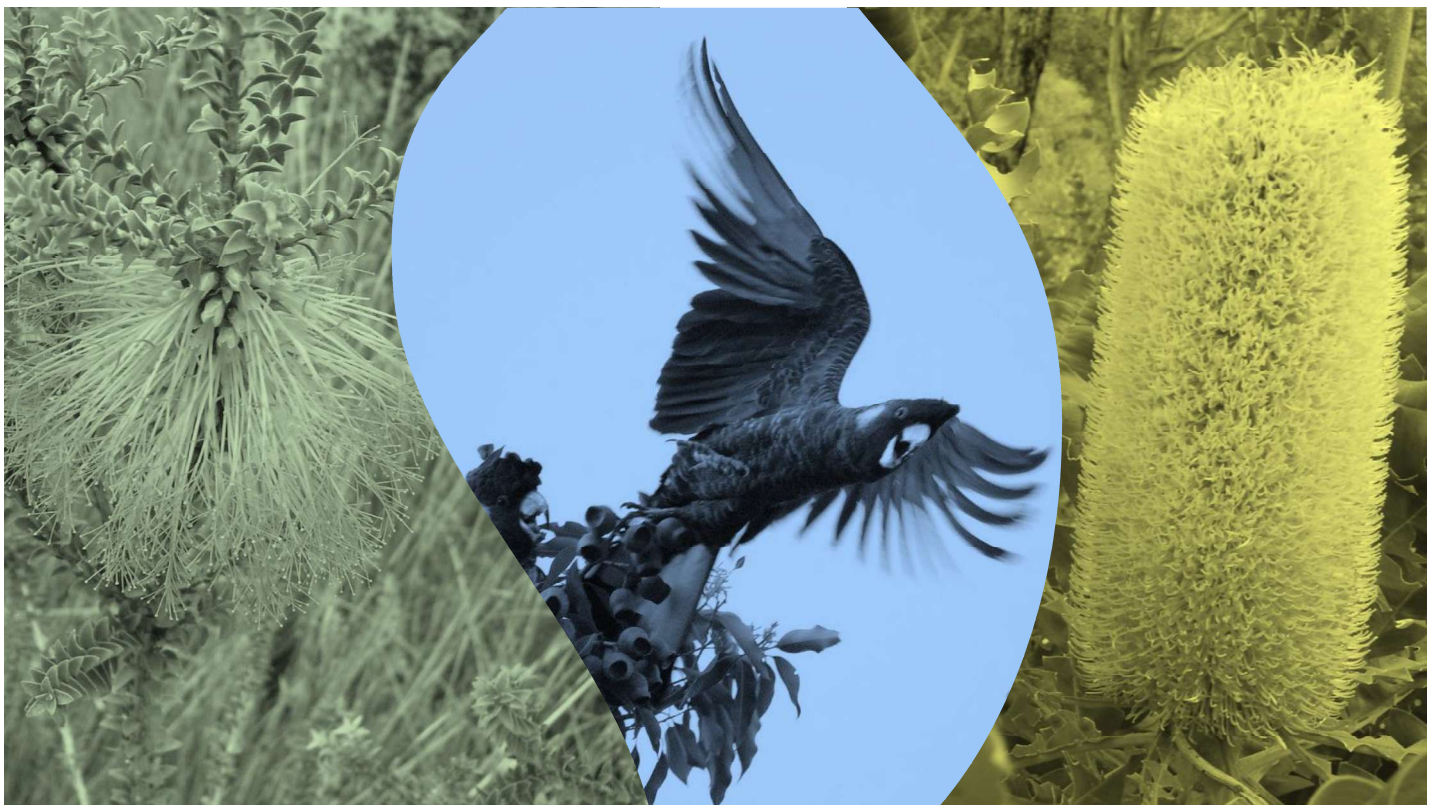


Flora and Spider Assessment

Rest Point Holiday Village, Rest Point Rd
Walpole

9 January 2018

Prepared for:



Limitations Statement

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Document Control

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Rest Point Holiday Village, Rest Point Rd Walpole

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Contents

1	Introduction	4
2	Site Details	4
3	Flora and Vegetation	6
3.1	Legislation & Guidance Statements	6
3.2	Methods	7
4	Results	7
4.1	Background	7
4.1.1	Moggridgea tingle - Tingle Trapdoor Spider	7
4.1.2	Chamaexeros longicaulis	8
4.2	Results	8
5	Discussion & Recommendations	11
6	Maps	12
7	References	15

List of Figures

Figure 1:	Proposed Enhancement of Park.	5
Figure 2	Jarraah Marri Forest typical of the site	9
Figure 3	C longicaulis	10
Figure 4	C longicaulis showing elevated stem from rhizome.	10

1 Introduction

The owners of Rest Point Holliday Village are seeking to upgrade, improve, reconfigure and construct additional chalets and facilities within the holiday village.

