Department of Environment and Conservation

Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 2077/1

Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: **Oakford Land Company**

1.3. Property details

Property: LOT 8 ON DIAGRAM 53380 (House No. 259 WATTLE NOWERGUP 6032)

Local Government Area: City Of Wanneroo

Colloquial name:

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
39.23		Mechanical Removal	Extractive Industry
		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
Beard Vegetation Associations: - 998: Medium woodland, tuart (Shepherd 2006). - 1948: Low woodland; banksia on limestone (Shepherd et al. 2001).	The proposal is to clear up to 39.23ha on a 54ha property, for limestone extraction. The property is located within an area zoned Rural under the Metropolitan Region Scheme.	Excellent: Vegetation structure intact; disturbance affecting individual species, weeds non-aggressive (Keighery 1994)	The vegetation and clearing description is based on information obtained during the site inspection (2007).
Heddle Vegetation Complex: - Cottesloe Complex Central and South: Mosaic of woodland of E. gomphocephala and open forest of E. gomphocephala-E. marginata-C. calophylla; closed heath on the Limestone outcrops (Heddle et al. 1980).	The vegetation under application can be divided into 3 sections: - The southern portion of the area under application (~9ha) has been parkland cleared and considered to be degraded to completely degraded. Vegetation consists of open woodland of Eucalyptus marginata (Jarrah), Banksia attenuata and Xanthorrhoea preissii with an understorey of weeds. - The northern and eastern portion of the applied area (~28ha) supports vegetation in excellent condition. Vegetation units are best described depending on the location in the landscape and vary from: Open Eucalypt/Banksia Woodland, Open Banksia woodland, or Closed Heath of D. sessilis, all of which comprise a dense shrub layer. Generally the shrub layer is consistent across these areas being dense		

and diverse dominated by Xanthorrhoea, Calothamnus, Hibbertia and Acacia. Melaleuca spp. are common components of the shrub layer in areas associated with limestone outcropping.

- Approximately 8.5ha of Lot 8 Wattle Avenue accounts for the mapped Threatened Ecological Community (TEC) known as Floristic Community Type (FCT) 26a, 'Melaleuca huegelii-Melaleuca systena shrublands on limestone ridges' and 100m buffer. The limestone ridge community on Lot 8 Wattle Ave has been cleared within the last 18 months and has substantially regenerated. The application has been amended to remove the mapped TEC, from the applied area; however, ~2ha of the vegetation under application provides a vegetated buffer to the TEC.

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 majority of the area under application (~28ha) has vegetation in excellent condition and described as Open Eucalypt/Banksia Woodland, Open Banksia woodland, and Closed Heath of D. sessilis (Site Inspection, 2007). All comprise a dense diverse shrub layer generally dominated by Xanthorrhoea sp., Calothamnus sp., Hibbertia sp. and Acacia sp.. This dense understorey is considered to comprise significant habitat for ground dwelling fauna.

The Threatened Ecological Community (TEC), Floristic Community Type 26a, 'Melaleuca huegelii-Melaleuca systena shrublands on limestone ridges' (Gibson et al. 1994) has been inferred on the limestone ridge on Lot 8 Wattle Avenue. The majority of this TEC has been cleared within the last 18 months; however, the vegetation has regenerated to be in very good condition (Site Inspection, 2007). In addition, a small area of vegetation on the ridge remains intact in excellent condition. The application has been amended to remove the mapped TEC, FCT 26a from the applied area; however, the absence of a vegetated buffer surrounding the TEC and the proposed ecological linkage between the TEC and Bush Forever Site 293 is considered to be inadequate.

Given the amended application does not provide a buffer to the TEC or allow for an adequate ecological corridor for the dispersal of flora and fauna, it is considered the area under application is necessary for the maintenance of FCT 26a and the proposal is at variance to this principle.

The area under application also supports Priority Flora, Jacksonia sericea (P4), and a newly described Melaleuca species referred to as Melaleuca aff. systena which is only known from this one location (Keighery, 2007).

It is noted that a small area in the southern portion (~9ha) of the area under application has historical disturbances and has been parkland cleared, and is considered to be degraded to completely degraded. Vegetation consists of open woodland of Eucalyptus marginata (Jarrah), Banksia attenuata and Xanthorrhoea preissii with an understorey dominated by weeds.

Although the southern portion of the area under application comprises of vegetation in degraded to completely degraded condition, the remaining area under application is known to support Priority Flora, a newly described species of Melaleuca only know from the area under application, suitable habitat for ground dwelling fauna, vegetation comprising a high level of species diversity in very good to excellent condition and vegetation necessary for the maintenance of a TEC; therefore, the area under application is considered to comprise a high level of biodiversity is considered to be at variance to this Principle.

