



1. Application details

1.1. Permit application details

Permit application No.: 6951/1
Permit type: Area Permit

1.2. Applicant details

Applicant's name: Mrs Wanda Anne Colvin
Mr Adam Graham Colvin

1.3. Property details

Property: LOT 2269 ON PLAN 251514, NORTH BOYANUP
Local Government Authority: CAPEL, SHIRE OF
DER Region: Greater Swan
DPaW District: WELLINGTON
Localities: NORTH BOYANUP

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
4.23		Mechanical Removal	Hazard reduction or fire control

1.5. Decision on application

Decision on Permit Application: Refused
Decision Date: 27 October 2016

Reasons for Decision: The original clearing permit application for 6.95 hectares was received on 17 February 2016. In response to the preliminary assessment, which identified environmental impacts, the applicant reduced the application area from 6.95 hectares to 4.23 hectares.

The clearing permit application has been assessed against the clearing principles, planning instruments and other matters in accordance with section 51O of the *Environmental Protection Act 1986*, and it has been concluded that the proposed clearing is at variance to Principles (e) and (f), may be at variance to Principles (a), (b), (c) and (i), and is not likely to be at variance to the remaining Principles.

The Delegated Officer determined that the proposed clearing will impact a mapped resource enhancement dampland and an ecological corridor and may impact on habitat for indigenous fauna (quenda) and threatened and priority flora.

In making the decision to refuse the application, the Delegated Officer had regard to the applicants submissions on the assessment (as outlined in this report) and the outstanding planning approval from the Shire of Capel.

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 vegetation Southern River complex comprises open woodland of <i>Corymbia calophylla</i> (marri), <i>Eucalyptus marginata</i> (jarrah), and <i>Banksia</i> species with fringing woodland of <i>Eucalyptus rudis</i> (flooded gum) and <i>Melaleuca raphiophylla</i> (swamp paperbark) along creek beds (Hedde et al., 1980).	The applicant proposes to clear 4.23 hectares of native vegetation within Lot 2269 on Deposited Plan 251514, North Boyanup, for the purposes of constructing a dog kennel, cattery and fire hazard reduction.	Good; Structure significantly altered by multiple disturbance; retains basic structure/ability to regenerate (Keighery, 1994). To Completely Degraded: No longer intact; completely /almost completely without native species (Keighery 1994)	The vegetation condition and description was determined via a site inspection undertaken by Department of Environment Regulation (DER) officers. The application area is comprised of <i>Melaleuca</i> woodland over <i>Kunzea glabrescens</i> , which forms dense thickets and predominates in various areas, over sedges. There are also areas of <i>Nuytsia floribunda</i> , jarrah and marri woodland. Other mid storey species include scattered <i>Banksia</i> sp. over an understorey of <i>Pteridium aquilinum</i> (Bracken fern) and <i>Acacia</i> sp. (DER, 2016).
Beard vegetation association 1000 is described as mosaic of medium forest with jarrah-marri low woodland, <i>Banksia</i> low forest and teatree (<i>Melaleuca</i> spp.) (Shepherd et al., 2001).			

3. Assessment of application against clearing principles

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

Comments

Proposed clearing may be at variance to this Principle

The applicant proposes to clear 4.23 hectares of native vegetation within Lot 2269 on Deposited Plan 251514, North Boyanup, for the purposes of constructing a dog kennel, cattery and associated fire hazard reduction area. The applicant advised that large trees would be retained, whereby the intention is to predominantly clear *Kunzea glabrescens* and smaller *Melaleuca* sp. It is advised that the kennel and cattery would be constructed within an area that does not contain large trees.

The condition of the application area varies throughout, ranging from good to completely degraded (Keighery, 1994) condition (DER, 2016), with the majority of the vegetation in a good to degraded (Keighery, 1994) condition (DER, 2016). The application area has been subject to previous grazing practices, whereby the understorey remains bare in parts (DER, 2016).

The application area is largely comprised of *Melaleuca* woodland over *Kunzea glabrescens* which forms dense thickets and dominates portions of the application area, over sedges (DER, 2016). There are also areas of *Nuytsia floribunda*, jarrah and marri woodland. Other mid storey species include scattered *Banksia* sp. over an understorey of *Pteridium aquilinum* (bracken fern) and *Acacia* sp. (DER, 2016).

Soils within the application area have been mapped as deep bleached grey sands over yellow sands to very poorly drained bleached sands (Commissioner of Soil and Land Conservation (CSLC), 2016).

According to available datasets, seven priority flora species have been recorded within two kilometres of the application area, on the same mapped soil or vegetation type to the application area. These seven flora species are, *Leptomeria furtiva* (Priority 2), *Schoenus loliaceus* (Priority 2), *Leucopogon* sp. Busselton (Priority 2), *Adelphacme minima* (Priority 3), *Acacia flagelliformis* (Priority 4), *Acacia semitrullata* (Priority 4) and *Franklandia triaristata* (Priority 4).

