Attachment 1: Clearing assessment report, Glenarty Road reconstruction

File Reference: RDS/0200

BACKGROUND

It is proposed to reconstruct a section of Glenarty Road in the Shire of Augusta Margaret River, as shown in the accompanying maps, resulting in the clearing of up to 0.087 ha of native vegetation. The road is currently failing with deformations causing safety hazards, and the width of the sealed road around the bend is insufficient given the 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.

DESCRIPTION OF BIODIVERSITY VALUES

Flora and Vegetation

A flora and vegetation assessment was undertaken by the Acting Coordinator Environment and Landcare Services and qualified botanist, based on a site visit and inspection in September 2022 (report included at Attachment 1). The assessment is based on a reconnaissance-level survey, which was considered appropriate according to the scale of impact.

It was found that the vegetation in and surrounding clearing area is predominately in degraded to completely degraded condition. Surrounding agricultural and agroforestry land use has contributed to the introduction of weeds, with the following introduced species being present:

- *Ehrharta longifolia,*
- *Oxalis incarnata*
- *Fressia alba x leichtlinii*
- *Hypochaeris glabra,*
- *Gladiolus sp.*
- *Asparagus asparagoides*
- *Briza maxima*
- *Juncus microcephalus*
- *Cenchrus clandestinus*
- *Lysimachia arvensis*
- *Oxalis pes-caprae*

Broadscale 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 Glenarty Hills vegetation complex, comprising the following:

- **Glenarty Hills H:** Open forest of Eucalyptus marginata subsp. marginata-Corymbia calophylla-Banksia grandis with some Eucalyptus diversicolor on upland and slopes in hyperhumid and perhumid zones. **31.71% pre-European extent remaining**
- **Glenarty Hills Hw:** Mixture of open forest of Eucalyptus diversicolor-Callistachys lanceolata, woodland of Eucalyptus patens-Corymbia calophylla and woodland of

Eucalyptus rudis-Melaleuca rhaphiophylla on depressions in hyperhumid and perhumid zones. **35.37% pre-European extent remaining**

At the local scale, the vegetation types in the broader area, based on the flora and vegetation assessment, include the following:

Vegetation Type 1- Scattered trees of *Corymbia calophylla* over an Open Shrubland/scattered shrubs *of Macrozamia riedlei, Bossiaea linophylla* and *Pteridium esculantum* over scattered low shrubs of *Hibbertia furfuracea* and *Conostylis aculeata* over a Closed Grassland and Herbland of **Ehrharta longifolia, *Oxalis incarnata and *Fressia alba x leichtlinii.*

Condition: Degraded

Vegetation Type 2: Isolated *Corymbia calophylla and Agonis flexuosa* saplings and Low Shrubland of *Bossiaea linophylla, Leucopogon verticillatus, Acacia myrtifolia, Hibbertia hypericoides, Leucopogon capitellatus, Macrozamia riedlei, Pteridium esculantum* and *Bossiaea ornata over a Herbland of Opercularia hispidula, *Hypochaeris glabra, *Gladiolus sp. *Asparagus asparagoides* and **Fressia alba x leichtlinii* over a Grassland of **Ehrharta longifolia and *Briza maxima*.

Condition: Degraded

Vegetation Type 3: Very Open Shrubland of *Lepidosperma tetraquetrum* with scattered *Pteridium esculantum, *Juncus microcephalus and Gladiolus* sp. over a Closed Grassland of **Cenchrus clandestinus* and scattered herbs of **Hypochaeris glabra.*

Condition- Degraded to Completely Degraded

Vegetation Type 4: Open Woodland of Corymbia calophylla and Eucalyptus marginata over a Tall Open Shrubland of Acacia myrtifolia, Leucopogon *capitellatus, Bossiaea linophylla over a Very Open Shrubland/scattered shrubs of Hibbertia hypericoides, Pimelea rosea, Hibbertia cuneiformis, Hibbertia furfuracea, Leucopogon verticillatus over scattered herbs of Opercularia hispidula, Angiozanthos flavidus, Hardenbergia comptoniana, *Lysimachia arvensis*Hypochaeris glabra, *Gladiolus sp., *Oxalis pes-caprae and Very Open Grassland of Tetrarrhena laevis and *Briza maxima.*

Condition- Degraded to Good

No Threatened or Priority Flora or Ecological Communities have been recorded within or near the proposed permit area, based on a desktop review of DBCA and DAWE datasets and the flora and vegetation assessment undertaken by the Shire.

