Department of Environment and Conservation

Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 3114/1

Permit type: Area Permit

1.2. Proponent details

Proponent's name: **Ian Campbell Broad**

1.3. Property details

Property: LOT 4121 ON PLAN 232604 (House No. 502 NANGETTY-WALKAWAY WONGOONDY 6630)
LOT 4121 ON PLAN 232604 (House No. 502 NANGETTY-WALKAWAY WONGOONDY 6630)

Local Government Area: Shire Of Mullewa

Colloquial name:

1.4. Application

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

2. Site Information

2.1. Existing environment and information

2.1.1. Description of the native vegetation under application

Vegetation Description	Clearing Description	Vegetation Condition	Comment
Beard vegetation association 380: Shrublands; scrub-heath on sandplain (Shepherd et al. 2007).	The vegetation under application is for 500 hectares for the purpose of cropping. Vegetation on site consists of but is not limited to predominately Allocasuarina campestris, Gyrostemon ramulosus and A. blakelyi. Additionally, Grevillea candelabroides, G. eriostachya, Banksia attenuata, B. ashbyii, Actinostrobus arenarius, Xylomelum angustifolium, Ecdeiocolea monostachya and Calothamnus sp. Wetland vegetation on site includes species such as samphire species, Melaleuca uncinata, Acacia saligna and Cyperus gymnocaulos (DAFWA 2005). Between 25/01/1980 and 14/11/1984 Landsat MSS images indicate a dramatic decline in vegetation cover, possibly as a result of clearing. Landsat TM images between 1988 and 1994 show an increase in vegetation cover over the property. Between 1994 and 2004, vegetation coverage remained stable until a dramatic decrease in	Excellent: Vegetation structure intact; disturbance affecting individual species, weeds non-aggressive (Keighery 1994)	The vegetation association and condition were verified during a DEC/ DAFWA site inspection on 7 December 2005 (DAFWA 2005, DoE 2005, DEC 2009). For the purpose of this assessment the vegetation is considered to be in pre clearing condition as a Vegetation Conservation Notice (VCN) that has been given requires the vegetation to be restored to this extent.

2005 (consistent for a fire scar).

Feral pigs were evident within the property (DAFWA 2005).

Banksia species were observed to be more prevalent on the nutrient poor soils (DoE 2005).

The vegetation as observed during a site visit in 2005 (DoE) was in excellent (Keighery 1994) condition with little weed invasion. A recent site visit (DEC 2009b) observed the area under application as being in degraded (Keighery 1994) condition due to the cropping of the site. Vegetation comparative to the pre cleared condition was observed on site on the west and north of the area under application (DEC 2009b).

3. Assessment of application against clearing principles

(a) Native vegetation should not be cleared if it comprises a high level of biological diversity.

Comments

Proposal is at variance to this Principle

The applicant has applied to clear 500 hectares for the purpose of horticulture.

An application for the same area (CPS 941/1) was received in October 2005 and subsequently amended to the reduced amount of 280 hectares. The assessment of this application determined that the native vegetation at this site contained significant environmental values. This application was refused in November 2006.

The area currently under application has been cleared and cropped and the subject of an investigation. A vegetation conservation notice was given requiring that certain measures be undertaken to re-establish and maintain the area to the condition of the native vegetation prior to the clearing occurring. A site visit was undertaken in June 2009 to view the state of the regeneration of the native vegetation (DEC 2009b).

As determined in the site inspection carried out by DoE on 7 December 2005 the native vegetation that is under application to be cleared had significant environmental values. Provided the measures contained in Vegetation Conservation Notice CPS 2495/3 are complied with, these environmental values are likely to be restored.

This assessment will consider the environmental values of the vegetation under application as pre-clearing based on information collected during the site visit undertaken by DoE (2005) and DAFWA (2005). The condition of the vegetation was considered to be 'excellent' (Keighery 1994) during this site visit (DoE 2005). A recent site visit (DEC 2009b) observed the area under application as being in degraded (Keighery 1994) condition due to the cropping of the site. Vegetation comparative to the pre cleared condition was observed on site on the west and north of the area under application (DEC 2009b).

Information provided by the applicant (Application 2009) noted that remnant vegetation mapping and condition assessment of the northern agricultural region (Richardson 2005) did not include the application area in the study. The study included site selection criteria and it is possible the application area did not meet these criteria (Richardson et al. 2005).

At a species level, the Northern Agricultural Region (NAR), which the application area is a part, is extremely biodiverse containing 40% of Western Australia's flora (Richardson et al. 2005). Therefore, the pre clearing application area is likely to comprise a high level of biodiversity.

