Government of Western Australia
Department of Mines and Petroleum

Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 4511/1
Permit type: Area 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)
Mining Lease 47/77
Local Government Area: Shire of Roebourne
Colloquial name:

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
0.78		Mechanical Removal	Laydown Area

1.5. Decision on application

Decision on Permit Application: Grant
Decision Date: 29 September 2011

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 for the whole of Western Australia and are useful to look at vegetation in a regional context. The following Beard vegetation association has been mapped within the application area (GIS Database): 117: Hummock grasslands, grass steppe; soft spinifex. A flora and vegetation survey of the application area was conducted by a botanist from Astron Environmental Services on 11 May 2011. The following vegetation unit was recorded within the application area (Astron Environmental Services, 2011): Low samphire shrubs of *Tecticornia indica* subsp. *leiostachya* fringed around the edges with isolated plants of *Trianthema turgidifolia, Neobassia astrocarpa* and annual grasses *Dactyloctenium radulans* and *Eragrostis dielsii.*	Dampier Salt Limited has applied to clear 0.78 hectares of native vegetation (GIS Database). The application area is located approximately 22 kilometres west of Karratha (GIS Database). The proposed clearing is for the creation of a laydown area for machinery and equipment.	Good: Structure significantly altered by multiple disturbance; retains basic structure/ability to regenerate (Keighery, 1994).	The vegetation condition was assessed by a botanist from Astron Environmental Services. The vegetation condition was described using a scale based on the Keighery (1994) and Kaesehagen (1995) scales and has been converted to the corresponding condition from the Keighery (1994) scale. An estimated 25% of the application area was under water at the time of the survey.

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 flora and vegetation survey of the application area recorded one vegetation unit that was in 'good' condition (Astron Environment Services, 2011). This vegetation unit is neither a Threatened or Priority Ecological Community. The flora survey recorded a total of five flora taxa (Astron Environmental Services, 2011). This is not considered to be a high level of floral diversity. No species of Declared Rare or Priority Flora were recorded within the application area.

Given its small area and the limited range of habitats present, the application area is not likely to support a high level of faunal diversity.

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

Methodology Astron Environmental Services (2011)

(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 have been no fauna surveys undertaken over the application area. The total vegetation cover for the application area was estimated to be five percent (Astron Environmental Services, 2011). Given the lack of vegetation and habitat diversity, proximity to the salt ponds (less than 100 metres) and relatively small scale of clearing, the application area is not likely to contain significant habitat for native fauna.

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

Methodology Astron Environmental Services (2011)

(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 databases, there are no records of any Declared Rare Flora (DRF) within the application area (GIS Database). A flora survey of the application area was conducted by Astron Environmental Sciences on 11 May 2011. This flora survey did not record any DRF (Astron Environmental Services, 2011).

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

Methodology Astron Environmental Services (2011)
GIS Database:
- Declared Rare and Prioirty Flora Database

(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**
According to available databases, there are no records of any Threatened Ecological Communities (TECs) within the application area (GIS Database). A vegetation survey was conducted by a Astron Environmental Services on 11 May 2011. This survey did not identify any vegetation communities as being a TEC (Astron Environmental Services, 2011).

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

Methodology Astron Environmental Services (2011)
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 Biogeographic Regionalisation of Australia (IBRA) bioregion in which approximately 99.9% of the pre-European vegetation remains (see table) (GIS Database, Shepherd, 2009).

The vegetation of the application area has been mapped as the following Beard vegetation association (GIS Database):

117: Hummock grasslands, grass steppe; soft spinifex.

According to Shepherd (2009) over 94% of this Beard vegetation association remains at both a state and bioregional level. Therefore the area proposed to be cleared does not represent a significant remnant of native vegetation within an area that has been extensively cleared.

	Pre-European area (ha)*	Current extent (ha)*	Remaining %*	Conservation Status**	Pre-European % in IUCN Class I-IV Reserves
IBRA Bioregion – Pilbara	17,804,193	17,785,000	~99.9	Least Concern	6.3
Beard veg assoc. – State					
117	919,161	886,204	~100	Least Concern	13.3
Beard veg assoc. – Bioregion					
117	74,555	70,442	~100	Least Concern	12.2

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

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

Methodology Department of Natural Resources and Environment (2002)
Shepherd (2009)
GIS Database:
- IBRA WA (Regions - Sub Regions)
- Pre-European Vegetation

(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 likely to be at variance to this Principle**
There is one minor ephemeral watercourse that passes through the eastern most point of the application area (GIS Database). The application area receives runoff from water which drains from a rocky ridgeline in the north (Astron Environmental Services, 2011). The vegetation recorded within the application area was not identified as being associated with a watercourse (Astron Environmental Services, 2011). The small amount of proposed clearing is not expected to have an impact on watercourse within the local area.

