



CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

Purpose Permit number:	CPS 6079/1
Permit Holder:	Main Roads Western Australia
Duration of Permit:	10 January 2015 – 10 January 2025

Advice Note

The funds referred to in condition 11 of this permit are intended for contributing towards the purchase of 33 hectares of native vegetation containing Carnaby's cockatoo habitat.

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 gravel extraction.
- 2. Land on which clearing is to be done**
Lot 4701 on Deposited Plan 184194, Karridale.
- 3. Area of Clearing**
The Permit Holder must not clear more than 8.14 hectares of native vegetation within the area hatched yellow on attached Plan 6079/1.
- 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**
The Permit Holder shall not clear any native vegetation after 10 January 2020.
- 6. Type of clearing authorised**
This Permit authorises the Permit Holder to clear native vegetation for the project activities described in condition 1 of this Permit to the extent that the Permit Holder has the power to carry out works involving clearing for those project activities under the *Main Roads Act 1930* or any other written law.

PART II – MANAGEMENT CONDITIONS

- 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. 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) ensure that no *dieback* or *weed*-affected soil, *mulch*, *fill* or other material is brought into the area to be cleared;
 - (iii) restrict the movement of machines and other vehicles to the limits of the areas to be cleared;
 - (iv) only move soils in *dry conditions*; and
 - (v) where *dieback* or *weed*-affected soil, *mulch*, *fill* or other material is to be removed from the area to be cleared, ensure it is transferred to areas of comparable *soil disease status*.
- (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.

9. Management plan - Revegetation

The Permit Holder must implement and adhere to the document, "Revegetation Strategy, Reserve 30 088 Vlam Road Karridale, December 2014". Submitted to the Department of Environment Regulation on 2 December 2014.

10. Management plan - Extraction

The Permit Holder must implement and adhere to the document, "Pit Management Plan, Reserve 30 088 Vlam Road Karridale, July 2014". Submitted to the Department of Environment Regulation on 11 November 2014.

11. Monetary contributions to a fund maintained for the purpose of establishing or maintaining vegetation (offset)

Prior to undertaking any clearing authorised under this Permit and no later than 11 June 2015, the Permit Holder shall provide documentary evidence to the CEO that funding of \$181,276.26 has been transferred to the Department of Environment Regulation to purchase land for the purpose of establishing or maintaining native vegetation.

PART III - RECORD KEEPING AND REPORTING

12. Records must be kept

- (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 or decimal degrees;
 - (ii) the date that the area was cleared;
 - (iii) the size of the area cleared (in hectares); and
 - (iv) the purpose for which clearing was undertaken.
- (b) In relation to the *revegetation* of areas pursuant to condition 9 of this Permit:
- (i) the location of any areas *revegetated*, recorded using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 1994 (GDA94), expressing the geographical coordinates in Eastings and Northings or decimal degrees;
 - (ii) a description of the *revegetation* activities undertaken; and
 - (iii) the size of the area *revegetated* (in hectares).

13. 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 12 of this Permit; and
 - (ii) concerning activities done by the Permit Holder under this Permit between 1 January to 31 December of the preceding calendar year.
- (b) If no clearing authorised under this Permit was undertaken 1 January to 31 December of the preceding calendar year, a written report confirming that no clearing under this permit has been carried out, must be provided to the CEO on or before 30 June of each year.
- (c) Prior to 10 October 2024, the Permit Holder must provide to the CEO a written report of records required under condition 12 of this Permit where these records have not already been provided under condition 13(a) of this Permit.

DEFINITIONS

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

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

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

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

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

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;

revegetate, revegetated and *revegetation* means the re-establishment of a cover of native vegetation in an area such that the species composition, structure, density and *condition* is similar to pre-clearing vegetation types in that area, and can involve regeneration, direct seeding and/or planting.

soil disease status means soil types either infested, not infested, uninterpretable or not interpreted with a pathogen.

weed/s means any plant -

- (a) that is a declared pest under section 22 of the *Biosecurity and Agriculture Management Act 2007*;
or
- (b) published in a Department of Parks and Wildlife Regional Weed Rankings Summary, regardless of ranking; or
- (c) not indigenous to the area concerned.



