Department of Environment and Conservation

Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 1185/1

Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: Water Corporation

1.3. Property details

Property: LOT 12 ON PLAN 9605 (House No. 1611 WANNEROO NEERABUP 6031)
LOT 14 ON DIAGRAM 41747 (House No. 1729 WANNEROO NEERABUP 6031)
LOT 11 ON PLAN 9605 (House No. 745 JOONDALUP NEERABUP 6031)
CROWN RESERVE 13713 (NEERABUP 6031)
ROAD RESERVE (NEERABUP 6031)

Local Government Area: City Of Wanneroo

Colloquial name:

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
1.8		Mechanical Removal	Infrastructure Maintenance

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 Complex: 6 , Medium woodland: tuart and jarrah and Complex: 998, Medium woodland tuart (Hopkins et al. 2001, Shepherd et al. 2001). Heddle Vegetation Complex: Cottosloe Complex Central and South : Mosaic of woodland of E. gomphocephala and open forest of E. gomphocephala - E. marginata - E. calophylla; closed heath on the Limestone outcrops (Heddle et al. 1980).	The areas consist of a narrow corridor covering 1.8ha over 3.7km in length of previously disturbed native vegetation within the Road Reserve next to a major transport corridor, Wanneroo Road. The purpose of the application is to upgrade a conveyance system. Fifteen vegetation communities were recorded but are represented by two Floristic Community Types (FTC). These include FTC 28- Banksia attenuata - Eucalyptus marginata Woodlands and FTC 24 Northern Spearwood scrublands and woodlands. The major difference recorded along the route between these vegetation units was in the condition of the bushland which varied from very good to degraded.	Good: Structure significantly altered by multiple disturbance; retains basic structure/ability to regenerate (Keighery 1994)	The information on the vegetation description and condition was obtained from the Flora and vegetation of Alkimos/ Beenyup Conveyance Report (Bennett Environmental Consulting Pty Ltd 2005). The vegetation condition varied along the route from very good to degraded. Typically, the vegetation along the edges of the tracks, roads and power lines have been subject to edge effects in the form of weed invasion.

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 areas applied to be cleared do not comprise of a level of high biodiversity. The areas consist of a narrow corridor covering 1.8ha over 3.7km in length of previously disturbed native vegetation within the Road Reserve

next to a major transport corridor, Wanneroo Road. The majority of the site has been previously disturbed for the installation of other utility services. The vegetation overall is considered to be in good condition. The areas have been and will continue to be disturbed by edge effects including weed invasion which is the greatest threat. A flora survey of the area (Bennett Environmental Consulting, 2005) identified up to 34% of all species being weeds. Given the above, the areas do not support high levels of biodiversity and therefore the clearing is not likely to be at variance to this Principle.

Methodology Bennett Environmental Consulting (2005) TRIM Ref IN2591602
GIS Databases:
- Swan Coastal Plain North 40cm Orthomosaic - DLI 05

(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

The areas applied to be cleared have been subject to disturbance as they are located within the Road Reserve of Wanneroo Rd. The majority of the site has also been previously disturbed for the installation of other utility services. The area is adjacent to Bush Forever Site 383 which comprises of Neerabup National Park, Lake Gnowergup Nature Reserve and adjacent bushland. Neerabup National Park and Gnowerup Nature Reserve are vested in the Conservation Commission and registered on the Register of National Estate (Government of Western Australia 2000).

Fauna surveys of the adjacent Bush Forever Site 383 have indicated that 56 native bird species, 19 native reptiles and 4 native mammal species are known to inhabit the Site (Government of Western Australia 2000). Significant bird species include 1 category 1, 12 category 3 and 7 category 4 species. Significant mammal species included the Honey Possum and Western Brush Wallabies. The Carpet Python is the only significant reptile species (Government of Western Australia 2000).

Given the relative size, linearity, location and past and continual disturbances of the areas applied to be cleared, and the proximity to National Park and Bush Forever site (1736ha) the vegetation is not likely to represent significant habitat for fauna indigenous to Western Australia.

Methodology Government of Western Australia (2000)
GIS Databases:
- Swan Coastal Plain North 40cm Orthomosaic - DLI 05

(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

There are five locations of Declared Rare Flora Species (Eucalyptus argutifolia) and one Priority 2 (Acacia benthamii) that have been recorded in a 5km radius from the area proposed to be cleared. However no known populations have been recorded within the areas under application.

A flora survey of the site identified a population in access of 50 specimens of Jacksonia sericea, a Priority 3 species (Bennett Environmental Consulting, 2005). An amendment to the area under application no longer included this population of Jacksonia, however another population was identified in which two specimens were within the proposed clearing area (Water Corportaion 2006). The proponent intends to collect seeds or cuttings prior to the removal these species and efforts to propagate these species will be made during the rehabilitation process (Bennett Environmental Consulting, 2005). However, Priority Species are not afforded the same legislative protection as Declared Rare Flora, it is nonetheless a taxon of conservation significance, and thus worthy of protection.
Notwithstanding the above, Principle [c] is specifically limited in its application to 'rare' flora as defined in Section 23 F of the Wildlife Conservation Act and on this basis the proposal is not likely to be at variance to this Principle.

