



CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

PERMIT DETAILS

Area Permit Number: 4162 / 1
File Number: 2011/000148-1
Duration of Permit: From 11 April 2011 to 11 April 2013

PERMIT HOLDER

Shire of Murray

LAND ON WHICH CLEARING IS TO BE DONE

Road Reserve PIN 1287940 (also know as Batavia Quays Boat Ramp), South Yunderup

AUTHORISED ACTIVITY

The Permit Holder shall not clear more than 0.265 hectares of native vegetation, within the areas shaded yellow on attached Plan 4162/1.

CONDITIONS

Dieback and weed control

When undertaking any clearing or other activity authorised under this Permit, the Permit Holder must take the following steps to minimise the risk of the introduction and spread of *weeds* and *dieback*:

- (a) clean earth-moving machinery of soil and vegetation prior to entering and leaving the area to be cleared;
- (b) shall not move soils in wet conditions;
- (c) ensure that no *dieback* or *weed*-affected soil, *mulch*, *fill* or other material is brought into the area to be cleared; and
- (d) restrict the movement of machines and other vehicles to the limits of the areas to be cleared.

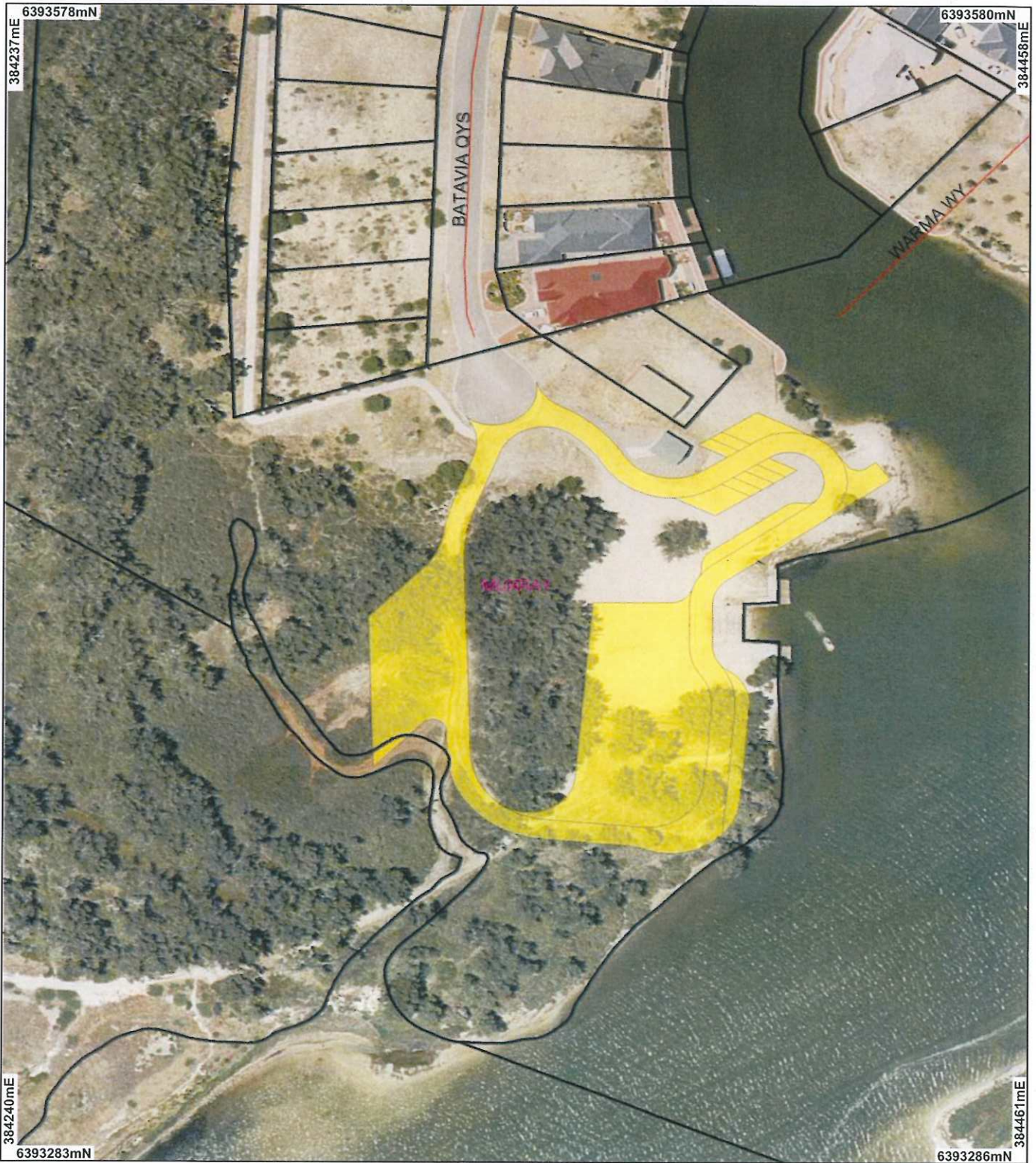
A handwritten signature in black ink, appearing to read "Kelly Faulkner", written over a horizontal line.