Adelphacme minima, *Acacia flagelliformis* and *Franklandia triaristata* have been recorded 20 or more times over three or more local government areas, and are considered to have moderate distributions. Therefore, the proposed clearing is not likely to impact on the conservation status of these species.

Leptomeria furtiva and *Schoenus loliaceus* have each been recorded once within the local area (10 kilometre radius surrounding the application area) and current records indicate that these species are poorly represented within the greater Swan Coastal Plain Interim Biogeographic Regionalisation of Australia (IBRA) Bioregion, with three known records of *Schoenus loliaceus* and four known records of *Leptomeria furtiva*. These species have both been recorded within winter wet areas on grey sand, which is consistent with the habitat identified within the application area (DER, 2016). Given the limited known records of these species, the proposed clearing may impact on their conservation status, if present.

There are 13 known records of *Leucopogon* sp. Busselton within a range of 57 kilometres across the Shire of Capel and City of Busselton. The limited range indicates that this species has a restricted distribution. The closest record of this species to the application area is the northernmost record, indicating that the application area occurs along the northern extent of its known range. This species has been recorded within winter wet areas and grey sands, which is consistent with the habitat identified within the application area (DER, 2016). Given the restricted distribution of this species, the proposed clearing may impact on its conservation status, if present.

There are eight rare flora species recorded within the local area and a site inspection identified that based on the habitat requirements of these species, there is the potential for two species to occur within the application area (DER, 2016). A flora survey undertaken at the appropriate time of year, by a qualified botanist and targeted at flora of conservation significance would be required to determine whether any priority or rare flora occur within the application area.

According to available datasets, the closest mapped priority ecological community (PEC) to the application area is located 13 kilometres east and is known as 'Dardanup jarrah and mountain marri woodland on laterite' (Priority 1).

The closest mapped threatened ecological community (TEC) is located 3.1 kilometres east of the application area and is known as '*Eucalyptus calophylla* woodlands on heavy soils of the southern Swan Coastal Plain'. A site inspection identified that the application area is not representative of either of these communities (DER, 2016).

There are records of 35 species of conservation significant fauna within the local area (Department of Parks and Wildlife) (Parks and Wildlife, 2007-). Of these, the application area may provide suitable habitat for five, being, Carnaby's cockatoo (*Calyptorhynchus latirostris*), Baudin's cockatoo (*Calyptorhynchus baudinii*), forest red-tailed black cockatoo (*Calyptorhynchus banksii subsp. naso*) (collectively known as black cockatoos), western ringtail possum (*Pseudocheirus occidentalis*) and quenda (*Isoodon obesulus subsp. fusciventer*). Suitable habitat for black cockatoos is largely limited to scattered trees that may be utilised for foraging, including jarrah, marri and *Banksia* sp. (DER, 2016). Given the scattered occurrence of these trees, the foraging habitat identified is not considered significant for black cockatoos.

The application area contains jarrah, marri, *Banksia* sp., and *Melaleuca* dominant shrubland (DER, 2016), which provides suitable foraging and refuge habitat for western ringtail possums. However, the applicant has advised that larger trees will be retained, which will minimise impacts to western ringtail possum habitat. The quenda has a preference for wet or dry sclerophyll forest through to open woodland and scrubby vegetation on sandy soils (DEC, 2010), which is consistent with the habitat identified in the application area (DER, 2016). Therefore, quenda may utilise habitat within the application area.

The application area comprises part of a larger remnant (approximately 600 hectares) of vegetation that is mapped as a significant ecological linkage within the South West Regional Ecological Linkages technical report. These corridors are important for the dispersal of native fauna as well as consisting of either breeding or foraging habitat, or both, for local fauna (Molloy et al., 2009). Removal of vegetation from these corridors at a local level may cause a decrease in ecological linkage values and increase the fragmentation of the landscape (Molloy et al., 2009). While the proposed clearing will not sever the linkage, it will contribute towards the cumulative loss of vegetation associated with the linkage and impact on its landscape value and functionality.

The local area retains approximately 25 per cent native vegetation cover.

Approximately 2.2 hectares of the application area is mapped as a resource enhancement (RE) dampland and species commonly associated with wetland environments, including *Kunzea glabrescens* (forms dense thickets) *Melaleuca* sp., and sedges were identified within the application area (DER, 2016). This dampland is mapped over an area of approximately 4.62 hectares. RE wetlands are considered priority wetlands which may have been partially modified but still support substantial ecological attributes and functions (Water and Rivers Commission, 2001). RE wetlands have the potential to be restored to conservation category via restoring wetland structure, function and biodiversity and the protection of these wetlands is recommended (Water and Rivers Commission, 2001). The proposed clearing will directly impact on the mapped RE dampland.