Under the development approval, a flora/fauna review is required prior to development in liaison with the Department of Biodiversity, Conservation and Attractions (DBCA). The DBCA has confirmed that this investigation should assess the potential existence of populations of an endangered spider, Tingle Spider (*Moggridgea tingle*) and a priority flora species (*Chamaexeros longicaulis*) within the development site.

Ecosystem Solutions were contracted by [REDACTED] on behalf of the owners to survey and confirm and document the existence of these species within the development area. The site is shown in Map 1.

2 Site Details

The Site is approximately 6.5 ha in size, with the majority of the site being cleared or having undergone extensive vegetation modification as part of the existing site.

The proposal includes expansion on the site to accommodate an additional 30 chalets, 18 camping/caravan sites, plus additional infrastructure and entertainment facilities to support these.

The Site peaks at approximately 20 m above sea level to the south and then slopes down to approximately 2m where it abuts the Walpole Inlet.

Figure 1 shows the proposed development in more detail.



Figure 1: Proposed Enhancement of Park.

3 Flora and Vegetation

3.1 Legislation & Guidance Statements

Flora and vegetation are protected by various legislative and non-legislative instruments. These include

- Environmental Protection and Biodiversity Conservation Act 1999 (Cwth) (EPBC Act);
- Wildlife Conservation Act 1950 (WA) (WC Act)
- Environmental Protection Act 1986 (WA) (EP Act)
- Department of Biodiversity, Conservation and Attractions (DBCA) Priority lists for flora and vegetation.

A reconnaissance level flora and vegetation survey was conducted to be compliant with the Environment Protection Authority's (EPA's) requirements for the environmental survey and reporting for flora and vegetation in Western Australia.

These requirements are set out in the following documents:

- Technical Guidance - Flora and Vegetation Surveys for Environmental Impact Assessment (EPA, December 2016);
- Environmental Factor Guideline - Flora and Vegetation (EPA December 2016);
- Environmental Protection of Native Vegetation in Western Australia: Clearing of Native Vegetation with particular reference to Agricultural Areas: Position Statement No. 2 (EPA, 2000).

The EPA categorises a number of levels of flora study/survey as detailed in Technical Guidance Statement Flora and Vegetation Surveys for EIA (2016):

- Desktop Study - used to gather contextual information on the site based on existing surveys, literature, database searches and spatial information. At the completion of the desktop study, there should be sufficient information to identify the potential range of flora and vegetation that may be impacted by a proposal. Note this is not a survey but a study of the available information used to determine a survey effort.
- Reconnaissance Survey: used to provide contexts and gather broad information about an area. It is generally used to verify the information obtained from a desktop study, to characterise the flora and delineate the vegetation units present. It involved low intensity sampling of the flora and vegetation to describe the general vegetation characteristics and condition. The reconnaissance survey should clarify whether any significant flora may be present and may recommend a higher level of survey.

- Targeted Survey: used to gather comprehensive information on significant flora and/or vegetation. It aims to determine the size and extent of all significant flora populations or vegetation in a survey area and place any impacts in contexts.
- Detailed Survey: provides adequate local and regional context relative to the flora and vegetation with the survey area. This survey required detailed comprehensive survey design, ensuring optimal survey timing for the botanical province, disturbance events that may affect sampling result and supplementary survey requirements.

The methodology adopted in this survey complies with those of a reconnaissance survey, providing contextual information obtained from a desktop survey, ground-truthed via a field survey. The methodology is presented in Section 3.2.

3.2 Methods

Extracts from the DBCA Nature Base Database and the EPBC Protected Matters Database were obtained to determine if records of any rare or threatened flora are known within the boundary or vicinity of the site (Appendix A). A preliminary reconnaissance survey of the results of the desktop study was conducted, consistent with a Reconnaissance Survey Flora and Vegetation Survey (EPA, 2016).

4 Results

4.1 Background

The two species of concern mentioned by DBCA

- The Tingle Spider (*Moggridgea tingle*); and
- *Chamaexeros longicaulis*

4.1.1 *Moggridgea tingle* - Tingle Trapdoor Spider

Moggridgea was moved to a new genus, *Bertmainius* in 2015, based on significant differences in morphology and molecular data.

Bertmainius tingle is a small basal spider endemic to the Tingle and Karri forest of the south west of Western Australia.