The local area (10km radius) is highly cleared with less than 10% of native vegetation remaining. The vegetation under application is the largest remnant in ~ 15 km and is in mostly excellent (Keighery 1994) condition (DEC 2005). The vegetation therefore holds high level and significant biodiversity values and is at variance to this principle.

Methodology Application (2009)

DAFWA (2005)
DEC (2009b)
DoE (2005)
Keighery (1994)
Richardson et al. (2005)

GIS database:
- CALM Managed Lands and Waters - CALM 01/06/05
- SAC Biodatasets - accessed 8 June 09
- NLWRA, Current Extent of Native Vegetation 20 Jan 2001
- Indarra 1.4m Orthomosaic - Landgate 2002
- Mingenew 1.4m Orthomosaic - Landgate 2001
- Mullewa 50cm Orthomosaic - Landgate 2005
- Yandanooka 50cm Orthomosaic - Landgate 2005

(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 area currently under application has been cleared and cropped and the subject of an investigation. A vegetation conservation notice was given requiring that certain measures be undertaken to re-establish and maintain the area to the condition of the native vegetation prior to the clearing occurring.

As determined in the site inspection carried out by DoE on 7 December 2005 the native vegetation that is under application to be cleared had significant environmental values. Provided the measures contained in Vegetation Conservation Notice CPS 2495/3 are complied with, these environmental values are likely to be restored.

Within the local area (20km radius) there are two historical records of fauna of conservation significance being the Major Mitchell Cockatoo (Cacatua leadbeateri) (Other Specially Protected Fauna in the Wildlife Conservation Notice 2005 of the Wildlife Conservation Act 1950) and Cyclodomorphus branchialis (threatened under the Wildlife Conservation Act 1950 and vulnerable under the Environment Protection and Biodiversity Conservation Act 1999). Cyclodomorphus branchialis has a high possibility of being present within the area under application (DEC 2009a). The Major Mitchell Cockatoo species is known to be sporadically distributed across arid and semi-arid Australia, and may occur in sparsely timbered grasslands and shrublands and rocky outcrops (DEC 2006) and may occasionally utilise the area under application (DEC 2009a).

In addition the area under application falls within the Geraldton Hills IBRA subregion, which includes the reptile species Lerista yuna, Cyclodomorphus branchialis and Aprasia sp. Nov. fusca which are endemic to this subregion, and may be considered significant fauna (DEC 2006). Lerista yuna is unlikely to be present on site, however, Aprasia sp. Nov. fusca has a relatively high likelihood of occurring on site (DEC 2009a).

The local area (10 km radius) is highly clearing with ~7.11% of vegetation remaining. Additionally, the vegetation under application is the largest remnant of vegetation that occurs within a 15km radius (DEC 2006) indicating that the surrounding landscape is predominantly cleared. Large intact remnants are less likely to be effected by disturbance caused by 'edge effects', such as weed and feral animal invasion. Additionally, the remnant is likely to be acting as a 'stepping stone' between conservation areas for avifauna. Given the large size of the application area in a highly cleared landscape the vegetation is significant as habitat for fauna.

The area under application itself is likely to provide habitat for local fauna given its size, excellent (Keighery 1994) condition (DoE 2005) and as its occurrence in an otherwise predominantly cleared landscape (less than 10% remaining in a 10km radius). In considering all of these factors, the proposal is at variance to this Principle.

Methodology

DEC (2009a)
DEC (2006)
DoE (2005)
Keighery (1994)

GIS database:
- SAC Biodatasets - accessed 8 June 09
- NLWRA, Current Extent of Native Vegetation 20 Jan 2001
- Interim Biogeographic Regionalisation of Australia - EA 18/10/00
- Indarra 1.4m Orthomosaic - Landgate 2002
- Mingenew 1.4m Orthomosaic - Landgate 2001
- Mullewa 50cm Orthomosaic - Landgate 2005
- Yandanooka 50cm Orthomosaic - Landgate 2005

(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

The area currently under application has been cleared and cropped and the subject of an investigation. A vegetation conservation notice was given requiring that certain measures be undertaken to re-establish and maintain the area to the condition of the native vegetation prior to the clearing occurring. As determined in the site inspection carried out by DoE on 7 December 2005 the native vegetation that is under application to be cleared had significant environmental values. Provided the measures contained in Vegetation Conservation Notice CPS 2495/3 are complied with, these environmental values are likely to be restored.

