

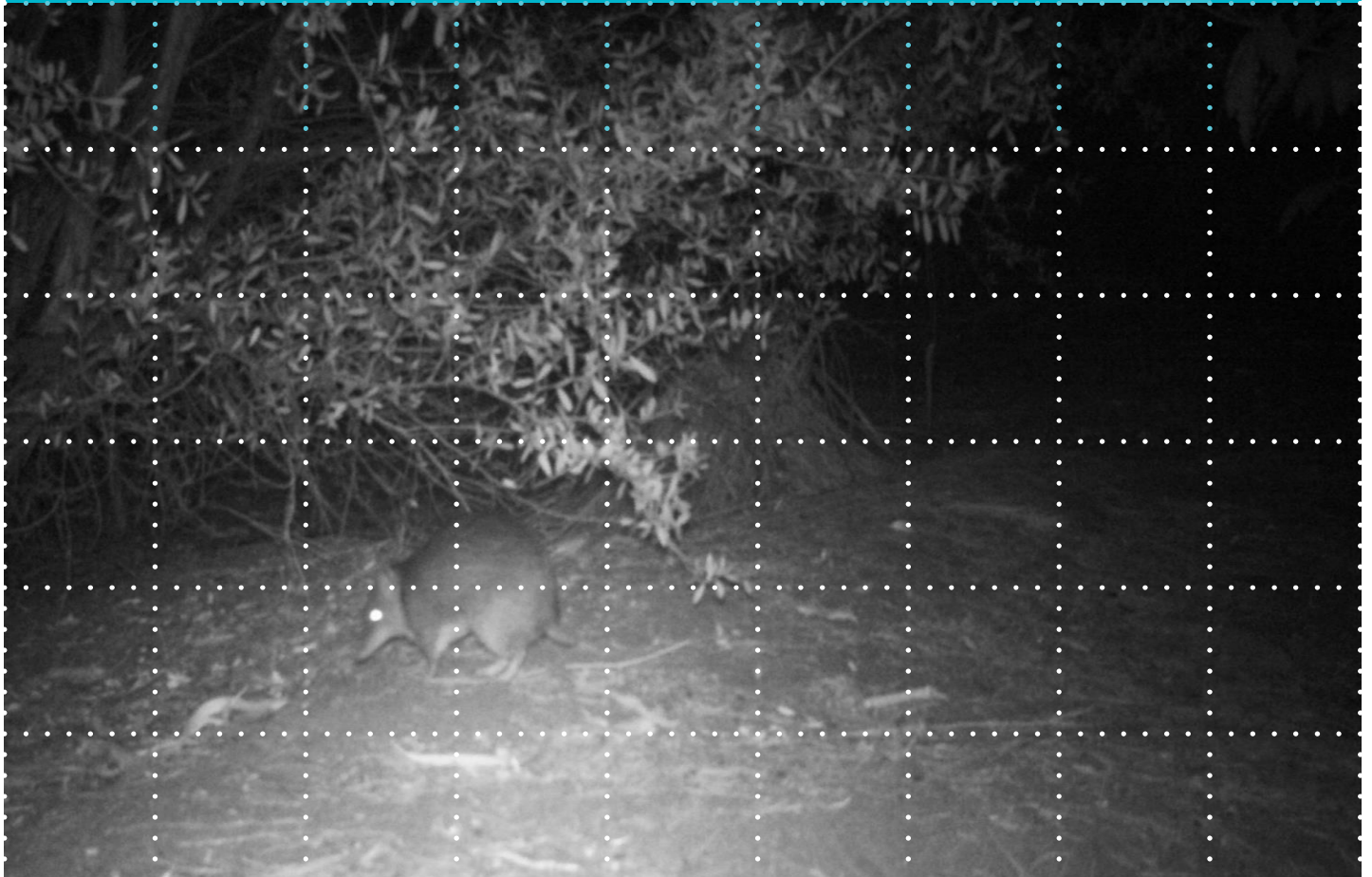
Final Report

Targeted Southern Brown Bandicoot *Isodon obesulus* *obesulus* Surveys, 40-46 Cyril-Beechey Lane, Cranbourne, Victoria

Prepared for

Greenridge Properties Pty Ltd

June 2020



Ecology and Heritage Partners Pty Ltd

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1 Introduction

1.1 Background

Ecology and Heritage Partners Pty Ltd was commissioned by Greenridge Properties Pty Ltd to conduct targeted surveys for the nationally significant Southern Brown Bandicoot *Isoodon obesulus obesulus* at 40-46 Cyril-Beechey Lane, Cranbourne, Victoria (the study area) (Figure 1).

Targeted Southern Brown Bandicoot surveys were recommended by Ecology and Heritage Partners to detect species presence at the study area, following an initial biodiversity assessment conducted in 2017 for: 39-45 & 40-46 Cyril Beechey Lane, Cranbourne, Victoria (Ecology and Heritage Partners 2019).

