

Attachment 1: Clearing assessment report, Warner Glen Road reconstruction



File Reference: RDS/0300

BACKGROUND

It is proposed to reconstruct and widen sections of Warner Glen Road, as shown in the accompanying maps, resulting in the clearing of up to 0.47 ha of native vegetation. The road is currently failing with deformations causing safety hazards. It is also 5-6 metres wide, which is insufficient given the large volumes of general and heavy traffic. It is proposed to reconstruct and widen the sealed road to 6.5 metres, with 1 metre unsealed edges on either side, and associated drainage works.

Warner Glen Road is a regional distributor road extending over 30 km, and provides a connection to properties between Bussell Highway and Brockman Highway. The road traverses predominantly agricultural land, with some larger tracts of native vegetation within conservation reserves. Forest Grove National Park occurs along the northern section of Warner Glen Road, which represents one of the larger areas of intact native vegetation in the local area, and contributes to an east-west habitat corridor from Leeuwin Naturaliste National Park in the west to Blackwood River National Park in the east. Townsites in the local area include Witchcliffe, Karridale and Rosa Brook.

The proposed road works will occur along a 2.2 km section of Warner Glen Road, between SLK 16.05 and 18.24, and will result in no more than 0.47 ha of roadside vegetation being removed, all of which occurs within the Warner Glen Road Reserve.

DESCRIPTION OF BIODIVERSITY VALUES

Flora and Vegetation

A flora and vegetation survey was undertaken along the entire road reserve in September 2021 by Stream Environment and Water (copy of report attached), incorporating reconnaissance-level survey and targeted flora searches.

It was found that the vegetation in the purpose permit area is predominantly in very good to good condition, which is likely due to the fact that over 70% of the road in the purpose permit adjoins intact vegetation within Forest Grove National Park. Surrounding agricultural land use and historical disturbance in the local area has contributed to the introduction of weeds, with *watsonia* (*Watsonia meriana* var. *bulbillifera*) in particular being the dominant weed species along this section of road.

Broad-scale vegetation complex mapping (Government of Western Australia, 2019. *2018 South West Vegetation Complex Statistics*. Current as of March 2019) identifies that vegetation within the project area is within the Cowaramup and Wilyabrup vegetation complexes, comprising the following:

- Cowaramup C1: Open to tall open forest of *Eucalyptus marginata* subsp. *marginata* –

Corymbia calophylla – *Banksia grandis* on lateritic uplands in the hyperhumid zone. **34.46% pre-European extent remaining**

- Wilyabrup W1: Tall open forest of *Eucalyptus diversicolor*-*Corymbia calophylla*-*Allocasuarina decussata*-*Agonis flexuosa* on deeply incised valleys in the hyperhumid zone. **53.67% pre-European extent remaining**

At the local scale, the flora and vegetation survey by Stream Environment and Water (2021) found that the vegetation was predominately Jarrah/Marri forest, with the following vegetation units occurring within this section of the road reserve.

- **EmCcBI** – Open forest of *Corymbia calophylla* and *Eucalyptus marginata* over sparse shrubland of *Bossiaea linophylla* over shrubland of *Hibbertia hypericoides*, *Morelotia octandra* and *Macrozamia riedlei* (**95% of purpose permit area**)
- **CcEmAs** - Open forest of *Corymbia calophylla* and *Eucalyptus marginata* over open shrubland of *Anarthria scabra*, *Bossiaea linophylla* and *Podocarpus drouynianus* over shrubland of *Hibbertia hypericoides* and *Morelotia octandra* (**5% of purpose permit area**)

No Threatened or Priority Flora or Ecological Communities have been recorded within the proposed permit area, based on a desktop review of DBCA and DAWE datasets and the field survey by Stream Environment and Water (2021). The field flora and vegetation survey recorded two occurrences of a Priority 4 species, *Acacia semitrullata*, within the 2.2 km section of road reserve, but outside the clearing area. A targeted field inspection has since been undertaken, and it has been confirmed by DBCA that this species is, in fact, a related but more common species, *Acacia uliginosa*. Information from DBCA confirming this is attached to the application.

Fauna

A fauna survey was undertaken along the road reserve in October 2021 by SW Environmental.

One broad fauna habitat type was recorded within the purpose permit area – Jarrah Marri Forest with areas of Karri over Peppermint. Overall, the quality of this fauna habitat was found to be good, which is likely due to being located adjacent to intact native vegetation in the adjoining national park. Evidence of conservation significant black cockatoos (all 3 species) and western ringtail possum (WRP) was observed within the area.

A low number of WRP scats were observed throughout the Warner Glen Road reserve, which indicates that the species occurs within the project area, although probably in low densities. No dreys were observed.

