



Hume Fauna Survey Program 2019-2020

FINAL REPORT

Prepared for Hume City Council

9 April 2020

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- Lucy Wilson, Julian Turner and Sally Mitchell (mapping)
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Summary

Biosis Pty Ltd was commissioned by Hume City Council to establish baseline data on presence of fauna species across 13 reserves managed by Hume City Council using a range of fauna survey techniques. Undertaking fauna surveys of Council-managed land has been identified as a key action in the Hume City Council Land and Biodiversity Plan 2015-2019 and will improve Hume City Council's knowledge of the distribution of fauna populations within the municipality. This project will assist Hume City Council to better understand species requirements in the management of Council conservation sites and will inform future budgets, programs and projects within the reserves.

The following 13 Council-managed reserves were selected to be included in the current fauna survey program:

1. Bulla School Hill Reserve, Bulla
2. Trap Street Reserve, Bulla
3. Quartz Street Reserve, Bulla
4. Gold Tree Hill, Bulla
5. Konagaderra Bridge Reserve, Wildwood
6. Moto X-track, Broadmeadows
7. Patullos Lane Reserve, Somerton
8. Northpark Reserve, Somerton
9. O'Herns Road Reserve, Somerton
10. Growling Grass Frog Nature Reserve, Craigieburn
11. Rushwood Drive Nature Reserve, Craigieburn
12. 630 Hume Highway Reserve, Craigieburn
13. John Laffan Reserve, Kalkallo

Fauna survey methods

A variety of survey methods were deployed across the 13 reserves between April 2019 and March 2020 to target different fauna groups including birds, mammals, reptiles, frogs and fish. Survey methods used during the current fauna survey program included:

- Remote cameras to target terrestrial and arboreal mammals.
- Artificial shelter (roof tile) transects to target reptiles.
- Diurnal bird census surveys.
- Anabat and Songmeter bat call detectors to target insectivorous microbats.
- Nocturnal surveys to target frogs, arboreal mammals and nocturnal birds.
- Aquatic survey to target semi-aquatic mammals (particularly Platypus), frogs and fish.

In order to provide context for the study, information about fauna from each reserve was also obtained from fauna databases and other relevant sources.

Results

The current fauna survey program recorded a combined total of 132 fauna species across all 13 reserves. This combined total is comprised of 111 indigenous fauna species (77 birds, 13 mammals, 9 reptiles, 7 frogs, four fish and one threatened insect) and 20 introduced fauna species (11 birds, six mammals and four fish). New fauna records were obtained for all reserves surveyed. Three fauna species of national significance (Growling Grass Frog, Golden Sun Moth and Grey-headed Flying-fox) and one of state significance (Tussock Skink) were

recorded during the current survey. An additional 11 fauna species were recorded that are considered to be of local significance to the Hume municipality due to being iconic, locally uncommon or at the edge of their distributional ranges. Of particular note were the detection of Bare-nosed Wombat at John Laffan Reserve, Rakali within Merri Creek, Lesueur's Frog on Deep Creek, and a number of locally significant woodland bird species.

This report provides detailed lists of all fauna species recorded throughout the course of the survey program, along with recommendations and opportunities to improve or maintain fauna habitat and increase knowledge and awareness of fauna populations within the broader municipality. Recommendations for further survey and opportunities for community engagement are also provided, where relevant.

1. Introduction

1.1 Project background

The objective of the project is to establish baseline data on presence of fauna species across 13 reserves managed by Hume City Council using a range of fauna survey techniques. Undertaking fauna surveys of Council-managed land has been identified as a key action in the Hume City Council Land and Biodiversity Plan 2015-2019 and will improve Hume City Council's knowledge of the distribution of fauna populations within the municipality. Findings of this project will assist Hume City Council to better understand species requirements in the management of Council conservation sites and will inform future budgets, programs and projects within the reserves.

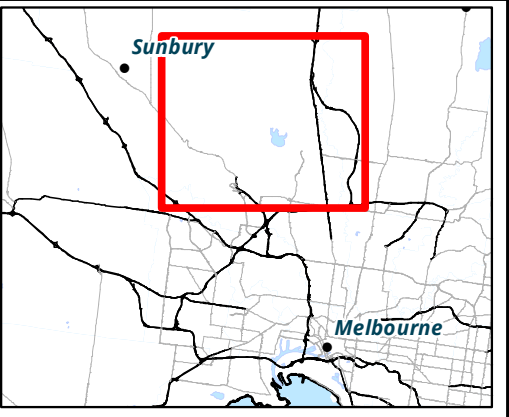
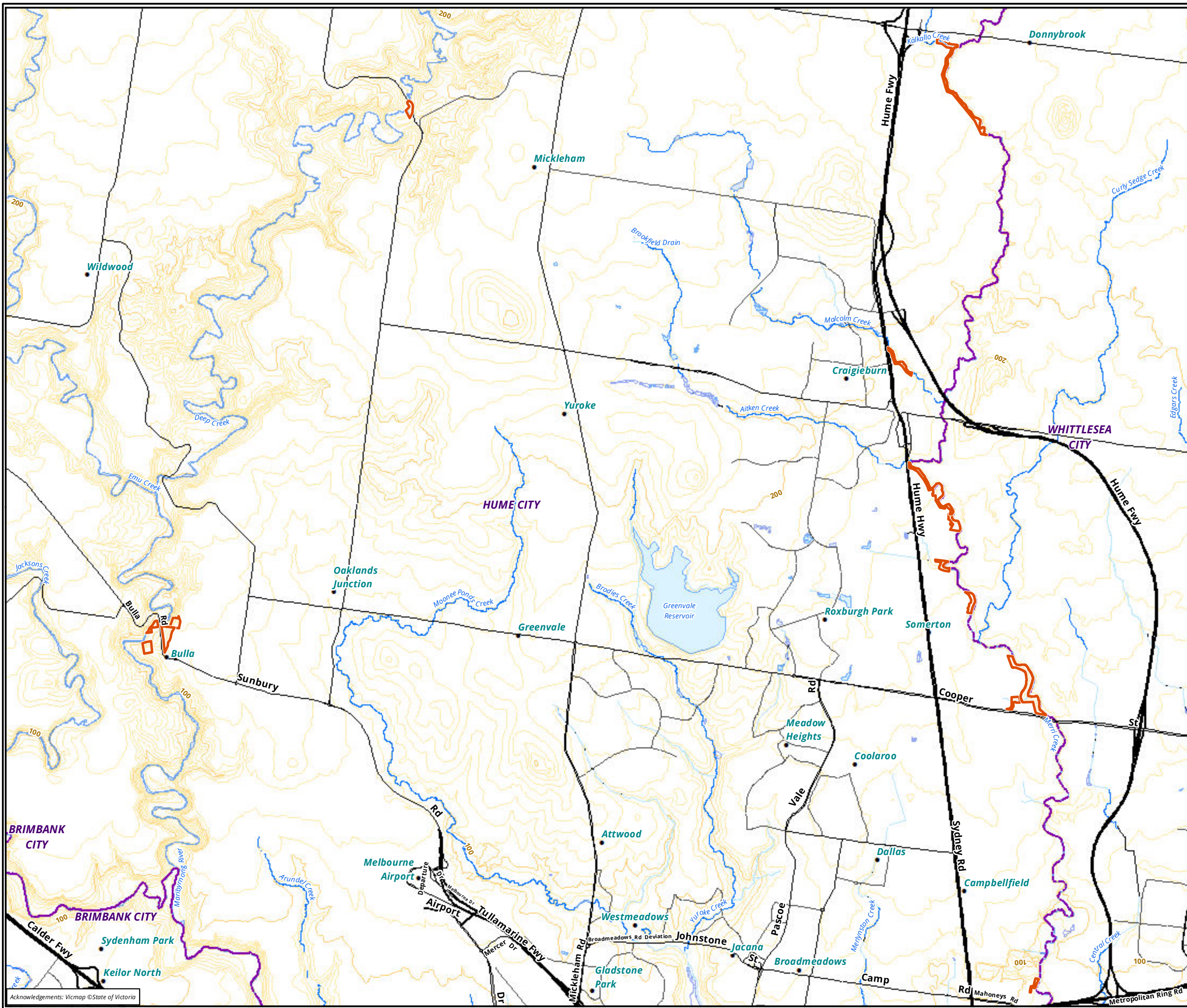
1.2 Scope of assessment

The tasks of the project are identified as follows:

- Undertake detailed surveys for mammals, birds, reptiles, amphibians and fish using a range of survey methodologies at the following 13 Council-managed reserves:
 - West reserves:
 - Bulla School Hill Reserve, Bulla
 - Trap Street Reserve, Bulla
 - Quartz Street Reserve, Bulla
 - Gold Tree Hill, Bulla
 - Konagaderra Bridge Reserve, Wildwood
 - East reserves:
 - Moto X-track, Broadmeadows
 - Patullos Lane Reserve, Somerton
 - Northpark Reserve, Somerton
 - O'Herns Road Reserve, Somerton
 - Growling Grass Frog Nature Reserve, Craigieburn
 - 630 Hume Highway Reserve, Craigieburn
 - John Laffan Reserve, Kalkallo
- Engagement with stakeholders and community groups relevant to the project, including the coordination of two community engagement activities at selected sites.
- Collection of fauna records for each site, including accurate spatial data for any threatened species recorded.
- Attendance at up to six meetings with Hume Council officers.
- Preparation of a draft report detailing the methodology, results, management recommendations and detailed species lists for each site.

1.3 Location of the study area

The current fauna survey program was undertaken at 13 Council-managed reserves distributed across the City of Hume, from Campbellfield in the south-east, Donnybrook in the north-east and Bulla in the north-west (Figure 1). All reserves are located within the City of Hume and within the management area of Melbourne Water and the Port Phillip and Westernport Catchment Management Authority (PPWCMA). Further information on the location features of each reserve is provided in Table 1.



- Legend**
- Study area
 - Contours 10m interval**
 - Minor contour
 - Major contour

Figure 1 Location of the study area - Hume City Council, Victoria



Kilometers
 Scale: 1:60,000 @ A3
 Coordinate System: GDA 1994 VICGRID94



Matter: 29772,
 Date: 13 March 2020,
 Checked by: CEP, Drawn by: LW, Last edited by: lwilson
 Location: P:\29700s\29772\Mapping\29772_F1_Locality.mxd

Acknowledgements: Vicmap © State of Victoria

Table 1. Location of the 13 Council-managed reserves surveyed

Reserve	Approximate size (hectares)	Bioregion	River basin	Location details
Western reserves				
Bulla School Hill, Bulla	3.05 ha	Central Victorian Uplands	Maribyrnong River	The reserve is located along School Lane and is bordered by residential properties to the north and east, and rural residential properties to the south and west. Deep Creek is south-west of the reserve.
Trap Street Reserve, Bulla	1.51 ha	Central Victorian Uplands	Maribyrnong River	The reserve consist of a parcel of land directly adjacent to Deep Creek to the north and west. It is bordered by residential properties to the south.
Quartz Street Reserve, Bulla	2.4 ha	Central Victorian Uplands	Maribyrnong River	The reserve consists of a parcel of land surrounded by other open space areas. The reserve is bordered by a sports ground to the east, Gold Tree reserve to the south and agricultural land north. Deep Creek is west of this reserve.
Gold Tree Hill, Bulla	5.1 ha	Central Victorian Uplands	Maribyrnong River	The reserve is bordered by Sunbury Road to the west, Bulla hill Railway to the east and Deep Creek to the north.
Konagaderra Bridge Reserve, Wildwood	2.87 ha	Central Victorian Uplands	Maribyrnong River	The reserve is surrounded by agricultural land. Deep Creek runs through the reserve.
Eastern Reserves				
Moto X-Track, Broadmeadows	1.05 ha	Victorian Volcanic Plain	Yarra River	The reserve is a linear parcel of land running along Merri Creek. It is bordered by a dirt bike track to the west and an industrial area to the east side of Merri Creek.
Northpark Reserve	16 ha	Victorian Volcanic Plain	Yarra River	The reserve is a linear parcel of land with Cooper Street bordering the south. It is bordered by industrial area with Merri Creek bordering the east.

Reserve	Approximate size (hectares)	Bioregion	River basin	Location details
O'Herns Road Reserve, Somerton	2.45 ha	Victorian Volcanic Plain	Yarra River	The reserve is a linear parcel of land running along the west of Merri Creek. It is bordered by industrial area to the west and Craigieburn Grassland Nature Reserve to the east.
Patullos Lane Reserve, Somerton	1.9 ha	Victorian Volcanic Plain	Yarra River	The reserve is a linear parcel of land running along the west of Merri Creek. It is bordered by industrial area to the west and Craigieburn Grassland Nature Reserve to the east.
Growling Grass Frog Nature Reserve, Craigieburn	2.87 ha	Victorian Volcanic Plain	Yarra River	The reserve is a linear parcel of land running along the west of Merri Creek. It is bordered by industrial area to the west and Craigieburn Grassland Nature Reserve to the east. Rushwood Drive Reserve is directly to the north of this site.
Rushwood Drive Nature Reserve, Craigieburn	8.5 ha	Victorian Volcanic Plain	Yarra River	The reserve is a linear parcel of land running along the west of Merri Creek. It is bordered by industrial area to the west and Craigieburn Grassland Nature Reserve to the east. Growling Grass Frog Nature Reserve is directly to the south.
630 Hume Hwy Reserve, Craigieburn	2.48 ha	Victorian Volcanic Plain	Yarra River	The reserve is a linear parcel of land running along the west of Malcolm Creek. It is directly bordered by Hume Highway, Craigieburn Train Maintenance Facility and the Shepparton Railway Line. To the north is agricultural land.
John Laffan Reserve, Kalkallo	10.75 ha	Victorian Volcanic Plain	Yarra River	The reserve is a linear parcel of land running directly along the west of Merri Creek, from Donnybrook Road to the Shepparton Railway Line bridge. It is surrounded by agricultural land.

2. Methods

2.1 Database review

In order to provide context for the study area, information about flora and fauna from within the study area was obtained from relevant biodiversity databases. Records from the following databases were collated and reviewed:

- DELWP's Victorian Biodiversity Atlas (VBA), including the 'VBA_FLORA25, FLORA100 and FLORA Restricted' and 'VBA_FAUNA25, FAUNA100 and FAUNA Restricted' datasets.

Other sources of biodiversity information were examined including the following relevant reports:

- Draft 5 Year Operation Plan Cooper Street Nature Reserve 2018-2023 (Practical Ecology 2018).
- Somerton Fire Response: Growling grass Frogs in the Merri Creek (Heard & West 2016).
- Hume City Council Fauna Survey 2015 (Biosis 2016).
- Hume City Council Land and Biodiversity Plan 2015-2019 (Hume City Council 2015).
- Hume City Council Fauna Survey 2013 (Biosis 2014).

2.2 Definitions of significance

Significant fauna species are categorised within this report as being of national, state or local significance as defined in Table 2 below.

Table 2 Criteria for determining significance of fauna species

Significance	
National	Listed as critically endangered, endangered or vulnerable under the Environmental Protection and Conservation EPBC Act 1999
State	Listed as critically endangered, endangered or vulnerable in Victoria on a DELWP Advisory List (DSE 2009, DSE 2013, DEPI 2014) Listed as threatened under the FFG Act
Local	Iconic species Species of interest identified by Hume City Council and local stakeholders Species at the edge of distributional range, or poorly represented in urbanised areas in Melbourne

Fauna species of national or state significance are determined by the relevant listing status under Commonwealth and/or State legislation/policy. Fauna species that are not of national or state significance may be considered as locally significant if the species has been identified as being at the edge of its distributional range, or is identified by Hume City Council and/or local stakeholders as a species of interest. This includes iconic species such as Short-beaked Echidna *Tachyglossus aculeatus* or Bare-nosed Wombat *Vombatus ursinus* Where a species is described as locally significant in this report, justification will be provided.

The potential for species of national and state significance to occur within each reserve is considered in this report, and is based on expert opinion, available information and an assessment of the suitability of habitat present at each site. Targeted surveys for significant species are recommended where appropriate.

2.3 Fauna survey techniques and survey effort

A range of fauna survey techniques were utilised in order to maximise detection of all vertebrate fauna groups including frogs, reptiles, bats, arboreal and ground-dwelling mammals, diurnal and nocturnal birds, semi-aquatic mammals, and fish. The various fauna survey techniques used to target these animal groups are described in further detail below. The survey period was between April 2019 and February 2020.

2.3.1 Remote cameras

Remote cameras were used in the current survey primarily to target mammal species, however this survey technique also regularly detects birds and reptiles. Remote camera survey sites consisted of a remote camera unit (Reconyx HC500 or HC600) attached to a tree trunk and directed towards a bait station containing standard mammal bait (oats, peanut butter and golden syrup), which was located approximately 2 m from the remote camera in order to lure animals into the camera's sensor range. Two remote camera set ups were utilised during the current survey (Plate 1):

1. Terrestrial remote camera sites, which were placed approximately 20 cm above ground level in order to target ground-dwelling species.
2. Arboreal remote camera sites, which were placed at least 1.5 m above ground and trained towards a branch or tree trunk in order to target arboreal mammals.

At Growling Grass Frog Nature Reserve and 630 Hume Highway Reserve there were no suitable trees to install cameras for the arboreal sites due to safety concerns. Therefore an additional two terrestrial camera sites were deployed.

Any vegetation and litter that might obscure the view of an animal investigating the bait or cause the camera to 'false trigger' was cut back from around the bait station, where required. The remote cameras were programmed to take three photos per trigger event, with a 30 second delay between triggers. All remote cameras were set to a 'high' sensitivity level and programmed to operate continuously throughout the entire period in which they were deployed.

A total of 20 terrestrial remote cameras and 15 arboreal remote cameras were deployed at reserves for 21 nights each. The majority of remote cameras operated continuously during their deployments, however the arboreal cameras at Gold Tree, Northpark, O'Herns Road and Quartz Street reserves failed after seven nights due to an excessive number of false triggering of camera sensors. One arboreal camera deployed at the Konagaderra Bridge Reserve was stolen. This resulted in a total of 658 camera nights. Further details regarding remote camera deployed for the current survey are presented in Table 3.



Plate 1 A terrestrial (left) and arboreal (right) remote camera set up

Table 3 Remote camera and hair funnel deployment details

Reserve	No. of terrestrial cameras	No. of arboreal cameras	Total trap nights
1. Bulla School Hill Reserve	1	1	40
2. Trap Street Reserve	1	1	40
3. Quartz Street Reserve	1	1	26*
4. Bulla Gold tree Reserve	2	2	52*
5. Konagaderra Bridge Reserve	1	1	22*
6. Moto X-track Reserve	1	1	44
7. North Park Reserve	2	2	73*
8. O'herns Road Reserve	1	1	29*
9. Patullos Lane Reserve	1	1	44
10. Growling Grass Frog Nature Reserve	2	-	40
11. Rushwood Nature Reserve	2	2	98
12. 630 Hume Hwy Reserve	2	-	40
13. John Laffan Reserve	3	2	110

*Reduced trap nights due to technical issues or theft.

2.3.2 Artificial shelter (roof tile) transects

The placement of artificial shelter, in the form of terracotta roof tiles, is a technique widely used to survey for reptiles. While mostly used for reptiles, artificial shelter placement can also detect the presence of frogs and small ground-dwelling mammals. In order to survey for reptiles, frogs and small ground-dwelling mammals, transects of terracotta roof tiles were established across a variety of habitat types in each reserve.

Each transect consisted of 10 roof tiles spaced at approximately 5 metre intervals. A total of 22 roof tile transects were established across the 13 reserves. The number of tile transects within each reserve varied from one to four, depending on the size of the reserve and presence of suitable areas to place them. Tile transects were established at each reserve and left undisturbed for at least two weeks prior to the first spring survey, to allow animals to become accustomed to using them as shelter sites. All tiles were then checked a total of five times during September 2019 and December 2019. Tile checks were timed to coincide with a range of weather conditions and alternated between morning and afternoon in an attempt to maximise the tile micro-climates sampled and hence the number of species detected.

