



CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

PERMIT DETAILS

Area Permit Number: 3414/1

File Number: DEC13630

Duration of Permit: From 8 August 2010 to 8 August 2014

PERMIT HOLDER

Geoffrey Michael O'Connor

Morgan Helen Jeffriess

LAND ON WHICH CLEARING IS TO BE DONE

Lot 24 on Plan 20846 Merrifield View, Queenwood

AUTHORISED ACTIVITY

Clearing of up to 2.5 hectares of native vegetation within the area hatched yellow on attached Plan 3414/1

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.

2. Retain vegetative material and topsoil, revegetation and rehabilitation

The Permit Holder shall:

- (a) retain the vegetative material and topsoil removed by clearing authorised under this Permit and stockpile the vegetative material and topsoil in an area that has already been cleared.
- (b) at an *optimal time* following clearing authorised under this Permit, *revegetate* and *rehabilitate* the area(s) that are no longer required for the purpose for which they were cleared under this Permit by laying the vegetative material and topsoil retained under condition 3(a) on the cleared area(s)
- (c) within 18 months of laying the vegetative material and topsoil on the cleared area in accordance with condition 3(b) of this Permit:
 - (i) engage an *environmental specialist* to determine the species composition, structure and density of the area *revegetated* and *rehabilitated*; and

- (ii) where, in the opinion of an *environmental specialist*, the composition structure and density determined under condition 3(c)(i) of this Permit will not result in a similar species composition, structure and density to that of pre-clearing vegetation types in that area, *revegetate* the area by deliberately *planting* and/or *direct seeding* native vegetation that will result in a similar species composition, structure and density of native vegetation to pre-clearing vegetation types in that area and ensuring only *local provenance* seeds and propagating material are used.

3. Records to be kept

The Permit Holder must maintain records in relation to the *revegetation* and *rehabilitation* of areas pursuant to condition 2 of this Permit:

- (i) the location of any areas *revegetated* and *rehabilitated*, recorded using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 1994 (GDA94), expressing the geographical coordinates in Eastings and Northings;
- (ii) a description of the *revegetation* and *rehabilitation* activities undertaken;
- (iii) the size of the area *revegetated* and *rehabilitated* (in hectares); and
- (iv) the species composition, structure and density of *revegetation* and *rehabilitation*.

4. Reporting

- (a) The Permit Holder must provide to the CEO on or before 30 June of each year, a written report:
 - (i) of records required under condition 3 of this Permit; and
 - (ii) concerning activities done by the Permit Holder under this Permit between 1 January and 31 December of the preceding year.
- (b) Prior to 8 May 2014 the Permit Holder must provide to the CEO a written report of records required under condition 3 of this Permit where these records have not already been provided under condition 4(a) (reporting condition) of this Permit.

Definitions

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

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

direct seeding means a method of re-establishing vegetation through the establishment of a seed bed and the introduction of seeds of the desired plant species;

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

environmental specialist means a person who is engaged by the Permit Holder for the purpose of providing environmental advice, who holds a tertiary qualification in environmental science or equivalent, and has experience relevant to the type of environmental advice that an environmental specialist is required to provide under this Permit;

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

local provenance means native vegetation seeds and propagating material from natural sources within 10 kilometres of the area cleared.

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;

optimal time means the period from April to June for undertaking *planting*;

planting means the re-establishment of vegetation by creating favourable soil conditions and planting seedlings of the desired species;

rehabilitate/ed/ion means actively managing an area containing native vegetation in order to improve the ecological function of that area;

revegetate/ed/ion means the re-establishment of a cover of *local provenance* native vegetation in an area using methods such as *regeneration*, *direct seeding* and/or *planting*, so that the species composition, structure and density is similar to pre-clearing vegetation types in that area.

term means the duration of this Permit, including as amended or renewed;

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*.

