



1. Application details

1.1. Permit application details

Permit application No.: 3932/1
Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: Department of Corrective Services

1.3. Property details

Property: LOT 160 ON PLAN 300292 (Lot No. 160 CENTENARY NORTH BOYANUP 6237)
Local Government Area: Shire of Capel

1.4. Application

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

1.5. Decision on application

Decision on Permit Application: Refusal
Decision Date: 11 November 2010

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
<p>Information obtained during Department of Environment and Conservation's site visit indicated that four vegetation communities appeared to occur within the application area.</p> <p>Community 1 The wetland in the south-east corner has a central inundated wetland of <i>Melaleuca viminea</i> and <i>M. raphiophylla</i> over annually renewed aquatic species with some <i>Baumea articulata</i>. Immediately surrounding the wetland is a fringe of <i>M. lateritia</i> followed by a fringe supporting <i>Kunzea glabrescens</i>, <i>M. preissiana</i>, <i>M. incana</i>, <i>Agonis flexuosa</i>, <i>Leucopogon australis</i>, <i>Hypocalymma angustifolia</i>, <i>Aotus gracillima</i> and a sedge layer dominated by <i>Lepidosperma longitudinale</i> (DEC, 2010).</p>	<p>The proposal is to clear 17.7 hectares of native vegetation.</p> <p>Department of Corrective Services has committed to retaining this vegetation community as part of their amended application.</p>	<p>Excellent: Vegetation structure intact; disturbance affecting individual species, weeds non-aggressive (Keighery 1994)</p>	<p>The condition of the vegetation under application was determined through DEC'S site visit (DEC, 2010) and via digital imagery (Bunbury 50cm Orthomosaic - Landgate 2006).</p>
<p>Community 2 This community is upland vegetation that has not been previously cleared. Its structure and dominant species are: <i>Eucalyptus marginata</i>, <i>Corymbia calophylla</i> woodland, over <i>Banksia attenuata</i>, <i>Agonis flexuosa</i>, <i>Xylomelum occidentale</i> low open forest, over <i>Melaleuca thymoides</i>, <i>Hibbertia hypericoides</i>, <i>Leucopogon nutans</i>, <i>Xanthorrhoea brunonis</i> open low heath, over <i>Dasyopogon bromelifolius</i>, <i>Phlebocarya ciliata</i> herbs (DEC, 2010).</p>	<p>As above</p>	<p>Excellent: Vegetation structure intact; disturbance affecting individual species, weeds non-aggressive (Keighery 1994)</p>	<p>As above</p>
<p>Community 3 This plant community is similar to that of the aforementioned Community 2, but in the most elevated areas the plant community generally lacks <i>Agonis flexuosa</i> and instead supports <i>Banksia ilicifolia</i> and has an understory dominated by <i>Stirlingia latifolia</i> and in places <i>Adenanthos meisneri</i>. All three of these species were noted to be lacking from community 2.</p>	<p>As above</p>	<p>Very Good: Vegetation structure altered; obvious signs of disturbance (Keighery 1994)</p>	<p>As above</p>
<p>Community 4 Community 4 is associated with the transition from elevated dune to inundated wetland. This community occurs in a very narrow area and may be considered a form of the Threatened Ecological Community (TEC) FCT01b (Southern <i>Corymbia calophylla</i> woodlands on heavy soils)(DEC, 2010).</p>	<p>Department of Corrective Services has committed to retaining this vegetation community as part of their amended application.</p>	<p>Very Good: Vegetation structure altered; obvious signs of disturbance (Keighery 1994)</p>	<p>As above</p>

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 proposal is to clear native vegetation within Lot 160 on Plan 300292, North Boyanup, for the purpose of grazing stock, market gardens and buildings.

The initial proposal was to clear 22 hectares of native vegetation however, in response to the Department of Environment and Conservation (DEC) letter dated 14 October 2010 the applicant has reduced that area to be cleared to 17.7 hectares.

The closest recorded priority flora species are *Pultenaea skinneri* (P4), *Angianthus drummondii* (P3) and *Acacia flagelliformis* (P4). *Pultenaea skinneri* was recorded within the application area and five other records of this species were recorded within 300 meters. *Angianthus drummondii* was recorded on the same vegetation and soil type 1.2km east of the application area. *Acacia flagelliformis* was recorded on the same soil type 950 meters north west of the application area.

Fauna species recorded in close proximity to the application area were Baudin's black cockatoo, Quenda, Western Brush Wallaby and Brush-tailed Phascogale. All four of these species were recorded within 2km of the application area. The area under application may provide suitable habitat for all of these species and also for Western Ringtail Possums and Carnaby's black cockatoo.

