



CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

PERMIT DETAILS

Area Permit Number: 3818/1

File Number: 2010/004563-1

Duration of Permit: From 16 October 2010 to 16 October 2020

PERMIT HOLDER

Shire of Augusta- Margaret River

LAND ON WHICH CLEARING IS TO BE DONE

Lot 4008 on Deposited Plan 203070 Tanah Merah Road, Bramley

AUTHORISED ACTIVITY

The Permit Holder shall not clear more than 2.88 hectares of native vegetation within the area cross-hatched yellow on attached Plan 3818/1.

CONDITIONS

1. Period in which clearing is authorized

- (a) The Permit Holder shall not clear native vegetation unless actively mining within 3 weeks of the authorised clearing being undertaken.
- (b) The Permit Holder shall not clear any native vegetation after 16 October 2015.

2. Fauna management

- (a) Prior to undertaking any clearing authorised under this Permit, the areas shall be inspected by a *fauna specialist* who shall identify habitat/habitat tree(s) suitable to be utilised as habitat by fauna listed in the *Wildlife Conservation (Specially Protected Fauna) Notice 2010*.
- (b) Prior to clearing, any habitat/habitat tree(s) identified by condition 2(a) shall be inspected by a *fauna specialist* for the presence of fauna listed in the *Wildlife Conservation (Specially Protected Fauna) Notice 2010*.
- (c) Within one week prior to undertaking any clearing authorised under this Permit, the Permit Holder shall engage a *fauna clearing person* to remove and relocate fauna identified under condition 2(b).

3. Dieback and weed control

- (a) 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*:
 - (i) clean earth-moving machinery of soil and vegetation prior to entering and leaving the area to be cleared;
 - (ii) shall only move soils in *dry conditions*;
 - (iii) ensure that no *dieback* or *weed*-affected soil, *mulch*, *fill* or other material is brought into the area to be cleared; and
 - (iv) restrict the movement of machines and other vehicles to the limits of the areas to be cleared.

- (b) At least once in each 12 month period for the term of this Permit, the Permit Holder must remove or kill any *weeds* growing within areas cleared under this Permit.

4. Retain vegetative material and topsoil, revegetation and rehabilitation

The Permit Holder shall:

- (a) retain the vegetative material and topsoil removed by clearing authorised under this Permit and stockpile the vegetative material and topsoil in an area that has already been cleared.
- (b) within 3 months following completion of mining activities, *revegetate* and *rehabilitate* the area within the area cross-hatched yellow on attached Plan 3818/1 by:
 - (i) re-shaping the surface of the land so that it is consistent with the surrounding 5 metres of uncleared land; and
 - (ii) ripping the pit floor and contour batters within the extraction site; and
 - (iii) laying the vegetative material and topsoil retained under condition 4(a) on the cleared area(s)
- (c) within 24 months of laying the vegetative material and topsoil on the cleared area in accordance with condition 4(b) of this Permit:
 - (i) engage an *environmental specialist* to 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 4(c)(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, *revegetate* the area by 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 ensuring only *local provenance* seeds and propagating material are used.

5. Offsets

If part or all of the clearing to be done is or may be at variance with clearing principles (a), (b) and (e), then the Permit Holder must implement an *offset* in accordance with conditions 5(a) and (b) of this Permit with respect to that clearing.