Within a 20 km radius of the clearing 3 DRF taxa are recorded (Kalbarri Spider-orchid Caladenia wanosa (VU), Irwin Conostylis Conostylis dielsii subsp. teres (EN) and Nangetty Grass Glyceria drummondii (EN)). Caladenia wanosa and Conostylis dielsii subsp. teres are known from habitat that was found within the cleared area (namely Allocasuarina campestris, Grevillea candelabroides, and Acacia acuminata scrub) and Glyceria drummondii has been recorded less than 7 km away from within localized clay (seasonally damp) areas (and has been recorded at Nangetty Valley (old Nangetty Station), Ian Broad's property, 27.7 km directly N of Mingenew). DAFWA advice (2005) stated that the site had mainly internal drainage resulting in small damp lands and seasonally inundated wetlands within the remnant.

Information provided by the applicant (Application 2009) stated that only Glyceria drummondii (DRF) may be present on site as it is known to occur in vegetation association 380. No flora survey was undertaken to confirm whether this species occurs on site.

The Geraldton Hills IBRA subregion has been reported as being 'rich and diverse in flora with many sandplain genera having a high degree of endemism, such as the Scholtzia spp. which have over 16 taxa endemic to the subregion' (CALM 2003).

Therefore as rare and priority flora may occur on site the proposed clearing may be at variance to this principle.

Methodology

Application (2009)
CALM (2003)
DEC (2009a)
DoE (2005)

GIS database:
- SAC Biodatasets - accessed 8 June 09
- Interim Biogeographic Regionalisation of Australia - EA 18/10/00
- Soils, Statewide DA 11/99

(d) Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of a threatened ecological community.

Comments

Proposal is not likely to be at variance to this Principle

There are no known occurrences of Threatened Ecological Communities within the area under application or in the local area therefore this proposal is not likely to be at variance to this Principle.

Methodology

GIS database:
- SAC Biodatasets - accessed 8 June 09

(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 area currently under application has been cleared and cropped and the subject of an investigation. A vegetation conservation notice was given requiring that certain measures be undertaken to re-establish and maintain the area to the condition of the native vegetation prior to the clearing occurring. As determined in the site inspection carried out by DoE on 7 December 2005 the native vegetation that is under application to be cleared had significant environmental values. Provided the measures contained in Vegetation Conservation Notice CPS 2495/3 are complied with, these environmental values are likely to be restored.

The vegetation under application has the following extent of native vegetation remaining in the Bioregion, Shire and vegetation association.

	Pre-European (ha)	Current extent (ha)	Remaining (%)	In reserves DEC Managed Land (%)
IBRA Bioregions*				
Geraldton Sandplains^	3 136 024	1 341 266	43	42

Shire* Mullewa	811 106	367 782	45	10
Shire of Mullewa*^	500 811	57 419	11.5	
Beard Vegetation Association* 380	580 374	338 176	58	42
Beard Vegetation Association with Bioregion* 380	507 696	306 919	60	41
Local Area (10 km radius)	31 415	~ 2 235	7.11	-

* (Shepherd et al. 2007a)
^ Area within Intensive Land Use Zone

Although the Beard Vegetation associations mapped within the vegetation under application are above the 30% recommended to be retained in order to prevent rapid biodiversity decline, the area under application is located within the Intensive Land-use Zone (Shepherd et al. 2001) and is located in the area defined in EPA Position Statement No. 2 (EPA, 2000). There is only 11.5% of vegetation remaining in the Shire of Mullewa within the ILZ (Shepherd et al. 2007b). Additionally, the vegetation under application is the largest remnant of vegetation that occurs within a 15km radius (DEC 2006) indicating that the surrounding landscape is predominantly cleared. Significant clearing of native vegetation has already occurred in this area and any further reduction through clearing for agriculture is not supported (EPA 2000). The proposed clearing of large remnants of vegetation in such a highly cleared landscape will significantly impact on biodiversity and fauna and flora dispersal and habitat as it is one of the last remaining refuges in the area.

There is a change in the above data from the assessment undertaken for CPS 941/1, however, this is due to improvements in the mapping used to assess the status (DAFWA 2009).

Due to the size of the area, its location and excellent (Keighery 1994) condition, it is considered to represent a significant remnant in an area that has been extensively cleared. Therefore the proposal is at variance to this Principle.

