



1. Application details

1.1. Permit application details

Permit application No.: 1399/1
Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: City of Albany

1.3. Property details

Property: ROAD RESERVE (PORT ALBANY 6330)
ROAD RESERVE (EMU POINT 6330)
ROAD RESERVE (NAPIER 6330)
Local Government Area: City Of Albany
Colloquial name: Nanarup Rd

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:	
0.1	10	Mechanical Removal	Road construction or maintenance	
3		Mechanical Removal	Road construction or maintenance	
0.7		Mechanical Removal	Road construction or maintenance	
0.05		5	Mechanical Removal	Road construction or maintenance
0.8			Mechanical Removal	Road construction or maintenance
1.2			Mechanical Removal	Road construction or maintenance
0.5		Mechanical Removal	Road construction or maintenance	

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 3: Medium forest; jarrah-marri	The vegetation under application is located within road reserves on Kitson Rd, Mueller Rd, Millar Rd, Marine Dr and Drew St.	Excellent: Vegetation structure intact; disturbance affecting individual species, weeds non-aggressive (Keighery 1994)	The road reserves range from Completely Degraded to Excellent Condition: Kitson Road - Degraded Condition Mueller Road - Good Condition Millar Road - Good Condition Marine Drive - Excellent Condition Drew Street - Completely Degraded Condition Nanarup Road - Very Good Condition
Beard Vegetation Association 51: Sedgeland; reed swamps, occasionally with heath	The vegetation under application is located within the road reserves of Millar Road and Drew Street.	Excellent: Vegetation structure intact; disturbance affecting individual species, weeds non-aggressive (Keighery 1994)	The road reserve at Millar Road - is in Good Condition and Marine Drive is in Excellent Condition.
Beard Vegetation Association 980: Shrublands; jarrah mallee-heath	The vegetation under application is located within the road reserve of Venns Road.	Excellent: Vegetation structure intact; disturbance affecting individual species, weeds non-aggressive (Keighery 1994)	
Connell Vegetation Association: E. marginata/C. calophylla - Medium Forest D; Medium Euclayptus marginata and Corymbia calophylla forest at elevations between 90 and 300m. Soils are mostly	The vegetation under application is located within the road reserves of Marine Drive and Nanarup Road.	Excellent: Vegetation structure intact; disturbance affecting individual species, weeds non-aggressive (Keighery 1994)	The road reserve at Marine Drive is in Excellent Condition and Nanarup Road is in Very Good Condition.

yellow sands. Species include Banksia, Hakea, Allocasuarina, Isopogon and Leucopogon.

Connell Vegetation Association:
E. marginata/C. calophylla - Medium Forest F;

Medium Euclayptus marginata and Corymbia calophylla forest on low plains (<15m elevation). Soils are mostly yellow sands. Species include Banksia, Hakea, Isopogon, Synaphea and Stirlingia.

The vegetation under application is located within the road reserves of Kitson Road and Drew Street.

Degraded: Structure severely disturbed; regeneration to good condition requires intensive management (Keighery 1994)

The road reserve at Kitson Road is in Degraded Condition and Drew Street is in Completely Degraded Condition.

Connell Vegetation Association:
E. marginata/C. calophylla - Medium Forest K;

Medium Euclayptus marginata and Corymbia calophylla forest on tertiary low hills (30 to 90m). The complex occurs on a variety of soils with a diverse flora. Species include Euclayptus, Nuysia and Agonis.

The vegetation under application is located within the road reserves of Mueller Road, Millar Road and Nanarup Road.

Very Good: Vegetation structure altered; obvious signs of disturbance (Keighery 1994)

The road reserve at Mueller Road is in Good Condition, Millar Road is in Good Condition and Nanarup Road is in Very Good Condition.

Connell Vegetation Association:
E. marginata/C. calophylla - Medium Forest M;

Medium Euclayptus marginata and Corymbia calophylla forest on low tertiary plains (<15m elevation). Soils are leached sands. Species include Allocasuarina, Banksia, Euclayptus, Agonis and Calothamnus.

The vegetation under application is located within the road reserves of Mueller Road and Nanarup Road.

