

Supporting Documentation for a Clearing Permit Application for Wave Rock, Hyden



Prepared for the Shire of Kondinin
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1 Introduction

In June 2018, Ecoedge was engaged by the Shire of Kondinin (the Shire) to prepare a clearing permit application and associated supporting documentation for clearing of up to approximately 0.0342 hectares (ha) of native vegetation within the Wave Rock car park. The car park is located about 3.5 kilometres ENE of the town of Hyden along the Wave Rock Road (the 'Project Area') (**Figure 1**). The vegetation clearing is required in order for the Shire to undertake some minor modifications to improve the parking area and traffic flow at this popular tourist destination.

The proposed clearing footprint is shown in **Figure 2**.

2 Flora and vegetation

2.1 Desktop assessment

IBRA region

The Project Area is situated within the Western Mallee (MAL2) sub-region of the Mallee biogeographic region, as defined in the Interim Biogeographical Regionalisation for Australia (IBRA) (Commonwealth of Australia, 2016). Only 36.94% of the vegetation within this sub-region remains, (Government of Western Australia, 2018).

Vegetation Association

The vegetation within the Project Area was mapped by Beard as Association 128 'Bare areas; rock outcrops' (Beard, 1972). This vegetation association is mapped as having 87.56% of its original extent remaining and is reasonably represented in the Department of Biodiversity, Conservation and Attractions (DBCA) conservation estate, with 23.91% in formal and informal reserves (Government of Western Australia, 2018). The extent remaining of this association significantly exceeds the desired minimum 30% retention targets stated by the Commonwealth government and the EPA (Environment Australia, 2001; EPA, 2006).

Connectivity

The Project Area occurs within a large expanse of contiguous bushland which is between one to two kilometres in width and generally runs east and west from the Survey Area for some kilometres. This vegetation appears to be associated with an ancient drainage channel (**Figure 1**). Lake Gounter Nature Reserve (Figure 1.) and two un-named Nature Reserves form part of this linkage. Whilst this linkage is not formally recognised, it may be considered locally significant.

Threatened Ecological Community

State and Federal databases identified the Threatened Ecological Community ‘Eucalypt Woodlands of the Western Australian Wheatbelt’ as occurring within 40 km of the Survey Area (DBCA, 2017 & 2018; DotEE, 2018).

Environmentally Sensitive Areas

There are no Environmentally Sensitive Areas recognised under the *Environmental Protection Act 1986* (EP Act) in close proximity to the Project Area. The closest of these occurs approximately 18 km to the SSE of the site and is associated with Dragon Rocks Nature Reserve (DER, 2016).

2.2 Field survey

An assessment of vegetation encompassing the Project Area was undertaken by Ecoedge in September 2018 (Ecoedge, 2019). The total area surveyed was 1.11 ha and this comprised of about 0.53 ha of native vegetation (**Figure 2** and **3**).

Flora

Sixty-seven vascular flora taxa were identified within the Survey Area¹, of which seven were introduced species. There were no Threatened flora, Priority-listed flora nor other flora of conservation significance found.

Vegetation

Only one vegetation unit, York Gum Woodland, was identified and mapped across the Survey Area (**Figure 3**). This is described below:

York Gum Woodland: Woodland of *Eucalyptus loxophleba* subsp. *loxophleba* over variable open shrubland including *Acacia acutata*, *A. assimilis*, *Alyxia buxifolia*, *Dodonaea adenophora*, *Leptospermum erubescens*, *Melaleuca uncinata*, *Olearia muelleri* and *Westringia rigida* over open grassland of *Aristida contorta* and *Amphipogon turbinatus* and herbland including *Actinobole uliginosum*, *Borya constricta*, *Brachyscome iberidifolia*, *Podotheca gnaphalioides* and *Stylidium repens* on greyish yellow sandy loam.

The vegetation unit is regarded as being part of the Federally-protected Threatened ecological community ‘Eucalypt Woodlands of the Western Australian Wheatbelt’ because of the dominant presence of *Eucalyptus loxophleba* subsp. *loxophleba* (York Gum) (DotEE, 2015).

