



1. Application details

1.1. Permit application details

Permit application No.: 6266/1
Permit type: Area Permit

1.2. Proponent details

Proponent's name: Peter Gilbert Cook and Dorothy Antoinette Cook

1.3. Property details

Property: LOT 18 ON DIAGRAM 60545 (House No. 566 FERNIE MORANGUP 6083)
Local Government Area: Shire of Toodyay
Colloquial name:

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
22.7		Mechanical Removal	Grazing & pasture

1.5. Decision on application

Decision on Permit Application: Refuse
Decision Date: 25 June 2015

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:	To clear 22.7 hectares of native vegetation within Lot 18 on Diagram 60545, Morangup, for the purpose of pasture and grazing.	Very Good: Vegetation structure altered obvious signs of disturbance (Keighery 1994). To Degraded: Structure severely disturbed; regeneration to good condition requires intensive management (Keighery 1994).	The condition of the vegetation under application was determined via a Department of Environment Regulation site inspection (DER, 2014) on 2 October 2014.
<ul style="list-style-type: none"> Beard vegetation association 1006 which is described as medium woodland; jarrah, wandoo and powderbark (Shepherd et al, 2001). Hedde Vegetation Complex Yalanbee Complex described as woodland of Eucalyptus wandoo-Eucalyptus accedens, less consistently open forest of Eucalyptus marginata subsp. thalassica - Corymbia calophylla on lateritic uplands and breakaway landscapes in arid and perarid zones (Hedde et al, 1980). 			

A site inspection of the application area (DER, 2014) described the vegetation under application as open Eucalyptus marginata, Corymbia calophylla forest with Banksia grandis, Banksia sessilis and Banksia squarrosa.

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 amended application is to clear 22.7 hectares of native vegetation within Lot 18 on Diagram 60545, Morangup, for the purpose of pasture and grazing.

The local area (10 kilometre radius) surrounding the application area retains approximately 40 percent vegetation. The mapped Beard vegetation type and IBRA bioregion retain above the recommended level of 30 percent (Government of Western Australia, 2013).

A site inspection of the application area (DER, 2014) found the vegetation under application to be an open Eucalyptus marginata, Corymbia calophylla forest with Banksia grandis, Banksia sessilis and Banksia squarrosa. Approximately nine hectares of the application area has been previously cleared of mid storey and understorey species and is classified as being in a degraded (Keighery, 1994) condition. The remainder of the application area was observed as being in a very good (Keighery, 1994) condition. Large stands of Banksia squarrosa were present throughout the area.

Carnaby's cockatoo (*Calyptorhynchus latirostris*), forest red-tailed black-cockatoo (*Calyptorhynchus banksii* subsp. *naso*) and Baudin's cockatoo (*Calyptorhynchus baudinii*) have been recorded from the local area (DPaW 2007-). Carnaby's cockatoo is listed as rare or likely to become extinct under the Wildlife Conservation Act 1950 (WC Act) and endangered under the Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act). Baudin's cockatoo and forest red-tailed black-cockatoo are listed as threatened under the WC Act and vulnerable under the EPBC Act.

Black cockatoos nest in large hollows of eucalyptus trees and forage 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 (Shah, 2006; Valentine and Stock, 2008). A site inspection of the application area (DER, 2014) recorded *Eucalyptus marginata* and *Corymbia calophylla* of an age and size capable of containing hollows suitable for black cockatoo nesting. Black cockatoos were observed feeding within vegetation adjoining the application area (DER, 2014). The flora species recorded within the application area constitute significant foraging habitat for black cockatoos.

The applicant has advised that all large trees suitable for black cockatoo nesting will be retained (Cook, 2014).

No threatened ecological communities or priority ecological communities are mapped within the local area. No rare flora species have been recorded within the local area.

Fifteen priority flora species have been recorded within the local area. Given the mapped and observed (DER, 2014; Western Australian Herbarium, 1998-) soil and vegetation type, the application area may contain suitable habitat for four of these. Three of these species are listed as priority 4 and one as priority 3.

Priority 3 taxa are known from collections from several localities not under imminent threat, or from few but widespread localities with either large population size or significant remaining areas of apparently suitable habitat, much of it not under imminent threat. Priority 4 taxa are described as species that have been adequately surveyed and are considered not currently threatened or in need of special protection, but could be if current circumstances change. Given this and the history of clearing within the property, the application area is not likely to contain high flora diversity.

