



CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

PERMIT DETAILS

Area Permit Number: CPS 6756/1

Duration of Permit: From 23 July 2016 to 23 July 2018

PERMIT HOLDER

Mr Damian Michael Penton

Mrs Kellie Marie Penton

LAND ON WHICH CLEARING IS TO BE DONE

LOT 8890 ON PLAN 201636, MEERUP

AUTHORISED ACTIVITY

The Permit Holder shall not clear more than 2.5 hectares of native vegetation within the area cross-hatched yellow on attached Plan 6756/1.

CONDITIONS

1. Dieback and weed control

When undertaking any clearing or other activity authorised under this Permit, the Permit Holder must take the following steps to minimise the risk of the introduction and spread of *weeds* and *dieback*:

- (a) clean earth-moving machinery of soil and vegetation prior to entering and leaving the area to be cleared;
- (b) ensure that no *dieback* or *weed*-affected soil, *mulch*, *fill* or other material is brought into the area to be cleared;
- (c) restrict the movement of machines and other vehicles to the limits of the areas to be cleared; and
- (d) only move soils in dry conditions.

DEFINITIONS

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

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

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

mulch means the use of organic matter, wood chips or rocks to slow the movement of water across the soil surface and to reduce evaporation;

weed/s means any plant -

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



Kelly Faulkner
EXECUTIVE DIRECTOR
LICENSING AND APPROVALS

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

23 June 2016

Plan 6756/1



Legend

-  Areas approved to clear
-  Roads
-  LGA
-  Cadastre
- Virtual Mosaic



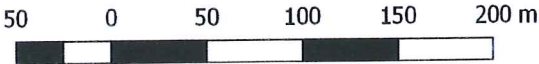
1:2,822

MGA 94
Geocentric Datum of Australia 1994

Date 23/6/16

Kelly Faulkner

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



GOVERNMENT OF
WESTERN AUSTRALIA



1. Application details

1.1. Permit application details

Permit application No.: 6756/1
Permit type: Area Permit

1.2. Applicant details

Applicant's name: Mr Damian Michael Penton
Mrs Kellie Marie Penton

1.3. Property details

Property: LOT 8890 ON PLAN 201636, MEERUP
Local Government Authority: MANJIMUP, SHIRE OF

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
2.5		Mechanical Removal	Cattle grazing

1.5. Decision on application

Decision on Permit Application: Granted
Decision Date: 23 June 2016
Reasons for Decision: The applicant originally applied to clear 5.12 hectares of native vegetation for the purpose of horticulture. In response to environmental issues identified during the assessment, the applicant modified the application by changing the purpose of the proposed clearing to cattle grazing, reducing the extent of the proposed clearing to 2.5 hectares, and relocating the application area.

The modified application has been assessed against the clearing principles, planning instruments and other matters in accordance with section 51O of the *Environmental Protection Act 1986*.

The Delegated Officer determined that the proposed clearing may be at variance to clearing principles (a), (f), (h) and (i), and is not likely to be or is not at variance to the remaining Principles. The Delegated Officer determined that the proposed clearing may impact on priority flora, may impact on nearby wetlands and cause deterioration in the quality of surface and underground water through changes in hydrology, and may impact on the environmental values of nearby conservation areas through the spread of weeds and dieback.

In forming this view the Delegated Officer noted that the impacts to the priority 2 flora as a result of the modified application are unlikely to alter the conservation status of this species, and the Commissioner of Soil and Land Conservation's advice that the risks of waterlogging and nutrient export have been reduced.

The clearing permit will include conditions requiring the applicant to undertake weed and dieback control.

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
Beard vegetation association 1134: Medium woodland; jarrah (south coast) (Shepherd et al., 2001).	The modified application is to clear 2.5 hectares of native vegetation within Lot 8890 on Deposited Plan 201636, Meerup, Shire of Manjimup, for the purpose of cattle grazing.	Excellent; Vegetation structure intact; disturbance affecting individual species, weeds non-aggressive (Keighery, 1994).	The condition and structure of the vegetation was determined during a site inspection undertaken by officers of the Department of Environment Regulation (DER, 2015).
Beard vegetation association 23: Low woodland; jarrah-banksia (Shepherd et al., 2001).			
Mattiske vegetation complex COy1 (Collis): Tall open forest to woodland of <i>Eucalyptus marginata</i> subsp. <i>marginata</i> - <i>Corymbia calophylla</i> - <i>Banksia grandis</i> - <i>Allocasuarina fraseriana</i> on low hills and with <i>Allocasuarina decussata</i> on slopes in perhumid and humid zones (Mattiske			

and Havel, 1998).

