



1. Application details

1.1. Permit application details

Permit application No.: 1604/1
Permit type: Area Permit

1.2. Proponent details

Proponent's name: Phung Tran / Tuyet Chau Do / Huynh

1.3. Property details

Property: LOT 20 ON PLAN 8913 (House No. 300 CARABOODA CARABOODA 6033)
Local Government Area: City Of Wanneroo
Colloquial name:

1.4. Application

| Clearing Area (ha) | No. Trees | Method of Clearing | For the purpose of: |
|--------------------|-----------|--------------------|---------------------|
| 8 | | Mechanical Removal | Horticulture |

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 Association: 1948, Low woodlands, banksia on limestone (Shepherd et al. 2001, Hopkins et al. 2001). | The application is to clear all vegetation on Lot 20 Carabooda Rd, Carabooda. The property is zoned Rural under the local Town Planning Scheme and is surrounded by horticultural activities on adjacent lots. | Very Good: Vegetation structure altered; obvious signs of disturbance (Keighery 1994) | The condition and description of vegetation was assessed during a site inspection undertaken 11/01/2007 (TRIM Ref. DOC19700). The vegetation applied to be cleared was assessed as being in a good to excellent condition with an overall condition rating of very good. |
| Hedde Vegetation Complex: Cottesloe 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 (Hedde et al. 1980). | The vegetation under application is also in close proximity (~188m W) to State Forest No. 65, which also includes Bush Forever Site 290 (Hopkins Road Bushland). The vegetation under application is linked to these reserves through remnant native vegetation on the adjoining lots to the east and south east. The vegetation under application can be separated into two distinct areas. The vegetation on the northern section of the property (~4ha) is in a good condition with a sparse over storey dominated by Banksia attenuata. Eucalyptus tottiana and Allocasuarina fraseriana were also identified. The understorey comprised of Stirlingia latifolia, Xanthorrhoea preissii, Jacksonia sternbergiana and Patersonia occidentalis. Weeds observed within this area included Veldt grass (Ehrharta calycina) and Pelargonium capitatum. | | |

The vegetation on the southern portion of the property (~4ha) is in a very good condition with patches of vegetation in an excellent condition. The over storey is intact and is dominated by *Banksia attenuata*, *Banksia menziesii*, *Eucalyptus tottiana*, *Eucalyptus marginata* and *Allocasuarina fraseriana*. The understorey comprises of a rich diversity of species including *Acacia pulchella*, *Calytrix flavescens*, *Calothamnus quadrifidus*, *Dryandra nivea*, *Conostylis aculeata*, *Conostylis candicans*, *Conostylis setigera*, *Dryandra sessilis*, *Haemodorum* sp, *Mesomelaena* sp, *Lepidosperma* sp, *Hakea lissocarpa*, *Hakea prostrata*, *Hakea ruscifolia*, *Hakea trifurcata*, *Stirlingia latifolia*, *Petrophile linearis*, *Hemianandra linearis*, *Jacksonia sternbergiana*, *Gompholobium tomentosum*, *Allocasuarina humilis*, *Macrozamia riedlei*, *Xanthorrhoea preissii*, *Patersonia occidentalis*, *Kennedia prostrata*, *Scaevola canescens*, *Eremaea pauciflora*, *Desmodium flexuosum* and *Lyginia* sp.

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 vegetation under application is in close proximity (~188m W) to State Forest No. 65, which also includes Bush Forever Site 290 (Hopkins Road Bushland). The vegetation under application is linked to these reserves through remnant native vegetation on the adjoining lots to the east and south east.

A site inspection (2007) of the vegetation under application determined two distinct vegetation areas across the property. The vegetation within the northern portion of the property (~4ha) is in good condition with a scattered over storey comprising of *Banksia attenuata* over a dense understorey dominated by *Eremaea pauciflora*. The vegetation within the southern portion of the property (~4ha) is in very good condition with patches of vegetation in an excellent condition. The over storey in the southern portion is intact, comprising of *Banksia*, *Eucalyptus* and *Allocasuarina*. The understorey in the southern portion comprises of a rich diversity of native species, with minimal weed invasion (Site Inspection 2007).

Overall the vegetation under application is in a very good condition, with the structure intact and a few small areas of localised disturbance (Site Inspection 2007). Given the very good condition and overall high biological diversity of the vegetation under application, the proposed clearing is at variance to this Principle.