Kelly Faulkner
MANAGER
NATIVE VEGETATION CONSERVATION BRANCH

*Officer delegated under Section 20
of the Environmental Protection Act 1986*

17 March 2011

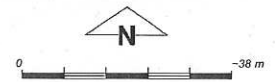
Plan 4162/1



LEGEND

- Clearing Instruments**
- Areas Approved to Clear
 - Road Centrelines
 - Cadastre
 - Local Government Authorities

Swan Coastal Plain South
20cm Orthomosaic - Landgate
2009



Scale 1:1300

(Approximate when reproduced at A4)

Geocentric Datum Australia 1994

Note: the data in this map have not been projected. This may result in geometric distortion or measurement inaccuracies.

[Signature] Date 17/3/11
K Faulkner

Officer with delegated authority under Section 20 of the Environmental Protection Act 1986

Information derived from this map should be confirmed with the data custodian acknowledged by the agency acronym in the legend.



Department of Environment and Conservation

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* Project Data is denoted by asterisk. This data has not been quality assured. Please contact map author for details.



1. Application details

1.1. Permit application details

Permit application No.: 4162/1
Permit type: Area Permit

1.2. Proponent details

Proponent's name: Shire of Murray

1.3. Property details

Property: ROAD RESERVE (SOUTH YUNDERUP 6208)
Local Government Area:
Colloquial name:

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
0.265		Mechanical Removal	Building or Structure

1.5. Decision on application

Decision on Permit Application: Granted
Decision Date: 17 March 2011

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>The vegetation under application is mapped as being composed of: Beard vegetation association 27: Low woodland; paperbark (Melaleuca sp.) (Hopkins et al 2001; Shepherd 2009)</p> <p>Hedde Vasse Complex: Mixture of the closed scrub of Melaleuca species fringing woodland of Eucalyptus rudis (Flooded Gum) - Melaleuca species and open forest of Eucalyptus gomphocephala (Tuart) - Eucalyptus marginata (Jarrah) - Corymbia calophylla (Marri). (Hedde et al 1980)</p>	<p>The clearing proposal is to clear 0.265 ha of native vegetation within the Batavia Quays boat ramp area for the purpose of constructing a car park.</p> <p>Three plant communities were identified and mapped within the area under application, being Casuarina obesa woodland, mixed species Saltmarsh, foredune Melaleuca cuticularis shrubland (360 Environmental 2010).</p>	<p>Very Good: Vegetation structure altered; obvious signs of disturbance (Keighery 1994)</p> <p>Good: Structure significantly altered by multiple disturbance; retains basic structure/ability to regenerate (Keighery 1994)</p> <p>Degraded: Structure severely disturbed; regeneration to good condition requires intensive management (Keighery 1994)</p> <p>Completely Degraded: No longer intact; completely/almost completely without native species (Keighery 1994)</p>	<p>The vegetation condition and description was determined from consultant's report (360 Environmental 2010) and site visit conducted by DEC officers on 18 February (DEC 2011).</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 not likely to be at variance to this Principle

The proposal is to clear 0.265 ha of native vegetation to construct a car park at Batavia Quays boat ramp.