This community is State listed as a Priority 3 ecological community.

¹ Information and maps for this section is taken from the Flora Survey report in which the Project Area was referred to as the Survey Area.

The vegetation unit can reasonably be considered to form part of, or be associated with Beard's Association 128 'Bare areas; rock outcrops' by Beard (Beard, 1972). The Survey Area whilst on a flatter portion of the landscape is within proximity to a granite outcrop with which York Gum (*Eucalyptus loxophleba*) is typically associated (Harvey and Keighery, 2012). The mapped adjacent Beard Associations are not typified by York Gum. The extent remaining of this association significantly exceeds the Commonwealth retention target of 30% and it is reasonably well reserved in DBCA managed landholdings.

Vegetation Condition

The condition of the York Gum Woodland within the proposed clearing area is described in the **Table 1** and mapped in **Figure 4** below.

Table 1. Vegetation condition within the proposed clearing area

York Gum Woodland	Area (ha)
Very Good	0.0232
Good	0.011
Total	0.0342

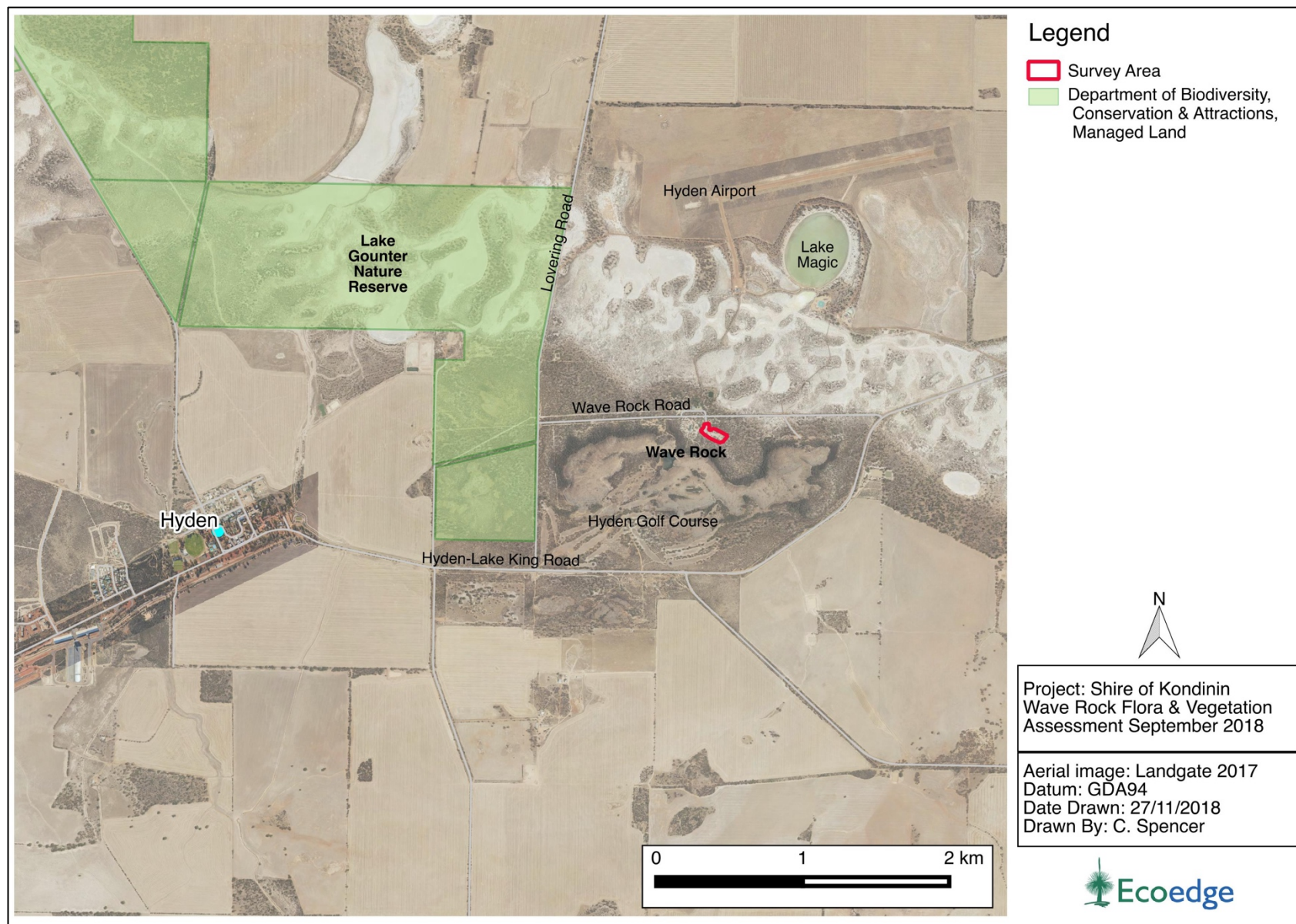


Figure 1. Location of the Survey Area.