M Warnock
SENIOR MANAGER
CLEARING REGULATION

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

11 December 2014

Plan 6079/1



LEGEND

-  Road Centrelines
-  Clearing Instruments
-  Areas Approved to Clear
-  Leuwin 50cm Orthomosaic - Landgate 2004



0 50 100 m

Scale 1:4000

(Approximate when reproduced at A4)

Geocentric Datum Australia 1994

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

M. Warruck Date: 11/12/14
M. Warruck

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.



Government of Western Australia
Department of Environment Regulation

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Clearing Permit Decision Report

Government of Western Australia
Department of Environment Regulation

1. Application details

1.1. Permit application details

Permit application No.: 6079/1
Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: Commissioner of Main Roads Western Australia

1.3. Property details

Property: LOT 4701 ON PLAN 184194 (Lot No. 4701 VLAM KARRIDALE 6288)
Local Government Area: Shire of Augusta Margaret River

1.4. Application

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

1.5. Decision on application

Decision on Permit Application: Grant
Decision Date: 11 December 2014

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
The vegetation under application is mapped as: Beard vegetation association 3 which is described as medium forest; jarrah-marri (Shepherd et al, 2001).	The proposed clearing consists of 8.14 hectares of native vegetation within Lot 4701 on Deposited Plan 184194, Karridale, for the purpose of gravel extraction.	Completely Degraded: No longer intact; completely/almost completely without native species (Keighery 1994) To Excellent: Vegetation structure intact; disturbance affecting individual species, weeds non-aggressive (Keighery 1994)	The condition of the vegetation under application was determined via a site inspection (DEC, 2012) of the property by former Department of Environment and Conservation staff, and flora surveys conducted by Matiske Consulting (Matiske, 2013). GHD (2014) describe the vegetation as Jarrah-Marri forest over Shrublands on laterite on upland areas.
Matiske vegetation complex Glenarty Hills (H) is described as open forest of Eucalyptus marginata subsp. marginata-Corymbia calophylla-Banksia grandis with some Eucalyptus diversicolor on upland and slopes in hyperhumid and perhumid zones (Matiske and Havel, 1998).			

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 proposed clearing consists of 8.14 hectares of native vegetation within Lot 4701 on Deposited Plan 184194, Karridale, for the purpose of gravel extraction.

The application area is mapped as Matiske vegetation complex Glenarty Hills (H), mapped as containing 35 percent pre-European extent in 1998. Eight percent of this vegetation falls within conservation reserves (Matiske and Havel, 1998). The soils of the Glenarty Hills complex are naturally highly restricted, being confined to the ancient riverine deposits of the old tributaries of the lower Blackwood River. The vegetation within these soil types is poorly known (Parks and Wildlife, 2014a).

The Department of Parks and Wildlife (2014a) has advised that giving consideration to further clearing that has occurred since the figures were calculated it is highly likely that less than 30 percent of this vegetation association remains. An assessment of the clearing undertaken within the vegetation complex since 2007 reveals a conservative estimate of approximately 500 hectares of vegetation that has been cleared. The percentage of vegetation remaining is therefore likely to be closer to 29 percent.

An ecological linkage, defined within the South West Regional Ecological Linkage (SWREL) Report (Molloy et al, 2009) occurs approximately 300 metres from the application area. A second linkage is mapped approximately one kilometre east of the application area. The application area is classified as 1a within the SWREL Report as it is connected to both linkages by contiguous vegetation. The SWREL report (Molloy et al, 2009) defines an ecological linkage as 'A series of (both contiguous and non-contiguous) patches of native vegetation which, by virtue of their proximity to each other, act as stepping stones of habitat which facilitate the maintenance of ecological processes and the movement of organisms within, and across, a landscape'. The applicant has advised that vegetated buffers will be retained around the reserve boundary in order to limit impacts to the linkage (Main Roads, 2014).

Biological surveys of the application area (GHD, 2014) recorded forest red-tailed black-cockatoo, Baudin's cockatoo and Carnaby's cockatoo foraging habitat within the application area. GHD also recorded 267 trees potentially suitable as black cockatoo breeding habitat, 79 of which contained hollows. A Baudin's cockatoo was observed within a potential nesting hollow on site (GHD, 2014).

The biological survey of the project area (GHD, 2014) recorded western ringtail possum scats and two dreys within the application area, as well as one individual within 500 metres of the clearing area. The application area is also likely to be utilised by the rare fauna species woylie, chuditch, black-flanked rock-wallaby, southern brush-tailed phascogale and quokka as well as further priority fauna recorded within the local area.

