GOVERNMENT OF
WESTERN AUSTRALIA

CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

Purpose Permit number:	CPS 2509/1
Permit Holder:	Pino Gangemi and Francesca Gangemi
Duration of Permit:	12 December 2009 – 12 December 2016

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 sand and limestone extraction.

2. **Land on which clearing is to be done**
   Lot 605 on Plan 117146 (NIRIMBA 6208)

3. **Area of Clearing**
   The Permit Holder must not clear more than 23.5 hectares of native vegetation within the area hatched yellow on attached Plan 2509/1.

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. **Type of clearing authorised**
   (a) The Permit Holder shall not clear native vegetation unless actively mining within six months of the clearing being undertaken.

   (b) Clearing authorised under this Permit must be completed by 12 December 2013 being four years from the date this Permit becomes valid.

6. **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

7. 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.

8. Fauna management - hollows

Prior to clearing pursuant to this Permit, the area shall be:

(a) Inspected by a fauna specialist who shall identifiy tree(s) that contain hollows suitable to be utilised as habitat by fauna listed in the Wildlife Conservation (Specially Protected Fauna) Notice 2008;
(b) Prior to clearing, any Habitat tree(s) identified by condition 8(a) shall be inspected by a fauna specialist for the presence of fauna listed in the Wildlife Conservation (Specially Protected Fauna) Notice 2008; and
(c) Prior to clearing the Permit Holder shall ensure that any fauna identified by condition 8(b) shall be removed and relocated by a fauna clearing person, in accordance with a licence issued by the Department.

9. Fauna management – hollows re-location

Following completion of the requirements of condition 8, and where hollows were identified under condition 8(a), the Permit Holder shall undertake the following:

(a) Remove and retain intact hollows indentified in condition 8(a);
(b) Identify surrogate trees and locations for relocation of the above hollows identified in condition 8(a); and
(c) Install the hollows on surrogate trees identified in condition 8(a) prior to one month before the commencement of any clearing.

10. Fauna management – Rainbow Bee-eater

Prior to clearing pursuant to this Permit, during:

(a) The months of September through to February the areas shall be inspected by a fauna specialist who shall identify the presence of Merops ornatus (Rainbow Bee-eater) or their nesting burrows; and
(b) The Permit Holder shall not clear during the months of September through to February if Merops ornatus (Rainbow Bee-eater) or their nesting burrows are identified under condition 10(a).

11. 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.

12. Revegetation and rehabilitation

(a) The Permit Holder shall retain the vegetative material and topsoil removed by clearing in accordance with this Permit;

(b) Prior to undertaking works pursuant to condition 12(c), the Permit Holder shall rip the pit floor and contour batters within the extraction site;

(c) Within six months of the area no longer being required for the purpose of sand and limestone extraction, and prior to the expiry of this permit, the Permit Holder must *revegetate* the area by:
   (i) laying the vegetative material and topsoil retained under condition 12(a) on the cleared area;
   (ii) deliberately planting native *trees* using only *local provenance* propagating material; and
   (iii) the vegetation shall be established and maintained to an average *tree* density of 10 trees per hectare.

(d) Within one year of undertaking *revegetation* in accordance with condition 12(c), the Permit Holder must:
   (iv) determine the average *tree* density; and
   (v) where, the average *tree* density determined under condition 12(c)(iii) does not meet 10 trees per hectare, the Permit Holder must undertake additional planting of native *trees* in accordance to the requirements of condition 12(c)(ii) and 12(c)(iii).

PART III - RECORD KEEPING AND REPORTING

13. Records must 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).

(b) In relation to fauna management pursuant to conditions 8 and 9 of this Permit:
   (i) the location of each tree that contains hollows, recorded using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 1994 (GDA94), expressing the geographical coordinates in Eastings and Northings;
   (ii) the species name of fauna reasonably likely to utilise, or that have been observed utilising, the habitat/habitat tree(s); and
   (iii) the location of surrogate trees for relocation with vacant hollows, recorded using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 1994 (GDA94), expressing the geographical coordinates in Eastings and Northings.
   (iv) the location and ate where relocated fauna was released, recorded using Global Positioning System (GPS) unit set to Geocentric Datum Australia 1994 (GDA94), expressing the geographical coordinates in Eastings and Northings.