Methodology References:

- Keighery, 2007
- Site Inspection (2007)

GIS databases:
- SAC Bio datasets (13/11/2007)
- Swan Coastal Plain North 20cm Orthomosaic - DLI06

(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 following significant fauna have been recorded within the local area (~5km radius):
- Graceful Sunmoth (Synemon gratiosa - Endangered)
- Carnaby's Black Cockatoo (Calyptorhynchus latirostris -Endangered)
- Insect (Austrosaga spinifer -Priority 3)
- Insect (Hylaeus globuliferus - Priority 3)
- Western Brush Wallaby (Macropus irma - Priority 4)
- Quenda (Isoodon obesulus fusciventer - Priority 5)

During a site inspection (2007) Carnaby's were observed feeding on vegetation adjacent to the area under application. DEC Fauna Habitat Notes (2007) indicate Carnaby's move around seasonally in flocks and feed in areas of proteaceous scrubs and heaths and eucalypt woodlands as well as pine plantations and breed in mature hollow trees. The vegetation under application comprises Banksia woodland and Closed Heath dominated by Dryandra sessilis (Site Inspection, 2007). It is considered likely the area under application would be utilised by Carnaby's as a food source. A Birds Australia report on the Conservation of Carnaby's Black Cockatoo on the Swan Coastal Plain (2006) predicts the current land-clearing for further urban development and the planned removal of the pine plantations over the next 20 years is likely to have a significant impact on Carnaby's Cockatoo populations.

Both the Quenda and Brush Wallaby prefer dense understorey (DEC Fauna Habitat Notes, 2007) as seen in ~28ha of the area under application. The vegetation under application consists of a diverse dense understorey in excellent condition (Site Inspection, 2007) and is therefore considered likely to comprise significant feeding habitat for Carnaby's and significant habitat for ground dwelling fauna in the local area.

Methodology

References:
- DEC Fauna Habitat Notes (2007)
- Shah, B. (2006)
- Site Inspection (2007)

GIS Databases:
- DEC SAC Bio datasets (13/11/2007)
- Swan Coastal Plain North 20cm Orthomosaic - DLI06

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

Comments

Proposal is at variance to this Principle

There are 10 records of 1 Declared Rare Flora (DRF) species and 8 records of 6 Priority Flora species within the local area. The closest known record of DRF is Eucalyptus argutifolia, known to occur ~450km north east of the area under application.

A flora survey conducted by Regeneration Technology (2006) during September and October 2006 did not identify the DRF species, Eucalyptus argutifolia, within the area under application. Several groves of mallees were observed within the applied area, these mallees were identified as E. petrensis and E. foecunda and not E. argutifolia (Regeneration Technology Pty Ltd, 2006).

The Priority 4 species, Jacksonia sericea, was identified within the area under application during the flora survey (2006) and also identified in a number of locations on the property during the site inspection (2007).

The appropriately timed flora survey did not identify any DRF within the applied area and rated the vegetation on the limestone ridge as completely degraded. This rating did not take into consideration the 0.1ha of vegetation in excellent condition which included a newly described species of Melaleuca, Melaleuca aff. systena. This species was been identified throughout the area mapped as a TEC and is showing strong signs of regeneration throughout the area previously cleared. This species is only known from this location and is considered likely to be a candidate for listing as DRF (Keighery, 2007).

Given the presence of the newly described Melaleuca species within the applied area, it is considered the proposed clearing is at variance to this Principle.

Methodology

References:
- Keighery (2007)
- Regeneration Technology Pty Ltd (2006)
- Site Inspection (2007)

GIS Databases:
- SAC Bio datasets (13/11/2007)
- Heddle Vegetation Complexes - DEP 21/06/95
- Pre-European Vegetation - DA 01/01
- Soils, Statewide - DA 11/99
- Swan Coastal Plain North 20cm Orthomosaic - DLI06

(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 at variance to this Principle

There is 1 occurrence of a Threatened Ecological Community (TEC) mapped on Lot 8 Wattle Avenue. This TEC is known as Floristic Community Type (FCT) 26a, 'Melaleuca huegelii-Melaleuca systena shrublands on limestone ridges' (Gibson et al. 1994), and considered Endangered in Western Australia (DEC, 2004). A further 17 occurrences of FCT 26a are identified within the local area.

Approximately 8.5ha of Lot 8 Wattle Avenue accounts for the mapped TEC and 100m buffer. The limestone ridge community on Lot 8 Wattle Ave has been cleared within the last 18 months and has substantially regenerated. A site inspection (2007) confirmed that a portion of the limestone ridge had not been cleared and is representative of the mapped TEC with vegetation comprising of Melaleuca spp. including Melaleuca huegelii and Melaleuca systena in excellent condition.

