Department of Environment and Conservation

Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 1272/1

Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: Water Corporation

1.3. Property details

Property: AVON LOCATION 28455 (KOOMBERKINE 6461)

Local Government Area: Shire Of Dowerin

Colloquial name:

1.4. Application

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

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 Complexes: - 128: Bare areas; rock outcrops - 1024: Shrublands; mallee & casuarina thicket (Hopkins et al. 2001, Shepherd 2006).	The proposal is to clear up to 1.2ha of native vegetation within Wattenhutten Hill, Reserve 32274 (~1.4ha) for the installation of a 1.2km underground water main and associated infrastructure from Kalguddering Rd to the Wattengutten Tank. The proposed pipeline will be located underneath the current access track within Reserve 32274 to minimise clearing. Where this track deviates outside the Reserve, vegetation will be cleared within the Reserve to install the pipeline. A survey of Wattengutten Hill (GHD 2006) identified five vegetation communities likely to be impacted by the proposed works within the Wattengutten Hill survey area, being: - Bare areas/rock outcrops; - Mosaic: Allocasuarina, Acacia acuminata, Melaleuca, Eucalyptus thickets in very good to excellent condition; - Mosaic: Mixed low scrub in very good to excellent condition; - Mosaic mixed mallee and Allocasuarina thicket in very good to completely degraded condition; and - Degraded vegetation in a	Very Good: Vegetation structure altered; obvious signs of disturbance (Keighery 1994)	The clearing description is based on information provided in the Report for Wattengutten Inlet Main Design: Flora and Fauna Survey, February 2006 (GHD 2006), and orthomosaics. An overall vegetation condition of very good has been determined based on the ranging conditions of the five vegetation communities present (GHD 2006).

completely degraded condition.

The vegetation under application is surrounded by an area of remnant vegetation (~177ha) within the adjacent Lot 24830, in an extensively cleared agricultural area (the Shire of Dowerin has only 4.3% (8055 ha) pre-European vegetation extent remaining).

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 narrow, linear area under application (1.2ha) is located within Wattengutten Hill Reserve 32274. A portion of the identified area has previously been cleared to provide vehicle access. The vegetation under application is located within an area of remnant vegetation (~177ha) and surrounded by an extensively cleared agricultural area within the Shire of Dowerin, which has only 4.3% (8055 ha) Pre-European vegetation extent remaining (Shepherd et al. 2001).

A survey of Wattengutten Hill (GHD 2006) identified five vegetation communities likely to be impacted by the proposed works. The vegetation communities include:
- Bare areas/rock outcrops;
- Mosaic: Allocasuarina, Acacia acuminata, Melaleuca, Eucalyptus thickets in very good to excellent condition;
- Mosaic: Mixed low scrub in very good to excellent condition;
- Mosaic mixed mallee and Allocasuarina thicket in very good to completely degraded condition; and
- Degraded vegetation in a completely degraded condition.

Overall the vegetation under application is considered to be in a very good condition, with a flora survey report determining that the vegetation under application comprises of a medium level of biological diversity (GHD 2006). Wattengutten Hill is also known to contain six populations of the Vulnerable Declared Rare Flora species, Microcorys eremophiloides.

Given the above, the clearing as proposed is considered to be at variance to this Principle.

Methodology

References:
- GHD (2006)
- Shepherd et al. (2001)

GIS Databases:
- DEC SAC Bio Datasets, Date accessed 08/08/2007
- Koorda 1.4m Orthomosaic - Landgate03

(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 vegetation under application (1.2ha) is located within Wattengutten Hill Reserve 32274. A portion of the identified area has previously been cleared to provide vehicle access. The vegetation under application is located within an area of remnant vegetation (~177ha) and surrounded by an extensively cleared agricultural area within the Shire of Dowerin which has only 4.3% (8055 ha) Pre-European vegetation extent remaining (Shepherd et al. 2001).

A Flora and Fauna Survey for the proposed works (GHD 2006) found that the proposal is likely to impact fauna through the loss of habitat and feeding areas, with the introduction of weed species from pipeline construction. The project area was considered to provide habitat for many small animals with the proposal likely to increase fragmentation of fauna habitat with the construction of a larger pipeline easement (GHD 2006). The survey also determined that fauna habitat is in a good condition with minor weed establishment, and given that granite outcrops act like ecological islands in a sea of agricultural activity, any habitat remaining could be considered significant (GHD 2006).

