Department of Environment and Conservation

Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 4154/1

Permit type: Area Permit

1.2. Proponent details

Proponent's name: Amando and Antonio Carbone Carbone Bros Pty Ltd

1.3. Property details

Property: LOT 679 ON PLAN 251576 (STRATHAM 6237)
LOT 677 ON PLAN 250876 (STRATHAM 6237)

Local Government Area:

Colloquial name:

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
17.1		Mechanical Removal	Extractive Industry

1.5. Decision on application

Decision on Permit Application: Refused

Decision Date: 31 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
Beard vegetation associations: 6 - Medium woodland; tuart & jarrah (Shepherd, 2009)	The proposal clearing of 17.1ha is for the purpose of extractive industry and is to occur in two areas, with one on Lot 677 and one on Lot 679. The vegetation under application consists of predominantly upland vegetation (16ha) consisting of Eucalyptus marginata woodland over Banksia attenuata, Agonis flexuosa, Xylomelum occidentale low closed forest over Kunzea ericifolia tall open scrub over Hibbertia hypericoides, Xanthorrhoea brunonis, Leucopogon nutans open low heath with Lomandra micrantha, Conostylis aculeata herbs and occurs in a predominately very good (Keighery, 1994) condition.	Very Good: Vegetation structure altered; obvious signs of disturbance (Keighery 1994)	The vegetation condition was determined through a site inspection undertaken on January 2011 (DEC, 2011).
Serpintine River Complex: Closed scrub of Melaleuca species and fringing woodland of Eucalyptus rudis (Flooded Gum) - Melaleuca rhaphiophylla (Swamp Paperbark) along streams.	The western extent of the large southern application area within Lot 677 extends into lower wetland transitional vegetation (~1.1ha) and consists of Agonis flexuosa, Melaleuca preissiana, and Banksia attenuata low closed forest with emergent Eucalyptus rudis over Hibbertia hypericoides, Phyllanthus calycinus open low heath with Patersonia occidentalis and Lepidosperma squamata herbs and sedges in excellent (Keighery, 1994) condition.	Excellent: Vegetation structure intact; disturbance affecting individual species, weeds non-aggressive (Keighery 1994)	As above

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

A letter was sent to applicant to inform them of the impacts of the proposed clearing on the 1 March 2011. Response was received on the 25 March 2011.

The vegetation under application consists of predominantly upland vegetation (16ha) consisting of Eucalyptus marginata woodland over Banksia attenuata, Agonis flexuosa, Xylomelum occidentale low closed forest over

Kunzea ericifolia tall open scrub over Hibbertia hypericoides, Xanthorrhoea brunonis, Leucopogon nutans open low heath with Lomandra micrantha, Conostylis aculeata herbs (DEC 2011) and occurs in a predominately very good (Keighery 1994) condition.

The western extent of the large southern application area within Lot 677 extends into lower wetland transitional vegetation (~1.1ha) and consists of Agonis flexuosa, Melaleuca preissiana, and Banksia attenuata low closed forest with emergent Eucalyptus rudis over Hibbertia hypericoides, Phyllanthus calycinus open low heath with Patersonia occidentalis and Lepidosperma squamata herbs and sedges (DEC 2011) in excellent (Keighery 1994) condition.

The vegetation types under application retain less than the recommended threshold level (30%), below which species loss appears to accelerate exponentially at an ecosystem level (Commonwealth of Australia 2001). It is considered that the vegetation under application is significant as part of a regional ecological linkage in an extensively cleared landscape.

A flora survey of the application area was undertaken in August and October 2010 and identified 150 flora species (Bennett Environmental Consulting 2010).

The application area is identified under the Greater Bunbury Regional Scheme as being part of a regionally significant Dalyellup/Gelorup/Crooked Brook ecological linkage (EPA, 2003). This same linkage is identified within the South West Regional Ecological Linkage technical report (Molley et al. 2009). The applicant proposed to retain a 100m wide east -west and 30-40 m wide north-south corridors within the adjacent bushland within Lot 677 and 679. Although this retains some linkage through the site, it does not reduce the fragmentation of the identified ecological linkage.

A fauna survey identified the potential for 21 fauna species of conservation significance to occur within the application area (Greg Harewood 2010). The proposed clearing will significantly fragment an ecological linkage and reduce its effectiveness in the dispersal of fauna in the local area. In addition, the proposed clearing will significantly fragment the connection of upland vegetation to the wetland vegetation of Cokelup Swamp and therefore reduce the movement of fauna from these two areas.