Accordingly, the aim of this assessment was to complete a targeted survey for Southern Brown Bandicoot within the study area to determine presence, potential use and importance of the study area (e.g. importance of the study area as a movement corridor for the species to other areas adjacent to the study area), along with potential impacts on the species and habitats associated with the proposed future development of the study area.

1.2 Study Area

The study area is located at 40-46 Cyril-Beechey Lane, Cranbourne, approximately 65 kilometres south-east of Melbourne's CBD (Figure 1). The study area covers approximately 3.8 hectares and is bound by residential properties along Grandeur court to the north, private property to the south, Cemetery Rd to the east and Cyril Beechey Lane to the west. The study area is generally flat, with no ridges, crests or waterways within or immediately adjacent to the site, and consists almost entirely of native vegetation.

According to the Department of Environment, Land, Water and Planning (DELWP) Native Vegetation Information Management (NVIM) Tool, the study area occurs within the Gippsland Plain bioregion. It is located within the jurisdiction of the Port Philip and Westernport Catchment Management Authority (CMA) and the City of Casey municipality.

2 Southern Brown Bandicoot

2.1 Status

Southern Brown Bandicoot is listed as Endangered under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) and threatened under the Victorian *Flora and Fauna Guarantee Act 1988* (FFG Act). In early 2015, the Department of the Environment and Energy (DoEE) sought public comment on a consultation paper concerning the eligibility of the species' classification under the EPBC Act. The Threatened Species Science Committee recommended that Southern Brown Bandicoot retain its current listing status of Endangered in the list referred to in Section 178 of the EPBC Act (TSSP 2016).



Plate 1: Southern Brown Bandicoot.
Source: Ecology and Heritage Partners

2.2 Description

The Southern Brown Bandicoot is a medium sized ground dwelling marsupial with a long tapering snout, a naked nose, a compact body and a short tail. Males weigh between 500–1850 grams and females 400–1200 grams (Van Dyck and Strahan 2008). The dorsal surface of the body usually appears grey-brown at a distance but grizzled (with golden-brown flecks) at close range due to banded guard hairs. The underparts and forefeet are creamy white or pale yellow, and the tail brown above and creamy yellow below. The forelegs are short with curved claws on each of the five digits, and the hind limbs much longer (Brown & Main 2010).

2.3 Distribution

In Victoria, the species is predominantly coastal and exhibits a disjunct and patchy distribution across the state. Records are clustered around six general regions: far-east Gippsland lowlands, western Gippsland Plain, Warrnambool Plain, Otway Plain, Glenelg Plain, and the Greater Grampians (Coates *et al.* 2008). As in other states, the species is generally associated with sites supporting heaths, heathy woodlands and forests or other vegetation communities providing a thick ground cover over sandy well-drained soils (Coates *et al.* 2008, Menkhorst and Seebeck 1990). Species experts define suitable habitat for Southern Brown Bandicoot to be any patches of native or exotic vegetation, within their distribution, which contains understorey vegetation structure with 50–80% average foliage density in the 0.2–1 metre height range. In areas where native habitats have been degraded or diminished, exotic vegetation, such as Blackberry (*Rubus* spp.), can and often does, provide important habitat (DSEWPac 2011a). An account of Southern Brown Bandicoot distribution the study area and project locality is provided in Figure 3.

2.4 Ecology

The breeding season for Southern Brown Bandicoot varies across their range, with peak breeding occurring from winter through to late summer (DoEE 2015). The species is omnivorous, opportunistically exploiting a wide variety of food resources such as invertebrates (mainly insects but also earthworms and other invertebrates), plant material and fungi. The species has been found to be active both day and night, with the activity period varying between location and habitat. The majority of home range studies of the species have all reported estimates which range from 0.5 to 9.0 hectares (DoEE 2015).

3 Methods

3.1 Desktop Assessment

Relevant literature, online-resources and databases were reviewed to provide an assessment of flora and fauna values associated with the study area. The following information sources were reviewed:

- The Victorian Department of Environment, Land, Water and Planning (DELWP) Biodiversity Interactive Map (DELWP 2018c);
- The Victorian Biodiversity Atlas (VBA) (DELWP 2018b)
- The DoEE Protected Matters Search Tool (PMST) (DoEE 2018);
- Correspondence with relevant organisations / personnel; and
- Aerial photography of the study area.

Further information was obtained from various literature sources that are cited throughout this document.

3.2 Targeted Surveys

Southern Brown Bandicoot monitoring within the study area was undertaken using baited remote cameras and adhered to the *National Survey Guidelines for Australia's Threatened Mammals* (DSEWPaC 2011b). All fieldwork was carried out under the appropriate licences, including Research Permits issued by DELWP under the *Wildlife Act 1975* (#10008283), and an Animal Research permit issued by the Wildlife and Small Institutions Animal Ethics Committee (05.17).