(c) In relation to fauna management pursuant to condition 10 of this Permit, the location of each *Merops ornatus* (Rainbow Bee-eater) burrow recorded using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 1994 (GDA94), expressing the geographical coordinates in Eastings and Northings

(d) In relation to the *revegetation* and *rehabilitation* of areas pursuant to condition 12 of this Permit:
   (i) 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;
   (ii) a description of the *revegetation* and *rehabilitation* activities undertaken; and
   (iii) the average tree density.

14. 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 conditions 13 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 12 September 2016, the Permit Holder must provide to the CEO a written report of records required under condition 13 of this Permit where these records have not already been provided under condition 14(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 20 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;

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;

trees means *Eucalyptus gomphocephala, Eucalyptus marginata* and *Corymbia calophylla.*

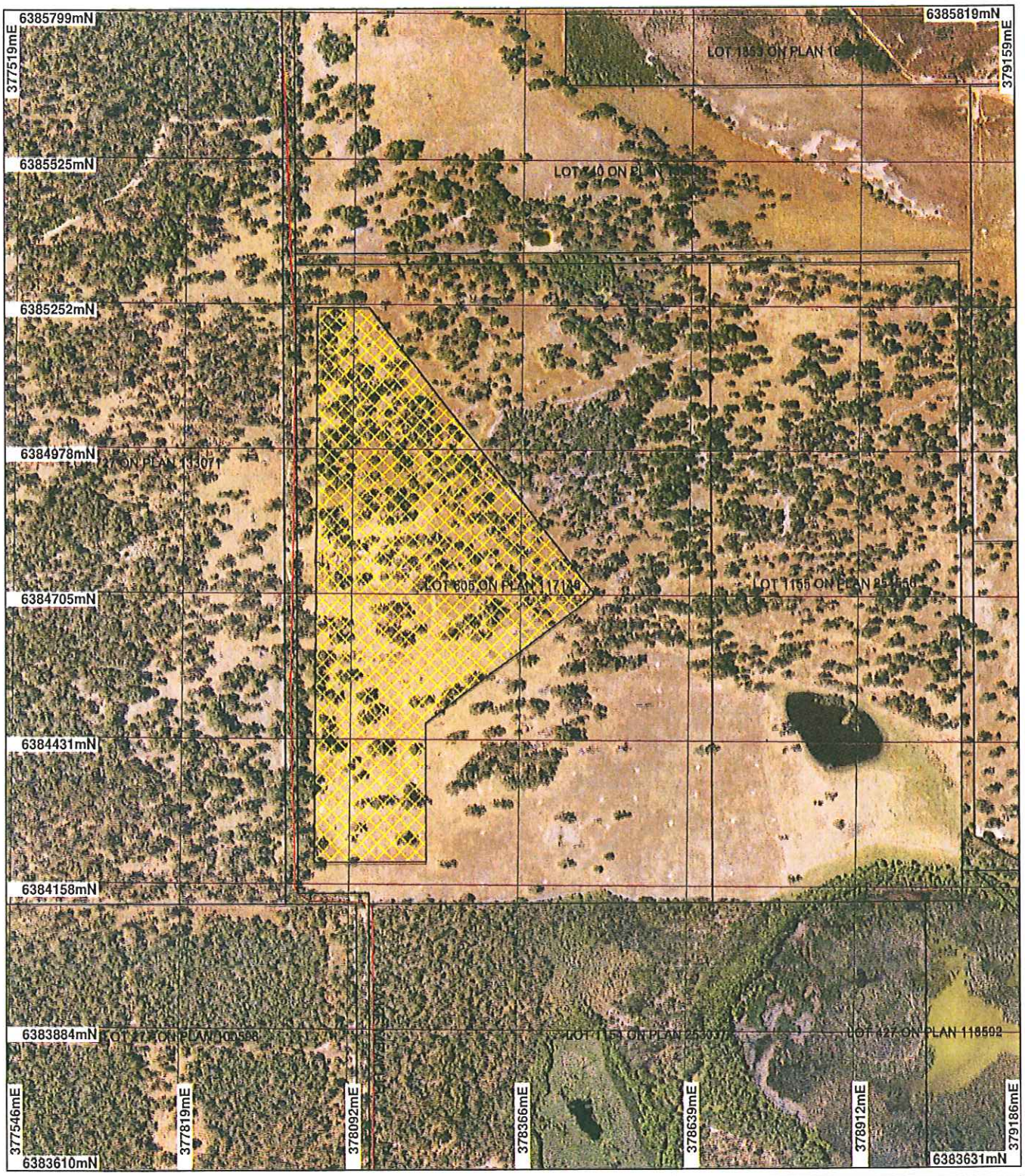
weed/s means a species listed in Appendix 3 of the "Environmental Weed Strategy" published by the Department of Conservation and Land Management (1999), and plants declared under section 37 of the *Agriculture and Related Resources Protection Act 1976.*

