



1. Application details

1.1. Permit application details

Permit application No.: 853/1
Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: Shire of Williams
Postal address: Po Box 96 Williams WA 6391
Contacts: Phone: 9885 1005
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1.3. Property details

Property:
Colloquial name:

1.4. Application

| Clearing Area (ha) | No. Trees | Method of Clearing | For the purpose of: |
|--------------------|-----------|--------------------|----------------------------------|
| 1.6 | | Mechanical Removal | Road construction or maintenance |
| 2.5 | | Mechanical Removal | Road construction or maintenance |
| 1.9 | | Mechanical Removal | Road construction or maintenance |
| 1.6 | | Mechanical Removal | Road construction or maintenance |
| 0.9 | | Mechanical Removal | Road 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: 3 - Medium forest; jarrah-marri 4 - Medium woodland; marri and wandoo | The proposal includes clearing of: - Quindanning Darkan Road north (ie. north of Williams Collie Road) - clearing on one side for widening of the road to meet bitumising standards. Vegetation between Redmans Road and Williams Collie Road comprises Wandoo woodland. Vegetation within the remainder of the road reserve comprises mature Wandoo and Jarrah trees. - Quindanning Darkan Road south (ie. south of Williams Collie Road) - clearing of mature Eucalypt species for the realignment of three dangerous corners. - Williams Collie Road (ie. east of Quindanning Darkan Road) - clearing of approximately 1m width for the widening of the road for safety reasons associated with increased traffic. Vegetation comprises mature Eucalypt species, including <i>E.rudis</i> in areas associated with watercourses. - Marradong Road - Clearing of mature Wandoo trees for the widening of the road for safety reasons associated with increased traffic. - Narrakine Road and Denkers Road - Clearing of mature Eucalypt species for the widening of these roads and the realignment of a dangerous corner. | Completely Degraded: No longer intact, completely/almost completely without native species (Keighery 1994) Quindanning Darkan Road north - Very good to degraded Quindanning Darkan Road south - degraded to completely degraded Marradong Road - Degraded to Completely Degraded Narrakine and Denkers Road - Degraded to Completely Degraded Williams Collie Road - Degraded to Completely Degraded | Vegetation clearing description based on a site visit conducted by DEC on Thursday 31 August 2006. |

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 within the road reserves in the Shire of William is degraded to completely degraded with the exception of Quindanning Darkan Road between Redmans Road and Collie Williams Road. The vegetation that is in a degraded to completely degraded condition lacks structure and would therefore be considered unlikely to be representative of areas of high biodiversity. The road reserve of Quindanning Darkan Road between Redmans Road and Collie Williams Road was degraded to very good. The portion of vegetation adjacent to Land Pool Reserve has the highest level of diversity but is within a long thin reserve and faces the potential for extensive pressures from edge effects such as weed invasion. Additionally this area would be unlikely to contain a higher level of biodiversity than that found in the adjacent reserve that is managed for conservation purposes.

Methodology DEC site visit 31/8/06
Officer Megan Stalker

(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 may be at variance to this Principle**

The vegetation under application includes mainly mature Eucalypt species; with the exception of a portion of Quindanning Darkan Road north that comprises Wandoo woodland (i.e. Mature Wandoo spp with intact under and middle stories). Tree hollows were observed in a number of mature Eucalypt species contained within the Quindanning Darkan Road north, Marradong Road and Narrakine Road reserves, and it is considered that the removal of any mature Eucalypt species could result in hollows present within the other applied areas being removed. These tree hollows have the potential to be utilised by priority fauna species such as Red-tailed Phascogale (*Phascogale calura*); Southern Brush-tailed Phascogale; Western Rosella; White Tailed Black Cockatoo; Forest Red-tailed Black-Cockatoo (*Calyptorhynchus banksii naso*) that are found in the Williams Shire and adjacent surrounds.

The vegetation under application is contained within road reserves in a Shire that has been extensively cleared for agriculture, and therefore may be significant in providing ecological corridors for priority fauna species. This is especially important for maintaining the values of the nearby conservation reserve.

Given the potential for the applied vegetation to provide habitat hollows and ecological linkages for fauna, it is considered that it may comprise significant habitat for indigenous fauna. To mitigate any loss of habitat within the areas proposed to be cleared conditions will be placed on the permit to ensure surveys are undertaken by a fauna specialist to identify trees that may be suitable as habitat for specially protected fauna under the Wildlife Conservation Act and, where applicable, translocation of fauna is undertaken.