A flora survey of Lot 4701 (GHD, 2014) recorded a priority 4 flora species within the survey area. Advice from the Department of Parks and Wildlife (2014a) notes that the species was relatively common across the reserve in 2003. The proposed clearing is unlikely to significantly impact the conservation status of this species.

The application area contains habitat for fauna of conservation significance, forms part of an ecological linkage and is located within a highly cleared vegetation association, given this the proposed clearing is at variance to this Principle.

Methodology

References:

GHD (2014)
Matiske and Havel (1998)
Parks and Wildlife (2014a)
Main Roads (2014)
Molloy et al (2009)

GIS Datasets:

- SAC Bio Datasets- accessed July 2014
- Vegetation loss 2004-2005 to Vegetation loss 2013

(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

Numerous fauna species listed as rare or likely to become extinct under the Wildlife Conservation Act 1950 have been recorded in the local area (10 kilometre radius). These include *Bettongia penicillata* subsp. *ogilbyi* (woylie), *Calyptorhynchus banksii* subsp. *naso* (forest red-tailed black-cockatoo), *Calyptorhynchus baudinii* (Baudin's cockatoo), *Calyptorhynchus latirostris* (Carnaby's cockatoo), *Dasyurus geoffroii* (chuditch), *Geocrinia alba* (white-bellied frog), *Petrogale lateralis* subsp. *lateralis* (black-flanked rock-wallaby), *Phascogale tapoatafa* subsp. *tapoatafa* (southern brush-tailed phascogale), *Pseudocheirus occidentalis* (western ringtail possum) and *Setonix brachyurus* (quokka) (DPaW, 2007-).

The application area is described as Jarrah-Marri forest over shrublands in a predominantly very good (Keighery, 1994) condition (GHD, 2014).

A north - south ecological linkage, defined by the South West Regional Ecological Linkage (SWREL) Report (Molloy et al, 2009) runs approximately 300 metres from the application area. A second linkage is mapped approximately one kilometre east of the application area and connects it to reserves north east and south east of the application. The application area is classified as 1a in the SWREL Report as it is connected to both linkages by contiguous vegetation.

The SWREL report (Molloy et al, 2009) defines an ecological linkage as 'A series of (both contiguous and non-contiguous) patches of native vegetation which, by virtue of their proximity to each other, act as stepping stones of habitat which facilitate the maintenance of ecological processes and the movement of organisms within, and across, a landscape'. The applicant (Main Roads, 2014) has advised that vegetated buffers will be retained around the reserve boundary in order to limit impacts to the linkage.

Biological surveys of Lot 4701 (GHD, 2014) recorded forest red-tailed black-cockatoo, Baudin's cockatoo and Carnaby's cockatoo foraging habitat within the application area. GHD also recorded 267 trees potentially suitable as black cockatoo breeding habitat, 79 of which contained hollows. A Baudin's cockatoo was observed within a potential nesting hollow on site (GHD, 2014). The applicant has submitted a pit management plan containing fauna management actions to be undertaken prior to clearing, in order to limit the impact on fauna present within the application area.

Given the limited number of nesting records for Baudin's cockatoo across the South West of Western Australia, this finding is potentially significant (Parks and Wildlife, 2014a). Given the amount of foraging, roosting and breeding habitat identified, the application area constitutes significant habitat for black cockatoos at a local and potentially regional scale (Parks and Wildlife, 2014b).

Carnaby's cockatoo nests in large hollows of eucalyptus trees and forages on the seeds, nuts and flowers of a large variety of plants including Proteaceous species (*Banksia*, *Hakea*, *Grevillea*), *Eucalyptus* species, *Corymbia* species and a range of introduced species, especially seeds from cones of *Pinus* species (Shah, 2006; Valentine and Stock, 2008). Clearing of feeding habitat on the Swan Coastal Plain poses a significant threat to the long term survival of Carnaby's cockatoos (Shah, 2006).

Carnaby's cockatoo was once abundant in Western Australia. Since the late 1940s the species has suffered a 30 percent contraction in range, a 50 percent decline in population, and between 1968 and 1990 disappeared from more than a third of its breeding range (Saunders 1990; Johnstone and Storr 1998; Saunders and Ingram 1998; Garnett et al. 2011). Basic ecological theory, expert opinion and recent evidence, suggests that the remaining native and pine plantation foraging habitat on the Swan Coastal Plain is just sufficient to support the current population of Carnaby's cockatoo. Therefore any reduction in the amount of food source will result in a reduction in the carrying capacity of the region and therefore a decline in the population of Carnaby's cockatoo.