A black cockatoo habitat assessment, which involved assessing foraging habitat, roosting habitat and suitable DBH trees and hollows, was undertaken. A total of 18 trees were identified along the 2.2 section of road reserve that were of suitable DBH (≥ 50 cm DBH) to contain hollows for black cockatoo species. Only one tree out of the 18 could potentially be impacted by the proposed clearing. This is a dead marri tree, which was assessed as being a tree with suitable DBH, but without hollows. The remaining 17 trees of ≥ 50 cm DBH will be avoided from clearing.

With regard to foraging habitat, the fauna survey found that feed residue from all three black cockatoo species was present throughout the road reserve, which is likely due to the dominance of marri and jarrah and key overstorey components. These vegetation communities account for 100% of the vegetation in the purpose permit area. While black cockatoos clearly use the vegetation in the purpose permit area for foraging and feeding, it is recognized that 17 State reserves occur within 12 km of the project area, and that approximately 47,585 ha of native vegetation has been mapped (or 54%) within 12 km of the project area. These areas would provide abundant feed resources locally for black cockatoos, with the small amount of vegetation in the purpose permit area contributing to a very small proportion of foraging habitat.

No signs of any other fauna of conservation significance were observed, however it is expected

that species such as brush-tailed phascogale, brush-tailed possum, and quenda may utilise habitat in the road reserve.

ASSESSMENT OF POTENTIAL IMPACTS

Flora and Vegetation

The clearing of up to 0.47 ha of vegetation along this section of Warner Glen Road Reserve is unlikely to have any impacts to significant flora or vegetation values. There are no known records of any threatened or priority flora or ecological communities within the purpose permit that will be impacted by the proposed clearing.

The two records of Priority 4 species *Acacia semitrullata* in the Stream Environment Water report (2021) have since been reviewed by DBCA and confirmed as *Acacia uliginosa*, which is not a rare or priority species.

Weeds occur in some sections of the road reserve, with the particularly invasive environmental weed *Watsonia meriana* subsp. *bulbillifera*, recorded at several locations. Best practice weed hygiene measures will be implemented during clearing and road construction activities to avoid the introduction and spread of weeds.

There are no significant water courses or waterways intercepted by the road reserve. Part of the road upgrade involves building and/or replacing culverts, which will improve surface drainage, and will not alter surface flows or increase sediment movement into the environment.

While the vegetation within the road reserve is predominately in very good or excellent condition, the large tract of good quality, intact native vegetation within adjoining and near by national parks provides far greater biodiversity and habitat connectivity values at the regional scale. It is therefore not expected that the clearing of up to 0.47 ha of vegetation along the existing cleared road verge will have a significant impact on flora or vegetation.

The Shire of Augusta Margaret River has intentionally designed the road reconstruction to minimize clearing of native vegetation as much as reasonably practicable. Diversion of the existing alignment slightly to the north is a critical design issue required to meet safety standards, and is a condition of the Shire's funding for the road.

The slight diversion of the road to the north will result in shifting the road away from the national park to the south, and therefore reduce the risk of edge effects and other long-term impacts to the national park.

Revegetation of 0.47 ha of disturbed land within the Warner Glen Road Reserve is proposed as strategy for mitigating the impacts of clearing (see further detail in next section). This revegetation area could focus on the south side of the road where the road has diverted to the north, in order to reinstate habitat and biodiversity values in this area where it adjoins the national park.

Fauna

The tree hollow assessment by SW Environmental found that 18 potential habitat trees (≥ 50 cm DBH) comprising marri, jarrah and blackbutt, occurred within the 2.2km section of road that will be part of the reconstruction project. Of the 18 DBH trees, only one tree, tree no. 31, could potentially be impacted by the proposed clearing. This is a dead marri tree, of 50-75cm DBH in size, and was assessed as being a tree with suitable DBH, but without hollows. This tree is located on the northern edge of the current road where the road realignment will continue towards the north. All efforts will be made to retain this tree if possible, however this cannot be guaranteed due to its location within the proposed road footprint.

All other trees identified $\geq 50\text{cm}$ DBH will not be removed as part of this clearing permit.

The Shire will engage a black cockatoo specialist to re-inspect tree no. 31 prior to clearing to determine whether there is evidence of any new usage by black cockatoo species. Should there be any evidence of current use of hollows for breeding/nesting by black cockatoo species, the Shire will not remove the tree or branches until usage of the hollow is complete.

In order to help mitigate the loss of one DBH tree, the Shire will install one artificial black cockatoo nesting tube at a suitable location nearby. This could be either on a Shire-managed reserve (e.g. Wadandi Trail Reserve No. 47049), within the road reserve, or potentially within the adjoining national park, subject to consultation with and the approval of DBCA.

The installation of an artificial black cockatoo nest will be undertaken in accordance with DBCA guidelines.