The applicant advised that they wished to modify the initial application area to minimise potential environmental impacts by reducing the application area from 6.95 hectares to 4.23 hectares. This amendment subsequently reduced the impact on the mapped dampland from 3.94 hectares to 2.2 hectares.

The applicant also submitted that the predominant vegetation proposed for clearing is *Kunzea* and the majority of ground cover vegetation will remain intact, which would minimise impacts to the mapped dampland, quenda and conservation significant flora species, if present.

With regard to the amended area, Parks and Wildlife advised that "the potential impacts of the proposed clearing of the wetland area include direct loss of vegetation that provides habitat for quenda, that utilise the dense *Melaleuca/Kunzea* thickets and understorey, and cumulative impacts from altered hydrology on the nearby sumpland as a result of clearing the vegetation in the dampland. It is considered likely that removal of the vegetation from the dampland will result in this wetland feature being permanently lost" (Parks and Wildlife, 2016).

Parks and Wildlife further advised that "the proposal area is known to support two Priority 4 flora, *Acacia semitrullata* and *Eucalyptus rudis* subsp. *cratyantha* and potentially the declared rare flora [name withheld] (critically endangered) and [name withheld] (endangered). [Name withheld] has been found in a number of vegetation remnants on this landform. A targeted flora survey would determine if these rare flora species are present" (Parks and Wildlife, 2016).

While it is acknowledged that the applicant will endeavour to retain understorey vegetation, the proposed clearing is to be undertaken by mechanical means, whereby damage to understorey vegetation would be unavoidable. It is acknowledged that the amendment will reduce the extent of impact to the dampland, ecological linkage and quenda habitat.

Taking into account the applicant's advice, the extent of proposed clearing, presence of the dampland, vegetation in a good (Keighery, 1994) condition (DER, 2016), suitable habitat for rare and priority flora species and quenda and contribution towards the value of an ecological linkage, it is considered that the application area may comprise a high level of biodiversity.

Given the above, the proposed clearing may be at variance to this Principle.

Methodology

References:
CSLC (2016)
DEC (2010)
DER (2016)
Keighery (1994)
Molloy et al. (2009)
Parks and Wildlife (2007-)
Parks and Wildlife (2016)
Water and Rivers Commission (2001)

GIS Databases:
SAC Bio Datasets (accessed September 2016)
Current Extent of Native Vegetation
Geomorphic Wetlands, Swan Coastal Plain

(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

Proposed clearing may be at variance to this Principle

There are 35 fauna species of conservation significance recorded within the local area. Of these, the application area may provide suitable habitat for five, being, quenda, forest red-tailed black-cockatoo, Baudin's cockatoo, Carnaby's cockatoo and western ringtail possum (Parks and Wildlife, 2007-).

Of the species that have been recorded multiple times in the local area within the last ten years, the application area may provide suitable habitat for quenda, forest red-tailed black-cockatoo, Baudin's cockatoo, Carnaby's cockatoo and western ringtail possum.

Forest red-tailed black cockatoo, Baudin's cockatoo and Carnaby's cockatoo (classified as rare or likely to become extinct under the *Wildlife Conservation Act 1950* (WC Act)) forage on the seeds, nuts and flowers of a large variety of plants including proteaceous species (*Banksia*, *Hakea* and *Grevillea* sp.), as well as *Allocasuarina* and *Eucalyptus* species, *Corymbia calophylla* and a range of introduced species (Valentine and Stock, 2008). Suitable foraging habitat for these species in the form of scattered jarrah, marri and *Banksia* species occurs within the application area (DER, 2016), however, there was no evidence of foraging observed during a site inspection (DER, 2016), and given the scattered occurrence of these trees, they are not likely to provide significant foraging habitat for black cockatoos.

Breeding habitat for black cockatoos is defined as trees of species known to support breeding within the range of the species which either have a suitable nest hollow or are of a suitable diameter at breast height (DBH) to develop a nest hollow. For most tree species, suitable DBH is 500 millimetres (Commonwealth of Australia, 2012). Trees with a DBH of greater than 500 millimetres were identified on site (DER, 2016), however the retention of large trees will assist in mitigating the impact to suitable breeding habitat for black cockatoos.

The western ringtail possum (WRP) (classified as rare or likely to become extinct under the WC Act) uses a variety of shelters including dreys (within *Agonis flexuosa*), tree hollows and forks, grass trees (*Xanthorrhoea* spp.), hollow logs, rabbit burrows and forest debris (Shedley and Williams, 2014). Studies have shown that the rate of sighting for the species correlates with the abundance of *Agonis flexuosa* and presence of hollow bearing trees. While *Agonis flexuosa* rarely have hollows, WRP will use eucalypt hollows when available, whereas in *Agonis flexuosa* dominated forest, dreys are built in the absence of hollows (Shedley and Williams, 2014). WRP may also utilise jarrah, marri and *Banksia* forest, or *Melaleuca* dominant shrubland, for refuge and foraging where *Agonis flexuosa* is present only as a minor component (Shedley and Williams, 2014).