The spider is less than 10 millimetres long, with the female carapace length is 2.6 - 3.1mm. The carapace and legs are black and shiny. Western Australian species of the Migidae family remained undiscovered until 1990 and were first described and named in the genus *Moggridgea* by Dr Barbara Main in 1991 (Main, 1991).

The species is found in two sites within the Walpole-Nornalup National Park residing in the soil or bark of *Eucalyptus jacksonii* (Red Tingle). The spiders habitat is located within the Tingle and Karri (*E. diversicolor*) forests of the South West.

B. tingle live within the topsoil or in the fibrous bark of the red tingle, constructing nests of silk tubes. These tubes, up to 20 mm long, have an opening at the surface of the bark or silk with a hinged “trapdoor” cover made of moss, bark and spider silk. It is found in damp and shady locations.

4.1.2 *Chamaexeros longicaulis*

The species occurs on well drained grey or white sand overlying clay, within Jarrah (*E. marginata*) and Marri (*C. calophylla*) forests, within the high rainfall area (averaging 1369 mm per year). It flowers October to November and fruits in January.

The species occurs in large dense populations or colonies, resembling a sward. The possession of long horizontal rhizomes which give rise to new stems, the deeply penetrating and fleshy stout rhizomes and the elongation of the aerial stems are unique to *C. longicaulis*. With the stems commonly reaching 20-30 cm (Macfarlane, 1998).

It is currently classified as a Priority Two conservation code species.

4.2 Results

The Site was surveyed in 15th November 2017 by [REDACTED] (B.Sc. M. Env Mgmt. PG Dip Bushfire Protection). The site was walked in a systematic manner to cover all of the area.

The vegetation within the site is dominated by Marri (*C. calophylla*) and Jarrah (*E. marginata*) forest (Figure 2). There were no occurrences of Tingle (*E. jacksonii*) or Karri (*E. diversicolor*) within the site.



Figure 2 Jarrah Marri Forest typical of the site

Discussion with the DCBA office in Manjimup confirmed that given the lack of suitable tingle habitat, that the *Bertmainius tingle* would not be present within the site.

Three areas with dense populations of *C. longicaulis* were found within the south east corner of the site. (Map 2 and Figures 3 & 4)

While the plant was not in flower and a formal herbarium assessment was not conducted it can be highly certain that the plants found were *C. longicaulis*.

The known population, stated in Macfarlane (1998) were located and a positive identification of those plants were conducted. This was then used, in line with the Key to the species of *Chamaexeros* within the same document were used to confirm the species as *C. longicaulis*. The key determining feature is the long aerial stems as can be seen in Figure 4.



Figure 3 *C longicaulis*



Figure 4 *C longicaulis* showing elevated stem from rhizome.

5 Discussion & Recommendations

Given the lack of suitable habitat it can be assumed that *Bertmainius tingle* is not present within the site.

Three areas comprising 670 m² was found containing dense populations of *Chamaexeros longicaulis* within the south eastern section of the site (Map 2).

This area has been used in the past for camping sites. The populations appear dense and would seem to be able to tolerate this type of disturbance. Macfarlane (1994) commented that the fleshy rhizomes appear to function as reserve storage organs for the plant following fire or other damage. This would appear to be supported with many years of disturbance on these sites from camping and the plants present not showing signs of stress or damage. This would appear to indicate that the species is relatively hardy.

Where the plants are located are in an area proposed for playgrounds and tracks.

The following recommendations for the implementation of the park expansion are made:

- The design of the proposal be slightly modified to relocate the road to the north west to avoid the population;
- The proposed bike tracks and adventure course be modified to avoid the species;
- The populations be cordoned off with a barrier to delineate the area. This barrier should be sympathetic to the landscape and the nature of the park (can be pine poles and mesh or something similar); and
- Interpretive signage be installed to inform guests of the significance of the plan and the importance of protecting it.

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6 Maps



Map 1: Proposed Development **Project Address: Rest Point Caravan Park & Chalets Walpole**

Projection - MGA50
Datum - GDA94
December 2017



Scale: 1:2,500



- | | | |
|---|--|--|
| Boundary | Other Areas | Play ground/Bike Track |
| Chalets | Existing Ablutions | Pool |
| Details | Existing Ablutions | Proposed Ablution and Kitchen |
| Existing | Hall | Recreation Area |
| Proposed | Lawned Boat Parking | Recreation Area - Lawn |
| Tourist Site | Manager Residence/Reception | Shed |
| Status | Play ground Area | Bed |
| Proposed | Existing | |





Map 2: Priority Flora Locations

Projection - MGA50
Datum - GDA94
December 2017

Scale: 1:2,500



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