Targeted Southern Brown Bandicoot surveys were completed between 27 March and 13 April 2018, when fifteen cameras were deployed for a total of 17 survey nights (255 detector nights). All cameras (Scoutguard®) were fastened to trees and orientated towards an open area approximately two metres in front of the camera in focus of a hair funnel containing a mix of peanut butter, oats, honey and vanilla essence, this bait mix was caged to prevent consumption or removal by fauna. Cameras were set to record an image each time the motion sensor was triggered, both day and night. The remote camera locations are illustrated in Figure 1. While in the field, staff actively searched for indirect evidence of the target species, including scats and characteristic diggings (Southern Brown Bandicoot).

Monitoring was undertaken in early autumn, which is an acceptable time to survey Southern Brown Bandicoot, (i.e. immediately following the peak breeding/activity season of summer – late summer, when populations are increased through juvenile recruitment).

3.3 Assessment Qualifications and Limitations

Data and information held within the ecological databases and mapping programs reviewed as part of the desktop assessment are unlikely to represent all observations of the target species that have occurred within, and surrounding, the study area. Further, the primary limitation of using remote sensing cameras for monitoring populations is that they provide data on the presence of a species, as opposed to the absence, or any details on population size. Absence can only be inferred through the lack of Southern Brown Bandicoot images collected during the limited window of monitoring. Considering these points, absence of Southern Brown Bandicoots can only be suggested, with the strength of inference based on current local records, and monitoring results. Despite the above, the survey results are accurate and relevant in determining the likely presence and importance of the study area for Southern Brown Bandicoot.

4 Results

4.1 Desktop Assessment

4.1.1 *Southern Brown Bandicoot*

The VBA (DELWP 2018b) contains a substantial number of Southern Brown Bandicoot records within five kilometres of the study area (Figure 3). There are multiple Southern Brown Bandicoot records within the immediate area, particularly to the south of the study area, including the Royal Botanic Gardens Cranbourne which supports the largest population of Southern Brown Bandicoot in or near Melbourne (Marr, *et al.* 2011).

Recent records of Southern Brown Bandicoot (2011, 2012 and 2013) are prevalent to the south-east of the study area through the Cranbourne Thoroughbred Training Complex, which appears to have good connectivity with the Cranbourne Royal Botanic Gardens. Many of the recent records occur within one to three kilometres of the study area, with some within 500 metres (DELWP 2018b).

4.2 Habitat Assessment

The study area consists almost entirely of native vegetation, in relatively good condition, with some recent vegetation clearing along the northern and eastern boundaries. The study area provides dense cover of vegetation, as well as remnant native vegetation representative of four EVCs: Heathy Woodland (EVC 48), Swamp Scrub (EVC 53), Riparian Scrub (EVC 191) and Sedgy Swamp Woodland (EVC 707) (Figure 2). Large portions of the study area contain understorey vegetation structure with 50–80% average foliage density in the 0.2–1 metre height range, considered ideal for Southern Brown Bandicoot habitat.

4.2.1 *Suitability of Habitat for Southern Brown Bandicoot*

The habitat preferences of Southern Brown Bandicoot are relatively broad, with the species known to occur in a variety of habitats, including seemingly disturbed areas dominated by exotic species (e.g. Blackberry *Rubus fruticosus*). The study area is optimal habitat for Southern Brown Bandicoot as it contains thick ground cover over sandy well-drained soils and it may provide a corridor or refuge island within the broader landscape, particularly considering the high number of records in the Cranbourne Royal Botanical Gardens to the south and suitable connectivity to existing populations.

The overall context of the study area must also be considered as part of this project. That is, the proposed development of the study area will result in the removal of important habitat for the species. Indeed, in its current condition, the study area is likely to provide important breeding, foraging and dispersal habitat for Southern Brown Bandicoot and individuals are expected to make significant use of the study area. Suitable habitat for the species should be appropriately managed within the study area (e.g. predator control along with rehabilitation/revegetation activities) to enhance and augment existing areas supporting suitable habitat, in order to provide for the long-term conservation of Southern Brown Bandicoot within the Cranbourne area.

4.2.2 *Habitat Connectivity*

The study area currently provides good opportunities for Southern Brown Bandicoot dispersal, despite the modified nature of the surrounding area. Overall, the direct dispersal of Southern Brown Bandicoot between the study area and the adjoining areas is considered likely due to connective habitat (i.e. vegetated corridors allowing movement of Southern Brown Bandicoot between areas of suitable habitat). The residential areas

surrounding the study area is likely to reduce the suitability of the study area being used by Southern Brown Bandicoot in the long term however, the species is known to occur in a variety of habitats, including seemingly disturbed areas dominated by exotic species and is known to utilise anthropogenic structures and environments.