Methodology DEC Site visit 31/8/06
 Biodiversity Coordination Section, DEC (2006)
Officer Megan Stalker

(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**

Within the local area (a 5km radius of all the applied areas) there is only one known occurrence of the Priority 4 flora, *Boronia tenuis* (P4). This occurrence is located within the proposed Lane Poole Reserve extension, approximately 500m to the west of Quindanning Darkan Road, at 1.3km south of Redmans Road. This species is generally found on laterite, stony soils and granite, and is found within the same vegetation association as the applied vegetation within this particular road reserve.

There are no known occurrences of Declared Rare Flora (DRF) within the local area, and the nearest occurrence is 12km to the west. This occurrence is found in an area with different vegetation and soil associations. It is therefore not considered likely that the applied vegetation contains DRF.

Methodology DEC site visit 31/8/06
 GIS Database:
 Declared Rare and Priority Flora List - CALM 01/07/05
 Pre-European Vegetation - DA 01/01
Officer Megan Stalker

(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 no known occurrences of Threatened Ecological Communities (TEC) within a 50km radius of the applied areas. The proposal is therefore not likely to comprise, or be necessary for, the maintenance of a TEC.

Methodology DEC site visit 31/8/06

GIS Database: Threatened Ecological Communities - CALM 12/4/05

Officer Megan Stalker

(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

A portion of the vegetation under application is part of Beard vegetation associations 3 of which there is 72.1% of pre-European extent remaining (Shepherd et al. 2002), and which is considered to be of 'least concern' for biodiversity conservation (Department of Natural Resources and Environment 2002).

The remaining portion of the applied vegetation is part of Beard vegetation associated 4 of which there is 23.5% of pre-European extent remaining (Shepherd et al. 2002), and which is considered to be 'vulnerable' (Department of Natural Resources and Environment 2002).

Within the Shire of Williams and the Jarrah Forest Bioregion there is 33.1% and 58.7% respectively of pre-European extent remaining (Shepherd et al. 2002). Vegetation within these areas are therefore considered to be 'depleted' and of 'least concern' (Department of Natural Resources and Environment 2002).

The vast majority of vegetation within the applied area is considered to be in a degraded to completely degraded condition, with a lack of under and middle storeys and extensive weeds. Approximately 6km of Quindanning Darkan Road north is adjacent to the Lane Poole Reserve proposed extension. The vegetation on the western side of this section of road is considered to be in a very good condition, and vegetation on the eastern side is in a good to degraded condition.

A portion of the applied vegetation is in a good to degraded condition and is part of vegetation association 4, of which there is less than the recommended minimum of 30% pre-European extent remaining. It is acknowledged that the areas to be cleared are small. However, to mitigate any long term loss of this vegetation the applicant has agreed to replant and maintain an equivalent area within the Shire boundary for conservation purposes.

| | Pre-European area (ha) | Current (ha) | Remaining% | Status*** | % in reserves/DEC-managed land |
|-------------------------------|------------------------|--------------|------------|---------------|--------------------------------|
| IBRA Bioregion | 4,544,335 | 2,665,480 | 58.7% | Depleted | |
| LGA - Shire of Williams | 228,482 | 75,562 | 33.1% | Depleted | |
| Local Area (~10km radius) | | | | | |
| Beard vegetation associations | | | * | | |
| 4 | 1,247,834 | 292,993 | 23.5% | Vulnerable | 14.8% |
| 3 | 3,046,385 | 2,197,837 | 72.1% | Least concern | 10.1% |

* (Shepherd et al. 2001)

** (EPA, 2003)

*** (Department of Natural Resources and Environment 2002)

Methodology DEC Site visit 31/8/06

Department of Natural Resources and Environment (2002)

EPA (2000)

Shepherd et al. (2001)

GIS Databases:

Darkan 50cm Orthomosaic DLI 03

Pre-European Vegetation - DA 01/01

Officer Megan Stalker

(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 may be at variance to this Principle

The following watercourses are located within the local area:

- Bingham River - located 2.8km southwest of Quindanning Darkan Road north
- Hillman River - crosses Quindanning-Darkan Road south
- Crossman River - located adjacent to, and crosses, Narrakine Road.