Plant Community 2, which was identified on site (DEC, 2010), is most likely to be an example of Floristic Community Type (FCT) 21b (southern *Banksia attenuata* woodlands) (Gibson et al., 1994), this FCT is listed as a Priority 3 Ecological Community. Also the vegetation under application is predominantly in excellent (Keighery, 1994) condition (DEC, 2010).

The area under application is within the Maidens / Preston River ecological linkage, as recognised by the EPA (2003).

Given the above it is considered that the area under application supports a high level of biodiversity.

In response to information above the applicant has reduced the area to be cleared by 4.3 hectares. The remaining 17.7 hectares of vegetation under application however still comprises of a high level of biodiversity.

Therefore, this proposal is at variance to this clearing principle.

Methodology References:
DEC (2010)
EPA (2003)
Gibson et al. (1994)
Keighery (1994)

GIS Database:

- Geomorphic Wetlands (Mt Categories), Swan Coastal Plain - 11/04/07
- Pre European Vegetation - DA 01/01
- SAC Biodatasets - accessed 3 September 2010

(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 at variance to this Principle**

The closest recorded fauna species were Baudin's black cockatoo, Quenda, Western Brush Wallaby and Brush-tailed Phascogale. All four of these species were recorded within 2km of the application area.

The application area contains flora species suitable as foraging habitat for Carnaby's black cockatoo (*Calyptorhynchus latirostris*). Carnaby's black cockatoo is listed as endangered, with populations declining dramatically due to land clearing for agriculture in regional areas and for urban development around Perth (Shah, 2006). Clearing of feeding habitat on the Swan Coastal Plain poses a significant threat to the long term survival of Carnaby's black cockatoos.

Within the local area (10km radius) there were 23 records of the Western Ringtail Possum (*Pseudocheirus occidentalis*, vulnerable). The area under application has been mapped as 'Supporting Habitat' for the Western Ringtail Possum by the Department of Sustainability, Environment, Water, Pollution and Communities and therefore it is considered to be significant (Commonwealth of Australia, 2009). Some observations of scats and foraging were made during the site inspection (DEC, 2010), however the infrequency of such observations indicated that densities of possums in the area may be low. Given the size of the application area, its mapped values, evidence of habitat use and that populations are known from adjacent remnant vegetation, a survey

would need to be undertaken to accurately determine the number of possums utilising the vegetation within the application area as nesting and foraging habitat.

South West Regional Ecological Linkages (Molloy et al. 2009) project mapping indicates that this native vegetation is in close proximity to an important ecological linkage. The vegetation under application acts as a stepping stone of habitat between this and other areas of vegetation for local fauna populations.

In addition a number of potential habitat trees were observed during the site inspection (DEC, 2010).

In response to the information above the applicant has committed to retaining vegetation within the wetland and the adjacent area of taller, thicker vegetation, reducing the total area to be cleared to 17.7 hectares.

In addition the applicant has also identified three habitat trees within the area to be cleared and is willing to retain these.

The removal of 17.7 hectares of vegetation in 'very good' to 'excellent' condition (Keighery, 2010) is still considered to be significant as habitat for fauna indigenous to Western Australia. The proposal to leave three potential habitat trees in an otherwise cleared paddock is inadequate to mitigate impacts to environmental values, as significant foraging habitat will be removed.

Therefore this application is at variance to this clearing principle.

Methodology References:
Commonwealth of Australia (2009)
DEC (2010)
EPA (2003)
Molloy et al. (2009)
Shah (2006)

GIS Database:
- SAC Biodatasets - accessed 3 September 2010

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

Comments Proposal may be at variance to this Principle

Declared rare flora (DRF) recorded within the local area (10km) includes; *Caladenia huegelii*, *Diuris drummondii*, *Drakaea elastica*, *Eleocharis keigheryi* and *Drakaea micrantha*.

The fringe of the wetland located within the south west corner of the property is dominated by *Lepidosperma longitudinale* which is suitable habitat for the DRF species *Diuris drummondii*.

The location proposed for vegetation clearing supports remnant vegetation on Bassendean soils. These soils to the north (Kemerton area) and south (Capel area) are known to support populations of the DRF species *Drakaea elastica*.

Remnant *Banksia attenuata* dominated vegetation to the south (on both Bassendean and Spearwood soils) and to the north (on Spearwood soils) may support populations of the DRF species *Caladenia huegelii*.