- (a) Determination of *offsets*:
 - (i) in determining the *offset* to be implemented with respect to a particular area of native vegetation proposed to be cleared under this Permit, the Permit Holder must have regard to the *offset* principles contained in condition 5(b) of this Permit;
 - (ii) once the Permit Holder has developed an *offset proposal*, the Permit Holder must provide that *offset proposal* to the CEO for the CEO's approval prior to undertaking any clearing to which the *offset* relates, and prior to implementing the *offset*;
 - (iii) clearing may not commence until and unless the CEO has approved the *offset proposal* to which the clearing relates;
 - (iv) the Permit Holder shall implement the *offset proposal* approved under condition 5(a)(iii); and
 - (v) each *offset proposal* shall include a *direct offset*, timing for implementation of the *offset proposal* and may additionally include *contributing offsets*.
- (b) For the purpose of this condition, the *offset* principles are as follows:
 - (i) *direct offsets* should directly counterbalance the loss of the native vegetation;
 - (ii) *contributing offsets* should complement and enhance the *direct offset*;
 - (iii) *offsets* are implemented only once all avenues to avoid, minimise, rectify or reduce environmental impacts have been exhausted;
 - (iv) the environmental values, habitat, species, *ecological community*, physical area, ecosystem, landscape, and hydrology of the *offset* should be the same as, or better than, that of the area of native vegetation being *offset*;

- (v) a ratio greater than 1:1 should be applied to the size of the area of native vegetation that is offset to compensate for the risk that the *offset* may fail;
- (vi) *offsets* must entail a robust and consistent assessment process;
- (vii) in determining an appropriate *offset*, consideration should be given to ecosystem function, rarity and type of *ecological community*, vegetation *condition*, habitat quality and area of native vegetation cleared;
- (viii) the *offset* should either result in no net loss of native vegetation, or lead to a net gain in native vegetation and improve the *condition* of the natural environment;
- (ix) *offsets* must satisfy all statutory requirements;
- (x) *offsets* must be clearly defined, documented and audited;
- (xi) *offsets* must ensure a long-term (10-30 year) benefit; and
- (xii) an *environmental specialist* must be involved in the design, assessment and monitoring of *offsets*.

6. 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 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;
 - (ii) the date that the clearing commenced;
 - (iii) the date the extraction operations ceased; and
 - (iv) the size of the area cleared (in hectares).
- (b) In relation to fauna management pursuant to condition 2 of this Permit:
 - (i) the location of each habitat or habitat tree identified 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 and date where relocated fauna was released, recorded using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 1994 (GDA94), expressing the geographical coordinates in Eastings and Northings.
- (c) In relation to the *revegetation* and *rehabilitation* of areas pursuant to condition 4 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;
 - (iii) the size of the area *revegetated* and *rehabilitated* (in hectares); and
 - (iv) the species composition, structure and density of *revegetation* and *rehabilitation*.
- (d) In relation to the offset of areas pursuant to condition 5 of this Permit:
 - (i) the location of any area of *offsets* 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 *offset* activities undertaken; and
 - (iii) the size of the *offset* area (in hectares).

7. Reporting

- (a) The Permit Holder must provide to the CEO on or before 30 June of each year, a written report:
- (i) of records required under condition 6 of this Permit; and
 - (ii) concerning activities done by the Permit Holder under this Permit between 1 January and 31 December of the preceding year.
- (b) Prior to 16 July 2020 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:

condition means the rating given to native vegetation using the *Keighery scale* and refers to the degree of change in the structure, density and species present in the particular vegetation in comparison to undisturbed vegetation of the same type;

contributing offset/s has the same meaning as is given to that term in the Environmental Protection Authority's *Position Statement No.9: Environmental Offsets*, January 2006;

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

direct offset/s has the same meaning as is given to that term in the Environmental Protection Authority's *Position Statement No.9: Environmental Offsets*, January 2006;

dry conditions means when soils (not dust) do not freely adhere to rubber tyres, tracks, vehicle chassis or wheel arches;

ecological community/ies means a naturally occurring biological assemblage that occurs in a particular type of habitat (English and Blythe, 1997; 1999);

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;

Keighery scale means the vegetation condition scale described in *Bushland Plant Survey: A Guide to Plant Community Survey for the Community (1994)* as developed by B.J. Keighery and published by the Wildflower Society of WA (Inc). Nedlands, Western Australia;

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;

offset/s means an offset required to be implemented under condition 5 of this Permit;

offset proposal means an *offset* determined by the Permit Holder in accordance with condition 5 of this Permit;

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 natural *regeneration*, *direct seeding* and/or *planting*, so that the species composition, structure and density is similar to pre-clearing vegetation types in that area.