As mentioned above, impacts to local foraging habitat for black cockatoo species are expected to be minimal, due to the large intact tracts of native vegetation contained in conservation reserves within a 12 km radius of the site. These areas would provide abundant and good quality feed resources locally for black cockatoos, and the removal of up to 0.47 ha along the existing road edge is unlikely to affect the available foraging habitat.

Nevertheless, the Shire will further mitigate impacts along the Warner Glen Road reserve through revegetation with species that will provide future nesting/breeding and foraging habitat for black cockatoo species and western ringtail possum. The Shire will revegetate 0.47 ha of disturbed land within the road reserve, with the aim of enhancing biodiversity and reinstating fauna habitat. Species will include a mix of marri, jarrah and peppermint tree, as well as local understorey species.

The revegetation site/s could potentially focus on the south side of the road reserve where the road is diverted to the north, in order to reinstate habitat and biodiversity values in this area where it adjoins the national park.

With regard to mitigation of potential impacts to other significant species such as western ringtail possum, the Shire will engage a qualified fauna spotter/handler to inspect vegetation prior to and during clearing, and to move any displaced animals to nearby habitat in accordance with DBCA's *Procedures to Minimise the Risk to Western Ringtail Possums during Vegetation Clearing and Building Demolition* (2015).

CONCLUSION AND MANAGEMENT RECOMMENDATIONS

The clearing of 0.47 ha of roadside vegetation within the Warner Glen Road Reserve to allow for road reconstruction and widening is not considered to be at variance with the 10 clearing principles.

The Shire of Augusta Margaret River will implement the following measures to ensure that impacts of clearing native vegetation are minimised.

- The road reconstruction will be designed to minimise disturbance to native vegetation where possible. Retrenchment pruning will be implemented as an alternative to tree removal where possible, where branches pose a safety hazard.
- The location of habitat trees ($\geq 50\text{cm}$ DBH) will be incorporated into the road design and alignment, and the removal of trees $\geq 50\text{cm}$ DBH will be avoided, with the exception of tree no. 31.
- For tree no. 31, the Shire will engage a black cockatoo specialist to re-inspect the tree prior to clearing to determine whether there is evidence of usage by black cockatoo species for

breeding/nesting. Should there be any evidence of current use of breeding/nesting by black cockatoo species, the Shire will not remove the tree or branches until usage of the hollow is complete.

- The Shire will install one artificial black cockatoo nesting tube at a suitable site nearby, in accordance with DBCA guidelines. The site will be determined in consultation with and to the approval of DBCA and DWER.
- To help to mitigate the loss of vegetation, the Shire will revegetate 0.47 ha of disturbed land within the road reserve, with the aim of enhancing biodiversity and reinstating fauna habitat. Species will include a mix of marri, jarrah and peppermint tree, as well as local understorey species.
- Clearing will be implemented in strict accordance with DBCA's *Procedures to Minimise the Risk to Western Ringtail Possums during Vegetation Clearing and Building Demolition* (DBCA, 2015), including the presence of a fauna spotter and handler on site prior to and during construction in order to inspect trees and manage any disturbed animals.
- Existing surface drainage patterns will be maintained during road reconstruction, with no changes to surface hydrology or movement of sediment into the surrounding environment.
- Best practice weed and dieback hygiene measures will be implemented during clearing and construction (clean vehicles and machinery prior to entering the site).
- The Shire will consult with the local Parks and Wildlife Service office prior to road works to notify them of the works adjacent to Forest Grove National Park, and to discuss any on-ground issues.

COMMENTS ON THE PROPOSED CLEARING AGAINST THE CLEARING PRINCIPLES

Principle (a) – Native vegetation should not be cleared if it comprises a high level of biological diversity

It is not anticipated that the proposed clearing of up to 0.47 ha of native vegetation will have a significant impact on vegetation that comprises a high level of biodiversity. There are no threatened or priority flora or ecological communities that will be impacted by the clearing, and vegetation types are common and well represented in the adjoining national park. The clearing is along an existing road edge, and so it already receives a level of disturbance from roadside edge effects.

Principle (b) – Native vegetation should not be cleared if it comprises the whole or part of, or is necessary for the maintenance of, a significant habitat for fauna indigenous to Western Australia

It is not expected that there will be an impact to significant habitat for native fauna. Eighteen potential habitat trees ($\geq 50\text{cm}$ DBH) for black cockatoo species were identified within the 2.2km section of road reserve. The Shire has designed and diverted the road to avoid the removal of 17 of the 18 DBH trees. One tree will potentially need to be removed due to its location within the project footprint. This tree is a dead marri, and has been assessed as not containing hollows.

The Shire will engage a black cockatoo specialist to re-inspect this tree prior to clearing to determine whether there is evidence of new usage by black cockatoo species, and the tree will not be removed if there is any evidence of current breeding by black cockatoo species.

