



1. Application details

1.1. Permit application details

Permit application No.: 95/1

Permit type: Area Permit

1.2. Proponent details

Proponent's name: MR Graeme & Lila Beck

1.3. Property details

Property: LOT 853 ON PLAN 211012 (SOUTH BURRACOPPIN 6421)
 LOT 852 ON PLAN 211012 (SOUTH BURRACOPPIN 6421)
 LOT 996 ON PLAN 215856 (Lot No. 996 DELLA SOUTH BODALLIN 6424)
 LOT 854 ON PLAN 211013 (SOUTH BURRACOPPIN 6421)
 LOT 849 ON PLAN 210718 (BODALLIN 6424)

Local Government Area: Shire Of Merredin & Shire Of Westonia & Shire Of Yilgarn

Colloquial name:

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
1854		Burning	Grazing & Pasture
		Burning	Grazing & Pasture

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 1413: Shrublands; acacia, casuarina and melaleuca thicket	The original area under application consisted of 1854ha spread over five properties. Individual sites to be cleared varied from approximately 44ha to 846ha in size. Following negotiation with the proponent, the clearing application was amended to 1214ha (7 parcels from 39 ha to 336 ha).	Excellent: Vegetation structure intact; disturbance affecting individual species, weeds non-aggressive (Keighery 1994)	Vegetation under application has been fenced to exclude stock and remains in excellent condition (Site visit 20/09/2004).
Beard Vegetation Association 36: Shrublands; thicket, acacia-casuarina alliance species			
Beard Vegetation Association 946: Medium woodland; wandoo (Shepherd et al. 2001 Hopkins et al. 2001).	Vegetation to be cleared includes Eucalyptus sp. (including mallee, white gum, salmon gum), Casuarina sp., Acacia Sp., Hakea coriaceae, Hibbertia sp. and numerous understorey species. Eucalyptus capillosa (white gum - inland wandoo) dominate the ridges while E. salmonophloia (salmon gum) is found in lower lying areas. A portion of Lot 852 was chained in 1995 and a portion of Lot 849 has also been chained. There is a wide variety of understorey species throughout most of the area under application with little invasion of weed species (Site visit 20/09/2004).		

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 at variance to this Principle**

The removal of large areas of remnant vegetation with high biodiversity value and in excellent condition is likely to have significant adverse impacts on the biodiversity of the region.

There is also the potential for flora and fauna species of conservation significance to occur within the area under application (CALM 2005, 2006).

Given that the vegetation under application consists of large tracts of intact remnant vegetation in excellent condition in a predominantly cleared landscape, the clearing as proposed is considered to be at variance to this Principle.

Methodology CALM (2005) (DOE TRIM Ref ND 616)
CALM (2006) (DOE TRIM Ref EI 6414)
Site visit (20/09/2004)
GIS databases:
- Pre-European vegetation - DA 01/01.
- Bruce Rock 1.4m Orthomosaic - DOLA 01.
- Merredin 1.4 Orthophoto - DOLA 99.

(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 at variance to this Principle**

Specially Protected Species known or likely to occur in the local area include Malleefowl (*Leipoa ocellata*)(S1), Tree-stem Trapdoor Spider (*Aganippe castellum*), (S1) and Major Mitchell's Cockatoo (*Cacatua leadbeateri*) (S4) (CALM 2005, 2006).

Priority Listed Fauna likely to occur in the local area include the White-browed Babbler (*Pomatostomus superciliosus ashbyi*) (P4) (CALM 2005, 2006).

Other significant fauna that are known to occur in the local area include the Crested Bellbird (southern) (*Oreoica gutturalis gutturalis*) (P4) (CALM 2005,2006).

CALM (2005, 2006) advise the removal of such large areas of vegetation over such a small range will have significant adverse impacts on the biodiversity of the region. It would also significantly reduce the dispersal capacity of fauna inhabiting the reserves referred to in Principle h of this assessment.

Methodology CALM (2005) (DOE TRIM Ref ND616)
CALM (2006) (DOE TRIM Ref EI 6414)

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

Comments **Proposal may be at variance to this Principle**

CALM (2005, 2006) advise that populations of the Declared Rare Flora *Gastrolobium diabolophyllum* are known to exist in the local area.

Populations of Priority Flora species in the local area include *Hibbertia glabriuscula* (P2), *Euryomyrtus lepidospermoides* (P3) and *Verticordia mitodes* (P3).

CALM (2005, 2006) advise that the number of DRF and Priority species found in the local area, the absence of information on habitat or landform for the areas under application and the size of the proposed clearing, there is a medium to high likelihood of Declared Rare and Priority flora occurring within the areas under application.

CALM (2005, 2006) suggested that a flora survey undertaken at the appropriate time of year would be required to determine whether the proposed clearing will impact on any flora species specifically protected by the Wildlife Conservation Act.

Methodology CALM (2005) (DOE TRIM Ref ND616)
CALM (2006) (DOE TRIM Ref EI6414)

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 threatened ecological community.