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*.

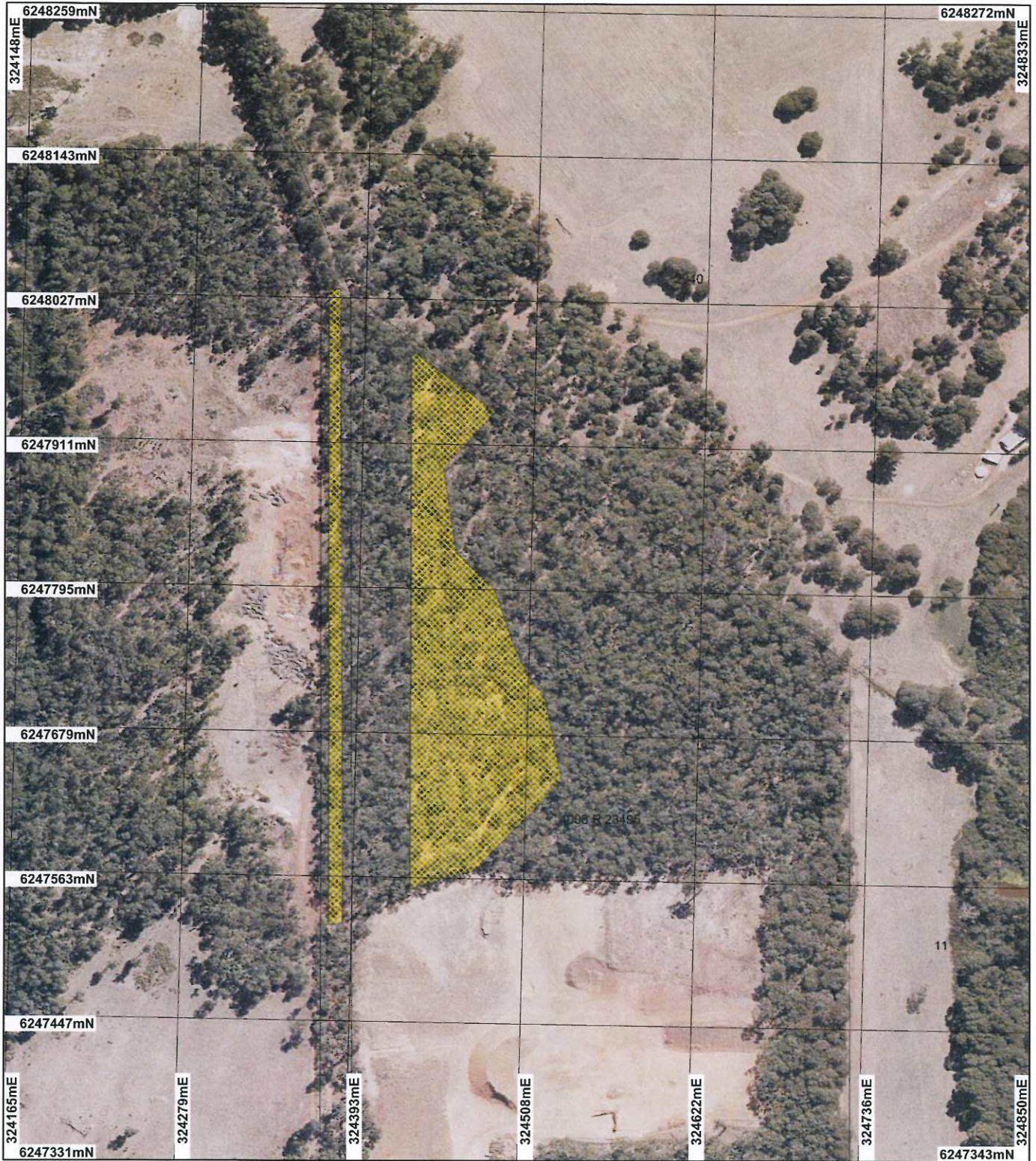


Kelly Faulkner
MANAGER
NATIVE VEGETATION CONSERVATION BRANCH

*Officer delegated under Section 20
of the Environmental Protection Act 1986*

16 September 2010

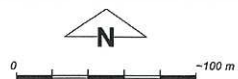
Plan 3818/1



LEGEND

- Cadastre for labelling
- Road Centrelines
- FW
- HY
- LRO (cont)
- LRS
- MR
- N
- TR
- Clearing Instruments
- Areas Approved to Clear

Busselton 50cm Orthomosaic - Landgate 2007



Scale 1:4074
(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.

K Faulkner Date *16/9/10*

K 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 acknowledged by the agency acronym in the legend.



Department of Environment and Conservation

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1. Application details

1.1. Permit application details

Permit application No.: 3818/1
Permit type: Area Permit

1.2. Proponent details

Proponent's name: Shire of Augusta Margaret River

1.3. Property details

Property: LOT 4008 ON PLAN 203070 (Lot No. 4008 TANAH MARAH BRAMLEY 6285)
ROAD RESERVE (BRAMLEY 6285)

Local Government Area:

Colloquial name: Hoey Road

1.4. Application

| | | | |
|--------------------|-----------|--------------------|---------------------|
| Clearing Area (ha) | No. Trees | Method of Clearing | For the purpose of: |
| 2.88 | | 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 complex: 3 - Medium forest - jarrah-marri | The proposal is to clear 2.88ha for the purpose of expanding an existing gravel pit. | Very Good: Vegetation structure altered; obvious signs of disturbance (Keighery 1994) | The vegetation condition was determined from a site visit conducted by DEC officers on the 3 August 2010 (DEC 2010). |

Mattiske vegetation complex: Cowaramup (C2) - Open forest of Eucalyptus marginata subsp. marginata-Corymbia calophylla-Banksia grandis on lateritic uplands in perhumid and humid zones.