Very Good: Vegetation structure altered; obvious signs of disturbance (Keighery 1994)

The road reserve at Mueller Road is in Good Condition and Nanarup Road is in Very Good Condition.

Connell Vegetation Association:
E. marginata - Mallee Heath G;

Eucalyptus marginata mallee-heath occurring on acidic sands over clay in low plains (<15m elevation). A widely distributed complex with considerable variation. The understory component is diverse and includes Hakea cucullata, Beaufortia heterophylla, Dryandra plumosa, Actinodium cunninghamii and Lambertia inermis.

The vegetation under application is located within the road reserve of Venns Road.

Excellent: Vegetation structure intact; disturbance affecting individual species, weeds non-aggressive (Keighery 1994)

Connell Vegetation Association:
E. marginata - Mallee Heath H;

Euclayptus marginata mallee-heath on low tertiary yellow sandplains (<15m elevation). Species include E. tetragona, E. lehmannii, various thicket forming species of Dryandra, Hakea and Casuarina and Banksia.

The vegetation under application is located within the road reserve of Venns Road.

Excellent: Vegetation structure intact; disturbance affecting individual species, weeds non-aggressive (Keighery 1994)

Connell Vegetation Association:

The vegetation under application is located within the road reserve of Millar

Good: Structure significantly altered by multiple disturbance;

Sedgeland A; Sedgelands with isolated heath in swampy valleys. Soils are leached sands. Species include Leptocarpus, Banksia, Cosmelia and Casuarina.	Road.	retains basic structure/ability to regenerate (Keighery 1994)
Connell Vegetation Association; Sedgeland E; Sedgelands with isolated heath on poorly drained flats. Soils are leached sands. Species include Leptocarpus, Banksia and Cosmelia.	The vegetation under application is located within the road reserve of Drew Street.	Completely Degraded: No longer intact; completely/almost completely without native species (Keighery 1994)

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 may be at variance to this Principle**

The areas under application are all located within road reserves, except Mueller Road, which is located on private property.

Kitson Road - A DEC site inspection (16/08/2006) showed the area to contain no ground cover and no native understorey. A few mature Eucalypt trees are present. This road reserve contains a low level of species and ecosystem diversity, and therefore holds low biodiversity value.

Mueller Road - A DEC site inspection (16/08/2006) showed the area to contain little or no native ground cover (with exception for Bracken Fern), a dense layer of weed including *Gladiolus caryophyllaceus*, little native understorey, and a few mature Eucalypt trees. The vegetation is located in an urban area, and has suffered from large amounts of dumped rubbish. The high level of disturbance at this site, extensive weed invasion and low native species diversity and density suggests that the original biodiversity has been significantly compromised.

Millar Road - A DEC site inspection (16/08/2006) showed that the areas to be cleared within this road reserve have suffered from extensive weed invasion, such as *Gladiolus caryophyllaceus*. There is no native ground cover and only a little native understorey present. The proposed areas does not contain a high level of biodiversity when compared to the surrounding area.

Marine Drive - A site photograph showed that the area contains a high level of biodiversity, with a large variety of native flora species present, noticed in the groundcover and understorey vegetation. The purpose is to clear selected overstorey species within 8 metres from the road. The proposal does not include clearing the ground cover or lower shrub species, and there will be no impact on the surrounding native vegetation.

Drew Street - A DEC site inspection (16/08/2006) showed that the area to be cleared has very low biodiversity, and contains only a few mature Casuarina species. The area is urban, the road reserve is mainly lawn and driveways.

Nanarup Road - A DEC site inspection (29/08/2006) showed some areas to contain high levels of biodiversity. The vegetation varies from Degraded to Good Condition (Keighery 1994). The vegetation is contained within a narrow road reserve, which is surrounded by areas cleared and used for grazing and cropping. The proposal includes clearing of some ground cover and understorey species, and one area includes clearing of a row of mature *Melaleuca* trees.

Venns Road - The vegetation under application is considered to be an area of Excellent Condition (Keighery 1994; DEC Site Visit 29/08/2006). There is one Priority 4 Flora (*Drosera fimbriata*) occurring within the road reserve, with a probability that it occurs within the area under application. It is considered that all of the road reserve vegetation including the area under application (3ha) has a high diversity of indigenous plant species and may be representative of an area of high biodiversity.