Keith Claymore
A/ASSISTANT DIRECTOR
NATURE CONSERVATION DIVISION

Officer delegated under Section 20
of the Environmental Protection Act 1986

12 November 2009

Plan 2509/1



LEGEND

- Road Centrelines
- Cadastre
- Cadastre for labelling
- Clearing Instruments
- Areas Approved to Clear

Swan Coastal Plain South
20cm Orthomosaic • Landgate
2006

N

0 ~250 m

Scale 1:9655
(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 of measurement inaccuracies.

K.Claymore ..... Date 12/11/09

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

Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 2509/1

Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: **MR Pino Gangemi**

1.3. Property details

Property: LOT 605 ON PLAN 117146 (NIRIMBA 6208)

Local Government Area: Shire Of Murray

Colloquial name:

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
23.5		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
Heddle Vegetation Complex: Cottesloe Complex - Central and South : Mosaic of woodland of E. gomphocephala and open forest of E. gomphocephala - E. marginata - E. calophylla; closed heath on the Limestone outcrops. (Heddle et al 1980) Beard Vegetation Association: 998 - Medium woodland; tuart 968 - Medium woodland; jarrah, marri & wandoo. (Shepherd 2007, SAC Bio datasets accessed 9/7/2008).	The proposal is to clear up to 23.5 hectares of native vegetation within Lot 605 (81ha) for the purpose of sand and limestone extraction. The vegetation under application has been parkland cleared and comprises Eucalyptus gomphocephala, Corymbia calophylla and Eucalyptus marginate, Banksia illicifolia Melaleuca spp, Allocasuarina lehmanniana, Banksia sessilis, Acacia pulchella and Hakea sp, over grassy weeds. Cattle were observed to be grazing in the vegetation under application.	Completely Degraded: No longer intact; completely/almost completely without native species (Keighery 1994)	Vegetation description based on a site inspection conducted by DEC staff on 18 June 2008.

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 vegetation under application has previously been parkland cleared and comprises individual mature Eucalyptus gomphocephala, Corymbia calophylla and Eucalyptus marginata over sparse Banksia ilicifolia Melaleuca spp, Allocasuarina lehmanniana, Banksia sessilis, Acacia pulchella and Hakea species and grassy weeds (DEC, 2008).

Given that the vegetation is in completely degraded condition with a low species diversity, the vegetation under application is not considered likely to comprise a high level of biodiversity.

Methodology References:

- DEC (2008)
- Keighery (1994)

GIS Databases:

- Perth Metropolitan Area South 20cm Orthomosaic - Landgate 2007

(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

There are four fauna species of conservation significance which have been recorded within the local area (5km radius) including the Forest Red-Tailed Black-Cockatoo (Calyptorhynchus banksii, VU), Western Ringtail Possum (Pseudocherius occidentalis, VU), Quenda (Isoodon obesulus fusciventer, P5) and the Masked Owl (SW ssp) (Tyto novaehollandiae novae-hollandias), the closest being the Forest Red-Tailed Black-Cockatoo which was recorded within the applied area. During the DEC site inspection a large flock of Forest Red-Tailed Black-Cockatoo was observed foraging in the Eucalypt trees and Banksia ilicifolia trees on site (DEC, 2008).

