



CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

PERMIT DETAILS

Area Number: 3134/1
File Number: DEC254
Duration of Permit: From 23 August 2009 to 23 August 2011

PERMIT HOLDER

Stephanie Jean Catchpole

LAND ON WHICH CLEARING IS TO BE DONE

Lot 84 on Plan 12396 Greenwood Way, Barragup

AUTHORISED ACTIVITY

The Permit Holder shall not clear more than 0.2 hectares of native vegetation which is no more than 3 metres in height within the area hatched yellow on attached Plan 3134/1.

CONDITIONS

1. Avoid, minimise etc clearing

In determining the amount of native vegetation to be cleared authorised under this Permit, the Permit Holder must have regard to the following principles, set out in order of preference:

- (a) avoid the clearing of native vegetation;
- (b) minimise the amount of native vegetation to be cleared; and
- (c) reduce the impact of clearing on any environmental value.

A handwritten signature in blue ink, appearing to read "Keith Claymore".

Keith Claymore
A/ ASSISTANT DIRECTOR
NATURE CONSERVATION DIVISION

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

23 July 2009

Plan 3134/1

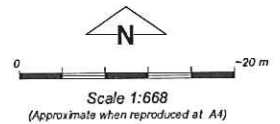


LEGEND

- Cadastre for labelling
- Road Centrelines
- FW
- HY
- LRG (cont)

- LRB
- MR
- N
- TR
- Perth Metropolitan Area
South 20cm Orthomosaic -
Landgate 2007

- Clearing Instruments
- Areas Approved to Clear



Geocentric Datum Australia 1994

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

Kris Claymore Date *23/7/09*
K. Claymore

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

WA Crown Copyright 2002



1. Application details

1.1. Permit application details

Permit application No.: 3134/1
Permit type: Area Permit

1.2. Proponent details

Proponent's name: **Stephanie Jean Catchpole**

1.3. Property details

Property: LOT 84 ON PLAN 12396 (GREENWOOD WAY BARRAGUP 6209)
Local Government Area: Shire Of Murray
Colloquial name:

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
0.2		Mechanical Removal	Hazard reduction or fire 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
Heddlle vegetation complex: Herdsman Complex: Sedgeland and fringing woodland of <i>E. rudis</i> - <i>Melaleuca</i> species.	The proposal is to clear 0.2ha within a 2.2 ha property for the purpose of fire hazard reduction. It is proposed for all native vegetation under 3 m tall to be cleared within the area under application.	Good: Structure significantly altered by multiple disturbance; retains basic structure/ability to regenerate (Keighery 1994)	Vegetation description based on a site visit conducted by DEC officers on the 5 June 2009 (DEC, 2009).
Beard vegetation types: 1000 - Mosaic: Medium forest; jarrah-marri / Low woodland; banksia / Low forest; teatree (<i>Melaleuca</i> spp.)	The vegetation under application is considered to be in a good condition consisting of a sparse overstorey of jarrah and exotic pine trees over <i>Jacksonia</i> sp., <i>Stirlingia</i> sp., <i>Acacia</i> sp., <i>Kunzea</i> sp., <i>Patersonia</i> sp., <i>Dasyogon</i> sp., <i>Macrozamia</i> sp., <i>Lepidosperma</i> sp., <i>Mesomelaena</i> sp. and other native rushes. There is a distinct ground cover layer and a sparse middle and upper story.		
(Heddlle et al. 1980, SAC Bio Datasets 04/06/2009)	There is evidence of historic clearing and a small portion of vegetation near the southern edge of the area under application is in a degraded condition with high weed invasion.		

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 vegetation under application is considered to be in a good condition consisting of a sparse overstorey of Jarrah (*Eucalyptus marginata*) and exotic pine trees over *Jacksonia* sp., *Stirlingia* sp., *Acacia* sp., *Kunzea* sp., *Patersonia* sp., *Dasyogon* sp., *Macrozamia* sp., *Lepidosperma* sp., *Mesomelaena* sp. and other native rushes. There is a distinct ground cover layer and a sparse middle and upper story. There is evidence of historic clearing and a small portion of vegetation near the southern edge of the area under application is in a degraded condition with high weed invasion (DEC 2009).

Due to the relatively small size of the area proposed to be cleared (0.2 ha), it is not considered likely for the area under application to comprises the whole or part of a significant habitat for native fauna. In addition, given the good condition of the vegetation under application it is not considered likely for the area under application to comprise a high level of biological diversity.