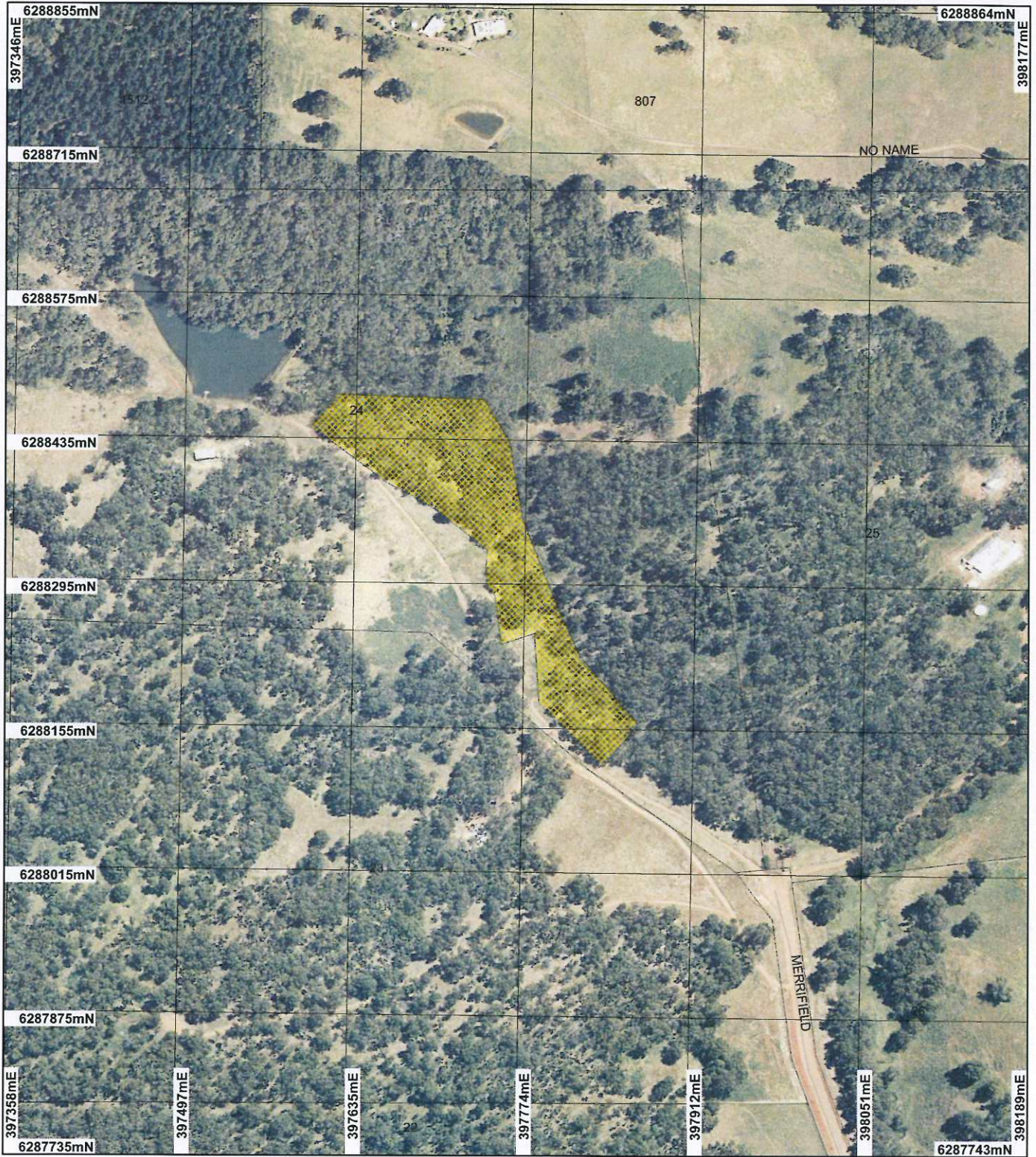
A handwritten signature in black ink, appearing to read 'K Faulkner', is written over a horizontal line.

Kelly Faulkner
MANAGER
NATIVE VEGETATION CONSERVATION BRANCH

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

8 July 2010

Plan 3414/1



LEGEND

□ Cadastre for labelling

Road Centrelines

FW
HY
LRO
(cont)

LRS
MR
N
TR

Clearing Instruments

Areas Approved to Clear

Donnybrook 50cm
Orthomosaic - Landgate
2004



0 125 m

Scale 1:4925

(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.

