GOVERNMENT OF
WESTERN AUSTRALIA

CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

PERMIT DETAILS
Area Permit Number: 4611/1
File Number: 2011/008813-1
Duration of Permit: From 23 April 2012 to 23 April 2014

PERMIT HOLDER
Erland Francis and Roslyn Jean Happ

LAND ON WHICH CLEARING IS TO BE DONE
Lot 4526 on Deposited Plan 211719 (QUINDALUP 6281)

AUTHORISED ACTIVITY
The Permit Holder shall not clear more than 1 hectare of native vegetation within the area hatched yellow on attached Plan 4611/1.

CONDITIONS

1. Dieback and weed control

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

(b) At least once in each 12 month period for the term of this Permit, the Permit Holder must remove or kill any *weeds* growing within areas cleared under this Permit.

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

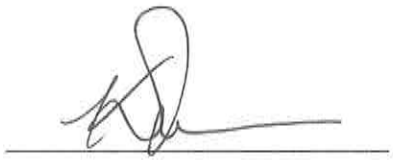
dieback means the effect of *Phytophthora* species on native vegetation;

dry conditions means when soils (not dust) do not freely adhere to rubber tyres, tracks, vehicle chassis or wheel arches;

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 a species listed in Appendix 3 of the "Environmental Weed Strategy" published by the Department of Conservation and Land Management (1999), and plants declared under section 37 of the *Agriculture and Related Resources Protection Act 1976*.



Kelly Faulkner
MANAGER
NATIVE VEGETATION CONSERVATION BRANCH

Officer delegated under Section 20
of the Environmental Protection Act 1986

29 March 2012

Plan 4611/1

LEGEND

- Road Centrelines
- Cadastre
- Clearing Instruments
- Areas Approved to Clear
- Local Government Authorities

Busselton 50cm Orthomosaic - Landgate 2007

N

0 50 m

Scale 1:2000
(Approximate when reproduced at A4)

Geocentric Datum Australia 1994

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

Date 29/3/12

K. Faulkner

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

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

Department of Environment and Conservation

Our environment, our future

Department of Environment and Conservation

Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 4611/1
Permit type: Area Permit

1.2. Proponent details

Proponent's name: Erland Francis and Roslyn Jean Happ

1.3. Property details

Property: LOT 4526 ON PLAN 211719 (House No. 575 COMMONAGE QUINDALUP 6281)
LOT 4526 ON PLAN 211719 (House No. 575 COMMONAGE QUINDALUP 6281)
Local Government Area: Shire of Busselton

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
1		Mechanical Removal	Dam construction or maintenance

1.5. Decision on application

Decision on Permit Application: Grant
Decision Date: 29 March 2012

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: 1000 - Mosaic: Medium forest; jarrah-marri / Low woodland; Banksia / Low forest; teatree (Melaleuca spp.) (Shepherd, 2009) Mattiske Vegetation Complex: Y (Yelverton) - Woodland of Eucalyptus marginata subsp. marginata-Corymbia calophylla-Allocasuarina fraseriana-Agonis flexuosas24 and open woodland of Corymbia calophylla on low undulating uplands in the humid zone. (Mattiske and Havel, 1998)	The application is to clear approximately 1 hectare of native vegetation from two areas on Lot 4526 on Deposited Plan 211719, Commonage Road, Quindalup. Approximately 12 hectares of native vegetation remains on the 22 hectare property, with the remainder cleared for viticulture, tourism and residence. Approximately 0.4 hectares of vegetation is proposed to be removed from the northern application area, in order to enlarge and reconstruct an existing dam in the centre of the application area. This application area is within an approximately 1.5 hectare patch of vegetation which has regenerated after being historically cleared. This patch retains a degree of continuity with remnant vegetation on and off the property, but is located within the fenced vineyard envelope. The application area is mid-slope and there is some groundwater expression resulting in the presence of both wetland and upland vegetation (DEC, 2011a). The wetland vegetation is dominated by Corymbia calophylla low	Very Good: Vegetation structure altered; obvious signs of disturbance (Keighery 1994)	Vegetation condition and description was determined by a site inspection conducted by the Department of Environment and Conservation in September 2011 (DEC, 2011a).

woodland over Taxandria linearifolia, Astartea fascicularis tall open scrub over Cyathochaeta avenacea and Mesomelaena tetragona sedges (DEC, 2011a). The upland vegetation is a pine plantation with some native understory species (DEC, 2011a). The vegetation within the northern applied area varies from good to degraded (Keighery, 1994) condition and is impacted by clearing, weed invasion and disturbance associated with the existing dam and surrounding landuse of vineyard cultivation.

