Department of Environment
Government of Western Australia

Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 2132/1
Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: Phosphate Resources Limited (Christmas Island Phosphates)

1.3. Property details

Property:
ML132 - LB7D
ML132 - LB7
ML132 -LB7C
ML133B - 28P
ML133A - 6PB
ML133A – 33P
ML135 - 4P
ML135 - Field 5
ML135 - 5P
ML106 - 15A
ML106 - 18N
ML106 - 18 1
ML101 - 17A
ML101 - 17B
ML101 - 17E
ML101 - 17East
ML101 - 17 South
ML100 - SP East
ML100 - SP South
ML100 - SP West North
ML117 - 23G
ML113 - 21A

Local Government Area: CHRISTMAS ISLAND
Colloquial name:

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
76.6	0	Mechanical Removal	Extractive Industry

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 areas under application are for the purpose of mining. Much of the proposed clearing will be undertaken on previously cleared areas with regrowth, primarily dominated by weed species. Site visits, photographs and aerial photography indicate that the vegetation condition is degraded.	The areas under application are for the purpose of mining. Much of the proposed clearing will be undertaken on previously cleared areas with regrowth, primarily dominated by weed species. Site visits, photographs and aerial photography indicate that the vegetation condition is degraded.	Completely Degraded: No longer intact; completely/almost completely without native species (Keighery 1994)	Vegetation condition was determined from site inspection (2007).

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 at variance to this Principle

The clearing of areas under application comprising of native vegetation is for the purpose of mining. Much of the proposed clearing will be undertaken on previously cleared areas with regrowth, primarily dominated by weed species. Site inspections (2007), photographs and aerial photography indicate that the vegetation condition is completely degraded (Kneighery, 1999). Given the disturbance to the sites under application the areas are not considered to hold high biological diversity and are therefore not at variance to this principle.

To minimise the potential impacts of weeds conditions have been included in the permit to minimise the spread of identified weeds to uninfected areas.

Methodology

Environment Australia (2002)
Site Inspections (2007)
Kneighery (1999)

(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

Christmas Island Phosphates proposes to clear up to 76.6 ha of predominantly weedy vegetation with some native vegetation (predominantly Macaranga tanarius) for the period of financial year 2007-08 for mining. From site inspections (2007) and photographs the areas under application contains degraded vegetation with little habitat for rainforest fauna. The application areas have been previously cleared and contain regrowth vegetation predominantly of weeds species. The areas do not contain the vegetation types, (evergreen tall closed forest, semi-deciduous closed forest and deciduous scrub) that provides the predominant habitat for fauna.

There are a number of fauna species listed as endangered under the Environmental Protection and Biodiversity Act 1999 that are endemic to Christmas Island.

From the information in the National Recovery Plan for the Abbott's Booby (Papsaula abbotti) 2004, the proposed clearing is unlikely to pose a threat to breeding sites of the endangered species. Most nests are known to occur within the National Park in the central and western areas in the tall plateau forest, sometimes being found along the north coast in the upper terrace forest. Nest sites are restricted to areas above 150m mostly on the sides of northwest facing slopes (Nelson 1978; Stokes, 1988).

The Island Thrush (Christmas Island) (Turdus poliocephalus erythropleurus) is endangered and lives in most habitats on Christmas Island, except for very dense regrowth, post-mining clearings or Pandanus thickets. It is therefore unlikely to be impacted from the proposed clearing (Island Thrush, 2007).

The Emerald Dove, Christmas Island Goshawk and Christmas Island Hawk Owl can be found in secondary regrowth, which indicates that the proposed clearing areas may represent habitat.

The Emerald Dove (Chalcophaps indica natalis) occupies most forested habitat on Christmas Island, including secondary regrowth dominated by the introduced Japanese Cherry (Mutingia calabura). The subspecies of Emerald Dove (Christmas Island) is endemic to Christmas Island and builds low flimsy stick nests. The most serious threat to the Emerald Dove (Christmas Island) is the spread of the Yellow Crazy Ant (Emerald Dove, 2007).