Although the application area contains significant habitat for black cockatoos, given the history of clearing and disturbance within the property it is not likely to contain high biodiversity and is not likely to be at variance to this clearing principle.

Methodology

References:

Cook (2014)
DPaW (2007-)
DER (2014)
Government of Western Australia (2013)
Keighery (1994)
Shah (2006)
Valentine and Stock (2008)
Western Australian Herbarium (1998-)

GIS Datasets:

- SacBiodataSets - accessed April 2015

(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**

Eight fauna species of conservation significance have been recorded within the local area (10 kilometre radius) (DPaW, 2007-). The application area is likely to contain significant habitat for three of these; Carnaby's cockatoo (*Calyptorhynchus latirostris*), forest red-tailed black-cockatoo (*Calyptorhynchus banksii* subsp. *naso*) and Baudin's cockatoo (*Calyptorhynchus baudinii*). Carnaby's cockatoo is listed as rare or likely to become extinct under the Wildlife Conservation Act 1950 (WC Act) and endangered under the Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act). Baudin's Cockatoo and forest red-tailed black-cockatoo are listed as rare or likely to become extinct under the WC Act and vulnerable under the EPBC Act.

A site inspection of the application area (DER, 2014) described the vegetation under application as open *Eucalyptus marginata*, *Corymbia calophylla* forest with *Banksia grandis*, *Banksia sessilis* and *Banksia squarrosa* in a very good to degraded (Keighery, 1994) condition. *Eucalyptus marginata* and *Corymbia calophylla* of an age and size as to contain hollows were recorded within the amended application area. Black cockatoos were observed feeding within vegetation adjoining the application area (DER, 2014).

Black cockatoo's nest in large hollows of eucalyptus trees and forage 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).

The applicant has advised that all large trees suitable for black cockatoo nesting will be retained (Cook, 2014). *Eucalyptus marginata* and *Corymbia calophylla* of an age and size as to contain hollows remain within the application area however and therefore form part of the application.

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). The application area is mapped within a confirmed Carnaby's cockatoo breeding area and within unconfirmed feeding habitat. Areas mapped as unconfirmed feeding habitat are areas of remnant vegetation in the Jarrah Forest IBRA Bioregion that may provide important feeding resources for Carnaby's cockatoo.

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

- The eucalypt woodlands that provides nest hollows used 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 is mapped within a Carnaby's cockatoo breeding area, has been observed to be feeding habitat and falls within two kilometres of a major tributary of the Avon River, it fulfils all three habitat requirements deemed critical to Carnaby's cockatoo survival.

As the breeding range for Baudin's cockatoo and forest red-tailed black cockatoo is further south, they are not likely to breed within the application area, however they have been recorded foraging in the local area. These species feed mainly on eucalyptus and banksia seeds, therefore the marri, jarrah and banksia woodland within the area under application is likely to provide a foraging resource for these species.

Significant stands of native vegetation are present approximately 2.5 kilometres to the south and 3.4 kilometres to the north-east (Morangup Nature Reserve) of the application area. Given this the application area may facilitate the movement of fauna between these two reserves and across the landscape.

As the amended application area contains potential breeding habitat for Carnaby's cockatoo as well as significant feeding habitat for Carnaby's cockatoo, forest red-tailed black-cockatoo and Baudin's cockatoo it is at variance to this clearing principle.

Methodology

References:

Cook (2014)
DPaW (2007-)
DEC (2012)
DER (2014)
Garnett et al. (2011)
Johnstone and Storr (1998)
Keighery (1994)
Saunders (1990)
Saunders and Ingram (1998)
Shah (2006)
Valentine and Stock (2008)

GIS Datasets:

- Carnaby Cockatoo breeding sites
- Carnaby Cockatoo feeding
- Hydrography linear

(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

No rare flora species have been recorded within the local area (10 kilometre radius).

A site inspection of the application area (DER, 2014) described the vegetation under application as open *Eucalyptus marginata*, *Corymbia calophylla* forest with *Banksia grandis*, *Banksia sessilis* and *Banksia squarrosa*. Approximately nine hectares of the application area has been previously cleared of mid and understorey species and is classified as being in a degraded (Keighery, 1994) condition. The remainder of the application area was observed in a very good (Keighery, 1994) condition. Large stands of *Banksia squarrosa* were present.