In addition, the Shire will install one artificial black cockatoo nesting tube a suitable location nearby. The location of the nesting tube will be determined in consultation with and to the approval of DWER and DBCA, and in accordance with DBCA guidelines.

Potential impacts to other significant species such as western ringtail possum will be minimal. The Shire will engage a qualified fauna spotter/handler to inspect vegetation prior to and during clearing, and to move any displaced animals to nearby habitat in accordance with DBCA's *Procedures to Minimise the Risk to Western Ringtail Possums during Vegetation Clearing and Building Demolition* (2015).

In order to further mitigate impacts to fauna and fauna habitat as the result of the proposed clearing, the Shire will revegetate 0.47 ha of disturbed land within the road reserve; potentially on the south side of the road adjoining Forest Grove National Park, where the road reconstruction is diverted to the north.

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

There are no known occurrences of Rare or Priority flora within the project area.

The flora and vegetation survey (Stream Environment and Water, 2021) identified two occurrences of Priority 4 species *Acacia semitrullata* outside the clearing area but within the road reserve. These records have since been re-identified as being *A. uliginosa*, which is not rare or priority flora.

Principle (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.

There are no known Threatened or Priority Ecological Communities, or their buffer zones, within this section of the road reserve, or within the local vicinity of the road reserve.

Principle (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.

The native vegetation in the Warner Glen Road purpose permit area is unlikely to be significant as a remnant of native vegetation. The road reserve falls in Cowaramup (C1) and Wilyabrup (W1) vegetation complexes, which are generally well represented in the south west region, with 34.5% and 53.7% of pre-European extents remaining.

The adjoining Forest Grove National Park forms part of a significant east-west corridor of native vegetation in the Capes Region, linking to Leeuwin Naturaliste National Park to the west, and Blackwood River National Park and significant expanses of State Forest to the east. Over 47,000 ha of native vegetation is mapped within 12 km of the project area (SW Environmental, 2021), most of which is in National Park or State Forest. It is not expected that the removal of up to 0.9 ha of roadside vegetation will have an impact on the extent of native vegetation in the local area.

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

This section of the Warner Glen Road reserve is not associated a watercourse or wetland, and does not cross any creeklines or waterways. It is not planned to alter drainage or clear native vegetation associated with the drainage line at this location.

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

The proposed clearing is not likely to cause appreciable land degradation. The road widening and associated drainage works will be designed to maintain existing surface water patterns and to reduce the occurrence of erosion or runoff of sediment into the environment.

Principle (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.

Forest Grove National Park occurs to the immediate south of Warner Glen Road. The national park will not be directly impacted by this project. The road is being realigned to the north in order address critical road design issues and improve overall road safety. This will ultimately move traffic away from the reserve, resulting in reduced risk of edge effects and impacts on the national park in the longer term.

In addition, there is a small Timber Reserve located on the north side of the road reserve in the project area. This reserve will also not be impacted by the proposed works.

The Shire will revegetate 0.47 ha of degraded land within the road reserve in order to help mitigate the impacts of the proposed clearing. The revegetation site could potentially be located on the south side of the road reserve, adjacent to the national park.

The Shire will also implement weed management and hygiene measures during road construction activities to minimise the risk of introducing or spreading weeds into the adjoining national park. There will be no alterations or impacts to surface water drainage as a result of the project. The Shire will also consult with the local Parks and Wildlife Service office prior to construction to notify them of the works and to discuss any on ground considerations.

Principle (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.

The proposed clearing is not likely to cause deterioration in the quality of surface or underground

water. The road reconstruction has been designed to maintain existing surface water flows, with no runoff of water or sediment into the surrounding environment. Underground water will not be intercepted.

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

The proposed clearing is not likely to cause, or exacerbate, the incidence of flooding.

REFERENCES

Department of Biodiversity Conservation and Attractions (2015). *Procedures to Minimise the Risk to Western Ringtail Possums during Vegetation Clearing and Building Demolition.*

Government of Western Australia. (2019). *2018 South West Vegetation Complex Statistics.* Current as of March 2019.

Stream Environment and Water (2022). *Flora and Vegetation Survey of Warner Glen Road.* Unpublished report prepared for the Shire of Augusta Margaret River.

SW Environmental (2021). *Basic and Targeted Fauna Survey. Warner Glen Road, Warner Glen.* Unpublished report prepared for the Shire of Augusta Margaret River.

ATTACHMENT 2: LIST OF PHOTOS AND DESCRIPTIONS

Photo #	Comment	Side of road
1	Tree 31	North
2	Tree 31	North
3	View of roadside vegetation, looking east	North
4	View of roadside vegetation, looking west	Centre
5	Measuring tree distance from road centreline as a tool for avoiding impacts	South