(Mattiske 1998, Shepherd 2007).

A survey was undertaken in November 2003 and reported the following:
The dominant vegetation community of this area is Eucalyptus marginata, Corymbia calophylla open forest, over Hakea lissocarpa, Hibbertia hypericoides, Podocarpus drouynianus, Hakea amplexicaulis, Patersonia umbrosa open low heath, on lateritic gravelly loam upland/upper slopes with lateritic rock outcrops.

A dieback interpreter assessed the Tanah Marah Reserve in August 2004 for Phytophthora dieback presence. The following conclusions from evidence gathered were;

1. The vegetated area within the reserve is sporadically infested.
2. Some uninfested areas may exist, however sufficient evidence was collected to rule out separation of uninfested from infested area. For the purpose of pit extension, or starting a new pit elsewhere in the reserve, the entire area should be

3. Assessment of application against clearing principles

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

Comments

Proposal is at variance to this Principle

The Shire of Augusta Margaret River has reduced the proposed clearing to 2.88ha from the original area of 4.2ha and have proposed to offset the loss of this native vegetation.

The dominant vegetation community of this area is *Eucalyptus marginata*, *Corymbia calophylla* open forest, over *Hakea lissocarpha*, *Hibbertia hypericoides*, *Podocarpus drouynianus*, *Hakea amplexicaulis*, *Patersonia umbrosa* open low heath (CALM 2003).

The area assessed is in very good (Keighery 1994) condition and is connected by continuous vegetation to the Bramley National Park situated 500m southwest. A number of potential habitat trees were observed during the site visit (DEC 2010). DEC considers that threatened fauna species such Forest-Red Tailed Black Cockatoo (*Calyptorhynchus banksii naso*) and the Carnaby's Black Cockatoo (*Calyptorhynchus latirostris*) may use the application area for nesting and foraging habitat.