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

CALM (2005) advise that there are no known occurrences of Threatened Ecological Communities (TEC) in the areas under application or within 50km of the notified area. It is therefore considered that the proposed clearing

is not likely to be at variance to this Principle.

Methodology CALM (2005) (DOE TRIM Ref ND616)
CALM (2006) (DOE TRIM Ref EI6414)

GIS Database:
- Threatened Ecological Community Database - CALM 15/07/03

(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 at variance to this Principle

The State Government is committed to the National Objectives and Targets for Biodiversity Conservation 2001-2005 (AGPS 2001) which includes a target that prevent clearance of ecological communities with an extent below 30% of that present pre-European (Department of Natural Resources and Environment 2002; EPA 2000). Beyond this value, species extinction is believed to occur at an exponential rate and any further clearing may have irreversible consequences for the conservation of biodiversity and is, therefore, not supported.

The vegetation at the site is a component of Beard Vegetation Associations 36 and 1413 (Hopkins et al. 2001) of which there is 41.3% and 60.6% (Shepherd et al. 2001) respectively of the pre-European extent remaining. The status of each of these vegetation associations for biodiversity conservation is depleted and of least concern respectively (Department of Natural Resources and Environment 2002). However, only 10.3% of native vegetation remains in the Intensive Landuse Zone (ILZ) of the Avon Wheatbelt Bioregion (Shepherd et al 2001, Hopkins et al 2001) and within the Shires of Merredin, Yilgarn and Westonia 11.5%, 23.3% and 21.2% of remaining native vegetation within the ILZ respectively.

The area falls within the intensive landuse zone, and is therefore subject to the EPA's Position Statement No. 2, Environmental Protection of Native Vegetation in Western Australia. This Position Statement recommends that further clearing within the ILZ for agricultural purposes should not be considered, unless the areas are small and alternative measures to protect biodiversity are put into place.

Due to the size of the area, its location and excellent condition, it is considered to represent a significant remnant in an area that has been extensively cleared. Therefore the proposal is at variance to this Principle.

Methodology Shepherd et al. (2002).
Hopkins et al. (2002).
Department of Natural Resources and Environment (2002).
EPA (2000)
GIS Databases:
- 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 at variance to this Principle

There are four watercourses located within the area under application at Roe Loc 849 and one watercourse located within or adjacent to the areas under application at Roe Locations 852 and 853.

It is considered that the native vegetation growing in association with watercourses under the application would be affected by the proposed clearing.

Methodology GIS Database:
- Hydrography, linear - DOE 01/02/04.

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

Comments Proposal is at variance to this Principle

DAWA (2004a, 2004b, 2006) advise that there is the potential for erosion and salinity caused by hillside seepage to occur following the proposed clearing. The cumulative impact of clearing large areas, such as that proposed by this application, are likely to increase the groundwater recharge and contribute to expansion of salinity downstream. The area notified to be cleared may also be at risk to wind erosion and sheet erosion after severe weather events.

It is therefore considered that the proposed clearing has the potential to cause appreciable on and off site land degradation.

Methodology DAWA (2004a) (DOE TRIM Ref ND332).
DAWA (2004b) (DOE TRIM Ref ND335).
DAWA (2005) (DOE TRIM Ref IN936).

(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 at variance to this Principle

There are a number of CALM managed conservation areas within 10 km of the areas under application, including unnamed Nature Reserves: (Nos. 28940, 18583, 28562, 16000 and 18584) and the Carrabin Nature Reserve.

CALM (2005, 2006) advise that the vegetation under application provides a valuable role as a buffer and a "stepping stone" for ecological connectivity with CALM managed nature reserves within an already cleared landscape. In addition, the northern section forms a significant area of vegetation adjacent to an area of Unallocated Crown Land and is likely to be of significance for the maintenance of environmental values in this combined vegetation block.

Given the above, it is considered that the clearing as proposed is at variance to this Principle.

Methodology CALM (2005) (DOE Trim Ref ND616)
CALM (2006) (DOE Trim Ref EI6414)
GIS Database:
- CALM Managed Lands and Water - CALM 01/08/04
- Bruce Rock 1.4m Orthomosaic - DOLA 01.
- Merredin 1.4 Orthophoto - DOLA 99

(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

DAWA (2005, 2006) advise that the area has not been cleared for at least 40+ years and has deep watertables. Onsite salinity risk is expected to be low with the possibility of localised hillside seeps developing. Offsite salinity is greater, particularly over the longer term, as the area to be cleared contributes both surface and groundwater to its west-northwest draining subcatchment, onto lower slope and valley areas. Salinity development is also subject to a time lag with salinisation likely to occur in surface water systems before it is present in the groundwater aquifers.

For the off site salinity risk assessment, episodic recharge is a characteristic of low rainfall areas that needs to be considered. While annual agriculture would be expected to use most "growing season" rainfall, out of season rains and occasional wet winters have been observed to produce large upward changes in ground water levels that do not appear to recede with time. Recharge to groundwater during the growing season for cleared land is three to four times that for native vegetation therefore increasing the risk of salinisation (DAWA 2005, 2006).