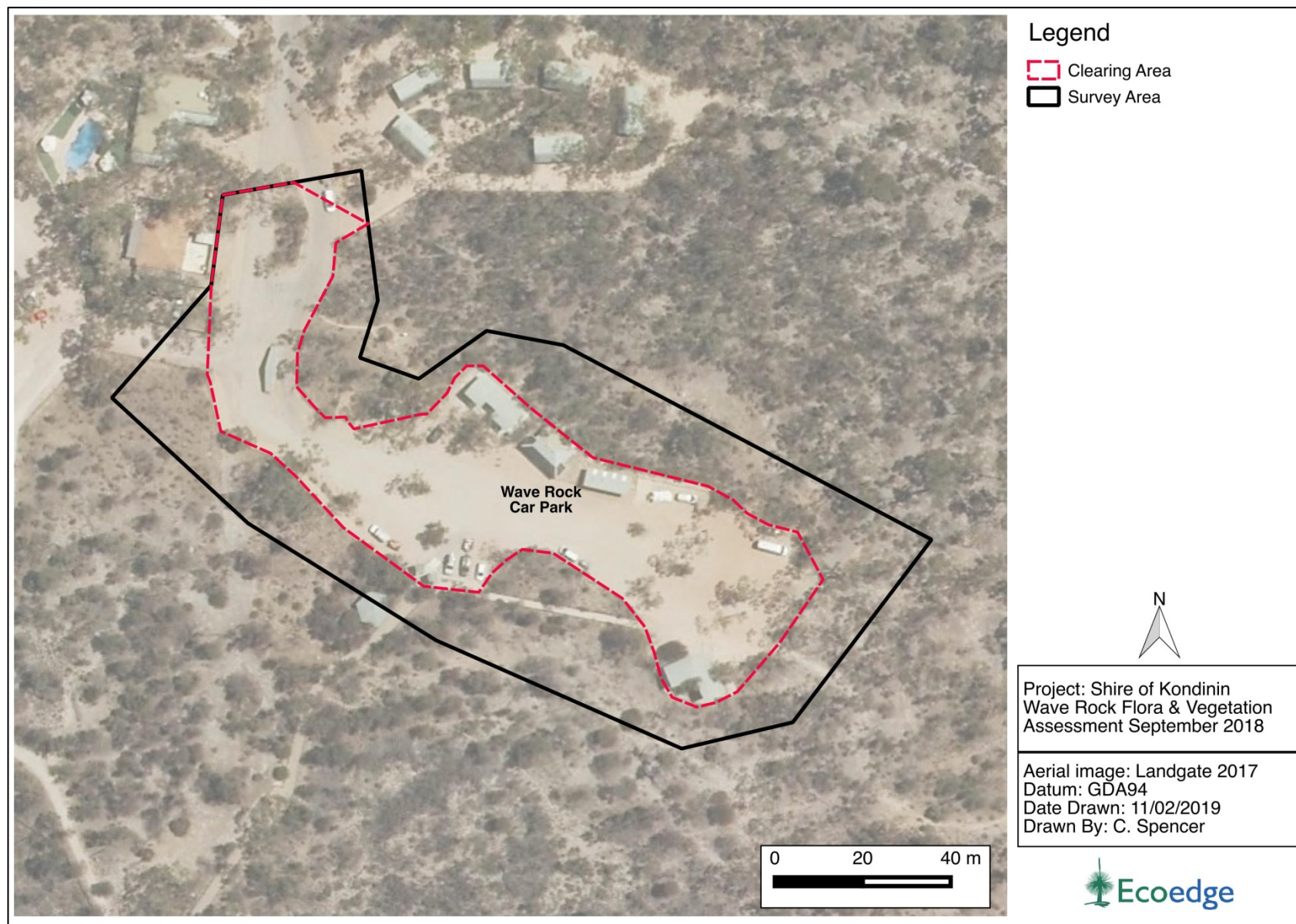


Figure 2. Proposed clearing foot print.