Conditions will be placed on the permit requiring dieback and weed control to mitigate any potential impacts to biodiversity value to all areas under application.

Therefore the proposal may be at variance to this Principle.

Methodology DEC Site Visit (16/08/2006 & 29/08/2006).
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

These proposed areas are not likely to be at variance to this Principle:

Kitson Road - The proposed clearing consists of a few mature native trees along the road reserve. The site is in close proximity to the road in an urban area. The extensive weed invasion and limited diversity of native species suggests that the original biodiversity and habitat value has been significantly compromised. This vegetation is unlikely to provide habitat for indigenous fauna.

Mueller Road - The proposed clearing is located within an urban area, and has a high level of disturbance (rubbish and multiple cleared tracks), extensive weed invasion and limited diversity of native species. The area is unlikely to provide significant habitat.

Millar Road - The road reserve under application varies from high biodiversity to low biodiversity. The areas proposed to be cleared are of low biodiversity, with extensive weed species present, and little or no understory. When compared with the immediate area, the proposed clearing has very low fauna habitat significance.

Marine Drive - The vegetation under application consists of native ground cover and some understory species. A range of fauna species are located within the area, but are unlikely to exist within the area proposed to be cleared. More suitable habitat is found within the immediate area surrounding the proposed vegetation.

Drew Street - The vegetation under application consists of 10 trees, located within a road reserve consisting of lawn and driveways, in an urban area. The original biodiversity and habitat value no longer exists. Nanarup Road - The proposed clearing consists of small areas along the road reserve.

Venns Road - The vegetation under application exhibits diverse native vegetation species and community types. The road reserve covers a large area, and has some habitat value for bird species, mammal species and reptile species. Most of the proposed areas are within the maintenance zone, and will only be clearing ground cover, however some clearing will be within the road reserve, intermittently, 2 metres from the top of the back slope. As the proposed clearing is small, when in comparison to the surrounding vegetation, the proposal is unlikely to impact on potential habitat.

It is therefore not likely the areas proposed to be cleared will be necessary for the maintenance of significant habitat for fauna.

Methodology DEC Site Visits (16/08/2006 & 29/08/2006).

(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

Venns Road - One population of Priority 4 Flora (*Drosera fimbriata*), has been recorded (Flora Base Website) within the area proposed to be cleared. This population occurs in the same vegetation type and same soil type (white sand and gravel) as all the proposed clearings along the Venns Road road reserve. A secondary assessment is required to address whether the Priority 4 Flora identified is located within the proposed area, and whether it potentially occurs in other areas of the road reserve. A condition requesting a flora survey will be placed in the permit conditions to mitigate the potential impact of the works on the Priority 4 Flora.

There is no mapped Declared Rare Flora within 10km of all other proposed areas to be cleared.

Methodology DEC Site Visit (29/08/2006).
FloraBase - The Western Australian Flora - Website - 13/04/2006
GIS Database:
Declared Rare and Priority Flora List - CALM - 01/07/2005

(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 no records of Threatened Ecological Communities (TEC) in the vicinity of the proposed clearings, and no TEC's were identified during the site visit. The closest TEC is located 34km north of Nanarup Road.

Therefore, it is unlikely that the proposed clearing is at variance to this Principle.

Methodology DEC Site Visit (16/08/2006 & 29/08/2006).
GIS Databases:
Threatened Ecological Communities - CALM - 12/04/2005.
Threatened Plant Communities - DEP - 06/95.

(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 National Objective and Targets for Biodiversity Conservation 2001-2005 (AGPS 2001) recognises that the retention of 30% or more of the pre-clearing extent of each ecological community is the target.