The clearing of vegetation along Quindanning Darkan Road north, Marradong Road and Denkers Road does not impact vegetation that is growing in or in association with a water course or wetland.

The clearing of vegetation along Williams Collie Road, Quindanning Darkan Road south and Narrakine Road is likely to impact on vegetation associated with the Hillman River, Crossman River and an unnamed watercourse respectively. This includes the removal of mainly *E.rudis* to install the road and to repair and install culverts.

A portion of the applied vegetation is associated with a watercourse. However, the area is small and the clearing consists of mainly individual trees. To mitigate any long term loss of vegetation associated with watercourses a condition will be placed on the permit to ensure that for each *E. rudis* removed as part of this permit a minimum of 10 *E. rudis* are replanted along the same watercourse within the local area.

Methodology DEC Site visit 31/8/06
GIS Databases:
Hydrography, linear (hierarchy)
Officer Megan Stalker

(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 majority of the applied area is also associated with a low to nil risk of salinity with the exception of approximately 700m of medium to high salinity risk along Quindanning Darkan Road north, 9.5 - 12.6km south of Redmans Road; and approximately 200m of high salinity risk along Williams Collie Road, 600m and 1.8km northeast of Quindanning Darkan Road. There is also a high salinity risk immediately adjacent to Narrakine Road, which is associated with the Crossman River, and a moderate to high salinity risk within 200m of Marradong Road, adjacent to Stephens Road.

The area under application has a low density of trees over an extended length of road reserve of approximately 37km and it is considered that due to the low number of trees to be removed, the proposal is not likely to have a severe impact on salinity in the area. The applied areas are also considered to have a low to nil risk of acid sulphate soils.

The soils identified within the areas under application are mainly hard and acidic or neutral, with some sandy soils, all of which contain ironstone gravels. The main land degradation risk associated with the removal of vegetation on these soils is considered to be water erosion; however the vegetation under application is of low density over 37km within a moderate rainfall area. It is therefore not considered likely that the proposed clearing would result in appreciable land degradation.

Methodology DEC site visit 31/8/06
GIS Databases:
Rainfall, Mean Annual - BOM 30/09/01
Salinity Risk LM 25m DOLA 00
Soils, Statewide DA 11/99
Officer Megan Stalker

(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

A portion of Quindanning Darkan Road south of Redmans Road is directly adjacent to the Lane Poole Reserve, which is managed for conservation purposes.

The area under application is thin and linear in nature in this section, and the proposed clearing is not likely to have a direct impact on the environmental values of the Lane Poole Reserve. Indirect impacts related to the proposal may include the spread or introduction of dieback or weed species into areas adjacent to the Lane Poole Reserve by machinery used for vegetation clearing or road construction. There are serious consequences associated with the spread of such diseases and exotic species into an area reserved for conservation, including the potential local extinction of species.

Given that there is the potential for the proposed clearing to impact the environmental values of Lane Poole Reserve, conditions will be placed on the permit to ensure wash down of vehicles and to ensure construction material is weed and dieback free.

Methodology DEC site visit 31/8/06
GIS Database:
Darkan 50cm Orthomosaic DLI 03
Officer Megan Stalker

(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 low to nil salinity risk over the majority of the applied area, with the exception of some sections of road reserve that are associated with watercourses. The area does not include any Public Drinking Water Source Areas.

Watercourses in the area include the Bingham River, located 2.8km southwest of Quindanning Darkan Road north; the Hillman River, which crosses Quindanning Darkan Road south at two points; and the Crossman River, which crosses Narrakine Road.

As the majority of the applied vegetation is within existing road reserves, additional clearing is not likely to significantly alter surface water flow regimes. Some temporary sedimentation of the nearby watercourses may occur, however due to the low density of the applied vegetation, its removal is not likely to result in substantial deterioration of surface water quality. The proposal is therefore not likely to be at variance to this Principle.

Methodology DEC Site visit 31/8/06
GIS Databases:
Acid Sulphate Soil Risk Map, SCP - DOE 04/11/04
Groundwater Salinity, Statewide - 22/02/00
Hydrography, linear (hierarchy)
Officer Megan Stalker

(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

Flooding impacts are not likely to occur as a result of the proposed clearing due to the low density of the applied vegetation over approximately 37km of road. The proposed clearing is contained within existing road reserves and land cleared historically for agriculture, at an elevation of between 210m and 340m. Watercourses in the area include the Bingham River, the Hillman River, and the Crossman River.

