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

Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 3553/1
Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: **Apache Northwest Pty Ltd**

1.3. Property details

Property: Pipeline licence TPL/20
Local Government Area: Shire of Roebourne
Colloquial name: Devil Creek project – Reindeer pipeline

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
12		Mechanical Removal	Pipeline Construction

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
The seabed along the proposed pipeline corridor was surveyed in October 2007 using a towed video camera (Apache, 2010). At the nearshore end of the corridor, marine vegetation consisted of small patches of seagrass (*Halophila ovata*) and sparse filamentous algae (Apache, 2010). Further offshore, the seagrass beds were better developed, forming meadows of medium density. The most common species were *Halophila* ovails, *H. spinulosa* and *Halodule uninervis* (Apache, 2010). Macroalgae recorded included *Dictyopteris* and *Asparagopsis,* which are common and abundant in this region (Apache, 2010; RPS, 2008).	Apache Northwest Pty Ltd have applied to clear up to 12 hectares of marine vegetation for the laying of the Reindeer natural gas pipeline over a distance of approximately 46 kilometres from the Commonwealth/State territorial sea boundary to the mean low water mark at Gnoorea Point in Regnard Bay. The 16 inch pipeline will connect the Reindeer offshore platform to the Devil Creek onshore gas processing plant, approximately 45 kilometres west-southwest of Karratha (Apache, 2010). Disturbance to marine vegetation will result from the laying of the pipeline and the movement and anchoring of vessels during pipeline construction. The pipeline itself may crush marine vegetation, while the laying of the pipeline and the movement and anchoring of vessels may stir up sediments from the sea bed which may smother marine vegetation (Apache, 2010).	Pristine: No obvious signs of disturbance (Keighery, 1994). To Excellent: Vegetation structure intact; disturbance affecting individual species, weeds non-aggressive (Keighery, 1994).	This clearing permit application relates to the marine section of the pipeline within Western Australian state waters only. The pipeline will cross the shoreline below ground and then continue above ground onshore to the gas plant. The shore crossing and the onshore section of the pipeline is subject to Part IV approval under section 38 of the *Environmental Protection Act 1986*. The marine section of the pipeline within Commonwealth waters is subject to approval under Commonwealth legislation.

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 at variance to this Principle

The application area lies within the Northwest Shelf (NWS 28) Biogeographical Region of the Integrated Marine and Coastal Regionalisation of Australia (IMCRA) (Apache, 2010; IMCRA Technical Group, 1998). This region supports diverse benthic invertebrate communities and fish fauna (IMCRA Technical Group, 1998). The proposed pipeline corridor passes between the many islands, reefs and shoals which make up the Dampier Archipelago (GIS Database).

The complex geomorphology, oceanography and reef structures of the Dampier Archipelago provide a diverse array of marine habitats which, in turn, support a range of biotic assemblages (Australian Heritage Database, 2010). Several fauna species of conservation significance are known to occur in the area, including the humpback whale, dugong, marine turtles and seabirds. The region is one of the world's few major turtle breeding areas which is not subject to major pressures on turtle populations (Australian Heritage Database (2010).

Based on the above, the proposed clearing is at variance to this Principle. However the linear nature of the proposed clearing for the construction of a pipeline is unlikely have any significant or lasting impacts on the biodiversity of the region.

Methodology

Apache (2010)
Australian Heritage Database (2010)
IMCRA Technical Group (1998)

(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 may be at variance to this Principle

Marine habitats of the Dampier Archipelago are extremely varied (CALM, 1994). The seabed within the Archipelago consists mainly of mud and fine sand, which supports a rich and diverse benthic invertebrate fauna (CALM, 1994).

Seabed surveys undertaken along the proposed pipeline corridor recorded a range of fauna habitat types, including: bare rock and sand; hard pavements with occasional seagrasses; sparse to denser patches of seagrass and macroalgae; and moderately dense seagrass meadows (Apache, 2010; RPS, 2008).

The Dampier Archipelago supports a diverse range of coral fauna (CALM, 1994). The most notable fauna habitats recorded during the seabed survey within the proposed pipeline corridor were large coral bomboras which provide important habitat for a range of invertebrates and fish communities (Apache, 2010; RPS, 2008). The bombora were in water depths of 26 to 30 metres and occurred mostly to the west of the centreline of the pipeline corridor. The coral bomboras ranged in height from 1 metre to 6 metres and were dominated by large plating *Pachyseris* coral. Rock pavement surrounding the coral bomboras supported medium to high density sponges and macroalgae including *Dictyopteris* and *Caulerpa* (Apache, 2010; RPS, 2008). The sections of the pipeline corridor where vessel anchoring will primarily occur are outside of the area where most of the coral bomboras were recorded (Apache, 2010). Potential impacts to coral bomboras as a result of the proposed clearing may be minimised by the implementation of a permit condition.