	Pre-European	Current area (ha)	Remaining extent (ha)	Conservation	%
status**					
IBRA Bioregion - Esperance Plains	2,909,675	1,144,827	45.4*	Depleted	
IBRA Bioregion - Jarrah Forest	4,544,335	2,665,480	58.7*	Least Concern	
City of Albany	383,843	149,341	38.9*	Depleted	
Beard Veg Type 3	3,046,385	2,197,837	72.1*	Least concern	
Beard Veg Type 51	70,366	36,354	51.7*	Least Concern	
Beard Veg Type 980	121,431	80,012	65.9*	Least Concern	
Connell - Med. Forest D	1105.7	494.9	44.8***	Depleted	
Connell - Med. Forest F	5955	1801.4	30.3***	Depleted	
Connell - Med. Forest K	6539.7	2115.5	32.3***	Depleted	
Connell - Med. Forest M	20124.8	4145.8	20.6***	Vulnerable	
Connell - Mallee Heath G	28261.8	12618.3	44.6***	Depleted	
Connell - Mallee Heath H	66392.7	15781.5	23.8***	Vulnerable	
Connell - Sedgeland A	2987.3	1481.4	49.6***	Depleted	
Connell - Sedgeland E	625.4	362.7	58.0***	Least Concern	

* Shepherd et al. 2001

** Department of Natural Resources and Environment 2002

*** Connell & ATA Environmental (08/2001)

The benchmark of 15% representation in conservation reserves (JANIS, 1997) has not been met for Beard Association 3 (Hopkins et al., 2001) or for the Connell & ATA Environmental (2001) vegetation types present, with 10.1% in reserve for Beard Association 3 (Shepherd et al., 2001) and a range of 3.4% to 4.2% for Connell Vegetation Associations E. marginata Mallee-Heath G & H. This particular vegetation complex is located on Venns Rd. The proposal includes clearing of 3ha intermittently along the roadway. The amount to be cleared is of a small scale when in comparison to the remaining vegetation within the whole roadway, and within the region. Also, to mitigate any adverse environmental impacts, the proponent will comply with weed control and dieback prevention (of which dieback is already spreading along roadway).

Methodology Shepherd et al. (2001).
 GIS Databases:
 Connell & ATA Environmental (08/2001).
 Pre-European Vegetation - DA - 01/01.
 Inerim Biogeographic Regionalisation of Australia - EA - 18/10/2000.

(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**
 Only two roads in the application are associated with watercourses.

Venns Road - One minor watercourse is located within the area proposed to be cleared. A minor creek (drain), which is runoff from the Cordinup River (located 4 kms west) only flows during high rainfall. This has previously been diverted through a culvert.

Mueller Road - Two minor creeks cross the planned roadway and bridges and culverts will be installed to allow for continued flow. The impact to the waterways is expected to be marginal as there is no native riparian vegetation present.

Methodology DEC Site Visit (16/08/2006 & 29/08/2006).
 GIS Databases:
 Rivers 250k - GA.

(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

Kitson Road, Marine Drive, Drew Street & Nanarup Road -

The purpose of clearing is for road widening and realignment on roads that are already established. It is unlikely that the proposed clearings would cause any further appreciable land degradation than what already exists (within the maintenance zone, for example: drainage lines). Where the purpose for clearing is to widen existing roads, the proposal may cause some short term land degradation issues in terms of flooding and soil erosion during works. However these issues should be minimal as the existing roads already have roadside infrastructure in place to prevent land degradation associated with roads, ie; table drains and culverts. There is no known Salinity Risk, and no Acid Sulphate Soil Risk for these proposed areas.

Millar Road & Mueller Road -

There is no known Salinity Risk, and no Acid Sulphate Soil Risk for these proposed areas. The proposal is to build new roadways. The City of Albany complies with an Environmental Code of Conduct 'Guidelines for Works on Council Controlled Land'. This Code of Conduct includes the management of weeds and preventative land degradation measures. Because of this, the risk of land degradation is low.

Venns Road -

There is no known Salinity Risk or Acid Sulphate Soil Risk for the proposed area. The proposed clearing is located on sand dunes and sand flats. The road reserve is severely eroded to sand in one section already (eastern end, approx. 1km) and an area eroded from extensive rabbit holes. The area proposed to be cleared has the potential for wind erosion to occur following clearing, due to the white sandy soil and close proximity to coastline. This can be minimised with appropriate management strategies. The City of Albany complies with an Environmental Code of Conduct 'Guidelines for Works on Council Controlled Land'. This Code of Conduct includes the management of weeds and preventative land degradation measures. Providing the proponent complies with the Code of Conduct, the risk of land degradation is low.