Mattiske vegetation complex BWp (Blackwater): Mosaic of low open woodland of *Melaleuca preissiana*, low open woodland of *Melaleuca cuticularis*, open heath of Myrtaceae-Proteaceae spp. and sedgelands of Restionaceae spp. on low lying flats in hyperhumid and perhumid zones (Mattiske and Havel, 1998).

the presence of a wetland. Bracken fern was found throughout the application area and there were very few weeds present (DER, 2015).

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 original application was to clear 5.12 hectares of native vegetation within Lot 8890 on Deposited Plan 201636, Meerup, for the purpose of establishing a truffle orchard.

A site inspection undertaken by officers of the Department of Environment Regulation found that the vegetation under application is in an excellent (Keighery, 1994) condition (DER, 2015).

The local area (defined as a 10 kilometre radius around the application area) retains approximately 75 per cent native vegetation cover.

One rare and six priority flora species have been recorded within the local area. Of these, one rare flora and four priority flora species may occur within the application area based on the presence of suitable habitat (Parks and Wildlife, 2015b). Specifically, the rare flora species is an annual semi aquatic herb and is known to exist within open grey sandy clay depressions in winter-wet flats where it grows in very low heath of teatree and twine rushes (Brown et al., 1998) and may occur within the application area, *Cyathochaeta stipoides* (P3), *Meeboldina crassipes* (P3) and *Gonocarpus pusillus* (P4) are likely to occur within the wetland portion of the application area, and *Andersonia barbata* (P2) may be present throughout the whole application area (Parks and Wildlife, 2015b).

Approximately 0.273 hectares of the application area is mapped within an Augusta-Walpole Wetland. The palusplain wetland within the application area is likely to be hydrologically and ecologically linked to the palusplain wetland to the south, within the Boorara-Gardner National Park, and is likely to be significant for the conservation of these areas (Parks and Wildlife, 2015a). The proposed clearing is likely to increase the potential for the spread of weeds and dieback into surrounding wetland and nearby conservation areas.

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

Fourteen fauna species of conservation significance have been recorded within the local area. The vegetation under application may provide suitable habitat for ground dwelling, arboreal and aerial fauna, however the vegetation is well represented in the local and regional area. There are extensive areas of remnant vegetation located adjacent to the application area within the Boorara-Gardner National Park. The application area is not likely to be significant habitat for fauna given the extent of similar native vegetation within the local area.

Noting the condition of the vegetation under application, the presence of a palusplain wetland of high conservation value and proximity of the application area, and the potential for conservation significant flora, it is considered that the vegetation under application is likely to comprise a high level of biological diversity in a local context.

In response to the environmental concerns raised in respect to this Principle, the applicant submitted that:

- the proposed modified application changes the purpose of the proposed clearing to cattle grazing;
- the proposed modified application reduces the extent of the proposed clearing to 2.5 hectares;
- the proposed modified application does not include the mapped palusplain wetland;
- the proposed modified application avoids rare and priority flora associated with the wetland; and
- the statement that 75 per cent of native vegetation remains in the local area is not a true reflection of the 'Rural Agriculture' zoned land in the Meerup area.

A desktop assessment of the proposed modified application indicates that the impacts to a palusplain wetland and buffer mapped within the original application area, and to four species of rare and priority flora that may be associated with the palusplain wetland, are avoided.

The modified application was referred to the Department of Parks and Wildlife (Parks and Wildlife) for advice. Relevant to the assessment of the modified application against this Principle, Parks and Wildlife advised that:

- cattle will produce their own nutrient load, and there may be added fertiliser for pasture;
- the modified application has moved the proposed clearing out of the wetland and its buffer, with approximately a 50 metre separation to the wetland buffer, and that on this basis there is assumed to be no direct impacts to the values reported previously; and
- without the benefit of a groundwater modelling study, it is not known what hydrological interaction there is

between the modified application area and the wetland system, and that it would be preferable that a water balance management plan to ensure that the nutrient load from the end landuse does not affect the water table (Parks and Wildlife, 2016).