Methodology References
- DEC (2009)
GIS Databases
- SAC Bio Datasets (04/06/2009)

(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**
Within the local area (~ 5 km radius) 5 species of conservation significant fauna have been recorded including the Quenda (*Isoodon obesulus fusciventer*), the Water Rat (*Hydromys chrysogaster*), the Eastern Curlew (*Numenius madagascariensis*), the Chuditch (*Dasyurus gedffroii*) and the Numbat (*Myrmecobius fasciatus*).

The majority of the vegetation under application is in good condition and includes an understorey that may provide suitable habitat for ground-dwelling fauna such as snakes, lizard and the conservation significant Quenda (DEC 2009).

However, given the relatively small size of the area proposed to be cleared (0.2 ha) and the presence of very good to excellent vegetation in the immediate area, it is not considered likely for the area under application to comprise the whole or a part of, or is necessary for the maintenance of a significant habitat for native fauna in the local area.

Methodology References
- DEC (2009)
GIS Databases
- SAC Bio Datasets (04/06/2009)

(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 4 rare flora species, *Drakaea elastica*, *Caladenia huegelli*, *Diuris drummondii* and *Diuris micrantha* recorded in the local area (~ 5 km radius) occurring 5 km north, 2.9 km southeast, 2.5 km south and 2.8 km southwest of the area under application, respectively.

The vegetation under application is in a good condition and consists of scattered Jarrah (*Eucalyptus marginata*) and introduced pine trees over an understorey that is consistent with the understorey of the adjacent Banksia Woodland (DEC 2009). White and yellow soils were observed during the site inspection (DEC 2009).

Both *Diuris drummondii* and *Diuris micrantha* occur in low-lying depressions and swamps with sandy clay soils (Brown et al. 1998). The area under application does not contain wetland dependent vegetation and does not contain sandy clay soils (DEC 2009). Therefore, it is not considered likely for these two species to occur within the area under application.

Both *Drakaea elastica* and *Caladenia huegelli* occur in Banksia woodlands on sandy soil (Western Australian Herbarium 1998-). In addition, these species have occurred within similar vegetation and soil types in the local area (~5km radius) as the area under application. However, *Drakaea elastica* requires shady canopy cover and favours thickets of *Kunzea* (DEC 2008) and *Caladenia huegelli* favours areas of lush undergrowth and is suppressed by weed invasion (Brown et al. 1998). The area under application has a very open and scattered canopy cover and does not contain thickets of *kunzea*. In addition, the area under application does not contain lush undergrowth and is in a good condition with weeds scattered throughout.

Therefore, it is not considered likely for the proposed clearing to be at variance to this Principle.

Methodology References
- Brown et al. (1998)
- DEC (2008)
- DEC (2009)
- Western Australian Herbarium (1998-)
GIS Databases
- SAC Bio Datasets (04/06/2009)

(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**
There are two recordings of a Threatened Ecological Community (TEC) within the local area (5 km radius) being Floristic Community Type (FCT) 7: herb rich saline shrublands in clay pans and FCT 15: forests and woodlands of deep seasonal wetlands occurring 3.2 km and 4.1 km south of the area under application,

respectively.

The area under application consists of a sparse overstorey of jarrah and exotic pine trees over *Jacksonia* sp., *Stirlingia* sp., *Acacia* sp., *Kunzea* sp., *Patersonia* sp., *Dasyogon* sp., *Macrozamia* sp., *Lepidosperma* sp., *Mesomelaena* sp. and other native rushes in a good condition (DEC, 2009). No wetland dependent vegetation was identified during the site visit. Therefore, it is not considered likely for the proposed clearing to be at variance to this Principle.

Methodology **References**
-DEC (2009)
GIS Databases
-SAC Bio Datasets (04/06/2009)

(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**

Hedde et al. (1980) defines the vegetation under application as consisting of the Herdsman Complex: Sedgelands and fringing woodland of *E. rudis* - *Melaleuca* species, which there is 34.6% of pre-European extent remaining (EPA 2006). The vegetation under application is also described as Beard vegetation association 1000: Mosaic Medium forest; jarrah-marri / Low woodland; banksia / Low forest; teatree (*Melaleuca* spp.) of which there is 26.8% of pre-European extent remaining (Shepherd 2007).

The National Objectives and Targets for Biodiversity Conservation includes a target that prevents the clearance of ecological communities with an extent below 30% of that present Pre-European settlement (Commonwealth of Australia, 2001). The Beard (1000) vegetation type occurring within the area under application is below the State Government's biodiversity conservation target of 30%.

