation area.

The nearest conservation area is the Beeliar Regional Park, located approximately 900 metres north of the proposed clearing area (GIS Database). This Park has also been registered on the Register of National Estate due to its natural values (Environment Australia, 2008).

The nearest Bush Forever area is located approximately 800 metres north, located within the Beeliar Regional Park areas (GIS Database). Based on the distance between the proposed clearing and the conservation areas, and the relatively small area of clearing, adverse impacts on the environmental values of those reserves are unlikely.

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

Methodology Environment Australia (2008)
GIS Database:
- CALM proposed 2015 pastoral lease exclusions.
- CALM Regional Parks - CALM 12/04/02.
- CALM Managed Lands and Waters.
- System 6 Conservation Reserves.
- Register of National Estate - EA 28/01/03.

(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**
The proposed clearing is not located within a Public Drinking Water Source Area (PDWSA) (GIS Database).

Groundwater within the area under application is fresh, at between 500-1,000 milligrams per litre of Total Dissolved Solids (GIS Database). Given the small size of the proposed clearing, the quality of the groundwater is unlikely to be impacted by the proposed clearing activity.

The proposed clearing area is not associated within any permanent watercourse or waterbody (GIS Database).

The limited amount of clearing proposed (0.02842 hectares) in comparison with the extent of the Perth Groundwater Province (which is approximately 4,660,027 hectares) (GIS Database) is unlikely to result in deterioration in the quality of groundwater.

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

Methodology GIS Database:
- Groundwater Salinity, Statewide - DOW.
- Geodata, Lakes.
- Hydrographic Catchments - Catchments - DOW.
- Hydrography, Lakes (course scale, 1M GA).
- Hydrography, linear (hierarchy)
- Hydrography, linear (hierarchy).
- Public Drinking Water Source Areas (PDWSAs) - DOW.
- Topographic Contours, Statewide - DOLA 12/09/02.

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

Comments **Proposal is not likely to be at variance to this Principle**
The relatively small amount of clearing proposed (0.02842 hectares) in comparison with the extent of the Coastal catchment area (which is approximately 19,809 hectares) (GIS Database) is unlikely to result in an increase in peak flood height or peak duration.

The annual rainfall for the area is approximately 800 millimetres, while the potential evapotranspiration of the area is at around 2,000 millimetres per year (GIS Database). Therefore, it is unlikely that the proposed clearing will cause or exacerbate the incidence or intensity of flooding.

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

Methodology GIS Database:
- Evapotranspioration, Point Potential.
- Hydrographic Catchments - Catchments - DOW.
- Rainfall, Mean Annual - BOM 30/09/2001.

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

Comments

There is one native title claim (WC98_058) over the area under application (GIS Database). This claim has been registered with the National Native Title Tribunal. The State Agreement Act has been signed 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 Aboriginal sites of significance within the application area. 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 application area is within a *Rights in Water and Irrigation Act 1914* groundwater management area (GIS Database). The applicant would require approval from the Department of Water to extract groundwater.

The proposed clearing is required for Alcoa's compliance with the *Explosives and Dangerous Goods (Dangerous Goods Handling and Storage) Regulations 1992.*

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:
- Aboriginal Sites of Significance - DIA.
- Environmental Impact Assessments.
- Native Title Claims - DLI 7/11/05.
- RIWI Act, Areas.
- RIWI Act, Groundwater Areas.

4. Assessor's comments

Purpose	Method	Applied area (ha)/ trees	Comment
Mineral Production	Mechanical Removal		The proposal has been assessed against the Clearing Principles, and is considered to be not at variance to Principle (f), and not likely to be at variance to Principles (a), (b), (c), (d), (e), (g), (h), (i) and (j). Should a permit be granted, it is recommended that conditions be imposed on the permit in relation to reporting on any clearing undertaken during the life of the permit.

5. References

Alcoa (2008) *Additional information provided in support of clearing permit application,* unpublished report, Alcoa World Alumina Australia, Pinjarra, Western Australia.

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.

Environment Australia (2008) *Beeliar Regional Park and Adjacent Areas, Beeliar Dr, Beeliar, WA, Australia*, [online] http://www.environment.gov.au [Last accessed 19/02/2008).

Keighery, B.J. (1994) *Bushland Plant Survey: A Guide to Plant Community Survey for the Community.* Wildflower Society of WA (Inc). Nedlands, Western Australia.

Mitchell, D., Williams, K. and Desmond, A. (2002) *Swan Coastal Plain 2 (SWA2 - Swan Coastal Plain subregion)*, in Bioregional summary of the 2002 Biodiversity Audit for Western Australia, 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.

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.
DEC	Department of Environment and Conservation
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.
DoIR	Department of Industry and Resources, Western Australia.
DOLA	Department of Land Administration, Western Australia.
DoW	Department of Water
EP Act	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.
P3	**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	**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	**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	**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.

P3 **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.

EN **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.