The modified application was referred to the Commissioner of Soil and Land Conservation (CSLC) for advice. Relevant to the assessment of the modified application against this Principle, the CSLC advised that:

- the waterlogging risk has been reduced along with the risk of nutrient export; and
- the large vegetated buffer between the modified application area and the sensitive receiving environment combined with the long flow path reduced the nutrient export risk.

Taking into account the modified application proposed by the applicant, the findings of the desktop assessment of the proposed modified application area, the advice of Parks and Wildlife, and the advice of the CSLC, and noting the condition of the vegetation under application and the potential that the priority flora *Andersonia barbata* (P2) may occur within the application area, it is considered that the vegetation under application may comprise a high level of biological diversity.

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

Noting the reduced extent of the proposed clearing, it is considered that impacts to the priority 2 flora as a result of the modified application are unlikely to alter the conservation status of this species.

Methodology

References:

Brown et al. (1998)
CSLC (2016)
DER (2015)
Keighery (1994)
Parks and Wildlife (2015a)
Parks and Wildlife (2015b)
Parks and Wildlife (2016)

GIS Databases:

- SAC Bio Datasets (Accessed April 2016)
- Geomorphic Wetlands, Augusta to Walpole

(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 is not likely to be at variance to this Principle

The local area (10 kilometre radius) retains approximately 75 per cent native vegetation cover.

Fourteen fauna species of conservation significance have been recorded within the local area, including Baudin's cockatoo (*Calyptorhynchus baudinii*), forest red-tailed black cockatoo (*Calyptorhynchus banksii* subsp. *naso*), western mud minnow (*Galaxiella munda*), Balston's pygmy perch (*Nannatherina balstoni*), quokka (*Setonix brachyurus*) quenda (*Isodon obesulus* subsp. *fusciventer*) and southern brush-tailed phascogale (*Phascogale tapoatafa* subsp. *tapoatafa*) (Parks and Wildlife, 2007-).

A site inspection undertaken by officers of the Department of Environment Regulation found that there are no primary habitat trees (diameter at breast height of 500 millimetres or more) within the application area suitable to be utilised as breeding habitat for black cockatoo species or habitat for southern brush-tailed phascogale and there is limited foraging habitat for black cockatoos on site (DER, 2015).

The application area may provide suitable habitat for quenda and quokka. Noting that the local area is well-vegetated it is considered that the vegetation under application is unlikely to comprise significant habitat for these species.

The western mud minnow and Balston's pygmy perch reside in areas that are permanently inundated with fresh water. A small area of the application area is a seasonally waterlogged flat, however is unlikely to provide a permanent source of water that would accommodate the western mud minnow or Balston's pygmy perch.

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

Methodology

References:

DER (2015)
Parks and Wildlife (2007-)

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

Comments

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

One species of rare flora has been recorded within the local area (10 kilometre radius), at locations approximately eight kilometres east and nine kilometres south-east of the application area. The species is an annual semi aquatic herb and is known to exist within open grey sandy clay depressions in winter-wet flats

where it grows in very low heath of teatree and twine rushes (Brown et al., 1998).

Approximately 0.273 hectares of the application area is mapped within a palusplain (seasonally waterlogged flat) wetland. Based on the presence of suitable habitat, this species may occur within the application area (Parks and Wildlife, 2015b).

On the basis of the above, it is considered that the application area may include or be necessary for the continued existence of rare flora.

In response to the environmental concerns raised in respect to this Principle, the applicant submitted that:

- the proposed modified application does not include the mapped palusplain wetland; and
- the proposed modified application avoids rare and priority flora associated with the wetland.

A desktop assessment of the proposed modified application indicates that the potential impact to rare flora that may be associated with a palusplain wetland and buffer mapped within the original application area are avoided.

The modified application was referred to the Department of Parks and Wildlife (Parks and Wildlife) for advice. Relevant to the assessment of the modified application against this Principle, Parks and Wildlife advised that:

- the modified application has moved the proposed clearing out of the wetland and its buffer, with approximately a 50 metre separation to the wetland buffer, and that on this basis there is assumed to be no direct impacts to the values reported previously.

