



GOVERNMENT OF
WESTERN AUSTRALIA

CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

PERMIT DETAILS

Area Permit Number: 4686/1

File Number: 2011/010112-1

Duration of Permit: From 23 January 2012 to 23 January 2014

PERMIT HOLDER

Rohan Stannus Murdoch and Rachel Elizabeth Murdoch

LAND ON WHICH CLEARING IS TO BE DONE

Lot 1732 on Deposited Plan 208921, Boxwood Hill

AUTHORISED ACTIVITY

The Permit Holder shall not clear more than 9.9 hectares of native vegetation within the area hatched yellow on attached Plan 4686/1.

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) shall only move soils in *dry conditions*;
- (c) ensure that no *dieback* or *weed*-affected soil, *mulch*, *fill* or other material is brought into the area to be cleared; and
- (d) restrict the movement of machines and other vehicles to the limits of the areas to be cleared.

A handwritten signature in black ink, appearing to read 'M Warnock', written over a horizontal line.

M Warnock

A/MANAGER

NATIVE VEGETATION CONSERVATION BRANCH

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

28 December 2011

Plan 4686/1



LEGEND

- Road Centrelines
- Clearing Instruments
- Areas Approved to Clear
- Cadastre for labelling

Cheyne Pallinup 1.4m
Orthomosaic - Landgate
2004



0 ————— 375 m

Scale 1:15933

(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.

M Warnock Date: 28/12/10
M Warnock

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.: 4686/1
Permit type: Area Permit

1.2. Proponent details

Proponent's name: Rohan Murdoch

1.3. Property details

Property: LOT 1732 ON PLAN 208921 (House No. 6308 BORDEN-BREMER BAY BOXWOOD HILL 6338)

Local Government Area: Shire of Jerramungup

Colloquial name:

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
9.9		Mechanical Removal	Miscellaneous

1.5. Decision on application

Decision on Permit Application: Grant
Decision Date: 28 December 2011

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
Mapped Beard vegetation association 647 is described as 'Shrublands; tallerack mallee-heath' (Shepherd, 2009).	This application proposes to clear 9.9 ha of native vegetation for the purpose of rabbit control. The application area consists of 11 linear strips of vegetation significantly degraded by the infestation of feral rabbits. The native vegetation found throughout Lot 1732 on Plan 208921, is a combination of open woodlands of <i>E. occidentalis</i> and paperbark occurring in the swamp areas with silver mallee, bell fruited mallee, red heart, tallerack, and other Eucalypt species in a low woodland, mallee heath type vegetation structure. (DEC 2010)	Degraded: Structure severely disturbed; regeneration to good condition requires intensive management (Keighery 1994)	The description and condition of the vegetation under application was determined via the use of aerial imagery (Cheyne Pallinup 1.4m Orthomosaic - Landgate 2004), a Land for Wildlife report conducted by DEC (2010) and The Commissioner of Soil and Land Conservation (2011).

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 9.9 ha is required for the purpose of eradicating rabbits within Lot 1732 on Plan 208921, Boxwood Hill. The proponent has a very severe feral rabbit problem within his property, causing degradation to both native vegetation and other crops and pastures. The proponent has advised he is currently in the process of fencing larger more significant remnants with rabbit proof fencing. The remaining areas proposed to be cleared are significantly degraded and are long and linear in shape and therefore not financially viable to undertake fencing activities.

The local area (10km) is well vegetated with approximately 50 per cent vegetation cover. The application area is considered degraded (Keighery 1994) and therefore is unlikely to represent an area of higher biodiversity value

when compared to representative vegetation in a local and regional context.

The disturbance resulting from the proposed clearing will increase the risk of weeds and dieback spreading into adjacent land. Weed and dieback management will assist in mitigating this risk.

Thirty species of Priority Flora have been recorded within the local area (10 km radius). The closest known records of priority flora are *Banksia calophylla* (P3) located approximately 1.2 km south of the proposed clearing area and *Consopermum coerulescens* subsp. *Coerulescens* (P1) located approximately 400 m east of the proposed clearing area. Given the degraded (Keighery 1994) condition, the long and linear nature of the proposed clearing and the surrounding vegetation, the proposed clearing it is not likely to impact upon the conservation status of priority flora species in the area.

The closest known record of priority ecological communities (PECs) is Swamp Yate woodland (South coast) located approximately 6 km east of the application area. No threatened ecological communities (TECs) are located within the local area (10 km).