4.3 Targeted Survey Results

Fifteen motion-sensing cameras were deployed across the site in areas of suitable habitat between 27 March and 13 April 2018 targeting Southern Brown Bandicoot (Figure 1). Southern Brown Bandicoots were detected on 17 occasions.

The remote camera surveys recorded 17 species, eleven native and six introduced (Appendix 1). Native species detected included six native bird species, four native mammals and one monotreme. Southern Brown Bandicoots were detected on 17 occasions. Native species detected during the survey include Common Brushtail Possum, *Trichosurus vulpecula*, Common Bronzewing *Phaps chalcoptera*, Black Wallaby *Wallabia bicolor*, Superb Fairy-wren *Malurus cyaneus*, Grey Strike Thrush *Colluricincla harmonica*, Common Ringtail Possum *Pseudocheirus peregrinus*, Echidna *Tachyglossus aculeatus*, Brown Goshawk *Accipiter fasciatus*, White-browed Scrubwren *Sericornis frontalis*, and Eastern Yellow Robin *Eopsaltria australis*. The results of the motion-sensing cameras are provided below in Appendix 1 and a selection of the species recorded in Appendix 2, Plates 1-6.



Plate 2: Image from camera S36 Southern Brown Bandicoot. Source: Ecology and Heritage Partners

The identification of a Black Wallaby at a number of camera locations throughout the study area is important to note as the species presence and dispersal indicates the ability of the study area to support medium sized fauna within relatively urbanised surrounds, this further validates the high-quality habitat values of study area and its importance as a refuge to fauna with the context of the surrounding area.

4.3.1 Target Predator Species

Introduced species detected during the assessment included five invasive mammals; European Rabbit *Oryctolagus cuniculus*, Red Fox *Vulpes vulpes*, Domestic Cat *Felis catus*, Black Rat *Rattus rattus*, House Mouse *Mus musculus*, and one invasive bird; Common Blackbird *Turdus merula* (Appendix 1).

Five out of fifteen cameras locations detected foxes, and three out of fifteen camera locations detected cats (Appendix 1). Multiple foxes were observed during the assessment (Appendix 1 and Appendix 2, Plate 1), while one uniquely identifiable cat was present during the survey indicating these species have strong presence within the study area and are actively foraging and dispersing.

5 Legislative and Policy Implications

5.1 Environment Protection and Biodiversity Conservation Act 1999 (Commonwealth)

The *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) establishes a Commonwealth process for the assessment of proposed actions likely to have a significant impact on any matters of National Environment Significance (NES).

For species listed under the EPBC Act, the significance of impacts is assessed in accordance with the EPBC Act Policy Statement 1.1 Significant Impact Guidelines (DoEE 2013) where a 'significant impact' is defined as an impact which is important, notable, or of consequence, having regard to its context or intensity. Whether or not an action is likely to have a significant impact depends upon the sensitivity, value, and quality of the environment which is affected, and upon the intensity, duration, magnitude and geographic extent of the impacts (DoEE 2013). Importantly, for a 'significant impact' to be 'likely', it is not necessary for a significant impact to have a greater than 50% chance of happening; it is sufficient if a significant impact on the environment is a real or not remote chance or possibility (DoEE 2013).

The impact assessments concluded that the project is likely to have a significant impact on Southern Brown Bandicoot populations within the immediate area. Southern Brown Bandicoot is listed as Endangered under the EPBC Act and is considered likely to utilise the study area for substantial distribution, foraging or breeding purposes, based on the results of targeted surveys. The species has been shown to utilise the study area and these findings are reflected in the high number of recent records in the surrounding area (DELWP 2018b). The connectivity of study area to the surrounding landscape is important and the study area is likely to be of significant value to resident Southern Brown Bandicoot populations. The proposed action will result in the removal significant amounts of suitable habitat and will result in fragmentation of any existing populations in the local area. The proposed action is considered to constitute a significant impact in accordance with the significant impact criteria for endangered species (DoEE 2013).

The proposed action is likely to have a significant impact on any matter of NES regarding Southern Brown Bandicoot. As such, a referral to the Commonwealth Environment Minister has been prepared regarding matters listed under the EPBC Act.

5.2 Flora and Fauna Guarantee Act 1988 (Victoria)

The FFG Act is the primary legislation dealing with biodiversity conservation and sustainable use of native flora and fauna in Victoria. Proponents are required to apply for an FFG Act Permit to 'take' listed and/or protected flora species, listed vegetation communities and listed fish species in areas of public land (i.e. within road reserves, drainage lines and public reserves). An FFG Act permit is generally not required for removal of species or communities on private land, or for the removal of habitat for a listed terrestrial fauna species.

