



1. Application details

1.1. Permit application details

Permit application No.: 488/1

Permit type: Area Permit

1.2. Proponent details

Proponent's name: Kimberley John Skipworth

1.3. Property details

Property: LOT 1114 ON PLAN 103984 (Lot No. 1114 TYLER YARLOOP 6218)

Local Government Area: Shire Of Harvey

Colloquial name:

1.4. Application

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

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 Unit 3	The vegetation under application consists of predominantly a Jarrah (<i>Eucalyptus marginata</i>) and Marri (<i>Corymbia calophylla</i>) overstorey. There is some Jarrah and Marri regrowth occurring. There is no understorey present due to a likely history of heavy grazing and logging. There are several scattered banksias (<i>Banksia grandis</i>) and grass trees (<i>Xanthorrhoea preissii</i>) present. The groundcover consists of weed species including <i>Briza maxima</i> , <i>Hypochaeris</i> spp. and pasture grasses.	Degraded: Structure severely disturbed; regeneration to good condition requires intensive management (Keighery 1994)	DoE site visit (2005)
Beard Unit 4			
Mattiske D1 Dwellingup			
Heddle Yarragil Complex (Minimum Development/ Permanent Swamps)	Some of the areas under application are completely cleared with several paddock trees remaining, and a groundcover of grass weeds. These areas have been used as gravel pits in the past.		

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 at variance to this Principle**
Vegetation present consists of a Jarrah (*Eucalyptus marginata*) and Marri (*Corymbia calophylla*) overstorey. There is some Jarrah and Marri regrowth occurring. There is no understorey present due to a likely history of heavy grazing and logging. There are several scattered banksias (*Banksia grandis*) and grass trees (*Xanthorrhoea preissii*) present. The groundcover consists of weed species including *Briza maxima*, *Hypochaeris* spp. and pasture grasses.

Some of the areas under application are completely cleared with several paddock trees remaining, and a groundcover of grass weeds. These areas have been used as gravel pits in the past.

The area under application therefore has limited biodiversity value due to the degraded condition of the vegetation (DoE site visit 2005).

Methodology DoE site visit (2005)

(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 at variance to this Principle**

The area under application is degraded due to a history of heavy logging and grazing (DoE site visit 2005). This vegetation is unlikely to be a significant habitat for fauna.

Black cockatoos were observed during the DoE site visit (2005). Mr Skipworth confirmed that both White-tailed (either Baudin's Black Cockatoo or Carnaby's Black Cockatoo) and Forest Red-tailed Black Cockatoo's frequented the property. Both of these species are listed as Specially Protected Fauna (Schedule 1) under the Wildlife Conservation Act (1950) (Wildlife Conservation (Specially Protected Fauna) Notice 2005).

A large (9.8 ha) and more intact area will be retained by the proponent (and fenced if stock are introduced) as a condition of the licence. This area may provide habitat for the above mentioned species.

Methodology DoE site visit (2005)

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

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

There are three Declared Rare Flora species within the local area (10km radius), the closest being *Tetraria australiensis* 3.5km north north west of the area under application. All three are on the same Beard vegetation types as the area under application but not the same Mattiske or Heddle vegetation types (Mattiske and Heddle studies have more recent data than the Beard study).

There is one Priority 2 species within the local area being *Boronia capitata* subsp. *gracilis*, 4.5km west and one species of Priority 3 flora being *Acacia semitrullata*, 10km west of the area under application. None of these species are within the same vegetation types as the area under application.

There are five species of Priority 4 flora within the local area. The closest is *Eucalyptus graniticola* and is 4km north north east of the area under application. Three of these species occur on the same Beard vegetation type, as the area under application and one occurs on the same Mattiske vegetation type.

The area under application is in a Degraded condition (DoE site visit 2005) and is therefore unlikely to support any of the above species. The proponent is willing to retain 9.8 ha of more intact vegetation. This area will be fenced if stock are introduced, to allow the regenerate of understorey if the seed bank is adequate, as a condition of the licence.

Methodology DoE site visit (2005)
GIS databases:
- Declared Rare and Priority Flora List - CALM 13/08/03

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

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

There are ten Threatened Ecological Communities (TEC) within the local area. The closest is Myyarll02 and is 1.6km west of the area under application.

There are two Threatened Plant Communities (TPC) within the local area. This closest is 1.6km west of the area under application.