Methodology Bennett Environmental Consulting (2005) TRIM Ref IN2591602
GIS Databases:
- Declared Rare and Priority Species List - CALM 01/07/05
Water Corporation (2006) TRIM Ref DOC11304

(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 occurrences of Threatened Ecological Communities (TEC) within the areas under application. There are several TECs recorded on the same vegetation complex within 5km from the area under application, the nearest TEC is located 2.5km north of the site, within Bush Forever Site 383. These TECs are representative of floristic community 26a, Melalueuca huegelii- Melaleuca acerosa shrubs on Limestone. This floristic community was not identified as one of the 15 different vegetation units identified within the areas under application (Bennett Environmental Consulting, 2005). Therefore it is considered the vegetation under

application is not necessary for the maintenance of a significant ecological community, and the clearing is not likely to be at variance to this principle.

Methodology Bennett Environmental Consulting (2005)TRIM Ref IN2591602
GIS Databases:
- Threatened Ecological Communities - CALM 12/04/05
- Swan Coastal Plain North 40cm Orthomosaic - DLI 05

(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

The vegetation under application is a component of Beard Vegetation Association 6 and 998 (Hopkins et al. 2001) and Heddle: Cottesloe Complex Central and South (Heddle et al. 1980) of which 36.3% (24 558), 34.6% (13 740) and 41%(18,474) of Pre European extent remain respectively.

reserves/CALM	Pre-European (ha)*	Current extent (ha)*	Remaining (%)*	Conservation** status	In managed land
IBRA Bioregions					
Swan Coastal Plain	1 498 297	626 512	41.8	Depleted	
City of Wanneroo	78,809	45,361	58%	Least concern	
Vegetation type:					
Beard: Unit 6	67 725	24 558	36.3	Depleted	22.5
Beard: Unit 998	39 767	13 740	34.6	Depleted	15.6
Heddle: Cottosloe Central and South	44,995	18,474	41%	Depleted	8.80%

* (Shepherd et al. 2001)
** (Department of Natural Resources and Environment 2002)
*** Within the Intensive Landuse Zone

The State Government is committed to the National Objectives and Targets for Biodiversity Conservation which includes a target that prevents a clearance of ecological communities with an extent below 30% of that present pre-European settlement (Department of Natural Resources and Environment 2002, EPA 2000). All vegetation complexes are above the 30% minimum threshold, therefore the areas applied to be cleared are not considered significant as remnants of native vegetation in an area that has been extensively cleared. Therefore, the proposed clearing is not considered likely to be at variance to this principle.

Methodology GIS Databases:
- Pre-European Vegetation - DA 01/01
- Heddle Vegetation Complexes - DEP 21/06/95

(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

Neerubup Lake, a wetland categorised as Resource Enhancement, is located 300m east of Wanneroo Rd. Pauls Swamp and Lake Joondalup are two Conservation Category Wetlands that are located within 2km north of the areas applied to be cleared. Jinbub Swamp is a Multiple Use wetland is located less then 5km north of the areas under application.
Given the description of the vegetation subject of this proposal and the distances from these wetlands it is considered that the proposed clearing is not likely to be at variance to this principle.

Methodology GIS Databases:
- Geomorphic wetlands (Mgmt Categories) - Swan Coastal Plain - DOE 15/09/04
- Hydrography, linear - DOE 01/02/04
- EPP, Areas - DEP 06/95
- EPP, Lakes - DEP 28/07/03

(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 within the areas under application are associated with two soil associations. A majority of the areas

under application are covered with the first soil type, which is characterised by dune and estuarine deposits with siliceous sands that are prominent along the coast. These soils can be prone to wind erosion; however, it is considered that the removal of a narrow corridor of 1.8ha of previously disturbed native vegetation, over 3.7 km, is unlikely to lead to appreciable land degradation on or off site. The second soil type is Swamps: neutral to alkaline marly peats. These soils are known to be at risk to acid sulphate soil. The Acid Sulphate Soil risk associated with the area under application is considered to be Class 3, little to no known risk.

Given the above, the proposed clearing is not considered likely to be at variance to this principle.

Additionally, the proponent has outlined a number of management techniques that will be employed during the clearing and construction to minimise erosion, this includes covering the exposed surface, preferably with branches or mulch of species that occur naturally in the area.

Methodology GIS Databases
- Acid Sulphate Soils Risk, Swan Coastal Plain - DEC
- Soils, Statewide - DA 11/99

(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 at variance to this Principle

The areas under application are situated within a road reserve adjacent to Bush Forever Site 383 which comprises of Neerabup National Park, Lake Gnowergup Nature Reserve and adjacent bushland. The road reserve is currently acting as a buffer between the road and the Bush Forever Site.

The majority of the site has been previously disturbed for the installation of other utility services. Based on the linear nature and primarily degraded condition of the vegetation under application, it is considered unlikely that the vegetation is significant for the provision of ecological corridors. However the areas applied to be cleared are within the buffer zone of an environmentally sensitive area. Therefore the clearing is at variance to this Principle.