2.3.3 Bird surveys

In order to survey for diurnal birds, a combination of point surveys and random search surveys were conducted at all reserves in a variety of different habitat types, with the aim of compiling a list of bird species recorded at each reserve for each visit. For the smaller reserves, random searches radiating out from a central point were conducted with the aim of recording all active bird species within the reserve during each survey. For the larger reserves, random searches radiating out from each bird census point were conducted with the aim of recording all bird species observed up to a maximum area of approximately 2 ha. Birds were detected and identified visually and/or by calls, and each survey was undertaken over at least 20 minutes. Bird surveys were undertaken at a variety of times throughout the day on seven separate occasions between May 2019 and January 2020 in order to maximise the number of species recorded. The majority of bird surveys were undertaken in the spring and early summer months of 2019, however a number of additional surveys were undertaken in the autumn and winter months of 2019 in an attempt to record seasonal visitors and migratory species such as the nationally significant Swift Parrot. Bird surveys were undertaken only on days with light winds. The locations of bird surveys are displayed in Figure 2.1 – Figure 2.14 (Figure 2).

2.3.4 Anabat and Songmeter bat call detectors

Insectivorous microbats cannot be accurately identified visually from a distance due to their small size, nocturnal habit and flight behaviours. Identification of species at a site requires direct capture or indirect censusing from recordings of ultrasonic echolocation sequences. Direct capture surveys utilising harp traps were previously undertaken within the Hume municipality in 2013 with very poor capture rates (Biosis 2013). It was therefore recommended that future microbat surveys focus on the deployment of ultrasonic bat call detectors with similar surveys undertaken within the Hume municipality in 2015 (Biosis 2016).

Anabat Swift Bat Detectors (Titley Electronics) and SM4ZC (Wildlife Acoustics) were therefore the primary method used to record acoustic microbat calls during the current fauna survey program. Detectors were positioned adjacent to areas likely to contain concentrated bat activity, such as near flowering trees, natural flyways or waterbodies (Plate 2). A total of 14 bat acoustic detectors were deployed across the 13 reserves for between 17 and 23 nights during the spring and summer months of 2019/2020. This resulted in a total of approximately 251 acoustic survey nights. The detector deployed at Konagaderra Bridge Reserve was stolen and therefore a replacement detector was deployed for a few hours whilst nocturnal surveys were being conducted on the night of the 21st January 2020.



Plate 2 Anabat Swift unit (left) and SM4ZC unit (right) bat detector set up.

Bat calls collected using SM4ZC units were analysed using the automated identification software AnaScheme, developed by Matt Gibson from Biosis and widely used in the automated analysis of microbat vocalisations within Victoria. The system allows for development of identification keys based on analysis of reference calls. The key used to analyse bat calls for this project was developed and tested by Lindy Lumsden of Arthur Rylah Institute, DELWP, from search-phase reference call sequences of individuals released following capture and identification (Key to bats of Melbourne, dated May 2011).

The accuracy of the key may be limited by the breadth and quality of the reference call data on which it is constructed, including the incorporation of adequate variation of calls within species. Due to the sheer number of bat call data obtained during the current survey, it was not feasible to manually confirm calls of every species for each reserve, therefore any good quality calls identified as common species were assumed to be correct. Any calls identified by the system as belonging to significant or uncommon species were checked manually by visual comparison with published reference calls.

Bat calls collected using Anabat Swift units were analysed using Anabat Insight, with species confirmed manually by visual comparison with published reference calls. Refer to section 2.4.1 for further details regarding limitations of this technique.

2.3.5 Nocturnal survey

In order to record nocturnal fauna species such as owls, nightjars, possums and frogs, two nights of nocturnal surveys were undertaken at each reserve. Nocturnal surveys used a combination of active searching using spotlights, listening for bird and frog calls and playback of calls to elicit responses from frog, owl and nightjar species with potential to occur in the study area. Nocturnal surveys were undertaken during the spring and summer of 2019/2020 during weather conditions conducive to survey (i.e. mild to warm with no wind).

2.3.6 Incidental records, anecdotal records and active searching

All vertebrate fauna species observed during the course of fieldwork were recorded and active searching for fauna was undertaken opportunistically throughout the course of the survey period. This included direct observation, searching under rocks, logs and artificial debris, examination of tracks and scats and identifying

calls. Incidental records are additional to those that were obtained by methods outlined above and are included in survey results for each reserve. In addition, a small number of anecdotal fauna records were obtained from other ecologists where they have made observations at the reserves during the same survey period.

2.3.7 Aquatic fauna survey

Aquatic sites were selected based on their suitability (habitat features) for survey using standard non-targeted passive survey techniques. Prior to collecting water quality or setting up in-stream fauna capture equipment, Environmental DNA (eDNA) samples were collected at three sites along a 50 metres reach at each reserve in order to determine the presence of Rakali *Hydromys chrysogaster* and Platypus *Ornithorhynchus anatinus*. Samples were collected downstream working upstream in order to minimise the chance of contamination, and forwarded to a laboratory for identification upon return from the field.

Following the collection of eDNA samples, water quality parameters were measured at each selected site using a Horiba U-52 calibrated water quality meter to further inform appropriate survey techniques.

Both fyke nets and bait traps were utilised in order to detect as many aquatic fauna species as possible. Bait traps are small, lightweight, collapsible traps suited to sampling small, bottom dwelling, and cryptic fish while fyke nets capture a wide range of larger-bodied fish, frogs, turtles and Platypus. Approximately 15 bait traps were set at each reserve, with a variety of habitats selected over a reach dependent on features. Bait traps were set at 5 pm each night and retrieved no later than 7 am the following morning, with a glow (cyalume) stick attached to aid as an attractant and a float attached to the bank to prevent the trap from flushing downstream.

Biosis fyke nets are comprised of a long sock of 4 millimetre knotless nylon mesh with two internal throats. Extending from the D-shaped entrance, a single 5 m long wing with a 60 cm drop was used during these surveys to direct fauna into the nets. The nets are set with a large polystyrene float in the cod end which is attached above the waterline to a stake on the bank or river bed to allow animals such as Patypus and turtles to breathe at the surface of the water if they become trapped. The wing is set fully extended and held in place by stakes.

Two fyke nets were set at four of the five reserves sampled over two days. Fyke nets were set in pairs, with one facing upstream and the other downstream, in order to increase the success rate of capture (Plate 3). All traps were set in the late afternoon and retrieved within 2 hours of sunrise the next morning. All fyke nets set overnight were inspected every two hours for platypus and turtles, according to methods employed by both the Australian Platypus Conservancy (APC) and CESAR Pty Ltd for Platypus census surveys throughout Victoria.

If a Platypus would have been caught, handling, holding and release would have been undertaken in accordance with APC fyke netting guidelines (Serena and Williams 2009). This includes removing the platypus from the cod end of the fyke net by hand and assessed for signs of injury, hypothermia and entanglement in litter and are released immediately if in good condition (uninjured, alert and active).



Plate 3 Fyke nets deployed on Deep Creek at Trap Street Reserve

In addition to these surveys, opportunistic visual census of waterbodies was undertaken throughout the course of the survey. This technique is most effective in situations where the water is clear, allowing good visibility.

The location of aquatic fauna survey sites and survey effort employed during the current survey is displayed in Table 4 below.

Table 4 Location of aquatic fauna survey sites and survey effort employed.

Reserve	Watercourse	Site Code	Zone	Easting	Northing	Gear Type (BT = Box Trap, FN = Fyke Net)
Broadmeadows Valley Park	Yuroke Creek	4.1	55	315842.14	5828774.20	5 x BT, 1 x FN
Bulla Hill (and School Hill)	Deep Creek	7.1	55	305756.85	5832582.74	10 x BT, 2 x FN
		7.2	55	305841.01	5832710.18	10 x BT, 2 x FN
Sunbury Pop Festival Site	Jacksons Creek	8.1	55	302333.79	5833941.41	10 x BT, 2 x FN
		8.2	55	302092.44	5834129.06	10 x BT, 2 x FN
Emu Bottom Wetlands Reserve	Jacksons Creek	15.1	55	300462.68	5842045.19	10 x BT, 2 x FN
		15.2	55	300298.42	5842093.20	10 x BT, 2 x FN
		15.3	55	300491.34	5842589.04	10 x BT, 2 x FN

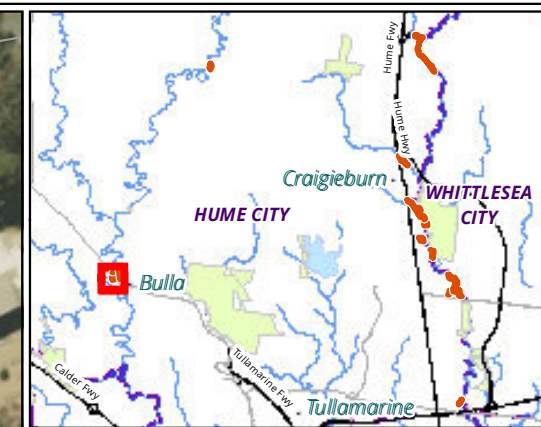
Reserve	Watercourse	Site Code	Zone	Easting	Northing	Gear Type (BT = Box Trap, FN = Fyke Net)
		15.4	55	300477.94	5842712.40	10 x BT, 2 x FN
Emu Valley Reserve	Jacksons Creek	14.1	55	299936.50	5844397.80	10 x BT, 2 x FN
		14.2	55	299932.96	5844504.42	10 x BT, 2 x FN

2.3.8 Permits and data submission

Biosis undertakes flora and fauna assessments under the following permits and approvals:

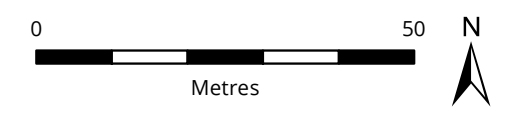
- Research Permit/Management Authorisation and Permit to Take/Keep Protected Flora and Protected Fish issued by DELWP under the Victorian *Wildlife Act 1975*, *Flora and Fauna Guarantee Act 1988* (FFG Act), *National Parks Act 1975* and *Crown Land (Reserves) Act 1978* (Permit Number 10008711).
- Permit to catch and release fish issued by the Victorian Fisheries Authority under the Victorian *Fisheries Act 1995* (Permit Number RP 1220, Personal File Number 13041).
- Approvals 30.17 and 19.18 issued by the Wildlife and Small Institutions Animal Ethics Committee of the Victorian Government Department of Economic Development, Jobs, Transport and Resources (DEDJTR).
- Scientific Procedures Fieldwork Licence issued by DEDJTR's Wildlife and Small Institutions Animal Ethics Committee (Licence Number 20020).

Fauna records will be submitted to DELWP for incorporation into the Victorian Biodiversity Atlas.



- Legend**
- Study area
 - ◆ Bird survey point
 - Camera Trap
 - Tile
 - + Songmeter

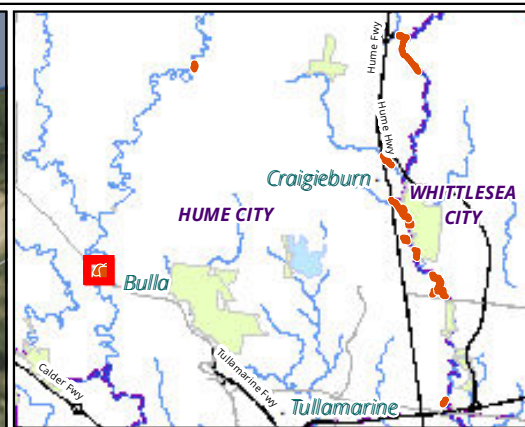
Figure 2.1 Survey methods at Bulla School Hill, Bulla



Scale: 1:1,000 @ A3
 Coordinate System: GDA 1994 MGA Zone 55

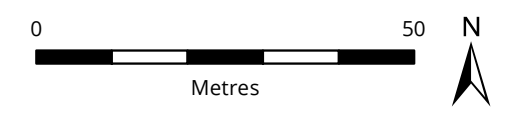


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- Legend**
- Study area
 - ✦ Bait trap
 - ◆ Bird survey point
 - Camera Trap
 - ★ eDNA
 - ⊕ Fyke net
 - Tile
 - + Songmeter

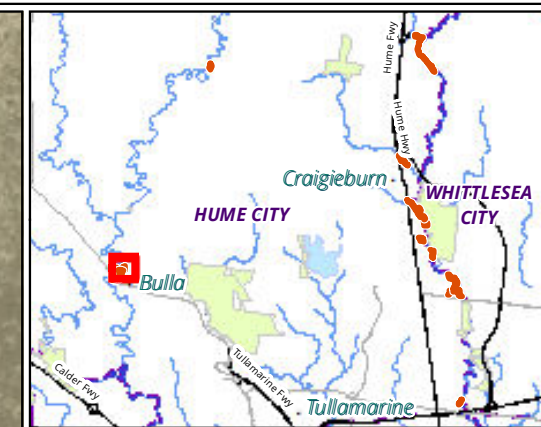
Figure 2.2 Survey methods at Trap Street Reserve, Bulla



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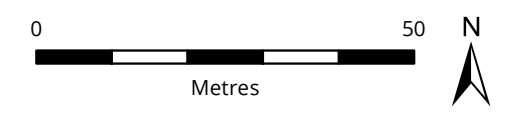


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- Legend**
- Study area
 - ◆ Bird survey point
 - Camera Trap
 - Tile
 - + Songmeter

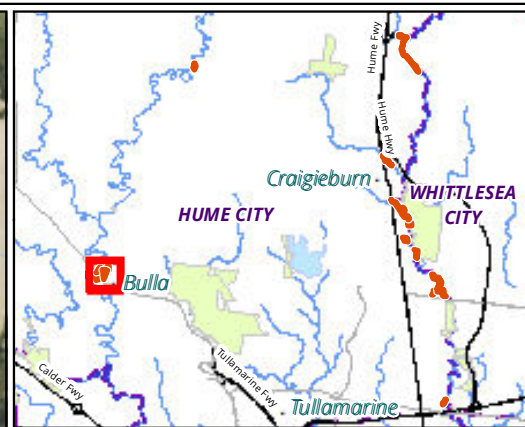
Figure 2.3 Survey methods at Quartz Street Reserve, Bulla



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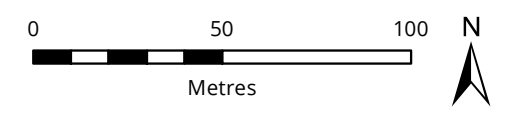


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- Legend**
- Study area
 - ★ Bait trap
 - ◆ Bird survey point
 - Camera Trap
 - Tile
 - + Songmeter

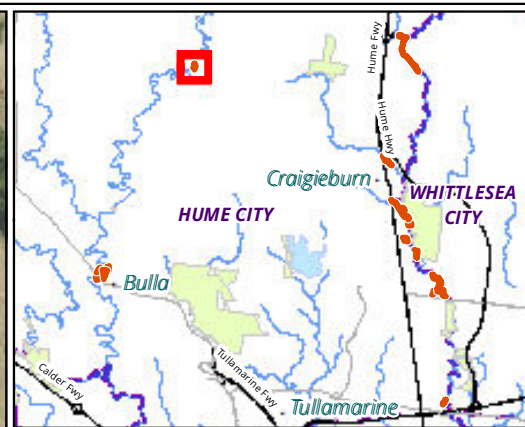
Figure 2.4 Survey methods at Gold Tree Hill, Bulla



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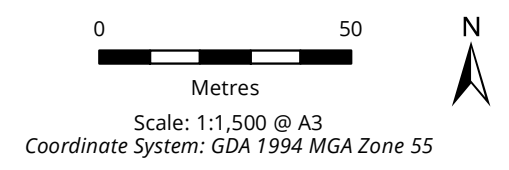


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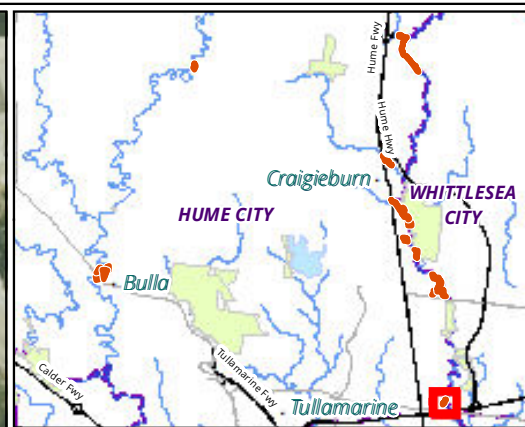


- Legend**
- Study area
 - ✦ Bait trap
 - ◆ Bird survey point
 - Camera Trap
 - ★ eDNA
 - ⊕ Fyke net
 - Tile
 - + Songmeter

Figure 2.5 Survey methods at Konagaderra Bridge Reserve, Wildwood

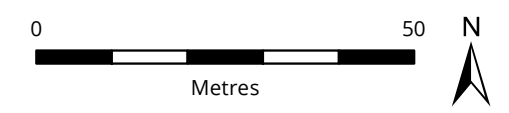


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- Legend**
- Study area
 - ◆ Bird survey point
 - Camera Trap
 - Tile
 - + Songmeter

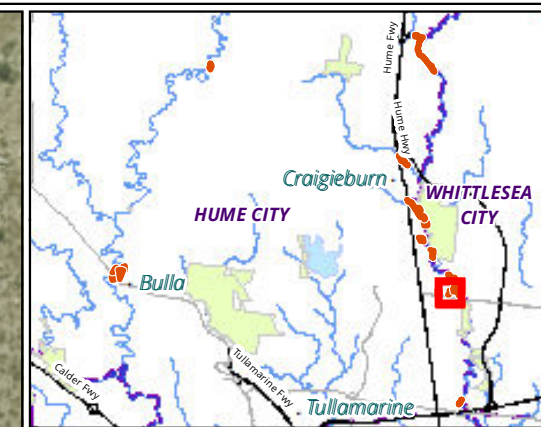
Figure 2.6 Survey methods at Moto X-track, Broadmeadows



Scale: 1:1,000 @ A3
 Coordinate System: GDA 1994 MGA Zone 55



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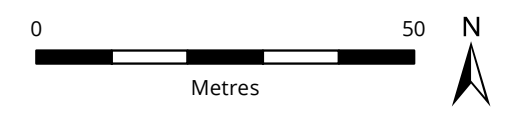
Legend
 Study area

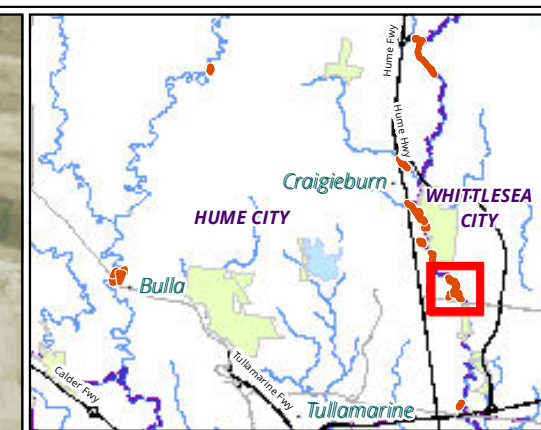
Figure 2.7 Survey methods at Northpark Reserve, Somerton



Scale: 1:1,000 @ A3
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 Date: 12 March 2020,
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- Legend**
- Study area
 - ✦ Bait trap
 - ◆ Bird survey point
 - Camera Trap
 - ⊕ Fyke net
 - Tile
 - + Songmeter

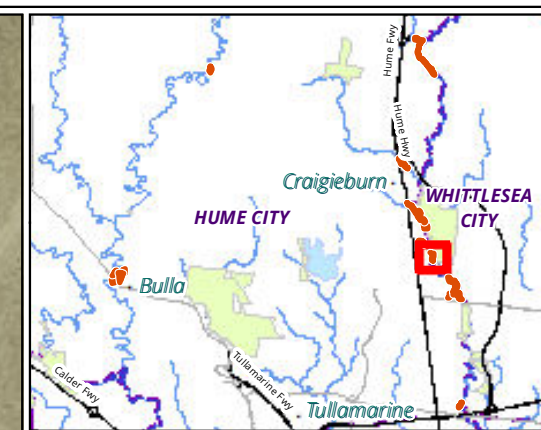
Figure 2.8 Survey methods at Northpark Reserve, Somerton



