

Appendix E: Tree Hollow Inspection Memorandum (SW Environmental, 2020)

7th December 2020

Guy Watson
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Environment Branch
Planning and Technical Services Directorate
Main Roads WA
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Dear Mr. Watson,

RE: (SW303) Bussell Highway (H043) Duplication Project: Tree hollow inspection

I am pleased to provide you with the results of the tree hollow inspection carried out at the location above. Please refer to the attachment for a detailed description of the services, methods and results (Attachment 1). A summary of the results is provided below:

- Tree 1 has a single large vertical hollow, suitable for black cockatoo breeding but not being currently used by black cockatoos. It was inhabited by a Western Ringtail Possum at the time of the survey.
- Tree 2 has a single hollow network with multiple large entrances but is unsuitable for black cockatoo breeding given that there does not appear to be a hollow floor. These hollows were also being actively used by Western Ringtail Possum.

If you have any enquiries regarding these results, please contact me on 0437 700 917.

Yours sincerely,
Shane Priddle,

A handwritten signature in black ink, appearing to read 'Shane Priddle', written in a cursive style.

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ATTACHMENTS

Attachment 1 Services, Methods and Results

ATTACHMENT 1 SERVICES, METHODS & RESULTS

Services required

Main Roads Western Australia (Main Roads) plans to construct a second carriageway along the 17.85 km section between Capel and the Sabina River, to provide dual carriageway access along the entire 46 km portion of the highway between Bunbury and Busselton (the Bussell Highway Duplication). Of the 17.85 km of proposed works, a 5.55 km section (Stage 1) has previously been approved under EPBC 2015/7626, and the remaining 12.3 km section (Stage 2) is subject to further environmental approvals.

The project includes the construction of a 12.3 km two-lane carriageway (southbound) to duplicate the existing carriageway effectively between Hutton Road and the Sabina River bridge. The upgrade of this section of Bussell Highway to a four-lane highway will including lane widths of 3.5 m across the two lanes and a total median width from edge to edge to be a minimum of 27 m with a target width of 31 m. Some clearing of native vegetation will be required.

Previous surveys by Harewood (2018)¹ identified two trees, each with two or more large hollows potentially suitable for black cockatoo² breeding within the proposed development footprint. The trees locations are described below and shown in Figure 1.

- Tree 1 - 43.22 SLK southbound. Large dead Marri (*Corymbia calophylla*), with multiple potential hollows with >20cm apertures. E353477 N6274930.
- Tree 2 - 43.28 SLK southbound. Large Flooded Gum (*Eucalyptus rudis*) with multiple potential hollows with >20cm apertures. E353425 N6274892.

Follow up camera pole or drone surveys were required by Main Roads to assess the suitability of the hollows for black cockatoo breeding.

Methods

An initial site inspection identified that the Flooded Gum had a dense canopy and would be inaccessible by drone. The hollows on both trees were also too high for camera pole access. On 2th December 2020 a professional tree climber was engaged to climb the tree and take high definition video and still photos of the hollows, captured through a live feed by Shane Priddle (SW Environmental), an experienced black cockatoo fauna surveyor. In case any fauna were disturbed, the procedure was overseen by Shane Priddle under SW Environmental's Regulation 28 Fauna Taking (Relocation) License (FR28000016) and Section 40 (TFA 2020-0013) of the *Biodiversity Conservation Act 2016*. Photos and video were further analysed in the office using professional photography software to enhance the images.

The hollows were to be assessed in terms of the likelihood of black cockatoos currently using the hollows for breeding. Criteria included:

- animal in the hollow,
- suitable with current chews/wear,
- suitable with old chews/wear,
- suitable with no visible chews/wear,
- no chews/wear and unlikely to be suitable,
- not suitable,
- not hollow.

In addition to the evidence of use, the suitability of the hollow for black cockatoo breeding, e.g. orientation, access, chamber size or use by other animals, was also noted.

¹ Targeted Fauna Survey. Bussell Highway – Hutton to Sabina Section (Harewood, 2018)

² 'black cockatoos' refers to the threatened Carnaby's Cockatoo, Baudin's Cockatoo and Forest Red-tailed Black Cockatoo (FRTBC)

Results

Tree 1

The large dead Marri tree contained several large lateral branches, none of which were considered to be hollow or with large enough apertures to provide black cockatoo access (> 10 cm). Further the branches were nearly horizontal and likely to be too flat an angle to be used by black cockatoos. The tree also contained a large flared vertical hollow, with partially overhanging crown, approximately 120 cm deep and 60 cm wide.

The vertical hollow had possible old heavy chews around the bottom of the rim of the entrance. There did not appear to be any recent chews or obvious signs of black cockatoo activity. A Western Ringtail Possum appears to be visible nesting at the bottom of the hollow (post-processing).

Tree 1 therefore has a single large vertical hollow, suitable for black cockatoo breeding (with possible old chews) but not being currently used by black cockatoos. The hollow was being actively used by Western Ringtail Possum at the time of the survey.



Photo 1 Tree 1 being climbed by an arborist.



Photo 2 Tree 1 hollow entrance with possible old heavy chews at the base of the entrance.



Photo 3 Tree 1 hollow interior with Western Ringtail Possum curled in the bottom of the hollow.

Tree 2

The large Flooded Gum contained multiple knot type hollows up through the main trunk. The hollows were confirmed as being connected throughout with a single hollow blocked off about 120 cm below the main fork into a fissure. The hollow/fissure blockage was made by a Western Ringtail Possum nest.

One of the knot hollows (with a circa 20 cm aperture) contained several light chew marks. The formation of these could be attributed to a number of species or could have been a result of hollow prospecting. While the entrances were suitably large for black cockatoo access, the hollow network is unlikely to be used by any nesting birds (cockatoos or otherwise) as the hollows appeared to be connected without a chamber, other than the Western Ringtail Possum nest.

Tree 2 therefore has a single hollow network with multiple large entrances but is unsuitable for black cockatoo breeding given that there does not appear to be a hollow floor. The hollow network was being actively used by Western Ringtail Possum.



Photo 4 Tree 2 being climbed by an arborist.



Photo 5 Tree 2 hollow floor, a Western Ringtail Possum nest made of *Agonis flexuosa* leaves.



Photo 6 Tree 2 hollow network showing connectivity through the trunk.



Photo 7 Tree 2 main entrance, with light chews on the rim just visible.



Photo 8 Tree 2 alternative entrance without chews but connected through the main trunk.



**BUSSELL HIGHWAY (H043)
DUPLICATION PROJECT**

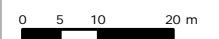
TREE HOLLOW INSPECTION

● Hollow tree

Ref: SW303
Date: 7/12/2020 Author: SP



A3 @ 1:1000



GRID: GDA zone 50



Source: Base map © Esri and its data suppliers. SLIP Landgate (2019)