The southern application area is approximately 0.6 hectares in size and is located directly south of an area of vineyard. The application area is on the northern edge of a 5.6 hectare patch of native vegetation on the property, which is part of a larger remnant extending across numerous neighbouring properties. The vegetation is described as Corymbia calophylla open forest over Kunzea glabrescens, Kingia australis tall shrubland, over Hibbertia hypericoides, Dasypogon hookeri, Xanthorrhoea preissii, Hakea lissocarpha open low heath, with relatively high species diversity (DEC, 2011a). This area is reported to have been historically logged and grazed (Happ, 2011). It is a mid-slope area characterised by poorly drained brown loamy soils that may experience sub-soil saturation during winter months (DEC, 2011a). The vegetation has been heavily impacted by dieback and nearly all the large Eucalyptus marginata trees have been lost (DEC, 2011a). While the overstorey vegetation structure in this area is significantly reduced, the understory is intact (DEC, 2011a) and the vegetation is considered to be in very good (Keighery, 1994) condition.

Degraded: Structure severely disturbed; regeneration to good condition requires intensive management (Keighery 1994)

3. Assessment of application against clearing principles

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

Comments

Proposal may be at variance to this Principle

The application is to clear 1 hectare of native vegetation within Lot 4526 on Plan 211719, Commonage Road in Quindalup, for the purpose of re-constructing an existing dam and constructing a new dam in the south of the property for water storage for the winery, the existing dwelling on the property, gardens and to facilitate possible future residential development on the property.

The application areas are located within an extensively cleared landscape, with approximately 30 per cent vegetation cover remaining in the local area (10 kilometre radius), less than half of which is protected within the conservation reserve system. The vegetation under application is representative of mapped vegetation types that are considered to be underrepresented in the conservation reserve system.

Whilst the northern application area retains a degree of continuity with areas of remnant on neighbouring private property, considering the condition of the vegetation and the level of disturbance impacting the vegetation from past and present land uses, it is not considered to have high ecological linkage value. It is not considered to comprise significant habitat for native fauna or support flora of conservation significance. This area is not considered to have high level of biodiversity and the proposed clearing in this area is not likely to be at variance to this principle.

The vegetation in the 0.6 hectare southern application area has a high degree of continuity with remnant vegetation on neighbouring private property and is part of two major ecological linkages identified in the South West Region Ecological Linkage (SWREL) Technical Report (Molloy et al., 2009) and endorsed by the Environmental Protection Authority (EPA, 2009). Whilst the SWREL Technical Report?s Proximity Analysis tool indicates the proposed clearing is unlikely to significantly impair the core linkage capacity of the SWREL linkages (Molloy et al., 2009), the cumulative impact of fragmenting remnant vegetation by small scale clearing may degrade the integrity of vegetated linkages and corridors through the landscape and reduce the effectiveness of their ecological function. The southern application area is within a larger remnant of native vegetation, supports relatively high species diversity (DEC, 2011a), is in very good (Keighery, 1994) condition and is considered to have high value as part of the ecological linkage of the area.

The southern application area contains suitable habitat for a range of indigenous avian, arboreal and ground dwelling fauna.

Based on the soil type and species identified during recent DEC site visits, the vegetation community within the southern application area may be comparable to the Priority 1 ecological community WHSFCT_C1 (Central Whicher Scarp Jarrah woodland), which is found in the Treeton State Forest. A vegetation survey undertaken in accordance with Guidance Statement 51 would be required to determine the floristic community type of the vegetation.