In addition, the application area contains significant feeding and breeding habitat for the Western Ringtail Possum (Pseudocheirus occidentalis) (listed as threatened under the Wildlife Conservation (Specially Protected Fauna) Notice 2008 and under the EPBC Act) and the Carnaby's Black Cockatoo (Calyptorhynchus latirostis) (listed as threatened under the Wildlife Conservation (Specially Protected Fauna) Notice 2008 and endangered under EPBC Act) (DEC 2011).

Given the above, it is considered for the application area to contain high biodiversity and is at variance to this Principle.

Methodology

References
-DEC (2011)
-Keighery (1994)
-Commonwealth of Australia (2001)
-Bennett Environmental Consulting (2010)
-Grey Harewood (2010)
GIS Databases
-SAC Bio datasets (1/8/01/2011)
-Pre-European Vegetation

(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 very good to excellent (Keighery, 1994) condition (DEC, 2011) and is identified under the Greater Bunbury Regional Scheme as being part of a regionally significant Dalyellup/Gelorup/Crooked Brook ecological linkage (EPA, 2003). This same linkage is identified within the South West Regional Ecological Linkage technical report (Molley et al. 2009).

The proposed clearing will significantly fragment this linkage and reduce its effectiveness in the dispersal of fauna in the local area. In addition, the proposed clearing will significantly fragment the connection of upland vegetation to the wetland vegetation of Cokelup Swamp and therefore reduce the movement of fauna from these two areas.

The applicant proposed to retain a 100m wide east -west and 30-40 m wide north-south corridors within the adjacent bushland within Lot 677 and 679. Although this retains some linkage through the site, it does not reduce the fragmentation of the identified ecological linkage.

A fauna survey identified the potential for 21 fauna species of conservation significance to occur within the application area (Greg Harewood 2010).

There are 4 priority and 7 threatened fauna records in the local area (10km radius). A previous EPA

assessment of adjacent land (Lot 2) identified this nearby vegetation as significant habitat for Western Ringtail Possums and is likely to support populations of Chuditch, Brush-tailed Phascogales, Western False Pipistrelles, Quendas, Carnaby's Black Cockatoos and Baudin's Black Cockatoos (EPA, 2005).

The presence of the Western Ringtail Possum and the Carnaby's Black Cockatoo was identified within the applied area. Possum scats were mainly found in the Agonis flexuosa upland vegetation and nuts of Corymbia calophylla were identified as being chewed by Carnaby's (DEC 2011). In addition, numerous large trees with hollow were observed throughout the proposed clearing area that would provide significant nesting habitat for all three black cockatoo species found within the local area, including Carnaby's black cockatoo, Baudin's Black Cockatoo (Calyptorhynchus baudinii) and the Forest Red-tailed Black Cockatoo (Calyptorhynchus banksii naso) (DEC 2011). These hollows would also provide habitat for Western Ringtail Possum and the Brush-tailed Phascogale (Phascogale tapoatafa ssp) (DEC 2011) as well as the Western False Pipstrelle (Falsistrellus mackenziei) (Greg Harewood 2010).

Numerous logs with hollows were seen within the application area which could provide habitat for species such as the Southern Carpet Python (Morelia spilota imbricata) and the Chuditch (Dasyurus geoffroii). In addition given the close proximity to a wetland area, it is considered likely for the proposed clearing in Lot 622 to provide habitat for the Southern Brown Bandicoot (Isoodon obesulus fusciventer).

The vegetation under application is significant as transitional habitat along a known ecological linkage for native fauna within an extensively clearing landscape (approximately 26.1% native vegetation remaining in 10km radius) and contains habitat for fauna of conservation significance.

Given the above and the large size of the proposed clearing (17.1ha) the proposal is at variance to this principle.

Methodology

References
- DEC (2011)
-Keighery (1994)
-EPA (2003)
-Molley et al (2009)
-EPA (2005)
-Grey Harewood (2010)
GIS Databases
-SAC Bio datasets (1/8/01/2011)
-Pre-European Vegetation

(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 is two rare flora recorded within a 5km radius of the application area, Caladenia huegelii and Drakaea elastica and the proposed clearing occurs ~10m west and 8.6km east, respectively. The proposed clearing occurs within the 50 buffer of a known record of Caladenia huegelii and will threaten this population through edge effects such as weed invasion.

A flora survey of the proposed clearing area was undertaken in August and October and did not identify any rare flora occurring within the application area (Bennett Environmental Consulting 2010). However, the flora survey does not address the high likelihood of rare flora species occurring within the application area nor identifies how it was established that rare flora found within the local area (10km radius) does not occur within the site.