The application area comprises *Melaleuca* woodland with various areas of scattered jarrah, marri, *Nuytsia floribunda* and *Banksia* sp. (DER, 2016). A limited number of *Agonis flexuosa* was observed in the application area (DER, 2016), therefore there is the potential for WRP to utilise the application area for refuge and foraging purposes. However, the retention of large trees will assist in mitigating impacts on significant WRP habitat.

Quenda (listed as Priority 4 by Parks and Wildlife) have a preference for wet or dry sclerophyll forest through to open woodland and scrubby vegetation on sandy soils. Dense undergrowth and low ground cover are particularly important in providing cover for quenda (DEC, 2010). The application area includes some vegetation that is consistent with the preferred habitat type for quenda, and noting records in the local area, it is considered that the application area provides suitable habitat for this species (DER, 2016).

The application area comprises part of a larger remnant (approximately 600 hectares) of vegetation that is mapped as a significant ecological linkage within the South West Regional Ecological Linkages technical report. These corridors are important for the dispersal of native fauna as well as consisting of either breeding or foraging habitat, or both, for local fauna (Molloy et al., 2009). Removal of vegetation from these corridors at a local level may cause a decrease in ecological linkage values and increase the fragmentation of the landscape (Molloy et al., 2009). While the proposed clearing will not sever the linkage, it will contribute towards the cumulative loss of vegetation associated with the linkage and impact on its landscape value and functionality.

The applicant advised that they wished to modify the initial application area to minimise environmental impacts by reducing the application area from 6.95 hectares to 4.23 hectares.

The applicant also submitted that the predominant vegetation proposed for clearing is *Kunzea* and the majority of ground cover vegetation will remain intact, which would minimise impacts to the mapped dampland, quenda and conservation significant flora species, if present.

With regards to quenda, Parks and Wildlife advised that "the potential impacts of the proposed clearing of the wetland area include direct loss of vegetation that provides habitat for quenda that utilise the dense *Melaleuca/Kunzea* thickets and understorey..." (Parks and Wildlife, 2016).

While it is acknowledged that the applicant will endeavour to retain understorey vegetation, the proposed clearing is to be undertaken by mechanical means, whereby damage to understorey vegetation would be unavoidable. It is acknowledged that the amendment will reduce the extent of impact to quenda habitat and the ecological linkage. Irrespective of this, it is considered that areas of dense *Kunzea*, which the applicant has advised is the predominant species proposed for clearing, provide suitable habitat for quenda.

Taking into account the applicant's advice, and noting the extent of the proposed clearing, the presence of suitable habitat for quenda and that the application area contributes to an ecological linkage, it is considered that the application area may comprise significant habitat for indigenous fauna.

Given the above, the proposed clearing may be at variance to this Principle.

Methodology References:
Commonwealth of Australia (2012)
DEC (2010)
DER (2016)
Molloy et al. (2009)
Parks and Wildlife (2007-)
Parks and Wildlife (2016)
Shedley and Williams (2014)
Valentine and Stock (2008)

(c) Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, rare flora.

Comments Proposed clearing may be at variance to this Principle

There are records of eight rare flora species within the local area and based on their habitat requirements, there is the potential for the application area to contain two of these species, herein referred to as species (a) and species (b).

Species (a) is a tuberous perennial herb that grows between 0.12 and 0.3 metres high and flowers between October and November. This species commonly grows within white or grey deep sandy soils in low-lying situations adjoining winter-wet swamps, often in association with tall *Kunzea* sp. (Hopper and Brown, 2007; Western Australian herbarium, 1998-). The closest record of this species occurs 6.5 kilometres south east of the application area and was recorded amongst *Kunzea glabrescens*. The soils within the application area have been mapped as deep bleached grey sands over yellow sands to very poorly drained bleached sands (CSLC, 2016) and the application area is within a mapped dampland that includes dense *Kunzea glabrescens* thickets (DER, 2016). Therefore, the application area provides suitable habitat for this species.

Species (b) is a tuberous perennial herb that flowers between September and October and commonly grows in bare sand patches in *Banksia* or jarrah woodland, often associated with *Kunzea glabrescens* thickets adjacent to winter-wet swamps within white-grey sand (Western Australian Herbarium, 1998-). The closest record of this species is located approximately 2.65 kilometres south east of the application area, on a sandy site within an area of mixed *Banksia* woodland over low heath and *Kunzea glabrescens* thickets. The application area contains grey sandy soils (CSLC, 2016), *Banksia* sp., jarrah and *Kunzea glabrescens*. Therefore, the application area shares commonalities with the required habitat for, and therefore, provides suitable habitat for this species.