There are numerous priority and rare or likely to become extinct fauna species found within the local area (10 km radius). The proposed clearing is unlikely to act as an ecological corridor for fauna species given the feral rabbits have significantly degraded the understory. It is likely these areas are only utilised by more mobile fauna species. (DEC 2011)

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

Methodology Reference:
-DEC (2011)
-Keighery (1994)

GIS Database:
- SAC Biodatasets - Accessed 28 November 2011
- Pre European Vegetation

(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**

Numerous fauna species considered rare or likely to become extinct have been recorded within the local area (20 km radius) of the application area, including, *Calyptorhynchus baudinii* (Baudin's Cockatoo), *Calyptorhynchus latirostris* (Carnaby's black cockatoo), *Leipoa ocellata* (Malleefowl), *Dasyornis longirostris* (Western Bristlebird), *Thalassarche chlororhynchos* (Atlantic Yellow-nosed Albatross) and *Thalassarche melanophrys* (Black-browed Albatross) (DEC 2007-)

The fauna habitats within the area proposed to be cleared are well represented elsewhere within the local and regional area, and no significant loss of habitat for fauna indigenous to Western Australia is expected. The proposed clearing is unlikely to sever any wildlife corridors and therefore the clearing will not remove an ecological linkage that is necessary for the maintenance of fauna.

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

Methodology Reference:
DEC (2007-)

GIS Databases:
- Cheyne Pallinup 1.4m Orthomosaic - Landgate 2004
- Pre-European vegetation
- SAC Biodatasets - accessed 28 November 2011

(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**

No records of rare flora were identified within the application area.

The closest known record of declared rare flora is *Caladenis bryceana* subsp. *bryceana*, located approximately 7.5 km south of the application area on a different soil and vegetation type.

Given the above, and the degraded (Keighery 1994) condition of the vegetation proposed to clear it is unlikely this vegetation is necessary for the continued existence of rare flora. Therefore, this application is not likely to be at variance to this clearing Principle.

Methodology GIS Databases:
 - Cheyne Pallinup 1.4m Orthomosaic - Landgate 2004
 - Pre-European vegetation
 - SAC Biodatasets - accessed 28 November 2011

(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**
 No known threatened ecological communities have been recorded within the local area (10km radius).
 Therefore, the clearing as proposed is not likely to be at variance to this Principle.

Methodology GIS Databases:
 - Cheyne Pallinup 1.4m Orthomosaic - Landgate 2004
 - Pre-European vegetation
 - SAC Biodatasets - accessed 28 November 2011

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

Comments **Proposal is not likely to be at variance to this Principle**
 The area under application is located within the Esperance Plains Interim Biogeographic Regionalisation of Australia (IBRA) bioregion. This IBRA bioregion has approximately 51 per cent of its Pre European vegetation extent remaining. (Shepherd 2009).
 The vegetation under application is mapped as Beard Vegetation Association 47 which has approximately 61 per cent of its Pre European extent remaining in the Esperance Plains bioregion (Shepherd 2009).
 Digital imagery (Cheyne Pallinup 1.4m Orthomosaic - Landgate 2004) indicates that the local area (10 km radius) surrounding the area under application retains approximately 50 per cent vegetation cover.
 Give the vegetation representation within the local area and the degraded (Keighery 1994) condition of the vegetation proposed to clear it is unlikely that the vegetation under application is significant as a remnant in an extensively cleared landscape.

Therefore, the clearing as proposed is not likely to be at variance to this Principle.

	Pre-European (ha)	Current Extent Remaining (ha)	Remaining (%)	Extent in DEC Managed Lands (%)
IBRA Bioregion*				
Esperance Plains	959, 937	338,403	35.25	51.20
Shire*				
Shire of Jerramungup	648,596	285,640	44.04	48.16
Beard Vegetation Association in Bioregion*				
47	251,196	115,074	45.81	61.79

* Shepherd 2009

Methodology References:
 Shepherd (2009)
 GIS Database:
 - Cheyne Pallinup 1.4m Orthomosaic - Landgate 2004
 - IBRA Australia
 - Local Government Authority
 - Pre-European Vegetation
 - SAC Biodatasets - Accessed 28 November 2011

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

Comments **Proposal is not likely to be at variance to this Principle**
 No watercourses or wetlands are mapped within the application area, however there is a swamp located approximately 400m east of the application and a minor watercourse located approximately 1.5 km north west of the application area within 1732 on Plan 208921, Boxwood Hill.

The closest known wetland is the Yellilup Yate Swamp System classed as an Anca Wetland located approximately 4 km north of the application area. Pallinup River (Beaufort Inlet) is located approximately 5 km south of the application area.

Given the distance to nearest watercourse/wetland, the clearing as proposed is not likely to be at variance to this Principle.

Methodology Reference:
Keighery (1994)

GIS Databases:
- ANCA, Wetlands
- 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

The soils within the application area are Wd7 which Northcote (1960-68) describe as: Flat to gently undulating plain or plateau at low elevation with a few flats, depressions, swamps, lakes, and dunes. Chief soils on the plains are sandy acidic yellow mottled soils containing ironstone gravel and containing laterite, with leached sands developed in the A horizons of some areas of the soils, and some gravels on indurated layers.