A flora and vegetation survey was conducted in September 2010 within a 1.2 ha study area, Batavia Quay, which includes the area under application (360 Environmental 2010). The survey identified 19 native plant species and 24 exotic plant species, and three plant communities (Casuarina obesa woodland, mixed species Saltmarsh, foredune Melaleuca cuticularis shrubland) within the study area (360 Environmental 2010). No rare or priority flora was identified during the survey (360 Environmental 2010).

A DEC (2011) site visit of the area under application observed the area to be consisting predominantly of Casuarina obesa with adjacent areas of saltbush - Atriplex sp and Halosarcia indica (now known as Tecticornia indica), and Melaleuca sp. The vegetation was considered to be in completely degraded to very good (Keighery 1994) condition with areas of localised disturbance from existing informal car park facilities and vehicle tracks (DEC 2011).

Given the limited areas of vegetation in good or very good (Keighery 1994) condition and the high level of disturbance, it is not considered likely that the area under application comprises a high level of biodiversity.

Methodology

References:

- 360 Environmental(2010)
- DEC (2011)
- Keighery (1994)

(b) Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a significant habitat for fauna indigenous to Western Australia.

Comments

Proposal is not likely to be at variance to this Principle

Six conservation significant fauna species, including Eastern Curlew (Numenius madagascariensis, P4) and Quenda (Isoodon obesulus fusciventer, P5), have been recorded within the local area (5 km radius).

A flora and vegetation survey was conducted in September 2010 within a 1.2 ha study area, Batavia Quay, which includes the area under application (360 Environmental 2010). The survey identified 19 native plant species and 24 exotic plant species, and three plant communities (Casuarina obesa woodland, mixed species Saltmarsh, foredune Melaleuca cuticularis shrubland) within the study area (360 Environmental 2010). A DEC site visit of the area under application considered the vegetation to be in completely degraded to very good (Keighery 1994) condition with areas of localised disturbance from existing informal car park facilities and vehicle tracks (DEC 2011).

Given the limited areas proposed to be cleared and the high level of disturbance, it is not considered likely that the area under application comprises significant fauna habitat.

Methodology

References:

- 360 Environmental(2010)
- DEC (2007 onwards)
- DEC (2011)
- Keighery (1994)

(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 two known records of rare flora species recorded within the local area (5 km radius). Diuris micrantha was recorded 1.6 km north-east and Synaphea stenoloba located 3.7 km south-east of the area under application.

D. micrantha flowers in Sept-Oct and occurs on brown loamy clay, in winter-wet swamps in shallow areas; and S. stenoloba flowers in Aug-Oct and occurs on sandy or sandy clay soils, in winter-wet flats or granites (WA Herbarium 1998-).

However, no rare flora was identified during a survey (360 Environmental 2010). This flora and vegetation survey was conducted in September 2010 within a 1.2 ha study area, Batavia Quay, which includes the area under application (360 Environmental 2010). The survey identified 19 native plant species and 24 exotic plant species, and three plant communities (Casuarina obesa woodland, mixed species Salt marsh, foredune Melaleuca cuticularis shrubland) within the study area (360 Environmental 2010).

Given the above, is not considered likely that the area under application includes or is necessary for the

continued existence of rare flora.

Methodology References:
- 360 Environmental(2010)
- WA Herbarium (1998-)
GIS Database:
- SAC Bio Datasets 24/2/2011

(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**

Within the local area (5 km radius) there are two known threatened ecological communities (TEC), community type (SCP07) 'Herb rich saline shrublands in clay pans' and community type (SCP15) 'Forests and woodlands of deep seasonal wetlands of the Swan Coastal Plain'.

A DEC site visit of the area under application considered the vegetation to be in completely degraded to very good (Keighery 1994) condition with areas of localised disturbance from existing informal car park facilities and vehicle tracks (DEC 2011).

Given the limited areas proposed to be cleared, the limited areas of vegetation in good or very good (Keighery 1994) condition and the high level of disturbance, it is not considered likely that the area under application comprises or is necessary for the maintenance of threatened ecological communities.

