GOVERNMENT OF
WESTERN AUSTRALIA

CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

PERMIT DETAILS

Area Permit Number: 3451/ 1
File Number: DEC13773
Duration of Permit: From 4 April 2010 to 4 April 2015

PERMIT HOLDER

Thomas Graham Sheehan
John Douglas Sheehan

LAND ON WHICH CLEARING IS TO BE DONE

LOT 369 ON DEPOSITED PLAN 163820

AUTHORISED ACTIVITY

The Permit Holder shall not clear more than 3 hectares of native vegetation within the area hatched yellow on attached Plan 3451/1.

CONDITIONS

1. **Type of clearing authorised**

   Any clearing authorised under this Permit must be completed by 4 April 2012, being two years from the date from which this Permit becomes valid.

2. **Type of clearing authorised**

   The Permit Holder shall not clear native vegetation unless undertaking sand extraction within one month of the clearing being undertaken.

3. **Dieback and weed control**

   When undertaking any clearing or other activity authorised under this Permit, the Permit Holder must take the following steps to minimise the risk of the introduction and spread of *weeds* and *dieback*:

   (a) clean earth-moving machinery of soil and vegetation prior to entering and leaving the area to be cleared;
   (b) shall not move soils in wet conditions;
   (c) ensure that no *dieback* or *weed*-affected soil, *mulch, fill* 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.

4. Fauna Management

(a) Prior to clearing, a *fauna specialist* shall inspect any *habitat tree*(s) for the presence of the fauna species listed below:
  (i) Carnaby's black cockatoo (*Calyptorhynchus latirostris*);
  (ii) Baudin's black cockatoo (*Calyptorhynchus baudinii*); and
  (iii)Forest Red-tailed black cockatoo (*Calyptorhynchus banksii naso*);

(b) Prior to clearing, the Permit Holder shall ensure that any fauna identified by condition 4(a) shall be removed and relocated by a *fauna clearing person*, in accordance with a licence issued by the Department.

5. Retain vegetative material and topsoil, ripping, revegetation and rehabilitation

(a) The Permit Holder shall retain the vegetative material and topsoil removed by clearing authorised under this Permit and stockpile the vegetative material and topsoil in an area that is already cleared.

(b) Prior to undertaking works pursuant to conditions 5(c), the Permit Holder shall rip the pit floor and contour batters within the extraction site.

(c) Within twelve months following completion of extraction operations, the Permit Holder must *revegetate* and *rehabilitate* the area cross-hatched yellow on attached Plan 3451/1 by:
  (i) deliberately laying the vegetative material and topsoil retained under condition 5(a) on the cleared area;
  (ii) deliberately *planting* and/or *direct seeding* native vegetation that will result in a similar species composition, structure and density of native vegetation to pre-clearing vegetation types in that area; and
  (iii) ensuring only *local provenance* seeds and propagating material are used to *revegetate* and *rehabilitate* the area.

(d) Within twelve months of undertaking *revegetation* and *rehabilitation* in accordance with condition 5(c) of this Permit, the Permit Holder must:
  (i) determine the species composition, structure and density of the area *revegetated* and *rehabilitated*; and
  (ii) where, in the opinion of an *environmental specialist*, the composition structure and density determined under condition 5(d)(i) of this Permit will not result in a similar species composition, structure and density to that of pre-clearing vegetation types in that area, the Permit Holder must undertake additional *planting* or *direct seeding* of native vegetation in accordance with the requirements of condition 5(c)(ii) and (iii) of this Permit.

6. Records to be kept

In relation to the *revegetation* and *rehabilitation* of areas pursuant to condition 5 of this Permit:

(a) the date when the Permit Area is no longer required for the purpose of material extraction;
(b) the location of any areas *revegetated* and *rehabilitated*, recorded using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 1994 (GDA94), expressing the geographical coordinates in Eastings and Northings;
(c) a description of the *revegetation* and *rehabilitation* activities undertaken;
(d) the size of the area *revegetated* and *rehabilitated* (in hectares); and
(e) the species composition, structure and density of *revegetation* and *rehabilitation*.