Clearing of the area under application is not likely to compromise these TEC's and TPC's.

Methodology GIS databases:
- Threatened Ecological Communities - CALM 15/7/03
- Threatened Plant Communities - DEP 06/95.

(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 at variance to this Principle

The Bioregion and Shire have high vegetation representation.

	Pre - European (ha)*	Current Extent (ha)*	Remaining (%)*	Conservation** status
IBRA Bioregion -Jarrah Forest***	4 503 156	2 624 301	58.3	Least Concern
Shire of Harvey	168 294	101 085	60.1	Least Concern
Beard Unit 3	3 046 385	2 197 837	72.1	Least Concern
Beard Unit 4	1 247 834	292 993	23.5	Vulnerable
Mattiske Consulting D1 Dwellingup	2 082 806	1 832 869	88****	Least Concern

Hedde
Yarragil Complex
(Minimum Development/ Permanent Swamps)

* Shepherd et al. (2001)

** Department of Natural Resources and Environment (2002)

*** Within the Intensive Landuse Zone

****Havel and Mattiske (2002)

The property has approximately hectares 23.11 (57.4%) of native vegetation remaining, and if implemented, this clearing proposal will leave 49.5% remaining (19.9ha). There is approximately 50% of vegetation remaining in a 10km radius.

The State Government is committed to the National Objectives Targets for Biodiversity Conservation which includes a target that prevents clearance of ecological communities with an extent below 30% of that present pre-1750 (Department of Natural Resources and Environment 2002; EPA, 2000).

The area under application is in a degraded condition and not representative of the above mentioned vegetation types (DoE site visit 2005). The proponent will retain, and fence if stock are introduced, 9.8ha of vegetation that is more intact than the area under application as a condition of the licence.

Methodology Department of Natural Resources and Environment (2002)

EPA (2000)

Hedde et al. (1980)

Hopkins et al. (2001)

Shepherd et al. (2001)

GIS databases:

- Mattiske Vegetation - CALM 24/3/98

- Hedde Vegetation Complexes - DEP 21/06/95

- Interim Biogeographic Regionalisation of Australia - EM 18/10/00

- Local Government Authorities - DLI 8/07/04

- Pre European Vegetation - DA 01/01

(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 at variance to this Principle

There are no watercourses within the area under application, however, there is a first order minor perennial watercourse within the property (250m west of the area under application).

The Peel Harvey EPP area is 1.2km west of the area under application.

There are six EPP lakes within the local area (10km radius), the closest being 2.4km west of the area under application.

There are twenty eight Conservation Category wetlands within the local area with the closest being 1.3km east of the area under application.

There are ten Multiple Use wetlands within the local area the closest being 2.1km west and five Resource Enhancement wetlands, the closest being 2.6km east of the area under application.

The proposal is not at variance to this Principle.

Methodology GIS databases:
- EPP Areas - DEP 06/95
- EPP Lakes - DEP 28/07/03
- Geomorphic Wetlands (Mgt Categories) Swan Coastal Plain - DoE 15/9/04
- Hydrography Linear - DoE 1/2/04

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

Comments Proposal is not at variance to this Principle

There is an occurrence of Class 3 Acid Sulphate Soils (no know risk) within the area under application (south west corner only, approximately 150m2).

DAWA report:

'Eutrophication 10% of this map unit is rated as having a very high risk of phosphorus loss. This risk is related to water erosion risk with nutrients movement being facilitated with soil movement through erosion not through leaching through the soil profile. Control the water erosion risk and you control the risk of nutrient movement downstream.'

'Water Erosion 17% of this map unit is rated as having a high risk and a further 7% is rated as having a very high risk of water erosion. This risk relates to areas of the landscape units that have gradients higher than 10% most of the areas to be cleared have slopes from 3 - 10% however some areas already cleared had slopes up to 15% and could pose a erosion risk. I suggested to the proponent while on site that he considers establishing grade banks on these steeper slopes to decrease the erodability of water movement down these slopes.'

'Wind Erosion. Four percent of this map unit is rated as having a very high risk of wind erosion. This risk relates to areas of sand within this soil landscape unit. The soils on the site to be cleared are loamy gravels and as a result the risk of wind erosion would be low.'

'The site is well suited to the proposed land use and the proposed clearing would not pose a significant risk of degradation.'