DAWA (2005, 2006) also advises that the cumulative impact of these clearings may increase the rate of salinisation, particularly where cleared lots share the same groundwater and surface water catchments. Due to the large scale clearing of native vegetation salinity levels for both groundwater and surface water is likely to increase in the future.

Methodology DAWA (2005) (DOE TRIM Ref IN936)
DAWA (2006) DOE TRIM Ref EI6389)
GIS Database:
- Groundwater Salinity, Statewide - 22/02/00

(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

DAWA (2004b) advise that the area to be cleared is unlikely to be affected by flooding. Flooding is more likely to occur in the broad valley floor, tributaries and salt lakes. Flooding occurs only sporadically, mainly after localised summer storms, widespread cyclonic rain-bearing depressions and during wetter years. Therefore it is considered that the proposed clearing is not likely to be at variance to this Principle.

Methodology DAWA (2004b) (DOE TRIM Ref ND335)
Site visit (20/09/2004)

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

Comments Proposal is not at variance to this Principle

The Shire of Yilgarn raises no objections to the proposal.

The Shire of Merredin request consideration of biodiversity issues such as flora and fauna habitat, landcare values, salinity, water erosion, wind erosion and weed invasion.

The Shire of Westonia did not provide any written comments however the Westonia Community Landcare Co-ordinator represented the Shire at the site visit indicated that the Shire had no objection to the proposal subject to a buffer of 50m being retained adjacent to the roads within the Shire of Westonia (Ms Guest pers. Comm. 2004).

Two public submissions were received objecting to the proposed clearing on the basis that the area under application lies within the agricultural area outlined within EPA Position Statement 2 and that the vegetation is a significant remnant in an extensively cleared area.

Methodology Shire of Yilgarn (2004) (DOE TRIM Ref NI800).
 Shire of Merredin (2004) (DOE TRIM Ref:IN791).
 Public Submissions (2004) (DOE TRIM ref HD17795, HD17833)

4. Assessor's recommendations

Purpose	Method	Applied area (ha)/ trees	Decision	Comment / recommendation
Grazing & Pasture	Burning	1854	Refuse	<p>In 2004, the owners applied to clear 1854ha of native vegetation on Jibadji locations 849, 853, 996 and 852.</p> <p>The application has been assessed and the clearing has been determined to be at variance to Principles (a), (b), (e), (f), (g), and (h) and may be at variance to Principles (c), and (i). In particular:</p> <ul style="list-style-type: none"> - For Principle (a), the removal of large areas of remnant vegetation in excellent condition is likely to have significant adverse impacts on the biodiversity of the region. - For Principle b, the removal of large areas of remnant vegetation will significantly reduce the dispersal capacity of fauna in local nature reserves. - For Principle c, CALM (2005) advise that the number of DRF and Priority species found in the local area, the absence of information on habitat or landform for the areas under application and the size of the proposed clearing, there is a medium to high likelihood of Declared Rare and Priority flora occurring within the areas under application. - For Principle e, The area under application is located within the area identified in EPA Position Statement No. 2 where further reduction in native vegetation through clearing for agriculture cannot be supported. - For Principle f, it is considered that the native vegetation growing in association with watercourses under the application may be affected by the clearing proposed. - For Principle g, the proposed clearing has the potential to cause appreciable on site and off site land degradation in the form of salinity. - For Principle h, the vegetation under application provides a valuable role as a buffer and a 'stepping stone' for ecological connectivity with CALM managed nature reserves within an already cleared landscape. - For Principle i, DAWA (2005, 2006) suggest that due to the large scale clearing of native vegetation, salinity levels for both groundwater and surface water is likely to increase. <p>Given the above, the assessing officer therefore recommends that the amended application to clear native vegetation be refused.</p>
Grazing & Pasture	Burning			

5. References

- AGPS (2001) The national objective and targets for biodiversity conservation 2001-2005. Commonwealth of Australia, Canberra.
- CALM (2005) Land clearing proposal advice. Advice to A/Director General, Department of Environment (DoE). Department of Conservation and Land Management, Western Australia. DoE TRIM ref ND616.
- DAWA (2004 a) Land degradation assessment advice. Office of the Commissioner of Soil and Land Conservation, Department of Agriculture Western Australia. DoE TRIM ref ND332.
- DAWA (2004 b) Land degradation assessment report. Office of the Commissioner of Soil and Land Conservation, Department of Agriculture Western Australia. DoE TRIM ref ND335.
- DAWA (2005) Correspondence. Office of the Commissioner of Soil and Land Conservation, Department of Agriculture Western Australia. DoE TRIM ref IN936.
- DAWA (2006) Correspondence. Office of the Commissioner of Soil and Land Conservation, Department of Agriculture Western Australia. DoE TRIM ref EI6389.
- 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.
- 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.
- 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, B.J. (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.

6. Glossary

Term	Meaning
CALM	Department of Conservation and Land Management
DAWA	Department of Agriculture
DEP	Department of Environmental Protection (now DoE)
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 DoE)