This 8.5ha area is considered to be a viable size to maintain the environmental values of the TEC if adequately rehabilitated. DEC notes that this is also consistent with the Bush Forever policy, which preferentially seeks areas of at least four hectares for conservation.

The application has been amended to remove the mapped TEC, FCT 26a from the applied area; however, the proposed buffer surrounding the TEC is considered to be inadequate.

In addition, the proposed ecological linkage between the TEC and Bush Forever Site 293 is considered to be inadequate.

Given the amended application does not provide a buffer to the TEC or allow for an adequate ecological corridor for the dispersal of flora and fauna, it is considered the area under application is necessary for the maintenance of FCT 26a and the proposal is at variance to this Principle.

Methodology

Reference:
- DEC (2001)
- DEC (2004)
- Gibson et al. (1994)
- Site Inspection Report (2007)

GIS Databases:
- DEC SAC Bio Datasets, 06/12/2007

(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 likely to be at variance to this Principle

The Heddle vegetation complex identified in the area under application is the Cottesloe Complex-Central and South which has a pre-European representation level of 41% remaining (Heddle et al 1980). Beard Vegetation Associations 998 and 1948 are identified within the applied area, which have a current representation level of 41.5% and 21.4% respectively (Shepherd, 2006; Shepherd et al., 2001). In addition, there is ~53.9% of native vegetation remaining in the local area.

The State Government is committed to the National Objectives Targets for Biodiversity Conservation which includes a target that prevents clearance of ecological communities with an extent below 30% of that present pre-1750 (Commonwealth of Australia, 2001).

Beard Vegetation Association 1948 has a remaining extent of 21.4%. Although this vegetation association has less then the recommended 30% minimum of Pre-European extent remaining, the applied area is considered to be within a constrained area. The EPA (2006) recognises the Perth Metropolitan Region as a 'constrained area', providing for the reduction of vegetation complexes to a minimum of 10% of the Pre-European extent.

Given the extent of vegetation remaining in the local area (~53.9%) and the current representation levels of the Heddle complex and Beard vegetation associations, it is not considered likely that the vegetation under application is significant as a remnant in an area that has been extensively cleared.

However, it is noted, 366ha of native vegetation on freehold land is under application in the local area for industrial development and extractive industry. In the event that the proposed developments are approved, the vegetation under application is still considered unlikely to be significant as a remnant given the extent of vegetation remaining in Bush Forever Sites and State Forest in the local area.

	Pre-European (ha)	Current extent (ha)	Remaining (%)	% In reserves DEC Managed Land
IBRA Bioregions*				
Swan Coastal Plain^	1,501,456	571,758	38.1	32.7
LGA**				
City of Wanneroo	68,070	34,057	50.0	N/A
Vegetation in the Local Area (~5km radius)	~9,180	~4,950	~53.9	
Heddle Vegetation Complex***				
Cottesloe Complex-Central and South	44,995	18,474	41.0	21.0
Beard Vegetation Type				
998*	51,017	21,178	41.5	35.2
1948****	81,022	17,315	21.4	15.6

* (Shepherd 2006)
** (Del Marco et al. 2004)
*** (EPA 2006)
**** (Shepherd et al 2001)
^ Area within Intensive Land Use Zone

Methodology References:
- Commonwealth of Australia (2001)
- DEC (2001)
- DEC (2004)
- Del Marco et al. (2004)
- EPA (2006)
- Shepherd (2006)
- Shepherd et al. (2001)

GIS databases:
- Clearing Instruments
- Heddle Vegetation Complexes - DEP 21/06/95
- Interim Biogeographic Regionalisation of Australia - EA 18/10/00
- Pre-European Vegetation - DA 01/01
- Remnant Vegetation, Metropolitan Area - DA 12/00
- SAC Bio datasets 06/12/2007

(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

There are no watercourses or wetlands associated with the area under application (Site Inspection, 2007). There are 3 lakes within the local area. Neerabup Lake (~1km west), Lake Pinjar (~3km east) and Nowergup Lake (~3.5km north west).

Given that the vegetation applied to be cleared is representative of an upland community associated with limestone ridges, the site inspection (2007) and flora survey (2007) did not identify any wetland dependant vegetation and the distance to the nearest watercourse or wetland, the vegetation under application is not considered likely to be associated with a watercourse or wetland.