The applicant advised that they wished to modify the initial application area to minimise environmental impacts by reducing the application area from 6.95 hectares to 4.23 hectares. The applicant also submitted that the predominant vegetation proposed for clearing is *Kunzea* and the majority of ground cover vegetation will remain intact, which would minimise impacts to the mapped dampland and conservation significant flora species, if present.

Parks and Wildlife advised that "the area proposed to be cleared is part of a larger unsurveyed vegetation remnant on the Bassendean dune landform. The proposal area is known to support two Priority 4 flora, *Acacia semitrullata* and *Eucalyptus rudis* subsp. *cratyantha* and potentially the declared rare flora [Species (a)] (critically endangered) and [Species (b)] (endangered). [Species (a)] has been found in a number of vegetation remnants on this landform. A targeted flora survey would determine if these rare flora species are present" (Parks and Wildlife, 2016).

While it is acknowledged that the applicant will endeavour to retain understorey vegetation, the proposed clearing is to be undertaken by mechanical means, whereby damage to understorey vegetation, and potentially the two aforementioned rare flora species, would be unavoidable.

As recommended by Parks and Wildlife, a flora survey, undertaken at the appropriate time of year by a qualified botanist, targeted at flora of conservation significance would be required to determine whether the above mentioned rare flora species occur within the application area.

Given the above, the proposed clearing may be at variance to this Principle.

Methodology References:
CSLC (2016)
DER (2016)
Hopper and Brown (2007)
Parks and Wildlife (2016)
Western Australian Herbarium (1998-)

GIS Databases:
SAC Bio Datasets (accessed September 2016)

(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 Proposed clearing is not likely to be at variance to this Principle

The closest mapped threatened ecological community (TEC) to the application area is located 3.1 kilometres east and is known as 'Eucalyptus calophylla woodlands on heavy soils of the southern Swan Coastal Plain'.

The vegetation under application is not consistent with the description of the above mentioned TEC (DER, 2016), and given the distance between the application area and the TEC, the proposed clearing is not likely to impact on this TEC.

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

Methodology References:
DER (2016)

(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 Proposed clearing is at variance to this Principle

The vegetation under application is mapped as Beard vegetation association 1000 and Hedde vegetation Southern River complex which retain approximately 25 and 18 per cent of their pre-European vegetation extents within the Swan Coastal Plain respectively (Government of Western Australia, 2015; Parks and Wildlife, 2015). Beard vegetation association 1000 is described as a mosaic of medium forest with jarrah-marri low woodland, *Banksia* low forest and teatree and Hedde vegetation Southern River complex is described as open woodland of marri, jarrah and *Banksia* species with fringing woodland of *Eucalyptus rudis* and *Melaleuca raphiophylla* along creek beds (Hedde et al., 1980). Whilst the application area contains scattered jarrah and marri trees, it is not considered to be truly representative of these mapped vegetation types.

The application area is within the Shire of Capel which retains approximately 33 per cent of its pre-European vegetation extent (Government of Western Australia, 2015). The local area retains approximately 25 per cent native vegetation cover. The National Objectives and Targets for Biodiversity Conservation include a target that prevents the clearance of ecological communities with an extent below 30 per cent of that present pre-European settlement (Commonwealth of Australia, 2001).

The application area comprises part of a larger remnant (approximately 600 hectares) of vegetation that is mapped as a significant ecological linkage within the South West Regional Ecological Linkages technical report. These corridors are important for the dispersal of native fauna as well as consisting of either breeding or foraging habitat, or both, for local fauna (Molloy et al., 2009). Removal of vegetation from these corridors at a local level may cause a decrease in ecological linkage values and increase the fragmentation of the landscape (Molloy et al., 2009). While the proposed clearing will not sever the linkage, it will contribute towards the cumulative loss of vegetation associated with the linkage and impact on its landscape value and functionality.

The applicant advised that they wished to modify the initial application area to minimise environmental impacts by reducing the application area from 6.95 hectares to 4.23 hectares. The applicant submitted that the predominant vegetation proposed for clearing is *Kunzea*, which is not representative of the mapped vegetation types and the majority of ground cover vegetation will remain intact, which would minimise impacts to the mapped dampland, quenda and conservation significant flora species, if present. The applicant advised that the ecological linkage in question is already fragmented as a result of nearby industrial development and parkland cleared areas. The applicant also advised that there is a significant portion of surrounding vegetation nearby that has undergone minimal disturbance.