A total of eight trees, comprising 8 x Marri (*Corymbia calophylla*) and 2 x WA Peppermint (*Agonis flexuosa*) occur within the permit area and may be impacted during road works (see Attachment 2). The marri trees are in poor health, affected by canker, and either partly or completely dead. All trees are under 50cm DBH in size.

Fauna

Based on a desktop fauna assessment of DBCA's database, there are no known records of threatened species within the clearing permit area. This is supported by the flora and vegetation assessment at Attachment 1, which did not identify any significant habitats for fauna species within the clearing area, due to the degraded condition of the vegetation.

A total of eight trees, comprising 6 x Marri (*Corymbia calophylla*) and 2 x WA Peppermint (*Agonis flexuosa*) occur within the permit area and may be impacted during road works (see Attachment 2). The marri trees are in poor health, affected by canker, and either partly or completely dead. One of the marri trees (tree 6) is over 50cm DBH, however on inspection it

was not observed to contain branches large enough to support hollows suitable for black cockatoo nesting.

The peppermint trees are relatively young, small trees with small canopies. There was no evidence of dreys for western ringtail possums observed in either the marri or peppermint trees. In addition, there were no western ringtail possum scats, or feeding residue from black cockatoos observed at the site.

ASSESSMENT OF POTENTIAL IMPACTS

Flora and Vegetation

The clearing of up to 0.087 ha of vegetation along the 400 metre section of Glenarty Road 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 or near the permit area that will be impacted by the proposed clearing.

A number of weed species occur along the road reserve, which will be removed within the clearing area. 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 replacing an existing culvert, which will improve surface drainage, and will not alter surface flows or increase sediment movement into the environment.

The Shire of Augusta Margaret River has intentionally designed the road reconstruction to minimize clearing of native vegetation as much as reasonably practicable. The original road design has been modified to reduce the footprint and retain several large trees.

The very small level of clearing of disturbed to completely disturbed vegetation is not expected to have a significant impact on flora or vegetation. The large expanse of native vegetation occurring to the east, including Scott National Park, would provide significantly higher native vegetation, biodiversity, and habitat values at the local and regional scales.

Fauna

It is not expected that the clearing of up to 0.087 ha of vegetation within the proposed permit area will have any significant impacts on fauna or fauna habitat.

The vegetation is predominantly in degraded to completely degraded condition, and largely dominated by weeds. The vegetation and flora assessment did not identify any habitat types that would suggest that the area represents core habitat for significant species.

The 8 trees within the permit area that may be impacted during road works are in poor condition and affected by canker, and are unlikely to represent significant habitat for fauna. One marri tree is over 50cm DBH, but was not observed to contain branches large enough to support hollows suitable for black cockatoo nesting.

The peppermint trees are relatively young with small canopies, and were not found to contain dreys for western ringtail possum. The lack of possum scats and feeding residue from black cockatoo species suggests that the site does not contain significant habitat for threatened fauna species.

Vegetation types in the broader local area potentially provide habitat for threatened species including 3 x black cockatoo species, western ringtail possum, and south-western brush-tailed phascogale, all of which have been recorded within a five-kilometer radius of the permit area.

These species could potentially utilize the clearing area for foraging or movement from time to time, but the degraded condition of vegetation in the 0.087ha clearing area, and larger expanses of native and plantation forest nearby also suggests that the permit area does not provide significant habitat for threatened species.