Several fauna species of conservation significance are known to occur in the region, including the humpback whale, dugong, marine turtles and seabirds Australian Heritage Database (2010). Seagrasses and macroalgae occurred at various densities within the pipeline corridor (Apache, 2010; RPS, 2008). Seagrass beds provide important habitat for fauna, particularly dugongs and turtles. Four species of marine turtle nest on sandy shore sites of Dampier Archipelago, Montebello Islands, Lowendal Islands, Barrow Island and other islands on the North West Shelf. These are the Green turtle (*Chelonia mydas*), the Flatback turtle (*Natator depressus*), the Hawksbill turtle (*Eretmochelys imbricata*), and the Loggerhead turtle (*Caretta caretta*). The Leatherback turtle (*Dermochelys coriacia*) may also visit the open waters. These 5 species are listed as either endangered or vulnerable under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). However the proposed pipeline corridor is located away from the main turtle nesting islands and beaches (Apache, 2010).

Based on the above, the proposed clearing may be at variance to this Principle. However the linear nature of the proposed clearing for the construction of a pipeline is unlikely have any significant or lasting impacts on the fauna habitats of the region.

Methodology

Apache (2010)
Australian Heritage Database (2010)
CALM (1994)
RPS (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

Searches of available databases and a survey of the application area did not identify any rare flora within the proposed pipeline corridor (Apache, 2010; RPS, 2008).

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

Methodology

Apache (2010)
RPS (2008)

(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 clearing application areas (Apache, 2010; GIS database). The survey of the proposed pipeline corridor did not locate any TEC's (Apache, 2010).

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

Methodology

Apache (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 likely to be at variance to this Principle

Macroalgae, seagrass and coral communities are extensive throughout the IMCRA Northwest Shelf region, and remain largely intact except for localised areas of disturbance surrounding petroleum drilling platforms, pipelines and associated activities (Apache, 2010; CALM, 2005). The vegetation within the proposed pipeline corridor is typical of the region (Apache, 2010).

The marine vegetation of the region has not been extensively cleared, and the linear area proposed to be cleared by the laying of the pipeline and additional small pockets of vegetation to be disturbed by the anchoring of vessels do not represent significant remnants of native vegetation.

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

Methodology

Apache (2010)
CALM (2005)

(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

The *Environmental Protection Act 1986* defines a wetland as an area of seasonally, intermittently or permanently waterlogged or inundated land, whether natural or otherwise, and includes a lake, swamp, marsh, spring, dampland, tidal flat or estuary. As the proposed offshore clearing area occurs in marine rather than terrestrial habitat, this clearing principle is not considered applicable to the assessment of the proposal.

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

Methodology

(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 within the Northwest Shelf (NWS 28) IMCRA Biogeographical Region (IMCRA Technical Group, 1998). As the proposed clearing area is located entirely within a marine environment, the threat of land degradation will be restricted to that caused by anchoring of vessels, and physical disturbance and crushing of vegetation by the pipeline (Apache, 2010).

The anchoring of vessels has the potential to crush and up-root macroalgae, seagrass and coral communities. Apache have developed management strategies for the anchoring of vessels, aimed at minimising potential impacts on sensitive marine habitats. These management strategies include: controlling the actual placement

of all anchor positions; using polypropylene ropes or soft lines connected directly to the anchor (which will avoid dragging and minimise scouring of the seabed); and buoying the barge's anchor wires with floatation buoys (Apache, 2010).

The waters of the Dampier Archipelago are usually turbid on the near-shore side of the islands, becoming clearer in the deeper waters of the outer Archipelago (CALM, 1994). The laying of the pipeline may stir up sediments from the sea bed increasing seawater turbidity in localised areas.

Although some localised land (sea-bed) degradation may occur, the overall impact of the proposed clearing of up to 12 hectares of marine vegetation within a total application area of approximately 13,747 hectares is likely to be minimal.

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

Methodology Apache (2010)
CALM (1994)
IMCRA Technical Group (1998)

(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 may be at variance to this Principle**

The proposed pipeline corridor passes between the near-shore islands, reefs and shoals which make up the Dampier Archipelago (GIS Database). The ten large and many smaller islands of the Dampier Archipelago are listed on the Register of National Estate, for their natural values. The Register of National Estate area is approximately 1.5 kilometres east of the clearing permit application area, at its nearest point. This section of the Dampier Archipelago consists of several small islands, including Egret and Eaglehawk Islands and reefs including North West and South West Reefs.