The vegetation under application is parkland cleared and is in completely degraded (Keighery, 1994) condition, however, the grassy understorey and woody debris present may provide some habitat potential for ground dwelling fauna species such as Kangaroos and the Quenda (DEC, 2008).

During the fauna survey of Lot 605 Lake Mealup Road North, a total of 33 bird species were observed within this locality, including the EPBC Act (Migratory) listed Rainbow Bee-eater (Merops ornatus) (GHD 2006) which was observed breeding on site during the fauna survey (Bamford, 2009). The Rainbow Bee-eater is protected under the Environmental Protection Biodiversity Conservation Act 1999. This migratory species nests in burrows excavated in sandy ground during the spring and summer months. Given that this species was observed breeding on site during the fauna survey, and the area under application comprises sandy soils and vegetated areas suitable for nesting, it is considered that the area under application provides significant local habitat for this protected species. Any clearing of vegetation during the months of September to February is likely to destroy any burrows that may be present on site and a condition will be placed on the permit preventing any clearing during this period.

The area under application is located within the distribution range of the Carnaby's Black-Cockatoo (Calyptorhynchus latirostris) (EPBS Act, Endangered). These birds inhabit uncleared or remnant Eucalyptus and Banksia woodlands and coastal scrub foraging on the seeds and nectar from the flowers of Eucalypts, Banksia, Grevillea and Hakea species (Burbidge, 2004). The vegetation within the applied area comprises mature hollow-bearing Eucalypts. Hollows observed during the DEC site inspection varied in size and were considered to provide nesting opportunities for a number of bird species, ranging from small insectivorous birds species through to the larger parrot species, including the Carnaby's Black-Cockatoo and Forest Red-Tailed Black-Cockatoo (DEC, 2008).

Due to the potential for Carnaby's Black-Cockatoo habitat occuring on site, the Commonwealth Department of the Environment, Water, Heritage and the Arts requested a further fauna survey be conducted targeting potential breeding and foraging habitat for the Carnaby's Black-Cockatoo and Baudin's Black-Cockatoo.

The targeted fauna survey conducted by Bamford (2009) identifed 99 trees with a diameter at breast height greater than 500mm on site, of which 10 trees had potential hollow habitat. According to Bamford (2009) no Carnaby's or Baudin's Black-Cockatoo nesting activity was recorded on site and given the poor representation of proteaceous food sources on site, it is highly unlikely that the vegetation under application would provide foraging habitat for the identified Black-Cockatoo species. However, Bamford (2009) did record a small flock of Forest Red-Tailed Black-Cockatoos feeding on site and considered that trees hollows may provide suitable nesting habitat for the Forest Red-Tailed Black-Cockatoo. Furthermore, a nesting pair of Nankeen Kestrels (Falco cenchroides) sitting on two eggs was observed in a hollow spout (Bamford, 2009). A fauna management condition will be placed on the permit to ensure species of conservation significance are located, avoided or relocated.

Given the potential for the vegetation under application to provide suitable habitat for a range of fauna species, including species of conservation significance, it is considered that the vegetation under application comprises part of a significant habitat for indigenous fauna. Revegetation conditions will be placed on the permit to mitigate the loss of vegetation habitat.

Methodology

References:

- Bamford (2009)
- DEC (2008)
- Landform Research 2007

Gis Databases

- SAC biodatasets accessed 10/06/2008 and 26/10/2009

(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 are three known records of two species of rare flora within the local area (5km radius). The closest known occurrence of rare flora is Drakaea elastica which is located approximately 2.3km north east of the area under application. Diuris drummondii also occurs within the local area and is located approximately 3.8km east of the applied area. Both D. elastica and D. drummondii are found within a different vegetation complex and soil type to that found on site.

Drakaea elastica is generally found on sandy soils (West Australian Herbarium, 1998) in Banksia woodland, particularly under thickets of Kunzea glabrescens located near winter-wet swamps (Brown et al, 1998).

Diuris drummondii is generally found on sand to sandy clay soils in areas subject to winter inundation; however this species only flowers following summer fire so it would not be possible to find during a survey if the area has not been burnt in the previous year (Brown et al. 1980).

