GOVERNMENT OF
WESTERN AUSTRALIA

CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

Purpose permit number:	CPS 2712/1
Permit holder:	Transfield Worley Power Services
Duration of permit:	19 April 2009 – 19 April 2014

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

PART I – CLEARING AUTHORISED

1. **Purpose for which clearing may be done**
   Clearing for the purpose of constructing an ash dam.

2. **Land on which clearing is to be done**
   LOT 3001 ON PLAN 51101 (PALMER 6225)

3. **Area of Clearing**
   The permit holder must not clear more than 9.5 hectares of native vegetation within the area hatched yellow on attached Plan 2712/1.

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

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

PART II – ASSESSMENT SEQUENCE AND MANAGEMENT PROCEDURES

6. **Avoid, minimise etc clearing**
   In determining the amount of native vegetation to be cleared authorised under this Permit, the Permit Holder must have regard to the following principles, set out in order of preference:
   (a) avoid the clearing of native vegetation;
   (b) minimise the amount of native vegetation to be cleared; and
   (c) reduce the impact of clearing on any environmental value.

7. **Dieback and weed control**
   When undertaking any clearing or other activity pursuant to this Permit, the Permit Holder must take the following steps to minimise the risk of the introduction and spread of *weeds* and *dieback*:
   (a) clean earth-moving machinery of soil and vegetation prior to entering and leaving the area to be cleared;
   (b) avoid the movement of soil in wet conditions;
   (c) ensure that no *dieback* or *weed*-affected soil, or other material is brought into the area to be cleared; and
   (d) restrict the movement of machines and other vehicles to the limits of the areas to be cleared.

8. Records to be kept

The Permit Holder must maintain the following records for activities done pursuant to this Permit:

(a) In relation to the clearing of native vegetation authorised under this Permit:

(i) the species composition, structure and density of the cleared area;

(ii) the location where the clearing occurred, recorded using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 1994 (GDA94), expressing the geographical coordinates in Eastings and Northings;

(iii) the date that the area was cleared; and

(iv) the size of the area cleared (in hectares).

9. Reporting

(a) The Permit Holder must provide to the CEO, on or before 30 June of each year, a written report of records required under condition 8 of this Permit and activities done by the Permit Holder under this Permit between 1 January and 31 December of the preceding year.

(b) Prior to 19 January 2014, the Permit Holder must provide to the CEO a written report of records required under condition 8 of this Permit where these records have not already been provided under condition 9(a) of this Permit.

Definitions

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

dieback means the effect of *Phytophthora* species on *native vegetation*;