Southern Brown Bandicoot is listed under the FFG Act; however, the study area is privately owned, as such a permit under the FFG Act is not required.

6 Conclusion

The remote camera surveys did detect Southern Brown Bandicoot on 17 occasions using habitat within the study area during the 17 survey nights (255 detector nights). Seventeen species, eleven native and six introduced were detected during the survey period. The surveys detected high site usage by foxes and cats within the study area. Development of the study area is considered to impact any Southern Brown Bandicoot population given the high-quality nature of Southern Brown Bandicoot habitat, and frequent use of the study area by existing Southern Brown Bandicoot population within the area.

Accordingly, the proposed development will result in the removal of suitable habitat for the Southern Brown Bandicoot and will result in the fragmentation of existing populations in the local area. The proposed action is considered to constitute a significant impact in accordance with the significant impact criteria for endangered species and therefore a referral to the Commonwealth Environment Minister has been prepared regarding matters listed under the EPBC Act.

7 Recommendations

A referral to the Commonwealth Environment Minister has been prepared regarding matters listed under the EPBC Act. The proposed action is likely to have a significant impact on matters of NES regarding Southern Brown Bandicoot within the study area.

The following are potential recommendations for the enhancement or protection of Southern Brown Bandicoot habitat within the local area:

1. Undertake fox and cat control programs within the study area and surrounding area. Given the high number of recent Southern Brown Bandicoot sightings in the surrounding area, the retention of the local population will be partially dependent on the ongoing control of known predators of Southern Brown Bandicoot within the local area.
2. In areas known to currently support suitable habitat for Southern Brown Bandicoot, and that are likely to be strategically important for the species in the future, it is recommended to undertake active rehabilitation and revegetation activities (with consent of the relevant agencies) to maintain, and where possible, improve habitat structure and connectivity for the species.
3. Further survey work is recommended to measure the extent that populations of Southern Brown Bandicoot are using the connective vegetation corridors that exist adjacent to the site.

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Figures



Legend

- Study Area
- 📷 Camera locations



Figure 1
Camera Locations
 Targeted Southern Brown
 Bandicoot surveys for 39-45
 and 40-46 Cyril Beechey
 Lane, Cranbourne



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10492_Fig01_CameraLoc 10/04/2018 melsley



Legend

- Study Area
- ✿ Scattered Large Tree
- ✿ Scattered Small Tree
- Large Tree in Patch

Ecological Vegetation Class

- Heathy Woodland (EVC 48)
- Riparian Scub (EVC 191)
- Sedgy Swamp Woodland (EVC 707)
- Swamp Scrub (EVC 53)