There are records of 10 declared rare and 26 priority flora species within the local area (10 kilometre radius). Department of Environment and Conservation (DEC) officers visited the vegetation under application in September and December and consider that the vegetation under application is unlikely to support flora of conservation significance.

The southern application area is on a watercourse (DoW, 2011a) and there are several others mapped on the property. Considering the relatively small amount of clearing proposed (1 hectare), it is unlikely to result in hydrological changes on or off-site, however the end land use (dams) may result in alterations to hydrology impacts such as water logging, alteration in recharge and more extreme fluctuations in water levels.

The application area is in a high (1000 millimetre) rainfall area, where soil disturbance whilst undertaking clearing activities poses a high risk of introducing or spreading dieback and weeds to the surrounding environment. Phytophthora cinnamomi is present throughout the southern applied area and will continue to impact upon the vegetation community of the area (DEC, 2011a). Weed and dieback management will minimise this risk.

Considering the above, the proposed clearing of 0.6 hectares of native vegetation in the southern application area may impact upon biodiversity values in the local area and may be at variance to this principle.

Methodology

References:

DEC, 2011a
EPA, 2009
Keighery, 1994
Molloy et al., 2009

GIS Databases:

- Busselton 50cm Orthomosaic - Landgate 2007
- Existing DEC Managed Lands and Waters - DEC 06/10
- Hydrography, linear - DoW 07/06
- Mattiske Vegetation - CALM 03/98

- Pre-European vegetation - DA 01/01
- Rainfall, Mean Annual - BOM 09/01
- SAC Biodatasets - 10/11
- SWREL 08/09

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

Comments

Proposal may be at variance to this Principle

Threatened fauna known from the local area (10 kilometre radius) include Carnaby's black cockatoo, Baudin's black cockatoo, chuditch, quokka, brushtailed phascogale, western ringtail possum and the Dunsborough burrowing crayfish (DEC, 2007-).

The northern application area is 0.4 hectares in size and is in degraded to good (Keighery, 1994) condition. It is not considered to comprise significant habitat for native fauna and the proposed clearing of 0.4 hectares in this area is not likely to be at variance to this principle.

The vegetation in the southern application area is in very good (Keighery, 1994) condition and may provide suitable habitat for a range of ground dwelling, arboreal and avian fauna, however the preferred habitat type for western ringtail possum was not identified during a recent site visit (DEC, 2011a).

A small number of hollow-bearing and potential hollow-bearing trees were observed, which could provide black cockatoo habitat (DEC, 2011a). Evidence of black cockatoo foraging on pine cones was observed in the northern application area (DEC, 2011a) and it is considered they may also utilise suitable vegetation in the southern application area.

There are numerous records of the Dunsborough burrowing crayfish (Engaewa reducta) (Endangered, Wildlife Conservation Act 1950; Critically Endangered, Environment Protection and Biodiversity Conservation Act 1999) just to the south of the property, along Hayes Road, and also to the north. The property to the immediate east has several unconfirmed records of E. reducta, which uses a variety of habitats that provide moist sandy/loamy soils and an accessible watertable, including vegetated seepages, swamp plains and swampy headwaters of streams (DSEWPC, 2011). E. reducta was specifically searched for during a recent site inspection and no sign of its existence within the application areas was identified (DEC, 2011b). The application areas are located mid-slope and therefore are not wet enough to be considered suitable habitat for this species (DEC, 2011b). Considering the relatively small amount of clearing proposed (1 hectare) hydrological changes are unlikely to result from the clearing, however the end land use (dams) may result in impacts such as water logging, alteration in recharge and more extreme fluctuations in water levels which could impact upon habitat for E. reducta off-site.

The neighbouring property is reported to support quenda and possibly also a quokka population and, considering the connectivity of the vegetation under application to this neighbouring property, these species may also utilise the application areas.

The southern application area retains a high degree of continuity with remnants on neighbouring private property and is part of two major ecological linkages identified in the South West Region Ecological Linkage (SWREL) Technical Report (Molloy et al., 2009) and endorsed by the Environmental Protection Authority (EPA, 2009). The cumulative impact of fragmenting remnant vegetation by small scale clearing may degrade the integrity of vegetated linkages and corridors through the landscape and reduce the effectiveness of their ecological function.

