



CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

PERMIT DETAILS

Area Permit Number: 3300/1
File Number: DEC12985
Duration of Permit: From 16 October 2010 to 16 October 2017

PERMIT HOLDER

Alan and Kerry Anne Dean

LAND ON WHICH CLEARING IS TO BE DONE

Lot 1 on Diagram 43277 (Lot No. 1 DUCANE NORTH BOYANUP 6237)

AUTHORISED ACTIVITY

Clearing of up to 18.8 hectares of native vegetation the area hatched yellow on attached Plan 3300/1a.

CONDITIONS

1. Clearing not authorised

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 (2)*.
- (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(2)*.
- (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. 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 red on attached Plan 3300/1b 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 3(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 3(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 3(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.

4. 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/*habitat tree(s)* 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 3 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*.

5. Reporting

- (a) The Permit Holder must provide to the CEO, on or before 30 June of each year, a written report of records required under condition 4 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 16 July 2017 the permit holder must provide to the CEO a written report of records required under condition 4 of this Permit where these records have not already been provided under condition 5(a) of this Permit.

Definitions

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

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;

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 10 kilometres of the area cleared.

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

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

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

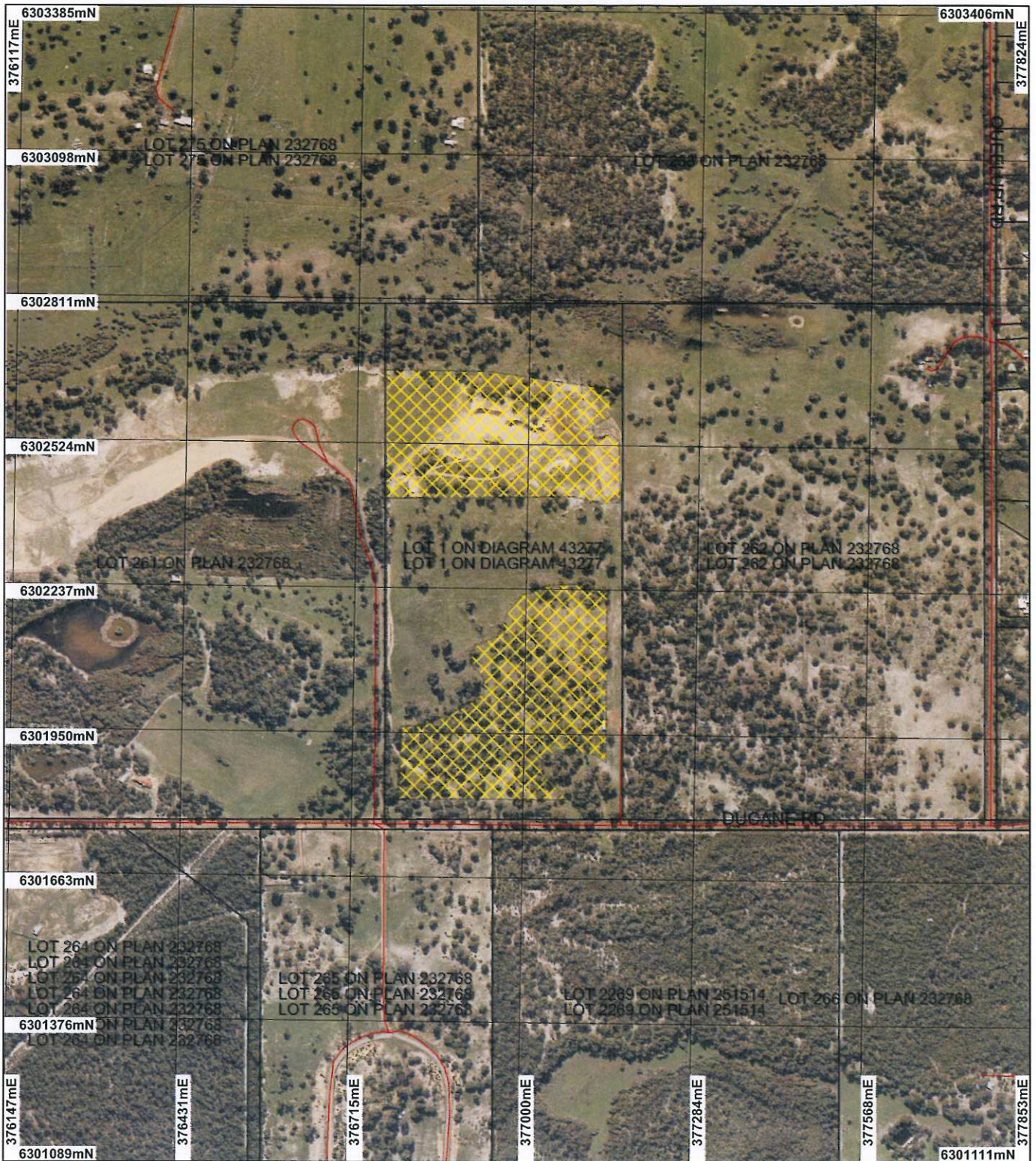


Kelly Faulkner
MANAGER
NATIVE VEGETATION CONSERVATION BRANCH

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

16 September 2010

Plan 3300/1a



LEGEND

Clearing Instruments

-  Areas Approved to Clear
-  Road Centrelines
-  Cadastro
-  Bunbury 50cm Orthomosaic - Landgate 2008

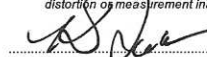


0  300 m

Scale 1:10097
(Approximate when reproduced at A4)

Geocentric Datum Australia 1994

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

 Date 16/9/10

K Faulkner

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

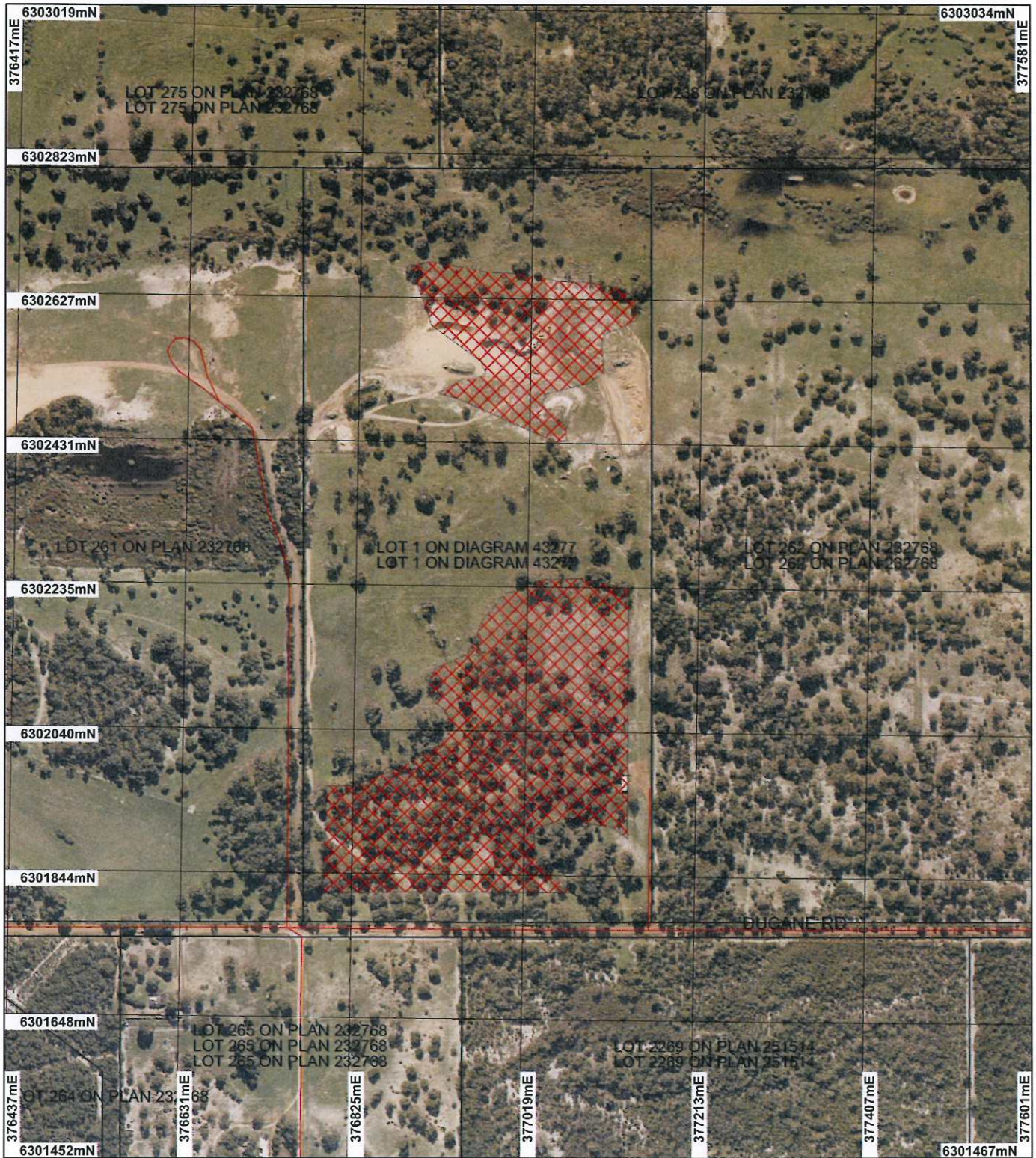
Information derived from this map should be confirmed with the data custodian acknowledged by the agency acronym in the legend.