Nevertheless, the Shire will mitigate any potential impacts to fauna by engaging a qualified fauna specialist 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 0.087 ha of roadside vegetation within the Glenarty Road Reserve to allow for road reconstruction 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 has been designed to minimise disturbance to native vegetation and retain large trees. Retrenchment pruning will be implemented as an alternative to tree removal where possible, where branches pose a safety hazard.
- One marri tree over 50cm DBH may be impacted during clearing, however this tree is unlikely to provide nesting habitat for threatened fauna such as black cockatoo species or western ringtail possum, based on its poor condition, lack of suitable nesting hollows or dreys, and lack of visible evidence of feeding residue or scats. No other potential habitat trees will be impacted.
- 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 specialist 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).

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 0.087 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 region. The vegetation is predominantly in degraded to completely degraded condition, with a number of weeds present.

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. The vegetation in the clearing permit area is in degraded to completely degraded condition, with weeds present and marri trees visibly affected by canker.

Of the eight trees within the clearing permit area, one could be considered a habitat tree due to its size (over 50cm DBH). However, this tree is unlikely to provide nesting habitat for threatened fauna such as black cockatoo species or western ringtail possum, based on its poor condition, lack of suitable nesting hollows or dreys, and lack of visible evidence of feeding residue or scats. No other potential habitat trees will be impacted.

In order to mitigate any potential impacts to fauna, the Shire will engage a fauna specialist 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).

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 or in close proximity to the site.

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 Glenarty Road purpose permit area is unlikely to be significant as a remnant of native vegetation. The road reserve falls in Glenarty Hills (H & Hw) and vegetation complexes, which are generally well represented in the south west region, with 31.71% and 35.37% of pre-European extents remaining.

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 Glenarty Road reserve is not associated a major watercourse or wetland. The road crosses a small drainage channel that connects upstream to Turnwood Creek and the Blackwood River. The existing culverts will be removed and replaced at this location, however there will be no alterations to surface drainage patterns.

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 reconstruction 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.

Scott National Park occurs approximately 4.5 km to the east of the permit area, and Leeuwin Naturaliste National Park occurs 9 km to the west. These conservation areas will not be impacted by this project.

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.

Attachment 1

Glenarty Road- Clearing Application Flora and Vegetation Assessment Report

Based on site inspection undertaken September 2021 by Kay Lehman, Shire Environment and Landcare Coordinator

Vegetation Types

Vegetation Type 1- Scattered trees of *Corymbia calophylla* over an Open Shrubland/scattered shrubs *of Macrozamia riedlei, Bossiaea linophylla* and *Pteridium esculantum* over scattered low shrubs of *Hibbertia furfuracea* and *Conostylis aculeata* over a Closed Grassland and Herbland of **Ehrharta longifolia, *Oxalis incarnata and *Fressia alba x leichtlinii.*

Condition: Degraded

Vegetation Type 2: Isolated *Corymbia calophylla and Agonis flexuosa* saplings and Low Shrubland of *Bossiaea linophylla, Leucopogon verticillatus, Acacia myrtifolia, Hibbertia hypericoides, Leucopogon capitellatus, Macrozamia riedlei, Pteridium esculantum* and *Bossiaea ornata over a Herbland of Opercularia hispidula, *Hypochaeris glabra, *Gladiolus sp. *Asparagus asparagoides* and **Fressia alba x leichtlinii* over a Grassland of **Ehrharta longifolia and *Briza maxima*.