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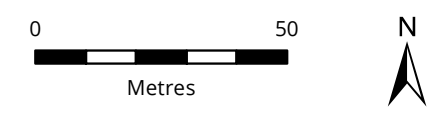


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- Legend**
- Study area
 - Bait trap
 - Bird survey point
 - Camera Trap
 - eDNA
 - Tile
 - Songmeter

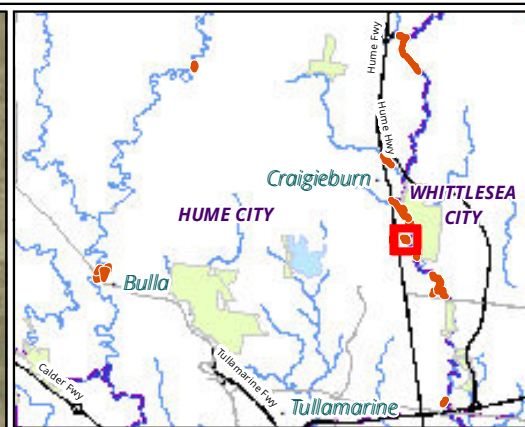
Figure 2.9 Survey methods at O'Herns Road Reserve, Somerton



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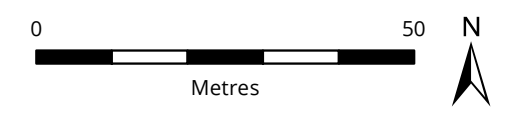


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- Legend**
- Study area
 - ◆ Bird survey point
 - Camera Trap
 - Tile
 - + Songmeter

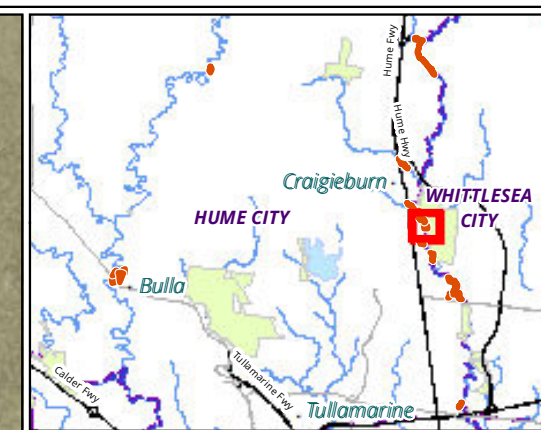
Figure 2.10 Survey methods at Patullos Lane Reserve, Somerton



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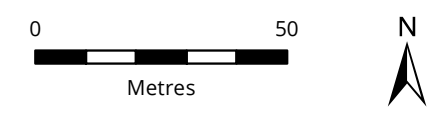


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- Legend**
- Study area
 - ◆ Bird survey point
 - Camera Trap
 - Tile
 - + Songmeter

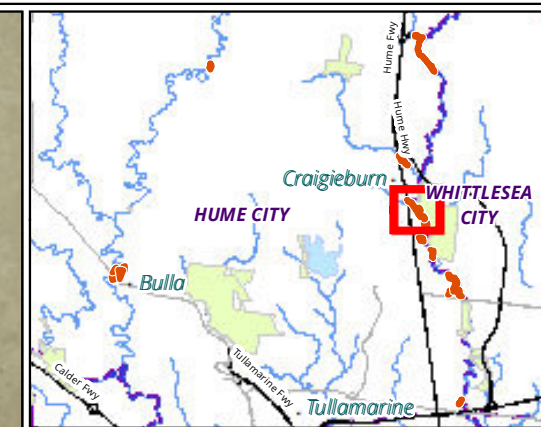
Figure 2.11 Survey methods at Growling Grass Frog Nature Reserve, Craigieburn



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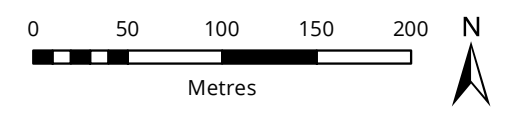


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- Legend**
- Study area
 - ★ Bait trap
 - ◆ Bird survey point
 - Camera Trap
 - ★ eDNA
 - ⊕ Fyke net
 - Tile
 - + Songmeter

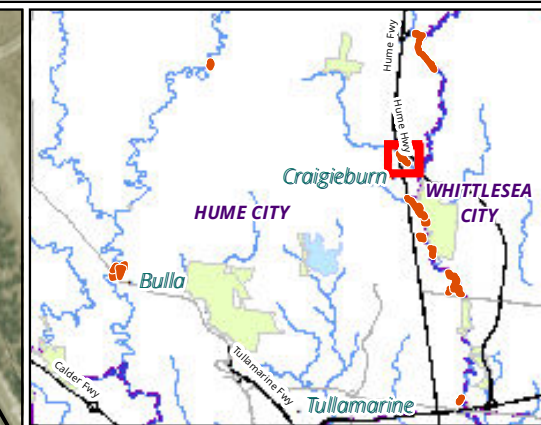
Figure 2.12 Survey methods at Rushwood Drive Nature Reserve, Craigieburn



Scale: 1:4,000 @ A3
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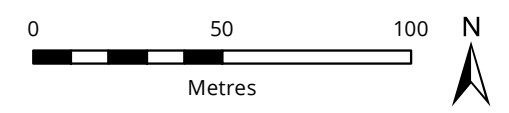


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- Legend**
- Study area
 - ◆ Bird survey point
 - Camera Trap
 - Tile
 - + Songmeter

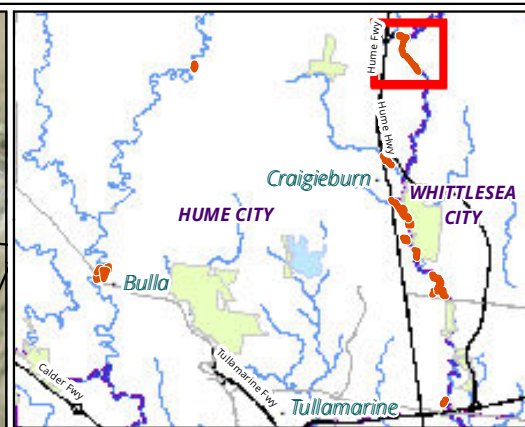
Figure 2.13 Survey methods at 630 Hume Hwy Reserve, Craigieburn



Scale: 1:2,000 @ A3
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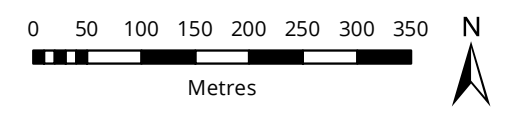


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- Legend**
- Study area
 - ◆ Bird survey point
 - Camera Trap
 - Tile
 - + Songmeter

Figure 2.14 Survey methods at John Laffan Reserve, Kalkallo



Scale: 1:7,000 @ A3
 Coordinate System: GDA 1994 MGA Zone 55



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 Date: 12 March 2020,
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2.4 Qualifications

Ecological surveys provide a sampling of biodiversity values at a given time and season. There are a number of reasons why not all species will be detected at a site during survey, such as low abundance, patchy distribution, species dormancy, seasonal conditions, and migration and breeding behaviours. In many cases these factors do not present a significant limitation to assessing the overall biodiversity values of a site.

The current assessment ran over the course of 11 months, which allowed for seasonal constraints to be considered and factored into the survey program. The current survey program was designed to maximise the number of species recorded, which required careful consideration of seasonal timing, weather constraints and survey techniques. The current survey program was largely undertaken in the spring and summer months, which is when the majority of fauna species are present, active and readily detectable. In addition, a number of surveys were also conducted in the autumn months of 2019 in an attempt to detect regional migrants such as the nationally significant Swift Parrot *Lathamus discolor*.

The current fauna survey was designed to maximise the number of species recorded from all fauna groups, rather than confirm presence or absence of specific cryptic or threatened species. While the fauna survey methods utilised during the current survey are often used to determine presence or absence of threatened species, the current survey was not conducted at the required intensity or frequency to confidently make a determination about whether a certain species is present or absent. For example, while the use of terracotta roof tiles is the standard survey technique for the nationally significant Striped Legless Lizard *Delma impar*, the roof tiles used in the current survey were not deployed in the number or extent that would be required to confirm presence/absence of this species in areas of suitable grassland habitat.

2.4.1 Anabat bat call detection

Determination of the identity of bat species using the methods employed in our surveys is a well recognised and widely applied technique, however, the method is not infallible and the following should be considered when interpreting the results presented in this report. Some taxa have calls within overlapping frequency ranges and cannot be distinguished from each other with certainty. High frequency background noise can occur and be recorded that may be in the frequency range of a particular species or may mask its calls. In such cases expert manual analysis is required to evaluate such calls and may still not provide complete certainty. In the results we obtained, the following points are relevant and some might potentially be resolved by detailed further analyses by external experts.

- Ultrasonic call frequency of Victorian species of Long-eared bats *Nyctophilus* spp. cannot be distinguished with certainty and records shown may include more than one taxon. Hence records for the genus are pooled as *Nyctophilus* complex.
- The calls of Large-footed Myotis *Myotis macropus* have a similar frequency and signature to Long-eared Bats and can often be difficult to differentiate with confidence. Upon manual analysis it was determined that calls assigned to this species were of a very poor quality and have therefore been removed from the results.

2.4.2 Human interference with survey equipment

The council-managed reserves surveyed as part of the current program are accessible to members of the public. While every effort was made to conceal fauna survey equipment from potential public interference, vandalism and/or theft, unfortunately this could not be completely avoided during the survey.

Tile transects were interfered with at a number of sites, including tiles smashed in a pile at Trap Street Reserve and tiles were removed from Konagaderra Bridge Reserve. These tiles were replaced as soon as this became apparent. One remote camera and one acoustic bat detector that were stolen from Konagaderra

Bridge Reserve. These devices were not replaced, however an acoustic bat detector was deployed between sunset and midnight whilst nocturnal surveys were undertaken on 21 January 2020.

2.4.3 Equipment failure

All remote detection equipment (cameras and Anabat and Songmeters units) were tested before being deployed and all deemed to be in good working order with full battery supplies. Unfortunately a small number of the aboreal motion sensing cameras false trigger which resulted in them failing before the 21 days.

2.5 Mapping

Hume City Council provided the reserve locations and maps.

Mapping was conducted using hand-held GPS-enabled tablets and aerial photo interpretation. The accuracy of this mapping is therefore subject to the accuracy of the tablets (generally ± 7 metres) and dependent on the limitations of aerial photo rectification and registration.

Mapping has been produced using a Geographic Information System (GIS). Electronic GIS files which contain our flora and fauna spatial data are available to incorporate into design concept plans. However this mapping may not be sufficiently precise for detailed design purposes.

3. Results

3.1 Database search results

Existing fauna records were searched and obtained from the Victorian Biodiversity Atlas (VBA) for each reserve, the results of which are provided in Appendix 1. A total of 578 individual records representing 112 fauna species have been previously recorded across all 13 reserves combined. Of the 112 species previously recorded, 18 are introduced species or are pest species as defined under *the Catchment and Land Protection Act 1994* (CaLP Act).

Of the 112 fauna species previously recorded in the VBA, 89 were recorded during the current fauna survey program. Appendix 1 provides an indication on whether or not a previously recorded fauna species was detected during the current surveys. Further detail regarding the current fauna survey results is provided in section 3.2 below.

Of the 13 reserves surveyed during the current program, six reserves have no previous fauna records in VBA. While it is reasonable to expect few previous fauna records from some of these reserves due to their very small size, some of these reserves have been part of fauna surveys undertaken by Biosis in 2013 and 2015. Our records indicate that the fauna records have been submitted to the VBA however they have not been made publicly available on the VBA. Therefore we have included these records within Appendix 1, marked with a circumflex accent (^) on the year of the most recent database record.

There were also an additional 62 fauna species records from previous reports prepared for Northpark Reserve (Indigenous Design 2013, Practical Ecology 2018). This included 50 bird species, six mammal species, five reptile species, and one frog species. During the current fauna surveys 34 out of 62 species were recorded.

These database search results demonstrate that undertaking desktop surveys requires accessing VBA and other sources to get a full representation of records for an area.

3.2 Fauna survey results combined

The current fauna survey program recorded a combined total of 132 fauna species across all 13 reserves. This combined total is comprised of 111 indigenous fauna species (77 birds, 13 mammals, 9 reptiles, seven frogs, four fishes and one threatened insect) and 21 introduced fauna species, including escapees and native species outside their natural range (11 birds, six mammals and four fishes). A summary of all fauna species recorded is provided in Table 5.

Of the combined total of 132 fauna species recorded, 91 had previously been recorded across the 13 reserves combined according to VBA database search results. Thus, a combined total of 41 new fauna species were recorded during the current survey that had not previously been recorded across all 13 reserves combined. A large number of new fauna records were obtained for each reserve surveyed and the current survey program has thereby contributed substantially to knowledge of fauna species and their distribution across the system of reserves. Survey results are provided in Appendix 2, which includes a combined list of all fauna species recorded (A2.1) and a separate list for each of the 13 reserves surveyed (A2.2-2.14). Tables provided in Appendix 2 also identify the fauna survey technique(s) by which each species was detected during the current survey.

Table 5 Summary of the total number of fauna species recorded at each reserve. The number of introduced species that make up each total is provided in parentheses.

Reserve	Birds	Mammals	Reptiles	Frogs	Fish	Invertebrates	Total
Bulla School Hill, Bulla	27 (6)	9 (1)	1	-	-	-	37 (7)
Trap Street Reserve, Bulla	31 (6)	6 (1)	1	5	5 (2)	-	48 (9)
Quartz Street Reserve	27 (4)	9 (1)	2	-	-	-	40 (5)
Gold Tree Hill, Bulla	29 (4)	9 (2)	-	-	-	-	38 (6)
Konagaderra Bridge Reserve, Wildwood	30 (3)	4 (2)	1	1	-	-	36 (5)
Moto X-Track, Broadmeadows	27 (8)	7 (2)	3	-	-	-	37 (10)
Northpark Reserve	45 (7)	8 (1)	3	3	4 (2)	1	64 (10)
O'Herns Road Reserve, Somerton	44 (7)	6	3	1	3 (1)	1	58 (8)
Patullos Lane Reserve, Somerton	29 (6)	9 (2)	2	2	1 (1)	1	44 (9)
Growling Grass Frog Nature Reserve, Craigieburn	31 (6)	11 (2)	2	4	-	-	48 (8)
Rushwood Drive Nature Reserve, Craigieburn	32 (5)	6 (2)	5	4	4 (2)	-	51 (9)
630 Hume Hwy Reserve, Craigieburn	35 (9)	9 (5)	1	2	-	-	47 (14)
John Laffan Reserve, Kalkallo	38 (7)	13 (3)	3	4	-	-	58 (10)
All reserves combined	88 (11)	19 (6)	9	7	8 (4)	1	132 (21)

Of the various fauna survey methods utilised throughout the course of the current survey, tile transects were possibly the most intensive, and the least effective, technique for detecting terrestrial fauna. However, it was an important technique for detecting Tussock Skink *Pseudemoia pagenstecheri*. Bird surveys were the most effective survey technique, resulting in the detection of 80 fauna species. Incidental records combined with active searching also contributed a large number of species records, along with nocturnal surveys (23 species) and terrestrial remote cameras (21 species). Arboreal remote cameras were substantially less effective, returning only ten species, some of which were also recorded on terrestrial cameras. This current survey has provided an opportunity to further refine fauna survey techniques to be utilised for future surveys. Recommendations in relation to this are provided in section 4.

3.2.1 Significant fauna

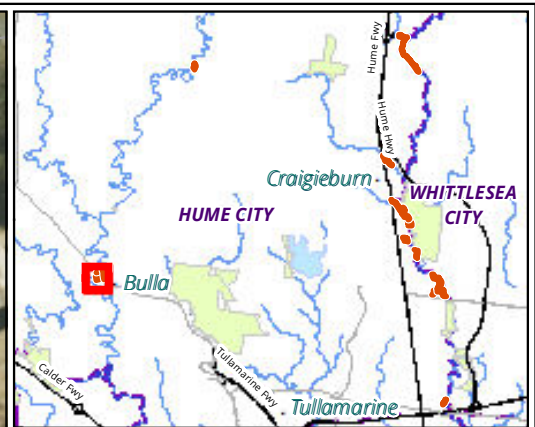
Three fauna species of national significance and one of state significance were recorded during the current survey. An additional 11 fauna species were recorded that are considered to be of local significance to the Hume municipality due to being iconic, locally uncommon or at the edge of their distributional ranges. Table 6 provides a summary of significant fauna species recorded during the current assessment.

Table 6 Summary of significant fauna species recorded from the current survey program

Species	Reserves recorded	Details
National significance		

Species	Reserves recorded	Details
Growling Grass Frog	Northpark Reserve Trap Street Reserve O'Herns road reserve (Anecdotal)	This species is listed as vulnerable under the EPBC Act. Growling Grass Frog was recorded during these surveys at two reserves. The population in Deep Creek adjacent Trap Street Reserve has been noted in previous surveys to be a significant breeding site with the population continuing to persist in this area. This species was also heard at Northpark Reserve and recorded at O'Herns Road Reserve during the 2019/20 breeding season (D De Angelis 2020, Pers comm., 21 February, B Casey 2020, Pers comm, 24 February). Notably Growling Grass Frog was not detected with the Growling Grass Frog Nature Reserve where there has previously been a breeding population.
Grey-headed Flying Fox	Quartz Street Reserve Growling Grass Frog Nature Reserve	This species is listed as vulnerable under the EPBC Act. An individual was observed foraging in the planted eucalypt surrounding the oval next to Quartz Street Reserve and one flying over Growling Grass Frog Nature Reserve.
Golden Sun Moth	Northpark Reserve O'Herns Road Reserve Patullos Lane Reserve	This species is listed as critically endangered under the EPBC Act. Approximately 10-20 individuals were observed at each location including some females. All three reserves are located along the Merri Creek, contain grassy woodland and are within close proximity to Craigieburn Grasslands where a known significant population is present.
State significance		
Tussock Skink	Rushwood Drive Nature Reserve Quartz Street Reserve O'Herns Road Reserve	This species is listed as vulnerable in Victoria under the FFG Act. This species was recorded numerous times beneath tile transects at a number of reserves containing grassy woodland or tussock grassland.
Local Significance		
Short-beaked Echidna	Northpark Reserve John Laffan reserve	This species is one of the few medium-sized ground-dwelling native mammals that is extant within the Hume municipality. Through its digging activity, this species is very important in maintaining ecological process in native grasslands. It was recorded in larger reserves along the Merri Creek where connectivity of the landscape occurs.
Bare-nosed Wombat	Konagaderra Bridge Reserve John Laffan Reserve	This species has a limited occurrence throughout the Hume municipality however continues to persist along habitat corridors that occur along creek lines. The population recorded at Konagaderra Bridge Reserve continues to persist with successful breeding observed with remote camera photos of young at foot. The records at John Laffan Reserve are significant as this species had not previously been recorded.

Species	Reserves recorded	Details
Rakali	Rushwood Road Reserve Northpark Reserve O'Herns Road Reserve (Anecdotal)	This species is one of the few medium-sized ground-dwelling native mammals that is extant within the Hume municipality. It was recorded present within Marri Creek through the use of eDNA surveys and these results corroborate with sightings of Rakali at O'Herns road Reserve during the same period (pers. comm. De Angelis, D.).
Nankeen Night-heron	O'Herns Road Reserve Patullos Lane Reserve 630 Hume Hwy Reserve	This wetland bird is listed as near-threatened in Victoria under the FFG Act and therefore considered to be of local significance to the Hume municipality. It is likely to make use of a variety of wetlands across the Hume municipality.
Wedge-tailed Eagle	Rushwood Drive Reserve John Laffan Reserve O'Herns Road Reserve	This species is of local significance due to its iconic nature and the presence of a breeding site in Northpark Reserve. Wedge-tailed Eagle was observed flying along Merri Creek on a number of occasions.
Brown Songlark	John Laffan Reserve Northpark Reserve	These two species of Songlark are migratory to the south coasts of Australia. They are an uncommon occurrence around suburban Melbourne and therefore a locally significant species.
Rufous Songlark	O'Herns Road Reserve Rushwood Drive Reserve	
White-winged Triller	Rushwood Drive Reserve	These three species of bird are typically associated with intact remnant woodland habitat and therefore uncommon in suburban Melbourne, therefore considered locally significant.
Spiny-cheeked Honeyeater	Quartz Street Reserve Gold Tree Hill Reserve	
Black-eared Cuckoo	Bulla School Hill 630 Hume Hwy Reserve	
Lesueur's Frog	Trap Street Reserve	This species of frog is considered to be locally significant in the Hume municipality as it is at the edge of the distribution range. Lesueur's Frog was recorded in Deep Creek at Trap Street during previous surveys and continue to be present at this site.