Department of Environment and Conservation





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Plan 3300/1b



LEGEND

Clearing Instruments

-  Areas Subject to Conditions
-  Road Centrelines
-  Cadastre
-  Bunbury 50cm Orthomosaic - Landgate 2008



0 ————— 200 m

Scale 1:6895

(Approximate when reproduced at A4)

Geocentric Datum Australia 1994

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

 Date 16/9/10

K Faulkner

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



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1. Application details

1.1. Permit application details

Permit application No.: 3300/1
Permit type: Area Permit

1.2. Proponent details

Proponent's name: Alan and Kerry Anne Dean RPS Koltasz Smith

1.3. Property details

Property: LOT 1 ON DIAGRAM 43277 (Lot No. 1 DUCANE NORTH BOYANUP 6237)
LOT 1 ON DIAGRAM 43277 (Lot No. 1 DUCANE NORTH BOYANUP 6237)

Local Government Area:

Colloquial name:

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
18.8		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
Hedde: Southern River Complex - Open woodland of marri-jarrah-banksia on elevated areas. Fringing woodland of E. rudis-M rhapsiophylla along streams. (Hedde 1980)	The area under application consists of scattered trees and is considered to be parkland cleared with very little understorey remaining. The vegetation is considered to be in degraded (Keighery, 1994) condition, having been subjected to past grazing activities (DEC, 2007; DEC 2009).	Degraded: Structure severely disturbed; regeneration to good condition requires intensive management (Keighery 1994)	The condition of the application area was determined via the use of aerial imagery and DEC conducted site inspection (DEC, 2009).
Beard association (1000): Mosaic: Medium forest; jarrah-marri / Low woodland; banksia / Low forest; teatree (Melaleuca spp.) (Shepherd 2007)	The area under application is open consisting predominantly of Corymbia callophylla (Marri), Eucalyptus marginata (Jarrah) and Agonis flexuosa (Peppermint trees). There is a distinct ground cover layer of weeds with the occasional Xanthorrhoea brunonis. Melaleuca preissiana, Nuytsia floribunda, Banksia illicifolia and Persoonia longifolia are also present within the applied area (DEC, 2009).		

3. Assessment of application against clearing principles

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

Comments

Proposal is not likely to be at variance to this Principle

The area under application is comprised of scattered trees remaining and is considered to be parkland cleared, with very little understorey remaining. The proposed clearing is for the purpose of sand extraction. The vegetation is considered to be in degraded (Keighery, 1994) condition, having been subjected to grazing and weed invasion (DEC, 2007; DEC 2009).

The area under application is open, consisting predominantly of Corymbia callophylla (Marri), Eucalyptus

marginata (Jarrah) and *Agonis flexuosa* (Peppermint trees). There is a distinct ground cover layer of weeds with the occasional *Xanthorrhoea brunonis*, *Melaleuca preissiana*, *Nuytsia floribunda*, *Banksia illicifolia* and *Persoonia longifolia* are also present within the applied area (DEC, 2009).

The vegetation under application is adjacent to an east - west ecological linkage, identified within the Greater Bunbury Regional Scheme (EPA, 2003). Given the presence of conservation significant cockatoo species and habitat potential offered for the Western ring-tailed possum within the application area (DEC, 2009), the vegetation may be contributing to this linkage.

The Priority Ecological Community 'Southern *Banksia attenuata* woodlands', is located 5km from the applied area and occurs on both the same soil and vegetation type, however given the degraded condition of the vegetation under application, it is considered unlikely to occur within the applied area.