C. huegelii is known to occur on grey to brown sand and clay loam (WA Herbarium, 1998). The area under application is mapped as having chiefly brown sands (Northcote et al. 1968). This species is know to occur on the edges of swamps, lakes, rivers and moist depressions and is associated with Kunzea glabrescens (WA Herbarium, 1998, Brown et al 1998). Given that the application area is in very good (Keighery, 1994) condition and that there is Kunzea glabrescens present, C. huegelii may occur within the application area.

Drakaea elastica also occurs on white or grey sand in Banksia woodlands adjoining winter-wet swamps (Brown et al 1998) and therefore may also occur within the application area.

In addition, a survey of comparable wetland vegetation on the same wetland system 1.5km south of the application area was conducted in November 2009 and identified a large population of Diuris drummondii occurring (Webb 2009). It is considered likely for this rare flora species to also occur within the wetland vegetation occurring within Lot 677.

An appropriately timed targeted flora survey is the only way to determine if these rare flora species occur within the application area. Given this and that the proposed clearing occurs within the 50m buffer of a known rare flora population, the clearing may be at variance to this principle.

Methodology

References
-Bennett Environmental Consulting (2010)

-WA Herbarium (1998)
-Webb (2009)
-Brown et al (1998)
-Keighery (1994)
-Webb (2009)
-Northcote et al (1968)
GIS Databases
-SAC Bio Datasets (18/01/2011)
-Soils, statewide

(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

The closest threatened ecological communities (TEC) to the application area are SCP 3c Eucalyptus calophylla - Xanthorrhoea preissii woodlands and shrublands and SCP18 Shrublands on calcareous silts.

The closest occurrence of any TEC is approximately 1.2km north west of the applied area. The vegetation under application does not occur within the buffer of this TEC.

A site inspection and the flora survey undertaken by Bennett Environmental Consulting (2010) did not identify any known TEC within the application area.

Given the above the clearing as proposed is not likely to be at variance to this principle.

Methodology

References
-Bennett Environmental Consulting (2010)
GIS Databases
-SAC Bio datasets (18/01/2011)

(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 at variance to this Principle

The vegetation under application is in very good (Keighery, 1994) condition (DEC, 2011) and is identified under the Greater Bunbury Regional Scheme as being part of a regionally significant Dalyellup/Gelorup/Crooked Brook ecological linkage (EPA, 2003). This same linkage is identified within the South West Regional Ecological Linkage technical report (Molley et al. 2009). The local area has been extensively cleared with approximately 26% native vegetation retention within the local area (10km radius).

The vegetation types under application retain less than the recommended threshold level (30%), below which species loss appears to accelerate exponentially at an ecosystem level (Commonwealth of Australia 2001). Given the above the vegetation under application is a critical asset (EPA, 2006) and is significant as part of a regional ecological linkage in an extensively cleared landscape.

The continual removal of vegetation in close proximity to the application area is resulting in the incremental degradation of a regionally significant ecological linkage.

In addition, the application area is considered significant habitat for Western Ringtail Possums and Carnaby's Black Cockatoo as well as containing high biodiversity.

Given the above the proposal is at variance to this principle.

	Pre-European (ha)	Current extent (ha)	Remaining (%)
IBRA Bioregions*			
Swan Coastal Plain	1501209.1	587889.0	39.16
Shire*			
Capel	55945.1	19275.9	34.46
Beard Vegetation Association with Bioregion*			
6	56,343	14,579	25.88
Heddle Vegetation Complex**:			
Karrakatta Complex Central and South	49,912	14,729	29.5

Serpentine River(~1.1ha)	19855	2103	10.6

* (Shepherd 2009)
** (Heddle et al. 1980)

Methodology

References
-DEC (2011)
-EPA (2003)
-Molley et al (2009)
-Commonweath of Australia (2001)
-EPA (2006)
-Heddle et al. (1980)
-Shepherd (2009)
GIS Databases
-Pre-European Vegetation
-Heddle Vegetation Complexes
-Interim Biogeographic Regionalisation of Australia
-NLWRA, Current Extent of Native Vegetation

(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 closest wetland is located directly adjacent and within (0.05ha) the application area occurring within Lot 677 and is classed as a conservation category wetland and an Environmental Protection Policy (EPP) lake. EPP lakes are protected from excavation and mining activities, filling, discharge of effluent and modification to drainage systems unless authorized under the *Environmental Protection Act 1986*. The application area within Lot 679 occurs ~ 135m east of this wetland. Conservation category wetlands support a high level of ecological attributes and functions and are the highest priority for protection (Waters and Rivers Commission 2001).