The Carnaby's cockatoo recovery plan (DEC, 2012) summarises habitat critical to the survival for Carnaby's cockatoos as:

- Eucalypt woodlands that provide nest hollows for breeding, together with nearby vegetation that provides feeding, roosting and watering habitat that supports successful breeding;
- Woodland sites known to have supported breeding in the past and which could be used in the future, provided adequate nearby food and/or water resources are available or are re-established; and
- In the non-breeding season the vegetation that provides food resources as well as the sites for nearby watering and night roosting that enable the cockatoos to effectively utilise the available food resources.

The recovery plan also states, 'Success in breeding is dependent on the quality and proximity of feeding habitat within 12 kilometres of nesting sites. Along with the trees that provide nest hollows, the protection, management and increase of this feeding habitat that supports the breeding of Carnaby's cockatoo is a critical requirement for the conservation of the species' (DEC, 2012).

As the application area contains numerous potential nesting sites, has been observed to be feeding habitat and adjoins wetland vegetation, the application fulfils all three habitat requirements deemed critical to Carnaby's cockatoo survival.

Stands of *Agonis flexuosa* have been identified within the application area, this species is synonymous with habitat for western ringtail possums. The biological survey of the project area (GHD, 2014) recorded western ringtail possum scats and two dreys within the application area. One individual was recorded within 500 metres of the application area. Western ringtail possums are found in low densities across the south west, which is supported by the recording of only one individual.

A population of *Geocrinia alba* (white-bellied frog) is located within the wetland vegetation adjoining the application area (downslope) in the north west corner. The white-bellied frog has an area of occupancy of approximately 193 hectares where it persists along creeklines within agricultural landscapes, provided suitable riparian habitat remains intact. Major threats to white-bellied frog habitat include clearing, grazing, trampling of riparian vegetation by cattle and weed invasion (DotE, 1995).

Biological surveys of the application area (GHD, 2014) identify that there is the risk of surface water drainage from the cleared area flowing into and impacting the white-bellied frog habitat. This will be exacerbated during high rainfall events. The applicant has submitted a pit management plan containing surface water management actions in order to limit the identified risk to this population.

The proposed clearing is not likely to have a significant impact on the conservation status of woylie, chuditch, black-flanked rock-wallaby, southern brush-tailed phascogale, quokka or priority fauna utilising the application area. Given the value of the vegetation as part of an ecological linkage, the application may however impact on local populations of these species. Individuals may also be impacted during the clearing process. Progressively clearing the vegetation as required and revegetating the area post extraction is likely to limit the impact to these species.

Given the above the proposed clearing is at variance to this Principle.

The applicant has submitted a pit management plan containing fauna management measures in order to limit impacts to dislocated fauna during clearing operations (Main Roads, 2014).

Methodology

References:

DEC (2012)
DotE (1995)
DPaW (2007-)
GHD (2014)
Johnstone and Storr (1998)
Main Roads (2014)
Molloy et al (2009)
Parks and Wildlife (2014a)
Parks and Wildlife (2014b)
Saunders (1990)
Saunders and Ingram (1998)
Shah (2006)
Valentine and Stock (2008)

GIS Datasets:

- Carnaby Cockatoo feeding
- DPaW Tenure
- Hydrography linear
- SAC Bio Datasets - accessed June 2014

(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

One rare flora species has been recorded within the local area (10 kilometre radius). This species is associated with wetlands and river edges.

The application area is described as Jarrah-Marri forest over shrublands on laterite on upland areas (GHD, 2014). Areas of wetland vegetation adjoining the application area are not proposed for clearing, therefore the application area is not likely to contain suitable habitat for this species.

A flora survey of the application area undertaken by GHD (2014) did not identify any rare flora species.

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

Methodology

Reference:

GHD (2014)

GIS Databases:

- SAC Biodatasets - accessed June 2014

(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

One threatened ecological community (TEC) has been recorded within the local area (10 kilometre radius), two kilometres from the application area and described as 'aquatic root mat Community Number 4 of Caves of the Leeuwin Naturaliste Ridge'.

GHD (2014) conducted a flora survey of the application area and did not identify any vegetation consistent with a TEC.

