



1. Application details

1.1. Permit application details

Permit application No.: 6159/1
Permit type: Area Permit

1.2. Proponent details

Proponent's name: Mr David and Mrs Thelma Thompson

1.3. Property details

Property: LOT 2 ON DIAGRAM 41211, NAMBUNG
Colloquial name:
Local Government: DANDARAGAN, SHIRE OF
Authority:
DER Region: Midwest
DPaW District: MOORA
LCDC: DANDARAGAN
Localities: NAMBUNG

1.4. Application

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

1.5. Decision on application

Decision on Permit Application: Refused
Decision Date: 14 August 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 Beard vegetation association 1030 which is described as: Low woodland; Banksia attenuata and B. menziesii (Shepherd et al. 2001).	The application is to clear 45 hectares of native vegetation on Lot 2 on Diagram 41211, Nambung, for the purpose of pasture grazing.	Very Good; Vegetation structure altered; obvious signs of disturbance (Keighery 1994).	The condition of the vegetation was determined by a site inspection undertaken by officers from the Department of Environment Regulation (DER 2014).

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 application is to clear up to 45 hectares of native vegetation on Lot 2 on Diagram 41211, Nambung, for the purpose of pasture and grazing. The original application was for the proposed clearing of 316 hectares. This was subsequently reduced to 52 hectares to avoid wetland areas and reduce environmental impacts. The application area has been further reduced to 45 hectares comprising 33 hectares in the northern section of Lot 2 and 12 hectares further south.

The application area consists of two distinct areas separated by an area of sumpland (seasonally inundated basin) with a minimum buffer of 50 metres from this sumpland. The application area consists of regrowth from the original clearing from approximately 20 years ago and now comprises Banksia woodland in very good (Keighery 1994) condition.

Several priority flora species have been recorded within the local area (10 kilometre radius). Two of these are located within the same vegetation association and soil type as the application area, their sites including low lying flat areas and swamp edges. The closest of these is a Priority 2 species, located approximately one kilometre from the application area. The species is known from approximately eight locations and has a range of 16 kilometres east-west and 18 kilometres north-south. The application area is within the known range of this species (Department of Parks and Wildlife [Parks and Wildlife] 2014a). The other priority flora species is a

Priority 3 species. These are generally known from collections from several different localities not under imminent threat (Parks and Wildlife 2014b).

One rare flora species is known to occur in soil types represented within the application area and in areas subject to inundation (Western Australian Herbarium 1998-).

The amended application area excludes wetlands thus avoiding potentially significant habitat for both the Priority 2 and the rare flora species (Parks and Wildlife 2014c).

There are no priority or threatened ecological communities mapped within the local area.

A number of fauna species listed as rare or likely to become extinct under the Wildlife Conservation Act 1950 have been recorded within the local area (Parks and Wildlife 2007-). These species include Carnaby's Cockatoo, Woylie, Curlew Sandpiper and Malleefowl.

Based on their known habitats, preferred foraging species and given that the application area consists of 45 hectares of native vegetation in very good (Keighery 1994) condition, the application area contains significant habitat for Carnaby's Cockatoo.

The southern area is likely to provide significant habitat for fauna and act as an ecological corridor for fauna moving between wetland areas.

Given that the application area comprises vegetation in very good (Keighery, 1994) condition, contains significant habitat for threatened fauna and is in close proximity to high quality wetland areas, the proposed clearing is at variance to this principle.

Methodology

References:

- Parks and Wildlife (2014a)
- Parks and Wildlife (2014b)
- Parks and Wildlife (2014c)
- Parks and Wildlife (2007-)
- Keighery (1994)
- Western Australian Herbarium (1998-)

GIS Databases:

- NLWRA, Current Extent of Native Vegetation
- SAC Biodatasets - accessed November 2014

(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

A number of fauna species listed as rare or likely to become extinct under the Wildlife Conservation Act 1950 have been recorded within the local area (10 kilometre radius) including: Woylie (*Bettongia penicillata* subsp. *ogilbyi*), Curlew Sandpiper (*Calidris ferruginea*), Malleefowl (*Leipoa ocellata*) and Carnaby's Cockatoo (*Calyptorhynchus latirostris*) (Parks and Wildlife 2007-).