[Signature] Date 8/7/10
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 acknowledged by the agency acronym in the legend.



Department of
Environment and Conservation

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1. Application details

1.1. Permit application details

Permit application No.: 3414/1
Permit type: Area Permit

1.2. Proponent details

Proponent's name: Geoffrey Michael O'Connor & Morgan Helen Jeffriess

1.3. Property details

Property: LOT 24 ON PLAN 20846 (House No. 155 MERRIFIELD QUEENWOOD 6239)

Local Government Area:

Colloquial name:

1.4. Application

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

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: 1184 Medium woodland-fringing; jarrah, marri, Eucalyptus rudis & Agonis flexuosa	The proposed clearing of 2.5 ha on a 40 ha property is for the purpose of constructing two dams and small above ground ponds for marron aquaculture along a perennial watercourse.	Degraded: Structure severely disturbed; regeneration to good condition requires intensive management (Keighery 1994)	The vegetation condition was determined from a site visit conducted by a DEC officer (DEC 2009).
Mattiske Vegetation Complex: BL Balingup: Open forest of Eucalyptus marginata subsp. marginata-Corymbia calophylla on slopes and woodland of Eucalyptus rudis on the valley floor in the humid zone.			

Hedde Vegetation Complex: Lowdon
Complex: no data

(Mattiske et al. 1998, Shepherd 2007).

3. Assessment of application against clearing principles

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

Comments

Proposal is not likely to be at variance to this Principle

The proposed clearing of 2.5 ha on a 40 ha property is for the purpose of constructing two dams and small above ground ponds for marron aquaculture along a perennial watercourse. The vegetation is considered to be in degraded (Keighery 1994) condition and consist of *Corymbia calophylla* (Marri) - *Eucalyptus marginata* woodland with scattered large *Xanthorrhoea preissii* however the understorey predominantly comprised of *Pteridium esculentum* (Bracken Fern) and weed species (Blackberry and pasture weeds) (DEC 2009)

The local area is approximately 63.3% vegetated, and approximately 42.5% of the identified vegetation associations pre-European extent remains (Shepherd 2007).

It is considered unlikely for known rare or priority flora, or threatened or priority ecological communities to occur within the applied area.

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

Methodology References

- DEC(2009)
- Keighery (1994)
- GIS Databases
- NWLRA, Current Extent of Native Vegetation
- Donnybrook 50cm Orthomosaic - Landgate 2004
- SAC Bio Databases (24/11/09)

(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 is not likely to be at variance to this Principle**
 Eight conservation significant species have been recorded in the local area (10 km radius) including the Western Ringtail Possum (*Pseudicheirus occidentalis*), Forrest Red-tailed Black Cockatoo (*Calyptorhynchus banksii naso*), Baudin's Black Cockatoo (*Calyptorhynchus baudinii*), Brush-tailed Phascogale (*Phascogale tapoatafa* sp), Cricket (*Pachysaga strobila*), Masked Owl (*Tyto novae-hollandiae nova hollandiae*), Chuditch (*Dasyurus geoffroyi*) and Tingle trapdoor Spider (*Moggridgea tingle*).

The area proposed to be cleared (2.5ha) is surrounded by similar native vegetation and occurs in a local area that is ~63% vegetated.

The area under application consists of medium woodland of jarrah and marri, in a degraded (Keighery 1994) condition and contains a few mature trees with small hollows (DEC 2009). These hollows may provide habitat for small parrot species but are not large enough to provide habitat for conservation significant species recorded in the local area (DEC 2009). As the area is surrounded by better condition vegetation, it is not considered for the vegetation under application to provide significant habitat.

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

Methodology References
 -DEC (2009)
 -Keighery (1994)
 GIS Databases
 - SAC Bio Databases (24/11/09)

(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**
 One rare flora species occurs within the local area (~ 10 km radius) of the area under application; *Banksia squarrosa* subsp. *argillacea* occurring 8 km west of the applied area. *Banksia squarrosa* subsp. *argillacea* is an erect, open, non-lignotuberous shrub with yellow flowers during June to November and occurs on white/grey sand or gravelly clay or loam within winter-wet flats (Western Australian herbarium 1998-).