Methodology DAWA report (2005)
GIS databases:
- Acid Sulfate Soil Risk Map, SCP - DoE 01/02/04

(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 at variance to this Principle

There are two System 6 Conservation reserves within the local area (10km radius). The closest is located 8.3km east of the area under application.

Dwellingup State Forest is 170m east of the area under application and is indirectly linked via remanent vegetation. Lane Poole Reserve is 8.4km west north west of the area under application (within Dwellingup State Forest).

Hamel State forest is 8.5km north of the area under application and Harris River State Forest is 8.1km south of the area under application.

The proponent will retain an area of 9.8ha and fence if stock are introduced, as a condition of the licence. This will ensure any linkages are maintained with the nearby State Forest and other remnants in the immediate area.

Methodology GIS database:
- CALM Managed Lands and Waters - CALM 1/06/04
- Swan Coastal Plain South 1m Orthomosaic - DLI 01/04
- System 6 Conservation Reserves - DEP 06/95

(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 at variance to this Principle

The property under application is within the Public Drinking Water Source Area, Bancell Brook Catchment (Policy Use P2).

The area under application is within the Harvey Estuary, Harvey River Hydrographic Catchment.

DoE Hydrogeological advice (2005):

'The above properties are located on the Swan Coastal Plain (Perth Basin) and underlie directly by the superficial formations, which range in thickness from about 12-90 m. The formations rest on a gentle westward sloping erosional surface, and unconformably overlie Mesozoic sediments.'

'The superficial formations in the area form an unconfined aquifer, which consist predominantly of sand and limestone in the west and, clay and sand in the east where the Guildford formation clay forms an important aquitards in the upper part of the aquifer.'

'The watertable is generally within 1-2 m of ground surface and the groundwater salinity in the area is generally less than 1000 mg/L TDS and is predominantly of the sodium chloride type.'

'Recharge to the aquifer is direct from rainfall and from pools of standing water in the swamp and other low-lying areas. The average annual rainfall is between 900-1100mm.'

'Generally, most of the land in the vicinity of the proposed areas has been cleared for agriculture.'

'Following consideration of these proposals, I conclude that the proposed clearing of land at Wellington Location 1114 and is not expected to have an adverse impact on groundwater system. However, in order to protect surface water and groundwater resources in the area, the proponents may require undertaking and managing;

- any Acid Sulphate Soil that may be disturbed during the clearing works,
- appropriate nutrient management, and
- drilling shallow bores and groundwater monitoring program that include measurement of water levels, pH, conductivity, nitrogen and phosphorus levels as a part of their licensing conditions, are recommended.'

Methodology DoE Hydrogeological advice (2005)
GIS databases:
- Hydrographic Catchments, Catchments - DoE 3/4/03
- Public Drinking Water Source Areas (PDWSAs) - DOE 29/11/04

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

Comments **Proposal is not at variance to this Principle**
Due to scale, flooding impacts are unlikely to occur as a result of the proposed clearing.

Methodology GIS databases:
- Topographic Contours, Statewide - DOLA 12/09/02

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

Comments The property is zoned General Farming.

Methodology GIS database:
- Town Planning Scheme Zones - MFP 8/98.

4. Assessor's recommendations

Purpose	Method	Applied area (ha)/ trees	Decision	Comment / recommendation
Miscellaneous	Mechanical Removal	3.2	Grant	Recommended that the application be granted as it is not at variance to any of the Clearing Principles.

5. References

DAWA Land degradation assessment report. Office of the Commissioner of Soil and Land Conservation, Department of Agriculture Western Australia. DoE TRIM ref SWO25308.
Department of Natural Resources and Environment (2002) Biodiversity Action Planning. Action planning for native biodiversity at multiple scales ; catchment bioregional, landscape, local. Department of Natural Resources and Environment, Victoria.
DoE Hydrogeological advice (2005). Department of Environment. DoE TRIM ref SWO26566.
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.

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.

Hopkins, A.J.M., Beeston, G.R. and Harvey J.M. (2001) A database on the vegetation of Western Australia. Stage 1. CALMScience after J. S. Beard, late 1960's to early 1980's Vegetation Survey of Western Australia, UWA Press.

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

Shepherd, D.P., Beeston, G.R. and Hopkins, A.J.M. (2001) Native Vegetation in Western Australia, Extent, Type and Status. Resource Management Technical Report 249. Department of Agriculture, Western Australia.