Methodology

DAFWA (2009)
DEC (2006)
DoE (2005)
EPA (2000)
Keighery (1994)
Shepherd (2007)a
Shepherd (2007)b
Shepherd et al (2001)

GIS database:
- SAC Biodatasets - accessed 8 June 09
- NLWRA, Current Extent of Native Vegetation 20 Jan 2001
- Indarra 1.4m Orthomosaic - Landgate 2002
- Mingenew 1.4m Orthomosaic - Landgate 2001
- Mullewa 50cm Orthomosaic - Landgate 2005
- Local Government Authorities - DLI 8/07/04
- Yandanooka 50cm Orthomosaic - Landgate 2005

(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 currently under application has been cleared and cropped and the subject of an investigation. A vegetation conservation notice was given requiring that certain measures be undertaken to re-establish and maintain the area to the condition of the native vegetation prior to the clearing occurring. As determined in the site inspection carried out by DoE on 7 December 2005 the native vegetation that is under application to be cleared had significant environmental values. Provided the measures contained in Vegetation Conservation Notice CPS 2495/3 are complied with, these environmental values are likely to be restored.

DAFWA (2005) have advised that 'the site is on undulating sandplain with mainly internal drainage resulting in small damplands and seasonally inundated wetlands within the remnant itself'. DAFWA (2009) have advised that advice given for the previous application area of 500ha (CPS 941/1) is valid for the assessment of the current proposal.

The vegetation under application is in mostly excellent (Keighery 1994) condition (DEC 2005). Therefore the wetlands are of high conversation value. Wetland vegetation was recorded on site during a recent DEC site visit (DEC 2009b).

It has been noted that these wetlands have not been mapped by DEC to date.

The proposed clearing is therefore growing in association with a wetland and is at variance to this principle.

Methodology DAFWA (2009)
DAFWA (2005)
DEC (2009b)
DoE (2005)

GIS Databases:
- Hydrography linear - DOW 13/7/06

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

Comments **Proposal is seriously at variance to this Principle**
The area currently under application has been cleared and cropped and the subject of an investigation. A vegetation conservation notice was given requiring that certain measures be undertaken to re-establish and maintain the area to the condition of the native vegetation prior to the clearing occurring. As determined in the site inspection carried out by DoE on 7 December 2005 the native vegetation that is under application to be cleared had significant environmental values. Provided the measures contained in Vegetation Conservation Notice CPS 2495/3 are complied with, these environmental values are likely to be restored.

Mapped groundwater salinity within the area proposed to be cleared is 7,000 to 14,000 mg/L.

DAFWA (2005) advises that the site is on undulating sandplain with mainly internal drainage resulting in small damplands and seasonally inundated wetlands within the remnant.

The clearing is 'likely to increase the risk of groundwater recharge and add to the already obvious problem of salt scalds appearing in depressions with the vegetation under assessment' (DAFWA 2005).

Depressions occur within the remnant and these correspond to areas at risk of developing salinity. Recent deaths of Melaleuca uncinata and a good recruitment of samphire species was noted in the depressions within the remnant indicating that evaporative concentrations of salts from groundwater is increasing and conditions are favouring samphire conditions over the Melaleucas (DAFWA 2005).

Information provided by the applicant (Applicant 2009) acknowledged that parts of the area under application are salt affected as shown in photographs taken by DEC (2005) and although the land owner advised the crop currently on the site is healthy it was noted that salinisation of land is a process which can take many years. Both the applicant's submission (Application 2009) and DAFWA report (2005) stated that due to the soil type of the area under application being predominately yellow deep sand with smaller areas of pale deep sand, wind erosion is a risk. The applicants submission (Application 2009) stated that these soil types pose a hazard to increased groundwater recharge, which correspond to the area under application being at risk of salinity.

The DAFWA (2009, 2005) report concludes that clearing 500 hectares of the affected land is likely to increase land degradation in the form of land salinisation and therefore the proposed clearing is seriously at variance to this principle.

Methodology Application (2009)
DAFWA (2005)
DoE (2005)

GIS database:
- Hydrography, linear - DOW 13/7/06
- Salinity Risk LM 25m - DOLA 00
- Soils, Statewide DA 11/99
- Topographic contours statewide - DOLA and ARMY 12/09/02

(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 area currently under application has been cleared and cropped and the subject of an investigation. A vegetation conservation notice was given requiring that certain measures be undertaken to re-establish and maintain the area to the condition of the native vegetation prior to the clearing occurring. As determined in the

site inspection carried out by DoE on 7 December 2005 the native vegetation that is under application to be cleared had significant environmental values. Provided the measures contained in Vegetation Conservation Notice CPS 2495/3 are complied with, these environmental values are likely to be restored.