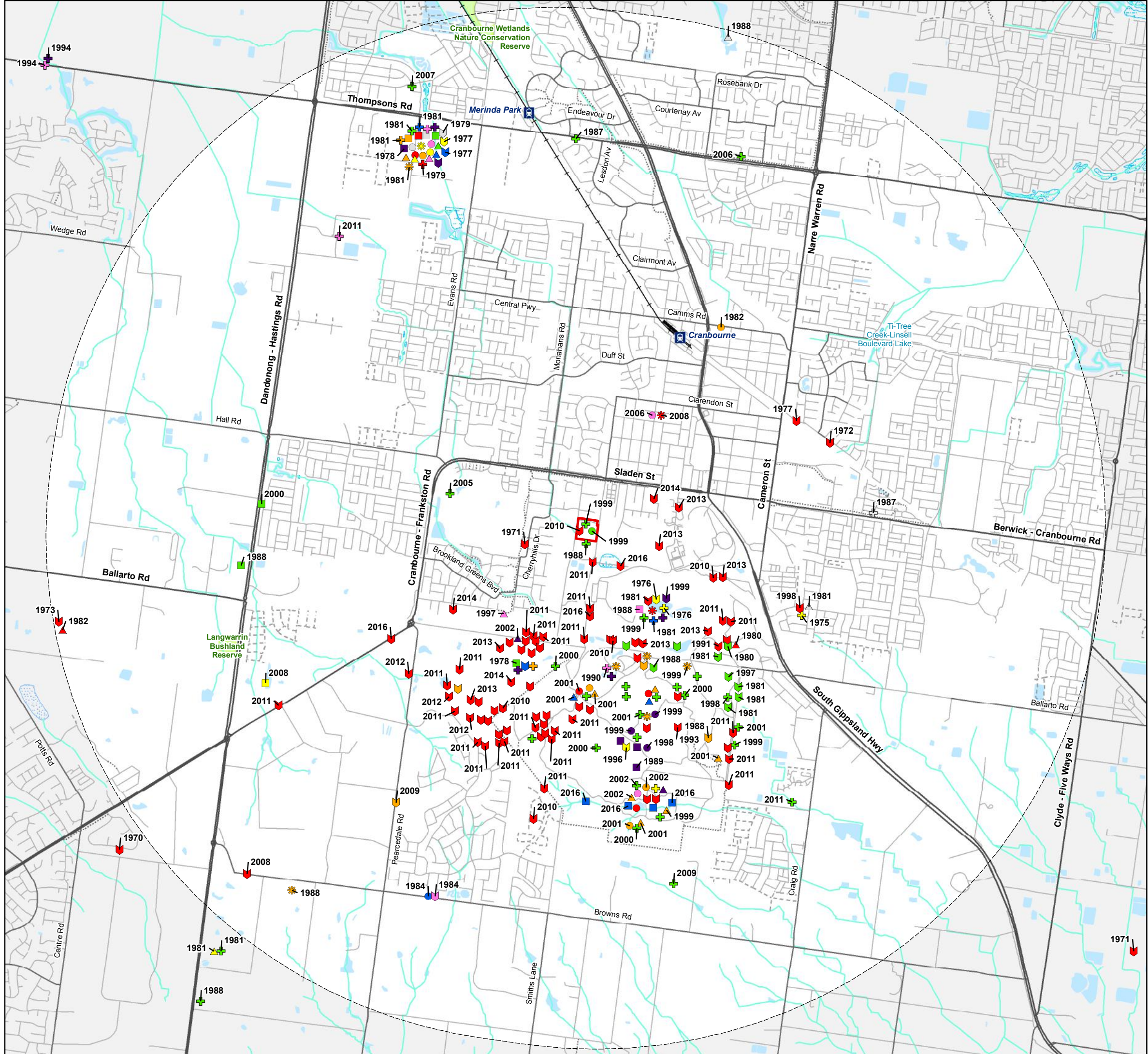
Figure 2

Ecological Features
Targeted Survey for Southern Brown Bandicoot for 40-46 Cyril Beechey Lane, Cranbourne



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10492_Fig02_EcolFeats 1/06/2018 melsley



Legend

Study Area

Significant fauna

Australasian Bittern

Australasian Shoveler

Baillon's Crake

Bar-tailed Godwit

Black Falcon

Black-tailed Godwit

Blue-billed Duck

Chestnut-rumped Heathwren

Common Greenshank

Common Sandpiper

Curlew Sandpiper

Dwarf Galaxis

Eastern Great Egret

Eastern Snake-necked Turtle

Glossy Ibis

Grey Goshawk

Grey-crowned Babbler

Growing Grass Frog

Hardhead

Hooded Robin

Intermediate Egret

Latham's Snipe

Lewin's Rail

Little Bittern

Magpie Goose

Marsh Sandpiper

Musk Duck

New Holland Mouse

Pacific Gull

Painted Honeyeater

Pied Cormorant

Royal Spoonbill

Ruddy Turnstone

Southern Brown Bandicoot

Southern Toadlet

Spotted Harrier

Swamp Skink

Swift Parrot

Whimbrel

Whiskered Tern

White-bellied Sea-Eagle

White-throated Needletail

Wood Sandpiper

Figure 3
Previously documented significant fauna within 5km of the study area
Targeted Survey for Southern Brown Bandicoot for 40-46 Cyril Beechey Lane, Cranbourne

N

012

Kilometres

VBA 2018. Victorian Biodiversity Atlas. // Sourced from: 'VBA_FLORA25' and 'VBA_FLORA100', January 2018 © The State of Victoria, Department of Environment, Land, Water and Planning. Records prior to 1949 not shown.

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10492_Fig03_SigFauna 1/06/2018 melsley