Given the above, the vegetation proposed to be cleared from the southern application area may comprise significant habitat for indigenous fauna and the proposed clearing may be at variance to this principle.

Methodology

References:
DEC, 2007-
DEC, 2011a
DEC, 2011b
DSEWPC, 2011
EPA, 2009
Happ, 2011
Keighery, 1994
Molloy et al., 2009
GIS Databases:
- Busselton 50cm Orthomosaic - Landgate 2007
- SAC Biodatasets - 11/07/11
- SWREL 08/09

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

Comments

Proposal is not likely to be at variance to this Principle

There are numerous records of 10 declared rare flora species within the local area (10 kilometre radius), with the closest being Drakaea micrantha, which has been mapped as occurring approximately 1 kilometre northeast of the proposed clearing area.

Considering the habitat preferences for the threatened flora in the local area and the mapped vegetation and soil types of the application areas, suitable habitat for Caladenia busselliana ms, Caladenia viridescens, Caladenia procera and Verticordia plumosa var. ananeotes may occur within the application area. A second Department of Environment and Conservation (DEC) site visit was undertaken in December and it was determined that the soil type is not suitable for these species (DEC, 2011b).

Given the above, the proposed clearing is unlikely to impact upon declared rare flora and is not likely to be at variance to this principle.

Methodology

References:
DEC, 2011b
GIS Databases:
- Pre-European vegetation - DA 01/01
- SAC Biodatasets - 10/11
- Soils, Statewide - DA 11/99

(d) Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of a threatened ecological community.

Comments

Proposal is not at variance to this Principle

The vegetation under application is not considered to support any currently listed threatened ecological communities (DEC, 2011a) and is not at variance to this principle.

Methodology

References:
DEC, 2011a
GIS Databases:
- Pre-European vegetation - DA 01/01
- SAC Biodatasets - 10/11
- Soils, Statewide - DA 11/99

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

Comments

Proposal may be at variance to this Principle

The vegetation under application is in an extensively cleared area with approximately 30 per cent vegetation cover remaining in the local area (10 kilometre radius) and less than half of the remaining vegetation in the local area is protected within the conservation reserve system.

The vegetation under application represents Beard Vegetation Association 1000 and Yelverton Mattiske Vegetation Complex, of which there is approximately 3,143 hectares (58 per cent) (Shepherd, 2009) and 2,308 hectares (30 per cent) (Shepherd, 2007) of the pre-European extents remaining in the Jarrah Forest IBRA Bioregion, respectively. Approximately 408 hectares (13 per cent) of Beard Vegetation Association 1000 (Shepherd, 2009) and 929 hectares (12 per cent) of Yelverton Mattiske Vegetation Complex (Shepherd, 2007) is reserved in conservation estate.

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). While the vegetation representation is not below this threshold, the extent of these vegetation types is recognised as low on a local and region scale.

The vegetation in the northern application area is highly impacted by disturbance and is not considered to hold high biodiversity values. Therefore it is not considered to be a significant remnant of native vegetation.

The vegetation in the southern application area is in very good (Keighery, 1994) condition, may hold a high level of biodiversity values and is part of a larger remnant of native vegetation that contributes to recognised regional ecological linkages. Considering the amount of clearing within the southern application area is relatively small (0.6 hectares), the proposed clearing of this vegetation may be at variance to this principle.

Pre-European (ha)	Current Extent (ha)	Remaining (%)	Extent in DEC Managed Lands (%)

IBRA Bioregion*				
Jarrah Forrest	4,506,656	2,514,549	56	67
Shire*				
Shire of Busselton	146,478	62,783	43	65
Beard Vegetation Association in Bioregion*				
1000	5,428	3,143	58	13 (408ha)
Mattiske Vegetation Complex **				
Y	7,637	2,308	30	12 (929ha)