Taking into account the modified application proposed by the applicant and the findings of the desktop assessment of the proposed modified application area, and the advice of Parks and Wildlife, it is considered that the vegetation under application is unlikely to include, or be necessary for, the continued existence of rare flora.

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

Methodology

References:

Brown et al. (1998)
Parks and Wildlife (2015b)
Parks and Wildlife (2016)

GIS Databases:

- SAC Bio Datasets (Accessed April 2016)
- Geomorphic Wetlands, Augusta to Walpole

(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

There are no known threatened ecological communities (TEC) mapped within 10 kilometres of the application area. The nearest TEC is the Scott River Ironstone Association, approximately 70 kilometres north west of the application area.

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

Methodology

GIS Databases:

- SAC Bio Datasets (Accessed April 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 not likely to be at variance to this Principle

There is approximately 75 per cent native vegetation remaining in the local area (10 kilometre radius) of the proposed clearing.

The application area is mapped as Beard vegetation association 1134 and 23 which retain approximately 87 and 72 per cent pre-European vegetation, respectively, within the Warren Interim Biogeographic Regionalisation of Australia (IBRA) bioregion (Government of Western Australia, 2014). The Mattiske vegetation complexes mapped within the application area, COy1 and BWp, retain approximately 83 and 85 per cent native vegetation, respectively (Parks and Wildlife, 2015).

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). No mapped vegetation association or complex within the application area retains below the 30 per cent threshold.

A site inspection undertaken by officers of the Department of Environment Regulation found that the vegetation under application is in an excellent (Keighery, 1994) condition and is mapped as a palusplain wetland of high

conservation value (DER, 2015). However the application area is not in an extensively cleared area.

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 Parks and Wildlife Managed Lands (%)
IBRA Bioregion*				
Warren	833,985	660,315	79	84
Local Government*				
Shire of Manjimup	697,368	586,852	84	93
Beard Vegetation Association in Bioregion*				
1134	14,408	12,589	87	87
23	37,736	27,216	72	74
Mattiske Vegetation Complex **				
COy1	23,057	19,187	83	73
BWp	33,366	28,410	85	77

Methodology

References:

- Commonwealth of Australia (2001)
- DER (2015)
- Government of Western Australia (2014)*
- Keighery (1994)
- Parks and Wildlife (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

Proposed clearing may be at variance to this Principle

Approximately 0.273 hectares of the application area is mapped within an Augusta-Walpole Wetland. The mapped wetland comprises a total area of 40 hectares and is classified as a palusplain (seasonally waterlogged flat), and is associated with the Chudulup consanguineous suite of wetlands (Parks and Wildlife, 2015a). The portion of palusplain wetland within the application area is likely to be hydrologically and ecologically linked to the palusplain to the south within the Boorara-Gardner National Park, and is therefore considered to be of conservation significance (Parks and Wildlife, 2015a).

A site inspection undertaken by officers of the Department of Environment Regulation identified riparian vegetation within the application area (DER, 2015). The proposed clearing will result in the direct loss of approximately 0.273 hectares of riparian vegetation.

The Department of Parks and Wildlife (Parks and Wildlife) advised that the proposed clearing will lead to the direct loss of approximately 1.33 hectares of vegetation acting as a buffer to the wetland likely to be in good or better condition, and that the removal of vegetation structure exposing bare ground adjacent to and within the palusplain wetland may result in increased or altered erosion and sedimentation processes and edge effects to the wetland (Parks and Wildlife, 2015a).

On the basis of the above, it is considered that the vegetation under application is growing in or in association with an environment associated with a wetland.

In response to the environmental concerns raised in respect to this Principle, the applicant submitted that:

- the proposed modified application changes the purpose of the proposed clearing to cattle grazing;
- the proposed modified application reduces the extent of the proposed clearing to 2.5 hectares;
- the proposed modified application does not include the mapped palusplain wetland; and
- the proposed modified application retains a buffer larger than 1.33 hectares as well as being located on the 90 metre contour.

A desktop assessment of the proposed modified application indicates that the impacts to a palusplain wetland and buffer mapped within the original application area are avoided.