The vegetation is considered to be in degraded (Keighery 1994) condition and consist of *Corymbia calophylla* (Marri) - *Eucalyptus marginata* woodland with scatted large *Xanthorrhoea preissii* and weed species (DEC 2009). The area under application does not contain winter wet flats or the preferred soil type of this rare flora species. In addition, this species occurs on different soil and Heddle Vegetation Association then the applied area.

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

Methodology References
 - Western Australian Herbarium (1998-)
 - Keighery (1994)
 GIS Databases
 -Soil, statewide
 - SAC Bio Databases (24/11/09)

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

Comments **Proposal is not likely to be at variance to this Principle**
 The closest Threaten Ecological Community (TEC) to the applied area is Floristic Community type (FCT) 3c: *Eucalyptus calophylla* - *Xanthorrhoea preissii* woodlands and shrublands occurring 26 km northwest of the area under application.

Given the distance of this TEC and the degraded (Keighery, 1994) condition of the vegetation, it is not considered likely for the proposed clearing to be at variance to this Principle.

Methodology GIS Databases
-SAC Bio Databases (24/11/09)

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

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

The vegetation under application is described as Beard vegetation association 1184 of which there is 42.4%, of pre-European extent remaining respectively (Shepherd 2007).

The vegetation under application is also described as Mattiske vegetation complex BL of which there is 50.7% of pre-European extent remaining respectively (Mattiske 1998).

The area under application is located within the Shire of Donnybrook, of which there is 58.4% of pre-European vegetation extent remaining. In addition, there is approximately 63.6% of pre-European vegetation remaining in the local area (~10km radius).

The Beard and Mattiske vegetation association of the vegetation under application retains more than the supported threshold level (30%) recommended in the National Objectives Targets for Biodiversity Conservation within the Jarrah Forest; below which species loss appears to accelerate exponentially at an ecosystem level (EPA, 2000).

In addition, the area under application is not a significant remnant in the local area due to its relatively small size (2.5ha), degraded condition and connectivity to surrounding bushland. Therefore, the proposal is not considered likely to be at variance to this Principle.

	Pre-European (ha)	Current extent (ha)	Remaining %
IBRA Bioregion			
Jarrah Forest	4,506,655	2,440,940	54.16*
Shire of Donnybrook	156,029	91,178	58.44*
Local Area (~10km radius)	31,400	~19,985	63.6
Beard type in Bioregion*			
1184	63,562	26,971	42.4
Mattiske**			
BL	594,461	301,634	50.7

* (Shepherd 2007)

** (Mattiske 1998)

Methodology References
- EPA (2000)
- Shepherd (2007)
- Mattiske (1998)
GIS Databases
- Interim Biogeographic Regionalisation of Australia
- NWLRA, Current Extent of Native Vegetation
- SAC Bio Databases (24/11/09)

(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**

A minor perennial watercourse runs through the area under application. This watercourse runs into the Preston River, a major watercourse, occurring 1 km southeast from the area under application. An existing dam also occurs on the property and is ~10 m north of the applied area along the same minor watercourse.

Given the clearing is within the watercourse the proposed clearing is at variance to this Principle. However, no wetland dependent vegetation was observed during the site visit (DEC 2009).

Methodology References
- DEC (2009)
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 Proposal may be at variance to this Principle

Soils within the area under application are described as hard acidic, and also neutral, yellow mottled soils containing moderate to large amounts of ironstone gravels. Associated are leached sands some on deposits containing water-worn stones (Northcote et al. 1960-68), which generally have a low risk of wind erosion and a high risk of water erosion (Department of Agriculture 2005). The area under application is also associated with a low risk of salinity.

The main land degradation risk associated with the area under application is erosion of the banks of a watercourse due to the steep topography surrounding the applied area and gravelly soils. Therefore, the proposed clearing may be at variance to this Principle. The impact from the proposed clearing is considered to be short-term during the construction of the dams. A revegetation condition is to be placed on the permit to mitigate this impact.