Given the previous disturbance to the property and as no rare flora has been recorded within the local area, the application is not likely to be at variance to this principle.

Methodology Reference:
DER (2014)
Keighery (1994)

GIS Databases:
- SAC Biodatasets - accessed April 2015

(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 at variance to this Principle**

No threatened ecological communities (TEC) have been recorded within the local area (10 kilometre radius). The closest TEC is located approximately 34 kilometres from the application area and is associated with the Swan Coastal Plain.

Given the above, the application is not at variance to this principle.

Methodology GIS Databases:
- SAC Biodatasets - accessed April 2015

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

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

The area under application is located within the Jarrah Forest Interim Biogeographic Regionalisation of Australia (IBRA) bioregion. This IBRA bioregion has approximately 54 percent of its pre-European vegetation extent remaining (Government of Western Australia, 2013).

The vegetation under application is mapped as Beard vegetation association 1006 of which there is approximately 49 percent of its pre-European extent remaining within the Jarrah Forest bioregion (Government of Western Australia, 2013).

The area under application is located within the Shire of Toodyay, within which there is approximately 51 percent pre-European extent remaining (Government of Western Australia, 2013).

The application area is mapped as Heddle vegetation association Yalanbee Complex, within which there is approximately 63 percent pre-European extent remaining.

The local area (10 kilometre radius) retains approximately 40 percent native vegetation.

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 a significant remnant in the conservation of the black cockatoos however, as all mapped vegetation associations and the local area retain above 30 percent pre-European vegetation it does not fall within a highly cleared landscape.

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

	Pre-European (ha)	Current Extent (ha)	Remaining (%)	Extent in DPaW Managed Lands (%)
IBRA Bioregion*				
Jarrah Forest	4,506,660	2,457,731	54	68
Shire*				
Shire of Toodyay	169,176	86,272	51	45
Beard Vegetation Association within Bioregion *				
1006	44,908	22,024	49	45
Heddle vegetation association **				
Yalanbee Complex in low rainfall	74,023	46,848	63	26

Methodology References:
Commonwealth of Australia (2001)
*Government of Western Australia (2013)
**Heddle et al. (1980)

GIS Databases:
- SacBiodataSets - accessed April 2015

(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

No watercourses or wetlands have been mapped within the application area. A site inspection did not identify any wetland environments (DER, 2014).

Given the above the application is not at variance to this clearing principle.

Methodology References:
DER (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 is not likely to be at variance to this Principle

The Department of Agriculture and Food Western Australia undertook a site inspection of the property on 9 October 2014 (Commissioner of Soil and Land Conservation, 2014). The corresponding land degradation assessment report found that the risk of the proposed clearing causing land degradation is low, noting:

- Although an issue in the local area, the clearing under application is not likely to have a significant effect on salinity values on or off-site.
- The risk of wind erosion causing land degradation is low.
- The risk of eutrophication causing land degradation is low.
- The risk of water erosion causing land degradation is low.
- Clearing the vegetation is unlikely to significantly increase surface water run-off.
- The risk of water logging causing land degradation is low.

Given this, the application is not likely to be at variance to this principle.

Methodology References:
Commissioner of Soil and Land Conservation (2014)

GIS Datasets:
- Hydrography linear
- Topographic contours

(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 closest conservation reserves to the application area are Morangup Nature Reserve, approximately 3.4 kilometres west and Woondowing Nature Reserve, approximately 4 kilometres south. The land in-between these reserves is predominantly cleared for agriculture.

Although the application area may aid in the movement of fauna, given the adjoining land uses and retention of vegetation within the application area, it is not likely to impact on the conservation values of these reserves.

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

Methodology GIS Datasets:
- DEC Tenure
- SacBiodataSets - accessed April 2015

(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

No watercourses or wetlands are mapped within the application area.

The Department of Agriculture and Food undertook a site inspection of the property on 9 October 2014 (Commissioner of Soil and Land Conservation, 2014). The corresponding land degradation assessment report noted that:

- Although an issue in the local area, the clearing under application is not likely to have a significant effect on salinity values on or off-site.
- The risk of eutrophication causing land degradation is low.
- The risk of water erosion causing land degradation is low.
- Clearing the vegetation is unlikely to significantly increase surface water run-off.
- The risk of water logging causing land degradation is low.