The Christmas Island Goshawk (Accipiter faciatus natalis) is listed as endangered and is considered the rarest endemic bird on Christmas Islands and it occurs in all habitats from primary and marginal rainforests to suitable areas of secondary regrowth vegetation. The objective of the recovery plan is to downgrade the Christmas Island Goshawk from Endangered to Conservation Dependent through conservation mechanisms, including the protection of habitat critical to the survival of the species from clearance. Gibson-Hill (1947) reported that Christmas Island Goshawks seemed to prefer areas of slightly thinner growth on the edge of thick jungle or the borders of clearings. During 1994 and 1995 Goshawks were observed in all major habitats on the island (Hill unpubl. Data). Goshawks were regularly seen hunting in regrowth vegetation along roadsides. A systematic survey over all habitat of the island undertaken by Parks Australia North 95% of sightings suggested that more goshawks are located within rainforest than in cleared areas. The Christmas Islands Goshawk nests in horizontal forks of forest trees, 25-35m above the ground, two nests were found in Primary rainforest (Syzygium nervosum) and one in Marginal rainforest (Terminalia catappa) (Gibson-Hill, 1947). Old stockpiles and cleared areas that have not been mined may support low second-growth forest of colonising trees such as Macaranga tanarius and Cloaoxylon indicum and introduced tree Leucaena leucosephala generally less than 10m high. Areas previously mined, tend to have very little remaining soil, and on them grow dense herblands of fern Nephrolepis multiflora to 2 m high along with introduced scramblers and occasional low trees. Identification of habitat critical for the survival of the Christmas Island Goshawk is difficult due to the lack of information on specific habitat requirements. Christmas Island Goshawks are most likely generalists which forage in most habitats; it is highly likely they require rainforest to breed as these habitats contain suitable trees (Goshawk,

2004).

The Christmas Island Hawk-Owl Ninox natalis is currently listed as Vulnerable under the EPBC Act due to its small population size. It has been requested by Garnett & Crowley (2000), that it be upgraded to Critically Endangered after the Crazy Ant Outbreak. Like the Goshawk, Hawk-Owls occur in all habitats from primary and marginal rainforests to suitable areas of secondary regrowth vegetation. Approximately 25% of the island's forests have been cleared since settlement and all but the small areas of regrowth vegetation are currently unsuitable and are unoccupied by Christmas Island Hawk-Owls, though they have been observed hunting in grassy clearings. Furthermore, Hawk-Owls found in regrowth vegetation, were present at significantly lower densities than in primary and marginal rainforest (Hawk-Owl, 2004).

About 75% of Christmas Island has natural vegetation and 84% of this is protected in National Park (approx 63% of the island). Using the precautionary principle and the criteria provided by the EPBC Act, habitat critical for the survival of the Christmas Island Goshawks and Hawk Owls is defined as all Primary Rainforest, Marginal rainforest and possibly second-regrowth forest suitable for nesting. There is no mapping available regarding suitable second-growth forest (Goshawk, 2004).

From the information available from the Department of Environment and Water Resources Endangered Species lists and Recovery Plans it is unlikely that fauna will be impacted from the proposed clearing. There are some tall stands of Macaranga tanarius and Cloaoxylon indicum in ML101, however there is nearby National Park and Primary Rainforest which represents more suitable habitat for fauna. The vegetation on the proposed clearing areas are highly degraded secondary regrowth, highly fragmented and not likely to be significant, therefore the proposed clearing is not likely to be at variance to this principle.

Methodology

Goshawk (2004)
Emerald Dove (2007)
Island Thrush (2007)
Abbott's Booby DEH (2004)
Hawk-Owl (2004)
Site Inspections (2007)
Gibson-Hill (1947)

(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

Christmas Island Phosphates proposes to clear up to 76.6 ha of native vegetation for the period of financial year 2007-08 for mining. From site inspections (2007) and photographs the areas under application contain degraded vegetation dominated by weed species. There is no known rare flora or priority flora associated with the proposal.