7. 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 6 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 4 January 2015, the permit holder must provide to the CEO a written report of records required under condition 6 of this Permit where these records have not already been provided under condition 7(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;

direct seeding means a method of re-establishing vegetation through the establishment of a seed bed and the introduction of seeds of the desired plant species;

environmental specialist means a person who is engaged by the Permit Holder for the purpose of providing environmental advice, who holds a tertiary qualification in environmental science or equivalent, and has experience relevant to the type of environmental advice that an environmental specialist is required to provide under this Permit;

fauna clearing person means a person who has obtained a licence from the Department, issued pursuant to the *Wildlife Conservation Regulations 1970* authorising them to take fauna;

fauna specialist means a person with training and specific work experience in fauna identification or faunal assemblage surveys of Western Australian fauna;

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

habitat tree(s) means trees that have a diameter, at average adult human chest height, of greater than 70cm, healthy but with dead limbs and broken crowns that are likely to contain hollows and roosts suitable for native fauna, or where these are not present then healthy but with the potential to contain hollows and roosts;

local provenance means native vegetation seeds and propagating material from natural sources within 50 kilometres of the area cleared.

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

planting means the re-establishment of vegetation by creating favourable soil conditions and planting seedlings of the desired species;

regenerate/ed/ion means *revegetation* that can be established from in situ seed banks contained either within the topsoil or seed-bearing *mulch*;

rehabilitate/ed/ion means actively managing an area containing native vegetation in order to improve the ecological function of that area;

revegetate/ed/ion means the re-establishment of a cover of *local provenance* native vegetation in an area using methods such as *regeneration*, *direct seeding* and/or *planting*, so that the species composition, structure and density is similar to pre-clearing vegetation types in that area;

term means the duration of this Permit, including as amended or renewed; and

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 *Agriculture and Related Resources Protection Act 1976*.

Kelly Faulkner
MANAGER
NATIVE VEGETATION CONSERVATION BRANCH

Officer delegated under Section 20
of the Environmental Protection Act 1986

4 March 2010

Plan 3451/1

LEGEND

Clearing Instruments
Road Centrelines

Cadastre

Donnybrook 50cm Orthomosaic - Landgate 2004

N

0 ~125 m

Scale 1:4687
(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.

Date 4/3/10

Kelly Faulkner

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

Our environment, our future

Department of
Environment and Conservation
Our environment, our future

Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 3451/1
Permit type: Area Permit

1.2. Proponent details

Proponent's name: Thomas Graham and John Douglas Sheehan

1.3. Property details

Property: LOT 369 ON PLAN 163820 (BEELERUP 6239)
LOT 369 ON PLAN 163820 (BEELERUP 6239)

Local Government Area:

Colloquial name:

1.4. Application

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

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: 3 - Medium forest; jarrah-marri Mattiske Vegetation Complex: Kirup - Open forest to woodland of Eucalyptus marginata subsp. marginata-Corymbia calophylla-Banksia attenuata-Xylomelum occidentale on sandy slopes in the humid zone. Heddle Vegetation Complex: Kingia - No Description	The proposal is to clear 3 hectares of native vegetation within the Shire of Donnybrook Balingup for the purpose of sand extraction.	Good: Structure significantly altered by multiple disturbance; retains basic structure/ability to regenerate (Keighery 1994)	The native vegetation within the application area ranges from degraded to good condition (Keighery 1994) and is predominantly an open forest of Eucalyptus marginata, with some Corymbia calophylla, over low open woodland of Nuytsia floribunda and Xylomelum occidentale over an open heath. The vegetation of the degraded areas varies from tall shrubland to low open shrubland to open woodland (DEC, 2009).

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 proposal is to clear 3 hectares of native vegetation within the Shire of Donnybrook Balingup for the purpose of sand extraction.

The native vegetation within the application area ranges from degraded to good condition (Keighery 1994) and is predominantly an open forest of Eucalyptus marginata, with some Corymbia calophylla, over low open woodland of Nuytsia floribunda and Xylomelum occidentale over an open heath. The vegetation of the degraded areas varies from tall shrubland to low open shrubland to open woodland (DEC, 2009).

There are seven records of threatened fauna within the local area (10km radius). A fauna survey conducted by MBS Environmental on 16 February 2010 identified nine potential habitat trees containing hollows within the property. The applicant amended the area proposed to be cleared to only impact on three potential habitat trees (MBS Environmental, 2010). DEC advice identifies that these three trees do not represent significant nesting habitat for Carnaby's, Baudin's and Forest Red-tailed black cockatoos (DEC, 2009b), however, in order to reduce impact on individual birds, a fauna relocation condition will be placed on the permit.

There are 7 priority flora species recorded in the local area (10km radius). Of these priority species the following five occur less than 2 km from the area proposed to be cleared and occur in similar vegetation and soil types:

- Synaphea hians - P3
- Tetratheca parvifolia - P3
- Acacia semitrullata - P4
- Hemigenia rigida - P1
- Caustis sp. Boyanup - P3

Given the amended application consists largely of vegetation in degraded condition (Keighery, 1994) it is unlikely that this vegetation will provide suitable habitat for priority flora.

