GOVERNMENT OF
WESTERN AUSTRALIA

CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

Purpose Permit number:	CPS 3104/1
Permit Holder:	Broome Port Authority
Duration of Permit:	24 October 2009 – 24 October 2014

The Permit Holder is authorised to clear native vegetation subject to the following conditions of this Permit.

PART I – CLEARING AUTHORISED

1. **Purpose for which clearing may be done**
   Clearing for the purpose of commercial development.

2. **Land on which clearing is to be done**
   LOT 616 ON PLAN 240107 (PORT MINYIRR 6725)
   LOT 1221 ON PLAN 182648 (PORT MINYIRR 6725)

3. **Area of Clearing**
   The Permit Holder must not clear more than 21.13 hectares of native vegetation within the area hatched yellow on attached Plan 3104/1.

4. **Application**
   This Permit allows the Permit Holder to authorise persons, including employees, contractors and agents of the Permit Holder, to clear native vegetation for the purposes of this Permit subject to compliance with the conditions of this Permit and approval from the Permit Holder.

5. **Compliance with Assessment Sequence and Management Procedures**
   Prior to clearing any native vegetation under conditions 1, 2 and 3 of this Permit, the Permit Holder must comply with the Assessment Sequence and the Management Procedures set out in Part II of this Permit.

PART II – ASSESSMENT SEQUENCE AND MANAGEMENT PROCEDURES

6. **Avoid, minimise etc clearing**
   In determining the amount of native vegetation to be cleared authorised under this Permit, the Permit Holder must have regard to the following principles, set out in order of preference:
   (a) avoid the clearing of native vegetation;
   (b) minimise the amount of native vegetation to be cleared; and
   (c) reduce the impact of clearing on any environmental value.

PART III - RECORD KEEPING AND REPORTING

7. Records must be kept

(a) The Permit Holder must maintain the following records for activities done pursuant to this Permit in relation to the clearing of native vegetation authorised under this Permit:

(i) the species composition, structure and density of the cleared area;

(ii) the location where the clearing occurred, recorded using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 1994 (GDA94), expressing the geographical coordinates in Eastings and Northings;

(iii) the date that the area was cleared; and

(iv) the size of the area cleared (in hectares).

8. Reporting

(a) The Permit Holder must provide to the CEO, on or before 30 June of each year, a written report of records required under condition 7 of this Permit and activities done by the Permit Holder under this Permit between 1 January and 31 December of the preceding year.

(b) Prior to 24 June 2014, the Permit Holder must provide to the CEO a written report of records required under condition 7 of this Permit where these records have not already been provided under condition 8(a) of this Permit.

Keith Claymore
A/ASSISTANT DIRECTOR
NATURE CONSERVATION DIVISION

Officer delegated under Section 20
of the Environmental Protection Act 1986

24 September 2009

Plan 3104/1

LEGEND

Clearing Instruments

- Areas Applied to Clear
- Areas Subject to Conditions
- Areas Approved to Clear

Road Centrelines

- Cadastre
- Cadastre for labelling

Broome - Willie Creek 40cm Orthomosaic - Landgate 2003

N

0 ~375 m

Scale 1:14007
(Approximate when reproduced at A4)

Geocentric Datum Australia 1994

Note: the data in this map have not been projected. This may result in geometric distortion or measurement inaccuracies.

K Claymore Date 24/9/09

Officer with delegated authority under Section 20 of the Environmental Protection Act 1986

Information derived from this map should be confirmed with the data custodian acknowleged by the agency acronym in the legend.

Department of Environment and Conservation

Our environment, our future

* Project Data is denoted by asterisk. This data has not been quality assured. Please contact map author for details.

Department of Environment and Conservation

Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 3104/1

Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: **Broome Port Authority**

1.3. Property details

Property: LOT 616 ON PLAN 240107 (House No. 286 PORT MINYIRR 6725)
LOT 616 ON PLAN 240107 (House No. 286 PORT MINYIRR 6725)
LOT 616 ON PLAN 240107 (House No. 286 PORT MINYIRR 6725)
LOT 1221 ON PLAN 182648 (House No. 288 PORT MINYIRR 6725)

Local Government Area:

Colloquial name:

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
21.13		Mechanical Removal	Building or Structure

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 Association 750: Shrublands, pindan; Acacia tumida shrubland with grey box & cabbage gum medium woodland over ribbon grass & curly spinifex (Shepherd, 2007)	The application is for the clearing of 21.13 hectares (was 25.01ha) of native vegetation for commercial purposes. The vegetation under assessment is classified as being in good to degraded (Keighery, 1994) condition. The vegetation type is open Pindan wattle consisting of Eucalyptus and Acacia species (DEC, 2009a).	Good: Structure significantly altered by multiple disturbance; retains basic structure/ability to regenerate (Keighery 1994)	The vegetation condition was assessed through aerial photography (Broome - Willie Creek 40cm Orthomosaic - Landgate), a site inspection (DEC, 2009a), and survey (Coffey, 2009).