Condition: Degraded

Vegetation Type 3: Very Open Shrubland of *Lepidosperma tetraquetrum* with scattered *Pteridium esculantum, *Juncus microcephalus and Gladiolus* sp. over a Closed Grassland of **Cenchrus clandestinus* and scattered herbs of **Hypochaeris glabra.*

Condition- Degraded to Completely Degraded

Vegetation Type 4: Open Woodland of Corymbia calophylla and Eucalyptus marginata over a Tall Open Shrubland of Acacia myrtifolia, Leucopogon *capitellatus, Bossiaea linophylla over a Very Open Shrubland/scattered shrubs of Hibbertia hypericoides, Pimelea rosea, Hibbertia cuneiformis, Hibbertia furfuracea, Leucopogon verticillatus over scattered herbs of Opercularia hispidula, Angiozanthos flavidus, Hardenbergia comptoniana, *Lysimachia arvensis*Hypochaeris glabra, *Gladiolus sp., *Oxalis pes-caprae and Very Open Grassland of Tetrarrhena laevis and *Briza maxima.*

Condition- Degraded to Good

Flora Species List

Family	**Species**
ASPARAGACEAE	**Asparagus asparagoides*
ASTERACEAE	**Cotula turbinata*
	**Hypochaeris glabra*
	**Pseudognaphalium luteoalbum*
CYPERACEAE	*Lepidosperma tetraquetrum*
DENNSTAEDTIACEAE	*Pteridium esculantum*
DILLENIACEAE	*Hibbertia cuneiformis*
	Hibbertia furfuracea
	Hibbertia hypericoides
ERICACEAE	*Leucopogon capitellatus*
	Leucopogon verticillatus
FABACEAE	*Acacia myrtifolia*
	Bossiaea linophylla
	Bossiaea ornata

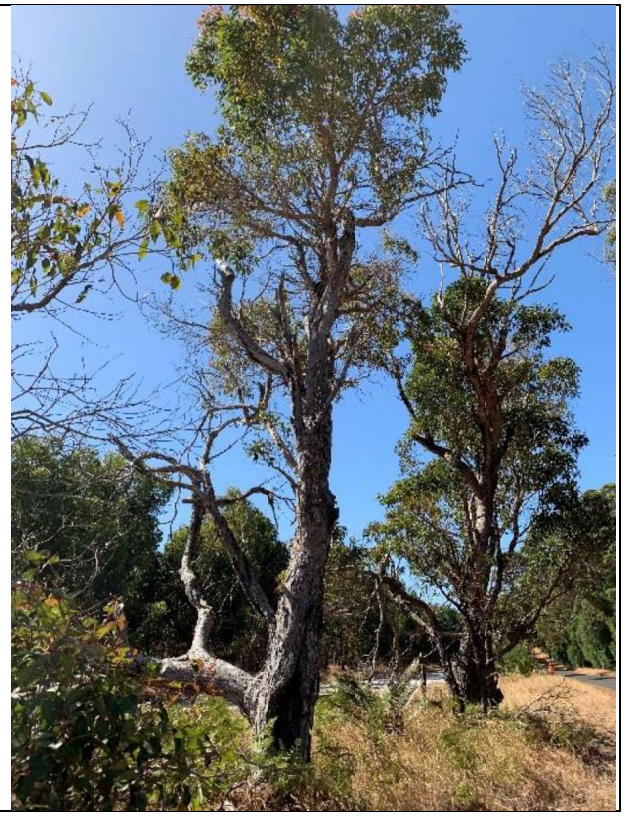
	Hardenbergia comptoniana
HAEMODORACEAE	*Angiozanthos flavidus*
	Conostylis aculeata
IRIDACEAE	**Fressia alba x leichtlinii*
	**Gladiolus sp.*
JUNCAEAE	**Juncus microcephalus*
	Juncus pallidus
MYRTACEAE	*Agonis flexuosa*
	Corymbia calophylla
OXALIDACEAE	**Oxalis glabra*
	**Oxalis incarnata*
	**Oxalis pes-caprae*
POACEAE	**Briza maxima*
	**Cenchrus clandestinus*
	**Ehrharta longifolia*
	**Holcus lanatus*
	Tetrarrhena laevis
PRIMULACEAE	**Lysimachia arvensis*
RUBIACEAE	*Opercularia hispidula*
SOLANACEAE	**Solanum nigrum*
THYMELAEACEAE	*Pimelea rosea*
ZAMIACEAE	*Macrozamia riedlei*