Legend



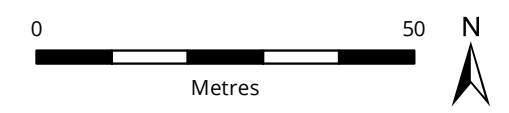
-  Study area
- Significant species records**
-  State advisory list

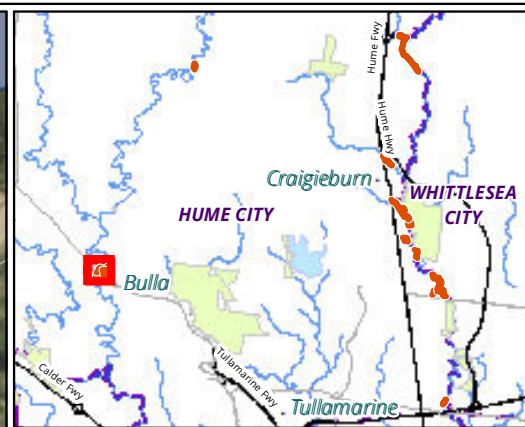
Figure 3.1 Records of significant species at Bulla School Hill, Bulla



Scale: 1:1,000 @ A3
 Coordinate System: GDA 1994 MGA Zone 55

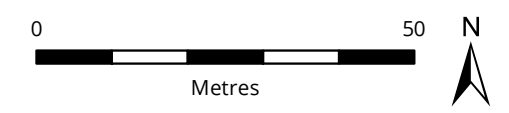


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- Legend**
- Study area
 - Significant species records**
 - + National and state listed
 - ▲ Locally threatened

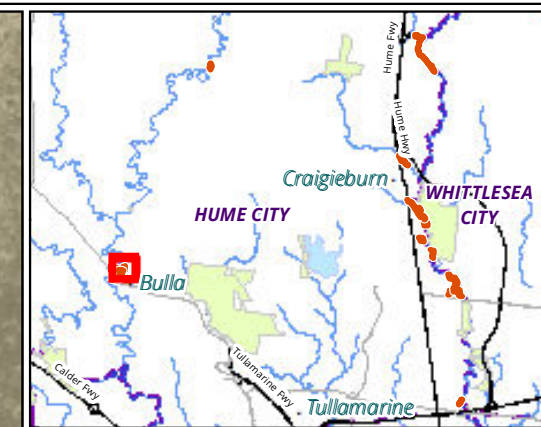
Figure 3.2 Records of significant species at Trap Street Reserve, Bulla



Scale: 1:1,000 @ A3
 Coordinate System: GDA 1994 MGA Zone 55



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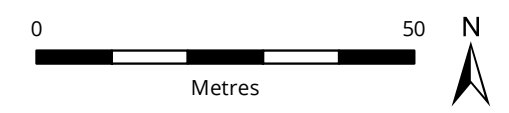
Legend

Study area

Significant species records

Locally threatened

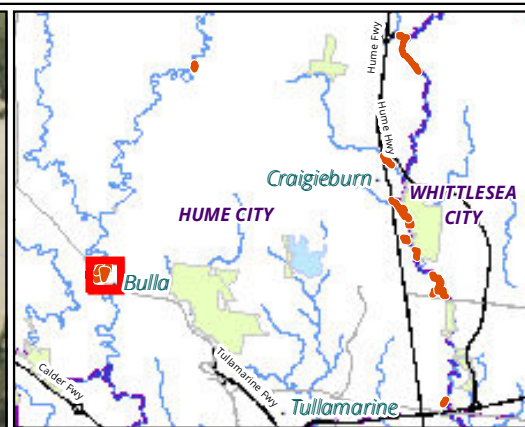
Figure 3.3 Records of significant species at Quartz Street Reserve, Bulla



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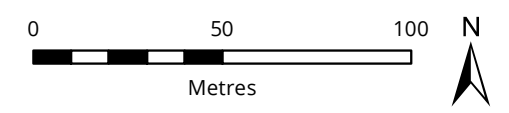


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- Legend**
- Study area
 - Significant species records**
 - ▵ State advisory list
 - ▴ Locally threatened

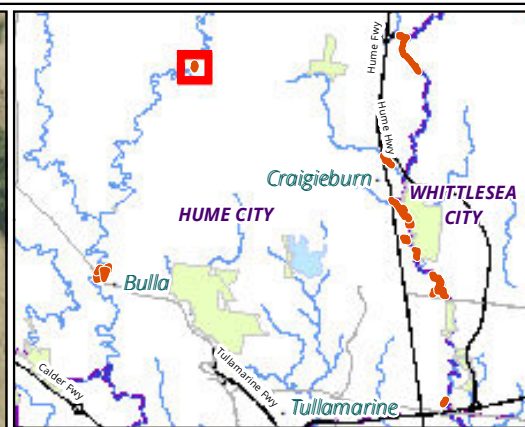
Figure 3.4 Records of significant species at Gold Tree Hill, Bulla



Scale: 1:2,000 @ A3
 Coordinate System: GDA 1994 MGA Zone 55

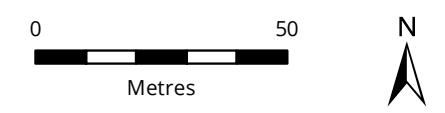


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- Legend**
- Study area
 - Significant species records**
 - ▲ Locally threatened

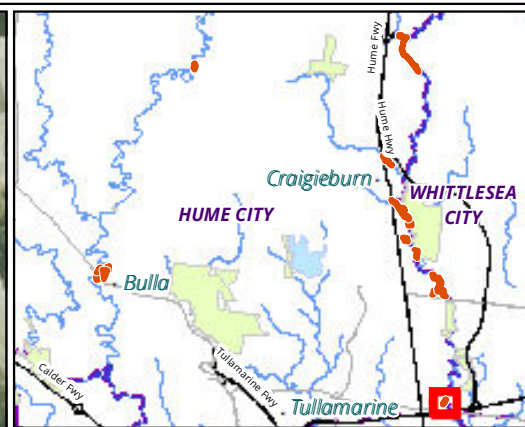
Figure 3.5 Records of significant species at Konagaderra Bridge Reserve, Wildwood



Scale: 1:1,500 @ A3
 Coordinate System: GDA 1994 MGA Zone 55

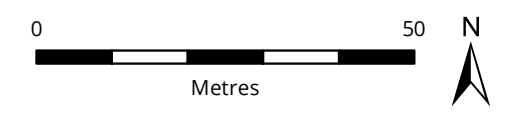


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Legend
 Study area

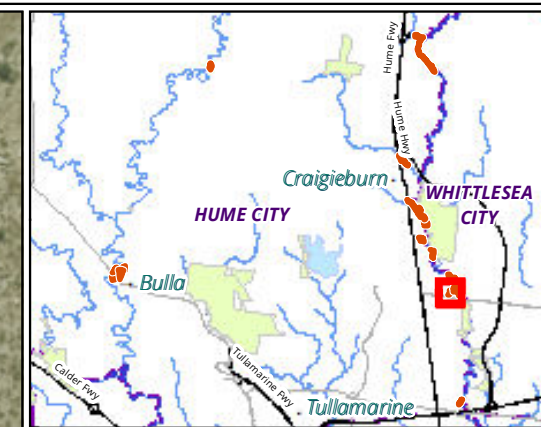
Figure 3.6 Records of significant species at Moto X-track, Broadmeadows



Scale: 1:1,000 @ A3
 Coordinate System: GDA 1994 MGA Zone 55



Matter: 29772,
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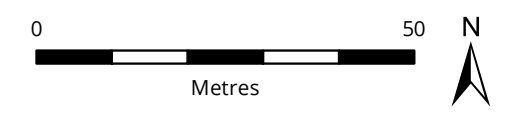
Legend

Study area

Significant species records

▲ Locally threatened

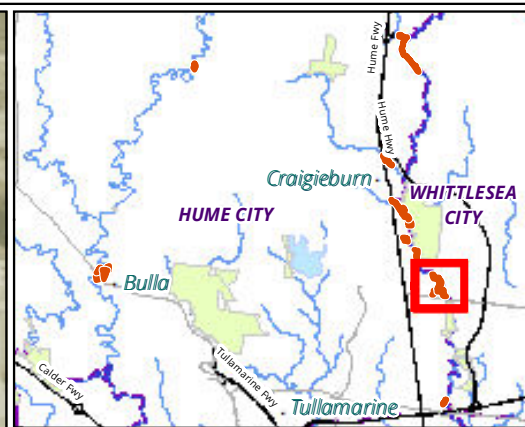
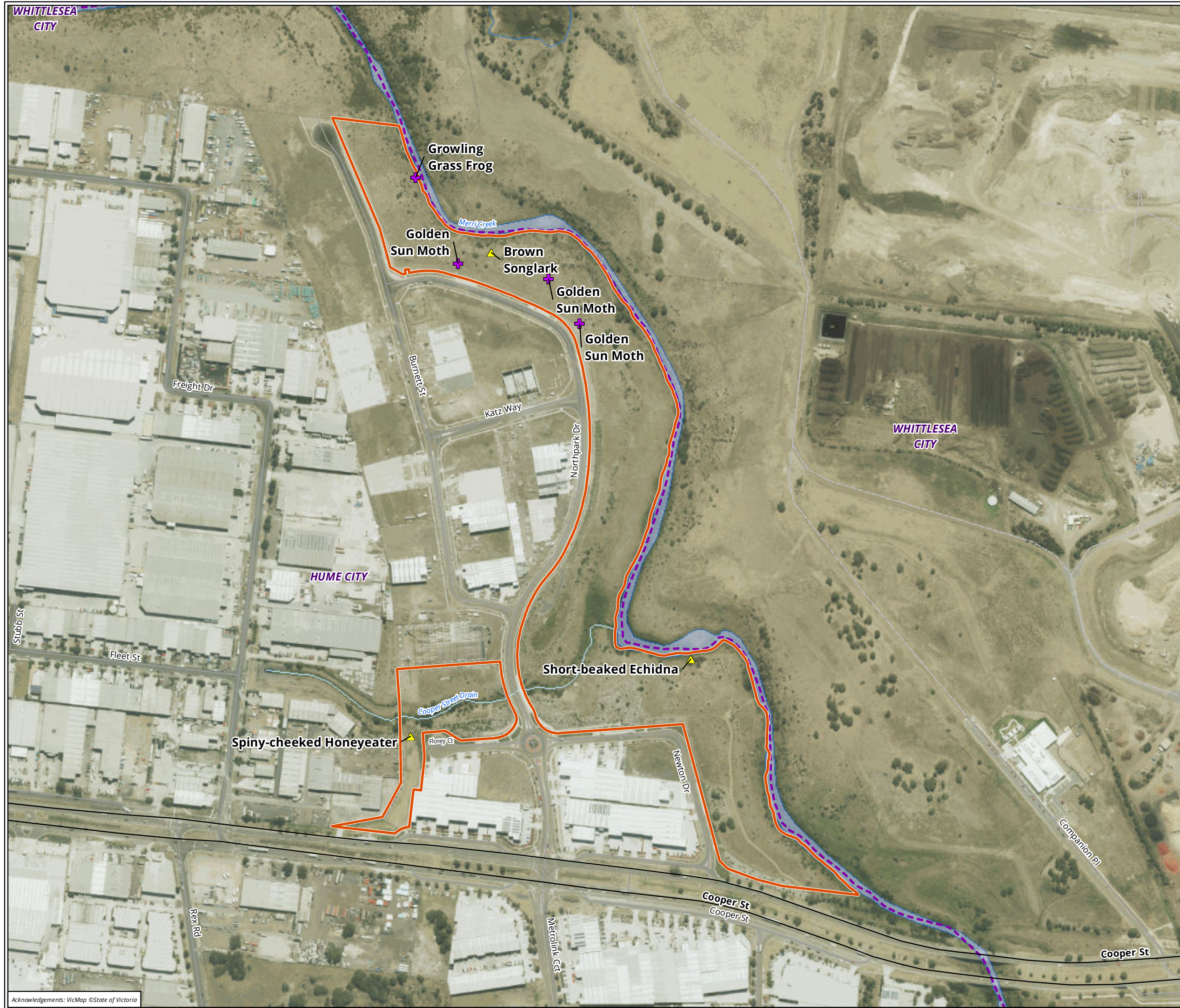
Figure 3.7 Records of significant species at Northpark Reserve, Somerton



Scale: 1:1,000 @ A3
 Coordinate System: GDA 1994 MGA Zone 55

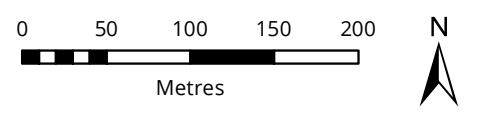


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- Legend**
- Study area
 - Significant species records
 - National and state listed
 - Locally threatened

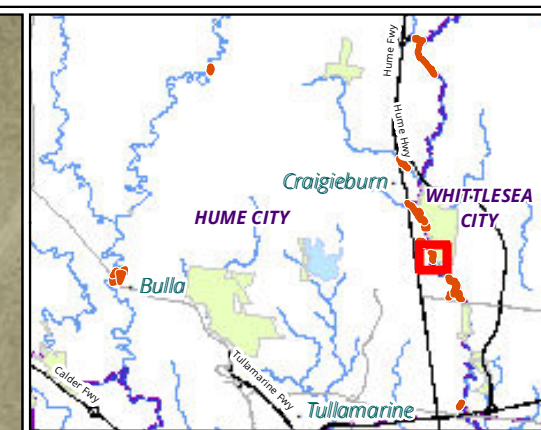
Figure 3.8 Records of significant species at Northpark Reserve, Somerton



Scale: 1:4,500 @ A3
 Coordinate System: GDA 1994 MGA Zone 55

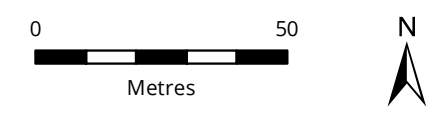


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- Legend**
- Study area
 - Significant species records**
 - + National and state listed
 - ▵ State advisory list
 - ▴ Locally threatened

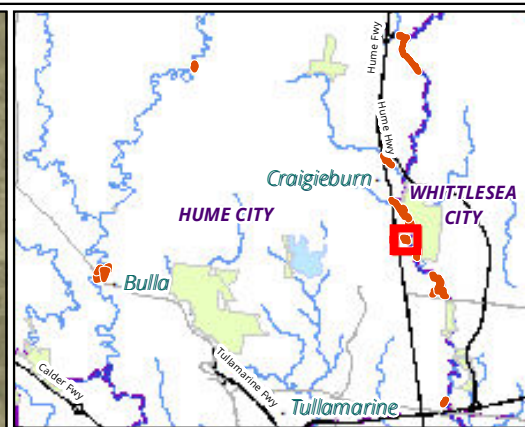
Figure 3.9 Records of significant species at O'Herns Road Reserve, Somerton



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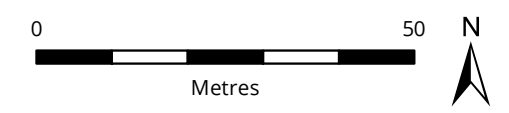


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- Legend**
- Study area
 - Significant species records**
 - + National and state listed
 - ▲ Locally threatened

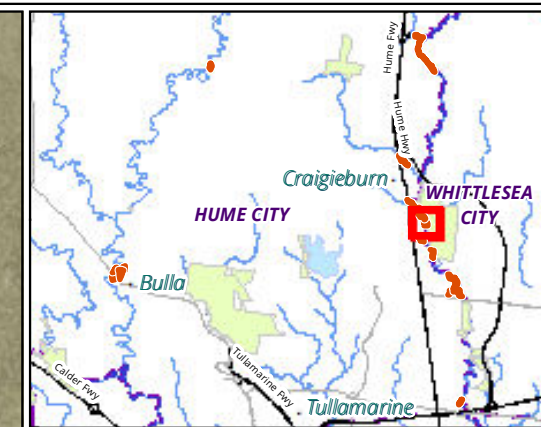
Figure 3.10 Records of significant species at Patullos Lane Reserve, Somerton



Scale: 1:1,000 @ A3
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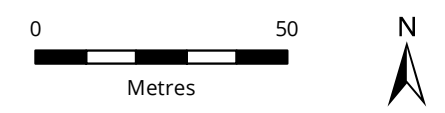


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- Legend**
- Study area
 - Significant species records**
 - + National and state listed

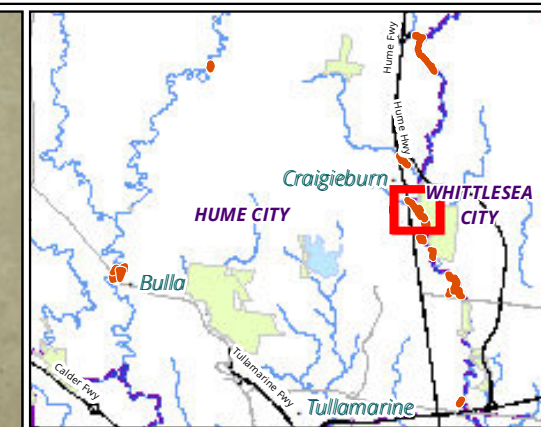
Figure 3.11 Records of significant species at Gwelling Grass Frog Nature Reserve, Craigieburn



Scale: 1:1,500 @ A3
 Coordinate System: GDA 1994 MGA Zone 55



Matter: 29772,
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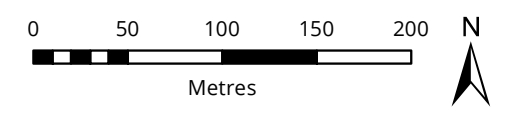
- Legend**
- Study area
 - Significant species records**
 - ↔ State advisory list
 - ▲ Locally threatened

WHITTLESEA CITY

HUME CITY

Rufous Songlark
Tussock Skink
Wedge-tailed Eagle

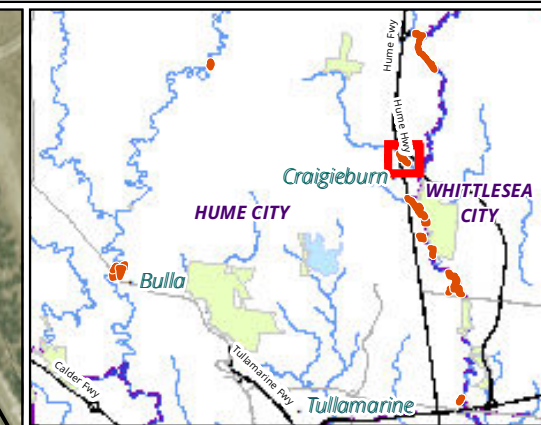
Figure 3.12 Records of significant species at Rushwood Drive Nature Reserve, Craigieburn



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Coordinate System: GDA 1994 MGA Zone 55

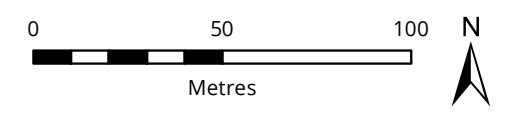


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- Legend**
- Study area
 - Significant species records**
 - ♣ State advisory list
 - ▲ Locally threatened

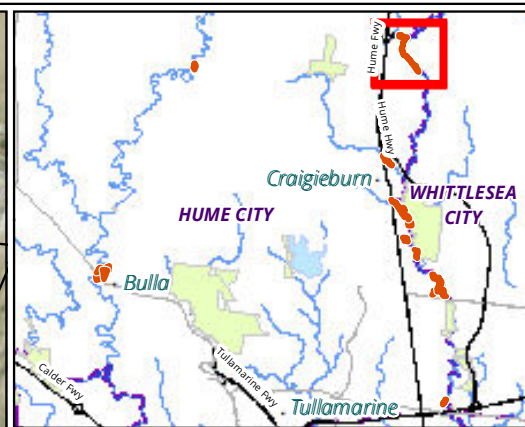
Figure 3.13 Records of significant species at 630 Hume Hwy Reserve, Craigieburn



Scale: 1:2,000 @ A3
 Coordinate System: GDA 1994 MGA Zone 55



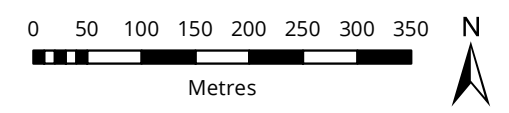
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Legend

- Study area
- Significant species records**
- ▲ Locally threatened

Figure 3.14 Records of significant species at John Laffan Reserve, Kalkallo



Scale: 1:7,000 @ A3
 Coordinate System: GDA 1994 MGA Zone 55



Matter: 29772,
 Date: 13 March 2020,
 Checked by: CEP, Drawn by: LW, Last edited by: lwilson
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3.2.2 Aquatic survey

3.2.2.1 Fyke Nets and Bait Traps

A total of five reserves were surveyed for aquatic fauna, which included two creeks. Merri Creek is part of the Yarra Catchment and Deep Creek is part of the Maribyrnong Catchment. A summary of the aquatic fauna captured, sorted by surveyed waterbodies is found in Table 7 below. All aquatic fauna recorded during the current survey are also listed in Appendix 2.