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 may be at variance to this Principle

The application is for the clearing of 21.13 hectares (amended from 25.01ha after additional advice received from the applicant (Coffey, 2009b)) of native vegetation for commercial purposes. The vegetation within the application area is considered to be in a good to degraded (Keighery, 1994) condition. The vegetation type is open Pindan wattle consisting of Eucalyptus and Acacia species (DEC, 2009a).

The area under application is located within the Port of Broome industrial precinct in an area already highly developed. It consists of rare and priority flora species known only from a few populations including 'Keraudrenia exastia which is currently ranked critically endangered' (DEC, 2009b). The applicant has modified the clearing boundary (reduced to 21.13ha from 25.01ha) to ensure that a 50m buffer is maintained from K exastia and 'environmental planning and management measures will be implemented to minimise potential secondary impacts, e.g. hydrological' (Coffey, 2009b). This species has been survey thoroughly throughout the application area.

Although the Broome peninsula has approximately 65% native vegetation remaining (60% after the proposed clearing), the application area is located near the southern tip of the peninsula and the clearing as proposed would break the vegetation connectivity running south to north along the western and central section of the lower end of the Broome Peninsula and remove important flora and fauna habitats and dispersal capabilities.

There is currently an active clearing permit on Port Drive (CPS1417/1) for the applicant. A section of CPS3104/1 is located adjacent to this permit on the eastern side of Port Drive. Allowing clearing in this area would lead to a significant reduction in vegetation on both sides of the road.

Given the above the proposal may be at variance to this principle.

Methodology

Coffey (2009b)
DEC (2009a)
DEC (2009b)
Keighery (1994)
GIS Layer:
- Broome 1m Orthomosaic - DOLA 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 may be at variance to this Principle

The clearing as proposed may impact fauna movements throughout the peninsula, given it cuts through the western and central area of the peninsula which is well vegetated. A small strip of vegetation will remain after clearing on the eastern side of the Broome Peninsula running north to south. Given the proximity to the clearing and the coast line, the remaining vegetation is likely to be easily disturbed (edge effects).

The application area is likely to contain some large hollow-baring trees and be a significant habitat for fauna in the region. Such habitat provides value for hollow roosting species such as bats, some birds, pythons and arboreal mammals (Coffey, 2009a).

There are nine known records of fauna species of conservation significance within the local area (10km radius). They are:
- Burhinus grallarius (Bush Stonecurlew) - P4
- Wyulda squamicaudata (Scaly-tailed Possum) - P3
- Hydromys chrosogaster (Water rat) - P4
- Ixobrychus flavicollis australis (Peregrine Falcon) - Other specially protected species
- Falco hypoleucos (Grey Falcon) - P4
- Numenius madagascariensis (Eastern Curlew) - P4
- Polytelis axandrae (Princess Parrot) - P4
- Macrotis lagotis (Bilby) - Vu

The Peregrine Falcon and Bush Stonecurlew are likely to be found within the application area (Woodman, 2008). Clearing is likely to lead to the loss of foraging habitat for the Peregrine Falcon and disturbance and loss of habitat for the Bush Stonecurlew (Woodman, 2008). Pindan vegetation that occurs within the application area is widespread across the peninsula and bioregion and given this, may not be significant habitat for the Falcon and Stonecurlew (Coffey, 2009b).

Although the type of vegetation to be cleared is not preferred habitat for the majority of the above priority species, it may provide an ecological linkage to facilitate fauna (such as wallabies and lizards) (DEC, 2009) movement throughout the Peninsula. The applicant has modified the clearing boundary and reduced the size of the clearing from 25.01ha to 21.13ha through the eastern and central sections of the application area (Coffey, 2009b).

Given the above, the proposal may be at variance to this principle.

Methodology

Coffey (2009a)
Coffey (2009b)
Woodman (2008)
GIS Layer:
- Sac Biodatasets 150509

(c) Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, rare flora.

Comments

Proposal may be at variance to this Principle

There is one known record of rare flora within the local area of the proposed clearing site. Populations of Keraudrenia exastia (Critically Endangered) have been recorded on the DEC database as close as 50m south and 20m north of the application area. It is found on the same vegetation (750) and soil type (AB21) as the application area.