The Matiske Vegetation complex for the area under application is C2 of which there is only 23.0% (updated from Matiske 1998) of pre-European vegetation extent remaining respectively (Havel 2002). This complex retains less than the recommended 30% level in the National Objectives Targets for Biodiversity Conservation below which species loss appears to accelerate exponentially at an ecosystem level (Commonwealth of Australia 2001).

116 flora species were recording within Lot 4008 on Plan 203070 during November 2003 (CALM 2003).

Given the above, it is considered for the proposed clearing to be at variance to this Principle. Offset and fauna management conditions may mitigate impacts.

Methodology

References

- CALM (2003)
- DEC (2010)
- Commonwealth of Australia (2001)
- GIS Databases
- SAC Bio Datasets (6 July 2010)

(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

Twelve conservation significant species were recorded in the local area (~10km radius) of the area under application.

The area under application consists of Jarrah and Marri forest in a very good (Keighery 1994) condition (DEC 2010) and is connected by continuous vegetation to Bramley National Park situated 500m southwest. DEC considers that the Chuditch (*Dasyurus geoffroii*), Carpet Python (*Morelia spilota imbricata*), Quenda (*Isodon obesulus fusciventer*) Western Ring-tailed Possum (*Pseudocheirus occidentalis*) may utilise the application area for habitat.

The Forest-Red Tailed black cockatoo (*Calyptorhynchus banksii naso*) and the Carnaby's black cockatoo (*Calyptorhynchus latirostris*) have been recorded in the local (~ 5km radius) area, and are known to nest in large hollows occurring in jarrah and marri trees (CALM 2005, Cale 2003). The area under application contains feeding habitat for black cockatoo species which are known to forage on *Dryandra*, Marri and Jarrah species (CALM 2005, Cale 2003).

A number of habitat trees with the potential for developing hollows suitable for nesting for black cockatoo species have been recorded within the area assessed.

The Shire of Augusta Margaret River has reduced the proposed clearing to from 4.2 ha to 2.88ha and have proposed to offset the loss of this native vegetation.

The area under application is also a part of a north south ecological linkage that includes the nearby Bramley National Park (EPA 2009, Molloy et al 2009). The impact of the proposed clearing on this linkage may be reduced by the proposed staged development of cell 6 of the gravel extraction pit and the availability of uncleared refuges along Hoey Rd and within the south-eastern side and corner of Lot 4008 on Plan 203070 (Shire of Augusta- Margaret River 2010).

The proposed clearing is at variance to this Principle and offset and fauna management conditions may mitigate these impacts.

Methodology References
-CALM (2005)
-Cale (2003)
-DEC (2010)
-EPA (2009)
-Keighery (1994)
-Molloy et al (2009)
-Shire of Augusta- Margaret River (2010)
GIS Databases
-SAC Bio Datasets (6 July 2010)
-DEC tenure

(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 two rare flora species recorded in the local area (10 km radius) including *Caladenia excelsa* and *Drakaea micrantha*. Both of these species occur within the same beard vegetation complex and in similar soil as the area under application.

Caladenia excelsa occurs within Marri, Jarrah and *Banksia* woodlands on sandy loam along the Leeuwin Naturalist Ridge (Brown et al 1998, Liddelow 2006). *Drakaea micrantha* occurs on infertile grey sands in common sheoak and jarrah woodlands or forest (Brown et al 1998, Western Australian Herbarium 1998-). The area under application consists of Jarrah and Marri Woodland over loamy lateritic soil (DEC 2010).

In addition, a flora survey undertaken by CALM in late November 2003 did not identify any rare or priority flora within the application area (CALM 2003). Therefore, it is not considered likely for the proposed clearing to be at variance to this Principle.