Methodology References:
- Site Inspection Report (2007)

- Regeneration Technology Pty Ltd (2006)

GIS databases:
- EPP, Lakes - DEP 1/12/92
- Hydrography, linear - DOE 1/2/04
- Hydrography, linear (hierarchy) - DOW

(g) Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation.

Comments

Proposal may be at variance to this Principle

The area under application is associated with an undulating dune landscape underlain by limestone which is frequently exposed. Chief soils are siliceous sands (Northcote et al. 1968). Generally, these soils have a high risk of wind erosion and a low risk of water erosion due to the high infiltration rates associated with sands and limestone.

The area under application has a low risk of salinity. The salinity risk increases in the south western corner of the area under application which is a low lying area in the landscape. There is no known risk of acid sulphate soils associated with the area under application. In addition, a geological examination of the Site showed no risk of containing acid sulphate conditions in the proposed depths of the excavation. (Landform Research, 2007)

The proposed clearing has a high risk of wind erosion given the sandy soils on site, and without appropriate ground cover, windbreaks or adequate dust suppression on exposed surfaces the proposal may cause appreciable land degradation. However, it is noted that the Limestone Excavation and Rehabilitation Plan (2007) details measures that will be taken by Oakford Land Company to stabilise the soils and reduce to reduce the risk of wind erosion including: fence wind breaks, spray mulching, cover crops and mulch. The clearing as proposed may be considered likely to cause appreciable land degradation.

It is noted, staged clearing and appropriate management practices would likely limit land degradation caused by wind erosion.

Methodology

References:
- Northcote et al. (1968)
- Landform Research (2007)

GIS databases:
- Acid Sulfate Soil Risk Map, Swan Coastal Plain } DEC
- Groundwater Contours, Minimum - DOW
- Salinity Risk LM 25m - DOLA 00
- Soils, Statewide - DA 11/99
- Topographic Contours, Statewide - DOLA 12/09/02

(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

There are 2 DEC managed conservation areas, Gnangara-Moore River State Forest (~1km east) and Neerabup National Park (~3.3km), and 23 Bush Forever Sites (including Bush Forever site 293, 75m from the area under application) within the local area.

Bush Forever Site 293 known as 'Shire View Hill and adjacent bushland' occurs in the south east corner of Lot 8, Wattle Ave and is 50m from the southern edge of the area under application. Bush Forever site 293 and the vegetation under application are part of a regionally significant contiguous bushland/wetland linkage providing ecological linkages north/south and east/west (Government of Western Australia, 2000).

Given the large area proposed to be cleared (39.23ha) and the connectivity to the nearby conservation areas it is likely that the clearing as proposed will impact on the environmental values of these conservation areas.

The clearing as proposed provides a vegetated buffer of 50m to the adjacent Bush Forever site 293. Bush Forever (2007) recommends a minimum 50-100m landscape buffer of undisturbed vegetation to the Bush Forever site. The proposed buffer of 50m is the minimum required buffer for the protection of the Bush Forever Site from deleterious impacts such as the spread or introduction of weed species or dieback by machinery. There are serious consequences associated with the spread of such exotic species into areas reserved for conservation, including the potential local extinction of species.

In addition, the proposed 25-30m ecological linkage between the Threatened Ecological Community FCT26a and Bush Forever Site 293 is not considered to be adequate for the dispersal of flora and fauna between these remnant conservation areas.

Given the proposed buffer is the minimum requirement for the protection of Bush Forever Sites, the inadequate ecological linkages and the potential for the proposed clearing to impact on the adjacent conservation areas through the spread and introduction of weeds and dieback, the clearing as proposed may be at variance to this Principle.

Methodology

References:
- Bush Forever (2007)
- Government of Western Australia (2000)

GIS databases:
- Bushforever - MFP 07/01
- CALM Managed Lands and Waters - CALM 1/07/05
- Swan Coastal Plain North 20cm Orthomosaic - DLI06

(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 area under application is situated between two proclaimed groundwater areas, Gnangara Underground Water Pollution Control Area (a Priority 1 Public Drinking Water Source Area (PDWSA)) and Perth Coastal Underground Water Pollution Control Area (Priority 3 PDWSA). Groundwater generally flows north east to south west and depth varies from ~20-50m within the applied area. Given the depth to groundwater and distance to the nearest PDWSA the proposed clearing is not considered likely to cause deterioration in the quality of groundwater.

There are 3 lakes within the local area. Neerabup Lake (~1km west), Lake Pinjar (~3km east) and Nowergup Lake (~3.5km north west) of the applied area. It is considered any development within 50m the boundary of a wetland can critically influence the wetland and any development within 200m of the wetland boundary would have a secondary influence on the wetland (Hill et al. 1996). Given that the vegetation under application is outside the 200m zone of influence (Hill et al. 1996), the proposed clearing is not considered likely to impact the surface water quality of the Lakes.