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

Methodology References:
Commissioner of Soil and Land Conservation (2014)

GIS Datasets:
- Hydrography linear
- Topographic contours

(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 (DER, 2014).

Given the identified soil type and slope of the land, clearing of native vegetation is unlikely to significantly increase surface water runoff (Commissioner of Soil and Land Conservation, 2014).

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

Methodology Reference:
Commissioner of Soil and Land Conservation (2014)
DER (2014)

GIS Datasets:
- Hydrography linear

Planning instrument, Native Title, RIWI Act Licence, EP Act Licence, Works Approval, Previous EPA decision or other matter.

Comments The Shire of Toodyay (2014) has advised that it has no concerns as long as trees greater than 20 years old are retained. The applicant has advised that all large trees suitable for black cockatoo nesting will be retained (Cook, 2014).

The application was originally for 37 hectares. This area was reduced to more accurately reflect the area to be cleared and reduce the identified environmental impacts. DER wrote to the applicant on 9 March 2015 outlining that significant environmental impacts remained in relation to the revised application for 22.7 hectares. The reply received on 24 March 2015 did not adequately address the remaining environmental impacts of the clearing.

Two submissions have been received in relation to this application. The environmental concerns raised have been addressed in the assessment against clearing principles (b), (e), (g) and (h). The submissions also raised concerns over the intended purpose of the clearing.

No Aboriginal sites of significance have been mapped within the application area.

The application area is zoned 'Rural' under the town planning scheme zone.

Methodology References:
Cook (2014)
Shire of Toodyay (2014)

4. References

- Commonwealth of Australia (2001) National Objectives and Targets for Biodiversity Conservation 2001-2005, Canberra.
- Commissioner of Soil and Land Conservation (2014) Land Degradation Advice and Assessment Report for clearing permit application CPS 6266/1 received 27/11/2014; Department of Agriculture and Food Western Australia (DER Ref A823061).
- Cook (2014) Reply to request for information letter dated 10 December 2014. Received by the Department of Environment Regulation on 19 December 2014. (DER ref: A846645).

- DPaW (2007 -) NatureMap: Mapping Western Australia's Biodiversity. Department of Parks and Wildlife. URL: <http://naturemap.dpaw.wa.gov.au/>. Accessed November 2014
- DEC (2012). Carnaby's cockatoo (*Calyptorhynchus latirostris*) Recovery Plan. Department of Environment and Conservation, Perth, Western Australia.
- DER (2014) Site Inspection Report for Clearing Permit Application CPS 6266/1. Lot 18 on Diagram 60545, Morangup. Site inspection undertaken 2 10 2014. Department of Environment Regulation, Western Australia (DER Ref: A830416).
- Garnett, S., Szabo, J. and Dutson, G. (2011). The Action Plan for Australian Birds 2010. CSIRO Publishing, Melbourne, Victoria.
- Government of Western Australia (2013) 2013 Statewide Vegetation Statistics incorporating the CAR Reserve Analysis (Full Report). Current as of June 2013. WA Department of Parks and Wildlife, Perth.
- Hedde, 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.
- Saunders, D.A. (1990). Problems of survival in an extensively cultivated landscape: the case of Carnaby's cockatoo *Calyptorhynchus funereus latirostris*. *Biological Conservation*. 54: 277-290.
- Saunders, D.A. and Ingram, J.A. (1998). Twenty-eight years of monitoring a breeding population of Carnaby's cockatoo. *Pacific Conservation Biology*. 4: 261-270.
- Shah, B. (2006) Conservation of Carnaby's Black-Cockatoo on the Swan Coastal Plain, Western Australia. December 2006. Carnaby's Black-Cockatoo Recovery Project. Birds Australia, Western Australia.
- 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.
- Shire of Toodyay (2014) Advice received in relation to clearing permit application CPS 6266/1. Lot 18 on Diagram 60545, Morangup (DER Ref: A830411).
- Valentine L. E. & Stock W. (2008) Food Resources of Carnaby's Black-Cockatoo (*Calyptorhynchus latirostris*) in the Gnaragara Sustainability Strategy study area. Unpublished report to the Forests Products Commission. Available online: <http://ro.ecu.edu.au/ecuworks/6147>
- Western Australian Herbarium (1998-) FloraBase - The Western Australian Flora. Department of Parks and Wildlife. <http://florabase.dpaw.wa.gov.au/> (Accessed November 2014).