*Shepherd, 2009
**Shepherd, 2007

Methodology

References:
Commonwealth of Australia, 2001
Keighery, 1994
Shepherd, 2007
Shepherd, 2009
GIS Databases:
- Busselton 50cm Orthomosaic - Landgate 2007
- Existing DEC Managed Lands and Waters - DEC 06/10
- Mattiske Vegetation - CALM 03/98
- Pre-European vegetation - DA 01/01
- SAC Biodatasets - 10/11
- SWREL 08/09

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

Comments

Proposal is at variance to this Principle

The northern application area is not located on a watercourse (DoW, 2011a), however a Department of Environment and Conservation (DEC) site visit noted some groundwater expression in this area, resulting in the presence of riparian and wetland vegetation (DEC, 2011a). The proponent has advised the surface water expression is a result of drains on the property delivering water to this area (Happ, 2011).

The southern application area is located on a mid-slope area of a watercourse (DoW, 2011) and is characterised by poorly drained brown loamy soils that may experience sub-soil saturation during winter months (DEC, 2011a). The applied area is a shallow valley through which upslope rainfall would drain. The proponent has advised that there has been no surface water expression in this watercourse since the 1980s (Happ, 2011).

Considering the relatively small amount of clearing proposed (1 hectare), it is unlikely to result in hydrological changes on or off-site.

Considering the above, the vegetation under application is considered to be growing in association with an environment associated with a watercourse or wetland and the proposed clearing is therefore at variance to this principle.

Methodology

References:
DEC, 2011a
DoW, 2011
Happ, 2011
GIS Databases:
- Busselton 50cm Orthomosaic - Landgate 2007
- Hydrography, linear - DoW 07/06

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

Comments

Proposal is not likely to be at variance to this Principle

A recent site visit described the soil within the application areas as brown loam (DEC, 2011a) and the mapped soils are described as duplex sandy gravels, semi-wet soils, yellow deep sands and sandy earths and loamy gravels (Tille and Lantzke, 1990). These soil types are considered to have a low risk of salinity, waterlogging, erosion and nutrient export (Tille and Lantzke. 1990).

Considering the above the proposed clearing is not likely to result in appreciable land degradation and is not likely to be at variance to this principle.

Methodology References:
DEC, 2011a
Tille and Lantzke, 1990

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

Comments **Proposal is not likely to be at variance to this Principle**
There are no conservation areas in the vicinity of the application areas, with the closest being the Yelverton National Park approximately 4.7 kilometres to the south and the Leeuwin-Naturaliste National Park 5 kilometres to the west.

Whilst the vegetation under application contributes to recognised regional ecological linkages, the SWREL Technical Report?s Proximity Analysis tool indicates the proposed clearing is unlikely to significantly impair the core linkage capacity of the SWREL linkages (Molloy et al., 2009).

Considering the above and the distance to conservation areas, the proposed clearing is not likely to impact upon their environmental values and is not likely to be at variance to this principle.

Methodology References:
Molloy et al., 2009
GIS Databases:
- Existing DEC Managed Lands and Waters - DEC 06/10

(i) Native vegetation should not be cleared if the clearing of the vegetation is likely to cause deterioration in the quality of surface or underground water.

Comments **Proposal is not likely to be at variance to this Principle**
The northern application area is not located on a watercourse (DoW, 2011).

The southern application area is located on a mid-slope area of a watercourse (DoW, 2011) and the proponent has advised the groundwater level is very close to the surface in the vicinity of the proposed southern dam. The area is characterised by poorly drained brown loamy soils that may experience sub-soil saturation during winter months (DEC, 2011a).

The proposed clearing of native vegetation growing in association with a watercourse or wetland may result in hydrological changes on and off-site, such as water logging, altered recharge and more extreme fluctuations in water levels.

Increased sedimentation of surface water as a result of clearing native vegetation also has the potential to adversely impact wetland areas. The proponent has advised that there has been no surface water expression in the southern application area watercourse since the 1980s (Happ, 2011) and as such it is considered that sedimentation as a result of the proposed clearing of 0.6 hectares in this area is not likely to result in impacts to water quality.

Considering the above, the proposed clearing is not likely to result in water quality deterioration and the proposed clearing is not likely to be at variance to this principle.