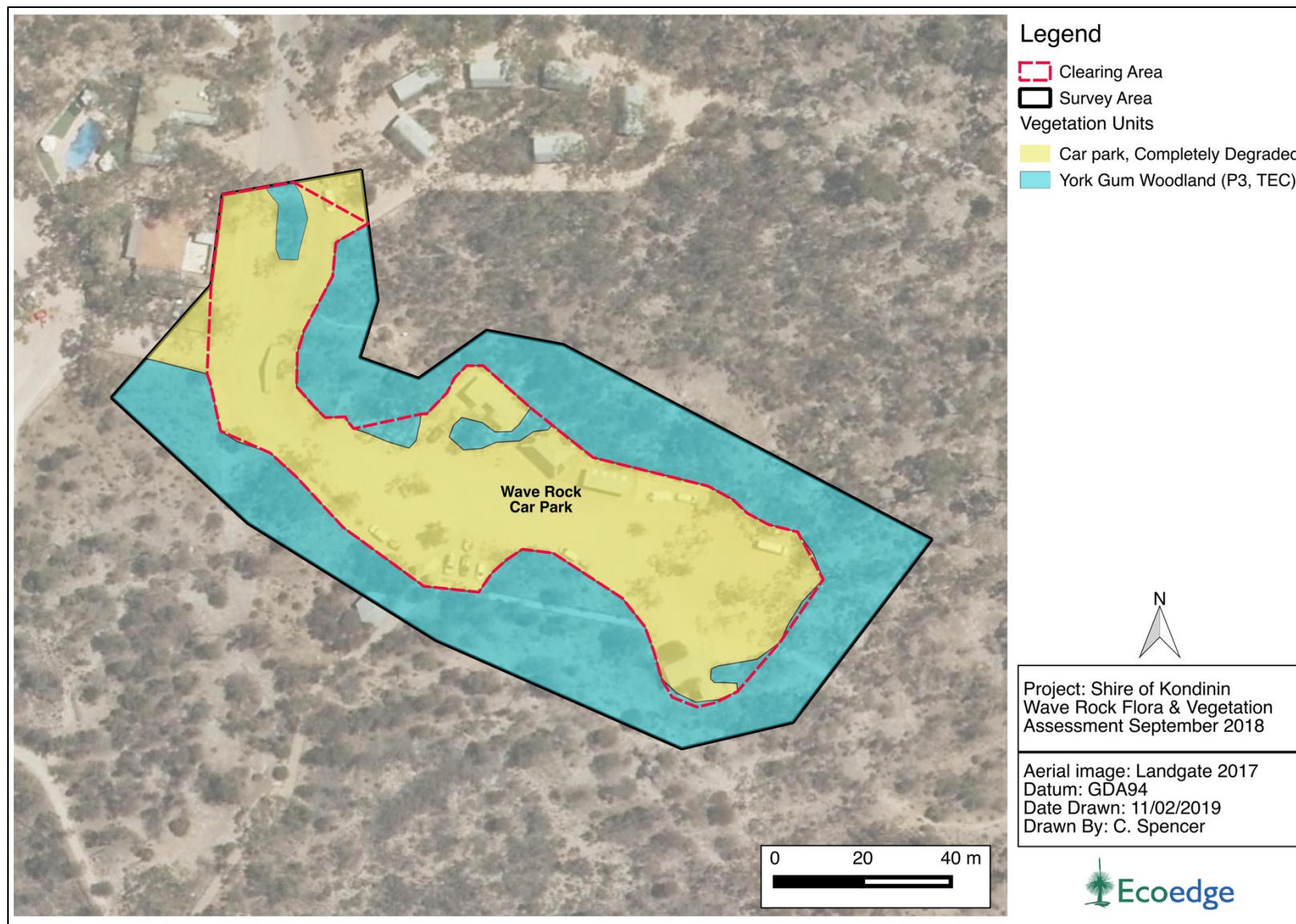


Figure 3. Vegetation units within the Survey Area and proposed clearing area.