Methodology References:
- DEC (2011)
- Keighery (1994)
GIS Database:
- SAC Bio Datasets 24/2/2011

(e) Native vegetation should not be cleared if it is significant as a remnant of native vegetation in an area that has been extensively cleared.

Comments **Proposal is not likely to be at variance to this Principle**

The vegetation under application is mapped as being comprised of Beard vegetation association 27 (Shepherd, 2009) and Vasse complex (Heddle, 1980). Beard association 27 is well represented in the bioregion and Shire with 30.3% and 54.7% of pre-1750 levels of native vegetation remaining respectively (Shepherd, 2009). Vasse complex retains 29.4% of its pre-European levels (Heddle, 1980). 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). Vasse Complex retains less than the recommended threshold.

A DEC site visit of the area under application considered the vegetation to be in completely degraded to very good (Keighery 1994) condition with areas of localised disturbance from existing informal car park facilities and vehicle tracks (DEC 2011).

Given the high level of localised disturbance and the extent of native vegetation remaining in the Shire and vegetation types, the proposed clearing is considered to be significant or located within an extensively cleared area.

Methodology References:
- Commonwealth of Australia (2001)
- DEC (2011)
- Shepherd (2009)
GIS DataBases:
- Swan Coastal Plain South 20cm Orthomosaic - Landgate 2009

(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 at variance to this Principle**

The area under application is located within a conservation category wetland (Peel Inlet) and in close proximity to a RAMSAR site (Peel-Yalgorup System), which is 80 m away at the closest point.

A flora and vegetation survey conducted in September 2010 within a 1.2 ha study area, which includes the area under application identified three plant communities (Casuarina obesa woodland, mixed species Saltmarsh, foredune Melaleuca cuticularis shrubland), which comprise wetland vegetation, within the study area.

Given the location of the area under application within a conservation category wetland and presence of wetland vegetation, the clearing proposal is at variance to this Principle.

Methodology Reference:
- 360 Environmental(2010)
GIS Databases:
- Clearing Regulations, Environmentally Sensitive Areas
- Geomorphic Wetlands (Mgt Categories), Swan Coastal Plain
- RAMSAR, Wetlands

(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 area under application is located on the edge of the Peel Inlet with the landscape low lying and a substrate comprising grey sands over clay (360 Environmental 2010). Given the limited clearing to be undertaken, the proposal is not likely to cause appreciable land degradation. Therefore the clearing proposal is not likely to be at variance to this Principle.

Methodology Reference:
- 360 Environmental (360)

(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**
The area under application in close proximity to a RAMSAR site (Peel-Yalgorup System), which is 80 m away at the closest point. In addition, a section of the area under application is located within an area (Peel-Harvey Estuarine System) listed on the Commonwealth Register of National Estates, for its important natural values.

The vegetation proposed to be cleared is considered to offer buffering values to the nearby RAMSAR listed Peel-Yalgorup Wetland System. This wetland system is recognised as a wetland of international importance (Hale and Butcher 2007).

The proposed clearing may cause localised deterioration in surface water quality and may increase the introduction and spread of weeds. In addition, vegetated buffers are important in nutrient attenuation and also reduce the risk of pollutants entering the estuary. Therefore, the clearing proposal may be at variance to this Principle.

Methodology References:
- Hale and Butcher (2007)
GIS Databases:
- Clearing Regulations, Environmentally Sensitive Areas
- Geomorphic Wetlands (Mgt Categories), Swan Coastal Plain
- RAMSAR, Wetlands
- Register of National Estate

(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 may be at variance to this Principle**
The area under application is located within a conservation category wetland (Peel Inlet) and in close proximity to a RAMSAR site (Peel-Yalgorup System), which is 80 m away at the closest point.

The vegetation proposed to be cleared is considered to offer buffering values to the nearby RAMSAR listed Peel-Yalgorup Wetland System. This wetland system, which is recognised as a wetland of international importance, supports more than 20,000 waterbirds and supports breeding of eleven waterbird species (Hale and Butcher 2007). To protect wetland values a minimum buffer of 50 m [from the boundary of wetland dependant vegetation] should be established; where a wetland has significant conservation value a minimum buffer of 200 m may be recommended (WRC 2000).