The vegetation under application represents the largest block of native vegetation within a 15km radius.

Wongoondy Nature Reserve is situated approximately 3.9 kilometres east-south-east, Indarra Spring Nature Reserve is ~ 15km north, Burma Road Nature Reserve (on the register of national estate and system 5 area) is ~ 22 km west, Erangy Spring Nature Reserve is ~ 9.8 km west and Coalseam Conservation Park (on the register of national estate) is ~ 15 km south east of the vegetation proposed to be cleared. The vegetation under application is the largest and therefore significant remnant between all of these conservation areas and is larger than Erangy Spring NR and Wongoondy NR.

The vegetation that is proposed to be cleared is likely to offer a variety of habitats for native fauna and flora, and act as a 'stepping stone' for fauna moving between local reserves and areas of remnant vegetation. Any pre-existing connectivity with nearby conservation areas, such as Wongoondy Nature Reserve would be significantly impacted by the clearing of the proposed area under application.

The proposed clearing is therefore considered to be at variance to this principle.

Methodology DoE (2005)

GIS Databases:
- CALM Managed Lands and Waters - CALM 01/06/05
- Indarra 1.4m Orthomosaic - Landgate 2002
- Mingenew 1.4m Orthomosaic - Landgate 2001
- Mullewa 50cm Orthomosaic - Landgate 2005
- Register of National Estate - Environment Australia, 12 Mar 02
- System 1 to 5 and 7 to 12 areas - DEC 11/7/06
- Yandanooka 50cm Orthomosaic - Landgate 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 at variance to this Principle

The area currently under application has been cleared and cropped and the subject of an investigation. A vegetation conservation notice was given requiring that certain measures be undertaken to re-establish and maintain the area to the condition of the native vegetation prior to the clearing occurring. As determined in the site inspection carried out by DoE on 7 December 2005 the native vegetation that is under application to be cleared had significant environmental values. Provided the measures contained in Vegetation Conservation Notice CPS 2495/3 are complied with, these environmental values are likely to be restored.

The area under application is in the Greenough River catchment and does not include any Public Drinking Water Source Areas (PDWSA).

DAFWA (2005) reported that there is no hydrogeological information specific to the area under application available. However, as the site consists of undulating sandplain, the area would mostly drain internally with subsurface drainage likely to be towards the north into Kockatea Gully. The internal drainage of the area has resulted in the existing salt scald that was found during the site visit. With the clearing likely to increase groundwater recharge, the occurrence of such salt scalds would also increase thereby affecting the quality of surface water. In addition a waterway occurs to the north of the area under application, in the direction that subsurface drainage is likely to occur. With the expected increases in groundwater recharge, the proposal may result in an alteration of water quality in this waterway due to the increase in salinity.

Given the likelihood of land salinisation the proposed clearing will likely impact the quality of surface water within the area under application and potentially water quality off-site would also be affected. Therefore the proposal is considered to be at variance to this Principle.

Methodology DAFWA (2005)
DoE (2005)

GIS database:
- Public Drinking Water Source Areas (PDWSAs) 2006
- Salinity Risk LM 25m - DOLA 00
- Topographic Contours, Statewide - DOLA 12/09/02

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

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

The vegetation under application lies in an extensively cleared Bioregion in an area that experiences 400mm of rainfall annually. The area does not fall within a designated floodway or flood fringe zone and is therefore unlikely to lead to an incremental increase in peak flood height or duration.

Methodology GIS database:
- Evaporation Isopleths - WRC 29/09/98
- Interim Biogeographic Regionalisation of Australia - EA 18/10/00
- Mean Annual Rainfall Isohytes (1975 - 2003) - DEC 02/08/05
- Topographic Contours, Statewide - DOLA 12/09/02

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

Comments

The application is to clear 500 hectares for horticulture.

The vegetation is within the agricultural area defined in EPA Position Statement No. 2 (EPA 2000). EPA Position Statement No. 2 (EPA 2000) states that significant clearing of native vegetation has already occurred on agricultural land, leading to a reduction in biodiversity and increase in land salinisation, and therefore any further reduction in native vegetation through clearing for agriculture cannot be supported. The EPA (2000) recommends that all existing native vegetation be protected from passive clearing through, for example, grazing by stock or clearing by other means.