There is rare flora listed in the Christmas Island National Park Management Plan (Environment Australia, 2002) and additional species that have been recommended for listing. Advice from Parks Australia North (PAN, 2007) indicates that many of the rare species would be unlikely to exist on severely disturbed areas. However, some may be found in undisturbed forest near the margins with disturbed areas.

As the majority of proposed clearing areas do not meet this criterion it is unlikely to be at variance with this principle.

Methodology

Site Inspection (2007)
Environment Australia. (2002)
PAN (2007)

(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 at variance to this Principle

There are no listed Threatened Ecological Communities on Christmas Island, therefore the proposed clearing is not at varince to this principle.

Methodology

EPBC Act TEC list (2007)

(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 proposed clearing occurs on Christmas Island where approximately 25% of the island's original forests have been cleared and replaced by shrublands of ferns on minefields, regrowth vegetation on stockpiles and roads and housing (Environment Australia, 1994). The proposed clearing occurs on land that has previously been cleared for phosphate mining and consists of regrowth vegetation with some native species, primarily Macaranga tanarius,

Pipturus argenteus (var. lanosus) and Dysoxylum gaudichaudianum which are common on the island. The areas proposed to clear contain degraded vegetation that are dominated by weed species such as Leucaena leucosephala, Mutingia calabura (Japanese Cherry), and other non indigenous species (Clausen, 2005).

Approximately 75% of Christmas Island is still covered with natural vegetation and 84% of this (63% of total island area) is protected within National Park (Goshawk, 2004).

Given the condition of the vegetation under application and the high remaining extent of native vegetation on Christmas Island the proposed clearing is not considered to by significant in an area that has been extensively cleared and is therefore not at variance to this clearing principle.

Methodology Claussen, J. (2005)
Environment Australia (1994)
Goshawk (2004)

(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 proposed clearing is not adjacent to watercourses or wetlands. All of the areas under application are situated on the plateau and not near the Dales Waterfall on the western side of the island or Ross Hill Gardens, wetland. Therefore the proposal is not at variance to this principle (Site Inspection, 2007).

Methodology Site Inspections (2007)

(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 interior of Christmas Island is slightly undulating plateau, from about 160-360m above sea level. The area under application is situated on the plateau with relatively little relief, and above the terraces (Environment Australia, 2002). Due to the nature of phosphate mining top soil will be removed in areas for in-situ mining (ML101 - 17E, ML101 - 17East, ML101 - 17 South, ML100 - SP East, ML100 - SP South, ML100 -SP West North, ML135 - 5P, ML135 - 4P, ML135 - Field 5, ML132 - LB7D, ML132 - LB7, ML132 - LB7C) and all other areas will be mined to ground level. All areas that are mined in-situ will be left as limestone boulders. This proposal is not likely to be at variance to this principle.

Methodology Environment Australia. (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

The proposed clearing sites lie adjacent to National Park and Primary Rainforest (GeoScience, 2003). An impact on the environmental values of the nearby conservation areas is unlikely to occur as a result of the proposed clearing as the vegetation is degraded and is a high proportion of weed species. The proposed clearing areas have highly fragmented vegetation, some of which are surrounded by old pinnacle fields dominated by the fern Nephrolepis biserrate (eg. ML117 and ML113) and do not represent corridor linkages with conservation areas. Areas in ML117, ML113 are needed for rehabilitation by Parks Australia North (2007) as part of the Christmas Island Minesite to Rainforest Rehabilitation Program.

Weed management conditions have been included in the permit to minimise the spread of weeds to uninfected areas.

Methodology GIS 2006 Orthophoto
GeoScience (2003)
PAN (2007)

(i) Native vegetation should not be cleared if the clearing of the vegetation is likely to cause deterioration in the quality of surface or underground water.