Deep Creek rises from the eastern slopes of the Macedon Ranges and reaches its confluence with the Jackson Creek near Bulla and together they form the Maribyrnong River. Deep, narrow valleys characterise all but the upper reaches of this watercourse.

No species were recorded from Konagaderra Reserve, which may be due to reduced flow and subsequent depletion of available in-stream habitat. These changes have resulted in a large number of shallow (< 20 centimeters in depth), isolated pools with little to no flow at the time of survey. Riparian overstorey vegetation in the 50 metre reach that was surveyed was mostly native, however, stream bank surfaces were predominantly covered by introduced species that have created patches of bare earth, increasing erosion potential during flooding. Macrophytes were largely restricted to just two species, *Typha* sp. and *Phragmites* sp. Riparian over- and understory at Trap Street was predominantly native, with a high structural diversity. In-stream features included a variety of deep pools, surrounding surface rock, wooden debris and a diversity of macrophytes (*Potamogeton* sp., *Triglochin* sp., *Typha* sp., *Phragmites* sp., *Elodea* sp., *Myriophyllum* sp., *Alisma* sp., *Eleocharis* sp. and *Persicaria* sp.), which are assumed to provide habitat for a number of frog species as well as Platypus (although neither frogs or Platypus were detected during the survey period).

The most prolific native fish observed at Trap Street was the Flat-headed Gudgeon *Philypnodon grandiceps* ($n=77$), followed by Common Galaxias *Galaxias maculatus* ($n=8$). The species is a generalist, but is commonly associated with muddy substrates with abundant vegetative or structural cover, and known to tolerate poor water quality conditions and/or degraded systems. Introduced species caught (*Gambusia* *Gambusia affinis*, Oriental Weatherloach *Misgurnus anguillicaudatus* and Tench *Tinca tinca*) made up approximately 16% of species captured.

Merri Creek begins near Wallan, north of Melbourne, and flows south for 70 kilometre until it connects downstream with the Yarra River at Dight Falls. The creek has been the site of heavy industrial use throughout much of the 20th century, receiving run-off from neighboring factories, landfills and quarries.

Riparian ground and understory condition across all three reserves is heavily degraded. Pool variability was greatest at Rushwood Drive Reserve, with some small, deep pools located either side of sections of riffles.

The most prolific native fish observed in the Merri Creek across all three reserves was the Flat-headed Gudgeon ($n=295$), followed by Common Galaxias ($n=8$). Australian Smelt *Retropinna semoni* ($n=4$) were only recorded in North Park. Consistent with surveys of Deep Creek, *Gambusia* were the most abundant introduced species across all three reserves, followed by Oriental Weatherloach ($n=2$). Introduced species represented 22% of fish biota captured. Common Long-necked Turtles *Chelodina longicollis* and Short-finned Eels *Anguilla australis* were captured at Rushwood Drive Reserve.

Three additional fish species were detected at Rushwood Drive Reserve when compared to aquatic surveys undertaken in 2013 (Biosis 2014). The species were Short-finned Eel, Eastern *Gambusia* and Flat-headed Gudgeon, as well Oriental Weatherloach. All four species were recorded further downstream with the addition of Australian Smelt.

Table 7 Summary of captured aquatic fauna by reserve and waterbody

Common name	Scientific Name	Deep Creek		Merri Creek		
		Trap Street	Konagaderra	North Park	O'Hern's Road	Rushwood
Reptiles						
Common Long-necked Turtle	<i>Chelodina longicollis</i>	-	-	-	-	4
Fishes						
Short-finned Eel	<i>Anguilla australis</i>	4	-	-	-	3
Common Galaxias	<i>Galaxias maculatus</i>	8	-	-	-	-
Gambusia	<i>Gambusia holbrooki</i>	16	-	27	3	52
Flat-headed Gudgeon	<i>Philypnodon grandiceps</i>	77	-	127	26	142
Australian Smelt	<i>Retropinna semoni</i>	-	-	4	-	-
Oriental Weatherloach	<i>Misgurnus anguillicaudatus</i>	-	-	1	-	1
Tench	<i>Tinca tinca</i>	1	-	-	-	-

3.2.2.2 Environmental DNA

All five reserves surveyed for aquatic fauna also had water samples collected to determine the presence of Environmental DNA (eDNA) for Platypus *Ornithorhynchus anatinus* and Rakali *Hydromys chrysogaster*. A summary of eDNA results is provided in Table 8 below.

Table 8 Summary of eDNA results by reserve and waterbody

Reserve	Coordinates		Date	Rakali	Platypus
	Latitude	Longitude			
Deep Creek					
Trap Street	-37.63136	144.80076	12/11/2019	Negative	Equivocal
Konagaderra	-37.55318	144.84942	12/11/2019	Negative	Negative
Merri Creek					
Rushwood Reserve	-37.61248	144.95228	13/11/2019	Positive	Negative
North Park	-37.64295	144.96932	13/11/2019	Positive	Negative
O'hern's Road	-37.62888	144.95882	13/11/2019	Equivocal	Negative

Platypus was not detected at any site sampled along Deep or Merri Creeks. However, the presence of Rakali was detected on the Merri Creek at both Rushwood Reserve and North Park.

The positive results for Rakali within that region of Merri Creek has been confirmed by observations at O'Herns Road by ecologist David De Angelis on the 19 December 2019.

3.3 Western reserves

Five reserves were surveyed in this area including four within Bulla and also Konagaderra Bridge Reserve further to the north. All five reserves are relatively small parcels of land located immediately south of Deep Creek. All the reserves except Quartz Street Reserve have been surveyed by Biosis during previous fauna survey programs (Biosis 2016). A variety of fauna habitats are present including rocky escarpments and outcrops, grassland, remnant riparian vegetation including large old hollow-bearing trees, revegetated and exotic planted vegetation and a diversity of aquatic habitats within Deep Creek. The majority of species recorded were locally common bird species. Notable Introduced pest species were Red Fox *Vulpes vulpes*, Domestic Cat *Felis catus*, European Brown Hare *Lepus europaeus* and European Rabbit *Oryctolagus cuniculus*.

Trap Street is the only reserve in Bulla that is directly bordered by Deep Creek and contains aquatic habitat and riparian vegetation. In the prior fauna surveys undertaken in 2015 by Biosis (Biosis 2016), nationally significant Growling Grass Frog was recorded breeding within this section of the creek. In the current surveys, this population is still present in significant numbers and calls were heard on numerous occasions. The locally significant Lesuer's Frog was also recorded again at this site, after being recorded during the 2015 surveys. Southern Myotis calls were identified during call analysis, however they are hard to distinguish from the Long-eared Bat calls. It is likely that the riparian and aquatic habitat provide suitable habitat for this bat. Overall 46 species were recorded during these surveys with seven introduced species.

The other three reserves in Bulla, **Schools Hill**, **Quartz Street** and **Gold Tree Hill**, are all small parcels of land with a mix of grassland and scattered planted trees. The close proximity of these reserves, surrounding mature eucalypts and riparian habitat provide foraging habitat for a diversity of bird species including the locally significant Black-eared Cuckoo. Many of the bird species were observed moving throughout these different habitats and reserves during surveys. During nocturnal surveys nationally significant Grey-headed Flying-fox was recorded foraging in the mature eucalypts adjacent to the Quartz Street Reserve. A Tawny Frogmouth was also observed during nocturnal surveys at the south side of the Schools Hill Reserve.

Quartz Street Reserve and Gold Tree Hill Reserve provide suitable habitat for reptile species with tussock grassland and surface rock. The rock walls between the reserves also provide habitat with skinks often observed basking on these rocks. The state-listed Tussock Skink was recorded during tile surveys within the Quartz Street Reserve. No reptiles were recorded within Gold Tree Hill, however a number of the tiles were broken before surveys commenced, causing disruption to the survey sites. Significant weeds present within these sites that require prompt management to avoid their impact on the reserves. These include Patterson's Curse *Echium plantagineum* and Prickly Pear *Opuntia sp.* Which were recorded within these reserves.

Further north **Konagaderra Bridge Reserve** in Wildwood also occur directly south of Deep Creek. This reserve has a mix of aquatic, riparian and grassy woodland habitat, surrounded by agricultural land. During the 2015 surveys Bare-nosed Wombats were recorded within this reserve. During the current survey wombats were recorded, with evidence of breeding. One of the images recorded during camera trapping showed an adult with young at foot.

Many of the other surveys were compromised due to broken or stolen equipment, which included stolen or broken tiles, an arboreal camera and a bat detector. Old furniture was also discovered nearby where survey equipment was located, as well as under the bridge, which suggest illegal dumping is an issue within this reserve. Due to the loss of data an additional night of bat acoustic survey was undertaken at the same time as nocturnal surveys however no bats were recorded. Equipment loss is reflected in the much fewer records of 34 fauna species when compared to the other reserves. Five introduced fauna species were recorded from this reserve.

3.4 South and central reserves

Eight reserves were surveyed in this area and mostly linear sites located on the western banks of Merri Creek, except for 630 Hume Highway Reserve which is the west bank of Malcolm Creek. Surveys have previously been undertaken by Biosis at Growling Grass Frog Nature Reserve and Rushwood Nature Reserve. Northpark has also had fauna surveys undertaken during preparation of the 5-Year Operation Plan (Practical Ecology 2018). As in the western reserves, the majority of species recorded during this survey were locally common bird species. Notable Introduced pest species were Red Fox, Domestic Cat and European Rabbit. It was also observed that many of these reserves had populations of Eastern Grey Kangaroo and there is the potential for overgrazing to occur, particularly as surrounding land to the north is developed.

To the south is **Moto X-track Reserve**. This small linear site is located between Merri Creek and a moto-x track. This site has significant amount of weeds and introduced fauna species. At the time of survey woody weeds were being removed. There was limited grassland habitat and the riparian habitat was dominated by Desert Ash *Fraxinus angustifolia* and Blackberry *Rubus fruticosus*. Of the 34 fauna species recorded 10 were introduced and there were no locally, state, or nationally significant species.

Northpark Reserve was one of the larger reserves for this survey program. This reserve has a variety of fauna habitats present including rocky escarpments and outcrops, grassland, remnant riparian vegetation including large old hollow-bearing trees, revegetated and a diversity of aquatic habitats. This reserve had the highest number of species recorded with total of 60 species, eight of those introduced. There was also a diverse range of significant species recorded including two nationally significant species, Growling Grass Frog and Golden Sun Moth. Other significant fauna recorded included Tussock Skink, Short-beaked Echidna, Wedge-tailed Eagle and Rufous Songlark. Surveys undertaken using eDNA also identified Rakali as present within the site, however there were no sightings to confirm this. A Wedge-tailed Eagle nest is present within the site, however there were no signs of active use. Fauna surveys undertaken in previous years recorded Cunningham Skinks and HardHead (Practical Ecology 2018).

Patullos Lane Reserve and **O'Herns Road Reserve** are two other smaller reserves further north along Merri Creek. Both these sites are adjacent Craigieburn Grassland Reserve and had a mix of habitats including grassland, riparian, aquatic and areas of revegetation. At both these sites Merri Creek has both larger ponds and riffle zones providing habitat for different aquatic fauna. Nationally significant Golden Sun Moth and locally significant Nankeen Night-Heron were recorded at both reserves. O'Herns Road Reserve had a higher diversity of species with a total of 56, seven of these were introduced species. Patullos Lane Reserve had 44 species recorded, nine of these were introduced.

O'Herns Road has a significant population of breeding Growling Grass frog (Heard and West 2016, B Casey 2020, pers. comm., 24 February). However no Growling Grass Frog were recorded despite surveying on warm nights with little to no wind and having heard them calling at other areas on those nights. We therefore contacted other sources who had undertaken surveys during this period and found that Growling Grass Frog was recorded within this reserve by other ecologists (D De Angelis 2020, pers. Comm., 21 February, B Casey 2020, pers. Comm., 24 February). Brendan Casey had acoustic detectors recording for the past three seasons, from 2018 to 2020 and found that Growling Grass Frogs were calling intermittently from mid-October to mid-January. The calling events occurred sporadically and Brendan Casey has evidence that they correlate with fluctuations in-stream flow, which is controlled further upstream by the Craigieburn Sewage Treatment Plant. These calling events occurred with great intensity and a significant number of calls were recorded.

No Growling Grass Frogs were recorded at **Growling Grass Frog Nature Reserve** or the reserve directly north, **Rushwood Drive Nature Reserve**. This is despite a population at Growling Grass Frog Nature Reserve being recorded during previous surveys (Biosis 2014, B Casey 2020, pers. comm, 24 February 2020). The pond within the reserve was reconstructed and completed in 2019. It is possible that there has been insufficient

time for Growling Grass Frog to repopulate this pond after construction. As indicated above, detecting for Growling Grass Frog within the creek may be difficult due to fluctuations in stream flow. Significant survey effort may be required during the next breeding season to determine the status of this population. The status of this population is important as there are many other planned constructed ponds for Growling Grass Frog along Merri Creek as part of the Growling Grass Frog Masterplan for Melbourne's Growth Corridors (DELWP 2017).

Nationally significant Grey-headed Flying-Fox was recorded flying over Growling Grass Frog Nature Reserve, however no foraging within the site was observed. A total of 48 fauna species was recorded at Growling Grass Frog Nature Reserve and 47 at Rushwood Drive Reserve. Also of note in Rushwood Drive Reserve was a hive of European Honeybees.

John Laffan Reserve was the furthest north reserve along Merri Creek and the largest of the reserves surveyed. This reserve runs for a substantial distance along Merri Creek. Access is limited to the most northern section, due to private land surrounding it. In the northern end weeds were managed however further south Gorse *Ulex europaeus* has taken over the majority of the reserve and becomes impenetrable in some areas. There is also an issue with fencing and stock access to the creek with goats and sheep observed accessing the creek. Carcasses of stock animals and cattle were also observed along the banks and in the creek. There were some areas of habitat including rocky escarpments and outcrops, grassland, remnant riparian vegetation including large old hollow-bearing tree, and diverse aquatic habitat. A total of 57 fauna species were recorded, including 10 introduced species. Five significant species recorded, the most notable being the Bare-nosed Wombat.

Presence of Bare-nosed wombat was first detected during the site inspection when burrows were located along the edge of Merri Creek. Cameras were set up at three sites along the creek, including one site in close proximity to the burrows. Two of these cameras captured bare-nosed wombats, the northern and central cameras (figure 2.14). This is a significant discovery. There are no previous records of bare-nosed wombat within this reserve. There is a record further north of Donnybrook Road at Bald Hill and south of the site in Craigieburn Grassland. The new records show the persistence of wombats along Merri Creek. This finding is of particular importance with the current proposed development of the land surrounding John Laffan Reserve as part of the Melbourne's growth corridors. This section of Merri Creek is a part of the Growling grass Frog reserve's reach 2 and 3 which are surrounded by the English Street Precinct to the east and the Craigieburn employment area north precinct to the west (DELWP 2017). Development could lead to a potential impact on the wombats through habitat loss, increased competition of resources with other species such as Eastern grey kangaroos, increased chance of road deaths, and increased interactions with humans and disturbance. Further surveys would be required to determine the extent/presence of a population and wombat movements within John Laffan Reserve, along Merri Creek and in the surrounding farmland.

630 Hume Highway Reserve is located on the western banks of Malcolm Creek and bordered by the Craigieburn Train Maintenance Facility. The train facility may have some light and sound impacts on this reserve. This site has limited habitat with some rocky escarpments, grassland, and remnant riparian vegetation including large old hollow-bearing trees. The site is dominated by Canary Grass *Phalaris aquatica* with some rushes on the creek. Malcolm Creek was low throughout the surveys creating small ponds, which support wetland birds including White-necked Heron and Little Pied Cormorant. A Nankeen Night-Heron was also recorded during nocturnal surveys. The remnants on a stone wall may also provide suitable habitat for some reptile species, however only Pale-flecked Sunskink were recorded during the surveys. The total number of fauna species recorded at this site was 46, including 13 introduced species. This reserve had the highest number of introduced species compared to other reserves. There was a significant issue with European Rabbit at this site, with a number of warrens located throughout.

4. Recommendations and opportunities

This section lists a number of recommendations and opportunities that Hume City Council could adopt to improve or maintain fauna habitat and increase knowledge and awareness of fauna populations within the broader municipality. Recommendations for further survey and opportunities for community engagement are also provided, where relevant.

4.1 Terrestrial fauna habitat

The current survey documented a diverse assemblage of vertebrate fauna utilising a variety of terrestrial habitats across the system of reserves surveyed. In order to maintain and enhance the quality of these habitats, we recommend the following:

- Retain coarse woody debris on the ground as it provides critical habitat for ground-dwelling fauna. It also discourages public access into areas of remnant vegetation, thereby protecting sensitive ground flora.
- Overgrazing by macropods was observed in several reserves along Merri Creek. It is likely that Eastern Grey Kangaroos *Macropus giganteus* are overabundant and exerting a negative influence on the habitat for ground-dwelling vertebrates. This is likely to increase with development of land further north as Eastern Grey Kangaroos passively move into the Merri Creek corridors. Opportunities to control Eastern Grey Kangaroo populations should be explored where they are having a clear impact on biodiversity values.
- Some reserves contain old wire farm fencing on the ground. In particular, this was observed within John Laffan Reserve in a number of places from mid to the southern most end of the reserve. This material should be removed as it could ensnare wildlife such as macropods.
- Plant highly melliferous indigenous tree species (e.g. Melbourne Yellow Gum *Eucalyptus leucoxylon* subsp. *connata*) in landscape plantings in and around Moto X-track Reserve and 630 Hume Highway Reserve to provide additional food resources for nectivorous species including the critically endangered Swift Parrot and locally rare birds such as the Little Lorikeet. The current plantings in 630 Hume Highway appear to have had a low survivorship.
- Continue to plan and undertake habitat enhancement plantings to restore habitat diversity and structure (e.g. supplementary planting of indigenous understorey shrubs and grasses).
- Continue removal and replacement of woody weeds with native alternatives to maintain habitat for fauna.

4.2 Aquatic fauna habitat

The streams within Hume support significant populations of threatened and locally iconic fauna such as Rakali, Lesueur's Frog and Growling Grass Frog. They represent core habitat and wildlife corridors within the municipality. While multiple external water resource agencies operate within Hume City Council boundaries there are still opportunities to augment and enhance the restoration and interpretive works already being undertaken by these agencies. The following recommendations are provided to assist Hume City Council manage these significant assets.