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

Methodology Astron Environmental Services (2011)
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 has been mapped as occurring on the Granitic land system (GIS Database). This land system is subject to frequent burning but is not susceptible to erosion (Van Vreeswyk et al., 2004). The application area has been previously disturbed for the use of borrow material (Astron Environmental Services, 2011). Given the small scale of clearing and the previous disturbance, the proposed clearing is not expected to exacerbate any land degradation in the local area.

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

Methodology Astron Environmental Service (2011)
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 application area does not lie within any conservation areas or DEC managed lands (GIS Database). The nearest conservation areas are several un-named nature reserves approximately 10 kilometres north of the application area (GIS Database). The nearest onshore conservation area is the Karratha Arboretum located approximately 25 kilometres east of the application area (GIS Database). Given the distance between the application area and these areas, the proposed clearing is not likely to impact the environmental values of any conservation areas.

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 application area is not located within a Public Drinking Water Source Area (PDWSA) (GIS Database).

There is one minor non-perennial watercourse within the application area (GIS Database). The majority of the surface water within the application area is likely to occur as sheet flow following heavy rains. With an annual evaporation rate over 11 times the average annual rainfall any surface water is likely to evaporate quickly (BoM, 2011; GIS Database). The proposed clearing is not likely to have an impact on surface water quality in the local area.

The groundwater within the application area is between 1,000 – 3,000 milligrams per litre of Total Dissolved Solids (TDS) (GIS Database). This is considered to be brackish water. As the location of the application area is less than 100 metres from the salt ponds, it often gets saline water draining or seeping into it (Astron Environmental Services, 2001). Given this and the relatively small nature of clearing, it is not likely to cause salinity levels within the application area to alter.

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

Methodology BoM (2011)
GIS Database:
- Evaporation Isopleths
- Groundwater Salinity, Satewide
- Hydrography, linear
- Public Drinking Water Source Areas (PDWSAs)

(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

With an average annual rainfall of 289.1 millimetres and an average annual evaporation rate of 3,200 millimetres there is likely to be little surface flow during normal seasonal rains (BoM, 2011; GIS Database). As the application area has been slightly borrowed in the past it is now lower than the surrounding terrain on the east, west and north sides (Astron Environmental Services, 2011). This has lead to some water from the adjacent salt ponds draining into the application area. At the time of the flora survey approximately a quarter of the application area was under water (Astron Environmental Services, 2011). Whilst this area may experience some flooding, the proposed clearing is not likely to lead to an increase in incidence or intensity of this flooding.

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

Methodology Astron Environmental Services (2011)
BoM (2011)
GIS Database:
- Evaporation Isopleths

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

Comments

There is one native title claim over the area under application (GIS Database). This claim (WC99/14) was determined by the Federal Court of Australia on 2 May 2005 (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*.

According to available databases, there is one registered Aboriginal Site 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 8 August 2011 by the Department of Mines and Petroleum inviting submissions from the public. There was one submission received stating no objections to the proposal.

Methodology GIS Database:
- Aboriginal Sites of Significance

- Native Title Claims - Determined by the Federal Court

4. References

Astron Environmental Services (2011) Supporting information for a clearing permit application. Unpublished report for Dampier Salt Limited dated June 2011.

BoM (2011) BOM Website - Climate statistics for Australian locations, Averages for Karratha Aero. Available online at: http://www.bom.gov.au/climate/averages/tables/cw_004083.shtml Accessed on 20 September 2011.

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.

Kaesehagen (1995) Bushland Condition Mapping. In: Invasive Weeds and Regenerating Ecosystems in Western Australia Conference Proceedings. G. Burke (ed), Murdoch University, 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.

Van Vreeswyk, A.M.E., Payne, A.L., Hennig, P., and Leighton, K.A. (2004) An Inventory and Condition Survey of the Pilbara Region, Western Australia, Department of Agriculture, Western Australia.

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.