Comments

Proposal is not likely to be at variance to this Principle

The proposed clearing is not adjacent to watercourses and such is unlikely to impact the quality of surface water. There are very few surface water features on Christmas Island. All of the area under application is situated on the plateau and not near the Dales Waterfall on the western side of the island or Ross Hill Gardens (Site Inspection, 2007).

Groundwater flows along the limestone interface with basalt layer. Soils are transmissive. The depth to water and water quality in the proposed clearing area is unknown.

Due to the location of the areas proposed to be cleared, it is unlikely that the clearing of native vegetation for phosphate mining will cause deterioration in the quality of surface water or groundwater within the local area, therefore this proposal is not likely to be at variance to this principle.

Methodology Environment Australia. (2002)
Site Inspection (2007)

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

Comments **Proposal is not likely to be at variance to this Principle**
The purpose of clearing is for phosphate mining.

Methodology

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

Comments

CIP have a Part V pollution licence issued to them under the EP Act (WA) (CI) for the control and abatement of pollution from the loading and unloading activities and processing activities (beneficiation of metallic or non-metallic ore).

There are no Aboriginal Sites of significance or Native Title Claim over the area.

EPA does not make decisions on Christmas Island (no SDA with DOTARS).

EPBC Act applies. The proposal has not been referred to DEW under the EPBC Act

Methodology

4. Assessor's recommendations

Purpose	Method	Applied area (ha)/ trees		Decision	Comment / recommendation
Extractive Industry	Mechanical Removal	76.6	0	**The assessable criteria have been addressed, and the proposal is not likely to be at variance to all Principles.** **Recommended conditions to be imposed if clearing is granted are avoided & minimised clearing and Weed Management**	

5. References

Claussen, J. 2005. Native Plants of Christmas Island. Flora of Australia

Department of Environment and Conservation. 2007. Site Inspections: 15 May 2007 to 21 May 2007, 31 July 2007 to 3 August 2007.

Department of Environment and Heritage, Supplementary Series Number 22.

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Department of Environment and Water Resources .2007. Island Thrush (Turdus poliocephalus erythrpleurus) Species Profile and Threats Database.

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Environment Australia. 1994.. Christmas Island National Park Management Plan. Commonwealth of Australia, Canberra as cited in Hill, R. (2004). National Recovery Plan for the Christmas Island Hawk-Owl Ninox natalis. Commonwealth of Australia, Canberra.

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Environmental Protection and Biodiversity Conservation Act 1999 TEC list, sited at http://www.environment.gov.au/cgi-bin/sprat/public/publiclookupcommunities.pl. Last updated 21 June 2007

GeoScience. 2003. Register of National Estates. Cited at http://www.ga.gov.au/map/christmas/metadata/nat_est.html

Gibson-Hill, C.A. 1947. Notes on the Birds of Christmas Island. Bull. Raffles Mus. XVIII 1947: 87-169 as cited in Hill, R. 2004. National Recovery Plan for the Christmas Island Goshawk Accipiter fasciatus natalis. Commonwealth of Australia, Canberra

Hill, R. 2004. National Recovery Plan for the Christmas Island Goshawk Accipiter fasciatus natalis. Commonwealth of Australia, Canberra.

Hill, R. 2004. National Recovery Plan for the Christmas Island Hawk-Owl Ninox natalis. Commonwealth of Australia, 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.

Nelson, J.B. 1978. The Sulidae: Gannets and Boobies. Oxford University Press as cited in Department of Environment and Heritage (2004). National Recovery Plan for the Abbottýs Booby Papsaula abbotti. Department of the Environment and Heritage, Canberra.

Stokes, T. 1988. A review of the birds of Christmas Island, Indian Ocean. ANPWS Occasional Paper No. 16. ANPWS, Canberra as cited in Department of Environment and Heritage (2004). National Recovery Plan for the Abbottýs Booby Papsaula abbotti. Department of the Environment and Heritage, Canberra.

6. Glossary

Term	Meaning
CALM	Department of Conservation and Land Management
DAWA	Department of Agriculture
DEP	Department of Environmental Protection (now DoE)
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 DoE)