Whilst the vegetation under application is not completely representative of the mapped vegetation types, considering that the local area retains less than the above mentioned 30 per cent vegetation threshold and given the corridor values, it is considered to a significant remnant in an extensively cleared landscape.

It is acknowledged that the applicant will endeavour to retain understorey vegetation, however, the proposed clearing is to be undertaken by mechanical means, whereby damage to understorey vegetation would be unavoidable. It is acknowledged that the amendment will reduce the extent of impact to the dampland, ecological linkage and quenda habitat.

Taking into account the applicant's advice, the extent of proposed clearing, presence of the dampland, vegetation in a good (Keighery, 1994) condition (DER, 2016), suitable habitat for rare and priority flora species and quenda and contribution towards the value of an ecological linkage, it is considered that the application area is significant as a remnant of native vegetation in an area that has been extensively cleared.

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

	Pre-European (ha)	Current Extent (ha)	Remaining (%)	Extent in Parks and Wildlife Managed Lands (%)
IBRA Bioregion*				
Swan Coastal Plain	1,501,222	580,697	39	37
Shire*				
Shire of Capel	55,945	18,653	33	45
Beard Vegetation Association in Bioregion*				
1000	94,175	23,768	25	19
Hedde Vegetation Complex**				
Southern River Complex	57,970	10,698	18	1.5

Methodology

References:
 Commonwealth of Australia (2001)
 DER (2016)
 *Government of Western Australia (2015)
 Keighery (1994)
 **Parks and Wildlife (2015)

GIS Databases:
 NLWRA, Current Extent of Native Vegetation
 Pre-European vegetation
 Hedde Vegetation Complexes

(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

Proposed clearing is at variance to this Principle

Approximately 2.2 hectares of the application area is mapped as a resource enhancement (RE) dampland and species commonly associated with wetland environments, including *Melaleuca* sp., *Kunzea glabrescens* and sedges were identified within the application area (DER, 2016). Three areas subject to inundation are also mapped within the application area.

The dampland is mapped over an area of approximately 4.62 hectares and the proposed clearing will impact on 47.6 per cent of this mapped occurrence. RE wetlands are considered priority wetlands which may have been partially modified but still support substantial ecological attributes and functions (Water and Rivers Commission, 2001). RE wetlands have the potential to be restored to conservation category via restoring wetland structure, function and biodiversity and the protection of these wetlands is recommended (Water and Rivers Commission, 2001).

The proposed clearing will directly impact on vegetation growing within the mapped RE dampland.

The applicant advised that they wished to modify the initial application area to minimise environmental impacts by reducing the application area from 6.95 hectares to 4.23 hectares. The applicant also submitted that the predominant vegetation proposed for clearing is *Kunzea* and the majority of ground cover vegetation will remain intact, which would minimise impacts to the mapped dampland.

Parks and Wildlife advised that "the potential impacts of the proposed clearing of the wetland area include direct loss of vegetation that provides habitat for quenda, that utilise the dense *Melaleuca/Kunzea* thickets and understorey, and cumulative impacts from altered hydrology on the nearby sumpland as a result of clearing the vegetation in the dampland. It is considered likely that removal of the vegetation from the dampland will result in this wetland feature being permanently lost" (Parks and Wildlife, 2016).

It is acknowledged that the applicant will endeavour to retain understorey vegetation, however, the proposed clearing is to be undertaken by mechanical means, whereby damage to understorey vegetation would be unavoidable. It is acknowledged that the amendment will reduce the extent of impact to the dampland.

Taking into account the applicant's advice, the extent of proposed clearing and the presence of the dampland, it is considered that the application area contains vegetation that is growing in, or in association with, an environment associated with a watercourse or wetland.

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

Methodology

References:
 DER (2016)
 Parks and Wildlife (2016)
 Water and Rivers Commission (2001)

GIS Databases:
 Hydrography, linear

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

Comments

Proposed clearing is not likely to be at variance to this Principle

The application area has been mapped by the Department of Agriculture and Food Western Australia (DAFWA) as Bassendean B3 phase map unit 212Bs_B3 and Bassendean B1b phase map unit 212 Bs_B1b. These are described as low relief dunes and poorly defined stream channels or closed depressions. These map units comprise deep bleached grey sands over yellow sands at depth on the dunes and poorly to very poorly drained bleached sands over iron-organic pan or clay subsoils in the closed depression (CSLC, 2016).

A land degradation assessment of the application area undertaken by DAFWA identified that the risk of salinity, wind erosion, water erosion, waterlogging or flooding as a result of the proposed clearing is low, and concluded that the proposed clearing is unlikely to result in appreciable land degradation (CSLC, 2016).

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

Methodology

References:
CSLC (2016)

(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

Proposed clearing is not likely to be at variance to this Principle

The closest conservation area to the application is Dardanup Conservation Park, located approximately 10.5 kilometres east.