Appendix 1 40-46 Cyril-Beechey Lane, Cranbourne, Camera Results

Table A1 Summary of remote camera images and key fauna activity

Camera ID	Date	Time	Common Name	Species	Activity	ImageID
S2			Common Blackbird	Turdus merula	Moving through frame	
S2			Rat	Rattus rattus	Moving through frame/Eating bait	
S2			Common Bronzewing	Phaps chalcoptera	Moving through frame	
S2			Black Wallaby	Wallabia bicolor	Moving through frame	
S2			Common Brushtail Possum	Trichosurs vulpecula	Moving through frame/Investigating bait	
S2			Rabbit	Oryctolagus cuniculus	Moving through frame	
S4			Superb Fairy-wren	Malurus cyaneus	Moving through frame	
S4			Common Brushtail Possum	Trichosurs vulpecula	Moving through frame/Investigating bait	
S4	27/03/2018	18:20	Southern Brown Bandicoot	Isodon obesulus	Moving through frame	IMAG0022
S4			Rat	Rattus rattus	Moving through frame/Eating bait	
S4			Common Blackbird	Turdus merula	Moving through frame	
S4			Black Wallaby	Wallabia bicolor	Moving through frame	
S4			House Mouse	Mus musculus	Moving through frame	
S4			Grey Strike Thrush	Colluricincla harmonica	Moving Through Frame	
S4			Common Ringtail Possum	Pseudocheirus peregrinus	Moving through frame/Investigating bait	
S4			Cat	Felis catus	Moving through frame/Investigating bait	
S4			Rabbit	Oryctolagus cuniculus	Moving through frame	
S4	31/03/2018	17:35	Southern Brown Bandicoot	Isodon obesulus	Moving through frame	IMAG0660
S4			Red Fox	Vulpes Vulpes	Moving through frame	
S4	10/04/2018	17:37	Southern Brown Bandicoot	Isodon obesulus	Moving through frame	IMAG1966
S8			Common Blackbird	Turdus merula	Moving through frame	
S8			Black Wallaby	Wallabia bicolor	Moving through frame	
S8	29/03/2018	22:05	Southern Brown Bandicoot	Isodon obesulus	Moving through frame	IMAG0032
S8			Rat	Rattus rattus	Moving through frame/Eating bait	
S8	31/03/2018	21:57	Southern Brown Bandicoot	Isodon obesulus	Moving through frame	IMAG4892
S15			Rat	Rattus rattus	Moving through frame/Eating bait	
S15			Black Wallaby	Wallabia bicolor	Moving through frame	
S15			Common Brushtail Possum	Trichosurs vulpecula	Moving through frame/Investigating bait	
S15			Red Fox	Vulpes Vulpes	Moving through frame	

Camera ID	Date	Time	Common Name	Species	Activity	ImageID
S16			Rat	Rattus rattus	Moving through frame/Eating bait	
S16			Black Wallaby	Wallabia bicolor	Moving through frame	
S16			Common Brushtail Possum	Trichosurs vulpecula	Moving through frame/Investigating bait	
S16			Common Ringtail Possum	Pseudocheirus peregrinus	Moving through frame/Investigating bait	
S16			Grey Strike Thrush	Colluricincla harmonica	Moving Through Frame	
S16	10/04/2018	23:49	Southern Brown Bandicoot	Isodon obesulus	Moving through frame	IMAG3187
S16	12/04/2018	5:01	Southern Brown Bandicoot	Isodon obesulus	Moving through frame	IMAG3254
S18			Common Brushtail Possum	Trichosurs vulpecula	Moving through frame/Investigating bait	
S18			Rat	Rattus rattus	Moving through frame/Eating bait	
S18			Black Wallaby	Wallabia bicolor	Moving through frame	
S18			Grey Strike Thrush	Colluricincla harmonica	Moving Through Frame	
S18			Echidna	Tachyglossus aculeatus	Moving through frame	
S19			House Mouse	Mus musculus	Moving through frame	
S19			Common Blackbird	Turdus merula	Moving through frame	
S19			Black Wallaby	Wallabia bicolor	Moving through frame	
S19	3/04/2018	20:21	Southern Brown Bandicoot	Isodon obesulus	Moving through frame	IMAG0063
S19			Common Bronzewing	Phaps chalcoptera	Moving through frame	
S19			Superb Fairy-wren	Malurus cyaneus	Moving through frame	
S19			Rat	Rattus rattus	Moving through frame/Eating bait	
S23			House Mouse	Mus musculus	Moving through frame	
S23			Rat	Rattus rattus	Moving through frame/Eating bait	
S23			Common Ringtail Possum	Pseudocheirus peregrinus	Moving through frame/Investigating bait	
S23			Black Wallaby	Wallabia bicolor	Moving through frame	
S23			Red Fox	Vulpes Vulpes	Moving through frame	
S23			Cat	Felis catus	Moving through frame	
S23			Echidna	Tachyglossus aculeatus	Moving through frame	
S23			Brown Goshawk	Accipiter fasciatus	Moving through frame	
S25			Rat	Rattus rattus	Moving through frame/Eating bait	
S25			Black Wallaby	Wallabia bicolor	Moving through frame	
S25			Common Blackbird	Turdus merula	Moving through frame	
S25			Common Brushtail Possum	Trichosurs vulpecula	Moving through frame/Investigating bait	