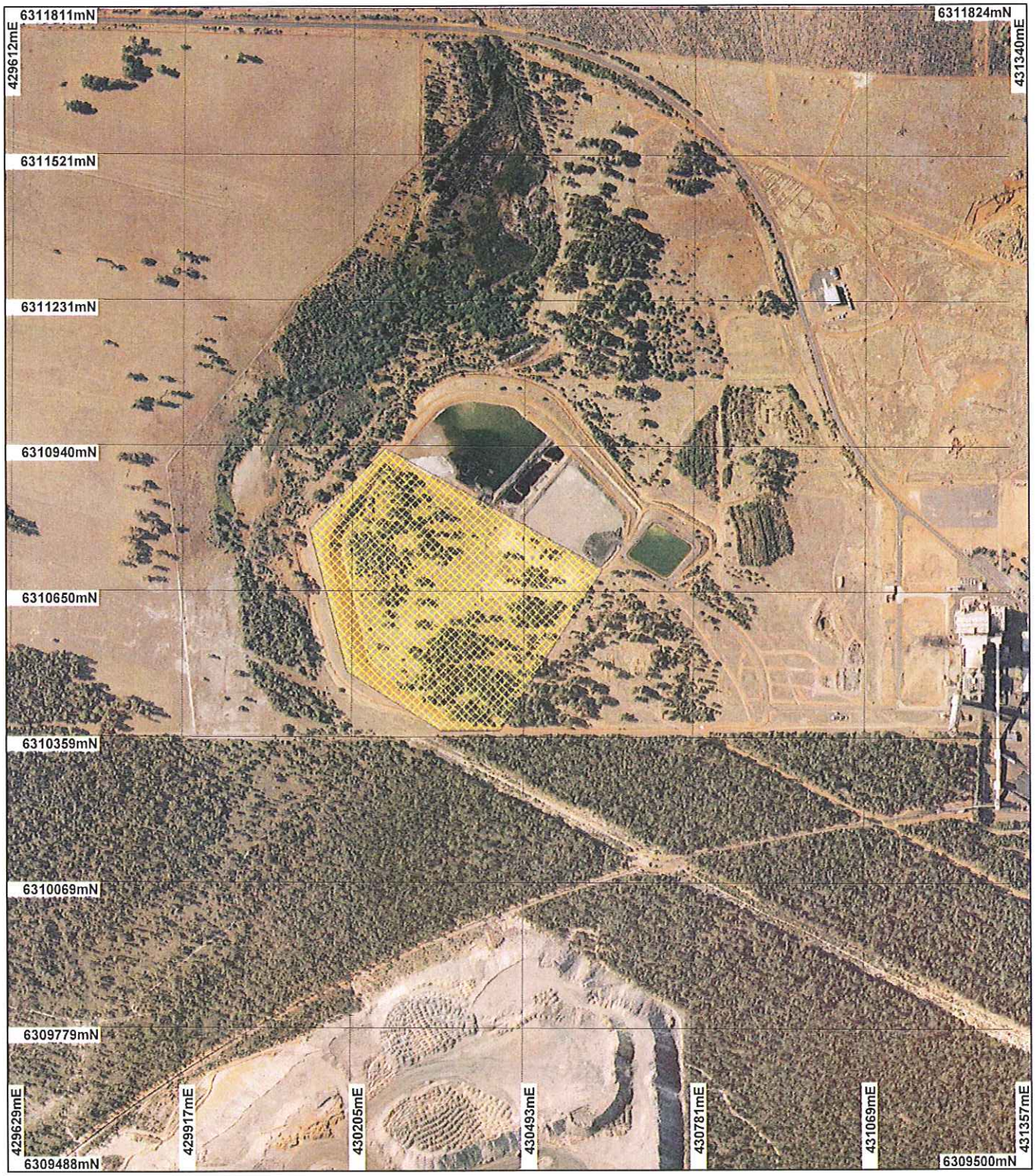
weed/s means a species listed in Appendix 3 of the "Environmental Weed Strategy" published by the Department of Conservation and Land Management (1999), and plants declared under section 37 of the Agricultural and Related Resources Protection Act 1976; and

Keith Claymore
A/ ASSISTANT DIRECTOR
NATURE CONSERVATION DIVISION

Officer delegated under Section 20
of the Environmental Protection Act 1986

19 March 2009

Plan 2712/1



LEGEND

Clearing Instruments

Areas Approved to Clear

Collie 50cm Orthomosaic - Landgate 2006

N

0 ~300 m

Scale 1:10223
(Approximate when reproduced at A4)

Geocentric Datum Australia 1994

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

Signed ..... Date 19/3/09

K Claymore

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

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

Department of Environment and Conservation

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Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 2712/1

Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: **Transfield Worley Power Services Pty Ltd**

1.3. Property details

Property: LOT 3001 ON PLAN 51101 (PALMER 6225)

Local Government Area: Shire Of Collie

Colloquial name:

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
9.5		Mechanical Removal	Dam 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) 3 is described as medium forest; jarrah-marri (Shepherd et al. 2001) Mattiske Vegetation Association: (D1) & (Yg2) DWELLINGUP (D1) : Open forest of Eucalyptus marginata subsp. marginata (Jarrah) - Corymbia calophylla (Marri) on lateritic uplands in mainly humid and subhumid zones. YARRAGIL 2 (Yg2) : Open forest of Eucalyptus marginata subsp. thalassica (Blue-leaved Jarrah) - Corymbia calophylla (Marri) on slopes, woodland of Eucalyptus patens (Blackbutt) - Eucalyptus rudis (Flooded Gum) with Hakea prostrata (Harsh Hakea) and Melaleuca viminea (Mohan) on valley floors in subhumid and semiarid zones. (Mattiske Consulting 1998) The associated Heddle vegetation complex is Yarragil Complex (Maximum Development of Swamps) in Medium to High Rainfall. This vegetation complex is ?restricted to the upper reaches of rivers receiving	The existing vegetation under application no longer resembles this complex. The area ranges from 'completely degraded' to 'degraded' condition (Keighery, 1994) having had a history of logging, clearing (no stumps remain throughout the site) and grazing. There is little to no native vegetation in the understorey, with the most being within the revegetation plot east of the applied clearing area. The revegetation areas are not in good condition and other planted areas consist only of young Wandoo (Eucalyptus wandoo) trees. The vegetation across the site is dominated by Corymbia calophylla with pasture grass and weed species within the understorey. The remnant vegetation to the east of the applied clearing area also has some Jarrah (Eucalytpus marginata) in amongst the Marri over Persoonia and some small Acacias with the revegetation plot consisting of patches of Kunzea and Calothamnus species in the understorey.	Degraded: Structure severely disturbed; regeneration to good condition requires intensive management (Keighery 1994)	The area under application has been described from aerial imagery and a DEC site visit on 24 November 2008.