The application area comprises part of a larger remnant of vegetation that is mapped as a significant ecological linkage within the South West Regional Ecological Linkages technical report. These corridors are important for the dispersal of native fauna as well as consisting of either breeding or foraging habitat, or both, for local fauna (Molloy et al., 2009). While the proposed clearing will not sever the linkage, it will contribute towards the cumulative loss of vegetation associated with the linkage. However, given the distance to Dardanup Conservation Park, it is not likely that the proposed clearing will impact on its values.

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

Methodology

References:
Molloy et al. (2009)

GIS Databases:
Parks and Wildlife Tenure
SWREL-AL

(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

Proposed clearing may be at variance to this Principle

Approximately 2.2 hectares of the application area is mapped as a resource enhancement (RE) dampland. Three areas subject to inundation are also mapped within the application area.

The proposed clearing will alter the landform, which may impact the hydrology, run off paths and water quality of the mapped RE dampland. It is considered that impacts to water quality may occur from increased sedimentation, particularly during winter months. While the proposed clearing is unlikely to result in appreciable land degradation via water erosion given the high permeability of sandy soils (CSLC, 2016), an increase in sediment run off into the remaining dampland area may cause deterioration in the quality of surface water.

Vegetated buffers are key strategic elements among a series of protection barrier options that reduce the risk of sediment impact on water quality (WAPC, 2005). The minimum recommended buffer for RE wetlands is 50 metres. The proposed clearing does not provide a buffer to the mapped dampland.

Groundwater salinity mapped within the application area ranges from 1000 to 3000 milligrams per litre (measured as Total Dissolved Solids). A land degradation assessment of the application area undertaken by DAFWA identified that the proposed clearing is not likely to result in any changes to salinity levels (CSLC, 2016).

The applicant advised that they wished to modify the initial application area to minimise environmental impacts by reducing the application area from 6.95 hectares to 4.23 hectares.

The applicant submitted that the predominant vegetation proposed for clearing is *Kunzea* and the majority of ground cover vegetation will remain intact.

The applicant also advised that the landform has sustained substantial alterations and given the soil type and intention to retain understorey vegetation, runoff is unlikely to be an issue.

Parks and Wildlife advised that “the potential impacts of the proposed clearing of the wetland area include direct loss of vegetation that provides habitat for quenda, that utilise the dense *Melaleuca/Kunzea* thickets and understorey, and cumulative impacts from altered hydrology on the nearby sumpland as a result of clearing the vegetation in the dampland.

It is considered likely that removal of the vegetation from the dampland will result in this wetland feature being permanently lost” Parks and Wildlife (2016).

It is acknowledged that the applicant will endeavour to retain understorey vegetation, which would help to minimise sedimentation, however, the proposed clearing is to be undertaken by mechanical means, whereby damage to understorey vegetation would be unavoidable. Irrespective of this, it is considered that the removal of dense *Kunzea* thickets may cause increased sedimentation of the mapped dampland.

Given the above, the proposed clearing may be at variance to this Principle.

Methodology References:
CSLC (2016)
Parks and Wildlife (2016)
WAPC (2005)

GIS Databases:
Hydrography, linear
Hydrography, hierarchy
Geomorphic Wetlands, Swan Coastal Plain

(j) Native vegetation should not be cleared if clearing the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding.

Comments Proposed clearing is not likely to be at variance to this Principle

Approximately 2.2 hectares of the application area is mapped as a resource enhancement dampland. Three areas subject to inundation are also mapped within the application area.

A land degradation assessment undertaken by DAFWA identified that the proposed clearing is not likely to result in flooding due to the soil types present (CSLC, 2016).

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

Methodology References:
CSLC (2016)

Planning instruments and other relevant matters.

Comments The applicant proposes to clear 4.23 hectares of native vegetation within Lot 2269 on Deposited Plan 251514, North Boyanup, for the purposes of constructing a dog kennel, cattery and associated fire hazard reduction area.

The application area is zoned ‘rural’ under the Greater Bunbury Region Scheme. The applicant has submitted an application for development approval for the proposed cattery and dog kennel and the Shire of Capel is yet to make a decision on the application (Shire of Capel, 2016).

The area under application is within the Bunbury Groundwater Area, proclaimed under the *Rights in Water and Irrigation Act 1914* (RIWI Act). Any groundwater abstraction in this area is subject to licensing, and any proposed interference with a watercourse, drain, dam or reservoir within this area is also subject to assessment and approval. The Department of Water (DoW) advised that no groundwater is available from the Leederville Perth aquifer, the Bunbury Yarragadee South aquifer or the Perth Superficial Swan aquifer. The applicant does not hold a current water licence and while the DoW would consider issuing a water licence of 1500 kilolitres, this would be for domestic use only (DoW, 2016). The DoW advises that it does not support the application as it involves clearing riparian vegetation within a wetland and poses significant environmental risks to the wetland given the proposed end land use (DoW, 2016).