Given that the vegetation under application comprises upland vegetation in completely degraded condition and has been extensively grazed and that the identified rare flora are found within a different vegetation complex and soil type to that found on site, it is not considered likely that the vegetation under application includes, or is necessary for the continued existence of rare flora (DEC, 2009).

Methodology

References:
- Brown et al (1998)
- DEC (2008)
- DEC (2009)
- West Australian Herbarium (1998)

GIS database
- Heddle Vegetation complexes
- Pre-European Vegetation DA 01/01
- SAC Biodatasets accessed 10/06/08
- 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 two known occurrences of Threatened Ecological Communities (TEC) within the local area (5km radius) with the closest located approximately 3.5km north east of the area under application, being identified as SCP07 - Herb Rich Shrublands on Claypans.

Although the soil type mapped within the area under application is the same soil type as that mapped for the identified TEC, the DEC (2008) site inspection observed the soils on site as being predominantly yellow-brown sands.

Given that the vegetation under application comprises Eucalyptus trees and shrubs associated with leached sandy soils, and given the distance to the nearest TEC, it is not considered likely that the vegetation under application comprises, or is necessary for the maintenance of a TEC.

Methodology

References:
- DEC (2008)

GIS databases
- Heddle Vegetation Complexes
- SAC Biodatasets accessed 10/06/08 and 26/10/2009
- 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

Heddle et al. (1980) defines the vegetation under application as Cottesloe Complex - central and south of which there is 41.1% of pre-European extent remaining (EPA 2006). The vegetation under application is also described as Beard vegetation associations 998 and 968, of which there is 41.5% and 6.34% respectively of pre-European extent remaining (Shepherd 2007).

The area under application is located within the Shire of Murray, within which there is 56.08% of pre-European extent remaining; and the local area (~10km radius) has approximately 45.6% of pre-European vegetation remaining.

The Environmental Protection Authority (EPA) identifies a 30% threshold level as recommended in the

National Objectives Targets for Biodiversity Conservation; below which species loss appears to accelerate exponentially at an ecosystem level (EPA, 2000). The EPA (2006) recognises the Perth Metropolitan Region as a 'constrained area,' providing for the reduction of vegetation complexes to a minimum of 10% of the Pre-European extent. The native vegetation association under assessment (Beard association 968) is less than 10%.

Given that the vegetation under application has previously been parkland cleared and is in completely degraded condition and is not representative of the Heddle vegetation complex Cottesloe Complex Central and South and the site does not form part of any local ecological linkages as identified by South West Regional Ecological Linkages (Molloy et al, 2009), it is not considered likely that the vegetation under application is significant as a remnant of native vegetation.

	Pre-European (ha)	Current extent (ha)	Remaining (%)	In secure tenure (%)
IBRA Bioregion*				
Swan Coastal Plain^	1,501,208	583,140	38.84	
Shire of Murray**	177,618	99,614	56.08	
Local Area (~10km radius)	~31,400	~14,344	~ 45.60	
Heddle Complex**				
Cottesloe Complex Central and South	44,995	18,474.	41.10	
Beard vegetation type*				
998	50,866	21,225	41.73	
968	136,188	8,637	6.34	

* (Shepherd, 2007)
** (EPA, 2006)
^ Area within Intensive Land Use Zone

Methodology

References:
- EPA (2000)
- EPA (2006)
- Heddle et al (1980)
- Molloy et al (2009)
- Shepherd et al (2007)

GIS Databases:
- Heddle Vegetation Complexes
- Perth Metropolitan Area South 20cm Orthomosaic - Landgate 2007
- Pre-European Vegetation
- SAC Bio Datasets accessed 7/09/2009 and 26/10/2009

(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

There are numerous wetlands within a 5km radius of the area under application, the closest being Lake McLarty and the Peel Inlet which are respectively located approximately 180m south east and 1km west of the applied area. Lake McLarty is listed as a Conservation Category Wetland (CCW), an Australian Nature Conservation Agency (ANCA) wetland, a RAMSAR wetland and as an Environmental Policy Protection (EPP) lake. In addition the Peel Inlet is a RAMSAR listed wetland of local and international significance which provides significant habitat for migratory birds.

The closest watercourse is an Un-named major tributary which is located approximately 1.8km south of the area under application.