Given that the vegetation under application mostly comprises isolated mature Eucalypt species distributed over a long, thin area, it is not considered likely that the proposed clearing would have an impact on peak flood height or duration.

Methodology DEC site visit 31/8/06
GIS Databases:
Hydrography, linear (hierarchy) - DOW
Topographic Contours, Statewide - DOLA 12/09/02
Officer Megan Stalker

Planning instrument, Native Title, RIWI Act Licence, EP Act Licence, Works Approval, Previous EPA decision or other matter.

Comments

The areas under application are located within a Native Title Claim area. The majority of the applied area is contained within existing road reserves that are vested in the Shire of Williams, and the Shire will use their powers as delegated under the Local Governments Act to access private land for further construction of the roads. Therefore the clearing as proposed should not fall under the future acts process under the Native Title Act 1993.

Methodology GIS Database: Native Title Claims - DLI 7/11/05
Officer Megan Stalker

4. Assessor's recommendations

| Purpose | Method | Applied area (ha)/ trees | Decision | Comment / recommendation |
|----------------------------------|--------------------|--------------------------|----------|---|
| Road construction or maintenance | Mechanical Removal | 1.6 | Grant | The assessable criteria have been addressed, and the proposed clearing may be at variance Principles (b), (e) and (f). Principle (b): Tree nesting hollows ranging in size were observed in mature Eucalypt trees under application and were considered and having the potential to provide significant habitat for priority species in a landscape that has been extensively modified for agricultural purposes. The assessing office therefore recommends that a condition requiring areas under application be inspected by a fauna specialist who shall identify fauna and trees that contain hollows suitable to be utilised as habitat by fauna listed in the Wildlife Conservation (Specially Protected Fauna) Notice 2005. |

Principle (e): A portion of the applied vegetation, including the section on Quindanning Darkan Road north that is in good condition, is part of Beard vegetation association 4. This association has less than the recommended minimum of 30% pre-European extent remaining. The shire is committed to revegetating areas within the shire to ensure that there is no net loss of vegetation within this association in good condition within the shire. The assessing officer therefore recommended that a condition be placed on the permit to ensure the revegetation commitments outlined are completed during the life of the permit.

Principle (f): *Eucalyptus rudis* that is growing in association with the Hillman River (which crosses Quindanning Darkan Road south at two points) and the Crossman River (which crosses Narrakine Road) requires removal as part of the road widening and maintenance. The assessing officer therefore recommended that a condition be placed on the permit to ensure that for each *E. rudis* removed as part of this permit a minimum of 10 *E. rudis* are replanted along the same watercourse within the local area.

Principle (h): Quindanning Darkan Road north is immediately adjacent to Lane Poole Reserve, which may potentially be impacted by the proposed clearing through the introduction or spread of dieback or weed species via machinery. In order to minimise the risk associated with the introduction and/or spread of dieback the assessing officer recommends that conditions be placed on the permit that ensures wash down of vehicles and ensuring construction material is weed and dieback free.

The assessing officer therefore recommends that the permit be granted with conditions requiring revegetation of minimum of 1 hectare to offset the clearing adjacent to Lane Poole Reserve, replanting of *E. rudis* to minimise the impact associated with clearing of vegetation in association with a watercourse, dieback management and weed management.

| | | | |
|----------------------------------|-----------------------|--------------|-------------------------------|
| Road construction or maintenance | Mechanical2.5 Removal | Grant | Quindanning Darkan Road north |
| Road construction or maintenance | Mechanical1.9 Removal | Grant | Williams Collie Road |
| Road construction or maintenance | Mechanical1.6 Removal | Grant | Narrakine Road |
| Road construction or maintenance | Mechanical0.9 Removal | Grant | Quindanning Darkan Road south |

5. References

Clearing Assessment Unit's biodiversity advice for land clearing application. Advice to Director General, Department of Environment and Conservation (DEC), Western Australia. TRIM ref DOC4196.

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. Resource Management Technical Report 249. Department of Agriculture, Western Australia.

6. Glossary

| Term | Meaning |
|------|--|
| CALM | Department of Conservation and Land Management |
| DAWA | Department of Agriculture |
| DEP | Department of Environmental Protection (now DEC) |
| DEC | Department of Environment and Conservation |
| 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 DoW) |