The Commissioner for Soil and Land Conservation has advised they are unable to provide a comprehensive assessment of the land degradation risks associated with this clearing proposal, as potential impacts must be considered in relation to specific sites. However, they advise it is unlikely that the proposal would be at variance to Principle (g) for soil erosion. The Commissioner also noted that it would be of benefit for a management plan to be submitted with future applications, providing information on intended strategies to address any surface water run-off from clearing.

Methodology DAFWA (2006)
GIS Databases:
Acid Sulphate Soil Risk Map - SCP DOE - 04/11/2004.
Salinity Risk LM 25m - DOLA 00.

(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 likely to be at variance to this Principle

No conservation areas or reserves have been identified within a 20km radius of Marine Drive and Drew Street. Gledhow Nature Reserve is located 500m north-west of Kitson Road and 900m south-west of Mueller Road. Marbelup Nature Reserve lies 1.2km north and Lake Powell Nature Reserve lies 900m south of Millar Road. Bakers Junction Nature Reserve lies 2.7km north and Mount Mason Nature Reserve lies 3.6km south-east of Nanarup Road. Hassell National Park is located 2km north, Mettler Lake Nature Reserve is located 9km north-east and Basil Road Nature Reserve is located 6km east of Venns Road.

There are no direct vegetation corridors linking the proposed areas to any of the conservation areas or reserves. Due to the small scale of the proposed clearings, the conservation areas and reserves are unlikely to be affected.

Methodology GIS Database:
CALM Managed Lands & Waters - CALM - 01/07/2005.

(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

Venns Road, Nanarup Road, Drew Street, Marine Drive, Kitson Road and Mueller Road are not located in a Public Drinking Water Source Area (PDWSA), Ground Water or Surface Water Area. Ground Water Salinity is currently mapped at 500-1000mg/l.

Millar Road is located in a Public Drinking Water Source Area / Country Area Water Supply (Marbelup Water Reserve). Millar Road is also located on a RIWI Act Ground Water Area. The Department of Water (DoW) advises that the vegetation associated with Marbelup Water Reserve will be impacted by the clearing, and

advises that revegetation is conducted to ensure no net loss. This has been included as advice in the covering letter.

Methodology GIS Databases:
 Public Drinking Water Source Areas - DOE - 04/11/2004.
 RIWI Act Ground Water Areas - WRC - 13/06/2000.
 Dept. of Water Report (2006).
 RIWI Act Surface Water Areas - WRC - 18/10/2002.
 Hydrographic Catchments - Catchments - DOE - 23/03/2005.

(j) Native vegetation should not be cleared if clearing the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding.

Comments

Flooding impacts are unlikely to occur as a result of the proposed clearings due to the small amounts of vegetation removal, and the locations. As the proposals will occur within road reserves, the applicant (City of Albany) will already have guidelines in place for the relevant infrastructure needed to prevent a flooding incident from occurring.

Methodology GIS Databases:
 Topographic Contours, Statewide - DOLA - 12/09/2002.
 Rivers 250K - GA

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

Comments

The proposal is not at variance with any planning instruments and no further licences or approvals are required.

There is a Native Title Claim over the area under application. The Department of Environment and Conservation's advertising of the application in the West Australian newspaper constitutes legal notification of the native title representative body for the purpose of the future act procedures under the Native Title Act 1993. No response was received from the representative body.

Two of the proposed roads to be cleared are located within Aboriginal Sites of Significance. Marine Drive is located on King Point Site of Significance, and Nanarup Road is located on Oyster Harbour Site of Significance. The DEC recommends consulting with local indigenous groups about the impact of the proposed clearing on these registered sites. Aboriginal Sites of Significance will need to be managed in accordance with requirements under the Aboriginal Heritage Act (1972) and with the Department of Indigenous Affairs (this was also provided as advice in the cover letter to the proponent).

Methodology GIS Database:
 Aboriginal Sites of Significance - DIA(Status).