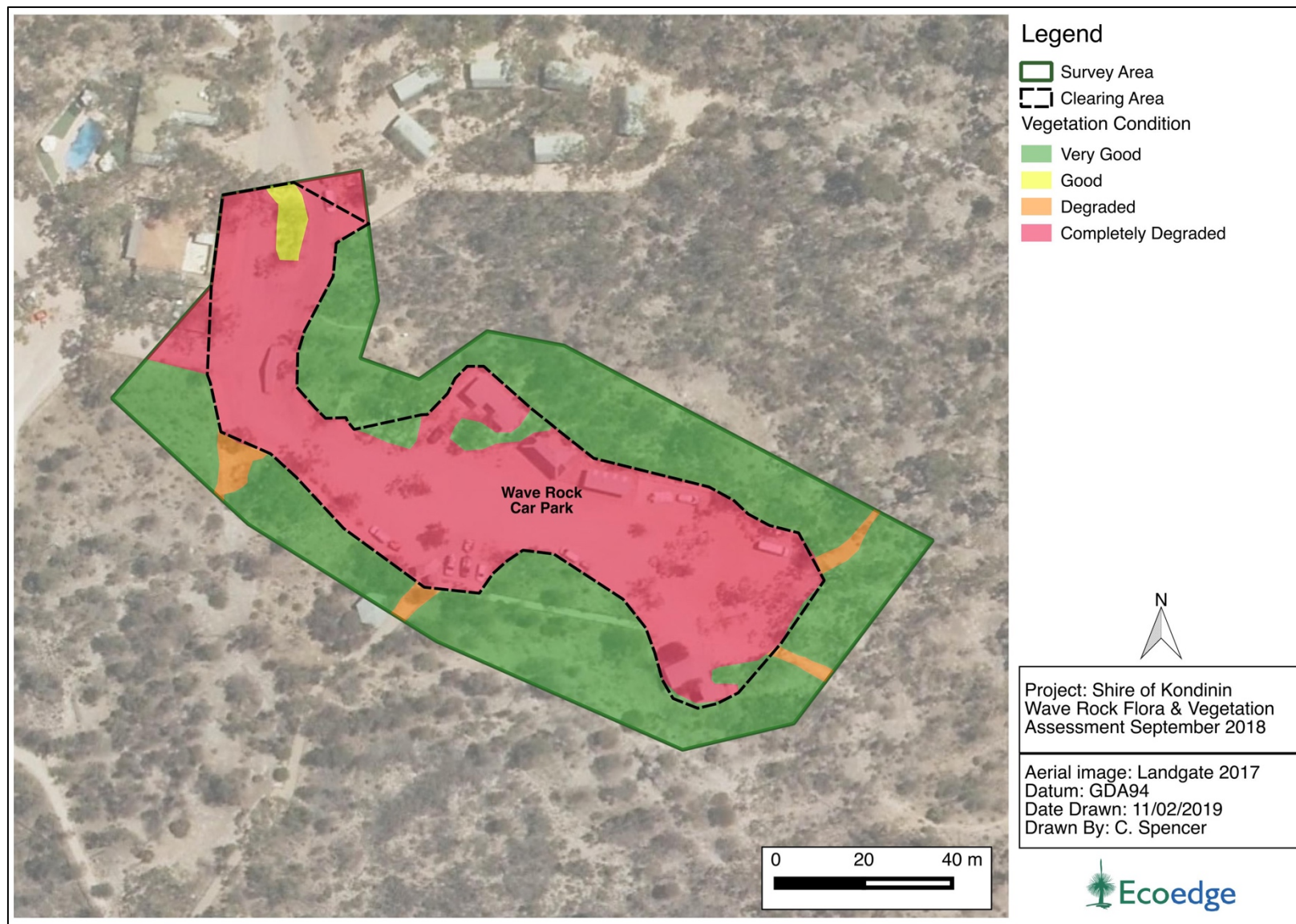


Figure 4. Vegetation condition within the Survey Area and proposed clearing area

3 Fauna

A Level 1 Fauna Survey and a Level 2 Assessment for black cockatoo habitat / site use (EPA 2016b) was undertaken by Greg Harewood (Zoologist) in October 2018 (Harewood, 2019). The species of main concern within the Survey Area was the Carnaby's black cockatoo² (CBC). Information pertaining to the fauna survey is summarised below.

3.1 Carnaby's black cockatoo

Breeding habitat

The Survey Area contained no trees fitting the criteria of being CBC breeding habitat (i.e. suitable trees with a diameter at breast height >30cm and with potential breeding hollows) with almost all the specimens present being relatively small, stunted specimens.

Foraging habitat

No evidence of CBC foraging was observed during the field survey.

Several known and potential foraging habitat flora species were identified within the Project Area. It was estimated that the total quality foraging habitat area comprised no more than 0.2 ha.

Roosting habitat

The Survey Area contained no habitat suitable for use as a roost site by CBC.

Based on available mapping there is about 4,600 ha of remnant native vegetation within 10 km of the subject site. Much of this is likely to represent CBC foraging habitat of some type, and potential breeding and roosting habitat, though it should be noted that the subject site is located near the inland/eastern limit of the Carnaby's black cockatoo's range and they probably only occur infrequently even in areas of ideal habitat.