Methodology

Reference:

- Site Inspection (2007)

GIS Databases:

- Bushforever - MFP 07/01

- CALM Managed Lands and Waters - CALM 1/07/05

- Swan Coastal Plain North 20cm Orthomosaic - DLI06

- Town Planning Scheme Zones - MFP 8/98

(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 vegetation under application is in an overall very good condition with a high level of floral diversity and

intact vegetation structure (Site Inspection 2007). The vegetation under application is considered to provide suitable habitat for a number of native ground-dwelling and bird species, given the density of the vegetation, vegetation condition and presence of suitable foraging plants.

In addition, seven protected fauna species have been recorded within a 5km radius of the vegetation under application. Of these species, three are known to inhabit areas in close proximity to the vegetation under application and use similar vegetation for feeding or foraging, including:

- Carnaby's Black Cockatoo (*Calyptorhynchus latirostris*) (Vulnerable);
- Carpet Python (*Morelia spilota imbricata*) (Priority 4); and
- Quenda (*Isodon obesulus fusciventer*) (Priority 5).

Given the presence of suitable habitat, it is considered likely that these species inhabit and/or utilise the vegetation under application.

The vegetation under application is also in close proximity (~188m W) to State Forest No. 65, which also includes Bush Forever Site 290 (Hopkins Road Bushland). The vegetation under application is linked to these reserves through remnant native vegetation on the adjoining lots to the east and south east and is considered likely to be utilised as a corridor for fauna movement within the local area. In particular, the City of Wanneroo (2007) has identified Lot 20 as a local biodiversity linkage within the Draft Local Biodiversity Strategy, due to its connection to Bush Forever Site 290, State Forest No. 65 and remnant vegetation to the west on adjacent properties.

Given the condition, structure and diversity of the vegetation and presence of suitable habitat for local threatened fauna, the vegetation under application is considered to provide significant fauna habitat in the local area. In addition the vegetation under application is linked to nearby conservation areas and is considered to provide corridor values for fauna moving across the landscape. Therefore the proposed clearing is at variance to this Principle.

- Methodology** **References:**
- City of Wanneroo (2007)
 - DEC Fauna Habitat Notes.xls February 2007
 - Government of Western Australia (2000)
 - Site Inspection (2007)
- GIS Databases:**
- DEC SAC Bio datasets, Date accessed 01/06/2007
 - 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 may be at variance to this Principle

There are five mapped occurrences of one Declared Rare Flora (DRF) species within a 5km radius of the vegetation under application, the closest being ~2.7kms from the vegetation under application. *Eucalyptus argutifolia* (Rare) has been recorded within the nearby State Forest No. 65 and Bush Forever Site 290 and is known to occur within the same vegetation communities and soil type as the vegetation under application.

FloraBase (Western Australian Herbarium 1998) describes *Eucalyptus argutifolia* as inhabiting shallow soils over limestone, or slopes or gullies of limestone ridges and outcrops. DAFWA (2007) identified the soils within the vegetation under application as Karrakatta Sand Yellow Phase. These soils are described as undulating dunes on aeolian sand over limestone, comprising yellow sand over limestone at 1-2 metres depth.

Given the close proximity of mapped occurrences of *Eucalyptus argutifolia* and its location within the same vegetation communities and soil complex as the vegetation under application, the proposed clearing may be at variance to this Principle.

- Methodology** **Reference:**
- Western Australian Herbarium (1998)
- GIS Databases:**
- DEC SAC Bio datasets, Date accessed 01/07/2007
 - Heddle Vegetation Complexes - DEP 21/06/95
 - Pre-European Vegetation - DA 01/01
 - Soils, Statewide - DA 11/99

(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 seven known occurrences of one Threatened Ecological Community (TEC) within a 5km radius of the vegetation under application, the closest being ~4.2km from the vegetation under application. These occurrences are known as Floristic Community Type (FCT) 26a, known as 'Melaleuca huegelii-Melaleuca systema shrublands of limestone ridges' (Gibson et al. 1994). While the soil type and vegetation complexes for

FCT 26a is similar to that present within the vegetation under application, the vegetation is best described as Banksia woodland (Site Inspection 2007). Therefore, the vegetation under application is not considered likely to comprise the whole, or part of this TEC.