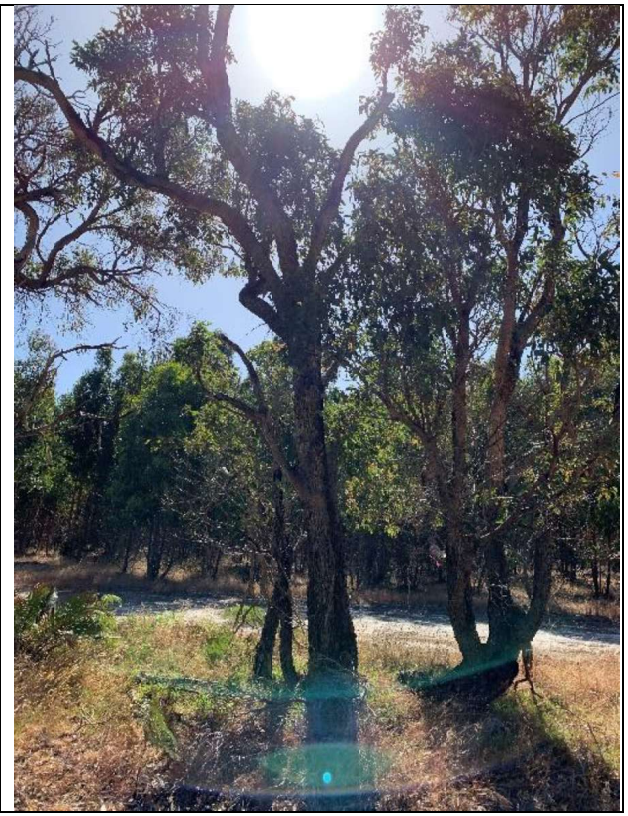
Attachment 2: Tree Assessment- Glenarty Road

Tree ID	DBH cm	Species	GPS Coordinates- Lat/Long	Easting Northing	Hollows	Hollow size(s)	Description	
1	38	Marri- *Corymbia calophylla*	34 degrees, 14' 50"S, 115 degrees, 09' 37"E	330588 6208888	No	-	Dead tree- bark peeling off	

2	7	Peppermint- *Agonis flexuosa*	34 degrees, 14’ 49”S, 115 degrees, 09’ 45”E	330793 6208936	No	-	In foreground of photo. Approximately 4 metre high- small Peppermint	
3	26	Marri- *Corymbia calophylla*	34 degrees, 14’ 49”S, 115 degrees, 09’ 45”E	330793 6208936	No	-	In background of photo. In poor health- partly dead	
4	18	Peppermint- *Agonis flexuosa*	34 degrees, 14’ 49”S, 115 degrees, 09’ 45”E	330793 6208936	No	-	Approximately 6 metre high- small Peppermint	

5	12	Marri- *Corymbia calophylla*	34 degrees, 14’ 46” S, 115 degrees, 09’ 47”E	330842 6209029	No	-	Small Marri tree- partly dead	

6	58	Marri- *Corymbia calophylla*	34 degrees, 14’ 46” S, 115 degrees, 09’ 47”E	330842 6209029	No	-	Impacted by Canker Trunk greater than 50cm DBH	

7	48	Marri- *Corymbia calophylla*	34 degrees, 14’ 46” S, 115 degrees, 09’ 47”E	330842 6209029	No	-	Marri in foreground. Impacted by Canker and termites	

8	35	Marri- *Corymbia calophylla*	34 degrees, 14’ 46” S, 115 degrees, 09’ 47”E	330842 6209029	No	-	Tree in foreground- multi-stemmed. Impacted by canker.	

General photos of the vegetation- showing the extent of proposed clearing with pink tape.

Figure 1: View looking west

Figure 2: View looking east

Figure 3: Creekline vegetation- culvert pipe to be extended

Figure 4: Bracken and introduced grass understorey

Figure 5: Trees 5-8 in the distance.