GOVERNMENT OF
WESTERN AUSTRALIA

CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

Purpose Permit number:	CPS 5282/1
Permit Holder:	Shire of West Arthur
Duration of Permit:	11 January 2013 – 11 January 2018

The Permit Holder is authorised to clear native vegetation subject to the following conditions of this Permit.

PART I – CLEARING AUTHORISED

1. **Purpose for which clearing may be done**
   Clearing for the purpose of constructing the Darkan to Dardadine Rail Trail and improving the sight line associated with a crossover.

2. **Land on which clearing is to be done**
   Railway Reserve (Pin 552195, 552063, 552211, 552196, 554707, 552019, 553246)
   Unnamed Road reserves (Pin 11313832, 11313827, 11313866)
   Darkan Road reserve (Pin 11243184)
   Lot 500 on Plan 55441, Darkan

3. **Area of Clearing**
   The Permit Holder must not clear more than 7 hectares of native vegetation and 1 native tree within the combined areas hatched yellow on attached Plan 5282/1a and 5282/1b.

4. **Application**
   This Permit allows the Permit Holder to authorise persons, including employees, contractors and agents of the Permit Holder, to clear native vegetation for the purposes of this Permit subject to compliance with the conditions of this Permit and approval from the Permit Holder.

5. **Type of clearing authorised**
   This Permit authorises the Permit Holder to clear native vegetation for the activities described in condition 1 of this Permit to the extent that the Permit Holder has the power to carry out works involving clearing for those activities under the *Local Government Act 1995* or any other written law.

6. **Compliance with Assessment Sequence and Management Procedures**
   Prior to clearing any native vegetation under conditions 1, 2 and 3 of this Permit, the Permit Holder must comply with the Assessment Sequence and the Management Procedures set out in Part II of this Permit.

PART II – ASSESSMENT SEQUENCE AND MANAGEMENT PROCEDURES

7. Avoid, minimise etc clearing

In determining the amount of native vegetation to be cleared authorised under this Permit, the Permit Holder must have regard to the following principles, set out in order of preference:

(a) avoid the clearing of native vegetation;
(b) minimise the amount of native vegetation to be cleared; and
(c) reduce the impact of clearing on any environmental value.

8. 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*:

(a) clean earth-moving machinery of soil and vegetation prior to entering and leaving the area to be cleared;
(b) ensure that no *weed*-affected soil, *mulch*, *fill* or other material is brought into the area to be cleared; and
(c) restrict the movement of machines and other vehicles to the limits of the areas to be cleared.

DEFINITIONS

The following meanings are given to terms used in this Permit:

fill means material used to increase the ground level, or fill a hollow;

mulch means the use of organic matter, wood chips or rocks to slow the movement of water across the soil surface and to reduce evaporation;

weed/s means any plant -

(a) that is declared under the section 37 of the *Agriculture and Related Resources Protection Act 1976*; or
(b) published in the Department of Environment and Conservation's Regional Weed Assessments, regardless of ranking; or
(c) not indigenous to the area concerned.

M Warnock
A/MANAGER
NATIVE VEGETATION CONSERVATION BRANCH

Officer delegated under Section 20
of the Environmental Protection Act 1986

20 December 2012

Plan 5282/1a

LEGEND

- Road Centrelines
- Clearing Instruments
- Areas Approved to Clear
- Darkan 50cm Orthomosaic - Landgate 2006

N

0 ~2 km

Scale 1:78253
(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.