In addition, the desktop fauna survey identified fourteen significant, Rare and Priority fauna as potentially occurring within the Wattengutten Hill area (GHD 2006).,with a subsequent field survey identifying 10 bird, one mammal and one native reptile species (GHD 2006) within the survey area. No indication is provided of the exact location or size of the area surveyed, with the paucity of records determined to be the result of the brief inspection (four hours) and daytime survey (GHD 2006).

Whilst the area proposed to be cleared is relatively small (1.2ha) and degraded in parts (due to the impacts of edge effects), given the extensive clearing within the local area (only 4.3% (8055 ha) vegetation extent remaining within the Shire of Dowerin) and the overall very good condition of the vegetation proposed to be cleared, the vegetation is considered likely to be of high conservation value. Further, given that the vegetation is located within a significant remnant of native vegetation within an extensively cleared area, the vegetation under application is considered to comprise part of significant habitat for local indigenous fauna.

In addition, the proposed clearing is likely to increase edge effects to and fragmentation of the adjacent remnant vegetation, and may lead to vegetation decline and reduced habitat value in these areas. Therefore, the proposal clearing maybe at variance to this Principle.

Methodology

References:
- GHD (2006)
- Shepherd et al. (2001)

GIS Database:
- Koorda 1.4m Orthomosaic - Landgate03

(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 nine populations of a Declared Rare Flora (DRF) species, Microcorys eremophiloides, within a 3.5km radius of the vegetation under application. Six of these populations occur within the Wattengutten Hill area, with the closest being ~70m from the vegetation under application.

A desktop survey of the project area determined that the proposed pipeline corridor intersected the location of two known specimens of Microcorys eremophiloides (GHD 2006). A field flora survey within the vicinity of the current pipeline area conducted in July 2006, including the proposed realignment areas, did not identify any Microcorys eremophiloides populations within the project area.

Notwithstanding, given that the area of vegetation under application comprises suitable habitat for this species, populations of this species may be present within the seed bank of the area under application (GHD 2006a).

In addition, two known populations of a Priority Flora species, Guichenotia glandulosa (Priority 1), are located ~3.2km from the proposed clearing within the same habitat as the vegetation under application. A flora survey undertaken in November 2005 within the Wattengutten Hill area adjacent to the proposal did not locate any specimens of this species (GHD 2006).

Methodology

References:
- GHD (2006)
- GHD (2006a)

GIS Databases:
- DEC SAC Bio Datasets, Date accessed 10/08/2007
- Koorda 1.4m Orthomosaic - Landgate03

(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) recorded within close proximity to the vegetation under application, the closest being ~24km to the south and no TEC were identified during a vegetation and flora survey undertaken in November 2005 (GHD 2006).

Given this and the distance to the closest known occurrence, the vegetation under application is not considered to comprise the whole or part of, or be necessary for the maintenance of a Threatened Ecological Community.

Methodology

Reference:
- GHD (2006)

GIS Database:
- DEC SAC Bio Datasets, Date accessed 17/07/2007

(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 at variance to this Principle

The vegetation under application is a component of Beard Vegetation associations 128 and 1024 of which 85.2% and 9.4% of pre-European extent remain respectively (Shepherd 2006). The vegetation under application is located in the Shire of Dowerin, within the Avon Wheatbelt Bioregion which has 4.3% and 15.4% of pre-European extent remaining respectively.

CALM	Pre-European	Current extent	Remaining	Conservation***	% In reserves/
	(ha)	(ha)	(%)	status	managed land
IBRA Bioregions					
Avon Wheatbelt**	9,517,117	1,468,711	15.4	Vulnerable	7.6
Shire of Dowerin*	188,786	8,055	4.3	Endangered	
Vegetation type:					
Beard:					
- Unit 128**	329,872	280,953	85.2	Least Concern	15.4
- Unit 1024**	742,968	69,885	9.4	Endangered	9.3

* (Shepherd et al. 2001)
** (Shepherd 2006)
*** (Department of Natural Resources and Environment 2002)

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 (Commonwealth of Australia 2001).

The vegetation under application is located within the Intensive Land Use Zone (Shepherd et al. 2001) within the area defined in EPA Position Statement No. 2 (EPA 2000). EPA Position Statement No. 2 (EPA 2000) states that under the National Heritage Trust Partnership Agreements (current in 1999), all jurisdictions (States) have committed to no clearing of endangered ecological communities. Endangered ecological communities are defined as communities with less than 10% pre-European extent remaining (Department of Natural Resources and Environment 2002).