an annual average rainfall greater than 850mm. Most of this complex consists predominantly of an open-forest of jarrah-marri with some admixture of yarri. On sandier soils a well-defined second storey of Banksia spp. Is distinguishable, but on the moist valley floors the open-forest is replaced by a low open-woodland of 'M. preissiana - B.littoralis' (Heddle et al.)

3. Assessment of application against clearing principles

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

Comments

Proposal is not likely to be at variance to this Principle

The proposed clearing involves selectively removing 9.5 hectares of native vegetation for the purpose of constructing an ash dam within an area of 17 hectares. The area ranges from 'completely degraded' to 'degraded' condition (Keighery, 1994) having had a history of logging, clearing (no stumps remain throughout the site) and grazing. There is little to no native vegetation in the understorey, with the majority being within the revegetation plot east of the applied clearing area. The revegetation areas are not in good condition and other planted areas consist only of young Wandoo (Eucalyptus wandoo) trees. The vegetation across the site is dominated by Corymbia calophylla with pasture grass and weed species within the understorey. The remnant vegetation to the east of the applied clearing area also has some Jarrah (Eucalytpus marginata) in amongst the Marri over Persoonia and some small Acacias with the revegetation plot consisting of patches of Kunzea and Calothamnus species in the understorey (DEC, 2008).

There are numerous records of priority flora species recorded within the local area (10km radius), however these species are primarily associated with different soil and vegetation types.

The proposed clearing of the applied area is not likely to be at variance to this Principle as the vegetation is well represented in the local area (80% remnant vegetation).

Methodology

DEC (2008)
Keighery (1994)
GIS Database:
- CALM Managed Lands and Waters - CALM 01/06/05
- Collie 50cm Orthomosiac - Landgate 2006
- SAC Biodatasets - accessed 13/11/08
- Pre European Vegetation - DA 01/01
- NLWRA, Current Extent of Native Vegetation 20 Jan 2001

(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

Within the local area (10km radius from the proposed clearing) there are 7 records of threatened fauna and 4 records of priority species.

The area proposed to be cleared is 9.5ha of native vegetation. This vegetation is in a degraded (Keighery, 1994) condition and has previously been cleared. Within the local area (10km radius) there is approximately 80% remaining native vegetation. The remaining vegetation offers suitable habitat for local fauna species.

Due to the amount of remaining vegetation that is in a better condition to that of the application area, the area proposed to be clear does not represent significant habitat for fauna species. The proposed clearing is considered not likely to be at variance to this principle.

Methodology

DEC (2008)
GIS Database:
- Collie 50cm ORTHOMOSIAC - Landgate 2006
- CALM Managed Lands and Waters - CALM 01/06/05
- Threatened Fauna, SAC Bio Dataset (13/11/08)

(c) Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, rare flora.

Comments **Proposal is not likely to be at variance to this Principle**
There are no known rare flora (DRF) within a 10km radius of the proposed clearing site. Therefore the proposed clearing is not likely to be at variance to this principle.

Methodology GIS Database:
- Collie 50cm ORTHOMOSIAC - Landgate 2006
- DEFL, SAC Biodataset (13/11/08)

(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 at variance to this Principle**
There are no known Threatened Ecological Communities (TEC) within a 10km radius of the proposed clearing site. Therefore the proposed clearing is not at variance to this principle.