Given the depth to groundwater and distance to closest wetland, the vegetation under application is not considered likely to cause deterioration in surface water or groundwater.

Methodology

Reference:
- Hill et al. (1996)

GIS databases:
- EPP, Areas - DEP 06/95
- EPP, Wetlands 2004 (DRAFT) - DOE 21/7/04
- EPP, Lakes - DEP 1/12/92
- Groundwater Contours, Historic Maximum } DOW
- Hydrography, linear - DOE 1/2/04
- Hydrography, linear (hierarchy) - DOW
- Public Drinking Water Source Areas (PDWSAs) } DOW
- 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 closest wetland is Neerabup Lake, ~1km west of the applied area. The closest watercourse is a minor tributary of Lake Pinjar ~5km from the area under application on the eastern side of the Lake.

Given the distance to the nearest water body and high infiltration rates associated with sandy soils over limestone, the clearing as proposed is considered unlikely to cause or exacerbate the incidence of flooding.

Methodology

GIS databases:
- Hydrography, linear - DOE 1/2/04
- Hydrography, linear (hierarchy) } DOW
- Soils, Statewide - DA 11/99

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

Comments

Clearing of native vegetation clearing has occurred, within the inferred TEC Floristic Community Type 26a, 'Melaleuca huegelii-Melaleuca systena shrublands on limestone ridges' (Gibson et al. 1994).

The property is zoned Rural under the Town Planning Scheme and Metropolitan Regional Scheme. The City of Wanneroo (2007) has advised that an application for Development Approval has been received and advertised for public comment. Under clause 32 of the Metropolitan Regional Scheme, all applications for development in a rural zone related to an extractive industry are referred to the WA Planning Commission (WAPC). The application has been referred to WAPC and has not yet been finalised.

The Department of Environment and Conservation have advised they will not provide advice to WAPC regarding the extractive industry development until the illegal clearing investigation on Lot 8 Wattle Ave has been finalised (City of Wanneroo, 2007).

A submission letter received from Bush Forever advises that the proposed 20m (proponent subsequently amended to 50m) landscape buffer between the Bush Forever area and proposed development area is considered insufficient (Bush Forever, 2007). To mitigate any indirect impacts to site 293, Bush Forever recommends:

- A 50 - 100m landscape buffer of undisturbed vegetation between the Bush Forever site and the excavation site.
- The construction of a uniform fence between the excavation site and landscape buffer area.
- No vegetation in Bush Forever site 293 is to be cleared or disturbed.

Oakford Land Company recently amended the area to be cleared to exclude the TEC and 20m buffer, allow for a 50m buffer to the adjacent Bush Forever Site and to provide a 25-30m wide ecological linkage between the TEC and Bush Forever Site (Zuvela, 2008).

Oakford Land Company anticipates 5,000kL of groundwater is required for dust suppression associated with the limestone extraction works on site (Landform Research, 2007). The Department of Water have advised a groundwater extraction licence is required and to date, an application has not yet been received.

The area under application is located within an area identified as an Aboriginal Site of Significance (Interim Registered), being Neerabup Lake and Orchestra Shell Cave. It is the responsibility of the proponent to ensure that no Aboriginal Sites of Significance are damaged through the clearing process.
There area no Native Title Claims associated with the area under application.

The portion of Lot 8 Wattle Avenue mapped as a TEC, and the majority of a 100 metre buffer was cleared. Due to this clearing DEC have issued a Vegetation Conservation Notice (VCN) over this area. The Vegetation Conservation Notice requires weed control and restoration of the vegetation within the cleared area. The area under application includes vegetation covered by the VCN.

Methodology

References:
- Bush Forever (2007)
- City of Wanneroo (2007)
- Gibson et al. (1994)
- Zuvela (2008)

GIS databases:
- Aboriginal Sites of Significance - DIA
- Metropolitan Regional Scheme - DPI 07/10/05
- Native Title Claims - DLI
- Town Planning Scheme Zones - MFP 8/98

4. Assessor's comments

Comment

The assessable criteria have been addressed and the clearing as proposed is at variance to Principles (a), (c) and (d), may be at variance to Principles (b), (h), and (g) and not likely to be at variance to Principles (e), (f), (i) and (j).

5. References

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Site Inspection Report (2007). (TRIM Ref: DOC40975)
Zuvela (2008). Correspondence regarding the area amendment dated 26 May 2008 from Matt Zuvela, Project Manager, Kolstaz Smith, Town Planning and Development Consulting. (TRIM Ref: DOC54482)

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)