As the area under application has not been systematically surveyed it is not possible to determine whether DRF are present.

Therefore, the application as proposed may be at variance to this principle.

Methodology GIS Database:
- Pre European Vegetation - DA 01/01
- SAC Biodatasets - accessed 3 September 2010

(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 may be at variance to this Principle

The closest recorded Threatened Ecological Community (TEC) is SCP07 (Herb rich saline shrublands in clay pans). Two of these TECs are recorded just north of the application area (250 meters from the buffer). In addition, five instances of SCP08 (Herb rich shrublands in clay pans) are located approximately 2.3km north west of the application area.

Associated with the transition from elevated dune to inundated wetland is a very narrow area of a plant community that may be considered a form of the TEC; Southern *Corymbia calophylla* woodlands on heavy soils (FCT01b), however this occurrence would be too small to be considered a viable representation of the plant community but rather a transitional community between upland and wetland plant communities.

Given the size of the application area, the numerous TECs within the local area and the suitable habitat it is possible that the area under application may support TECs. Therefore, this proposal may be at variance to this clearing principle.

Methodology References:
DEC (2010)

GIS Database:
- SAC Biodatasets - accessed 3 September 2010

(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**

	Pre-European (ha)	Current extent (ha)	Remaining (%)
IBRA Bioregions* Swan Coastal Plain	1 501 209.19	587 889.09	39.16
Shire* Capel	55 945.16	19 275.98	34.46
Beard Vegetation Association* 1000	99 800.74	28 877.0	28.93
Beard Vegetation Association within Bioregion* 1000	94 175.31	25 621.16	27.21
Heddlle Vegetation Complex Southern River Complex * (Shepherd 2009)	57 979	11 501	19.8

The national objectives and targets for biodiversity conservation in Australia has a target to prevent clearance of ecological communities with an extent below 30 per cent of that present pre-1750, below which species loss appears to accelerate exponentially at an ecosystem level (Commonwealth of Australia, 2001).

The area under application is within the Maidens / Preston River ecological linkage, as recognised by the EPA (2003). The Greater Bunbury Regional Scheme aims to maintain the abundance, diversity, geographical distribution and productivity of regionally significant vegetation complexes (EPA, 2003).

South West Regional Ecological Linkages (Molloy et al. 2009) project mapping indicates that this remnant patch is in close proximity to an important ecological linkage and that its removal will result in further fragmentation of an already fragmented landscape. This fragmentation will lead to increased isolation, altered species interactions and increased edge effects.

Approximately 30% of native vegetation remains within the local area (10 km radius).

Given the area under application is recognised within a regionally significant ecological linkage, the vegetation proposed for clearing contains vegetation associations with less than 30% remaining; is significant fauna habitat and holds a high level of biological diversity, this proposal is at variance to this Principle.

In response to the information above the applicant has reduced the total area to be cleared by approximately 4.3 hectares. DEC considers the revised proposal to clear 17.7 hectares to still be significant as outlined above.

Therefore, this proposal is at variance to this clearing principle.

Methodology References:
Commonwealth of Australia (2001)
EPA (2003)
Molloy et al. (2009)
Shepherd (2009)

GIS Database:
- Pre European Vegetation - DA 01/01
- SAC Biodatasets - accessed 3 September 2010

(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

Within 1km of the area under application there are seven Environmental Protection Policy (EPP) lakes, three of which are located within 200 meters. The EPP lake located just north (190m) of the application area is also mapped as a Conservation Category wetland. Conservation Category wetlands are the highest priority wetlands as they support a high level ecological attributes and functions (Water and Rivers Commission, 2001).

A Resource Enhanced wetland (also an EPP lake) is located 115 meters west of the application area. Resource Enhanced category wetlands are considered priority wetlands which may have been partially modified but still retain substantial ecological attributes and functions (Water and Rivers Commission, 2001).

A Multiple Use wetland is located in the south east corner of the property under application. This wetland has a central inundated area of *Melaleuca viminea* and *M. raphiophylla* over annually renewed aquatic species with some *Baumea articulata*. Immediately surrounding the wetland is a fringe of *M. lateritia* followed by a fringe supporting *Kunzea glabrescens*, *M. preissiana*, *M. incana*, *Agonis flexuosa*, *Leucopogon australis*, *Hypocalymma angustifolia*, *Aotus gracillima* and a sedge layer dominated by *Lepidosperma longitudinale*. To mitigate impacts to the MUW the applicant has removed the wetland area from the application and in addition has committed to leaving the adjacent belt of taller, thicker vegetation to act as a buffer for this wetland.