The habitat of both Woylie and Malleefowl includes low woodland (Yeatman and Groom 2012 and Benshemesh 2007). Curlew Sandpipers are migratory birds and their habitat includes areas around non-tidal swamps (DotE 2014). Although the application area may provide habitat for these species, it is not likely to be significant given their preference for various other habitats.

In addition to the species listed above, the application area may also provide habitat for Quenda (*Isodon obesulus fusciventer*). The Quenda is listed as a Priority 5 species (species in need of monitoring - conservation dependent), meaning that its status needs to be kept under review. This species is known to utilise dense vegetation close to wetlands (Parks and Wildlife 2014c). The southern area under application (approximately 12 hectares) is likely to be important in facilitating the movement of this and other ground dwelling fauna between wetland areas on the property.

The application area consists of Banksia woodland in very good (Keighery 1994) condition. It comprises several species identified as preferred foraging habitat for black cockatoos (Commonwealth of Australia 2012) including Banksia, Hakea and Grevillea species. Several Carnaby's Cockatoos were sighted foraging on Banksia near the application area during the site inspection undertaken by Department of Environment Regulation officers (DER 2014).

The Carnaby's cockatoo recovery plan summarises habitat critical to the survival for Carnaby's cockatoos. This includes 'the vegetation that provides food resources'. The recovery plan states that the 'protection, management and increase of this feeding habitat is a critical requirement for the conservation of the species' (DEC 2012).

The application area is within the Swan Coastal Plain Interim Biogeographic Regionalisation of Australia bioregion. Foraging habitat on the Swan Coastal Plain is considered just sufficient to support the current population of Carnaby's Cockatoo. Therefore, any reduction in foraging habitat will result in a reduction in the

carrying capacity of the region and therefore a decline in the population of Carnaby's Cockatoo. A study involving population analysis modelling suggests that if clearing continues to occur at its current rate without effective habitat restoration, the species is likely to decline to extinction in fewer than 20 years (Cockerill et al. 2013).

The application area is 45 hectares, consists predominantly of foraging habitat for Carnaby's Cockatoo and contains habitat suited to other threatened fauna including the Woylie, Curlew Sandpiper, Quenda and Malleefowl. In addition, the southern application area (12 hectares) is likely to form part of an ecological corridor for fauna moving between wetland areas.

The proposed clearing is at variance to this principle.

Methodology

References:

- Benshemesh (2007)
- Cockerill et al. (2013)
- Commonwealth of Australia (2012)
- DEC (2012)
- DER (2014)
- DotE (2014)
- Keighery (1994)
- Parks and Wildlife (2014c)
- Parks and Wildlife (2007-)
- Yeatman and Groom (2012)

GIS Database:

- SAC Biodatasets - accessed November 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

Two rare flora species have been recorded within the local area (10 kilometre radius). One of these is located approximately nine kilometres from the application area and is found within white/grey sand, sandy clay, gravelly loam in winter-wet areas, near swamps (Western Australian Herbarium 1998-). Parks and Wildlife (2014b) has advised that this species is not likely to occur within the amended application area given the exclusion of wetland areas.

The other rare flora species is mapped within a different vegetation association and soil type to the application area, and is therefore not likely to occur within the application area.

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

Methodology

References:

- Parks and Wildlife (2014b)
- Western Australian Herbarium (1998-)

GIS Database:

- SAC Biodatasets - accessed November 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

There are no threatened ecological communities mapped within the local area (10 kilometre radius), therefore the application area is not likely to comprise the whole or part of, or be necessary for the maintenance of a threatened ecological community.

The proposed clearing is not likely to be at variance to this principle.

Methodology

GIS Database:

- SAC Biodatasets - accessed November 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 not likely to be at variance to this Principle

The area under application is located within the Swan Coastal Plain Interim Biogeographic Regionalisation of Australia (IBRA) bioregion. This IBRA bioregion retains approximately 39 per cent of its pre-European vegetation extent (Government of Western Australia 2014).

The vegetation under application is mapped as Beard Vegetation Association 1030, which has approximately

64 per cent of its pre-European vegetation extent remaining within the Swan Coastal Plain bioregion (Government of Western Australia 2014).