- Continue removal of woody environmental weeds from along streams while ensuring that erosion is controlled and that these weeds are replaced by indigenous riparian vegetation. All riparian woody weed control should be undertaken in a staged manner to ensure habitat is always available and to reduce the extent of erosion.
- Undertake erosion control and revegetation works to improve bank stability along streams and re-establish riparian vegetation. This will assist in protecting Bare-nosed Wombat habitat within John Laffan Reserve.
- Discourage public access to sensitive stream frontages to minimise erosion and damage to riparian vegetation (e.g. fencing or revegetation). The two reserves that had issues were Konagaderra Bridge Reserve and John Laffan Reserve. Konagaderra Bridge had particular issues with dumping of hard waste. John Laffan has issues with dumping of animal carcasses within the creek and on the banks and the extraction of water from the stream to service adjacent private properties.
- Maintain vegetated riparian buffers between walking trails and the banks of streams. This will assist in the protection of species that are sensitive to human disturbance such as Platypus by creating a visual buffer.
- In order limit light pollution on nocturnal aquatic fauna, locate street or security lighting away from riparian areas. If not feasible, design the lighting so as to minimise light spill into the water. This was a problem within 630 Hume Highway Reserve where light pollution was occurring from the Craigieburn Train Maintenance Facility. This may also need to be considered during developments occurring around John Laffan Reserve.
- When undertaking weed control works, prevent herbicides used for riparian weed control from entering waterways.
- Retain logs and branches (snags) within streams as these are a significant component of habitat for native fish. Investigate opportunities for augmenting in-stream woody habitat at stream sites where this is considered to be lacking.
- Increase signage in parks and reserve around native fish species living in Hume Municipality.
- Control invasive macrophytes such as *Typha* spp. along waterways and wetlands. In some situations such species can take over streams and wetlands and fill in refuge habitat with dense rhizome networks. Avoid planting them during revegetation work as they will naturally colonise from other wet areas. Any control works need to be mindful of the need to protect habitat for the Growling Grass Frog.
- Investigate feasibility of control programs for pest fish species within areas of Hume City Council. As this recommendation applies to Melbourne Water assets, Hume City Council should report the presence of pest fish species to Melbourne Water and investigate opportunities to assist in the control of these species.

4.3 Significant fauna

The current survey program recorded a two state significant fauna species and three nationally significant fauna species, along with an additional 11 fauna species that are considered to be of local significance due to being iconic, locally uncommon or at the edge of their distributional ranges (Figure 3). The following recommendations provide opportunities for Hume City Council to increase knowledge and protection of habitat for state and nationally significant fauna species identified during the current survey program.

- New populations of Golden Sun Moth were recorded at Northpark Reserve, O'herns Road Reserve and Patullos Lane Reserve. To assist with the management of this species, we recommend that Hume commission a study to map the extent of Golden Sun Moth habitat in the municipality and develop a management plan for the species.
- Important populations of the nationally significant Growling Grass Frog occur within Hume Municipality. To determine trends in these populations and to assist with conservation planning, it is recommended that Hume establish a long-term monitoring plan at key sites such as Deep Creek and Merri Creek. This would involve establishing a standardised survey program and could be undertaken with assistance from interested members of the community. This should involve the use of acoustic surveys.
- Additionally we strongly recommend acoustic surveys at Growling Grass Frog Nature Reserve during the 2020/2021 breeding season to determine if the reconstructed pond has been recolonised. Researchers from RMIT School of Science have expressed an interest in assisting in these surveys.
- New records of Bare-nosed Wombat were recorded within John Laffan Reserve. It is likely this population may come under pressure during the development of land surrounding this reserve. We recommend undertaking further surveys to determine the full extent of this population. This could be undertaken with the assistance from interested members of the community.

4.4 Further survey

The results from the current survey provide an opportunity to assess the efficacy of the fauna survey techniques to refine the approach for any future fauna survey programs undertaken by Hume City Council. A focus on more cost-effective survey techniques, such as remote cameras and audio recording detectors, would potentially allow Hume City Council to expand survey effort to cover a greater area or survey additional reserves. Based on the results from the current survey, we recommend the following for any future fauna survey programs within the City of Hume:

- Continue to utilise cost-effective remote survey equipment such as Anabats, Songmeters and remote cameras. Of particular importance is acoustic monitoring of Growling Grass Frog at Growling Grass Frog Nature Reserve, which is recommended to confirm if this species is recolonising the wetland post construction. Also consider undertaking further remote camera surveys within land and reserves surrounding John Laffan Reserve to determine extent of Bare-nose Wombat within the area.
- All future fauna surveys should incorporate active searching for reptiles, nocturnal surveys for frogs, mammals and birds and diurnal bird surveys. These techniques recorded the greatest number of fauna species during the current survey program, and are recommended for on-going surveys to understand and record biodiversity assets within the Hume City Council reserves
- Consider establishing a number of long-term fauna monitoring sites in order to accurately detect changes in fauna populations over time. Sites should be selected to include a variety of landscape contexts and proposed management practices. This will allow Hume to monitor how changing landscape context, such as increasing residential development, is impacting on the fauna present within the reserve system.

4.5 Pest plants and animals

Numerous introduced flora and fauna species were recorded including exotic domestic animals (e.g. goats and cats). Many of these species are known or suspected to negatively impact of fauna populations through

habitat modification, predation, aggressive exclusion and competition for resources. Management of many introduced species is required under the CaLP Act. However, some introduced plants are currently providing important habitat where native plants have been removed. We therefore recommend the following:

- Continue to implement an integrated approach to pest plant and animal control within the reserves, other Council land and private land.
- Map, and eliminate high threat woody weeds within all reserves. If eradication is not feasible then reduce the cover and extent of these weeds.
- Remove artificial harbour for rabbits, cats and foxes, especially weed infestations and hard rubbish piles.
- Australian lizards, especially the Cunningham's Skink, consume and disperse African Boxthorn fruits and thus contribute to the spread of this woody weed. To reduce the impact that removal of these woody weeds has on local reptile populations, these should be replaced with indigenous fruit-bearing species such as Tree Violet *Meliclytus dentatus*. Weed control of African Boxthorn in reserves should be undertaken in a staged manner to ensure habitat continues to be available while replacement habitat establishes.
- Remove feral honeybees inhabiting a large hollow at Rushwood Drive Reserve (these hollows are important habitat for native fauna and bees exclude native fauna from using hollows).
- Investigate the occurrence of roaming livestock entering Merri Creek along John Laffan Reserve and incorporate measures to exclude stock.
- Investigate possible access to middle and southern areas of John Laffan Reserve to eradicate significant gorse infestation.

4.6 Community engagement opportunities

An opportunity exists for Hume City Council to establish and support community fauna monitoring programs at a number of key sites, and undertake a number of additional actions to increase community interest in local fauna, as follows.

- Continue to support the actions of Friends groups where they exist, and investigate options to establish new Friends groups for those reserves in Hume that do not yet have such a group.
- Investigate the feasibility of developing an interactive 'Hume Fauna App' that allows members of the community to identify and record fauna species in real time with accurate locational information. An online portal could also be established that allows community members to record fauna sightings, particularly threatened species. There are many examples of applications (or apps) created by state government organisations and other organisations used to educate the public and encourage citizen science data collection. Examples of these are:
 - Field Guide to Victorian Fauna developed by Museum Victoria to provide a field guide for fauna within Victoria to the public (State Government of Victoria 2020).
 - Bird Count developed by Birdlife Australia provides a field guide for birds and allows the public to submit bird records during the Birdlife Australia's Aussie Backyard Bird Count (Birdlife Australia n.d.).
 - Frog Census developed by Melbourne Water provides a field guide for frogs and allows the public to submit records for frogs (State Government of Victoria 2020).

- Platypus SPOT developed by Melbourne Water allows the public to record sightings of platypus (State Government of Victoria 2020).
 - Biodiversity of Western Volcanic Plains flora and fauna field guide app developed by Ecolinc provides a field guide for the Western Volcanic Plains and also allows the public to submit records of fauna and flora (Ecolinc n.d.).
 - Questagame app developed by QuestaGame provides an app that allows groups include local councils to create BioQuests for the public to collect data of fauna and flora species (QuestaGame n.d.). This app is set up in a game format with users able to collect points for undertaking tasks including submitting records of flora and fauna. Warrnambool City Council is using this app to collect records throughout 2020 as part of Wild Warrnambool (QuestaGames n.d.).
 - VBA GO is a website developed by Department of Environment, Land, Water and planning (DELWP) which allows users to upload records of fauna and flora to the Victorian Biodiversity Atlas (VBA) (DELWP 2020). This website has been developed for use on mobile devices.
- Continue to encourage local residents to use indigenous plants in their landscaping, especially residences that adjoin the reserves. This will help reduce environmental weed invasion and assist in providing additional habitat and resources for local native wildlife.
 - Educate local residents about the issues with dumping garden waste and hard rubbish in the reserves through appropriate signage (e.g. John Laffan Reserve and Konagaderra Bridge Reserve etc).
 - Encourage local residents to submit fauna observations (including threatened species and exotic species) to Council's fauna database. This database should be accessible through Hume's website, and regularly uploaded to the VBA.
 - Investigate opportunities to engage local businesses to engage in the reserves including additional fauna community survey nights and tree planting days.

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Appendices

Appendix 1 Fauna database records

Notes to tables:

<p>EPBC Act:</p> <p>EX - Extinct CR - Critically Endangered EN - Endangered VU - Vulnerable CD - Conservation dependent</p>	<p>DSE 2009, DSE 2013:</p> <p>ex - extinct cr - critically endangered en - endangered vu - vulnerable nt - near threatened dd - data deficient rx - regionally extinct</p>
<p>FFG Act:</p> <p>L - listed as threatened under FFG Act N - nominated for listing as threatened I - determined ineligible for listing</p>	<p>Introduced species</p> <p>PS - pest species listed under the CaLP Act * - introduced species</p>
<p>Most recent database records are from the Victorian Biodiversity Atlas unless otherwise specified as follows</p> <p>^ – Record from 2015 fauna surveys that is yet to appear in the Victorian Biodiversity Atlas</p>	

A1.1 Fauna database records, all reserves combined

Table A1.1. Fauna database records from all reserves combined, with no search buffer.

Scientific name	Common name	Status					Most recent database record	Number of database records	Recorded in current survey
		EPBC	VIC	FFG	CaLP	*			
Birds									
<i>Coturnix pectoralis</i>	Stubble Quail						2013	1	
<i>Synoicus ypsilophorus</i>	Brown Quail						2013	1	
<i>Ocyphaps lophotes</i>	Crested Pigeon						2002	1	X
<i>Gallinula tenebrosa</i>	Dusky Moorhen						2008	3	X
<i>Porphyrio melanotus</i>	Australasian Swamphen						2013	2	X
<i>Fulica atra</i>	Eurasian Coot						2013	6	X
<i>Tachybaptus novaehollandiae</i>	Australasian Grebe						2013	4	X
<i>Threskiornis spinicollis</i>	Straw-necked Ibis						2013, 2015^	1	X
<i>Egretta novaehollandiae</i>	White-faced Heron						1988	1	X
<i>Chenonetta jubata</i>	Australian Wood Duck						2013	2	X
<i>Anas superciliosa</i>	Pacific Black Duck						2013, 2015^	5	X
<i>Aythya australis</i>	Hardhead		v				2013	1	
<i>Circus assimilis</i>	Spotted Harrier		nt				1988	1	
<i>Aquila audax</i>	Wedge-tailed Eagle						2013	1	X
<i>Elanus axillaris</i>	Black-shouldered Kite						1988	1	X
<i>Falco berigora</i>	Brown Falcon						2013, 2015^	4	X
<i>Falco cenchroides</i>	Nankeen Kestrel						1988	1	X
<i>Cacatua galerita</i>	Sulphur-crested Cockatoo						2013	11	X
<i>Cacatua tenuirostris</i>	Long-billed Corella						2013	4	X
<i>Eolophus roseicapilla</i>	Galah						2013	6	X
<i>Platyercus elegans</i>	Crimson Rosella						2013	6	X

Scientific name	Common name	Status					Most recent database record	Number of database records	Recorded in current survey
		EPBC	VIC	FFG	CaLP	*			
<i>Platycercus eximius</i>	Eastern Rosella						2013	4	
<i>Psephotus haematonotus</i>	Red-rumped Parrot						2013	3	X
<i>Dacelo novaeguineae</i>	Laughing Kookaburra						2013	1	X
<i>Todiramphus sanctus</i>	Sacred Kingfisher						2013	2	
<i>Cacomantis flabelliformis</i>	Fan-tailed Cuckoo						2013	2	
<i>Chrysococcyx basalis</i>	Horsfield's Bronze-Cuckoo						2013	2	
<i>Streptopelia chinensis</i>	Spotted Turtle-Dove					*	2013	3	X
<i>Ninox novaeseelandiae</i>	Southern Boobook						2013, 2015^	4	
<i>Vanellus miles</i>	Masked Lapwing						1988	1	X
<i>Hirundo neoxena</i>	Welcome Swallow						2013	3	X
<i>Petrochelidon nigricans</i>	Tree Martin						2013	1	X
<i>Rhipidura albiscapa</i>	Grey Fantail						2013	11	X
<i>Rhipidura leucophrys</i>	Willie Wagtail						2013	10	X
<i>Petroica phoenicea</i>	Flame Robin						1988	1	X
<i>Eopsaltria australis</i>	Eastern Yellow Robin						2013	1	
<i>Pachycephala rufiventris</i>	Rufous Whistler						2013	4	X
<i>Colluricincla harmonica</i>	Grey Shrike-thrush						2013	7	X
<i>Grallina cyanoleuca</i>	Magpie-lark						2013	5	X
<i>Falcunculus frontatus</i>	Crested Shrike-tit						2013	5	
<i>Coracina novaehollandiae</i>	Black-faced Cuckoo-shrike						2013	9	X
<i>Acanthiza pusilla</i>	Brown Thornbill						2013	5	X
<i>Acanthiza chrysorrhoa</i>	Yellow-rumped Thornbill						2013	7	X
<i>Sericornis frontalis</i>	White-browed Scrubwren						2013	14	X
<i>Cincloramphus mathewsi</i>	Rufous Songlark						2002	1	X
<i>Poodytes gramineus</i>	Little Grassbird						2013	6	

Scientific name	Common name	Status					Most recent database record	Number of database records	Recorded in current survey
		EPBC	VIC	FFG	CaLP	*			
<i>Acrocephalus australis</i>	Australian Reed Warbler						2013, 2015^	10	X
<i>Cisticola exilis</i>	Golden-headed Cisticola						2013	5	X
<i>Malurus cyaneus</i>	Superb Fairy-wren						2013, 2015^	30	X
<i>Artamus cyanopterus</i>	Dusky Woodswallow						2013	1	X
<i>Pardalotus punctatus punctatus</i>	Spotted Pardalote						2013	5	X
<i>Zosterops lateralis</i>	Silvereye						2013	5	X
<i>Ptilotula penicillatus</i>	White-plumed Honeyeater						2013	19	X
<i>Phylidonyris novaehollandiae</i>	New Holland Honeyeater						2013	5	X
<i>Manorina melanocephala</i>	Noisy Miner						2013	2	X
<i>Anthochaera carunculata</i>	Red Wattlebird						2013	6	X
<i>Acanthagenys rufogularis</i>	Spiny-cheeked Honeyeater						2009, 2015^	1	X
<i>Anthus novaeseelandiae</i>	Australasian Pipit						1988	1	X
<i>Neochmia temporalis</i>	Red-browed Finch						2013	4	X
<i>Cracticus tibicen</i>	Australian Magpie						2013	17	X
<i>Corvus mellori</i>	Little Raven						2013	18	X
<i>Pardalotus striatus</i>	Striated Pardalote						2013, 2015^	8	X
<i>Turdus merula</i>	Common Blackbird					*	2013	20	X
<i>Alauda arvensis</i>	European Skylark					*	1988	1	X
<i>Passer montanus</i>	Eurasian Tree Sparrow					*	2009	1	X
<i>Passer domesticus</i>	House Sparrow					*	2013	6	X
<i>Chloris chloris</i>	European Greenfinch					*	2013, 2015^	4	X
<i>Acridotheres tristis</i>	Common Myna					*	2013	7	X
<i>Sturnus vulgaris</i>	Common Starling					*	2013, 2015^	18	X
<i>Carduelis carduelis</i>	European Goldfinch					*	2013, 2015^	11	X

Scientific name	Common name	Status					Most recent database record	Number of database records	Recorded in current survey
		EPBC	VIC	FFG	CaLP	*			
Mammals									
<i>Tachyglossus aculeatus</i>	Short-beaked Echidna						2008, 2015 [^]	1	X
<i>Trichosurus vulpecula</i>	Common Brush-tailed Possum						2013	6	X
<i>Pseudocheirus peregrinus</i>	Eastern Ring-tailed Possum						2013	1	
<i>Vombatus ursinus</i>	Bare-nosed Wombat						2013	1	X
<i>Wallabia bicolor</i>	Black-tailed Wallaby						2013	12	X
<i>Macropus giganteus</i>	Eastern Grey Kangaroo						2013, 2015 [^]	4	X
<i>Mus musculus</i>	House Mouse					*	1988	1	
<i>Oryctolagus cuniculus</i>	European Rabbit				PS	*	2013, 2015 [^]	3	X
<i>Canis familiaris</i>	Dingo and Dog (feral)				PS	*	2013	1	
<i>Vulpes vulpes</i>	Red Fox				PS	*	2013	7	X
<i>Tadarida australis</i>	White-striped Freetail Bat						2013	4	X
<i>Chalinolobus gouldii</i>	Gould's Wattled Bat						2013	2	X
<i>Chalinolobus morio</i>	Chocolate Wattled Bat						2013	2	
<i>Scotorepens balstoni</i>	Inland Broad-nosed Bat						2013	2	
<i>Vespadelus regulus</i>	Southern Forest Bat						2013	2	
<i>Vespadelus vulturnus</i>	Little Forest Bat						2013	3	X
<i>Vespadelus darlingtoni</i>	Large Forest Bat						2013	2	X
<i>Mormopterus planiceps</i>	Southern Freetail Bat						2013	2	X
<i>Miniopterus schreibersii oceanensis</i>	Common Bent-wing Bat (eastern ssp.)		v	L			2013	2	
Reptiles									
<i>Egernia cunninghami</i>	Cunningham's Skink						2013, 2015 [^]	4	X
<i>Lampropholis guichenoti</i>	Pale-flecked Garden Sunskink						2013, 2015 [^]	17	X
<i>Lerista bougainvillii</i>	Bougainville's Skink						2000	1	
<i>Austrelaps superbus</i>	Lowland Copperhead						2015 [^]		

Scientific name	Common name	Status					Most recent database record	Number of database records	Recorded in current survey
		EPBC	VIC	FFG	CaLP	*			
<i>Pseudonaja textilis</i>	Eastern Brown Snake						2013	2	X
<i>Pseudemoia pagenstecheri</i>	Tussock Skink		v				2013	1	X
<i>Chelodina longicollis</i>	Eastern Snake-necked Turtle						2009	1	X
<i>Eulamprus tympanum tympanum</i>	Southern Water Skink						2008	1	X
Frogs									
<i>Limnodynastes dumerilii</i>	Southern Bullfrog (ssp. unknown)						2013, 2015^	11	X
<i>Limnodynastes peronii</i>	Striped Marsh Frog						2013	1	
<i>Limnodynastes tasmaniensis</i>	Spotted Marsh Frog (race unknown)						2013	4	X
<i>Crinia signifera</i>	Common Froglet						2013, 2015^	28	X
<i>Litoria ewingii</i>	Southern Brown Tree Frog						2013	3	X
<i>Litoria lesueuri</i>	Lesueur's Frog						2013	1	X
<i>Litoria raniformis</i>	Growling Grass Frog	VU	e	L			2013, 2015^	16	X
<i>Limnodynastes tasmaniensis SCR</i>	Spotted Marsh Frog SCR						1988	1	
Fish									
<i>Anguilla australis</i>	Southern Shortfin Eel						2013, 2015^	14	X
<i>Galaxias maculatus</i>	Common Galaxias						2007, 2015^	4	X
<i>Carassius auratus</i>	Goldfish					*	2007	3	
<i>Misgurnus anguillicaudatus</i>	Oriental Weatherloach					*	2013	1	X
<i>Gambusia holbrooki</i>	Eastern Gambusia					*	2013, 2015^	6	X
<i>Perca fluviatilis</i>	Redfin					*	2013	4	X
<i>Philypnodon grandiceps</i>	Flathead Gudgeon						2013, 2015^	15	X
<i>Tinca tinca</i>	Tench					*	2007, 2015^	1	X