Bush Forever Site 288 (Yanchep National Park and Adjacent Bushland) located ~5.1km north west of the vegetation under application, may be associated with the critically endangered TEC 'Aquatic root mat community of caves on the Swan Coastal Plain' (Government of Western Australia 2000). Whilst these communities are known to be particularly susceptible to hydrological changes, the clearing of native vegetation is not likely to cause a deterioration in the water quality. Furthermore, groundwater flow appears to be in a west-southwest direction across the landscape. Given this and the distance to this TEC (5.1kms) the proposed clearing is not likely to be at variance to this Principle.

- Methodology** **References:**
- Gibson et al. (1994)
 - Government of Western Australia (2000)
 - Site Inspection (2007)
- GIS Databases:**
- Bushforever - MFP 07/01
 - DEC SAC Bio datasets, Date accessed 01/07/2007
 - Groundwater Contours, Minimum

(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 may be at variance to this Principle

The vegetation under application is a component of Beard Vegetation Association 1948 (Hopkins et al. 2001) and Heddl Vegetation Complex Cottesloe Central and South (Heddl et al. 1980) of which 21.4% (17,315ha) and 41.1% (18,474ha) of Pre European extent remain respectively (Shepherd et al. 2001).

The vegetation under application is considered to be representative of Beard Vegetation Association 1948, based on the species composition observed during the Site Inspection (2007). It is in an overall very good condition and is considered to comprise of high biological diversity.

The State Government is committed to the National Objectives and Targets for Biodiversity Conservation which includes a target that prevents clearance of ecological communities with an extent below 30% of that present pre-European settlement (Commonwealth of Australia 2001). However the EPA (2003) recognises that vegetation representation within the constrained area of the metropolitan region may be varied to a minimum representation level of 10%.

Beard Vegetation Association 1948 is below the recommended biodiversity conservation target with only 21.4% pre-European extent remaining, and whilst it is acknowledged that the applied area is within the constrained area of the metropolitan region, the vegetation under application is located on the eastern edge of an area extensively cleared for horticultural activities. Although the local area appears to be heavily vegetated, only 54.8% native vegetation cover remains, with the majority of these areas managed for conservation.

The vegetation under application is in close proximity (~188m west) to State Forest No. 65, which also includes Bush Forever Site 290 (Hopkins Road Bushland). The vegetation under application is linked to these reserves through remnant vegetation on the adjoining lots to the east and south east, and forms a significant corridor for faunal movement in a north-south direction.

Given the vegetation's high biological diversity and wildlife corridor values in addition to the extensive local clearing, the vegetation applied to be cleared is considered likely to be a significant remnant.

| | Pre-European (ha) | Current extent (ha) | Remaining (%) | % In reserves/CALM managed land |
|--|----------------------|------------------------|------------------|------------------------------------|
| IBRA Bioregion | | | | |
| Swan Coastal Plain** | 1,501,456 | 571,758 | 38.1 | |
| City of Wanneroo*** | 68,070 | 34,057 | 50.0 | |
| Local area (5km radius) | 7,850 | 4,303 | 54.8 | |
| Beard Vegetation Association 1948* | 81,022 | 17,315 | 21.4 | 15.6 |
| Heddl Vegetation Complex: Cottesloe Central and South | 44,995 | 18,474 | 41.1 | 8.8 |

- * (Shepherd et al. 2001)
 ** (Shepherd 2006)
 *** (Del Marco et al. 2004)

- Methodology** **References:**
- Commonwealth of Australia (2001)
 - Del Marco et al. (2004)
 - EPA (2003)
 - Heddle et al. (1980)
 - Hopkins et al (2001)
 - Shepherd et al. (2001)
 - Shepherd (2006)
 - Site Inspection (2007)
- GIS Databases:**
- Bushforever - MFP 07/01
 - CALM Managed Lands and Waters
 - 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

(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 wetland is a Conservation Category Wetland (CCW) and EPP Lake located ~2.8km from the vegetation under application. The nearest watercourse is a stream located ~3.9kms from the vegetation under application.
- The Water and Rivers Commission (2001) recommends a 200m buffer around CCWs to protect the environmental and hydrological values of the wetland. Given the distance to the closest wetland (~2.8km) the vegetation under application is not considered likely to impact on nearby wetland areas.
- Furthermore, the vegetation under application is representative of an upland vegetation community (Site Inspection 2007) and is elevated ~50m higher than nearby wetland areas. Therefore the vegetation under application is not considered to be growing in, or in association with, an environment associated with a watercourse or wetland.