A small section of the area under application is located within the Road Reserve adjacent to Neerup National Park which is vested within the Conservation Commission. The Water Corporation have gained approval from the Conservation Commission for the removal of the vegetation required to construct the Neerabup Main Pump Station (Conservation Commission 2006).

Neerubup Nature Reserve and Gnangara Moore River State Forest are also within 4km of the area applied to be cleared. Given the small area applied to be cleared and distance from this reserve, it is considered that the clearing would not impact on these reserves.

A survey undertaken by Bennett Environmental Consulting (2005) identified Dieback (Phytophora cinnamoni) within a small portion of the area under application. Excavation and clearing activities within this area may result in the contamination of Dieback free zones unless appropriate management activities are undertaken. It is therefore recommended that a condition of this permit will be for the appropriate management and strict hygiene methods to ensure the disease does not spread into new areas, especially areas within the National Park.

Methodology GIS Databases:
- CALM Managed Lands and Waters - CALM 01/07/05
- Swan Coastal Plain North 40cm Orthomosaic - DLI 05

Bennett Environmental Consulting (2006) TRIM ref IN2591602

(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 groundwater table is located 18m below the surface and is within a Priority 3 Public Drinking Water Source Area. It is considered that the removal of a narrow corridor covering 1.8ha over 3.7 km of previously disturbed native vegetation is unlikely have an appreciable impact on surface or groundwater water quality.

Therefore proposed clearing is not considered likely to be at variance to this principle.

Methodology GIS Databases:
- Hydrography, Linear - DOE 01/02/04
- Geomorhpic Wetlands (Mgmt Categories), Swan Coastal Plain - DOE 15/09/04
- Public Drinking Water Source Areas (PDWSAs) - DOE 09/08/05
- EPP, Areas - DEP 06/95
- Swan Coastal Plain North 40cm Orthomosaic - DLI 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

Given the size of the applied areas, and its distance from major watercourses and drainage systems, it is considered unlikely that the proposed clearing would cause or exacerbate the incidence or intensity of flooding

Methodology

GIS Databases:
- Hydrography, linear - DOE 1/02/04

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

Comments

Northern portions of the areas applied to be cleared are located within an area identified as an Aboriginal Site of Significance (Interim Registered), being a resource enhancement sumpland called Neerabup Lake. It is the responsibility of the proponent to ensure that no Aboriginal Sites of Significance are damaged through the clearing process.

The areas under application are located adjacent to Bush Forever 383 (which includes Neerabup National Park, Lake Gnowergup Nature Reserve and adjacent bushland), The Department of Planning and Infrastructure will support the proposal as the areas are within a road reserve and no Declared Rare Flora or Threatened Ecological Communities exist within the area. However, approval will only be supported on the grounds that appropriate off sets are included (Department of Planning and Infrastructure, 2006). A management plan has been created by Tranen (2006) outlining an extensive rehabilitation plan including, weed management, dieback management and appropriate revegetation

The Water Corporation have gained approval from the Conservation Commission for the removal of the vegetation under application (Conservation Commission Western Australia 2006).

Methodology

Conservation Commission Western Australia (2006) Trim Ref DOC12593
Department of Planning and Infrustucture (2006) Trim Ref DOC2813
Tranen (2006) Trim Ref DOC7115

4. Assessor's comments

Purpose	Method	Applied area (ha)/ trees	Comment
Infrastructure Maintenance	Mechanical Removal	1.8	The clearing application has been assessed against the clearing principles, planning instruments and other matters in accordance with s51O of the Environmental Protection Act 1986. Following the assessment, the assessing officer deems that the clearing is at variance to Principle h.: the clearing is at variance as the areas provide a buffer zone between the Bush Forever Site 383 (which includes Neerabup National Park, Lake Gnowergup Nature Reserve and adjacent bushland) and Wanneroo Rd, a major transport corridor. However, the area consists of a narrow corridor covering 1.8ha over 3.7km of previously disturbed native vegetation. Dieback (Phytophthora cinnamomi) has also been identified within the area. The Conservation Commission and Department of Planning and Infrastructure conditionally support the application, providing an Environment Management Plan is developed to rehabilitate the area after the conveyance system has been completed. Recommended conditions address Dieback control measures, rehabilitation and weed control. Therefore the assessing officer recommends that this permit be granted.

5. References

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.

Heddle, E. M., Loneragan, O. W., and Havel, J. J. (1980) Vegetation Complexes of the Darling System, Western Australia. In Department of Conservation and Environment, Atlas of Natural Resources, Darling System, Western Australia.

Hopkins, A.J.M., Beeston, G.R. and Harvey J.M. (2001) A database on the vegetation of Western Australia. Stage 1. CALMScience after J. S. Beard, late 1960's to early 1980's Vegetation Survey of Western Australia, UWA Press:

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., Beeston, G.R. and Hopkins, A.J.M. (2001) Native Vegetation in Western Australia, Extent, Type and Status. Resource Management Technical Report 249. Department of Agriculture, Western Australia.

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)