A1.2 Fauna database records, Bulla Schools Hill Reserve

Table A1.2. Fauna database records, with no seach buffer, Bulla School Hill Reserve

Scientific name	Common name	Status					Most recent database record	Number of database records	Recorded in survey
		EPBC	VIC	FFG	CaLP	*			
Birds									
<i>Anthochaera carunculata</i>	Red Wattlebird						2015^		X
<i>Sturnus vulgaris</i>	Common Starling						2015^		X
<i>Rhipidura leucophrys</i>	Willie Wagtail						2015^		X
<i>Ptilotula penicillatus</i>	White-plumed Honeyeater						2015^		X

A1.3 Fauna database records, Trap Street Reserve

Table A1.3. Fauna database records, with no seach buffer, Trap Street Reserve

Scientific name	Common name	Status					Most recent database record	Number of database records	Recorded in survey
		EPBC	VIC	FFG	CaLP	*			
Birds									
<i>Anas superciliosa</i>	Pacific Black Duck						2009, 2015^	1	
<i>Cacatua galerita</i>	Sulphur-crested Cockatoo						2009	1	X
<i>Platyercus elegans</i>	Crimson Rosella						2009	1	X
<i>Ninox novaeseelandiae</i>	Southern Boobook						2015^		
<i>Grallina cyanoleuca</i>	Magpie-lark						2009	1	X
<i>Sericornis frontalis</i>	White-browed Scrubwren						2009	2	X
<i>Acrocephalus australis</i>	Australian Reed Warbler						2015^		X
<i>Malurus cyaneus</i>	Superb Fairy-wren						2009	2	X
<i>Pardalotus punctatus punctatus</i>	Spotted Pardalote						2009	1	
<i>Zosterops lateralis</i>	Silvereye						2009	2	
<i>Ptilotula penicillatus</i>	White-plumed Honeyeater						2009	2	X
<i>Phylidonyris novaehollandiae</i>	New Holland Honeyeater						2009	1	X
<i>Anthochaera carunculata</i>	Red Wattlebird						2009	1	X
<i>Acanthagenys rufogularis</i>	Spiny-cheeked Honeyeater						2009, 2015^	1	
<i>Cracticus tibicen</i>	Australian Magpie						2009	2	X
<i>Corvus mellori</i>	Little Raven						2009	2	X
<i>Pardalotus striatus</i>	Striated Pardalote						2009, 2015^	1	
<i>Turdus merula</i>	Common Blackbird					*	2009	2	X
<i>Passer montanus</i>	Eurasian Tree Sparrow					*	2009	1	
<i>Passer domesticus</i>	House Sparrow					*	2009	2	X
<i>Chloris chloris</i>	European Greenfinch						2015^		

Scientific name	Common name	Status					Most recent database record	Number of database records	Recorded in survey
		EPBC	VIC	FFG	CaLP	*			
<i>Acridotheres tristis</i>	Common Myna					*	2009	1	X
<i>Sturnus vulgaris</i>	Common Starling					*	2009	1	X
Mammals									
<i>Wallabia bicolor</i>	Black-tailed Wallaby						2015^		X
<i>Tadarida australis</i>	White-striped Freetail Bat						2015^		X
Reptiles									
<i>Egernia cunninghami</i>	Cunningham's Skink						2015^		
<i>Lampropholis guichenoti</i>	Pale-flecked Garden Sunskink						2015^		X
<i>Austrelaps superbus</i>	Lowland Copperhead						2015^		
Frogs									
<i>Limnodynastes dumerilii</i>	Southern Bullfrog (ssp. unknown)						2015^		X
<i>Crinia signifera</i>	Common Froglet						2015^		X
<i>Litoria raniformis</i>	Growling Grass Frog	VU	e	L			2015^		X
Fishes									
<i>Anguilla australis</i>	Southern Shortfin Eel						2007, 2015^	13	X
<i>Galaxias maculatus</i>	Common Galaxias						2007, 2015^	4	X
<i>Carassius auratus</i>	Goldfish					*	2007	3	
<i>Gambusia holbrooki</i>	Eastern Gambusia					*	2007, 2015^	5	X
<i>Perca fluviatilis</i>	Redfin					*	2007	3	
<i>Philypnodon grandiceps</i>	Flatheaded Gudgeon						2007, 2015^	13	X
<i>Tinca tinca</i>	Tench					*	2007, 2015^	1	X

A1.4 Fauna database records, Gold Tree Hill Reserve

Table A1.4. Fauna database records, with no seach buffer, Gold Tree Hill Reserve

Scientific name	Common name	Status					Most recent database record	Number of database records	Recorded in survey
		EPBC	VIC	FFG	CaLP	*			
Birds									
<i>Threskiornis spinicollis</i>	Straw-necked Ibis						2015^		
<i>Falco berigora</i>	Brown Falcon						2015^		
<i>Malurus cyaneus</i>	Superb Fairy-wren						2015^		X
Mammals									
<i>Oryctolagus cuniculus</i>	European Rabbit						2015^		X
<i>Tachyglossus aculeatus</i>	Short-beaked Echidna						2015^		

A1.5 Fauna database records, Quartz Street Reserve

No fauna database records for Quartz Street Reserve

A1.6 Fauna database records, Konagaderra Bridge Reserve

Table A1.6. Fauna database records, with no seach buffer, Konagaderra Bridge Reserve

Scientific name	Common name	Status					Most recent database record	Number of database records	Recorded in survey
		EPBC	VIC	FFG	CaLP	*			
Birds									
<i>Chenonetta jubata</i>	Australian Wood Duck						2013	1	
<i>Anas superciliosa</i>	Pacific Black Duck						2013	1	
<i>Aquila audax</i>	Wedge-tailed Eagle						2013	1	
<i>Falco berigora</i>	Brown Falcon						2013	2	
<i>Cacatua galerita</i>	Sulphur-crested Cockatoo						2013	9	X
<i>Cacatua tenuirostris</i>	Long-billed Corella						2013	4	X
<i>Eolophus roseicapilla</i>	Galah						2013	6	X
<i>Platycercus elegans</i>	Crimson Rosella						2013	5	X
<i>Platycercus eximius</i>	Eastern Rosella						2013	3	
<i>Psephotus haematonotus</i>	Red-rumped Parrot						2013	2	
<i>Dacelo novaeguineae</i>	Laughing Kookaburra						2013	1	X
<i>Todiramphus sanctus</i>	Sacred Kingfisher						2013	2	
<i>Cacomantis flabelliformis</i>	Fan-tailed Cuckoo						2013	2	
<i>Chrysococcyx basalis</i>	Horsfield's Bronze-Cuckoo						2013	2	
<i>Ninox novaeseelandiae</i>	Southern Boobook						2013	4	
<i>Hirundo neoxena</i>	Welcome Swallow						2013	2	X
<i>Petrochelidon nigricans</i>	Tree Martin						2013	1	
<i>Rhipidura albiscapa</i>	Grey Fantail						2013	5	X
<i>Rhipidura leucophrys</i>	Willie Wagtail						2013	8	X
<i>Eopsaltria australis</i>	Eastern Yellow Robin						2013	1	
<i>Pachycephala rufiventris</i>	Rufous Whistler						2013	1	

Scientific name	Common name	Status					Most recent database record	Number of database records	Recorded in survey
		EPBC	VIC	FFG	CaLP	*			
<i>Colluricincla harmonica</i>	Grey Shrike-thrush						2013	7	X
<i>Grallina cyanoleuca</i>	Magpie-lark						2013	2	X
<i>Falcunculus frontatus</i>	Crested Shrike-tit						2013	4	
<i>Coracina novaehollandiae</i>	Black-faced Cuckoo-shrike						2013	7	X
<i>Acanthiza pusilla</i>	Brown Thornbill						2013	4	
<i>Acanthiza chrysorrhoa</i>	Yellow-rumped Thornbill						2013	2	
<i>Sericornis frontalis</i>	White-browed Scrubwren						2013	7	X
<i>Malurus cyaneus</i>	Superb Fairy-wren						2013	15	
<i>Artamus cyanopterus</i>	Dusky Woodswallow						2013	1	
<i>Pardalotus punctatus punctatus</i>	Spotted Pardalote						2013	2	
<i>Zosterops lateralis</i>	Silvereye						2013	1	
<i>Ptilotula penicillatus</i>	White-plumed Honeyeater						2013	14	X
<i>Manorina melanocephala</i>	Noisy Miner						2013	2	
<i>Anthochaera carunculata</i>	Red Wattlebird						2013	5	X
<i>Cracticus tibicen</i>	Australian Magpie						2013	7	X
<i>Corvus mellori</i>	Little Raven						2013	7	X
<i>Pardalotus striatus</i>	Striated Pardalote						2013	7	X
<i>Turdus merula</i>	Common Blackbird					*	2013	10	
<i>Passer domesticus</i>	House Sparrow					*	2013	1	
<i>Sturnus vulgaris</i>	Common Starling					*	2013	4	X
<i>Carduelis carduelis</i>	European Goldfinch					*	2013	1	X
Mammals									
<i>Trichosurus vulpecula</i>	Common Brush-tailed Possum						2013	3	
<i>Pseudocheirus peregrinus</i>	Eastern Ring-tailed Possum						2013	1	
<i>Vombatus ursinus</i>	Bare-nosed Wombat						2013	1	X

Scientific name	Common name	Status					Most recent database record	Number of database records	Recorded in survey
		EPBC	VIC	FFG	CaLP	*			
<i>Wallabia bicolor</i>	Black-tailed Wallaby						2013	3	X
<i>Canis familiaris</i>	Dingo and Dog (feral)				PS	*	2013	1	
<i>Vulpes vulpes</i>	Red Fox				PS	*	2013	2	X
<i>Tadarida australis</i>	White-striped Freetail Bat						2013	3	
<i>Chalinolobus gouldii</i>	Gould's Wattled Bat						2013	1	
<i>Chalinolobus morio</i>	Chocolate Wattled Bat						2013	1	
<i>Scotorepens balstoni</i>	Inland Broad-nosed Bat						2013	1	
<i>Vespadelus regulus</i>	Southern Forest Bat						2013	1	
<i>Vespadelus vulturnus</i>	Little Forest Bat						2013	2	
<i>Vespadelus darlingtoni</i>	Large Forest Bat						2013	1	
<i>Mormopterus planiceps</i>	Southern Freetail Bat						2013	1	
<i>Miniopterus schreibersii oceanensis</i>	Common Bent-wing Bat (eastern ssp.)		v	L			2013	1	
Reptiles									
<i>Lampropholis guichenoti</i>	Pale-flecked Garden Sunskink						2013	11	X
<i>Pseudonaja textilis</i>	Eastern Brown Snake						2013	1	
Frogs									
<i>Limnodynastes dumerilii</i>	Southern Bullfrog (ssp. unknown)						2013	6	X
<i>Limnodynastes tasmaniensis</i>	Spotted Marsh Frog (race unknown)						2013	1	
<i>Crinia signifera</i>	Common Froglet						2013	13	
<i>Litoria ewingii</i>	Southern Brown Tree Frog						2013	3	
<i>Litoria lesueuri</i>	Lesueur's Frog						2013	1	
<i>Litoria raniformis</i>	Growling Grass Frog	VU	e	L			2013	1	
Fishes									
<i>Anguilla australis</i>	Southern Shortfin Eel						2013	1	
<i>Misgurnus anguillicaudatus</i>	Oriental Weatherloach					*	2013	1	

Scientific name	Common name	Status					Most recent database record	Number of database records	Recorded in survey
		EPBC	VIC	FFG	CaLP	*			
<i>Gambusia holbrooki</i>	Eastern Gambusia					*	2013	1	
<i>Perca fluviatilis</i>	Redfin					*	2013	1	
<i>Philypnodon grandiceps</i>	Flathead Gudgeon						2013	1	

A1.7 Fauna database records, Moto X-track Reserve

No fauna database records for Moto X-track Reserve.

A1.8 Fauna database records, Northpark Reserve

Table A1.8. Fauna database records, with no seach buffer, Northpark Reserve

Scientific name	Common name	Status					Most recent database record	Number of database records	Recorded in survey
		EPBC	VIC	FFG	CaLP	*			
Frogs									
<i>Litoria raniformis</i>	Growling Grass Frog	VU	e	L			2002	1	X

A1.9 Fauna database records, O'Herns Road Reserve

Table A1.9. Fauna database records, with no seach buffer, O'Herns Road Reserve

Scientific name	Common name	Status					Most recent database record	Number of database records	Recorded in survey
		EPBC	VIC	FFG	CaLP	*			
Mammals									
<i>Macropus giganteus</i>	Eastern Grey Kangaroo						2000	1	X
Reptiles									
<i>Lerista bougainvillii</i>	Bougainville's Skink						2000	1	
<i>Pseudonaja textilis</i>	Eastern Brown Snake						2000	1	X
Frogs									
<i>Crinia signifera</i>	Common Froglet						2000	1	X
<i>Litoria raniformis</i>	Growling Grass Frog	VU	e	L			2001	1	

A1.10 Fauna database records, Patullos Lane Reserve

No fauna database records for Patullos Lane Reserve

A1.11 Fauna database records, Growling Grass Frog Nature Reserve

Table A1.11. Fauna database records, with no seach buffer, Growling Grass Frog Nature Reserve

Scientific name	Common name	Status					Most recent database record	Number of database records	Recorded in survey
		EPBC	VIC	FFG	CaLP	*			
Birds									
<i>Gallinula tenebrosa</i>	Dusky Moorhen						2008	1	
<i>Tachybaptus novaehollandiae</i>	Australasian Grebe						2009	1	X
Mammals									
<i>Tachyglossus aculeatus</i>	Short-beaked Echidna						2008	1	X
<i>Wallabia bicolor</i>	Black-tailed Wallaby						2008	1	X
<i>Oryctolagus cuniculus</i>	European Rabbit				PS	*	2008	1	X
<i>Vulpes vulpes</i>	Red Fox				PS	*	2009	1	X
Reptiles									
<i>Lampropholis guichenoti</i>	Pale-flecked Garden Sunskink						2008	1	
<i>Chelodina longicollis</i>	Eastern Snake-necked Turtle						2009	1	X
<i>Eulamprus tympanum tympanum</i>	Southern Water Skink						2008	1	
Frogs									
<i>Crinia signifera</i>	Common Froglet						2008	3	X
<i>Limnodynastes tasmaniensis</i>	Spotted Marsh Frog (race unknown)						2008	1	X
<i>Litoria raniformis</i>	Growling Grass Frog	VU	en	L			2010	9	

A1.12 Fauna database records, Rushwood Drive Reserve

Table A1.12. Fauna database records, with no seach buffer, Rushwood Drive Reserve

Scientific name	Common name	Status					Most recent database record	Number of database records	Recorded in survey
		EPBC	VIC	FFG	CaLP	*			
Birds									
<i>Coturnix pectoralis</i>	Stubble Quail						2013	1	
<i>Synoicus ypsilophorus</i>	Brown Quail						2013	1	
<i>Ocyphaps lophotes</i>	Crested Pigeon						2002	1	
<i>Gallinula tenebrosa</i>	Dusky Moorhen						2013	2	X
<i>Porphyrio melanotus</i>	Australasian Swamphen						2013	2	X
<i>Fulica atra</i>	Eurasian Coot						2013	6	X
<i>Tachybaptus novaehollandiae</i>	Australasian Grebe						2013	3	
<i>Threskiornis spinicollis</i>	Straw-necked Ibis						2013	1	
<i>Chenonetta jubata</i>	Australian Wood Duck						2013	1	
<i>Anas superciliosa</i>	Pacific Black Duck						2013	3	X
<i>Aythya australis</i>	Hardhead		v				2013	1	
<i>Falco berigora</i>	Brown Falcon						2013	1	
<i>Cacatua galerita</i>	Sulphur-crested Cockatoo						2013	1	
<i>Streptopelia chinensis</i>	Spotted Turtle-Dove					*	2013	3	X
<i>Hirundo neoxena</i>	Welcome Swallow						2013	1	
<i>Rhipidura albiscapa</i>	Grey Fantail						2013	6	X
<i>Rhipidura leucophrys</i>	Willie Wagtail						2013	1	X
<i>Pachycephala rufiventris</i>	Rufous Whistler						2013	3	
<i>Grallina cyanoleuca</i>	Magpie-lark						2013	1	
<i>Falcunculus frontatus</i>	Crested Shrike-tit						2013	1	
<i>Coracina novaehollandiae</i>	Black-faced Cuckoo-shrike						2013	2	X

Scientific name	Common name	Status					Most recent database record	Number of database records	Recorded in survey
		EPBC	VIC	FFG	CaLP	*			
<i>Acanthiza pusilla</i>	Brown Thornbill						2013	1	
<i>Acanthiza chrysorrhoa</i>	Yellow-rumped Thornbill						2013	5	X
<i>Sericornis frontalis</i>	White-browed Scrubwren						2013	3	
<i>Cincloramphus mathewsi</i>	Rufous Songlark						2002	1	X
<i>Poodytes gramineus</i>	Little Grassbird						2013	6	
<i>Acrocephalus australis</i>	Australian Reed Warbler						2013	10	X
<i>Cisticola exilis</i>	Golden-headed Cisticola						2013	5	
<i>Malurus cyaneus</i>	Superb Fairy-wren						2013	13	X
<i>Zosterops lateralis</i>	Silvereye						2013	2	
<i>Ptilotula penicillatus</i>	White-plumed Honeyeater						2013	2	X
<i>Phylidonyris novaehollandiae</i>	New Holland Honeyeater						2013	4	X
<i>Neochmia temporalis</i>	Red-browed Finch						2013	4	X
<i>Cracticus tibicen</i>	Australian Magpie						2013	7	X
<i>Corvus mellori</i>	Little Raven						2013	8	X
<i>Turdus merula</i>	Common Blackbird					*	2013	7	X
<i>Passer domesticus</i>	House Sparrow					*	2013	2	
<i>Chloris chloris</i>	European Greenfinch					*	2013	4	
<i>Acridotheres tristis</i>	Common Myna					*	2013	5	
<i>Sturnus vulgaris</i>	Common Starling					*	2013	6	X
<i>Carduelis carduelis</i>	European Goldfinch					*	2013	9	X
Mammals									
<i>Wallabia bicolor</i>	Black-tailed Wallaby						2013	8	X
<i>Chalinolobus morio</i>	Chocolate Wattled Bat						2013	1	
<i>Miniopterus schreibersii oceanensis</i>	Common Bent-wing Bat (eastern ssp.)		v	L			2013	1	
<i>Trichosurus vulpecula</i>	Common Brush-tailed Possum						2013	3	

Scientific name	Common name	Status					Most recent database record	Number of database records	Recorded in survey
		EPBC	VIC	FFG	CaLP	*			
<i>Macropus giganteus</i>	Eastern Grey Kangaroo						2013	3	X
<i>Chalinolobus gouldii</i>	Gould's Wattled Bat						2013	1	X
<i>Scotorepens balstoni</i>	Inland Broad-nosed Bat						2013	1	
<i>Vespadelus darlingtoni</i>	Large Forest Bat						2013	1	
<i>Vespadelus vulturnus</i>	Little Forest Bat						2013	1	
<i>Vespadelus regulus</i>	Southern Forest Bat						2013	1	
<i>Mormopterus planiceps</i>	Southern Freetail Bat						2013	1	
<i>Tadarida australis</i>	White-striped Freetail Bat						2013	1	
<i>Oryctolagus cuniculus</i>	European Rabbit				PS	*	2013	1	X
<i>Vulpes vulpes</i>	Red Fox				PS	*	2013	3	X
Reptiles									
<i>Egernia cunninghami</i>	Cunningham's Skink						2013	4	X
<i>Lampropholis guichenoti</i>	Pale-flecked Garden Sunskink						2013	5	
<i>Pseudemoia pagenstecheri</i>	Tussock Skink		v				2013	1	
Frogs									
<i>Crinia signifera</i>	Common Froglet						2013	10	X
<i>Litoria raniformis</i>	Growling Grass Frog	VU	e	L			2013	3	
<i>Limnodynastes dumerilii</i>	Southern Bullfrog (ssp. unknown)						2013	5	X
<i>Limnodynastes tasmaniensis</i>	Spotted Marsh Frog (race unknown)						2013	2	X
<i>Limnodynastes peronii</i>	Striped Marsh Frog						2013	1	X
Fish									
<i>Philypnodon grandiceps</i>	Flathead Gudgeon						2013	1	X

A1.13 Fauna database records, 630 Hume Highway Reserve

No fauna database records for 630 Hume Highway Reserve.