- Methodology** **References:**
- Site Inspection (2007)
 - Waters and Rivers Commission (2001)
- GIS Databases:**
- EPP, Lakes - DEP 1/12/92
 - Geomorphic wetlands (Mgt Categories) - Swan Coastal Plain - DOE 15/09/04
 - Hydrography, linear - DOE 01/02/04
 - 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 may be at variance to this Principle**
- The vegetation under application is associated with undulating dune landscape underlain by aeolianite, small swales of estuarine deposits and chief soils of siliceous sands (Northcote et al 1960-68).
- There is a high risk of wind erosion of the Spearwood Dune system (Government of Western Australia 2000) following the clearing of native vegetation on this site. The high erosion potential is due to the sandy nature of the topsoil and without appropriate ground cover, windbreaks or adequate dust suppression on exposed surfaces the proposal would be likely to cause land degradation.
- As the application is to clear the entire lot (8ha) of vegetation, the proposed clearing is considered likely to lead to appreciable land degradation in the form of wind erosion. Therefore the proposal may be at variance to this Principle.

- Methodology** **References:**
- Northcote et al. (1960-68)
 - Government of Western Australia (2000)
- GIS Database:**

(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 application is to clear all vegetation on Lot 20 Carabooda Rd, Carabooda. The property is zoned Rural under the local Town Planning Scheme and is surrounded by horticultural activities to varying degrees on adjacent lots. Whilst the local area appears to be heavily vegetated, only 54.8% native vegetation cover remains, with the majority of these areas managed for conservation.

The vegetation under application is in close proximity (~188m W) to State Forest No. 65, which also includes Bush Forever Site 290 (Hopkins Road Bushland). The vegetation under application is linked to these reserves through remnant native vegetation on the adjoining lots to the east and south east. A further three DEC managed conservation reserves and twenty Bush Forever sites (comprising of 10 different conservation reserves) occur within a 5km radius of the vegetation under application.

Whilst the vegetation under application is relatively small (8ha) compared to the size of adjacent conservation areas (State Forest No. 65 at >20,000ha including Bush Forever Site 290 at ~430ha), the vegetation under application is considered significant on a local scale as it provides an ecological linkage to these conservation areas and connects with remnant vegetation on adjacent properties to the west. Furthermore, the City of Wanneroo has identified the property as a Local Ecological Linkage in the Draft Local Biodiversity Strategy (City of Wanneroo 2007).

Given the very good condition, high biodiversity (Site Inspection 2007) and ecological linkage values of the vegetation under application the proposed clearing is considered to be at variance to this Principle.

Methodology References:

- City of Wanneroo (2007)
- Site Inspection (2007)
- GIS Databases:
- Bushforever - MFP 07/01
- CALM Managed Lands and Waters
- Remnant Vegetation, Metropolitan Area
- Swan Coastal Plain North 20cm Orthomosaic - DLI06
- Town Planning Scheme Zones - MFP 8/98

(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 associated with undulating dune landscape underlain by aeolianite, small swales of estuarine deposits and chief soils of siliceous sands (Northcote et al 1960-68). The nearest surface hydrological feature is a Conservation Category Wetland (CCW) and EPP Lake located ~2.8km from the vegetation under application. In addition the Gnangara Mound is located ~160m from the vegetation under application, with the Priority 1 Public Drinking Water Source Area starting ~700m from the vegetation under application.

DAFWA (2007) advise that the risk of eutrophication leading to land degradation following the proposed clearing is low.

Given the above and the largely vegetated area west of the vegetation under application, the proposed clearing is not considered likely to cause deterioration in the quality of surface or underground water.

Methodology References:

- DAFWA (2007)
- Northcote et al. (1960-68)
- GIS Databases:
- EPP, Areas - DEP 06/95
- Geomorphic wetlands (Mgt Categories) - Swan Coastal Plain - DOE 15/09/04
- Public Drinking Water Source Areas (PDWSAs) - DOE 09/08/05
- Soils, Statewide - DA 11/99
- Swan Coastal Plain North 20cm Orthomosaic - DLI06

(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 associated with undulating dune landscape underlain by aeolianite, small swales of estuarine deposits and chief soils of siliceous sands (Northcote et al 1960-68).

Given the size of the area proposed to be cleared (8ha) in relation to the remaining vegetation surrounding the vegetation under application (State Forest No. 65 at >20,000ha in size) and the transmissive nature of the soils at the site, the proposed clearing is considered unlikely to cause or exacerbate the incidence of flooding.