The Commissioner of Soil and Land Conservation (2011) has advised that the application area is located on the Chillinup system of the Albany sand plain soil landscape zone. The soils are typically grey sands or gravelly soils of variable depth. The main land degradation hazard associated with clearing in this area is wind erosion. However when rabbits occur in plague proportions, rabbits can denude the soil for protective vegetative cover, promoting wind erosion as well as destroying crops (Commissioner of Soil and Land Conservation, 2011).

Given the risk of wind erosion the proposed clearing may be at variance to this Principle.

Methodology References:
The Commissioner of Soil and Land Conservation (2011)
Northcote et al. (1960 - 1968)

GIS Database:
- Rainfall, Mean Annual
- 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 is Pallinup Nature Reserve located approximately 9.5 km west of the application area.

The clearing as proposed is not likely to impact on the environmental values of any conservation reserves.

Therefore, this proposal is not likely to be at variance to this clearing Principle

Methodology GIS Databases:
- DEC Tenure
- Pre-European vegetation

(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

There is a swamp located approximately 400 m east of the application area. The closest major watercourse is Pallinup River (Beaufort Inlet) located approximately 5 km south of the application area.

Given that sparse degraded (Keighery 1994) condition of the area under application and the proposed clearing is not associated with any wetlands or water courses, the proposed clearing is not likely to cause deterioration in the quality of surface or underground water and therefore is not likely to be at variance to this Principle.

Methodology GIS Databases:
-Hydrography, linear
-Soils, Statewide

- Pre-European vegetation
- Rainfall, Mean Annual

(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

Given the sandy soil type, low relief in topography and long linear application area it is unlikely to cause or exacerbate the incidence or intensity of flooding.

Therefore, the clearing as proposed is not likely to be at variance to this Principle.

Methodology Reference:
Northcote et al. (1960 - 1968)

GIS Database:
- Rainfall, Mean Annual

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

Comments

The Commissioner of Soil and Land Conservation (2011) advised Lot 1732 on DP 20892 is located on the Chillinup system of the Albany sand plain soil landscape zone. The soils are typically grey sands and gravelly soils of variable depth. The main land degradation hazard associated with clearing this type of land is wind erosion. Lot 1732 has had a long history of rabbit infestations which are favoured by the combination of soil type and belts of vegetation that harbour rabbits and make effective control difficult, but not possible.

On the 13 March 1998 a Conservation Covenant under section 30(b) 1 of the Soil and Land Conservation Act was placed onto Lot 1732 on Plan 208921. This Conservation Covenant agrees to conserve 72.4 ha of land. Area's under this Conservation Covenant are not part of the application area.

DEC (2010) conducted a Land for Wildlife report for the applicants properties including Lot 1732. DEC (2010) advised they had never seen a property with such a dreadful rabbit problem in the south coast region and it will be ongoing. The applicant has been working with the South Coast NRM and have put in nearly every option available for feral rabbit control. The applicant has received funding from South Coast NRM for rabbit proof fencing around some high value remnants within his property and have undertaken these activities however, due to the difficult shape of many remnants the financial costs are very high.

DEC (2011) provided advice in regards to clearing Lot 1732 on DP 20892 and advised that the application has been undertaking a program of fencing off larger remnant vegetation with rabbit proof fencing which has been a costly exercise and has therefore become restrictive to continue. The applicant has undertaken both biological and exclusion methods that have not been successful.

Methodology Reference:
Commissioner of Soil and Land Conservation (2011)
DEC (2010)
DEC (2011)

4. References

Commissioner of Soil and Land Conservation(2011) Advice for clearing permit application 4686/1. Department of Agriculture and Food, Western Australia (DEC Ref: A460540)

DEC (2007 -) NatureMap: Mapping Western Australia's Biodiversity. Department of Environment and Conservation. URL: <http://naturemap.dec.wa.gov.au/>. Accessed 28/11/2011

DEC (2010) Land for Wildlife Report for 6308 Borden -Bremer Bay Road, Boxwood Hill. Department of Environment, South Coast Natural Resource. Western Australia.

DEC (2011) Regional Advice for clearing permit CPS 4686/1. Department of Environment, South Coast Region. Western Australia (DEC Ref: A457266)

Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.

Northcote, K. H. with Beckmann G G, Bettenay E., Churchward H. M., van Dijk D. C., Dimmock G. M., Hubble G. D., Isbell R. F., McArthur W. M., Murtha G. G., Nicolls K. D., Paton T. R., Thompson C. H., Webb A. A. and Wright M. J. (1960-68): 'Atlas of Australian Soils, Sheets 1 to 10, with explanatory data'. CSIRO and Melbourne University Press: Melbourne.

Shepherd, D.P. (2009) 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.

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)