The recommended buffer to Conservation Category Wetlands (CCW) is 200m (Waters and Rivers Commission, 2001), however given that the area under has previously been parkland cleared and comprises individual trees the potential impact is likely to be minor and incremental.

Therefore, given the above, the proposed clearing is not likely to be at variance to this Principle.

Methodology References:
- DEC (2008)
- Waters and Rivers Commission (2001)

GIS Databases
- ANCA Wetlands
- EPP, Lakes
- Geomoephic Wetlands Classification
- Hydrography linear
- Hydrography linear (hierarchy)
- RAMSAR, wetlands

(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 soils within the area under application are identified as part of the Spearwood S 1b Phase, which are described as deep siliceous yellow brown sands or pale sands. These soils have a nil to low risk of salinity and a low risk of water logging due to the high infiltration rates associated with sands (Department of Agriculture, 2005).

The main land degradation risk associated with the removal of vegetation on the identified soil type is considered to be a high risk of phosphorous export and wind erosion (Department of Agriculture, 2005). The proposed clearing of native vegetation is not considered likely to impact on the export of nutrients.

The high wind erosion potential is due to the sandy nature of the soil and without appropriate vegetation cover, windbreaks or adequate dust suppression on exposed surfaces the proposal may result in appreciable land degradation. However, if the land clearing is completed in a 'cell clearing' manner and is subsequently rehabilitated, it is considered likely that the risk of wind erosion would be minimised.

Given that the proposed land use of the area under application is for sand extraction and has a high risk of wind erosion, the proposal may be at variance to this Principle. The risk of wind erosion can be adequately managed and minimised by excavating then rehabilitating small, staggered areas, and by maintaining a vegetated buffer zone around the site to reduce wind velocity.

A condition will be imposed on the permit requiring that clearing not be conducted unless actively mining the cleared area within 6 months.

Methodology References:
- Department of Agriculture (2005)

GIS database
- Soils Statewide DA 11/99

(h) Native vegetation should not be cleared if the clearing of the vegetation is likely to have an impact on the environmental values of any adjacent or nearby conservation area.

Comments

Proposal is not likely to be at variance to this Principle

There are numerous areas reserved for conservation purposes within a 5km radius of the area under application, the closest being Austin Bay Nature Reserve (System 6 Conservation Reserve) and Mealup Point Nature Reserve which are respectively located approximately 500m north east and 950m south west of the applied area.

Although there is a large expanse of remnant vegetation to the west of the applied area, the area under application is situated in a landscape which has been extensively cleared for rural activities to the east and north. In addition, given the applied area does not form part of any local ecological linkages as identified by South West Regional Ecological Linkages (Molloy et al, 2009), it is unlikely to provide a corridor to those areas.

Given the distance to these reserves, it is not considered likely that the proposed clearing would have a direct or indirect impact on the environmental values of any adjacent or nearby conservation reserves.

Methodology References:
- DEC (2008)
- Keighery (1994)
- Molloy et al (2009)

GIS databases
- CALM Manages Land
- Perth Metropolitan Area South 20cm Orthomosaic - Landgate 2007
- System 6 Conservation Reserves

(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

The nearest wetland, a CCW wetland (Lake McLarty) is located approximately 180m south east of the applied area and the closest watercourse is an un-named major tributary which is located approximately 1.8km south of the area under application. Given the high infiltration rates of the sandy soils identified on site and the distance to the nearest wetland and watercourse, it is not considered likely that the proposed clearing would cause water erosion resulting in deterioration in surface water quality.

The area under application is located within the Peel-Harvey Environmental Protection Policy (EPP) area, but is not located within a Public Drinking Water Source Area (PDWSA); and has a nil to low risk of salinity. Given this, it is not considered likely that the proposed clearing would artificially elevate nutrient levels or cause salinity resulting in the deterioration in the quality of underground water.

Given the above, the proposed clearing is not likely to be at variance to this Principle.

Methodology

GIS Databases
- EPP, Areas
- Hydrography linear (heigherarchy)
- Geomorphic Wetlands (Mgt Categories), Swan Coastal Plain
- Public Drinking Water Source Areas (PDWSA)
- Salinity Risk Mapping

(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 located approximately 1.8km north of an un-named majory tributory and approximately 180 metres north east of Lake McLarty, a CCW Wetland, at an elevation of between 5 - 15 metres.