M Warnock Date 20/12/12

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

Department of Environment and Conservation

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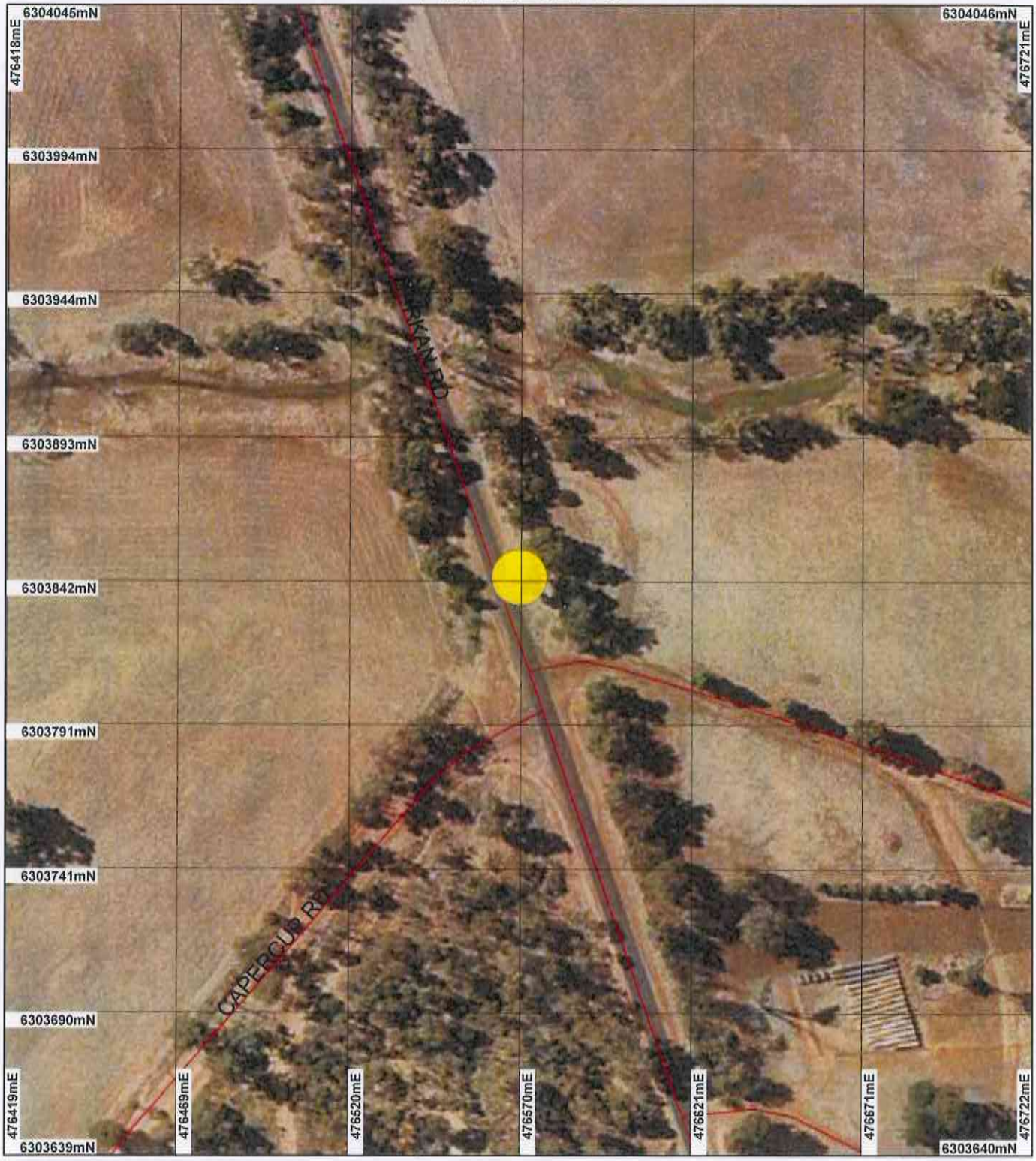
* Project Data is denoted by asterisk. This data has not been quality assured. Please contact map author for details.

Plan 5282/1b



LEGEND

- Road Centrelines
- Clearing Instruments
- Areas Approved to Clear
- Darkan 50cm Orthomosaic - Landgate 2006

N

0 50 m

Scale 1:1790
(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.

M Warnock Date 20.12.12

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

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Department of Environment and Conservation

Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 5282/1
Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: Shire of West Arthur

1.3. Property details

Property: RAILWAY RESERVE (DARKAN 6392)
ROAD RESERVE (DARDADINE 6392)
ROAD RESERVE (DARKAN 6392)
ROAD RESERVE (DARKAN 6392)
LOT 500 ON PLAN 55441 (DARKAN 6392)
Local Government Area: Shire of West Arthur
Colloquial name:

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
	1	Mechanical Removal	Road construction or maintenance
7		Mechanical Removal	Recreation

1.5. Decision on application

Decision on Permit Application: Grant
Decision Date: 20 December 2012

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
Mapped Beard vegetation association 4: Medium woodland; marri & wandoo (Shepherd et al, 2001).	The application is to clear up to seven hectares of native vegetation for the purpose of constructing the Darkan and Dardanine Rail Trail and one native tree to improve the sightline associated with a crossover. The proposed clearing consists of the removal of regrowth native vegetation over an approximate linear length of 18 kilometres at a maximum width of four metres. An additional tree is proposed to be cleared on Darkan Road. The application within the rail reserve has been previously impacted upon from the rail line that used to exist there. The clearing, as proposed, will be undertaken within the existing rail formation. The vegetation under application is considered to be in a completely degraded to degraded (Keighery, 1994) condition.	Completely Degraded: No longer intact; completely/almost completely without native species (Keighery 1994) To Degraded: Structure severely disturbed; regeneration to good condition requires intensive management (Keighery 1994)	The condition of the vegetation was obtained from aerial photography (Darkan 50cm Orthomosaic – Landgate 2006).