4. Assessor's recommendations

Purpose	Method	Applied area (ha)/ trees	Decision	Comment / recommendation
Road construction or maintenance	Mechanical			All roads in initial application digitised under this proposal.
Road construction or maintenance	Mechanical	0.1	10	Grant Kitson Road - Clearing to 1m beyond top of back slope, up to 10 trees to be cleared. The assessable criteria have been addressed and no objections were raised. The assessing officer therefore recommends that the permit should be granted.
Road construction or maintenance	Mechanical	3		Grant Vennis Road - Full length of road (15km) for gravel re-sheet, clearing intermittently to 2m from top of the backslope. The assessable criteria have been addressed and no objections were raised. The assessing officer therefore recommends that the permit should be granted.
Road construction or maintenance	Mechanical	0.7		Grant - Principle (c): A Priority 4 species has been recorded within the proposed area. A secondary assessment is required to address whether the Priority Flora is present and its extent within the length of the road reserve. It is recommended that a floral survey be conducted between September and November. Mueller Rd - Construction of new gravel road, 12m x 550m. The assessable criteria have been addressed and no objections were raised. The assessing officer therefore recommends that the permit should be granted.
Road construction or maintenance	Mechanical	0.05	5	Grant Drew Road - Extend seal south by 170m, clearing will extend 1m beyond the top of the backslope with possible clearing of 5-10 trees. The assessable criteria have been addressed and no objections were raised. The assessing officer therefore recommends that the permit should be granted.

Road construction or maintenance	Mechanical Removal	0.8	Grant	Marine Drive - Removal of overstorey species to allow maintenance of road verge, 8m from edge of road along 1km of road reserve. The assessable criteria have been addressed and no objections were raised. The assessing officer therefore recommends that the permit should be granted. The applicant should liaise with Dept. of Indigenous Affairs with regard to Aboriginal Sites of Significance.
Road construction or maintenance	Mechanical Removal	1.2	Grant	Nanarup Rd - Road construction extending 1.5m either side of existing road and 2.5m clearing on inside curve of road, between the King River and Kalgan River Bridges, 2.9km with 2m clearing on both sides of road. The assessable criteria have been addressed and no objections were raised. The assessing officer therefore recommends that the permit should be granted. The applicant should liaise with Dept. of Indigenous Affairs with regard to Aboriginal Sites of Significance.
Road construction or maintenance	Mechanical Removal	0.5	Grant	Millar Road - Road realignment and construction (gravel) to straighten the road within road reserve, 470m x 10m width. The assessable criteria have been addressed and no objections were raised. The assessing officer therefore recommends that the permit should be granted.

5. References

- AGPS (2001) The national objective and targets for biodiversity conservation 2001-2005. Commonwealth of Australia, Canberra.
- Connell and ATA Environmental (2001) Vegetation survey of the Albany Hinterland. Unpublished. City of Albany and Natural Heritage Trust.
- DAFWA (2006) Land degradation assessment report. Office of the Commissioner of Soil and Land Conservation, Department of Agriculture and Food Western Australia. DoE TRIM ref DOC2627.
- Department of Environment & Conservation (DEC) Site Visit - Kelly VonDuve & Mieke Bourne - 16/08/2006 & 29/08/2006).
- Department of Natural Resources and Environment (2002) Biodiversity Action Planning. Action planning for native biodiversity at multiple scales; catchment bioregional, landscape, local. Department of Natural Resources and Environment, Victoria.
- EPA (2000) Environmental protection of native vegetation in Western Australia. Clearing of native vegetation, with particular reference to the agricultural area. Position Statement No. 2. December 2000. Environmental Protection Authority.
- 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.
- JANIS Forests Criteria (1997) Nationally agreed criteria for the establishment of a comprehensive, Adequate and Representative reserve System for Forests in Australia. A report by the Joint ANZECC/MCFFA National Forest Policy Statement Implementation Sub-committee. Regional Forests Agreement process. Commonwealth of Australia, Canberra.
- 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., 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.

6. Glossary

Term	Meaning
CALM	Department of Conservation and Land Management
DAWA	Department of Agriculture
DEP	Department of Environmental Protection (now DoE)
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 DoE)