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

Digital imagery indicates that the local area (10 kilometre radius) surrounding the area under application retains approximately 45 per cent vegetation cover.

The area under application is a significant remnant as it contains vegetation in a very good (Keighery, 1994) condition, significant foraging habitat for Carnaby's Cockatoo and suitable habitat for threatened fauna species including the Woylie, Curlew Sandpiper, Quenda and Malleefowl. However, considering the extent of native vegetation remaining within the local area and the bioregion, the area under application is not considered to be within a highly cleared landscape.

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

	Pre-European (ha)	Current Extent (ha)	Remaining (%)	Extent in DPaW Managed Lands (%)
IBRA Bioregion*				
Swan Coastal Plain	1,501,222	586,975	39	37
Shire*				
Shire of Dandaragan	671,022	296,632	44	42
Beard Vegetation Association in Bioregion*				
1030	134,789	86,069	64	16

Methodology

References:

- Commonwealth of Australia (2001)
- *Government of Western Australia (2014)
- Keighery (1994)

GIS Database:

- NLWRA, Current Extent of Vegetation Remaining

(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 revised application area consists of two distinct areas separated by an area of sumpland (seasonally inundated basin). The proposed clearing maintains a minimum buffer of 50 metres from this sumpland. Given the exclusion of wetland areas from the amended application area, the proposed clearing is not likely to directly impact riparian vegetation.

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

Methodology

GIS Database:

- Hydrology, 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

Groundwater salinity in the local area is mapped at 3000 to 7000 milligrams per litre total dissolved solids (moderately saline). No indicators of salinity were observed on the property or offsite in the general area (Commissioner of Soil and Land Conservation 2014).

A site inspection of the application area was undertaken by the Department of Agriculture and Food Western Australia in August 2014. The report noted that in relation to the impacts of the proposed clearing, the risk of water erosion, waterlogging and flooding causing land degradation is low.

In relation to the proposed clearing, the risk of wind erosion causing land degradation is high due to the soil types (Bassendean sands) present and the extent of the proposed clearing. This risk may be mitigated if a progressive clearing plan is implemented and includes additional strategies such as maintaining a constant groundcover where possible (Commissioner of Soil and Land Conservation 2014).

Given the above, the application may be at variance to this principle.

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

GIS Database:
- Groundwater Salinity, 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**
A conservation area (40.5 hectares) is situated approximately 400 metres southwest of the application area. The vegetation that surrounds this area, within unallocated Crown land, should serve as a buffer to the impacts that may otherwise result from the proposed clearing.

Nambung National Park (A Class) and Southern Beekeepers Nature Reserve (C Class) are situated approximately five kilometres west and southwest, respectively, of the application area. The proposed clearing is not likely to impact on the environmental values of these conservation areas, given their distances from the application area.

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

Methodology GIS Database:
- Parks and Wildlife 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**
Ground water salinity levels in the local area have been mapped as moderately saline to saline at 3000 to 7000 milligrams per litre total dissolved solids. However, no indicators of salinity were observed on the property or offsite in the general area during a site visit in August 2014 and the proposed clearing is not expected to significantly change salinity levels (Commissioner of Soil and Land Conservation 2014).

The revised application area consists of two distinct areas separated by an area of sumpland (seasonally inundated basin) with a minimum buffer of 50 metres from this sumpland. The application area is located adjacent to areas identified as sumplands which are part of extensive wetland systems that extend beyond Lot 2. These include wetlands that are commensurate with Conservation Category Wetlands (Parks and Wildlife 2014a).

Parks and Wildlife (2014c) has advised that, although potential impacts have been significantly reduced with the revised application area, those that remain include the alteration of surface water flows plus erosion and sedimentation with a subsequent alteration of both surface and groundwater quality. The exclusion of the southern area (12 hectares) would alleviate this potential impact.

The proposed clearing may be at variance to this principle.

Methodology References:
- Commissioner of Soil and Land Conservation (2014)
- Parks and Wildlife (2014a)
- Parks and Wildlife (2014c)

GIS Database:
- Hydrology, 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**
The application area is located adjacent to areas identified as sumplands which are part of extensive wetland systems that extend beyond Lot 2 (Parks and Wildlife 2014a).