The area under application forms part of a large remnant of native vegetation which is contiguous with an unnamed nature reserve managed by the Conservation Commission for the purpose of conserving flora and fauna. The area under application forms part of the South West Regional Ecological Linkage area and is a 1a (core linkage) remnant (Molloy et al, 2009). The retention of an ecological corridor containing native vegetation in excellent condition (Keighery, 1994) will however reduce the effect of the clearing upon north south movement within the remnant and also reduce the potential for adverse affects upon ecological function within the landscape. Vegetation in this condition has been removed from the application area and the site will be revegetated as a condition of the permit post extraction to retain the efficacy of this linkage in the long term.

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

Methodology

DEC (2009)
DEC, (2009b)
Keighery (1994)
MBS Environmental (2010)
Molloy et al, (2009)
GIS database:
- Mattiske Vegetation (01/03/1998)
- Heddle Vegetation Complexes - DEP 22/06/95
- Pre European Vegetation - DA 01/01
- Donnybrook 50cm Orthomosaic - Landgate 2004
- Bunbury 50cm Orthomosaic - Landgate 2006
- SAC Biodatasets - accessed 9 December 2009

(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

The following threatened fauna species are recorded within the local area (10 km radius):

- Chuditch (Dasyurus geoffroii)- Vulnerable
- Western Ringtail Possum (Pseudocheirus occidentalis) - Vulnerable
- Quenda (Isoodon obesulus fusciventer)- P5
- Brush-tailed Phascogale (Phascogale tapoatafa ssp.) - Vulnerable
- Forest Red Tailed black cockatoo (Calyptorhynchus banksii naso) - Vulnerable
- Masked Owl (Tyto novaehollandiae novae-hollandiae) - P3
- Cricket (Pachysaga strobila) - P1

The area under application forms part of a large remnant of native vegetation which is contiguous with an unnamed nature reserve managed by the Conservation Commission for the purpose of conserving flora and fauna. The area under application forms part of the South West Regional Ecological Linkage area and is a 1a (core linkage) remnant (Molloy et al, 2009). The retention of an ecological corridor containing native vegetation in excellent condition (Keighery, 1994) will however reduce the effect of the clearing upon north south movement within the remnant and also reduce the potential for adverse affects upon ecological function within the landscape. Vegetation in this condition has been removed from the application area and the site will be revegetated as a condition of the permit post extraction to retain the efficacy of this linkage in the long term.

There are seven records of threatened fauna within the local area (10km radius). A fauna survey conducted by MBS Environmental on 16 February 2010 identified nine potential habitat trees containing hollows within the property. The applicant amended the area proposed to be cleared to only impact on three potential habitat

trees (MBS Environmental, 2010). DEC advice identifies that these three trees do not represent significant nesting habitat for Carnaby's, Baudin's and Forest Red-tailed black cockatoos (DEC, 2009b), however, in order to reduce impact on individual birds, a fauna relocation condition will be placed on the permit.

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

Methodology

DEC (2009)
DEC, (2009b)
Keighery (1994)
MBS Environmental (2010)
GIS database:
- Donnybrook 50cm Orthomosaic - Landgate 2004
- Bunbury 50cm Orthomosaic - Landgate 2006
- SAC Biodatasets - accessed 9 December 2009

(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 is 1 record of declared rare flora (DRF) recorded in the local area (10km Radius) being Banksia squarrosa subsp.argillacea.

Banksia squarrosa subsp.argillacea occurs in white/grey sand, gravely clay or loam on winter wet flats and clay flats (Western Australian Herbarium, 1998).

It does not occur in the same vegetation or soil types as those within the area proposed to be cleared and is mapped 4.5km east of the area under application. A site inspection conducted in December 2009 by DEC staff did not identify any suitable habitat for rare flora within the area proposed to be cleared.

The proposal is not likely to be at variance to this clearing principle.

Methodology

DEC (2009)
Keighery (1994)
WA Herbarium (1998)
GIS database:
- Mattiske Vegetation (01/03/1998)
- Heddle Vegetation Complexes - DEP 22/06/95
- Pre European Vegetation - DA 01/01
- SAC Biodatasets - accessed 9 December 2009
- 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 records of Threatened Ecological Communities (TECs) within the local area (10km radius).
Given the above the proposal is not likely to be at variance to this clearing principle.