A minimum buffer of 50 meters should be retained to protect wetlands from potential adverse impacts and to maintain ecological processes and functions.

In response to the information above the applicant has committed to retaining vegetation associated with the Multiple Use wetland and in addition is proposing to retain a belt of taller, thicker vegetation located adjacent to the wetland to act as a buffer.

Therefore, this application is not likely to be at variance to this clearing principle.

Methodology References:
Water and Rivers Commission (2001)

GIS Database:
- EPP Lakes - dep 14/05/97
- Geomorphic Wetlands (Mt Categories), Swan Coastal Plain - 11/04/07
- Hydrogeology, Linear - DOC13/07/06
- Hydrogeology, Statewide - DOC13/07/06
- SAC Biodatasets - accessed 3 September 2010

(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 acid sulphate soil risk is medium to low, the area has no mapped salinity risk, ground water salinity is 500 - 1000mg/L and the annual rainfall of 900mm. Northcote et al. (1968) describes mapped soil type Cb38 as sandy dunes with intervening sandy and clayey swamp flats: chief soils are leached sands, sometimes with a clay D horizon below 5 ft, on the dunes and sandy swamps. The application area has a medium relief, sloping to the south east.

Given the dominance of sand in the soil profile it is possible that wind and water may increase soil erosion as a result of the proposed clearing.

Although the proposed clearing may increase erosion the proposed end land use will mitigate land degradation risk. Therefore, this application is not likely to be at variance to this principle.

Methodology References:
Northcote et al. (1960 - 1968)

GIS DataBases:
- Groundwater Salinity Statewide DoW 13/07/06
- Hydrogeology, statewide - DOW 13/07/06
- Hydrography, linear - DOW 13/7/06
- Mean Annual Rainfall (30-09-2001)

- Salinity Risk LM 25m - DOLA 00
- Soils, Statewide DA 11/99
- Topographic contours statewide - DOLA and ARMY 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

Four System 6 reserves are recorded within the local area. The closest of these reserves is located 3.1km south west of the application area. As all of these conservation reserves are located west of the area under application this area would not form part of an ecological linkage between the reserves.

Within the Swan Coastal Plain 16.4% of vegetation association 1000 is protected within conservation reserves, therefore the area under application provides habitat that is not well represented on conservation land.

Therefore, the clearing as proposed may be variance to this clearing principle.

Methodology GIS Database:

- Bunbury 50cm Orthomosaic - Landgate 2006
- DEC Tenure

(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 property under application contains a Multiple Use wetland and is in close proximity to three EPP lakes, one of which is mapped as a Conservation Category wetland.

A minimum wetland buffer of 50 m is required for all proposed developments to protect wetland values and functions (Water and Rivers Commission, 2001). The removal of vegetation within this 50 buffer may increase sediment levels within the adjacent wetlands causing deterioration in surface water.

In response to the information above the applicant has committed to retaining vegetation associated with the Multiple Use wetland and in addition is proposing to retain a belt of taller, thicker vegetation located adjacent to the wetland to act as a buffer.

In response to this amendment the level of variance has been reduced from 'may be at variance' to 'not likely to be at variance'.

Methodology References:

Water and Rivers Commission (2001)

GIS Database:

- EPP Lakes - dep 14/05/97-
- Geomorphic Wetlands (Mt Categories), Swan Coastal Plain - 11/04/07
- Hydrogeology, Linear - DOC13/07/06
- Hydrogeology, Statewide - DOC13/07/06
- SAC Biodatasets - accessed 19 May 2010

(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 clearing as proposed is not likely to increase the incidence or intensity of flooding.

Methodology GIS Database:

- SAC Biodatasets - accessed 3 September 2010

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

Comments

The property under application is zoned as rural.

The clearing under application is within an area covered by the Rights in Water and Irrigation Act 1914. The Department of Water (DoW, 2010) has advised that the allocation limits of the superficial aquifer within the Bunbury East Ground Water sub-area are fully allocated. DoW does not support the application to clear native vegetation at this stage due to the uncertainty of water availability (DoW, 2010). Additional information provided by the applicant on 26 October 2010 states that a water licence has been applied for (Department of Corrective Services, 2010).

In a letter dated 26 October 2010 the applicant has advised that the issue of water licence can be addressed as they have previously had permission to put a bore in the Pre Release Unit that was built on the other side on Centenary Road on the prisons existing 52 acre property. The applicant has further advised they have contacted the Department of Water and has been informed that there is still some water unallocated in the Leederville Aquifer that can be applied for (Department of Corrective Services, 2010).