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 application is to clear seven hectares of regrowth native vegetation along a linear length of approximately 18 kilometres up to a maximum width of four metres for the construction of the Darkan and Dardadine Rail Trail and one native tree for improving a sight line on Darkan Road. The width of the rail reserve over the 18 kilometre length varies between 40 to 60 metres of which most of it contains native vegetation. The vegetation under application is considered to be in a completely degraded to degraded (Keighery, 1994) condition.

The removal of one tree on Darkan Road is unlikely to cause significant environmental impacts. The following assessment is for the clearing of seven hectares for the Rail Trail.

Several priority flora have been recorded within a 20 kilometre radius of the application area. Most notably are a priority 3 Stylidium sp. and priority 4 Xanthorrhoea sp. Both species have been mapped in the same soil and vegetation association as recorded in the application area.

The majority of the clearing is to be undertaken within existing rail formation over approximately 18 kilometres, considering this and that the vegetation under application is in a degraded to completely degraded (Keighery, 1994) condition, it is not likely the application area comprises significant habitat for priority flora.

The application area falls adjacent to a number of intact remnants of native vegetation. The disturbance caused by the proposed clearing will increase the risk of weeds being introduced into surrounding areas of vegetation. Weed management practices will assist in mitigating this risk.

The application is not likely to be at variance to this Principle.

Methodology

References
-Keighery (1994)
GIS Databases
- SAC Biodatasets November 2012

(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

Several fauna species of conservation significance have been recorded within the local area (20 kilometre radius). This includes five species that have been classified as rare or likely to become extinct under the Wildlife Conservation Act 1950. These are the Red-tailed black cockatoo (Calyptorhynchus banksii), Baudin's cockatoo (Calyptorhynchus baudinii), Numbat (Myrmecobius fasciatus), Red-tailed Phascogale (Phascogale calura) and Western Rosella (Platycercus icterotis subsp. Xanthogenys) (DEC, 2007-).

Given the linear nature of the proposed clearing, the vegetation is in a degraded to completely degraded (Keighery, 1994) condition and the clearing will mainly be within the existing rail formation with the vegetation consisting predominately of regrowth, it is unlikely to provide significant habitat for the above mentioned fauna. Additionally, the majority of the vegetation within the rail reserve will be retained enabling fauna movement between areas of remnant vegetation in the local area.

Considering the above, it is not likely the application will impact on significant habitat for fauna indigenous to Western Australia.

The application is not likely to be at variance to this Principle.

Methodology

References
- DEC (2007-)
- 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

Within a 20 kilometre radius of the area under application two species of rare flora have been recorded, Tribonanthes sp. and Jacksonia sp. Both species have been recorded within the same vegetation and soil type as the application area.

Tribonanthes sp. grows in moss swards and herbfields in seasonally wet, shallow loam in soil pockets on granite outcrops (Brown et al, 1998).

Jacksonia sp. is an open, upright, sometimes sprawling shrub, to 1.9 metres high which grows in brown gravelly loam, dry grey sand, ironstone (Western Australian Herbarium, 1998-).

The soil types within the applied area comprise of hard acidic yellow molted soils, sandy acidic molted yellow soils and may contain ironstone gravels (Northcote et al, 1960-1968). The soils within the applied area are not considered suitable for rare flora Tribonanthes sp. and Jacksonia sp. In addition to this, the area under application is subject to past disturbances associated to the previous rail track.

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

Methodology

References
- Brown et al, (1998)
- Northcote et al, (1960-1968)
- Western Australian Herbarium, 1998-)

GIS Database
- SAC Biodatasets Novemebr 2012

(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

No threatened ecological communities (TEC) have been recorded within a 20 kilometre radius of the applied area. The closest known TEC to the applied area is approximately 80 kilometres away.

Given the distance between the application area and the mapped TEC, the application is not likely to be at variance to this Principle.

Methodology

GIS Database
- SAC Biodatasets November 2012

(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 represented by Beard vegetation association 4 of which there is 28.6 percent of its pre-European vegetation remaining within the Jarrah Forest bioregion (Government of Western Australia, 2011). In addition to this, the area under application occurs within an extensively cleared landscape with approximately 25 percent of pre-European vegetation remaining within a 20 kilometre radius of the application area.