The vegetation extent in the Shire of Murray is 56.1% (Shepherd, 2007), although there is a strong contrast between the portions of the Shire within the heavily vegetated Jarrah Forest Region and the extensively cleared landscape of the eastern side of the Swan Coastal Plain (SCP), of which there is approximately 15% of pre-European vegetation remaining. There is approximately 33.7% of vegetation remaining in the local area (5km radius) and the vegetation under application is not by itself considered significant as a remnant.

Given the good condition of the area under application and that the Beard vegetation association occurring within the area is below 30%, it may be considered likely for the proposed clearing to be at variance to this Principle.

	Pre-European (ha)	Current extent (ha)	Remaining %
Swan Coastal Plain	1,501,208	583,141	38.8*
Shire of Murray	177 618	99 614	56.1*
Local Area (~5km radius)	7850	~2646	~33.7
Hedde vegetation complex			
Herdsman Complex	8309	2875	34.6
Beard vegetation type within bioregion			
1000	94 175	25 235	26.8**

* (Shepherd 2007)

** (EPA, 2006)

Methodology **References**
-Commonwealth of Australia (2001)
-EPA (2006)
-Shepherd (2007)
GIS Databases
-Hedde Vegetation Complexes
-NLWRA, Current Extent of Native Vegetation
-Pre-European Vegetation

(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**

There nearest wetland to the area under application is a Conservation Category Wetland, occurring 330m east of the area under application. The nearest watercourse, Murray River, occurs 1.5 km south of the area under

application.

Given the distance to the nearest watercourse and wetland and the lack of wetland dependent vegetation identified during the site inspection (DEC 2009), it is not considered likely for the proposed clearing to be at variance to this Principle.

Methodology **References**
-DEC (2009)
GIS Databases
-Geomorphic Wetlands (Mgt Categories), Swan Coastal Plain
-Hydrography, linear

(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**
The soils within the area under application comprises of leached and other sands (Northcote et al. 1960-68), which are considered to have a high risk of wind erosion (Department of Agriculture 2005).

Given the relatively small size (0.2ha) of the proposed clearing and that the upperstorey vegetation will be remaining, the risk of wind erosion will be reduced. In addition, there is a low salinity risk within the applied area and it is not considered likely that the proposed clearing to result in an increase in salinity. Therefore, it is not considered likely for the proposed clearing to cause appreciable land degradation.

Methodology **References**
-Department of Agriculture (2005)
-Northcote et al. (1960-68)
GIS Databases
-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 area to the area under application is an unnamed nature reserve occurring 320 m to the east. Goegrup Lake Nature Reserve occurs 4.1 km to the north of the area under application and no Bush Forever sites occur in the local area (~5km radius).

Given the small area to be cleared (0.2 ha), and that the area under application is not connected through continuous vegetation to conservation areas, it is not considered likely for the proposed clearing to be at variance to this Principle.

Methodology **GIS Databases**
-Bushforever
-DEC Managed Lands and Waters
- Perth Metropolitan Area North 20cm Orthomosaic - Landgate 2007

(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 nearest wetland to the area under application is a Conservation Category Wetland, occurring 330m east of the area under application. The nearest watercourse, Murray River, occurs 1.5 km south of the area under application.

The area under application is not within a Priority Drinking Water Source Area (PDWSA) and has a low salinity risk. Therefore, it is unlikely for the proposed clearing to cause deterioration to the quality of underground water.

There nearest wetland to the area under application is a Conservation Category Wetland, occurring 330m east of the area under application. The nearest watercourse, Murray River, occurs 1.5 km south of the area under application.

The area under application is not within a Priority Drinking Water Source Area (PDWSA) and has a low salinity risk. Therefore, it is unlikely for the proposed clearing to cause deterioration to the quality of underground water.

The area under application is within the Peel Inlet Management Area as outlined in the Waterways Conservation Act. However, given the distance to the closest wetlands and watercourse, the small area to be cleared and low salinity risk, it is not considered likely for the proposed clearing to cause deterioration in

surface water quality or groundwater.

Methodology GIS Databases
-Geomorphic Wetlands (Mgt Categories), Swan Coastal Plain
-Hydrography, linear
-Priority Drinking Water Source Area (PDWSA)
-Salinity Risk
-Waterways Conservation Act, Waterway Management Area

(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**
There nearest wetland to the area under application is a Conservation Category Wetland, occurring 330m east of the area under application. The nearest watercourse, Murray River, occurs 1.5 km south of the area under application.