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

Methodology

Reference:

GHD (2014)

GIS Databases:

- SAC Biodatasets - accessed June 2014

(e) Native vegetation should not be cleared if it is significant as a remnant of native vegetation in an area that has been extensively cleared.

Comments Proposal is at variance to this Principle

The area under application is located within the Warren Interim Biogeographic Regionalisation of Australia (IBRA) bioregion. This IBRA bioregion retains approximately 79 percent of its pre-European vegetation extent (Government of Western Australia, 2013).

The vegetation under application is mapped as Beard vegetation association 3 of which there is approximately 78 percent of its pre-European extent remaining within the Warren bioregion (Government of Western Australia, 2013).

The area under application is located within the Shire of Augusta Margaret River, within which there is approximately 62 percent pre-European vegetation remaining (Government of Western Australia, 2013).

The application area is mapped as Mattiske vegetation complex Glenarty Hills (H), mapped as containing 35 percent pre-European extent in 2006. Eight percent of this vegetation falls within conservation reserves (Mattiske and Havel, 1998). The application area falls on the border of two differing land uses, with large conservation areas to the west and agricultural land to the east. The Glenarty Hills Mattiske vegetation complex is contained within the agricultural land. The soils of the Glenarty Hills complex are naturally highly restricted being confined to the ancient riverine deposits of the old tributaries of the lower Blackwood River (Parks and Wildlife, 2014a).

The Department of Parks and Wildlife (2014a) has advised that giving consideration to further clearing that has occurred since the figures were calculated it is highly likely that less than 30 percent of this vegetation association remains. An assessment of the clearing undertaken within the vegetation complex since 2007 reveals a conservative estimate of 500 hectares of vegetation that has been cleared. The percentage of vegetation remaining is therefore likely to be closer to 29 percent.

The national objectives and targets for biodiversity conservation in Australia has a target to prevent clearance of ecological communities with an extent below 30 percent of that present pre-1750, below which species loss appears to accelerate exponentially at an ecosystem level (Commonwealth of Australia, 2001).

The application area is connected to South West Regional Ecological Linkage's (SWREL) by contiguous vegetation. The SWREL report (Molloy et al, 2009) defines an ecological linkage as 'A series of (both contiguous and non-contiguous) patches of native vegetation which, by virtue of their proximity to each other, act as stepping stones of habitat which facilitate the maintenance of ecological processes and the movement of organisms within, and across, a landscape'. The applicant has advised that vegetated buffers will be retained around the reserve boundary in order to limit impacts to the linkage (Main Roads, 2014).

A fauna survey (GHD, 2014) of the application area recorded significant habitat for three rare fauna species within the application area and evidence of a further rare species utilising the area.

As the application involves clearing within the underrepresented Glenarty Hills vegetation complex and is significant for rare fauna within the local area, the proposed clearing is at variance to this Principle.

	Pre-European (ha)	Current Extent (ha)	Remaining (%)	Extent in DPaW Managed Lands (%)
IBRA Bioregion*				
Warren	833,985	663,202	79	84
Shire*				
Augusta Margaret River	211,680	131,797	62	75
Beard Vegetation Association within Bioregion*				
3	250,262	196,094	78	86
Mattiske Vegetation Complex**				
H	7,705	2,736	35	8

Methodology

References:
 Commonwealth of Australia (2001)
 *Government of Western Australia (2013)
 GHD (2014)
 **Mattiske and Havel (1998)
 Main Roads (2014)
 Molloy et al (2009)
 Parks and Wildlife (2014)

GIS Databases:
 - SAC Bio Datasets - accessed July 2014
 - Vegetation loss 2004-2005 to Vegetation loss 2013

(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

The application area is approximately 70 metres from a mapped tributary of the Blackwood River.

GHD (2014) conducted flora surveys within and surrounding the application. Two areas of wetland vegetation were identified and have been removed from the application area.

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

Methodology References:
GHD (2014)

GIS Datasets:
- Hydrography linear

(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 are mapped as (Northcote et al 1960-68) low-lying poorly drained plains. Chief soils are leached sands with associated various soils in shallow depressions and swampy drainage-ways, including acid peat soils overlying block laterite.

Given that groundwater salinity mapped within the application area is relatively low (1000 to 3000 milligrams per litre), the proposed clearing is not likely to result in primary or secondary salinity. Given the intended land use the application is not likely to cause wind erosion or eutrophication.