Methodology References
-Brown et al (1998)
-CALM (2003)
-DEC (2010)
-Liddelow (2006)
-Western Australian Herbarium (1998-)
GIS Databases
-Soils, statewide
-Pre-European Vegetation
-Mattiske Vegetation Complexes
-SAC Bio datasets (6 July 2010)

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

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

The closest Threatened Ecological Community (TEC) to the area under application is Floristic Community Type (FCT) 10b 'Shrublands on southern ironstones' and occurs 14 km northeast of the applied area.

The vegetation under application consists of Jarrah and Marri Forest over yellow soil (DEC 2010) and as such it is not considered to contain the FCT 10b.

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

Methodology References
-DEC (2010)
GIS Databases
-SAC Bio Datasets (6 July 2010)

(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 may be at variance to this Principle

The vegetation under application is described as Beard vegetation association 3 of which there is 69.3% of pre-European extent remaining within the Jarrah Forest bioregion (Shepherd 2009). The Mattiske Vegetation complex for the area under application is C2, of which there is only 23.0% (updated from Mattiske 1998) of pre-European

vegetation extent remaining respectively (Havel 2002).

The Mattiske vegetation complex of the vegetation under application retains less than the recommended 30% level in the National Objectives Targets for Biodiversity Conservation below which species loss appears to accelerate exponentially at an ecosystem level (Commonwealth of Australia 2001).

In addition, the area under application is also a part of a north south ecological linkage that includes the nearby Bramley National Park (EPA 2009, Molloy et al 2009). The impact of the proposed clearing on this linkage may be reduced to some extent by the proposed staged development of cell 6 of the gravel extraction pit and the availability of uncleared refuges along Hoey Rd and within the south-eastern side and corner of Lot 4008 on Plan 203070.

There is approximately 35% of pre-European vegetation remaining in the local area (~10km radius) and 67.32% remaining in the Shire of Augusta -Margaret River. It is noted that a large percentage of this vegetation is within DEC managed reserves.

The Shire of Augusta Margaret River has reduced the proposed clearing from 4.2 ha to 2.88ha and have proposed to offset the loss of this native vegetation.

Given that the proposed clearing is likely to further fragment the remaining native vegetation between these reserves and the vegetation complex has less than 30% remaining the proposal may be at variance to this Principle. Offset conditions may mitigate these impacts.

| | |
|--------------------|---|
| Methodology | References |
| | -Shepherd (2009) |
| | -Havel (2002) |
| | -EPA (2009) |
| | -Molloy et al (2009) |
| | -Shire of Augusta- Margaret River (2010) |
| | -Commonwealth of Australia (2001) |
| | GIS Databases |
| | -Pre-European Vegetation |
| | -Mattiske Vegetation Complexes |
| | -NLWRA, Current Extent of Native Vegetation |
| | -Interim Biogeographic Regionalisation of Australia |

(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 no watercourses or wetlands within the area proposed for clearing however, a minor perennial watercourse exists to both the west (approximately 220m) and east (approximately 312m) of the area under application.

There is a 20m gradient between the proposed gravel pit and both the western and eastern watercourse creating a small risk of potential runoff entering the streams. The Pit Management Plan however explains the intended use of silt traps and settlement ponds to be constructed down slope of the extraction area to combat this issue (Shire of Augusta - Margaret River 2010). The Management Plan also confirms a 50m vegetated buffer will be left on the eastern boundary, which should also assist in filtration (Shire of Augusta - Margaret River 2010).

No wetlands exist on the property or within the local area.

Given the above, it is not considered likely for the proposed clearing to be at variance to this principle.

| | |
|--------------------|--|
| Methodology | References |
| | -Shire of Augusta -Margaret River (2010) |
| | GIS Databases |
| | -Hydrography linear, |
| | -Topography, statewide |

(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 application area consist of acid grey earths and leached sands sometimes containing ironstone gravels (Northcote et al 1960-68).

Soil erosion and water erosion may occur on these soils and given the size of the application area (2.88ha) the proposed clearing may be at variance to this Principle. Staged clearing condition may mitigate this impact.