Given the distance to the nearest watercourse and wetlands and clearing of 0.2 ha of understorey vegetation, it is not considered likely for the proposed clearing to be at variance to this Principle.

Methodology GIS Databases
-Geomorphic Wetlands (Mgt Categories), Swan Coastal Plain
-Hydrography, linear

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

Comments
The proposal is to clear 0.2ha within a 2.2ha property for the purpose of fire hazard reduction. It is proposed for all native vegetation under 3 m tall to be cleared within the area under application.

The area under application is zoned Rural under the Peel Regional Scheme and Special Rural under the Shire of Murray's Town Planning Scheme.

The Shire of Murray states that whilst the application to clear is not desirable it is considered that the proposal is in keeping with other uses of land within the immediate area (Shire of Murray 2009).

The Firebreak Notice for 2008-09 for the Shire of Murray (2008) is a document that requires all landowners in the Shire to prevent outbreak or spread of bush fires within the Shire by following certain requirements. For this property (zoned special rural and is greater than 2.02ha in size) it is required for the owner to have a firebreak of at least 3 m wide installed inside all external boundaries of the land and also immediately surrounding all building. The property follows these requirements (DEC 2009).

A direct interest submission (Submission 2009a) has been received provided the following comments:

- Wind erosion is highly likely on the Bassendean sand soils present on site
- the clearing of native remnant vegetation is not necessarily a valid hazard reduction method and the fuel load may actually increase as a result of weed invasion in the cleared area
- approval of the proposal may set a 'dangerous precedent' for public perception of valid bushland management and fire control techniques
- a more effective approach to the issue may be to meet with the Shire of Murray and the landholder to discuss alternative fire control and management strategies other than clearing native vegetation.

A direct interest submission (Submission 2009b) has been received stating that only the trees that are in close proximity to the house should be cleared to reduce fire hazard.

The area under application has a moderate to high Acid Sulphate Soil risk. However, the proposed clearing and land use is not considered likely to cause appreciable land degradation.

Methodology References
- DEC (2009)
- Shire of Murray (2008)
- Shire of Murray (2009)
- Submission (2009a)
- Submission (2009b)
GIS Databases
- Acid Sulphate Soil Risk
- Peel Regional Scheme Zones
- Town Planning Scheme Zones

4. Assessor's comments

Comment

The assessable criteria have been addressed and the proposed clearing may be at variance to Principle (e).

5. References

Brown A., Thomson-Dans C. and Marchant N.(1998). Western Australia's Threatened Flora, Department of Conservation and Land Management, Western Australia.

Commonwealth of Australia (2001) National Targets and Objectives for Biodiversity Conservation 2001-2005, AGPS, Canberra.

DEC (2008) Glossy-leafed Hammer Orchid (*Drakaea elastica*) Recovery Plan. Department of Environment and Conservation, WA.

DEC (2009) Site Inspection Report for Clearing Permit Application CPS 3134, Lot 84 Greenwood Way, Barragup. Site inspection undertaken 05/06/2009. Department of Environment and Conservation, Western Australia (TRIM Ref. DOC86513).

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.

EPA (2006) Guidance for the Assessment of Environmental Factors - Level of Assessment for Proposals Affecting Natural Areas Within the System 6 Region and Swan Coastal Plain Portion of the System 1 Region. Guidance Statement No 10. Environmental Protection Authority, Western Australia.

Hedde, E. M., Loneragan, O. W., and Havel, J. J. (1980) Vegetation Complexes of the Darling System, Western Australia. In Department of Conservation and Environment, Atlas of Natural Resources, Darling System, 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.

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. Includes subsequent updates for 2006 from Vegetation Extent dataset ANZWA1050000124.

Shire of Murray (2008) Bush Fires Act 1954 - Firebreak Notice 2008-09, Shire of Murray, WA.

Shire of Murray (2009) Further comments from the Shire of Murray on the proposed clearing. TRIM Ref. DOC90606.

Submission (2009a) Direct interest submission. TRIM Ref DOC86530

Submission (2009b) Direct interest submission. TRIM Ref DOC89784

Western Australian Herbarium (1998-). FloraBase - The Western Australian Flora. Department of Environment and Conservation. <http://florabase.dec.wa.gov.au/> (Accessed 17/06/2009).

6. 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)