The apparent high level of disturbance at this site suggests the original biodiversity value has been significantly compromised, therefore it is considered unlikely that the proposed clearing is at variance to this principle.

Methodology EPA (2003)
Keighery (1994)
GIS DataBases:
- Bunbury 50cm Orthomosaic - Landgate 2006 (12/05/08)
- CALM Managed Lands and Waters - CALM 01/06/05
- Heddle Vegetation Complexes - DEP 22/06/95
- Pre European Vegetation - DA 01/01
- SAC Biodatasets - accessed 14 September 09
- Soils, Statewide DA 11/99
- NLWRA, Current Extent of Native Vegetation 20 Jan 2001

(b) Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a significant habitat for fauna indigenous to Western Australia.

Comments Proposal may be at variance to this Principle

There are 9 threatened and 9 priority fauna known to occur within the local area (10km radius). Of these species the threatened cockatoo species Baudins Black Cockatoo (*Calyptorhynchus baudinii*), Forest Red Tailed Black Cockatoo (*Calyptorhynchus banksii naso*) and Carnabys Black Cockatoo (*Calyptorhynchus latirostris*), may all utilise the Jarrah, Marri and *Banksia* woodlands within the area under application as feeding ground and nesting sites.

During a DEC conducted site inspection habitat trees were observed within and adjacent to the applied area and Black Cockatoos were heard in the area. The applicant informed DEC officers that 2 Black Cockatoos are known to inhabit a tree hollow just outside the proposed cleared area. It was yet to be determined which species of Cockatoo these were (DEC, 2009). There are also numerous Peppermint trees (*Agonis flexuosa*) throughout the application area which could also provide potential habitat for the Western Ringtail Possum (*Pseudocheirus occidentalis*) (DEC, 2009).

While the vegetation under application is in degraded (Keighery, 1994) condition, it is possible that the vegetation provides habitat for conservation significant cockatoo species as well as providing potential habitat for the Western Ringtail Possum within the local area. To reduce the impacts of clearing, a fauna management condition will be imposed.

Methodology DEC (2009)
Keighery (1994)
GIS DataBases:
- Bunbury 50cm Orthomosaic - Landgate 2006 (12/05/08)
- Heddle Vegetation Complexes - DEP 22/06/95
- Pre European Vegetation - DA 01/01
- SAC Biodatasets - accessed 14 September 09
- NLWRA, Current Extent of Native Vegetation 20 Jan 2001

(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 4 populations of rare flora species and 32 populations of priority flora species within the local area (10km radius). Of these, 2 rare flora and 11 priority flora species occur within the same Heddle Vegetation Complex (Southern River) and soil type as the applied area. Of the rare flora that are mapped as occurring within the same soil and vegetation types, *Drakaea micrantha* is known to grow in disturbed sites where competition is reduced and *Eleocharis keigheryi* occurs on winter wet claypans (Brown et al. 1998).

No rare flora were observed during a DEC conducted site inspection (DEC, 2009), however no flora survey was undertaken. Given that the applied area has been subjected to grazing and is in degraded (Keighery, 1994)

condition, it is considered unlikely that the vegetation under application is necessary for the continued existence of rare flora.

Methodology Brown et al. (1998)
 DEC (2009)
 Keighery (1994)
 GIS DataBases:
 - Heddle Vegetation Complexes - DEP 22/06/95
 - Pre European Vegetation - DA 01/01
 - SAC Biodatasets - accessed 14 September 09
 - 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 3 Threatened Ecological Communities (TECs) located within 5km of the applied area, 2 of which 'Dense shrublands on clay flats' & 'Herb rich saline shrublands in clay pans' occur on both the same soil and vegetation type as the applied area.

'Eucalyptus calophylla woodlands on heavy soils of the southern Swan Coastal Plain' occur within 5km of the applied area but is mapped as occurring on differing soil and vegetation types.

Given that the applied area consists of scattered trees and is parkland cleared, with very little understorey remaining, it is unlikely that the vegetation under application comprises the whole or part of, or is necessary for the maintenance of a TEC.