Given the distance to the nearest wetland and watercourse and the high infiltration of the soils on site, it is not considered likely that the proposed removal of vegetation would impact on peak flood height or duration.

Methodology

GIS databases:
- Hydrography linear (heigherarchy)
- Geomorphic Wetlands
- Soils Statewide DA 11/99
- Topographic Contours, Statewide

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

Comments

Lot 605 on plan 117146 is zoned as Rural under the Town Planning Scheme.

A works approval and/or licences under Part V of the Environmental Protection Act have not been obtained from the Department of Environment and Conservation, however, the applicant has advised that he does not believe that he requires Works Approval as any screening of sand and/or limestone will be below 5000 tonnes per annum (TRIM ref: DOC105670).

The Shire of Murray advice that Planning Approval and an Extractive Industry Licence have not yet been granted (TRIM ref: DOC101280).

In a submission, the Shire of Murray advice that it does not object to the proposed clearing provided the applicant holds current Planning Approval for Extractive Industry and has a current Extractive Industry Licence; and that any clearing is conducted in a progressive manner in an area actively mining (TRIM ref: DOC104007).

The Shire of Murray advice that to mitigate the loss of trees within the area under application, the applicant is required to revegetate the 50m buffer area of an adjacent Conservation Category Wetland at the rate of 1000 stems per hectare. The Shire further advises that Planning Approval will not be granted until the applicant provides a modified Excavation Management Plan to accommodate this revegetation requirement, which must be endorsed by the Shire (TRIM ref: DOC103998).

The proposal for sand and limestone excavation has been set as a 'controlled action' by the Commonwealth under the Environmental Protection Biodiiversity Conservation Act (EPBC Act). The Commonwealth Department of the Environment, Water, Heritage and the Arts has approved the sand and limestone extraction at Lot 605 Lake Mealup Road North, Nirimba with conditions. (TRIM ref: DOC92513).

In 2006 the Environmental Protection Authority set the level of assessment for the sand and limestone quarry

as 'Not Assessed.' The decision of the EPA to set the level of assessment for the sand and limestone quarry as 'not assessed' was appealed but this appeal was dismissed in 2007 by the Minister for Environment. The appeal addressed concerns with the proposal for the impacts to hydrology, vegetation and flora survey, fauna habitat and karst features.

As a result of the appeal public advice was given with recommendations including: the submission of a fauna survey for the area proposed for clearing, the exclusion of the limestone ridge located on the property containing the vegetation under application and the substitution for any loss of hollows suitable for fauna habitat. The EPA also advised that the vegetation and flora survey provided by the proponent was adequate in addressing potential impacts to flora and vegetation.

The limestone ridge located on the property containing the vegetation under application was originally included in the proposal for excavation. However, in response to concerns raised by the appeal and by the EPA regarding the impact of the excavation on groundwater recharge and karst features, the limestone ridge portion of the proposal has been excluded. However, it is recognised that although the limestone ridge was excluded there may still be some limestone located in the current proposed excavation site.

In addition, further to public advice given in 2007 the EPA gave advice on approvals, permits and possible conditions needed from various government agencies including:

- A clearing Permit under part V of the EP Act from DEC
- Revegetation works
- Management of acid sulphate soils in the north-east portion
- Dust, Weed and Dieback Management
- Works approval under part V of the EPA Act

The majority of the area under application is mapped as having no known risk of acid sulphate soils. The southern portion of vegetation under application is mapped as having a moderate to low risk. There are also two pockets of high to moderate risk of acid sulphate soils in the south-eastern and north-eastern portion of vegetation under application. However it is not considered likely that the proposed clearing would significantly disturb these soils so that management would be required. However it is noted that the proposed land use may disturb acid sulphate soils and this would need to be managed under the extractive industry licence.

Methodology

References:
- Peel Harvey Catchment Council 2008

GIS databases
- Native Title DLI
- Shire of Murray
- Town Planning Scheme

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 Principle (b), may be at variance to Principle (g) and is not likely to be at variance to any of the remaining Principles.

5. References

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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)