A site inspection of the application area identified ~ 1.1ha of transitional wetland vegetation consisting of Agonis flexuosa, Melaleuca preissiana, and Banksia attenuata low closed forest with emergent Eucalyptus rudis over Hibbertia hypericoides, Phyllanthus calycinus open low heath with Patersonia occidentalis and Lepidosperma squamata herbs and sedges in excellent condition (DEC 2011).

In addition, the proposed clearing occurs within the buffer of this Conservation Category Wetland. The proposed clearing will directly impact vegetation growing in association with a wetland by clearing resulting in alteration of the hydrological regime and removing habitat for flora and fauna. Clearing may also increase flooding of the local area.

In addition, the proposed clearing of wetland buffer will also impact the values of the wetland. A buffer protects wetlands from potential diverse impacts and maintains ecological process and functions (Waters and Rivers Commission 2001).

Given the above the vegetation under application is growing in, or in association with, a wetland or watercourse and therefore is at variance to this principle.

Methodology

References
-DEC (2011)
-Waters and Rivers Commission (2001)
GIS Databases
-Hydrography, linear
-Geomorphic Wetlands (Mgt categories), Swan Coastal Plain
-EPP, Lakes

(g) Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation.

Comments

Proposal is at variance to this Principle

The chief soils of the application area are brown sands with areas of leached sands (Northcote et al 1968). A wetland is located directly adjacent and within (0.05ha) the application area occurring within Lot 677 and is classes as a Conservation Category and an EPP lake. The application area within Lot 679 occurs ~ 135m east of this wetland.

Given the size of the area under application (17.1ha) and the proximity to a wetland, the proposed clearing may increase waterlogging of the neighbouring wetland area.

In addition, given the sandy soils present on site and the relatively large area proposed to be cleared (17.1ha), it is considered for the proposed clearing to cause appreciable land degradation in the form of soil erosion through wind erosion. This impact may be managed through staged clearing and revegetation of the cleared area.

Therefore the proposed clearing is at variance to this Principle.

Methodology References
-DEC (2011)
-Northcote et al (1968)
GIS Databases
-Soils, statewide
-Geomorphic Wetlands (Mgt categories), Swan Coastal Plain
-EPP, Lakes

(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 vegetation under application is in very good (Keighery, 1994) condition (DEC, 2011) and is identified under the Greater Bunbury Regional Scheme as being part of a regionally significant Dalyellup/Gelorup/Crooked Brook ecological linkage (EPA, 2003).

The removal of the vegetation within this linkage will incrementally degrade nearby (10km radius) areas of conservation significance including a nearby Land for Wildlife site and the Tuart Forest National Park through limiting dispersal in the local area (10km radius).

Clearing of the vegetation under application will likely fragment the Dalyellup/Gelorup/Crooked Brook ecological linkage in the immediate area which would ultimately lead to deterioration in the quality of the overall vegetation linkage.

In addition, Phytophthora cinnamomi (dieback) may occur within the application area (DEC 2011). The proposed clearing may increase the introduction of weeds and also increase the spread of dieback within the application area which can reduce the environmental values of this ecological linkage.

Given the conservation significance of the vegetation under application, and the potential for clearing to impact on nearby DEC managed lands and other conservation areas, the clearing as proposed is at variance to this principle.

Methodology References
-DEC (2011)
-EPA (2003)
-Keighery (1994)
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 may be at variance to this Principle**
A wetland is located directly adjacent and within (0.05ha) the application area occurring within Lot 677 and is classes as a Conservation Category and an EPP lake. The application area within Lot 679 occurs ~ 135m east of this wetland.

The proposed clearing may cause short term sedimentation of the surface water of the adjacent wetland through runoff. In addition, clearing the buffer to a wetland may also increase the nutrient runoff entering the wetland and cause high nutrient levels of the surface water. Therefore, the proposed clearing may be at variance to this principle.

Methodology GIS Databases
-Hydrography, linear
-Geomorphic Wetlands (Mgt categories), Swan Coastal Plain
-EPP, Lakes

(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 at variance to this Principle**
A wetland is located directly adjacent and within (0.05ha) the application area occurring within Lot 677 and is classes as a Conservation Category and an EPP lake. The application area within Lot 679 occurs ~ 135m east of this wetland.

Given the size of the area under application (17.1ha) and the proximity to a wetland, the proposed clearing may increase the incidence or exacerbate the intensity of flooding of the neighbouring wetland area. Therefore the proposed clearing is at variance to this Principle.