Methodology GIS Database:
- Collie 50cm ORTHOMOSIAC - Landgate 2006
- DEFL, SAC Biodataset (13/11/08)
- TEC Database, SAC Biodatasets - accessed 13/11/08

(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**

.	Pre-European	Current Extent	% Remaining
IBRA Bioregion			
Jarrah Forest	4,506,655.58	2,440,940.64	54.16
Shire			
Collie	170,245.47	144,173.60	84.69
Beard Vegetation			
3	2,661,405.03	1,863,719.41	70.03
Mattiske Vegetation			
Dwellingup (D1)	2,082,802	1,936,288	93
Yarragil (Yg2)	502,648	481,574	95.8

The area under application is located within the Jarrah Forest Bioregion and the Shire of Collie. As the above table illustrates, the Beard and Mattiske vegetation types listed have not been extensively cleared. All vegetation types recorded within the application area are above the recommended 30% threshold for the retention of pre-European levels of native vegetation (EPA, 2000).

The local area (10km radius) is approximately 80% vegetated with 60% of this native vegetation being managed by the DEC. Due to the amount of surrounding vegetation and given the vegetation types present within the application area are well represented, the proposed clearing is considered to be not likely to be at variance to this principle.

Methodology EPA (2000)
Mattiske Consulting (1998)
Shepherd (2006) Shepherd et al. (2001)
GIS Database:
- Collie 50cm ORTHOMOSIAC - Landgate 2006
- Interim Biogeographic Regionalisation of Australia - EA 18/10/00
- Mattiske Vegetation (01/03/1998)
- Pre European Vegetation, SAC Bio Dataset (13/11/08)

(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 at variance to this Principle**
The area under application adjoins an existing ash dam. There is one minor perennial watercourse located 130 metres north of the applied area and a non-perennial swamp is located 70 metres to the west. The vegetation under application is not considered to be growing in association with a watercourse or wetland, therefore clearing will have no impact on the tributary banks, habitat for aquatic fauna or water quality.

The proposed clearing is not at variance to this principle.

Methodology GIS Database:
- Hydrography linear (hierarchy) - 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 at variance to this Principle

The topography of the site is between 215 to 230m AHD (Australian Height Datum). The soil type is described as, chief soils seem to be leached sands in the lower and more swampy sites and, often containing ironstone gravels, on flat to gently sloping areas. Associated are soils containing ironstone gravels on the undulating areas (Northcote et al. 1960-68). The mean annual rainfall is 900mm per annum and the evapotranspiration rate is 700mm. Given the high rainfall and high relief in topography, water erosion is likely to occur on the site.

The area under application lies within Zone A and Zone D of the Wellington Dam catchment area gazetted under the County Areas Water Supply Act 1947 (CAWS Act). The CAWS Act controls land clearing within the Wellington Dam Catchment in order to protect drinking water quality and was developed in response to increased dryland salinity and increasing concentrations of salts in drinking water within the catchment.

Fourteen and a half hectares of the property is located in Zone D, a low salinity risk part of the catchment, where the Department of Water (DoW) Policy and Guidelines for the 'Granting of Licences to Clear Indigenous Vegetation' provide for the unconditional grant of a licence subject to retention of native vegetation on at least 10% of the owners holding area. There is more than 10% native vegetation on the Electricity Generation Corporation's holding (DoW, 2008)

Two and a half hectares of the site is however located in Zone A, the highest salinity risk part of the catchment where the DoW Policy and Guidelines provide for the grant of a licence for essential government works conditional upon the establishment, management and protection in perpetuity of an equivalent area being reforested within the same or higher salinity risk zone. Clearing credits will also be deducted by the department of Water as a method of offsetting the proposed clearing (DoW, 2008).

Methodology DoW (2008)
Keighery (1994)
Northcote et al. (1968)
GIS Database:
- Evapotransporation Isopleths - WRC 29/09/98
- Groundwater Salinity Statewide DoW 13/07/06
- Hydrographic catchments, catchments - DoW 01/06/07
- Hydrogeology, statewide DOW 13/07/06
- Mean Annual Rainfall Isohytes (1975 - 2003) DEC 02/08/05
- Topographic Contours, Statewide - DOLA 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 may be at variance to this Principle

The proposed clearing is surrounded by the Collie State Forest.