A survey of the application area and the Broome Peninsula and a site inspection by DEC officers found numerous plants of K. exastia within the application area (DEC, 2009a, Coffey, 2009a). K. exastia is known to grow in the 'swale between dunes in red clays-sand with slow soil drainage' (DEC 2009b), and therefore the

orginial clearing may have also impacted rare flora in the local area through a change in hydrology (DEC, 2009b). The applicant has since modified the clearing boundary (reduced to 21.13ha from 25.01ha) to ensure that a 50m buffer is maintained from K exastia and 'environmental planning and management measures will be implemented to minimise potential secondary impacts, e.g. hydrological' (Coffey, 2009b). This species has been survey thoroughly throughout the application area.

In addition a Scleria sp. which is potentially a new species was also found within the application area (Coffey, 2009). The clearing as proposed will impact on '107 individual plants or 40% of the total known population of Scleria sp.'(Coffey, 2009). A further survey on Scleria sp. has identified that the species is more wide spread than first thought with the proposed clearing only impacting on 4.1% of the Scleria population (Coffey, 2009b).

It is recommended that taxonomic work is undertaken to determine Scleria sp. true identity so its conservation status can be confirmed and a representative of each Scleria sp. population be submitted to the WA Herbarium' (DEC, 2009b).

There are five known records of priority flora within the local area (10km radius) that fall within the same vegetation and soil type of the proposed clearing area. Two were located within the Broome Peninsula survey but not within the application area (Coffey, 2009). They are:
- Phyllanthus aridus (P3)
- Goodenia byrnesii (P1)

Given the above the proposal may be at variance to this principle.

Methodology

Coffey (2009a)
Coffey (2009b)
DEC (2009b)
Sac Biodatasets 150509

(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 two records of threatened ecological communities within the local area of the proposed clearing area. They are:
- Roebuck Bay mudflats (faunal mudflat community) - 3.1km northwest of the application area. The application area is outside the boundary but within the buffer of this TEC but in different vegetation type. The application area is separated from the community by infrastructure and 'potential secondary impacts caused by hydrological, dust or ecological changes are considered to be negligible given the intertidal nature and large extent of the ecosystem (Coffey, 2009b).
- Vine Thickets - 4.8kms and 9.5kms north of the application area. The Vine thickets are located in the shelter of sand dunes, inland from Cable Beach and extending south to Gantheaume Point. The thickets represent the southernmost stand of rainforest in the Kimberley, are important seasonal food sources, and are of high ecological importance (Burbidge et al., 1991). The proposed clearing does not fall within the boundary or buffer of the TEC.

One priority ecological community (PEC), Dwarf Pindan Heath is located 2.6km northwest of the application area, the proposed clearing falls outside the boundary but within the buffer of this PEC. Given the characteristics of this PEC (wind-pruned shrubs and spinifex grasslands on coast cliffs near linear dunes) differs vastly from the vegetation within the application area and the large distance between the PEC and application area, it is not likely that clearing will impact on this PEC.

Given the above, the proposal is not likely to be at variance to this principle.

Methodology

Burbidge et al., (1991)
Coffey (2009b)
GIS Layer:
- Sac Biodatasets 150509

(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

	Pre-European (ha)	Current extent (ha)	Remaining (%)	% In reserves DEC Managed Land
IBRA Bioregions*				
Dampierland	8,345,180	8,316,459	99.66	1.06
Shire*				

Broome	5,469,435	5,430,728	99.29	0.88
Beard Vegetation Association* 750	1,229,176	1,227,005	99.82	2.27
Beard Vegetation Association with Bioregion* 750	1,229,176	1,227,005	99.82	2.27

* (Shepherd et al. 2007)

The area applied to clear is a component of Beard Vegetation Association 750 which as 99.82% of the pre-European extent remaining (Shepherd, 2007). The vegetation within the application area is considered to be in a good to degraded (Keighery, 1994) condition.

Clearing of 25.1 hectares of vegetation will not significantly reduce the remaining extent of this broader Association and therefore the proposal is not likely to be at variance to this principle.

Methodology Shepherd (2007)

(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**
The Western Australian coastline is located 95m east and Roebuck Bay Mangrove to Watercourse 4.5km north east of the application area.

Given the distance to the closest watercourse and wetland from the application area it is unlikely that the proposal is at variance to this principle.

Methodology GIS Layer:
- Hydrography, linear (hierarchy) - DOE 13/4/05
- RAMSAR, Wetlands - CALM 14/02/03
- ANCA, Wetlands - CALM 08/01

(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 soils on site are chiefly red earthy sands (Northcote et al., 1960-68) so have a moderate potential for erosion (Schoknecht, 2002).

The area proposed for development has been somewhat disturbed by surrounding development and track creation. The elevation and topography of the area are relatively flat gently sloping downwards towards the north. The topography and erosion potential of the soils on site suggest that there is a risk of wind erosion, however this would not be significant if the vegetation from this site were to be removed during the dry season.