Furthermore, DAFWA (2007) advise that the risk of flooding is low. Therefore, the proposed clearing is not likely to be at variance to this Principle.

- Methodology** **References:**
- DAFWA (2007)
 - Northcote et al. (1960-68)
- GIS Databases:**
- CALM Managed Lands and Waters - CALM 01/07/05
 - Soils, Statewide - DA 11/99
 - Swan Coastal Plain North 40cm Orthomosaic - DLI 05
 - Topographic Contours, Statewide - DOLA 12/09/02

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

Comments

Development Approval from the City of Wanneroo is required for the proposed horticultural development. The City has advised that no Development Approval application has been submitted for this property (TRIM Ref. DOC19851).

The City of Wanneroo (2007) have advised that 300 Carabooda Rd, Carabooda has been identified as a Local Ecological Linkage in the draft Local Biodiversity Strategy, as the property links to a regionally significant Bush Forever site. The City advise that it would be preferable to retain the southern portion of the property that is better connected to the Bush Forever site, and closer to bushland on private property to the west (TRIM Ref. DOC17918).

One submission has been received opposing the clearing of native vegetation on 300 Carabooda Rd, Carabooda. The submission advises that the proposed clearing is at variance to Principles (a), (c), (e) and (h) for the following reasons: - the proposed clearing is in close proximity to regionally significant bushland (Bush Forever Site 290) and helps form a link from this site to other regionally significant sites to the west; - The vegetation appears to be in very good to excellent condition; - *Eucalyptus argutifolia* (Rare) may be present within the area under application given that it occurs in the nearby Bush Forever site; and - The vegetation is representative of Cottesloe-Central and South Complex, which has only 36% remaining and 18% proposed for protection through Bush Forever. Although this is more than 30%, the proponent believes that at least 30% of the pre-European extent of vegetation complexes should be retained. In response to this submission, the assessment of the proposal against the clearing principles finds the proposed clearing at variance to Principles (a), (b) and (h), and may be at variance to Principles (c), (e) and (g).

The proponents have a current, amalgamated Groundwater Licence for irrigating 10ha of vegetables on Lots 10 (8ha), 11(8ha) and 20 (8ha) Carabooda Rd, Carabooda. Lots 10 and 11 appear on orthomosaic to be completely cleared of native vegetation.

- Methodology** There is no other Works Approval or EP Act Licence that will affect the area of vegetation under application.
- References:**
- City of Wanneroo (2007)
 - Government of Western Australia (2000)
- GIS Databases:**
- Aboriginal Sites of Significance
 - Bushforever - MFP 07/01
 - Native Title Claims - DLI
 - Swan Coastal Plain North 20cm Orthomosaic - DLI06

4. Assessor's comments

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

5. References

City of Wanneroo (2007) Advice in relation to the clearing permit application (TRIM Ref. DOC179187).
Commonwealth of Australia (2001). National Targets and Objectives for Biodiversity Conservation 2001-2005, AGPS,

Canberra.

- DAFWA (2007) Land degradation assessment report. Office of the Commissioner of Soil and Land Conservation, Department of Agriculture and Food Western Australia (DoE TRIM Ref. DOC17295).
- DEC Fauna Habitat Notes.xls February 2007
- Del Marco, A., Miles, C., Taylor, R., Clarke, K. and Savage, K. (2004) Local Government Biodiversity Planning Guidelines for the Perth Metropolitan Region - Edition 1. Western Australian Local Government Association, West Perth.
- EPA (2003) Guidance for the Assessment of Environmental Factors -level of assessment of proposals affecting natural areas within the System 6 region and Swan Coastal Plain portion of the System 1 Region. Report by the EPA under the Environmental Protection Act 1986. No 10 WA.
- Gibson et al. (1994) A Floristic Survey of the Southern Swan Coastal Plain. Western Australian Department of Conservation and Land Management
- Government of Western Australia (2000) Bush Forever Volumes 1 and 2. Western Australian Planning Commission, Perth WA.
- Hedde, 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.
- 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., 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.
- Site Inspection Report (2007) (TRIM Ref. DOC19700)
- Water and Rivers Commission (2001) Position Statement: Wetlands
- Western Australian Herbarium (1998-) FloraBase } The Western Australian Flora. Department of Environment and Conservation. <http://florabase.calm.wa.gov.au/> (Accessed 01/06/2007).

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) |