The proposed clearing may lead to increased water runoff into adjacent wetland areas (GHD, 2014) leading to increased sedimentation, altered hydrological patterns and land degradation.

Given the above, the proposed clearing may be at variance to this Principle. The applicant has submitted a pit management plan containing surface water management actions in order to limit the identified risk.

Methodology References:
GHD (2014)
Northcote et al (1960-68)

GIS Datasets:
- Hydrography linear
- 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 is not likely to be at variance to this Principle

The application area is located approximately 200 metres west of the Leeuwin-Naturaliste National Park, with which it is connected by contiguous vegetation. Forest Grove National Park is located approximately 3.5 kilometres north east of the application area.

The application area is connected to South West Regional Ecological Linkage's (SWREL) by contiguous vegetation. The SWREL report (Molloy et al, 2009) defines an ecological linkage as 'A series of (both contiguous and non-contiguous) patches of native vegetation which, by virtue of their proximity to each other, act as stepping stones of habitat which facilitate the maintenance of ecological processes and the movement of organisms within, and across, a landscape'. The applicant has advised that vegetated buffers will be retained around the property boundary in order to limit impacts to the linkage (Main Roads, 2014).

Given the above, the application area may be significant in the movement of fauna between reserves, however the environmental values of the conservation areas are not likely to be measurably impacted by the proposed clearing.

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

Methodology References:
Main Roads (2014)
Molloy et al (2009)

GIS Datasets:
- DEC Tenure

(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 may be at variance to this Principle

The application area is approximately 70 metres from a mapped tributary of the Blackwood River. GHD (2014) identified two areas of wetland vegetation immediately adjacent to the application area. The proposed clearing may lead to increased water runoff into these wetland areas (GHD, 2014) deteriorating the quality of surface water.

Groundwater salinity within the application area is mapped as 1000 to 3000 total dissolved solids milligrams per litre. It has been advised that no groundwater will be taken (GHD, 2014) and given the intended land use, groundwater is not likely to be affected.

The proposed clearing may be at variance to this Principle. The applicant has submitted a pit management plan containing surface water management actions in order to limit the identified risk.

Methodology References:
GHD (2014)

GIS Databases:
- Groundwater Salinity Statewide
- Hydrography linear

(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

No watercourses or wetlands have been identified within the application area. Given this and the intended land use, the application is not likely to be at variance to this clearing Principle.

Methodology GIS Datasets:
- Hydrography linear

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

Comments The applicant has advised that the project is a joint venture between the Shire of Augusta - Margaret River and the applicant, Main Roads Western Australia.

The Department of the Environment has deemed the proposed clearing a controlled action under the Environment Protection and Biodiversity Conservation Act 1999. The proposed action has been approved subject to fauna management condition, revegetation of cleared areas and the implementation of an environmental offset.

A public submission (2014) has been received in relation to this application. The environmental concerns raised have been addressed in principles (a) and (b) of this report. The submission also questions the placement of the gravel pit given that previously cleared land lies adjacent to the application area.

No aboriginal sites of significance are mapped within the application area.

The application area is zoned for 'public purposes' under the town planning scheme zone.

The Department of Water (DoW) has advised that there are no permits to construct bores or licences 'to take' groundwater under the Rights in Water and Irrigation Act 1914 (RIWI Act) relating to the subject property. It is advised that the subject land is located within the Blackwood Groundwater Area as proclaimed under the RIWI Act and any groundwater abstraction in this proclaimed area is subject to licensing by DoW (2014).

On 26 June 2014 the applicant was sent a letter outlining the significant environmental impacts associated with the clearing. On 1 August 2014 the applicant provided the following (Main Roads, 2014):

- A revised application area, reducing the application area from 9.75 to 8.24 hectares.
- A reduction in the number of black cockatoo nest hollows; potential and actual.
- Removal of the recorded location of a priority flora species from the application.

On 24 September 2014 the applicant further reduced the application area to 8.14 hectares in order to account for previously cleared areas.

Methodology **References:**
DoW (2014)
Submission (2014)
Main roads (2014)
GIS Data sets:
- Aboriginal Sites of Significance
- Town Planning Scheme Zones

4. References

- Commonwealth of Australia (2001) National Objectives and Targets for Biodiversity Conservation 2001-2005, Canberra.
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