Methodology

DEC (2009)
Keighery (1994)
GIS database:
- Mattiske Vegetation (01/03/1998)
- Heddle Vegetation Complexes - DEP 22/06/95
- Pre European Vegetation - DA 01/01
- SAC Biodatasets - accessed 9 December 2009
- Soils, Statewide DA 11/99

(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 (ha)	Remaining (ha)	Remaining (%) (%)	Bioregion
IBRA Bioregions*				
Jarrah Forest^	4506 655	2440940	54.16	
Shire*				

Donnybrook - Balingup	155949	92318	59.2	
Mattiske Vegetation Complex**				
KR	No Data			
Heddle Vegetation Complex***				
Kingia	65574	57588	87	
Beard Vegetation Association*				
3	2661405	1863719	70	70

* (Shepherd et al. 2007)
** (Mattiske Consulting 1998)
*** (Heddle 1980)
^ Area within Intensive Land Use Zone

The national objectives and targets for biodiversity conservation in Australia has a target to prevent clearance of ecological communities with an extent below 30 per cent of that present pre-1750, below which species loss appears to accelerate exponentially at an ecosystem level (Commonwealth of Australia 2001, EPA 2000). The native vegetation under application consists of Beard vegetation association 3 which retains 70% of its Pre European vegetation extent.

The proposal is not likely to be at variance to this clearing principle.

Methodology

Commonwealth of Australia (2001)
EPA (2000)
Heddle (1980)
Mattiske Consulting (1998)
Molloy et al. (2009)
Shepherd et al. (2007)
GIS Databases:
- Donnybrook 50cm Orthomosaic - Landgate 2004
- Heddle Vegetation Complexes - DEP 22/06/95
- Interim Biogeographic Regionalisation of Australia - EA 18/10/00
- Local Government Authorities - DLI 8/07/04
- Mattiske Vegetation - CALM 1/03/1998
- Pre European Vegetation - DA 01/01
- SAC Biodatasets - accessed 9 December 2009

(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

Thomson Brook, a major perennial river, runs 400 metres east of the area proposed to be cleared and one minor perennial tributary of this river with three associated earth dams runs within 200 metres of the area proposed to be cleared on the eastern side of Thomson Road. The Preston River is located 1 kilometre north of the area proposed to be cleared.

A site inspection conducted in December 2009 by DEC staff did not identify vegetation growing in, or in association with, an environment associated with a watercourse or wetland.

The proposal is not likely to be at variance to this clearing principle.

Methodology

GIS Databases:
- Donnybrook 50cm Orthomosaic - Landgate 2004
- Bunbury 50cm Orthomosaic - Landgate 2006
- SAC Biodatasets - accessed 9 December 2009
- ANCA wetlands - Environment Australia 26/3/99
- CALM Managed Lands and Waters - CALM 01/06/05
- EPP Lakes Policy Area - DEP 14/05/97
- EPP, Wetlands 2004 (DRAFT) - EPA 21/7/04
- Hydrography linear - DOW 13/7/06
- Hydrography linear (hierarchy) - DoW 13/7/06
- Ramsar wetlands - DEC 03

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

Comments

Proposal may be at variance to this Principle

The area under application has a low risk of salinity and there is no known risk of acid sulphate soils. The area proposed to be cleared has associated block laterite, gravelly and bouldery soils on ridge tops with areas of leached sands. The area to be cleared rises from 80 metres (AHD) near Thomson Road in the East to 105 metres (AHD) at the west of the property.

The proposed area borders a Shire of Donnybrook Balingup extractive industry site to the south and given the nature of the proposed clearing for sand extraction there is potentially a short term risk of land degradation in the form of wind and water erosion during the extraction phase of the project. The assessment recommendation is that a staged clearing condition be imposed on the clearing permit to mitigate any impacts from the proposed clearing.

Given that the area proposed to be cleared will be susceptible to wind and water erosion the clearing as proposed may cause appreciable land degradation. Therefore the proposal may be at variance to this clearing principle.

Methodology

GIS database:
- Average Annual Rainfall Isohyets - WRC 29/09/98
- Annual Evaporation Contours (Isopleths) - WRC 29/09/98
- Hydrogeology, statewide - DOW 13/07/06
- Hydrographic catchments, catchments - DoW 01/06/07
- 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
- Hydrogeology, Statewide 05 Feb 2002

(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 Boyanup State Forest and the Wellington State Forest and a Conservation Commission timber reserve all lie within 5 km of the area proposed to be cleared.

The area under application forms part of a large remnant of native vegetation which is contiguous with an unnamed nature reserve managed by the Conservation Commission for the purpose of conserving flora and fauna. The area under application forms part of the South West Regional Ecological Linkage area and is a 1a (core linkage) remnant (Molloy et al, 2009). The retention of an ecological corridor containing native vegetation in excellent condition (Keighery, 1994) will however reduce the effect of the clearing upon north south movement within the remnant and also reduce the potential for adverse affects upon ecological function within the landscape and the neighbouring nature reserve to the south. Vegetation in this condition has been removed from the application area and it is recommended that the site be revegetated post extraction to retain the efficacy of this linkage in the long term.