The local area (10km radius) is approximately 80% vegetated and 60% of the native vegetation is managed by DEC. The area under application is within a dieback risk area and is surrounded by State Forest. Therefore there is a risk of the phytophthora disease spreading. Additionally, there is a risk of weeds spreading into the State Forest via the clearing disturbance. Dieback and weed conditions will be placed on the Permit to mitigate these potential impacts. The proposed clearing may be at variance to this principles.

Methodology GIS Databases:
- Collie 50cm ORTHOMOSIAC - Landgate 2006
- CALM Managed Lands and Waters - CALM 01/06/05

(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 under application is adjoining an existing ash dam, there is one minor perennial water course 130m north of the proposed clearing site and a non-perennial swamp 70m west of the area under application.

The area under application lies within Zone A and Zone D of the Wellington Dam catchment area gazetted under the County Areas Water Supply Act 1947 (CAWS Act). The CAWS Act controls land clearing within the Wellington Dam Catchment in order to protect drinking water quality and was developed in response to increased dryland salinity and increasing concentrations of salts in drinking water within the catchment.

Fourteen and a half hectares of the site is located in Zone D, a low salinity risk part of the catchment, where the

Department of Water (DoW) Policy and Guidelines for the 'Granting of Licences to Clear Indigenous Vegetation' provide for the unconditional grant of a licence subject to retention of native vegetation on at least 10% of the owners holding area. There is more than 10% native vegetation on the Electricity Generation Corporation's holding (DoW, 2008)

Two and a half hectares of the site is however located in Zone A, the highest salinity risk part of the catchment where the DoW Policy and Guidelines provide for the grant of a licence for essential government works conditional upon the establishment, management and protection in perpetuity of an equivalent area being reforested within the same or higher salinity risk zone. Clearing credits will also be deducted by the department of Water as a method of offsetting the proposed clearing (DoW, 2008).

Methodology DoW (2008)
GIS Database:
- Evapotransporation Isopleths - WRC 29/09/98
- Hydrographic catchments, catchments - DoW 01/06/07
- Hydrogeology, statewide DOW 13/07/06
- Mean Annual Rainfall Isohytes (1975 - 2003) DEC 02/08/05

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

Comments **Proposal is not likely to be at variance to this Principle**
The area under application is small (9.5ha) and the local area is well vegetated (60%). The proposed clearing is not likely to cause or exacerbate, the incidence or intensity of flooding.

Methodology GIS Database:
- Hydrographic catchments, catchments - DoW 01/06/07
- Hydrogeology, statewide DOW 13/07/06

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

Comments
The current works approval license is due to expire in March 2008. The DEC Licensing department has advice that a renewal has been proposed and is likely to be granted with minor changes (Trim Ref: DOC79369).

Methodology DEC (2008)
GIS Database:
- RIWI Act, Groundwater Areas - DoW 13/07/06

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 at variance to Principles (g) & (i), may be at variance to Principles (h) & (i), not likely to be at variance to principles (a), (b), (c), (e) and (j) and principles (d) & (f) are not at variance.

5. References

DEC (2008) Site Inspection Report for Clearing Permit Application CPS 2712/1, Lot 3001 on Plan 51101, Collie. Site inspection undertaken 24/11/2008. Department of Environment and Conservation, Western Australia (TRIM Ref. DOC69347).

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.

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.

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

Mattiske, E.M. and Havel, J.J. (1998) Vegetation Complexes of the South-west Forest Region of Western Australia. Maps and report prepared as part of the Regional Forest Agreement, Western Australia for the Department of Conservation and Land Management and Environment Australia.

Northcote, K. H. with Beckmann G G, Bettenay E., Churchward H. M., van Dijk D. C., Dimmock G. M., Hubble G. D., Isbell R. F., McArthur W. M., Murtha G. G., Nicolls K. D., Paton T. R., Thompson C. H., Webb A. A. and Wright M. J. (1960-68): 'Atlas of Australian Soils, Sheets 1 to 10, with explanatory data'. CSIRO and Melbourne University Press: Melbourne.

Shepherd, D.P., Beeston, G.R. and Hopkins, A.J.M. (2001) Native Vegetation in Western Australia, Extent, Type and Status. Resource Management Technical Report 249. Department of Agriculture, Western Australia.

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)