The property under application is located within 200 meters of three Environmental Protection Policy (EPP) Lakes. The lake located just north of the property is also mapped as a Conservation Category Wetland. The leaching of nutrients into the groundwater table is a potential risk associated with the proposed end land use (DoW, 2010). The end land use will therefore contribute to appreciable land degradation, through eutrophication, impacting negatively on water quality within the neighbouring wetlands.

In a letter dated 26 October 2010 the applicant has stated that they will reduce the total amount of vegetation to be cleared by leaving the wetland area and green belt out of the application. A Land Degradation Assessment Report has been received from the Department of Agriculture and Food Western Australia (DAFWA, 2010) which states that the risk of eutrophication is unlikely to increase with the clearing of native vegetation on site as the areas at risk have been removed from the application. DAFWA (2010) identified Pinjarra soils in the south east corner of the property under application. These soils have a high risk of eutrophication, water logging and water erosion (DAFWA, 2010). The belt of taller and thicker vegetation directly adjacent to the wetland has also been removed from the application. The retention of this green belt will act as a buffer to the wetland minimising the risk of wind erosion and eutrophication. DEC supports the retention of the wetland area and adjacent green belt.

The Water and Rivers Commission (2001) recommends a buffer width of 200 meters to protect wetlands from nutrient inputs related to market gardens. Two EPP lakes are located within 200 meters of the area under application. To address the issue of eutrophication the applicant has provided the following advice; "The issue of Eutrophication is less of an impact as the T tape watering system that we will be using will also run with a Chelated liquid fertiliser that is organic based the only phosphate fertiliser we use is NPK Blue at a rate of 44 kilograms per hectare every three months" (Department of Corrective Services, 2010).

Two submissions (2010a and 2010b) have been received opposing this application. Both submissions raised concerns about the area being significant fauna habitat and about the wetland in the south east corner. Both submissions were also concerned that the removal of this vegetation would result in further habitat fragmentation on the 'already over cleared Swan Coastal Plain' (Submission, 2010a). These concerns have been addressed in the assessment of the clearing principles above.

Methodology

References:

DAFWA (2010)
Department of Corrective Services (2010)
DoW (2010)
Submission (2010a)
Submission (2010b)
Water and Rivers Commission (2001)

GIS Database:

- EPP Lakes - dep 14/05/97
- RiWI Act, Groundwater Areas - DoW
- RiWI Act, Irrigation Districts - DoW

4. References

- Commonwealth of Australia (2009), Department of the Environment, Water, Heritage and the Arts. Significant impact guidelines for the vulnerable western ringtail possum (*Pseudocheirus occidentalis*) in the southern Swan Coastal Plain, Western Australia.
- DAFWA (2010) Land Degradation Assessment Report for CPS 3932/1. Department of Food and Agriculture Western Australia (DEC Ref: A340952)
- DEC (2010) Site Inspection Report for Clearing Permit Application CPS 3932/1, Lot 160 on Plan 300292, Gelorup. Site inspection undertaken 23/09/2010. Department of Environment and Conservation, Western Australia (DEC Ref: A337151).
- Department of Corrective Services (2010) Amended application and additional advice (DEC Ref: A342726).
- EPA (2003) Greater Bunbury Region Scheme. Bulletin 1108. Environmental Protection Authority, Western Australia.
- Gibson N., Keighery B., Keighery G., Burbidge A. and Lyons M. (1994) A Floristic Survey of the Southern Swan Coastal Plain. Western Australian Department of Conservation and Land Management and the Western Australian Conservation Council.
- Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.
- Molloy, s., Wood, J., Hall, S., Wallrodt, S. and Whisson, G. (2009) South West Regional Ecological Linkages Technical Report, Western Australian Local Government Association and Department of Environment and Conservation, Perth.
- 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.
- Shah, B. (2006) Conservation of Carnaby's Black-Cockatoo on the Swan Coastal Plain, Western Australia. December 2006. Carnaby's Black-Cockatoo Recovery Project. Birds Australia, Western Australia.
- Shepherd, D.P. (2009) 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.
- Submission (2010a) Public Submission for Clearing Permit Application CPS 3932/1. 25 September 2010 (DEC Ref: A335847).
- Submission (2010b) Public Submission for Clearing Permit Application CPS 3932/1. 28 September 2010 (DEC Ref: A335842).
- Water and Rivers Commission (2001) Position Statement: Wetlands, Water and Rivers Commission, Perth.

5. 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)