Vegetation representation within the Avon Wheatbelt, Shire of Dowerin and Beard Vegetation Association 1024 are well below the State Government's National Objectives and Targets for Biodiversity Conservation of 30% at 15.4% (Vulnerable), 4.3% (Endangered) and 9.4% (Endangered) respectively. The Avon Wheatbelt Bioregion and Beard Vegetation Association 1024 representation within secure tenure are also low at only 7.6% and 9.3%.

A vegetation survey (GHD 2006) determined that Beard Vegetation Association 1024 remains the only directly observable match in vegetation types in the survey area, with this association delineated along the road reserve.

Whilst Beard Vegetation Association 1024 has been determined to be in a completely degraded condition along the road reserve (GHD 2006), given the overall very good condition of the remaining vegetation within the survey area and extensive clearing within the region, the vegetation under application is considered to comprise significant remnant vegetation. Furthermore, vegetation representation within the Shire of Dowerin and Beard Vegetation Association 1024 are classed as Endangered (Department of Natural Resources and Environment 2002). Therefore, the proposed clearing is considered to be at variance to this Principle.

Methodology

References:
- Commonwealth of Australia (2001)
- Department of Natural Resources and Environment (2002)
- EPA (2000)
- GHD (2006)
- Hopkins et al (2001)
- Shepherd et al. (2001)
- Shepherd (2006)

GIS Databases:
- EPA Position Paper No 2 Agriculture Region - DEP 12/00.
- Interim Biogeographic Regionalisation of Australia - EA 18/10/00.
- Pre-European Vegetation - DA 01/01.

(f) Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland.

Comments

Proposal is not likely to be at variance to this Principle

There are no wetlands or watercourses mapped within the area of vegetation under application, the closest being a minor, non-perennial watercourse located ~42m from the vegetation under application.

Given the vegetation description (GHD 2006) and high elevation within the landscape, the vegetation under application is not considered to be growing in, or in association with, an environment associated with a watercourse or wetland.

Methodology

Reference:

- GHD (2006)
GIS Databases:
- Hydrography, linear - DOE 1/2/04
- Rivers, DoW
- Topographic Contours, Statewide - DOLA 12/09/02

(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 vegetation under application is associated with soil unit Ub98, which is described as hilly with granitic and gneissic rock outcrops and chief soils of hard neutral yellow mottled soils (Northcote et al. 1960).

A survey of the entire Wattengutten Hill area determined that clearing of native vegetation may cause alteration in the health of adjacent lands due to the likely increase of runoff, sedimentation, and weed dispersal (GHD 2006).

However, DAFWA (2007) advised that there is a low risk of salinity and wind erosion following clearing of 1.2 ha native vegetation, due to the buffering effect of the remaining surrounding vegetation.

Given this and the geology of the site proposed to be cleared, the proposed clearing is not considered likely to cause appreciable land degradation.

Methodology

References:
- DAFWA (2007) (TRIM Ref. DOC26628)
- GHD (2006)
- Northcote et al. (1960)
GIS Database:
- 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 closest nature reserve is the Manmanning Nature Reserve located ~11km north-east of Wattengutten Hill.

Whilst the proposed clearing is relatively small (1.2ha), the vegetation under application is located within a significant remnant in an area that has been extensively cleared. Given that the Shire of Dowerin has only 4.3% (8055 ha) of pre-European vegetation extent remaining (Shepherd et al. 2001) this area of remnant vegetation is considered to be a significant ecological stepping stone to other areas of remnant vegetation nearby. Further clearing within this remnant vegetation is considered likely to lead to a decline in the environmental values and ecological functions of this larger remnant through loss of habitat, fragmentation and increased edge effects, such as weed invasion. Therefore, the proposed clearing is at variance to this Principle.

Methodology

References:
- GHD (2006)
- Shepherd et al. (2001)
GIS Databases:
- CALM Managed Lands and Waters, CALM 1/07/05
- Chittering-Goomalling 1m Orthomosaic - DLI 03
- Clearing Regulations - Environmentally Sensitive Areas - DOE 30/5/05
- Dowerin 50cm Orthomosaic - DLI04
- Koorda 1.4m Orthomosaic - Landgate03

(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 vegetation under application is located within an area of granite and gneiss outcrops with chief soils of hard neutral yellow mottled soils (Northcote et al. 1960) and a high groundwater salinity of 14,000-35,000 TDS mg/L.

A survey of the entire Wattengutten Hill area determined that clearing of native vegetation may cause alteration in the health of adjacent lands due to the likely increase of runoff, sedimentation, and weed dispersal (GHD 2006).