Methodology References
-Northcote et al (1960-68)
GIS Databases
-Soils, statewide

(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 Bramley National Park exists approximately 500m south west of the proposed clearing. The Park is linked to the area under application by vegetation.

Two other conservation areas exist within the local area. The first being the Margaret River State Forest which is found 5.9km east of the application area. The second is the Leeuwin Naturaliste National Park, which is found approximately 7km west of the application area.

The area proposed for clearing forms part of an ecological linkage between conservation areas and other large remnants in the local area and contributes to a north south linkage with Bramley National Park. The Shire has reduced the area to be cleared leaving a strip of uncleared native vegetation along Hoey Rd and within the south-eastern side and corner of Lot 4008 on Plan 203070 to ensure the linkage is retained.

Therefore, the proposed clearing may be at variance to this Principle. The area will be revegetated after the gravel has been extracted.

Methodology GIS Databases
-DEC Tenure
- NLWRA, Current Extent of Native Vegetation
- Busselton 50cm Orthomosaic - Landgate 2007

(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

There are no watercourses or wetlands within the area proposed for clearing however, a minor perennial watercourse exists to both the west (approximately 220m) and east (approximately 312m) of the area under application.

There is a 20m gradient between the proposed gravel pit and both the western and eastern watercourse creating a small risk of potential runoff entering the streams. The Pit Management Plan however explains the intended use of silt traps and settlement ponds to be constructed down slope of the extraction area to combat this issue (Shire of Augusta - Margaret River 2010). The Management Plan also confirms a 50m vegetated buffer will be left on the eastern boundary, which should also assist in filtration (Shire of Augusta - Margaret River 2010). Therefore it is not considered for the proposed clearing to cause deterioration in surface water.

In addition, groundwater salinity is low and given the scale of the proposed clearing, it is not considered for it to cause deterioration in underground water quality.

Therefore, the proposed clearing is not at variance to this Principle.

Methodology References
-Shire of Augusta - Margaret River (2010)
GIS Databases
-Hydrography linear,
-Topography, statewide
-Groundwater Salinity

(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

There are no watercourses or wetlands within the area proposed for clearing however, a minor perennial watercourse exists to both the west (approximately 220m) and east (approximately 310m) of the area under application.

Given the sandy nature of the soil within the application area (Northcote et al 1960-68) and the scale of the proposed clearing, it is not considered for the proposed clearing to be at variance to this Principle.

Methodology References
-Northcote et al (1960-68)
GIS Databases
-Soils, statewide
-Hydrography linear

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

Comments

The Shire of Augusta Margaret River has reduced the proposed clearing down to 2.88ha from the original area of 4.2ha. In addition, they have put forward a possible offset for the proposed clearing.

The amended proposal is to clear 2.88ha for the purpose of expanding an existing gravel pit which was first established in 2005.

The area under application is reserved under management order to the Shire of Augusta Margaret River for the 'Purpose of Gravel'.

Submission (2010) was received stating that the proposed clearing is at variance to Principle (e) as the Mattiske Vegetation Complex C2 has only 23%. In addition, the submission states that the gravel could be sourced from other areas such as already cleared farmland purchased by the Shire, private gravel pits and from the reworking of old pits.

An existing clearing permit (CPS 836/1) has been granted in 2005 on the property for the purpose of gravel extraction.

Methodology References
-Submission (2010)

4. References

- Brown A., Thomson-Dans C. and Marchant N. (1998). Western Australia's Threatened Flora, Department of Conservation and Land Management, Western Australia.
- Cale (2003) Carnaby's Black Cockatoo (*Calyptorhynchus latirostris*) Recovery Plan 2002-2012. For Carnaby's Black Cockatoo Recovery Team, Department of Conservation and Land Management, Western Australia.
- CALM (2003) Threatern Flora Surveys At Various Shire Reserves within Shie of August - Margaret River . Conservation and Land Management, Western Australia.
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5. Glossary

| Term | Meaning |
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| 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) |