Methodology GIS DataBases:
 - Bunbury 50cm Orthomosaic - Landgate 2006 (12/05/08)
 - Heddle Vegetation Complexes - DEP 22/06/95
 - Pre European Vegetation - DA 01/01
 - SAC Biodatasets - accessed 14 September 09
 - 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 at variance to this Principle**
 The local area (10km radius) has approximately 30% remaining vegetation and the vegetation under application is contributing to an area of remnant vegetation in a highly cleared landscape. The application area is comprised of two vegetation types, Beard association 1000 and Heddle vegetation complex 'Southern River Complex.' As the table below indicates, the Heddle vegetation complex 'Southern River Complex' retains less than the EPA supported threshold level (30%) recommended in the National Objectives Targets for Biodiversity Conservation; below which species loss appears to accelerate exponentially at an ecosystem level (EPA, 2000).

The vegetation under application is in close proximity to an east-west ecological linkage, recognised within the Greater Bunbury Regional Scheme (EPA, 2003) for its significance. Given that there are known occurrences of conservation significant Cockatoo species and potential habitat for Western ring-tailed possums within the applied area, the vegetation is considered to be contributing to this linkage (DEC, 2009)

Despite the condition of the vegetation, due to the importance of the vegetation as a remnant that provides habitat for fauna in the local area, contributes to a linkage and given that only 19.8% of the Southern River Complex remains, the proposed clearing is considered to be at variance to this principle.

To reduce the impacts of clearing, revegetation conditions will also be imposed.

	Pre-European (ha)	Current extent (ha)	Remaining (%)	% In reserves DEC Managed Land
IBRA Bioregions				
SCP	1,501,208.80	583,140.87	38.84	32.55
Shire*				
Capel	55,943	19,064	34.08	45.39
Heddle Vegetation Complex				
Southern River Complex	57,979	11,501	19.8	1.5

Beard Vegetation Association (1000) within Bioregion

	94,175	25,235	26.80	16.14
Beard Vegetation Association with Shire (1000)	15,171	3,461	22.81	8.24
(Shepherd et al. 2007; Heddle 1980)				

Methodology EPA (2000)
EPA (2003)
Heddle (1980)
Shepherd et al. (2007)
GIS DataBases:
- Bunbury 50cm Orthomosaic - Landgate 2006 (12/05/08)
- Heddle Vegetation Complexes - DEP 22/06/95
- Interim Biogeographic Regionalisation of Australia - EA 18/10/00
- Pre European Vegetation - DA 01/01
- SAC Biodatasets - accessed 14 September 09
- Soils, Statewide DA 11/99
- NLWRA, Current Extent of Native Vegetation 20 Jan 2001

(f) Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland.

Comments Proposal is not at variance to this Principle

A perennial swamp is located on the property and is situated 180m south west. The Preston River is located 2.6km east of the area under application.

There are no vegetation links between the area under application and the above mentioned watercourse and wetland.

The description of mapped Heddle vegetation, Southern River Complex indicates the vegetation contains open woodland of marri-jarrah-Banksia on elevated areas. No riparian vegetation was identified within the applied area during a site inspection (DEC, 2009), therefore the proposed clearing is not at variance to this principle.

Methodology DEC (2009)
GIS DataBases:
- CALM Managed Lands and Waters - CALM 01/06/05
- Clearing Regulations, Environmentally Sensitive Areas 30 May 2005
- EPP Lakes Policy Area - DEP 14/05/97
- EPP, Wetlands 2004 (DRAFT) - EPA 21/7/04
- Hydrography linear - DOW 13/7/06
- Hydrography linear (hierarchy) - DoW 13/7/06

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

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

The acid sulphate soil risk is medium to low, the area has no mapped salinity risk, ground water salinity is 1000-3000mg/L and the annual rainfall of 900mm. The soil type consists of sandy dunes with intervening sandy and clayey swamp flats: chief soils are leached sands sometimes with clay (Northcote et al. 1960 - 1968). The application area has an undulating topography and medium relief. DAFWA conducted a desktop assessment of Lot 1 and found that the applied area consists of two soil types, one of which (B3) is prone to water erosion and waterlogging, however the installation of appropriately designed drainage systems will reduce the risk (DAFWA, 2005).

Due to the condition of the vegetation under application, being without understorey, land degradation issues are unlikely. To reduce long term risks of land degradation, revegetation conditions will be imposed on the permit.