The modified application was referred to the Department of Parks and Wildlife (Parks and Wildlife) for advice. Relevant to the assessment of the modified application against this Principle, Parks and Wildlife advised that:

- cattle will produce their own nutrient load, and there may be added fertiliser for pasture;
- the modified application has moved the proposed clearing out of the wetland and its buffer, with approximately a 50 metre separation to the wetland buffer, and that on this basis there is assumed to be

- no direct impacts to the values reported previously; and
- without the benefit of a groundwater modelling study, it is not known what hydrological interaction there is between the modified application area and the wetland system, and it would be preferable that a water balance management plan to ensure that the nutrient load from the end landuse does not affect the water table (Parks and Wildlife, 2016).

The modified application was referred to the Commissioner of Soil and Land Conservation (CSLC) for advice. Relevant to the assessment of the modified application against this Principle, the CSLC advised that:

- the waterlogging risk has been reduced along with the risk of nutrient export; and
- the large vegetated buffer between the modified application area and the sensitive receiving environment combined with the long flow path reduced the nutrient export risk.

Taking into account the modified application proposed by the applicant, the findings of the desktop assessment of the proposed modified application area, the advice of Parks and Wildlife, and the advice of the CSLC, it is considered that the vegetation under application is unlikely be growing in or in association with the wetland. However noting the advice of Parks and Wildlife, it is considered that the proposed clearing may impact on nearby wetlands through changes in hydrology.

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

Methodology

References:

CSLC (2016)
DER (2015)
Parks and Wildlife (2015a)
Parks and Wildlife (2016)

GIS Databases:

- Geomorphic Wetlands, Augusta to Walpole

(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

There are two soil units mapped within the application area (CSLC, 2015):

- Collis yellow duplex phase: low hills less than 20 metres high on deeply weathered mantle over granitic rocks in the southern forests between Northcliffe and Deep River. This unit comprises duplex sandy gravels, yellow-brown deep sandy duplexes, loamy gravels and stony soils; and
- Blackwater podzols phase: Flat, poorly drained plain with some linear dunes and granite domes on unconsolidated sediments on granite and siltstone in the South Coast between Northcliffe and Denmark. This unit contains wet soils, semi-wet soils and pale deep sands.

According to available databases, approximately 90 per cent of the application area is mapped as the Blackwater podzols phase soils. The Commissioner of Soil and Land Conservation (CSLC) advised that the risk of land degradation in the form of waterlogging is very high and considers that the proposed clearing may cause appreciable land degradation in the form of waterlogging (CSLC, 2015). A Land Degradation Report identified that the risk of water erosion, flooding, wind erosion and salinity is low (CSLC, 2015).

The Department of Parks and Wildlife (Parks and Wildlife) advised that the removal of vegetation structure exposing bare ground adjacent to and within the palusplain wetland may result in increased or altered erosion and sedimentation processes (Parks and Wildlife, 2015a).

On the basis of the above, it is considered that the proposed clearing may cause appreciable land degradation.

In response to the environmental concerns raised in respect to this Principle, the applicant submitted that:

- the proposed modified application changes the purpose of the proposed clearing to cattle grazing;
- the proposed modified application reduces the extent of the proposed clearing to 2.5 hectares;
- the proposed modified application does not include the mapped palusplain wetland; and
- the proposed modified application retains a buffer larger than 1.33 hectares as well as being located on the 90 metre contour.

A desktop assessment of the proposed modified application indicates that the proposed clearing will likely cause land degradation and water quality deterioration, in particular waterlogging will result from the clearing of native vegetation associated with the Blackwater podzols phase soil unit. It is noted that approximately half of the modified application area is mapped as the Blackwater podzols phase soil unit.

The modified application was referred to the CSLC for advice. Relevant to the assessment of the modified application against this Principle, the CSLC advised that:

- the modified application includes a greater proportion of the Collis yellow duplex phase soil and excludes lower lying areas of the Blackwater podzols phase soil;
- the soils of the modified application area have a moderate to low capability respectively for the intended grazing use;
- the waterlogging risk has been reduced along with the risk of nutrient export;

- the large vegetated buffer between the modified application area and the sensitive receiving environment combined with the long flow path reduced the nutrient export risk; and
- the implementation of the modified application is unlikely to be at variance to this Principle (CSLC, 2016).

Taking into account the modified application proposed by the applicant, the findings of the desktop assessment of the proposed modified application area, and the advice of the CSLC, it is considered that the proposed clearing is unlikely cause appreciable land degradation.