Camera ID	Date	Time	Common Name	Species	Activity	ImageID
S31			Rat	Rattus rattus	Moving through frame/Eating bait	
S31			Black Wallaby	Wallabia bicolor	Moving through frame	
S31			Common Brushtail Possum	Trichosurs vulpecula	Moving through frame/Investigating bait	
S31			Common Bronzewing	Phaps chalcoptera	Moving through frame	
S31			Cat	Felis catus	Moving through frame	
S31			Red Fox	Vulpes Vulpes	Moving through frame	
S34	27/03/2018	20:14	Southern Brown Bandicoot	Isodon obesulus	Moving through frame/Investigating bait	IMAG0011
S34			Rat	Rattus rattus	Moving through frame/Eating bait	
S34			White-browed scrubwren	Sericornis frontalis	Moving through frame	
S34	28/03/2018	20:42	Southern Brown Bandicoot	Isodon obesulus	Moving through frame/Investigating bait	IMAG0278
S34			Superb Fairy-wren	Malurus cyaneus	Moving through frame	
S34	29/03/2018	19:02	Southern Brown Bandicoot	Isodon obesulus	Moving through frame/Investigating bait	IMAG0467
S34			Common Brushtail Possum	Trichosurs vulpecula	Moving through frame/Investigating bait	
S34			Common Bronzewing	Phaps chalcoptera	Moving through frame	
S34			Black Wallaby	Wallabia bicolor	Moving through frame	
S34			Eastern Yellow Robin	Eopsaltria australis	Moving through frame	
S34			Common Blackbird	Turdus merula	Moving through frame	
S34	3/04/2018	21:02	Southern Brown Bandicoot	Isodon obesulus	Moving through frame/Investigating bait	IMAG1037
S34			Common Ringtail Possum	Pseudocheirus peregrinus	Moving through frame/Investigating bait	
S34			Grey Strike Thrush	Colluricincla harmonica	Moving Through Frame	
S34	5/04/2018	19:58	Southern Brown Bandicoot	Isodon obesulus	Moving through frame/Investigating bait	IMAG1183
S34	9/04/2018	21:54	Southern Brown Bandicoot	Isodon obesulus	Moving through frame/Investigating bait	IMAG1400
S35			Rat	Rattus rattus	Moving through frame/Eating bait	
S35			Black Wallaby	Wallabia bicolor	Moving through frame	
S35			Common Brushtail Possum	Trichosurs vulpecula	Moving through frame/Investigating bait	
S35			Common Blackbird	Turdus merula	Moving through frame	
S35			Common Bronzewing	Phaps chalcoptera	Moving through frame	
S35			Rabbit	Oryctolagus cuniculus	Moving through frame	
S35			Red Fox	Vulpes Vulpes	Moving through frame	
S35	8/04/2018	1:45	Southern Brown Bandicoot	Isodon obesulus	Moving through frame/Investigating bait	IMAG2540
S35	11/04/2018	23:49	Southern Brown Bandicoot	Isodon obesulus	Moving through frame/Investigating bait	IMAG3566
S36			Grey Strike Thrush	Colluricincla harmonica	Moving Through Frame	

Camera ID	Date	Time	Common Name	Species	Activity	ImageID
S36			Common Blackbird	Turdus merula	Moving through frame	
S36			Rat	Rattus rattus	Moving through frame/Eating bait	
S36			Black Wallaby	Wallabia bicolor	Moving through frame	
S36			Common Brushtail Possum	Trichosurs vulpecula	Moving through frame/Investigating bait	
S36	20/04/2018	20:07	Southern Brown Bandicoot	Isoodon obesulus	Moving through frame/Investigating bait	IMAG1554
S36			Echidna	Tachyglossus aculeatus	Moving through frame	
S41			Black Wallaby	Wallabia bicolor	Moving through frame	
S41			Rat	Rattus rattus	Moving through frame/Eating bait	
S42			Rat	Rattus rattus	Moving through frame/Eating bait	
S42			Grey Strike Thrush	Colluricincla harmonica	Moving Through Frame	
S42			Black Wallaby	Wallabia bicolor	Moving through frame	

Appendix 2 Fauna Photographs



Plate 1: Red Fox

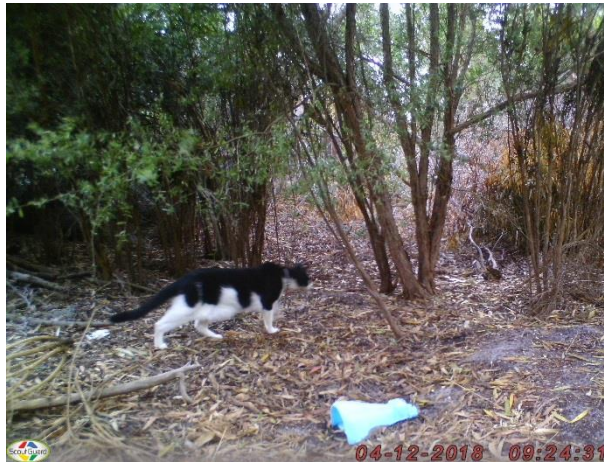


Plate 2: Domestic Cat



Plate 3: Southern Brown Bandicoot



Plate 4: Echidna



Plate 5: European Rabbit



Plate 6: Wallaby