Beard vegetation association 4 retains less than the threshold level (30 percent) recommended in the National Objectives Targets for Biodiversity Conservation, below which species loss appears to accelerate exponentially at an ecosystem level (Commonwealth of Australia, 2001).

The vegetation under application has been severely impacted by previous rail activities and is in a degraded to completely degraded (Keighery, 1994) condition. Given this, the vegetation is not a high value representation of mapped Beard vegetation association 4, with vegetation in better condition located adjacent. Given this, the vegetation under application is not considered to be a significant remnant of native vegetation in an area that has been extensively cleared. The application is not likely to be at variance to this Principle.

The application area falls adjacent to a number of intact remnants of native vegetation. The disturbance caused by the proposed clearing will increase the risk of weeds being introduced into surrounding areas of vegetation. Weed management practices will assist in mitigating this risk.

	Pre-European (ha)	Current Extent (ha)	Remaining (%)	Extent in DEC Managed Lands (%)
IBRA Bioregion				
Jarrah Forest	4,506,656	2,473,559	54.89	68
Shire				
Shire of West Arthur	283,182	87,903	31.04	33
Beard Vegetation Association in Bioregion				
4	1,022,712	293,207	28.67	22

Government of Western Australia (2011)

Methodology

References
-Commonwealth of Australia (2001)
- Government of Western Australia (2011)

GIS Databases
-Pre-European Vegetation

-Interim Biogeographic Regionalisation of Australia

(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 may be at variance to this Principle

The application area intersects the Hilman River and Darkan Gully stream. Several tributaries and seasonal drainage lines also intersect with the clearing area.

Given that the application intersects with a number of watercourses, water dependant vegetation may be impacted upon from the clearing as proposed.

The application may be at variance to this Principle. Impacts will be minimised through a requirement for the proponent to avoid, minimise and reduce the amount and impacts of the clearing on known environmental values.

Methodology

GIS Databases
-Hydrography, linear

(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 consists of three different soil types. The soil types comprise of hard acidic yellow molted soils, sandy acidic molted yellow soils and may contain ironstone gravels (Northcote et al, 1960-1968).

Given the linear nature of the proposed clearing and the vegetation under application is in a completely degraded to degraded (Keighery, 1994) condition, it is not likely that the proposed clearing will cause appreciable land degradation.

The application is not likely to be at variance to this Principle.

Methodology

References
-Northcote et al (1960-68)
GIS Databases
-Soils, Statewide

(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 not at variance to this Principle

Two conservation areas have been recorded within a 20 kilometre radius of the application area, an unnamed nature reserve and the Hilman Nature Reserve located approximately 1.8 kilometres and two kilometres respectively.

The vegetation under application and vegetation within the identified nature reserves are not linked, considering this and the distance between the nature reserves and application area, the clearing as proposed is not likely to impact on the known conservation areas.

The application is not likely to be at variance to this Principle.

Methodology

GIS Databases
-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 application area intersects with the Hilman River and Darkan Gully stream. Several tributaries and seasonal drainage lines also intersect with the proposed clearing.

The clearing as proposed, may result in temporary localised sedimentation within the watercourses during the clearing process however, this is unlikely to cause long term deterioration to the quality of surface water in the local area.

The groundwater salinity within the application area is in excess of 35000 milligrams per litre of Total Dissolved Solids. This level of groundwater salinity is considered to be highly saline. Given that the application is to clear regrowth vegetation over a long linear area it is not likely that the proposed clearing will cause deterioration in the quality of underground water.

The application is not likely to be at variance to this Principle

Methodology GIS Databases
-Hydrography, linear
- Groundwater Salinity, Statewide

(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**
Given the linear nature of the application, the clearing as proposed is not likely to cause or exacerbate the incidence of flooding.

The application is not likely to be at variance to this Principle.

Methodology GIS Databases
-Hydrography, linear

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

Comments

The applicant has received a financial grant from lotterywest to establish the multi-use trail from Darkan to Dardadine.

The applicant has received authority form the Public Transport Authority to undertake the proposal within the railway reserve.

Methodology

4. References

Brown A., Thomson-Dans C. and Marchant N.(1998). Western Australia's Threatened Flora, Department of Conservation and Land Management, Western Australia.

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

DEC (2007 -) NatureMap: Mapping Western Australia's Biodiversity. Department of Environment and Conservation. URL: http://naturemap.dec.wa.gov.au/. Accessed November 2012

Government of Western Australia (2011); 2011 Statewide Vegetation Statistics incorporating the CAR Reserve Analysis (Full Report). WA Department of Environment and Conservation, Perth.

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. 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 November 2012).

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)