Given the close proximity of the neighbouring nature reserve the clearing may impact on the environmental values of this area through the increased potential for the intrusion of dieback or weed species. Therefore the proposal may be at variance to this clearing principle and dieback and weed management conditions will be imposed on the clearing permit to mitigate any impacts from the proposed clearing.

Methodology

Molloy et al. (2009)
GIS Databases:
- Register of National Estate - Environment Australia, Australian and world heritage division 12 Mar 02
- System 1 to 5 and 7 to 12 areas DEC 11/7/06
- CALM Managed Lands and Waters - CALM 01/06/05
- Donnybrook 50cm Orthomosaic - Landgate 2004
- Bunbury 50cm Orthomosaic - Landgate 2006

(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

Thomson Brook, a major perennial river, runs 400 metres east of the area proposed to be cleared and one minor perennial tributary of this river with three associated earth dams runs within 200 metres of the area proposed to be cleared but are separated by Thomson Road. The area under application does not include any wetlands or watercourses and does not include vegetation growing in association with these areas.

Given that the vegetation under application is not associated with surface water expression the clearing as

proposed is not likely to cause deterioration in the quality of surface and/or underground water in the local area, the proposal is not likely to be at variance to this clearing principle.

Methodology GIS database:
- Evapotransporation Isopleths - WRC 29/09/98
- Groundwater Salinity Statewide DoW 13/07/06
- Hydrographic catchments - DoW 01/06/07
- Hydrography, linear - DOW 13/7/06
- Mean Annual Rainfall Isohytes (1975 - 2003) - DEC 02/08/05
- 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 proposal is to clear 3 hectares of native vegetation within the Shire of Donnybrook Balingup for the purpose of sand extraction.

Thomson Brook, a major perennial river, runs 400 metres east of the area proposed to be cleared and one minor perennial tributary of this river with three associated earth dams runs within 200 metres of the area proposed to be cleared. Given that these watercourses are separated from the area proposed to be cleared by Thomson Road with its associated drainage infrastructure the proposal is not likely to be at variance to this clearing principle.

Methodology GIS database:
- Evaporation Isopleths - WRC 29/09/98
- Hydrographic catchments - DoW 01/06/07
- Hydrography, linear - DoW 13/7/06
- 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

An application for planning approval and an extractive industry licence has been issued by the Shire Donnybrook - Balingup.

It is noted that a nearby clearing permit was refused (CPS 3195/1) as the that the vegetation under application represented significant nesting and potential foraging habitat for Carnaby's, Baudin's and Forest Red-tailed black cockatoos and in particular, one of the trees displayed potential as a primary habitat tree.

A fauna survey conducted by MBS Environmental on 16 February 2010 for the area currently under application identified nine potential habitat trees containing hollows within the property. The applicant amended the area proposed to be cleared to only impact on three potential habitat trees (MBS Environmental, 2010). DEC identifies that these three trees do not represent significant nesting habitat for Carnaby's, Baudin's and Forest Red-tailed black cockatoos (DEC, 2009b), however, in order to reduce impact on individual birds, a fauna relocation condition will be placed on the permit.

Methodology

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 assessment recommendation is that the proposed clearing may be at variance to principle (g) and (h) and is not likely to be at variance to the remaining clearing principles.

5. References

Commonwealth of Australia (2001) National objectives and targets for biodiversity conservation 2001-2005. Commonwealth of Australia, Canberra, ACT.

DEC (2009) Site Inspection Report for Clearing Permit Application CPS 3451/1, Lot 369 on Plan 163820 Thomson Road Beelerup. Site inspection undertaken 23/12/2009. Department of Environment and Conservation, Western Australia (TRIM Ref: doc113878)

DEC (2009b) DEC Advice. Department of Environment and Conservation Trim Ref DOC120529

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.

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.
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.
Molloy, S., Wood, J., Hall, S., Wallrodt, S. and Whisson, G. (2009) South West Regional Ecological Linkages Technical Report. Western Australian Local Government Association and Department of Environment and Conservation, Perth.
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.
Sac Bio Datasets (9/12/2009). Department of Environment and Conservation, Sac Bio Datasets, Kensington, Western Australia.
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.
Western Australian Herbarium (1998). FloraBase - The Western Australian Flora. Department of Environment and Conservation. http://florabase.dec.wa.gov.au/ (Accessed 3/3/10).

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 (now DEC)
DMP	Department of Mines and Petroleum (ex DoIR)
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)