A submission has been received from the Capel Land Conservation District Committee (Capel LCDC, 2016).

The Capel LCDC opposes the proposed clearing on the basis that it provides suitable habitat for rare fauna species, provides suitable habitat for small native bird species, and is excessive for the intended purpose. The Capel LCDC advised that it would not be opposed to a contained dog kennel on a substantially reduced area of clearing (Capel LCDC, 2016). The concerns raised in the submission have been addressed within clearing Principles (b), (c) and (e) above.

There are no Aboriginal Sites of Significance mapped within the application area.

On 1 May 2014 the applicant applied to clear 15 hectares of native vegetation within Lot 2269 on Deposited Plan 251514, North Boyanup, for the purpose of installing a power line, providing a fire protection area and undertaking rural activities (CPS 6097/1). The application area for CPS 6097/1 included the majority of the current application area.

A preliminary assessment of the initial application area identified the following environmental issues:

- The application area provided suitable habitat for two species of rare flora;
- The application area provided significant habitat for western ringtail possums;
- The application area was considered a significant remnant within an extensively cleared landscape; and
- The proposed clearing would impact on wetland environments.

The applicant subsequently amended the application area to 10.5 hectares, excluding the northern portion (which forms the majority of the current application area) to reduce environmental harm.

It was determined that the majority of the revised application area was in a degraded (Keighery, 1994) condition, excluded a mapped wetland, was not likely to contain rare flora and was not considered a significant remnant. A permit to clear 10.5 hectares of native vegetation was subsequently issued to the applicant on 6 November 2014. The permit required that the applicant retain *Agonis flexuosa* trees to minimise impacts to western ringtail possum habitat.

DER's Delegated Officer wrote to the applicant on 30 May 2016 advising that the preliminary assessment had identified a number of significant environmental impacts associated with the proposed clearing and provided 30 days notice of the intent to refuse the application. The applicant was invited to provide further advice before the decision was made.

A meeting between the applicant and DER staff was held on 19 July 2016 to discuss the environmental impacts identified in the preliminary assessment. On 25 July 2016 and 5 August 2016 the applicant provided additional information (including photographs) including:

- The application area has been amended (from 6.95 to 4.23 hectares) to exclude vegetation of a higher biological value, minimising impacts to quenda habitat;
- The predominant vegetation proposed for clearing is *Kunzea* and the majority of ground cover vegetation will remain intact, which would minimise impacts to the mapped dampland and rare flora species if present;
- The ecological linkage is already fragmented given the presence of nearby industry and parkland cleared areas;
- The application area is not reflective of the mapped vegetation complexes due to disturbance associated with the historic land use;
- There is a significant portion of undisturbed nearby remnant vegetation;
- The landform has sustained substantial alterations and given the soil type, runoff is unlikely to be an issue; and
- that the dampland has been incorrectly mapped.

Advice was sought from Parks and Wildlife in regard to the amended area and the submissions. With regard to the amended area, Parks and Wildlife advised that "the potential impacts of the proposed clearing of the wetland area include direct loss of vegetation that provides habitat for quenda, that utilise the dense *Melaleuca/Kunzea* thickets and understorey, and cumulative impacts from altered hydrology on the nearby sumpland as a result of clearing the vegetation in the dampland. It is considered likely that removal of the vegetation from the dampland will result in this wetland feature being permanently lost" (Parks and Wildlife, 2016).

Parks and Wildlife advised that "the proposal area is known to support two Priority 4 flora, *Acacia semitrullata* and *Eucalyptus rudis* subsp. *cratyantha* and potentially the declared rare flora [name withheld] (critically endangered) and [name withheld] (endangered). [Name withheld] has been found in a number of vegetation remnants on this landform. A targeted flora survey would determine if these rare flora species are present" (Parks and Wildlife, 2016).

Parks and Wildlife advised that the flora species identified within Lot 2269 include *Melaleuca preissiana*, *Eucalyptus rudis* and *Kunzea glabrescens* which are species commonly found within wetlands and that the applicant has been previously informed that to contest the identification of a wetland within the property a submission to Parks and Wildlife is required (Parks and Wildlife, 2016a).

Matters raised by the applicant have been addressed under the relevant principles.

Methodology

References:

Capel LCDC (2016)
DER (2016)
DoW (2016)
Keighery (1994)
Parks and Wildlife (2016)
Shire of Capel (2016)

GIS Databases:

Aboriginal Sites of Significance
Town Planning Scheme Zones

4. References

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- Water and Rivers Commission (2001) Position Statement: Wetlands, Water and Rivers Commission, Perth.
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