Methodology DAFWA (2005)
Northcote et al. (1960 - 1968)
GIS DataBases:
- Groundwater Salinity Statewide DoW 13/07/06
- Hydrogeology, statewide - DOW 13/07/06
- Hydrographic catchments, catchments - DoW 01/06/07
- Hydrography, linear - DOW 13/7/06
- Mean Annual Rainfall (30-09-2001)
- Salinity Risk LM 25m - DOLA 00

- Soils, Statewide DA 11/99
- Topographic contours statewide - DOLA and ARMY 12/09/02

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

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

There are four System 6 Conservation Reserves within the local area (10km radius), with the closest being 4.7km west of the area under application. There are no direct vegetation links between any of the System 6 Reserves and the area under application.

Given that the vegetation is in degraded (Keighery, 1994) condition, it is considered unlikely to be contributing to the environmental values of the nearby conservation area.

Methodology Keighery (1994)

GIS DataBases:

- Bunbury 50cm Orthomosaic - Landgate 2006 (12/05/08)
- CALM Managed Lands and Waters - CALM 01/06/05
- NLWRA, Current Extent of Native Vegetation 20 Jan 2001
- System 1 to 5 and 7 to 12 areas ? DEC 11/7/06

(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 area under application is within the Preston River Catchment and the Bunbury proclaimed ground water area. The closest watercourse is 2.6km to the east. Groundwater Salinity is 1000 - 3000 mg/L. Given the condition of the vegetation under application and the distance to nearest watercourse, it is considered unlikely that the proposed clearing will reduce the quality of surface or groundwater.

Methodology GIS DataBases:

- Groundwater Salinity Statewide DoW 13/07/06
- Hydrographic catchments, catchments - DoW 01/06/07
- Hydrography linear - DOW 13/7/06
- Hydrography linear (hierarchy) - DoW 13/7/06

(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

Given the undulating topography and soil type (sandy soils) of the applied area, it is considered unlikely that the proposed clearing will increase the incidence of flooding.

Methodology GIS DataBases:

- Mean Annual Rainfall (30-09-2001)
- Soils, Statewide DA 11/99
- Topographic Contours, Statewide - DOLA 12/09/02

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

Comments

The Shire of Capel have granted the conditional approval of an extractive industry licence, subject to a clearing permit being issued (DEC Ref: A326007).

The application area was previously assessed (CPS 1392) and was refused on planning matters. To the north of the application area, on the same property, an area was investigated for alleged illegal clearing (ICMS 7244) and as a result the applicant was required to rehabilitate areas of vegetation (CPS 983/1).

Methodology

4. References

- Brown et al. (1998) Western Australia's Threatened Flora, Department of Conservation and Land Management, Western Australia
- DEC (2007) South West Regional Advice, Vegetation Assessment. Department of Environment and Conservation Trim Ref DOC98496
- DEC (2009) Site Inspection Report for Clearing Permit Application CPS 3300/1, Lot 18 Ducane Road, Boyanup. Site inspection undertaken 22/09/2009. Department of Environment and Conservation, Western Australia (TRIM Ref. DOC99647).
- Department of Agriculture and Food (2005) Advice. Commissioner of Soil and Land Conservation. DEC TRIM Ref: IN25993, related to CPS 983/1.

- EPA (2000) Environmental protection of native vegetation in Western Australia. Clearing of native vegetation, with particular reference to the agricultural area. Position Statement No. 2. December 2000. Environmental Protection Authority, Western Australia.
- EPA (2003) Greater Bunbury Region Scheme. Bulletin 1108. Environmental Protection Authority, Western Australia.
- Heddle, E. M., Loneragan, O. W., and Havel, J. J. (1980) Vegetation Complexes of the Darling System, Western Australia. In Department of Conservation and Environment, Atlas of Natural Resources, Darling System, Western Australia.
- Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.
- Northcote, K. H. with Beckmann G G, Bettenay E., Churchward H. M., van Dijk D. C., Dimmock G. M., Hubble G. D., Isbell R. F., McArthur W. M., Murtha G. G., Nicolls K. D., Paton T. R., Thompson C. H., Webb A. A. and Wright M. J. (1960-68): 'Atlas of Australian Soils, Sheets 1 to 10, with explanatory data'. CSIRO and Melbourne University Press: Melbourne.
- Shepherd, D.P. (2007) Adapted from: Shepherd, D.P., Beeston, G.R., and Hopkins, A.J.M. (2001), Native Vegetation in Western Australia. Technical Report 249. Department of Agriculture Western Australia, South Perth.
- Water and Rivers Commission (2001) Position Statement: Wetlands, Water and Rivers Commission, Perth.

5. 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)