Government of **Western Australia**
Department of **Mines and Petroleum**

Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 4098/1
Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: **Dampier Salt Limited**

1.3. Property details

Property: *Dampier Solar Salt Industry Agreement Act 1967*, Mineral Lease 253SA, (AML 70/253)
Local Government Area: Shire of Roebourne
Colloquial name: Dampier Salt Light Vehicle Access Road

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
3.9		Mechanical Removal	Access Road

1.5. Decision on application

Decision on Permit Application: Grant
Decision Date: 27 January 2011

2. Background

2.1. Existing environment and information

2.1.1. Description of the native vegetation under application

Vegetation Description

Beard Vegetation Associations have been mapped at a scale of 1:250,000 for the whole of Western Australia. One Beard Vegetation Association is located within the application area (Shepherd, 2009):

Beard Vegetation Association 127**:** Bare areas; mud flats.

In September 2010 Biota undertook a flora survey of the application area and identified the following vegetation units within the application area:

Vegetation of the Lower Hillslopes

TaffaTe - *Triodia* aff. *angusta*, *Triodia epactia* hummock grassland.

Te - *Triodia epactia* hummock grassland.

AbTe - *Acacia bivenosa* shrubland over *Triodia epactia* very open hummock grassland.

Vegetation of Saline Flats

TECpTECil - *Tecticornia pruinosa*, *Tecticornia indica* subsp. *leiostachya* low shrubland.

NEaTRt - *Neobassia astrocarpa, Trianthema turgidifolia* low open shrubland to scattered low shrubs.

Taffa - *Triodia* aff. *angusta* hummock grassland.

Clearing Description

Dampier Salt Limited is proposing to clear 3.9 hectares of native vegetation for the purpose of establishing a new section of road for light vehicles only, in order to separate light and heavy vehicle traffic movements.

Vegetation Condition

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

to

Excellent: Vegetation structure intact; disturbance affecting individual species, weeds non-aggressive (Keighery 1994).

Comment

The application area is located within Dampier Salt Limited's existing Dampier Operations. The application area is a narrow strip that runs between the existing haul road, (which currently services both heavy and light vehicle traffic), and a range of hills and exposed rock piles. The vegetation condition was derived from a site assessment conducted by Biota (2010).

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 application area occurs within the Roebourne (PIL4) sub-region of the Pilbara bioregion of the Interim Biogeographic Regionalisation for Australia (IBRA) (GIS Database). This sub-region is characterised by quaternary alluvial and older colluvial coastal and subcoastal plains with a grass savannah of mixed bunch and hummock grasses, and dwarf shrub steppe of *Acacia stellaticeps* or *A. pyrifolia* and *A. inaequilatera*. Uplands are dominated by *Triodia* hummock grasslands. Ephemeral drainage lines support *Eucalyptus victrix* or *Corymbia hamersleyana* woodlands. Samphire, *Sporobolus* and mangal occur on marine alluvial flats and river deltas (CALM, 2002).

Biota (2010) identified two broad fauna habitat types present within the application area and concluded that these fauna habitats are both common and widespread in the Pilbara bioregion. Given that the vegetation and habitats present within the application area are well represented on a regional scale it is unlikely that the 3.9 hectares applied to be cleared for an access road represents significant fauna habitat in a regional context.

A total of 24 native flora species, belonging to 17 genera from 13 families, were found within the application area. No introduced species were recorded and the dominant plant groups and broad suite of species recorded were typical for a study area of small size, located in this section of the Roebourne Plains sub-region (Biota, 2010).

The Priority 1 Burrup Peninsula Rock Pile and Rock Pool Priority Ecological Communities (PEC) occur on the Burrup Peninsula and the closest record is located 11 kilometres northeast of the application area. The area applied to be cleared runs adjacent to a range of low hills with exposed rock outcrops (Biota 2010). A very small amount of rock outcrop habitat (<1% of the total application area) occurs in the western end of the area applied to be cleared and was mapped by Biota as 'Rockpile' (Biota 2010). However, only 0.006 hectares of this Rock Pile habitat occurs within the application area and no flora species were identified on the rockpiles which would indicate the presence of the PEC (Biota, 2010).