3.2 Other conservation significant fauna

No fauna species of conservation significance were positively identified as utilising the subject site. Based on habitats present, several species may possibly occur, at least in the general area.

4 Requirement for a clearing permit

The proposed clearing activities were assessed against the Environmental Protection (Clearing of Native Vegetation) Regulations 2004 (the Clearing Regulations) and exemptions under Part V of the *Environmental Protection Act 1986* (EP Act), and against the Principles for clearing native vegetation under Schedule 5 of the EP Act.

² Carnaby's cockatoo (*Calyptorhynchus latirostris*), listed as Endangered under both the *Wildlife Conservation Act 1950* and *Environmental Protection and Biodiversity Conservation Act 1999*.

A clearing permit is required as there is no valid exemption for the proposed clearing under the EP Act or under the Clearing Regulations.

5 Actions taken to limit impacts from the proposal

The Shire require to make modifications to the car park to improve parking arrangements and traffic flow. Where possible existing trees and vegetation will be retained, where practical.

The proposed clearing area will be clearly demarcated in the field prior to clearing works.

All machinery and vehicles will be clean up on entry to site to reduce the risk of introducing plant diseases and weeds during clearing operations.

6 Assessment against clearing principles

Information for this assessment in regards to flora values has been taken from Ecoedge (2019), and in regards to fauna values has been taken from Harewood (2019).