The proposal is not likely to be at variance to this principle.

Methodology (Northecote et al., 1960-68)
(Schoknecht, 2002)

(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**
There are 3 records of conservation reserves within the local area (10km radius). These are Conservation Commission Office and Nursery (3.9km NE); Conservation Commission Wildlife Rehabilitation (9.1km NE); and Roebuck Bay Mangrove to watercourse (ANCA wetland 4.5km NE).

Given the distance between the conservation reserves and the application area it is unlikely that the proposal as stated will be at variance to this principle.

Methodology GIS Layer:
- CALM Managed Lands and Waters - CALM 1/07/05
- Broome 1m Orthomosaic - DOLA 00

(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 proposal area is located in the Broome Townsite Sub-areas within the Broome Groundwater Area proclaimed under the Rights in Water and Irrigation Act 1914. Dampier Creek lies approximately 7 kilometres north east of the proposal area. The Public Drinking Water Source Protection Area, consisting of P1 and P3 protection zones, lies approximately 15 kilometres north of the site.

Due to the distance away from the creek, coast and Public Drinking Water Source Protection Area, it is unlikely that the clearing will cause deterioration in the quality of surface or underground water.

Methodology

GIS Layer:
- Public Drinking Water Source Areas (PDWSAs) - DOE 07/02/06
- RIWI Act, Surface Water Areas - WRC 18/10/02
- RIWI Act, Groundwater Areas - WRC 13/06/00
- Hydrography, linear (hierarchy) - DOE 13/4/05

(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

Flooding occurs seasonally over the December to March period, where the flood height and duration are lengthy and extreme. Soils within the application area are red earthy sands (Northcote et al., 1960-68).

It is unlikely that the clearing of 21.13 hectares of native vegetation will lead to an incrementally increase in peak flood height and flood peak.

Methodology

Northcote et al. (1960-68)

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

Comments

The applicant forwarded a submission (Coffey, 2009b) to Department of Environment and Conservation letter dated 25 June 2009. Where applicable advice on environmental issues have been addressed within the clearing principles.

Rezoning of application area is not required from the Shire of Broome (DEC TRIM Ref: DOC98525). Site is to be subdivided and leased for commercial purposes. Planning approval and business licences will be required from tenants.

The Shire of Broome has no objections with the clearing of native vegetation for commercial purposes (DEC TRIM Ref: DOC86177).

Methodology

Coffey (2009b)
(DEC TRIM Ref: DOC86177)

4. Assessor's comments

Comment

The application has been assessed against the clearing principles, planning instruments and other matters in accordance with s51O of the Environmental Protection Act 1986, and the proposed clearing may be at variance to Principle (a), (b) and (c) and is not likely to be at variance to the remaining clearing Principles.

5. References

Burbidge, A.A., McKenzie, N.L., Kenneally, K.F. (1991) Nature Conservation Reserves in the Kimberley WA, Department of Conservation and Land Management.

Coffey (2009). Coffey Natural Systems. Application for Clearing Permit (Area Permit), Broome Port Authority 2009.

Coffey (2009b). Coffery Natural Systems. Response to the DEC Preliminary Assessment Report for Broome Port Authority.

DEC (2009b) Species and Communities Advice. Department of Environment and Conservation Trim Ref DOC87518.

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

Northcote, K. H. with Beckmann G G, Bettenay E., Churchward H. M., van Dijk D. C., Dimmock G. M., Hubble G. D., Isbell R. F., McArthur W. M., Murtha G. G., Nicolls K. D., Paton T. R., Thompson C. H., Webb A. A. and Wright M. J. (1960-68): 'Atlas of Australian Soils, Sheets 1 to 10, with explanatory data'. CSIRO and Melbourne University Press: Melbourne.

Schoknecht N. (2002) Soil Groups of Western Australia. A simple guide to the main soils of Western Australia. Resource Management Technical Report 246. Edition 3

Shepherd, D.P. (2007). 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. Includes subsequent updates for 2006 from Vegetation Extent dataset ANZWA1050000124.
Woodmans (2008). Fauna Assessment of the Broome Port. Woodman Environmental Consulting Pty Ltd. 31st July 2008.

6. Glossary

Term	Meaning
BCS	Biodiversity Coordination Section of DEC
CALM	Department of Conservation and Land Management (now BCS)
DAFWA	Department of Agriculture and Food
DEC	Department of Environment and Conservation
DEP	Department of Environmental Protection (now DEC)
DoE	Department of Environment
DoIR	Department of Industry and Resources
DRF	Declared Rare Flora
EPP	Environmental Protection Policy
GIS	Geographical Information System
ha	Hectare (10,000 square metres)
TEC	Threatened Ecological Community
WRC	Water and Rivers Commission (now DEC)