Methodology References

-Northcote et al (1960-68)
-Department for Agriculture (2005)
GIS Databases
-Hydrography, linear
-Salinity Risk
-Soils, Statewide

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

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

The closest conservation reserve to the area under application is the Wellington State Forrest occurring 1.5 km north of the area under application. An unnamed conservation nature reserve also occurs 4.4km southwest and Boyanup State Forest occurs 6 km west of the applied area.

The area under application is on the edge of a large remnant that is connected to Wellington State Forrest through continuous vegetation. This large remnant is likely to act as a stepping stone across the landscape between Wellington State Forrest and the unnamed conservation nature reserve to the south.

The area under application is also a part of the core linkage vegetation as indicated within the South West Ecological Regional Linkage Project (EPA 2009, Molley et al 2009).

Given the condition of the area proposed to be cleared (2.5ha) and that it occurs on the edge of a larger remnant of vegetation, it is not considered likely that the proposed clearing will reduce the effectiveness of this stepping stone.

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

Methodology References

-EPA (2009)
-Molley et al. (2009)
GIS Databases
- DEC Tenure
- Donnybrook 50cm Orthomosaic - Landgate 2004

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

Comments Proposal may be at variance to this Principle

A minor perennial watercourse runs through the area under application. This watercourse runs into the Preston River, a major watercourse, occurring 1 km southeast from the area under application. An existing dam also occurs on the property and is ~10 m north of the applied area along the same minor watercourse.

The groundwater within the area under application has low to medium salinity (>500 to 1000 mg/L). Given the small area to be cleared (2.5 ha) and that the local area is ~63% vegetated, it is not expected for the proposed clearing to increase groundwater salinity.

However, It is considered that the proposed clearing will cause deterioration in surface water through sedimentation as the clearing involves removing vegetation from the banks of a minor watercourse which occurs within the area under application. Clearing of vegetation along and within this area will cause erosion of the watercourse banks and result in sedimentation of the surface water. This water has the potential to then flow downstream into the Preston River.

Therefore, the proposed clearing may be at variance to this Principle. The impact on surface water from the proposed clearing is considered to be short-term during the construction of the dams.

Methodology GIS Databases
-Hydrography, linear
-Groundwater Salinity
-NWLRA, Current Extent of Native Vegetation

(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

A minor non-perennial watercourse runs through the area under application. This watercourse runs into the Preston River, a major watercourse, occurring 1 km southeast from the area under application. An existing dam also occurs on the property and is ~10 m north of the applied area along the same minor watercourse.

Given the small area proposed to be cleared (2.5ha) it is not considered for the proposed clearing to cause or exacerbate the incidence or intensity of flooding.

Methodology GIS Databases
-Hydrography, linear

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

Comments

The proposed clearing is for the construction of two dams and small above ground ponds for marron aquaculture on Lot 24 Merrifield View, Donnybrook.

An existing marron pond occurs on the same property north along the watercourse.

A Permit to Obstruct or Interfere has been granted for two marron dams on the property for an 18000 kilolitre capacity (Department of Water 2010a). Once these dams are built a surface water licence for that amount will be granted by Department of Water. The applicant wishes to clear within the dam 3 area (southern portion of application area) for smaller off stream marron ponds which do not require any approvals from Department of Water (Department of Water 2010b).

The area under application is zoned General Farming - Scenic under the Town of Donnybrook's Town Planning Scheme. The Shire of Donnybrook - Balingup has granted approval for the construction of three dams on the property in October 2009 (The Shire of Donnybrook 2009).

The applicants hold a licence to aquaculture and sell Marron (*Cherax tenuimanus*) for the area under application. Granted on 25 February 2010. This licence is authorised until 24 February 2011 (Department of Fisheries 2010).

A submission (2009) was received that objected to the proposal due to:

- The number of dams proposed,
- The potential impact on water quality in particular eutrophication of the Preston River through the addition of feed for marron production in the dams,
- The topography and decline could lead to landform instability, and
- Clearing of riparian vegetation.