Table 2. Assessment of the proposal against clearing principles:

Clearing principle	Response
(a) it comprises a high level of biological diversity ; or	<p>Not likely to be at variance.</p> <p>The survey area comprising 0.53 ha of native vegetation contained 60 native plant species. This species richness is high in comparison with other comparable areas, for example Wheatbelt woodlands typically have 30+ species per 100 m² (Harvey & Keighery 2012) and according to one study flora species richness in the Mallee biogeographic region ranges from 17 to 48 species per 1000 m² (Van Der Moezel & Bell, 1989).</p> <p>Whilst the overall Survey Area has a relatively high biological diversity the proposed clearing area comprises only a small part (<7%) of this area (0.0342 ha). About one third of this area is in good condition with the balance in very good condition.</p> <p>Overall the parcels proposed for clearing would be considered to have a low biological diversity due to their small size and overall average vegetation condition.</p>
(b) it comprises the whole or a part of, or is necessary for the maintenance of, a significant habitat for fauna indigenous to Western Australia; or	<p>Not at variance. The Project Area is not considered to contain significant habitat for Carnaby's black cockatoo or any other fauna species. Fauna habitats present within the subject site were considered common and widespread in the general area, the extent of clearing is very small and the faunal assemblage present is very unlikely to be different to that found in similar habitats located elsewhere in the immediate vicinity.</p>
(c) it includes, or is necessary for the continued existence of, rare flora; or	<p>Not at variance, there were no Priority or Threatened flora identified within the Survey Area/ proposed clearing envelope.</p>
(d) it comprises the whole or a part of, or is necessary for the maintenance of a threatened ecological community; or	<p>At variance. The proposal will involve the clearing of up to 0.0342 ha of York Gum Woodland which is a State Priority 3 ecological community and a Federal Threatened Ecological Community. 0.0232 ha of this is in very good condition and 0.011 is in good condition.</p>

<p>(e) it is significant as a remnant of native vegetation in an area that has been extensively cleared; or</p>	<p>Not at variance.</p> <p>The vegetation clearing is proposed within the extensively cleared agricultural area of the Western Mallee sub-region of the Mallee biogeographic region however, the vegetation in question occurs within a large expanse of contiguous bushland which is between one to two kilometres in width and generally runs east and west from the Survey Area for some kilometres. Lake Gounter Nature Reserve to the west of the Survey Area and two un-named Nature Reserves to the east of the Survey Area form part of this linkage. This vegetation appears to be associated with an ancient drainage channel. Whilst this linkage is not formally recognised it may be considered locally significant. The proposed works are considered unlikely to have a significant impact on the function of this linkage given their small scale and the Survey Area's context within a significantly larger area of bushland.</p>
<p>(f) it is growing in, or in association with, an environment associated with a watercourse or wetland; or</p>	<p>Not at variance</p>
<p>(g) the clearing of the vegetation is likely to cause appreciable land degradation; or</p>	<p>Not at variance</p>
<p>(h) the clearing of the vegetation is likely to have an impact on the environmental values of any adjacent or nearby conservation area; or</p>	<p>Not at variance</p>
<p>(i) the clearing of the vegetation is likely to cause deterioration in the quality of surface or underground water; or</p>	<p>Not at variance</p>
<p>(j) the clearing of the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding.</p>	<p>Not at variance</p>

7 Conclusion

The Shire of Kondinin proposes to clear approximately 0.0342 ha of native vegetation within the Wave Rock car park. The clearing is required in order to undertake improvements to parking arrangements and traffic flow at this popular tourist destination.

Significance impacts in regards to variances and potential variances:

Clearing principle (a): not likely to be at variance. The area proposed for clearing occurs within a larger parcel of bushland comprising of a relatively high species richness when compared to other vegetation within the Mallee biogeographic region. However, the biological diversity of the proposed clearing area can be regarded as low, representing only a portion of the overall biodiversity, due to the small area proposed for clearing.

Clearing principle (d): At variance. The impact of the proposal is however unlikely to be significant on the overall community due to the small scale of the clearing which is located within and on the boundary of an existing car park.

The ongoing impacts of clearing, for example from weed invasion, are unlikely to be significant and are likely to be similar to preclearing circumstances. This is because the clearing will not result in increased bushland perimeter to area ratios and subsequent increased potential for degrading edge effects. Furthermore, the clearing will not compromise corridors or linkage values of the adjacent bushland given the location of the small scale clearing on the edge of an existing car park.

8 References

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