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

Methodology References:
 CSLC (2015)
 CSLC (2016)
 Parks and Wildlife (2015a)
 Parks and Wildlife (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 may be at variance to this Principle**
 The application area is located approximately 280 metres north of the Class A Boorara-Gardner National Park.

The Department of Parks and Wildlife (Parks and Wildlife) advised that vegetation within the application area provides a buffer to the palusplain system within the Boorara-Gardner National Park (Parks and Wildlife, 2015a). Parks and Wildlife (2015a) advise that the wetland systems within and outside the application area are likely to be hydrologically connected. Due to the hydrological connectivity, the proposed clearing has the potential to impact the larger wetland system via an increase in sedimentation and eutrophication both within and outside the application area, including potential downstream impacts within Boorara-Gardner National Park and the Meerup River (Parks and Wildlife, 2015a).

The clearing of native vegetation may facilitate the spread of weeds and dieback into the adjoining vegetation and into the National Park. Weeds can decrease the biodiversity value of an area, as they out-compete native vegetation for available resources, contribute to land degradation and increase the frequency and intensity of fires (DEC, 2011). Impacts from weed and dieback invasion may be minimised by the implementation of weed and dieback management practices.

On the basis of the above, it is considered that the proposed clearing is likely to impact on the environmental values of nearby conservation areas.

In response to the environmental concerns raised in respect to this Principle, the applicant submitted that:

- the proposed modified application changes the purpose of the proposed clearing to cattle grazing;
- the proposed modified application reduces the extent of the proposed clearing to 2.5 hectares;
- the proposed modified application does not include the mapped palusplain wetland;

A desktop assessment of the proposed modified application indicates that the proposed clearing, in the context of land degradation in the form of waterlogging, and the potential for spread of weeds and dieback, may indirectly impact to the environmental values of the Boorara-Gardner National Park and the quality of water entering the Meerup River.

Taking into account the modified application proposed by the applicant and the findings of the desktop assessment, it is considered that the proposed clearing may have an impact on the environmental values of nearby conservation areas.

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

The clearing permit will include conditions requiring the applicant to undertake weed and dieback control.

Methodology References:
 DEC (2011)
 Parks and Wildlife (2015a)

 GIS Databases:
 - 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 **Proposed clearing may be at variance to this Principle**
 Approximately 0.273 hectares of the application area is mapped within an Augusta-Walpole Wetland. The wetland comprises of an area totalling approximately 40 hectares. The Meerup River is located approximately 3.6 kilometres south of the application area.

According to available databases, approximately 90 per cent of the application area is mapped as the Blackwater podzols phase soils. The Commissioner of Soil and Land Conservation (CSLC) advised that the risk of land degradation in the form of waterlogging is very high and considers that the proposed clearing may cause appreciable land degradation in the form of waterlogging (CSLC, 2015).

The portion of the palusplain wetland within the application area is likely to be hydrologically and ecologically linked to the palusplain to the south within the Boorara-Gardner National Park and can therefore be considered as being of conservation significance (Parks and Wildlife, 2015a). Due to the hydrological connectivity, the proposed clearing has the potential to impact the larger wetland system via an increase in erosion and sedimentation processes, including potential downstream impacts within Boorara-Gardner National Park and the Meerup River (Parks and Wildlife, 2015a).

Groundwater salinity within the application area is mapped as 500-1000 total dissolved solids milligrams per litre, which is considered to be a marginal level of salinity. Vegetation proposed to be cleared mostly comprises small shrubs and ground cover and some trees, and the local area is well vegetated (DER, 2015). The proposed clearing is therefore not likely to impact groundwater quality within or outside the application area.

Based on the above, it is considered that the proposed clearing is likely to cause deterioration in the quality of water.

In response to the environmental concerns raised in respect to this Principle, the applicant submitted that:

- the proposed modified application changes the purpose of the proposed clearing to cattle grazing;
- the proposed modified application reduces the extent of the proposed clearing to 2.5 hectares;
- the proposed modified application does not include the mapped palusplain wetland; and
- the proposed modified application retains a buffer larger than 1.33 hectares as well as being located on the 90 metre contour.

A desktop assessment of the proposed modified application indicates that the proposed clearing will likely cause land degradation and water quality deterioration, in particular waterlogging will result from the clearing of native vegetation associated with the Blackwater podzols phase soil unit. It is noted that approximately half of the modified application area is mapped as the Blackwater podzols phase soil unit.