The number of dams proposed and eutrophication impacts have been addressed through approvals issued by The Department of Fisheries and The Department of Water. Topography and decline leading to landform instability and clearing of riparian vegetation have been addressed under the clearing principles.

Methodology References
-Shire of Donnybrook (2009)
-Department of Fisheries (2010)
-Department of Water (2010a)
-Department of Water (2010b)
-Submission (2009)
GIS Databases
- Town Planning Scheme Zones

4. Assessor's comments

Comment

The application has been assessed against the clearing principles, planning instruments and other matters in accordance with s51O of the Environmental Protection Act 1986, and the proposed clearing is at variance to Principle (f) and may be at variance to Principle (i) and (g).

5. References

- DEC (2009) DRAFT Site Inspection Report for Clearing Permit Application CPS 3414/1, Lot 24 Merrifield View Donnybrook. Site inspection undertaken 14/12/2009. Department of Environment and Conservation, Western Australia (DEC ref: DOC113136).
- Department of Agriculture (2005) AgMaps Land Manager CD-rom for the Shires of Serpentine-Jarrahdale, Kwinana, Rockingham, Mandurah, Murray, Boddington, Waroona and Harvey. Department of Agriculture, Western Australia. ISSN: 1448-235X.
- Department of Fisheries (2010) Aquaculture Licence - Marron - Lot 24 Merrifield View, Donnybrook. DEC ref A313520
- Department of Water (2010a) Permit to Obstruct or Interfere (S17) for construction of two dams at Lot 24 Merrifield View Donnybrook. Department of Water. DEC ref A312966.
- Department of Water (2010b) Advice regarding CPS 3414/1 - Lot 24 Merrifield View Donnybrook. DEC ref A313513.
- EPA (2000) Environmental protection of native vegetation in Western Australia. Clearing of native vegetation, with particular reference to the agricultural area. Position Statement No. 2. December 2000. Environmental Protection Authority, Western Australia.
- EPA (2009) Environmental Protection Bulletin No. 8: South West Regional Ecological Linkages, Environmental Protection Authority, Western Australia
- Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.
- Mattiske, E.M. and Havel, J.J. (1998) Vegetation Complexes of the South-west Forest Region of Western Australia. Maps and report prepared as part of the Regional Forest Agreement, Western Australia for the Department of Conservation and Land Management and Environment Australia.
- Molloy, S., Wood, J., Hall, S., Wallrodt, S. and Whisson, G. (2009) South West Regional Ecological Linkages technical report, Western Australian Local Government Association and Department of Environment and Conservation, Perth.
- Northcote, K. H. with Beckmann G G, Bettenay E., Churchward H. M., van Dijk D. C., Dimmock G. M., Hubble G. D., Isbell R. F., McArthur W. M., Murtha G. G., Nicolls K. D., Paton T. R., Thompson C. H., Webb A. A. and Wright M. J. (1960-68): 'Atlas of Australian Soils, Sheets 1 to 10, with explanatory data'. CSIRO and Melbourne University Press: Melbourne.
- Shepherd, D.P. (2007) Adapted from: Shepherd, D.P., Beeston, G.R., and Hopkins, A.J.M. (2001), Native Vegetation in Western Australia. Technical Report 249. Department of Agriculture Western Australia, South Perth.
- Shire of Donnybrook (2009) Approval for Dam Development (3 Dams) - Lot 24 Merrifield View, Queenwood. TRIM Ref DOC109759
- Submission (2009) Direct Interest Submission. Donnybrook Balingup LCDC. CPS 3414/1 - Lot 24 Merrifield View, Donnybrook. TRIM ref DOC111268
- Western Australian Herbarium (1998-). FloraBase - The Western Australian Flora. Department of Environment and Conservation. <http://florabase.dec.wa.gov.au/> (Accessed 24/11/2009).

6. Glossary

Term	Meaning
CALM	Department of Conservation and Land Management (now DEC)
DAFWA	Department of Agriculture and Food
DEC	Department of Environment and Conservation
DEP	Department of Environmental Protection (now DEC)
DoE	Department of Environment (now DEC)
DoW	Department of Water
DMP	Department of Mines and Petroleum (ex DoIR)
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)