However, DAFWA (2007) advised that there is a low risk of salinity resulting from the proposed clearing of the vegetation under application due to the surrounding remnant vegetation and unlikely significant increase in recharge.

Given this, the geology of the site and high elevation of the vegetation under application, the proposal is not considered likely to be at variance to this Principle.

Methodology

References:
- DAFWA (2007) (TRIM Ref. DOC26628)
- GHD (2006)
- Northcote et al. (1960)

GIS Databases:
- Groundwater Salinity, Statewide - DOW
- Soils, Statewide - DA 11/99
- Topographic Contours, Statewide - DOLA 12/09/02

(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 vegetation under application is located within an area of granite and gneiss outcrops with chief soils of hard neutral yellow mottled soils (Northcote et al. 1960)

A survey of the entire Wattengutten Hill area determined that the clearing of native remnant vegetation for this project is considered unlikely to cause or exacerbate the incidence or intensity of flooding (GHD 2006).

Furthermore, DAFWA (2007) advise that there is a low risk of waterlogging and flooding given that the proposed clearing is high in the landscape in an area of good drainage.

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

Methodology

References:
- DAFWA (2007) (TRIM Ref. DOC26628)
- GHD (2006)
- Northcote et al. (1960)

GIS Database:
- Soils, Statewide - DA 11/99

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

Comments

The proposed clearing is required for the construction of an inlet pipe to the Wattengutten Hill water tank which provides water to the Shires of Dowerin and Wongan Hills. The tank currently has one water main for the entry and exit of water to and from the tank. The construction of a separate inlet pipe will improve the circulation and quality of water within the tank (TRIM Ref. CRN218630).

The vegetation under application is within the area defined in EPA Position Statement No. 2 (EPA 2000). EPA Position Statement No. 2 (EPA 2000) states that under the National Heritage Trust Partnership Agreements (current in 1999), all jurisdictions (States) have committed to no clearing of endangered ecological communities. Endangered ecological communities are defined as communities with less than 10% pre-European extent remaining (Department of Natural Resources and Environment 2002). Vegetation representation within the Shire of Dowerin and Beard Vegetation Association 1024 are both listed as Endangered with only 4.3% and 9.4% pre-European vegetation extent remaining (Shepherd et al. 2001, Shepherd et al. 2006).

Notwithstanding, EPA Position Statement No. 2 states that 'in exceptional circumstances the EPA could consider supporting clearing in the agricultural area' where alternative mechanisms address biodiversity values. Therefore, an offset proposal could be considered to mitigate the proposed clearing.

There are no Aboriginal Sites of Significance or Native Title Claims mapped within the vegetation under application. Therefore the proposal does not fall under the future acts process of the Native Title Act 1993.

There is no other RIWI Act Licence or EP Act Licence that will affect the proposal.

Methodology

References:
- EPA (2000)
- GHD (2006)
- GHD (2006a)

GIS Databases:
- Aboriginal Sites of Significance - DIA
- EPA Position Paper No 2 Agriculture Region - DEP 12/00
- Native Title Claims - DLI
- Pre-European Vegetation - DA 01/01
- Soils, Statewide - DA 11/99

4. Assessor's comments

Purpose	Method	Applied area (ha)/ trees	Comment
Miscellaneous	Mechanical Removal	1.2	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. The clearing as proposed is at variance to Principles (a), (e) and (h), may be at variance to Principle (b) and is not likely to be at variance to the remaining Principles.

5. References

Commonwealth of Australia (2001). National Targets and Objectives for Biodiversity Conservation 2001-2005, AGPS, Canberra.

DAFWA (2007) Land degradation assessment report. Advice to Assessing Officer, Native Vegetation Assessment Branch, received 21/06/2007. Office of the Commissioner of Soil and Land Conservation, Department of Agriculture and Food Western Australia (TRIM Ref. DOC26628).

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.

EPA (2000) Environmental protection of native vegetation in Western Australia. Clearing of native vegetation, with particular reference to the agricultural area. Position Statement No. 2. December 2000. Environmental Protection Authority.

GHD (2006) Wattengutten Inlet Main Design - Flora and Fauna Survey. February 2006. Prepared for Water Corporation. GHD, Western Australia (TRIM Ref. HD28595).

GHD (2006a) Wattengutten Inlet Main Upgrade - Updated Declared Rare Flora Search, Prepared for Water Corporation. GHD, Western Australia (TRIM Ref. DOC2501).

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.

Shepherd, D.P. (2006). 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.

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)