Methodology References:
DEC, 2011a
DoW, 2011
Happ, 2011
GIS Databases:
- Hydrography, linear - DoW 07/06

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

Comments **Proposal is not likely to be at variance to this Principle**
Considering the soil types, the relatively small extent of the proposed clearing and the end land use of dam construction, the proposed clearing is not likely to increase the incidence or intensity of flooding and is not likely to be at variance to this principle.

Methodology GIS Databases:
- Soils, Statewide - DA 11/99

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

Comments
A site inspection undertaken by the Department of Environment and Conservation (DEC) in September 2011

noted the presence of an existing cleared area and dam in the northern application area (DEC, 2011a). The proponent advised there has always been a small soak in that location, a couple of years ago it was cleaned out and now it is proposed to be reconstructed. Aerial imagery indicates the soak was cleaned out and enlarged between January and November 2010, which appears to have included the clearing of some native vegetation. There are no records of a clearing permit having been granted for this development and it is currently being investigated by DEC. The proponent modified the application area during assessment, removing approximately an 0.1 hectare area from the northern application area, which has already been cleared for dam enlargement works conducted in 2010.

The vegetation under application is part of two major ecological linkages identified in the South West Region Ecological Linkage (SWREL) Technical Report (Molloy et al., 2009). The Environmental Protection Bulletin No. 8 (EPA, 2009) supports the SWREL in considering that measures should be taken to retain and, where possible, enhance the functioning of ecological linkages in the south west of Western Australia. The application areas are mapped as having a 1b proximity value to the axis lines of both linkages, as the vegetation is within a patch with an edge touching or less than 100 metres from the core linkage (Molloy et al., 2009). Whilst the SWREL Technical Report?s Proximity Analysis tool indicates the proposed clearing is unlikely to significantly impair the core linkage capacity of the SWREL linkages (Molloy et al., 2009), the cumulative impact of fragmenting remnant vegetation by small scale clearing may degrade the integrity of vegetated linkages and corridors through the landscape and reduce the effectiveness of their ecological function.

The City of Busselton approved the development of the two dams on 7 March 2012. The City advised it will need to investigate the clearing already undertaken within the northern application area (Shire of Busselton, 2011).

The property is zoned Rural Residential under the City of Busselton Town Planning Scheme No. 20. The proponent has advised that the purpose of the dams applied for is for additional water storage for the existing development on the property and to facilitate a possible future subdivision development to achieve the housing density the Rural Residential zoning allows.

The application area is within the Busselton-Capel Groundwater Area and Geographe Bay Rivers Surface Water Area proclaimed under the Rights in Water and Irrigation Act 1914. The Department of Water (DoW) advised an application for a permit to take surface water and to interfere with the bed and banks of a watercourse to construct two dams on the property has been received (DoW, 2011). The DoW advised there is surface water available for allocation within the Dunsborough Coast subarea, however modelling is required to determine what percentage of flows can be captured by the proposed dam without impacting the resource and existing downstream users (DoW, 2011). The DoW (2011) has advised that the northern application area is not on a watercourse and therefore a permit to construct the dam and take water is only required for the southern application area.

The vegetation under application is considered to be within an environment associated with a wetland, with the southern application area located on a mid-slope area of a watercourse (DoW, 2011). There are also two minor, perennial watercourses mapped on the property. The end land use (dam) may impact upon the surface and or groundwater hydrology of the surrounding area and neighbouring properties and the wider catchment, and could also disrupt habitat for aquatic species such as the threatened Dunsborough burrowing crayfish.

The application areas are mapped as being within a moderate to high acid sulphate soils (ASS) risk area. The proposed dam construction may disturb ASS soils, which could result in land and water quality degradation on or off-site. The proponent has advised that no evidence of acid sulphate soils has ever been observed on the property (Happ, 2011).

There are no known Aboriginal Sites of Significance within the application areas.