Methodology GIS Databases
-Hydrography, linear
-Geomorphic Wetlands (Mgt categories), Swan Coastal Plain
-EPP, Lakes

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

Comments

A letter was sent to applicant to inform them of the impacts of the proposed clearing on the 1 March 2011. Response was received on the 25 March 2011. The applicants stated that:

- the land under application is freehold and is designated for potential future residential development and is a basic raw material area. The application area occurs within the Strategic Minerals and Basic Raw Materials Resource area under the Greater Bunbury Region Scheme: Strategic Minerals and Basic Raw materials resource Policy (2005). This policy identifies land within the Greater Bunbury regional Scheme area which contains mineral resources of state or regional significance. This Policy is against development which results in the prevention of mineral extraction within this area and does not make any provisions for environmental considerations.
- the conservation values of the area are recognised by the retention of conservation areas totalling 26.22ha and that the wetland and 50 m buffer are not included within the application area. Please refer to Principles (b) and (f).
- that no declared rare flora have been identified during the last visit by DEC officers . Please refer to Principle (c) and;
- that as there is some uncertainty regarding if the area is to be designated for residential development and, the applicants wish to change the post extraction land use to rural and will undertake a restoration plan after extraction.

The proposal clearing of 17.1ha is for the purpose of extractive industry and is to occur in two areas, with one on Lot 677 and one on Lot 679.

A previous application over property was withdrawn after letter sent to applicants by DEC outlining environmental issues (CPS 3146/1.

Originally, the concept development plan for Lot 679 and 677 involved two stages with the first stage involving extraction of sand from the central section of the site with the second stage involving subdivision of the two lots into 19 new properties. In order to achieve this, the land would need to be rezoned. However, this has now changed to stage two involving returning the land to rural and undertaking a restoration plan for the extracted areas.

Lot 679 is currently used for the purpose of sand extraction and two clearing permit were granted for 1.2ha each in November 2007 (1782/1) and February 2010 (3517/1). Lot 677 is currently being used for livestock grazing. The applicant proposed to retain a 100m wide east -west and 30-40 m wide north-south corridors within the adjacent bushland within Lot 677 and 679.

The Shire of Capel state that an extractive industry licence and planning application for the proposal has been received however neither of them has been assessed. They also stated that the extractive industry licence will require planning consent under the Greater Bunbury Region Scheme however no application for this has been received. It is noted by the Shire that the applicant intends to mine up to property boundaries which does not comply with the local law requirement of a 20m setback (Shire of Capel 2011).

The Capel LCDC opposes the proposed clearing based on biodiversity issues stated in the corresponding clearing principles (Capel LCDC 2011)

The area is zoned rural under the Shire of Capel Town planning Scheme.

Methodology References
-Greg Harewood (2010)
-Capel LCDC (2011)
-Shire of Capel (2011)
GIS Databases
-Town Planning Scheme Zones

4. References

Bennett Environmental Consulting Pty Ltd (2010) Flora and Vegetation of Lots 677 and 679 Calinup Road, Gelorup Hill. Prepared for Carbone Bros Pty Ltd. Kalamunda Western Australia. DEC ref A359615

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

DEC (2011) Site Inspection Report and Regional Advice for Clearing Permit Application CPS 4154/1, Lot 677 and 679 Calinup Rd Gelorup. Site inspection undertaken February 2011. Department of Environment and Conservation, Western Australia (DEC ref A368180)

EPA (2003) Greater Bunbury Region Scheme. Bulletin 1108. Environmental Protection Authority, Western Australia.

EPA (2005). Southern Extension of Sandpit, Lot 2 Calinup Road, Gelorup, Shire of Capel - report and recommendations of the Environmental Protection Authority, Perth. TRIM Ref: DOC18730

EPA (2006) Guidance for the Assessment of Environmental Factors - Level of Assessment for Proposals Affecting Natural Areas Within the System 6 Region and Swan Coastal Plain Portion of the System 1 Region. Guidance Statement No 10. Environmental Protection Authority, Western Australia.

Greg Harewood (2010) Fauna Assessment (Level 1) Lot 677 and 679 Calinup Road, Stratham. On behalf of Carbone Bros Pty Ltd. Bunbury Western Australia. DEC ref A359615

Heddle, 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.

Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.

Molloy S, Wood J, Hall S, Wallrodt S and Whisson G (2009) South West Regional Ecological Linkages Technical Report. A report for the Western Australian Local Government Authority and Department of Environment and Conservation, Perth 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. (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.

Webb A (2009) The Vegetation of Lot 1052 Bussell Highway. An unpublished report for the Department of Environment and Conservation SW Region, Bunbury, 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)