The proposed clearing may cause localised sedimentation. In addition, vegetated buffers, a minimum of 50 m and up to 200 m, are important in nutrient attenuation and also reduce the risk of pollutants entering the estuary. Therefore, the clearing proposal may be at variance to this Principle.

Methodology Reference:
- Hale and Butcher (2007)
GIS Databases:
- Clearing Regulations, Environmentally Sensitive Areas

- Geomorphic Wetlands (Mgt Categories), Swan Coastal Plain
- RAMSAR, Wetlands
- WRC (2000)

(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 area under application is located on the edge of the Peel Inlet with the landscape low lying and a substrate comprising grey sands over clay (360 Environmental 2010). Given the limited clearing to be undertaken the proposal is not likely to cause or increase flooding. Therefore the clearing proposal is not likely to be at variance to this Principle.

Methodology Reference:
- 360 Environmental (360)

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

Comments

The proposal is to clear 0.265 ha of native vegetation to construct a car park at Batavia Quays boat ramp, to upgrade existing car park facilities.

The area under application is mapped as Class 1- High to moderate risk of Acid Sulfate Soil (ASS) materials occurring within soil profiles that could be disturbed by land development activities. This mapping data outlines the associated risk resulting from inappropriate soil disturbance, dewatering and drainage.

The area under application is located within the proclaimed Murray Groundwater, and Murray River and tributaries Surface Water Areas.

Department of Water (2011) advised that as the proposal does not appear to intersect existing channels a Bed and Banks Permit may not be required, but there may be a requirement for dewatering, dust suppression and compaction prior to construction, so there may be a requirement for a licence to construct or alter a well or a licence to take groundwater or a licence to take surface water. In addition, the proposal is located in a floodway and as such can be expected to be inundated, so a full development application will need to be sent to the Department of Water, Mandurah office.

The Department of Water (2011) also included the following notes:

- Urban Drain Management: Drainage systems shall be designed and constructed consistent with the Department of Water's Stormwater Management Manual for Western Australia;
- Peel Harvey Coastal Plain Catchment: The proponent is advised that the proposal is located within the Peel-Harvey catchment and the provisions of the Environmental Protection (Peel Inlet-Harvey Estuary) Policy 1992 and the Statement of Planning Policy No 2.1, the Peel-Harvey Coastal Plain Catchment shall apply.

The area is zoned Recreation and Conservation under the local Town Planning Scheme.

Methodology Reference:
- Deptment of Water (2011)
GIS databases:
- Acid Sulfate Soil Risk Map, Swan Coastal Plain
- RIWI Act, GroundWater Areas
- RIWI Act, SurfaceWater Areas, Irrigation Districts
-Town Planning Scheme Zones

4. References

360 Environmental (2010) Level 1 Flora and Vegetation Survey, Batavia Quay Shire of Murray. 360 Environmental Pty Ltd. DEC Ref A371434

DEC (2007 onwards) NatureMap: Mapping Western Australia's Biodiversity. Department of Environment and Conservation. URL: <http://naturemap.dec.wa.gov.au/>. Accessed 24/02/2011

DEC (2011) Site Inspection Report for Clearing Permit Application CPS 4162/1, Batavia Quay, South Yunderup. Site inspection undertaken 18/2/2011. Department of Environment and Conservation, Western Australia. DEC Ref A376100

Department of Water (2011) Direct Interest Submission for Clearing Permit Application CPS 4162/1. Department of Water. DEC Ref A371638

Hale, J. and Butcher (2007) Ecological Character Description of the Peel-Yalgorup Ramsar Site, Report to the Department of Environment and Conservation and the Peel-Harvey Catchment Council, Perth, Western Australia.

- Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.
- Shepherd, D.P. (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.
- Western Australian Herbarium (1998-) FloraBase - The Western Australian Flora. Department of Environment and Conservation. <http://florabase.dec.wa.gov.au/> (Accessed 10/3/2011).
- WRC (2000) Water Notes - Wetland Buffers WN4, Water and Rivers Commission, Western Australia,

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)