DEC wrote to the proponent on 3 November 2011 advising of the environmental impacts identified during the preliminary assessment of the clearing application and offering an opportunity for the proponent to provide additional advice to address the issues. The proponent provided comment in response to DEC?s preliminary assessment report, advising that:

- The northern application area within the vineyard enclosure, which is fenced off from other vegetation by a kangaroo proof fence, and it is therefore not connected to adjacent bush. It includes pasture and weed species and is entirely regrowth, apart from a small plantation of pines and a line of bushy yate planted as a windbreak between vineyards;

- Given the rarity of black cockatoo sightings, there is no shortage of hollows for them and they will be able to forage in the pine trees that remain. Other fauna of significance are either not, or rarely, seen on the property;

- The vegetation type within the application area is found in the upland area that is not extensively cleared and the cleared pasture areas in the lowland portion of the 10 kilometre radius is of a different vegetation type than the application area.

- The amount of clearing required is insignificant in the context of the amount of

native bush in the immediate vicinity;

- There is no flow of water in the watercourse in the southern application area and there has not been for many years. The site is arid and becoming increasingly so and therefore hydrological changes, water logging, extreme fluctuations in water levels and increased sedimentation do not apply. The surface water in the northern application area is because drains deliver water runoff to that area;

- In Spring the water is good quality water that is potable and low in salinity;

- Bore water is unobtainable and the ability to store rain water is minimal;

- Both dams are required, as there is more water to be captured in the southern application area than in the northern area and it is anticipated the northern dam will be filled from the southern dam;

- The southern dam is required to sustain a cluster development to achieve the housing density that the rural residential zoning allows while enabling as much of the remnant vegetation as possible to be conserved;

- There is a housing shortage and the property is a good option for residential development due to aesthetics, proximity to services and the soil is unsuitable for cultivation;

- The vegetation in the northern application area is a ?plantation? and should therefore be subject to an exemption from the clearing regulations (Happ, 2011).

The northern application area supports introduced pine trees in a plantation and native vegetation that has regenerated naturally following clearing prior to the proponent?s acquisition of the property in 1977. Section 3 of the Environmental Protection Act 1986 (EP Act) defines native vegetation as ?indigenous aquatic or terrestrial vegetation, and includes dead vegetation unless that dead vegetation is of a class declared by regulation to be excluded from this definition but does not include vegetation in a plantation? and a plantation as ?one or more groups of trees, shrubs or plants intentionally sown, planted or propagated with a view to commercial exploitation?. Accordingly, the pine trees are not considered to be native vegetation and are not protected by the provisions of the clearing legalisation in Section 51 of the EP Act or the Environmental Protection (Clearing of Native Vegetation) Regulations 2004, unless they were planted or propagated as required under the EP Act or another written law; was funded (wholly or partly) by a person who was not the owner of the land for a purpose including biodiversity conservation or land conservation; is covered by some binding undertaking to establish and maintain the vegetation; or has been planted as a requirement of a written law (including a condition of an approval), and a clearing permit is not required to remove these trees. The native vegetation that has regenerated does not constitute a plantation and the proponent is advised that a permit is required kill, remove or significantly damage this vegetation.

Methodology

References:
DEC, 2011a
DoW, 2011
EPA, 2009
Happ, 2011
Molloy et al., 2009
City of Busselton, 2011
GIS Databases:
- Aboriginal Sites of Significance - DIA 02/10
- Acid Sulphate Soils Risk Map, 50K - DEC 07/10
- RIWI Act, Areas - DoW 04/02

4. References

City of Busselton (2011) Direct Interest Response received 17/10/11; 25/10/11. City of Busselton, Western Australia. DEC Ref: A443167; A444118

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5. Glossary

Term	Meaning
BCS	Biodiversity Coordination Section of DEC
CALM	Department of Conservation and Land Management (now BCS)
DAFWA	Department of Agriculture and Food
DEC	Department of Environment and Conservation
DEP	Department of Environmental Protection (now DEC)
DoE	Department of Environment
DoIR	Department of Industry and Resources
DRF	Declared Rare Flora
EPP	Environmental Protection Policy
GIS	Geographical Information System
ha	Hectare (10,000 square metres)
TEC	Threatened Ecological Community
WRC	Water and Rivers Commission (now DEC)