The clearing is not expected to significantly contribute to flooding because of the soil type present (Commissioner of Soil and Land Conservation 2014).

Therefore the proposed clearing is not likely to be at variance to this principle.

Methodology References:
- Commissioner of Soil and Land Conservation (2014)
- Parks and Wildlife (2014a)

Planning instruments and other relevant matters.

Comments The original application was for the proposed clearing of 316 hectares. This was subsequently reduced to 52 hectares to avoid wetland areas and minimise environmental impacts. The application area has been further reduced to 45 hectares, comprising 33 hectares in the northern section of Lot 2 and 12 hectares 1000 metres further south.

In addition to the impacts of the proposed clearing, Parks and Wildlife (2014c) has highlighted potential impacts from grazing including:

- alteration of sediment structure and sediment chemistry, and subsequent impacts to water quality
- increased number of weeds into adjacent wetland areas.

Given the impacts identified during the assessment, DER has discussed with the proponent the option of further reducing the application area to 33 hectares with the provision of a suitable offset to counterbalance the residual environmental impacts, in accordance with the WA Offsets Policy. An offset was not provided.

Methodology Reference:
- Parks and Wildlife (2014c)

4. References

- Benshemesh, J. (2007) National Recovery Plan for Malleefowl. Department for Environment and Heritage, South Australia.
- Cockerill, A., Lambert, T., Conole, L. and Pickett, E. (2013) Carnaby's Cockatoo Population Viability Analysis Model Report. Report funded by the Department of Sustainability, Environment, Water, Population, and Communities through the Sustainable Regional Development Program. Parsons Brinckerhoff, Perth.
- Commissioner of Soil and Land Conservation (2014) Land Degradation Advice and Assessment Report for clearing permit application CPS 6159/1 received 2 September 2014; Department of Agriculture and Food Western Australia (DER Ref: A801797).
- Commonwealth of Australia (2001) National Objectives and Targets for Biodiversity Conservation 2001-2005, Canberra.
- Commonwealth of Australia (2012) EPBC Act referral guidelines for three threatened black cockatoo species, Canberra.
- DEC (2012) Carnaby's cockatoo (*Calyptorhynchus latirostris*) Recovery Plan. Department of Environment and Conservation, Perth, Western Australia.
- DotE (2014) *Calidris ferruginea* in Species Profile and Threats Database, Department of the Environment, Canberra. Available from: <http://www.environment.gov.au/sprat>. Accessed August 2014.
- DER (2014) Site visit report for clearing permit application CPS 6159/1, 9 September 2014. Department of Environment Regulation, Western Australia (DER Ref: A805691).
- Government of Western Australia (2014) 2014 Statewide Vegetation Statistics incorporating the CAR Reserve Analysis (Full Report). Current as of June 2014. WA Department of Parks and Wildlife, Perth, <https://www2.landgate.wa.gov.au/web/guest/downloader>.
- 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.
- Parks and Wildlife (2014a) Advice received in relation to clearing permit application CPS 6159/1, received 3 September 2014. Department of Parks and Wildlife, Western Australia (DER Ref: A802216).
- Parks and Wildlife (2014b) Threatened and Priority Flora List for Western Australia. WA Department of Environment and Conservation, Perth.
- Parks and Wildlife (2014c) Advice received in relation to clearing permit application CPS 6159/1, received 1 December 2014. Department of Parks and Wildlife (DER Ref: A839709).
- Parks and Wildlife (2007-) NatureMap: Mapping Western Australia's Biodiversity. Department of Parks and Wildlife. URL: <http://naturemap.dec.wa.gov.au/>. Accessed August 2014.
- 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.
- Western Australian Herbarium (1998-) FloraBase - The Western Australian Flora. Department of Parks and Wildlife. <http://florabase.dpaw.wa.gov.au/>. Accessed August 2014.
- Yeatman, G.J. and Groom, C.J. (2012) National Recovery Plan for the Woylie *Bettongia penicillata*. Wildlife Management Program No. 51. Department of Environment and Conservation, Perth.