Approximately half of the vegetation within the application area has been subject to disturbance due to the proximity of the existing haul road, previous clearing or earthmoving activities, light vehicle tracks and a pipeline which runs adjacent to the haul road (Biota, 2010). However, the majority of the application area is not susceptible to weed invasion, as it is too saline, although the lower hillslopes within the application area may be susceptible to weeds such as Buffel grass (*Cenchrus ciliaris*) (Biota, 2010). The implementation of a weed management condition will minimise the risk of the spread of weeds to un-infested areas.

The vegetation under application is in good to excellent condition (Keighery, 1994) however no Declared Rare Flora, Priority Flora species or Threatened Ecological Communities were recorded within the application area (Biota, 2010). Given the small size of the area to be cleared (3.9 hectares) and the close proximity of the area to the existing haul road and mining operations it is not likely that the area to be cleared comprises a high level of biological diversity in a regional context.

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

Methodology

Biota (2010)
CALM (2002)
Keighery (1994)
GIS Database:
- IBRA WA (Regions – Subregions)

(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

Biota (2010) identified two broad fauna habitat types within the application area which are associated with vegetation of the lower hillslopes and saline flats. While some fauna species may utilise these habitats on occasion neither the landforms nor vegetation types present represent significant habitat for any species of conservation significance and the primary habitats present are mostly widespread in the local area (Biota, 2010).

There are several records of threatened fauna within a 10 kilometre radius of the application area however the most likely threatened fauna species to utilise the application area is the Eastern Curlew (*Numenius madagascariensis*; Priority 4) (Biota, 2010). This species is moderately common in the Pilbara and occurs on tidal mudflats, sandy beaches and rarely near coastal lakes (including saltfield ponds) (Johnstone and Storr, 1998 from Biota, 2010). The Eastern Curlew has been recorded in the vicinity of the application area (Biota 2010) however the application area is small, narrow and somewhat disturbed being located in close proximity to an existing haul road and highly modified minesite environment. It is therefore not likely that the area to be cleared represents significant habitat for the Eastern Curlew (Biota, 2010).

The rockpile habitat located to the north of the application area may represent significant fauna habitat however given the small area (0.006 hectares) of this habitat type found within the application area and considering the

close proximity of the application area to an existing haul road and highly modified minesite environment (Biota, 2010) it is not likely that the 0.006 hectares to be cleared is necessary for the maintenance of a significant habitat for fauna indigenous to Western Australia.

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

Methodology Biota (2010)

(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 Declared Rare Flora (DRF) in the local area (15 kilometre radius) (GIS Database).

Biota (2010) conducted a flora survey in September 2010 of the application area. No DRF species have been recorded within the clearing permit area (Biota, 2010) and it is therefore not likely that the area to be cleared includes, or is necessary for the continued existence of, rare flora.

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

Methodology Biota (2010)
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 (TEC's) which occur within the application area and the closest known TEC is located approximately 180 kilometres southeast of the application area (Biota, 2010; GIS Database).

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

Methodology Biota (2010)
GIS Database:
- Threatened Ecological Sites Buffered

(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 application area falls within the Pilbara IBRA bioregion (GIS Database). Shepherd (2009) reports that approximately 99.95% of the pre-European vegetation still exists in this bioregion.

	Pre-European area (ha)*	Current extent (ha)*	Remaining %*	Conservation Status**	Pre-European % in IUCN Class I-IV Reserves
IBRA Bioregion - Pilbara	17,804,193	17,185,001	~99.9	Least Concern	~8.3
Beard vegetation associations - State					
127	742,644	717,069	~96	Least Concern	8.09
Beard vegetation associations - Bioregion					
127	180,401	177,739	~98	Least Concern	0

* Shepherd (2009)
** Department of Natural Resources and Environment (2002)

Beard vegetation association 127 retains approximately 96% of its pre-European extent 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 (EPA, 2000).

Given that the vegetation is well represented locally and regionally the vegetation within the proposed area is

not likely to be significant as a remnant in a highly cleared landscape.

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

Methodology Department of Natural Resources and Environment (2002)
EPA (2000)
Shepherd (2009)
GIS Database:
- IBRA WA (Regions – Subregions)

(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 at variance to this Principle**
There are no permanent watercourses or wetlands located within the application area. The application area is located to the north of the Dampier Salt Limited crystalliser ponds, which are a highly modified intertidal saline mudflat environment (Biota, 2010). Small low-lying areas within the application area contain salt-tolerant species (Biota, 2010).