The modified application was referred to the Department of Parks and Wildlife (Parks and Wildlife) for advice. Relevant to the assessment of the modified application against this Principle, Parks and Wildlife advised that:

- cattle will produce their own nutrient load, and there may be added fertiliser for pasture; and
- without the benefit of a groundwater modelling study, it is not known what hydrological interaction there is between the modified application area and the wetland system, and it would be preferable that a water balance management plan to ensure that the nutrient load from the end landuse does not affect the water table (Parks and Wildlife, 2016).

The modified application was referred to the Commissioner of Soil and Land Conservation (CSLC) for advice. Relevant to the assessment of the modified application against this Principle, the CSLC advised that:

- the waterlogging risk has been reduced along with the risk of nutrient export; and
- the large vegetated buffer between the modified application area and the sensitive receiving environment combined with the long flow path reduced the nutrient export risk (CSLC, 2016).

Taking into account the modified application proposed by the applicant, the findings of the desktop assessment of the proposed modified application area, the advice of Parks and Wildlife, and the advice of the CSLC, it is considered that the proposed clearing may cause deterioration in the quality of surface and underground water.

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

Methodology

References:

CSLC (2015)
CSLC (2016)
DER (2015)
Parks and Wildlife (2015a)
Parks and Wildlife (2016)

GIS Databases:

- Geomorphic Wetlands, Augusta to Walpole
- Groundwater Salinity, Statewide
- Hydrography, Hierarchy

(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

According to available databases, approximately 90 per cent of the application area is mapped as the Blackwater podzols phase soils. The Commissioner of Soil and Land Conservation (CSLC) advised that the risk of land degradation in the form of waterlogging is very high and considers that the proposed clearing may cause appreciable land degradation in the form of waterlogging (CSLC, 2015).

Approximately 0.273 hectares of the application area is mapped within an Augusta-Walpole Wetland. The wetland covers an area totalling 40 hectares. Within the local area (10 kilometres) there is approximately 75 per cent of native vegetation that remains.

The application area is subject to seasonal water inundation. A site inspection undertaken in November of the application area did not identify any surface water within the applied area (DER, 2015). The Commissioner of Soil and Land Conservation (CSLC, 2015) identified that the risk of flooding as a result of clearing is low.

Based on the above, it is considered that the proposed clearing is unlikely to cause or exacerbate the incidence or intensity of flooding.

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

Methodology

References:

CSLC (2015)
DER (2015)

GIS Databases:

- Geomorphic Wetlands, Augusta to Walpole
- Groundwater Salinity, Statewide
- Hydrography, Hierarchy

Planning instruments and other relevant matters.

Comments The applicant originally applied to clear 5.12 hectares of native vegetation for the purpose of establishing a truffle orchard.

The Commissioner of Soil and Land Conservation (CSLC) advised that soil pH within the application area is likely to be too low for truffle production, and that the application area is likely to require significant quantities of lime to bring soil pH to the desired level (CSLC, 2015). The inherent low fertility of the soil units mapped within the application area will require regular applications of lime and either a slow release fertiliser or organics to sustain the truffle plants (CSLC, 2015). Applications of nitrogen, phosphorus and potassium inorganic fertilisers are considered by the industry to be antagonistic to truffle production (CSLC, 2015).

The CSLC advised the proposed landuse has an extreme and very high risk of land degradation in the form of eutrophication and waterlogging respectively (CSLC, 2015). The eutrophication risk would be mitigated to a significant degree as the application area is located approximately 3.5 kilometres from the Meerup River and there is likely to be significant attenuation of any nitrogen and phosphorus carried away from the application area in surface flows (CSLC, 2015).

Officer-level advice from the Department of Parks and Wildlife indicates that advise that the wetland mapped within and outside of the application area is part of the Meerup River catchment and during seasonal inundation the system drains through the Boorara-Gardner National Park wetlands and into the Meerup River, and that the use of fertilisers and sprays to manage the truffle orchard is likely to leach into the Meerup River catchment and impact on significant flora and fauna associated with the catchment (Parks and Wildlife, 2015b).