Information provided by the applicant (Application 2009) noted that remnant vegetation mapping and condition assessment of the northern agricultural region (Richardson 2005) did not include the application area in the study and interprets that this infers that the vegetation under application is of lesser importance. The omission is more likely to be due to the vegetation under application not meeting one or more of the site selection criteria being, sub-regions that were excluded if considerable vegetation surveys had been conducted, it was not considered to be a 'landscape target', it was not a Beard vegetation association with limited distribution and/ or little vegetation remaining or no access to the property was authorised (Richardson et al. 2005).

An application for the same area (CPS 941/1) was received in October 2005 and subsequently amended to the reduced amount of 280 hectares. DEC's assessment found the area applied to be cleared to have significant environmental values. This application was refused in November 2006.

The area currently under application has been cleared and cropped and the subject of an investigation. A vegetation conservation notice was given requiring that certain measures be undertaken to re-establish and maintain the area to the condition of the native vegetation prior to the clearing occurring. A site visit was undertaken in June 09 to determine if the VCN has been complied with and to view the current regeneration of the vegetation (DEC 2009b). The requirements of vegetation conservation notice were appealed (appeal 060 of 2008) and in implementing the Minister for Environment's decision, DEC has given amended VCN CPS 2495/3 to Ian Campbell Broad and Dianne Margaret Broad.

Information provided by the applicant (Application 2009) noted that DEC has used a 10% figure in the past for a threshold of biodiversity decline. This figure is used in constrained areas, such as areas of urban development, of which the vegetation under application is not within.

Methodology Application (2009)
DEC (2009b)
EPA (2000)
Richardson et al. (2005)

4. Assessor's comments

Comment

The application has been assessed against the clearing principles, planning instruments and other matters in accordance with s51O of the Environmental Protection Act 1986, and the proposed clearing is seriously at variance to Principle (g), is at variance to Principles (a), (b), (e), (f), (h) and (i) may be at variance to Principle (c) and is not likely to be at variance to Principle (d) and (j).

5. References

Application (2009) Application for Clearing Permit (Area Permit) - land at lot 4121 Nangetty - Walkaway Road, Wongoondy. Additional information and ENV Australia consultants report (TRIM Ref. DOC83487 and TRIM Ref. DOC83512).

CALM (2003) "Geraldton Sandplains 2 (GS2 - Geraldton Hills subregion)". Biodiversity Audit of WA's 53 Biogeographical Subregions 2002.

DAFWA (2005) Land Degradation Advice and Assessment Report for clearing permit application CPS 941/1. Received 19/12/2005. Office of the Commissioner of Soil and Land Conservation, Department of Agriculture and Food

Western Australia (TRIM Ref. IN25209).
DAFWA (2009) Land Degradation Advice and Assessment Report for clearing permit application CPS 3114/1. Received 28/08/2009. Office of the Commissioner of Soil and Land Conservation, Department of Agriculture and Food Western Australia (TRIM Ref. DOC86103).
DEC (2006) Biodiversity advice for land clearing application. Advice to Assessing Officer, Native Vegetation Conservation Branch, received 14 June 2006. Biodiversity Coordination Section, Department of Environment and Conservation, Western Australia (TRIM CRN220/03).
DEC (2009a) Midwest Flora and Fauna Regional Advice. Department of Environment and Conservation Trim Ref DOC87764 and DOC87765.
DEC (2009b) Site Inspection Report for Clearing Permit Application CPS 3114/1, Lot 4121 on Plan 232604, Mullewa. Site inspection undertaken 22/06/2009. Department of Environment and Conservation, Western Australia (TRIM Ref. DOC88725).
DoE (2005) Site Inspection Photographs for Clearing Permit Application CPS 941/1, Lot 4121 Woongoody. Site inspection undertaken 7/12/2005. Department of Environment and Conservation, Western Australia (TRIM Ref. GD633).
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, 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.
Richardson, J, Meissner, R and Langley , M (2005) Interim Report: A Preliminary Biodiversity Assessment of the Northern Agricultural Region, Western Australia, NACC and CALM
Shepherd, D.P. (2007). 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. Includes subsequent updates for 2006 from Vegetation Extent dataset ANZWA1050000124.

6. Glossary

Term	Meaning
BCS	Biodiversity Coordination Section of DEC
CALM	Department of Conservation and Land Management (now BCS)
DAFWA	Department of Agriculture and Food
DEC	Department of Environment and Conservation
DEP	Department of Environmental Protection (now DEC)
DoE	Department of Environment
DoIR	Department of Industry and Resources
DRF	Declared Rare Flora
EPP	Environmental Protection Policy
GIS	Geographical Information System
ha	Hectare (10,000 square metres)
TEC	Threatened Ecological Community
WRC	Water and Rivers Commission (now DEC)