Given that some species are growing in association with the saline mud flat environment, part of the vegetation under application is considered to be growing in association with the saline mudflat however this vegetation is separated from the salt lake by an existing haul road and these salt tolerant species are common in the local area. Given the above the clearing of 3.9 hectares is not likely to have any significant environmental impacts in a regional context.

Based on the above, the proposed clearing is at variance to this Principle.

Methodology Biota (2010)
GIS Database:
- Hydrography, linear

(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 located within the Granitic land system (GIS Database). The Granitic land system is described as rugged granitic hills supporting shrubby hard and soft spinifex grasslands and is not susceptible to erosion (Van Vreeswyk et al., 2004).

Given the nature of the clearing application for the purpose of constructing an access road, localised land degradation may occur during the construction period however this will be short term. Considering the low erosion risk associated with the land system and considering the small size of the area to be cleared (3.9 hectares) it is not likely that the proposed clearing will cause appreciable land degradation.

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

Methodology Van Vreeswyk et al. (2004)
GIS Database:
- Rangeland Land System Mapping

(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 nearest conservation area is an un-named 'C' Class reserve located approximately 8 kilometres offshore of the application area (GIS Database).

Given the distance to the nearest area of conservation significance and considering the small size of the area to be cleared (3.9 hectares) it is not likely that the clearing will significantly impact on the environmental values of any conservation area.

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

Methodology GIS Database:
- DEC Tenure

(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 area under application is not located within a Public Drinking Water Source Area (PDWSA) and is not associated with any areas of surface water expression.

Given the small size of the area to be cleared (3.9 hectares) it is not likely that the removal of native vegetation will cause deterioration in the quality of surface or underground water.

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

Methodology

GIS Database:
- Hydrography, linear
- Public Drinking Water Source Areas

(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

Local flooding occurs seasonally in the Pilbara region as a result of cyclonic activity and sporadic thunderstorms however the area under application is not associated with any areas of surface water expression and it is not likely that the clearing of 3.9 hectares for the construction of an access road will increase 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:
- Hydrography, linear

Planning instrument, Native Title, RIWI Act Licence, EP Act Licence, Works Approval, Previous EPA decision or other matter.

Comments

There are no Native Title Claims over the area under application (GIS Database). However, the mining tenure has been granted in accordance with the future act regime of the *Native Title Act 1993* and the nature of the act (i.e. the proposed clearing activity) has been provided for in that process, therefore the granting of a clearing permit is not a future act under the *Native Title Act 1993*.

There are two registered Aboriginal Sites of Significance within the application area (GIS Database). 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 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.

The clearing permit application was advertised on 13 December 2010 by the Department of Mines and Petroleum inviting submissions from the public. No submissions were received.

Methodology

GIS Database
- Aboriginal Sites of Significance
- Native Title NNTT

4. References

Biota (2010) Dampier Salt Proposed Bypass Road - Native Vegetation Clearing Permit Report, November 2010.

CALM (2002) A Biodiversity Audit of Western Australia's 53 Biogeographical Subregions. Pilbara 1 (PIL1 - Chichester subregion) Department of Conservation and Land Management, 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.

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.

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

Shepherd, D.P. (2009) Adapted from: Shepherd, D.P., Beeston, G.R., and Hopkins, A.J.M. (2001), Native Vegetation in Western Australia. Technical Report 249. Department of Agriculture Western Australia, South Perth.

5. Glossary

Acronyms:

BoM	Bureau of Meteorology, Australian Government
CALM	Department of Conservation and Land Management (now DEC), Western Australia
DAFWA	Department of Agriculture and Food, Western Australia
DEC	Department of Environment and Conservation, Western Australia
DEH	Department of Environment and Heritage (federal based in Canberra) previously Environment Australia
DEP	Department of Environment Protection (now DEC), Western Australia
DIA	Department of Indigenous Affairs
DLI	Department of Land Information, Western Australia
DMP	Department of Mines and Petroleum, Western Australia
DoE	Department of Environment (now DEC), Western Australia
DoIR	Department of Industry and Resources (now DMP), Western Australia
DOLA	Department of Land Administration, Western Australia
DoW	Department of Water
EP Act	Environmental Protection Act 1986, Western Australia
EPBC Act	Environment Protection and Biodiversity Conservation Act 1999 (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
RIWI Act	Rights in Water and Irrigation Act 1914, Western Australia
s.17	Section 17 of the Environment Protection Act 1986, Western Australia
TEC	Threatened Ecological Community

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.