Several of the islands of the Dampier Archipelago are protected by nature reserves. The nearest of the island nature reserves to the proposed pipeline route is North East Regnard Island, which is located approximately 3 kilometres west of the boundary of the clearing permit application area. North East Regnard Island forms part of the Great Sandy Island Nature Reserve (Class B). To the east of the proposed pipeline route, the Egret Island (Class A) nature reserve and the Eaglehawk Island (Class C) nature reserve are each approximately 7 kilometres from the boundary of the clearing permit application area (GIS Database).

The laying of the pipeline may stir up sediments from the sea bed. The sediments and the pipeline itself may crush or smother marine vegetation (Apache, 2010). Although strong tidal currents exist between the islands, the sediments are expected to disperse or resettle quickly and are not likely to have any significant impact on the shores of the nearby island reserves.

The application area is located within the 'Multiple Use Zone' of the Cape Preston Marine Management Area (CALM, 2005; GIS Database). Marine management areas are managed under the *Conservation and Land Management Act 1984* for conservation, recreational, scientific and commercial purposes. Pipeline construction is a permitted activity within the multiple use zone of the marine management area, subject to assessment by the relevant Government agencies (CALM, 2005).

Based on the above, the proposed clearing may be at variance to this Principle. However the impacts to conservation areas from the proposed clearing for pipeline construction are likely to be minimal and shortlived.

Methodology Apache (2010)
CALM (2005)
GIS Database:
- DEC tenure
- Register of National Estate

(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 offshore clearing is located on the sea bed in a marine environment. The vegetation will not be actively cleared, but will be disturbed by the laying of a pipeline and anchoring of vessels on the seabed (Apache, 2010). The pipeline construction activities may stir up sediments from the sea bed, creating a temporary localised deterioration in the quality of the seawater.

Given the relatively small area of clearing proposed (12 hectares), within an application area of approximately 13,747 hectares, the proposal is not likely to cause significant deterioration in the quality of the sea water in which it occurs.

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

Methodology Apache (2010)

(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 at variance to this Principle

The proposed clearing of up to 12 hectares of sea bed vegetation occurs in a naturally flooded marine habitat, therefore, this principle is not applicable to the assessment of the proposal.

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

Methodology

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

Comments

There are three Native Title Claims (WC96_089, WC98_040, WC99_014) over the area under application (GIS Database). These claims have been registered with the National Native Title Tribunal on behalf of the claimant groups. However, the 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 no registered Sites of Aboriginal 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 Sites of Aboriginal Significance are damaged through the clearing process.

It is noted that the proposed clearing may impact on a protected matter under the *Environment Protection and Biodiversity Conservation Act 1999* (the EPBC Act). The proponent may be required to refer the project to the (Federal) Department of the Environment, Water, Heritage and the Arts (DEWHA) for environmental impact assessment under the EPBC Act. The proponent is advised to contact the DEWHA for further information regarding notification and referral responsibilities under the EPBC Act.

It is the proponent's responsibility to liaise with the other government agencies to determine whether any other licences or approvals are required for the proposed works.

The clearing permit application was advertised on 29 March 2010 by the Department of Mines and Petroleum inviting submissions from the public. No submissions were received in relation to the proposed clearing.

Methodology GIS Database:
- Aboriginal Sites of Significance
- Native Title Claims

4. Assessor's comments

Comment

The application has been assessed against the clearing principles, planning instruments and other matters in accordance with s.51O of the Environmental Protection Act 1986, and the proposed clearing is at variance to Principle (a), may be at variance to Principle (b) and (h), is not likely to be at variance to Principles (c), (d), (e), (g), and (i) and is not at variance to Principles (f) and (j).

5. References

Apache (2010) Devil Creek Development Project. Supporting Documentation for a Native Vegetation Clearing (Purpose) Permit. Offshore Pipeline Installation Activities WA State Waters, Apache Northwest Pty Ltd, Western Australia.

Australian Heritage Database (2010) Register of National Estate: Dampier Archipelago Marine Areas, Dampier, WA, Australia. http://www.environment.gov.au (Accessed 16 July 2010).

CALM (1994) A Representative Marine Reserve System for Western Australia. Report of the Marine Parks and Reserves Selection Working Group. Department of Conservation and Land Management, Perth, Western Australia.

CALM (2005) Indicative Management Plan for the proposed Dampier Archipelago Marine Park and Cape Preston Marine Management Area 2005. Department of Conservation and Land Management, Perth, Western Australia.

IMCRA Technical Group (1998) Interim Marine and Coastal Regionalisation for Australia: An ecosystem-based classification for marine and coastal environments. Version 3.3. Interim Marine and Coastal Regionalisation for Australia Technical Group. Environment Australia, Commonwealth Department of the Environment. Canberra.

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

RPS (2008) Marine Baseline Studies. Apache Devil Creek Development Project. RPS Environment Pty Ltd, Subiaco, WA.

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.
DMP	Department of Mines and Petroleum, 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.