The application area is zoned 'General Agriculture' under the town planning scheme. The Shire of Manjimup (2015) advised that the proposed truffle orchard does not require local government planning approval, and that planning approval for the clearing of native vegetation is not required within 'General Agriculture' zoning (Shire of Manjimup, 2015).

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

The application was advertised in *The Western Australian* newspaper on 28 September 2015 for a 21-day submission period. No public submissions have been received in response to the proposed clearing.

On 16 May 2016 a Delegated Officer of the Department of Environment Regulation (DER) wrote to the applicant, advising that the preliminary assessment had identified a number of potentially significant impacts associated with the proposed clearing, and inviting the applicant to provide further information in respect to these matters (DER ref. A1099792).

The applicant responded to DER's letter on 24 May 2016, advising that they wished to modify the application area to avoid and minimise the environmental impacts of the proposed clearing (DER ref. A1104051). The applicant advised that the original application was for 4 hectares, which was increased to 5.12 hectares following digitising of the application area by DER. The applicant advised that the property is zoned 'Rural Agriculture' and not for conservation, and that the property is one of the larger blocks consisting of 77.5 hectares overall. The applicant advised that the property consists of regrowth native vegetation with no cleared land, and that the neighbouring properties as well as the surrounding rural agricultural properties in the Meerup area have much more sizeable areas of cleared land. In summary, the applicant submitted that combinations of the following factors should reduce the levels of variance of the proposed clearing to the Principles:

- the proposed modified application changes the purpose of the proposed clearing to cattle grazing;
- the proposed modified application reduces the extent of the proposed clearing to 2.5 hectares;
- the proposed modified application does not include the mapped palusplain wetland;
- the proposed modified application avoids rare and priority flora associated with the wetland;
- the proposed modified application retains a buffer larger than 1.33 hectares as well as being located on the 90 metre contour;
- the statement that 75 per cent of native vegetation remains in the local area is not a true reflection of the 'Rural Agriculture' zoned land in the Meerup area.

The modified application was referred to the Department of Parks and Wildlife (Parks and Wildlife) and the CSLC for advice.

Parks and Wildlife advised that:

- cattle will produce their own nutrient load, and there may be added fertiliser for pasture;
- the modified application has moved the proposed clearing out of the wetland and its buffer, with approximately a 50 metre separation to the wetland buffer, and that on this basis there is assumed to be no direct impacts to the values reported previously; and
- without the benefit of a groundwater modelling study, it is not known what hydrological interaction there is between the modified application area and the wetland system, and it would be preferable that a water balance management plan to ensure that the nutrient load from the end landuse does not affect the water table (Parks and Wildlife, 2016).

The CSLC advised that:

- the modified application includes a greater proportion of the Collis yellow duplex phase soil and excludes lower lying areas of the Blackwater podzols phase soil;

- the soils of the modified application area have a moderate to low capability respectively for the intended grazing use;
- the waterlogging risk has been reduced along with the risk of nutrient export;
- the large vegetated buffer between the modified application area and the sensitive receiving environment combined with the long flow path reduced the nutrient export risk; and
- the implementation of the modified application is unlikely to be at variance to this Principle (CSLC, 2016).

The applicant's response, and the advice provided by Parks and Wildlife and the CSLC in respect to the modified application, was considered in the context of this assessment (specifically Principles a, c, f, g, h and i).

Taking into account the modified application and the advice of Parks and Wildlife and the CSLC, it is considered that the proposed clearing may impact on priority flora, may impact on nearby wetlands and cause deterioration in the quality of surface and underground water through changes in hydrology, and may impact on the environmental values of nearby conservation areas through the spread of weeds and dieback. It is noted that the impacts to the priority 2 flora as a result of the modified application are unlikely to alter the conservation status of this species, and that the CSLC advised that the modified application has a reduced risk of waterlogging and nutrient export. It is considered that potential impacts to the environmental values of nearby conservation areas can be managed through dieback and weed control.

Methodology References:
 CSLC (2015)
 CSLC (2016)
 Parks and Wildlife (2015b)
 Parks and Wildlife (2016)
 Shire of Manjimup (2015)

GIS Databases:
 -Town Planning Scheme Zones
 -Aboriginal Sites of Significance

4. References

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- Shire of Manjimup (2015) Comments received in relation to Clearing Permit Application CPS 6756/1 – Penton (DER Ref:A980737).