A1.14 Fauna database records, John Laffan Reserve

Table A1.14. Fauna database records, with no seach buffer, John Laffan Reserve

Scientific name	Common name	Status					Most recent database record	Number of database records	Recorded in survey
		EPBC	VIC	FFG	CaLP	*			
Birds									
<i>Egretta novaehollandiae</i>	White-faced Heron						1988	1	
<i>Circus assimilis</i>	Spotted Harrier		nt				1988	1	
<i>Elanus axillaris</i>	Black-shouldered Kite						1988	1	X
<i>Falco berigora</i>	Brown Falcon						1988	1	X
<i>Falco cenchroides</i>	Nankeen Kestrel						1988	1	X
<i>Platyercus eximius</i>	Eastern Rosella						1988	1	
<i>Psephotus haematonotus</i>	Red-rumped Parrot						1988	1	X
<i>Vanellus miles</i>	Masked Lapwing						1988	1	
<i>Rhipidura leucophrys</i>	Willie Wagtail						1988	1	X
<i>Petroica phoenicea</i>	Flame Robin						1988	1	
<i>Grallina cyanoleuca</i>	Magpie-lark						1988	1	
<i>Ptilotula penicillatus</i>	White-plumed Honeyeater						1988	1	X
<i>Anthus novaeseelandiae</i>	Australasian Pipit						1988	1	
<i>Cracticus tibicen</i>	Australian Magpie						1988	1	X
<i>Corvus mellori</i>	Little Raven						1988	1	X
<i>Turdus merula</i>	Common Blackbird					*	1988	1	X
<i>Alauda arvensis</i>	European Skylark					*	1988	1	X
<i>Passer domesticus</i>	House Sparrow					*	1988	1	
<i>Acridotheres tristis</i>	Common Myna					*	1988	1	X
<i>Sturnus vulgaris</i>	Common Starling					*	1988	1	X
<i>Carduelis carduelis</i>	European Goldfinch					*	1988	1	X

Scientific name	Common name	Status					Most recent database record	Number of database records	Recorded in survey
		EPBC	VIC	FFG	CaLP	*			
Mammals									
<i>Mus musculus</i>	House Mouse					*	1988	1	
<i>Oryctolagus cuniculus</i>	European Rabbit				PS	*	1988	1	
<i>Vulpes vulpes</i>	Red Fox				PS	*	1988	1	X
Frogs									
<i>Crinia signifera</i>	Common Froglet						1988	1	X
<i>Litoria raniformis</i>	Growling Grass Frog	VU	e	L			2009	1	
<i>Limnodynastes tasmaniensis SCR</i>	Spotted Marsh Frog SCR						1988	1	X

Appendix 2 Fauna species recorded

Notes to tables:

<p>EPBC Act:</p> <p>EX - Extinct CR - Critically Endangered EN - Endangered VU - Vulnerable CD - Conservation dependent</p>	<p>DSE 2009, DSE 2013:</p> <p>ex - extinct cr - critically endangered en - endangered vu - vulnerable nt - near threatened dd - data deficient rx - regionally extinct</p>
<p>FFG Act:</p> <p>L - listed as threatened under FFG Act N - nominated for listing as threatened I - determined ineligible for listing</p>	<p>Introduced species</p> <p>PS - pest species listed under the CaLP Act * - introduced species</p>

A2.1 Fauna species recorded and survey methods used, all reserves combined

Table A2.1. Fauna species recorded and survey methods used, all reserves combined

Common name	Scientific name	Status	Significance	Active search	Acoustic detector	Anecdotal record	Aquatic survey	Bird survey	Camera - aboreal	Camera - terrestrial	Nocturnal survey	Tile transect
Birds												
<i>Ocyphaps lophotes</i>	Crested Pigeon							X		X		
<i>Gallinula tenebrosa</i>	Dusky Moorhen							X			X	
<i>Porphyrio melanotus</i>	Australasian Swamphen							X		X		
<i>Fulica atra</i>	Eurasian Coot							X				
<i>Tachybaptus novaehollandiae</i>	Australasian Grebe							X				
<i>Phalacrocorax fuscescens</i>	Black-faced Cormorant	nt	State					X				
<i>Microcarbo melanoleucos</i>	Little Pied Cormorant							X				
<i>Threskiornis molucca</i>	Australian White Ibis							X				
<i>Threskiornis spinicollis</i>	Straw-necked Ibis							X		X		
<i>Egretta novaehollandiae</i>	White-faced Heron							X		X		
<i>Ardea pacifica</i>	White-necked Heron							X				
<i>Nycticorax caledonicus</i>	Nankeen Night-Heron	nt	State								X	
<i>Chenonetta jubata</i>	Australian Wood Duck							X		X	X	
<i>Anas superciliosa</i>	Pacific Black Duck							X				
<i>Anas castanea</i>	Chestnut Teal							X				
<i>Anas gracilis</i>	Grey Teal							X				
<i>Oxyura australis</i>	Blue-billed Duck	en L	State					X				
<i>Accipiter fasciatus</i>	Brown Goshawk							X				
<i>Aquila audax</i>	Wedge-tailed Eagle		Local					X				

Common name	Scientific name	Status	Significance	Active search	Acoustic detector	Anecdotal record	Aquatic survey	Bird survey	Camera - aboreal	Camera - terrestrial	Nocturnal survey	Tile transect
<i>Haliastur sphenurus</i>	Whistling Kite							X				
<i>Milvus migrans</i>	Black Kite							X				
<i>Elanus axillaris</i>	Black-shouldered Kite							X				
<i>Falco longipennis</i>	Australian Hobby							X				
<i>Falco berigora</i>	Brown Falcon							X				
<i>Falco cenchroides</i>	Nankeen Kestrel							X				
<i>Trichoglossus molucannus</i>	Rainbow Lorikeet							X				
<i>Glossopsitta concinna</i>	Musk Lorikeet							X				
<i>Parvipsitta porphyrocephala</i>	Purple-crowned Lorikeet							X				
<i>Calyptorhynchus funereus</i>	Yellow-tailed Black-Cockatoo							X				
<i>Cacatua galerita</i>	Sulphur-crested Cockatoo							X				
<i>Cacatua sanguinea</i>	Little Corella							X				
<i>Cacatua tenuirostris</i>	Long-billed Corella							X				
<i>Eolophus roseicapilla</i>	Galah							X				
<i>Platycercus elegans</i>	Crimson Rosella							X				
<i>Psephotus haematonotus</i>	Red-rumped Parrot							X				
<i>Podargus strigoides</i>	Tawny Frogmouth										X	
<i>Todiramphus spp.</i>	Kingfisher Sp.								X			
<i>Dacelo novaeguineae</i>	Laughing Kookaburra							X				
<i>Chrysococcyx osculans</i>	Black-eared Cuckoo	nt	State					X				
<i>Columba livia</i>	Domestic Pigeon							X				
<i>Spilopelia chinensis</i>	Spotted Dove							X		X		
<i>Chroicocephalus novaehollandiae</i>	Silver Gull							X				
<i>Vanellus miles</i>	Masked Lapwing							X			X	

Common name	Scientific name	Status	Significance	Active search	Acoustic detector	Anecdotal record	Aquatic survey	Bird survey	Camera - aboreal	Camera - terrestrial	Nocturnal survey	Tile transect
<i>Hirundo neoxena</i>	Welcome Swallow							X				
<i>Petrochelidon nigricans</i>	Tree Martin							X				
<i>Rhipidura albiscapa</i>	Grey Fantail							X	X			
<i>Rhipidura leucophrys</i>	Willie Wagtail							X				
<i>Petroica phoenicea</i>	Flame Robin							X				
<i>Pachycephala pectoralis</i>	Golden Whistler							X				
<i>Pachycephala rufiventris</i>	Rufous Whistler							X				
<i>Colluricincla harmonica</i>	Grey Shrike-thrush							X				
<i>Grallina cyanoleuca</i>	Magpie-lark							X				
<i>Coracina novaehollandiae</i>	Black-faced Cuckoo-shrike							X				
<i>Lalage tricolor</i>	White-winged Triller		Local					X				
<i>Epthianura albifrons</i>	White-fronted Chat							X				
<i>Acanthiza lineata</i>	Striated Thornbill							X				
<i>Acanthiza nana</i>	Yellow Thornbill							X				
<i>Acanthiza pusilla</i>	Brown Thornbill							X				
<i>Acanthiza chrysorrhoa</i>	Yellow-rumped Thornbill							X				
<i>Sericornis frontalis</i>	White-browed Scrubwren							X	X			
<i>Cincloramphus cruralis</i>	Brown Songlark		Local					X				
<i>Cincloramphus mathewsi</i>	Rufous Songlark		Local					X				
<i>Acrocephalus australis</i>	Australian Reed Warbler							X		X	X	
<i>Cisticola exilis</i>	Golden-headed Cisticola							X			X	
<i>Malurus cyaneus</i>	Superb Fairy-wren							X	X	X		
<i>Artamus cyanopterus</i>	Dusky Woodswallow							X				
<i>Pardalotus punctatus</i>	Spotted Pardalote							X				

Common name	Scientific name	Status	Significance	Active search	Acoustic detector	Anecdotal record	Aquatic survey	Bird survey	Camera - aboreal	Camera - terrestrial	Nocturnal survey	Tile transect
<i>Zosterops lateralis</i>	Silvereeye							X				
<i>Ptilotula penicillata</i>	White-plumed Honeyeater							X				
<i>Phylidonyris novaehollandiae</i>	New Holland Honeyeater							X				
<i>Manorina melanocephala</i>	Noisy Miner											
<i>Anthochaera carunculata</i>	Red Wattlebird							X				
<i>Acanthagenys rufogularis</i>	Spiny-cheeked Honeyeater							X				
<i>Anthus australis</i>	Australian Pipit											
<i>Neochmia temporalis</i>	Red-browed Finch							X				
<i>Strepera graculina</i>	Pied Currawong											
<i>Gymnorhina tibicen</i>	Australian Magpie							X		X		
<i>Corvus mellori</i>	Little Raven							X	X	X		
<i>Pardalotus striatus</i>	Striated Pardalote							X				
<i>Turdus merula</i>	Common Blackbird	*						X	X	X		
<i>Turdus philomelos</i>	Song Thrush	*										
<i>Alauda arvensis</i>	Eurasian Skylark	*						X				
<i>Passer montanus</i>	Eurasian Tree Sparrow	*						X				
<i>Passer domesticus</i>	House Sparrow	*						X			X	
<i>Chloris chloris</i>	European Greenfinch	*						X				
<i>Acridotheres tristis</i>	Common Myna	*						X		X		
<i>Sturnus vulgaris</i>	Common Starling	*						X		X		
<i>Carduelis carduelis</i>	European Goldfinch	*						X				
Mammals												
<i>Tachyglossus aculeatus</i>	Short-beaked Echidna		Local	X							X	
<i>Trichosurus vulpecula</i>	Common Brush-tailed Possum								X			

Common name	Scientific name	Status	Significance	Active search	Acoustic detector	Anecdotal record	Aquatic survey	Bird survey	Camera - aboreal	Camera - terrestrial	Nocturnal survey	Tile transect
<i>Vombatus ursinus</i>	Bare-nosed Wombat		Local	X		X				X		
<i>Wallabia bicolor</i>	Black-tailed Wallaby			X						X	X	
<i>Macropus giganteus</i>	Eastern Grey Kangaroo			X		X				X		
<i>Rattus rattus</i>	Black Rat	*							X	X		
<i>Lepus europaeus</i>	European Brown Hare	PS		X								
<i>Oryctolagus cuniculus</i>	European Rabbit	PS		X		X				X		
<i>Capra hircus</i>	Goat (feral)	PS		X								
<i>Felis catus</i>	Domestic Cat (feral)	PS							X	X		
<i>Vulpes vulpes</i>	Red Fox	PS		X					X	X		
<i>Pteropus poliocephalus</i>	Grey-headed Flying-fox	VU vu L	National								X	
<i>Nyctophilus spp.</i>	Unidentified Long-eared Bat				X							
<i>Vespadelus darlingtoni</i>	Large Forest Bat				X							
<i>Vespadelus vulturnus</i>	Little Forest Bat				X							
<i>Mormopterus planiceps</i>	Southern Freetail Bat				X							
<i>Tadarida australis</i>	White-striped Freetail Bat				X						X	
<i>Chalinolobus gouldii</i>	Gould's Wattled Bat				X						X	
Reptiles												
<i>Egernia cunninghami</i>	Cunningham's Skink			X								
<i>Lampropholis guichenoti</i>	Pale-flecked Garden Sunskink										X	X
<i>Saproscincus mustelinus</i>	Weasel Skink											X
<i>Tiliqua scincoides</i>	Common Blue-tongued Lizard			X								
<i>Pseudonaja textilis</i>	Eastern Brown Snake			X								X
<i>Parasuta flagellum</i>	Little Whip Snake											X
<i>Pseudemoia pagenstecheri</i>	Tussock Skink	vu	State									X

Common name	Scientific name	Status	Significance	Active search	Acoustic detector	Anecdotal record	Aquatic survey	Bird survey	Camera - aboreal	Camera - terrestrial	Nocturnal survey	Tile transect
<i>Chelodina longicollis</i>	Eastern Snake-necked Turtle	dd		X			X				X	
<i>Eulamprus tympanum tympanum</i>	Southern Water Skink										X	
Frogs												
<i>Limnodynastes peronii</i>	Striped Marsh Frog										X	
<i>Limnodynastes tasmaniensis</i>	Spotted Marsh Frog (race unknown)										X	
<i>Crinia signifera</i>	Common Froglet			X							X	
<i>Litoria ewingii</i>	Southern Brown Tree Frog										X	
<i>Litoria lesueuri</i>	Lesueur's Frog										X	
<i>Litoria raniformis</i>	Growling Grass Frog	VU en L	National			X					X	
<i>Limnodynastes dumerilii dumerilii</i>	Pobblebonk Frog					X					X	
Fishes												
<i>Anguilla australis</i>	Southern Shortfin Eel						X				X	
<i>Retropinna semoni</i>	Australian Smelt						X					
<i>Galaxias maculatus</i>	Common Galaxias						X					
<i>Cyprinus carpio</i>	European Carp	*		X								
<i>Misgurnus anguillicaudatus</i>	Oriental Weatherloach	*					X					
<i>Gambusia holbrooki</i>	Eastern Gambusia	*					X					
<i>Philypnodon grandiceps</i>	Flatheaded Gudgeon						X					
<i>Tinca tinca</i>	Tench	*					X					
Invertebrates												
<i>Synemon plana</i>	Golden Sun Moth	CR cr L	National	X								

A2.2 Fauna species recorded and survey methods used, Bulla School Hill Reserve

Table A2.2. Fauna species recorded and survey methods used, Bulla School Hill Reserve

Scientific name	Common name	Status	Significance	Active search	Acoustic detector	Anecdotal record	Aquatic survey	Bird survey	Camera - aboreal	Camera - terrestrial	Nocturnal survey	Tile transect
Birds												
<i>Trichoglossus molucannus</i>	Rainbow Lorikeet							X				
<i>Milvus migrans</i>	Black Kite							X				
<i>Cacatua galerita</i>	Sulphur-crested Cockatoo							X				
<i>Cacatua sanguinea</i>	Little Corella							X				
<i>Cacatua tenuirostris</i>	Long-billed Corella							X				
<i>Eolophus roseicapilla</i>	Galah							X				
<i>Platycercus elegans</i>	Crimson Rosella							X				
<i>Podargus strigoides</i>	Tawny Frogmouth										X	
<i>Chrysococcyx osculans</i>	Black-eared Cuckoo	nt	Local					X				
<i>Rhipidura albiscapa</i>	Grey Fantail							X				
<i>Rhipidura leucophrys</i>	Willie Wagtail							X				
<i>Pachycephala pectoralis</i>	Golden Whistler							X				
<i>Colluricincla harmonica</i>	Grey Shrike-thrush							X				
<i>Grallina cyanoleuca</i>	Magpie-lark							X				
<i>Coracina novaehollandiae</i>	Black-faced Cuckoo-shrike							X				
<i>Acanthiza chrysorrhoa</i>	Yellow-rumped Thornbill							X				
<i>Ptilotula penicillata</i>	White-plumed Honeyeater							X				

Scientific name	Common name	Status	Significance	Active search	Acoustic detector	Anecdotal record	Aquatic survey	Bird survey	Camera - aboreal	Camera - terrestrial	Nocturnal survey	Tile transect
<i>Anthochaera carunculata</i>	Red Wattlebird							X				
<i>Strepera graculina</i>	Pied Currawong							X				
<i>Gymnorhina tibicen</i>	Australian Magpie							X				
<i>Corvus mellori</i>	Little Raven							X				
<i>Turdus merula</i>	Common Blackbird	*						X				
<i>Alauda arvensis</i>	Eurasian Skylark	*						X				
<i>Passer domesticus</i>	House Sparrow	*						X				
<i>Acridotheres tristis</i>	Common Myna	*						X				
<i>Sturnus vulgaris</i>	Common Starling	*						X				
<i>Carduelis carduelis</i>	European Goldfinch	*						X				
Mammals												
<i>Wallabia bicolor</i>	Black-tailed Wallaby									X		
<i>Macropus giganteus</i>	Eastern Grey Kangaroo									X		
<i>Vulpes vulpes</i>	Red Fox	PS								X		
<i>Nyctophilus spp.</i>	Long-eared Bat species				X							
<i>Vespadelus darlingtoni</i>	Large Forest Bat				X							
<i>Vespadelus vulturnus</i>	Little Forest Bat				X							
<i>Mormopterus planiceps</i>	Southern Freetail Bat				X							
<i>Chalinolobus gouldii</i>	Gould's Wattled Bat				X							
<i>Tadarida australis</i>	White-striped Freetail Bat				X						X	
Reptiles												

Scientific name	Common name	Status	Significance	Active search	Acoustic detector	Anecdotal record	Aquatic survey	Bird survey	Camera - aboreal	Camera - terrestrial	Nocturnal survey	Tile transect
<i>Lampropholis guichenoti</i>	Pale-flecked Garden Sunskink											X

A2.3 Fauna species recorded and survey methods used, Trap Street Reserve

Table A2.3. Fauna species recorded and survey methods used, Trap Street Reserve

Scientific name	Common name	Status	Significance	Active search	Acoustic detector	Anecdotal record	Aquatic survey	Bird survey	Camera - aboreal	Camera - terrestrial	Nocturnal survey	Tile transect
Birds												
<i>Gallinula tenebrosa</i>	Dusky Moorhen							X				
<i>Fulica atra</i>	Eurasian Coot							X				
<i>Chenonetta jubata</i>	Australian Wood Duck							X				
<i>Trichoglossus molucannus</i>	Rainbow Lorikeet							X				
<i>Cacatua galerita</i>	Sulphur-crested Cockatoo							X				
<i>Eolophus roseicapilla</i>	Galah							X				
<i>Platycercus elegans</i>	Crimson Rosella							X				
<i>Dacelo novaeguineae</i>	Laughing Kookaburra							X				
<i>Rhipidura albiscapa</i>	Grey Fantail							X				
<i>Rhipidura leucophrys</i>	Willie Wagtail							X				
<i>Pachycephala pectoralis</i>	Golden Whistler							X				
<i>Colluricincla harmonica</i>	Grey Shrike-thrush							X				
<i>Grallina cyanoleuca</i>	Magpie-lark							X				
<i>Sericornis frontalis</i>	White-browed Scrubwren							X				
<i>Acrocephalus australis</i>	Australian Reed Warbler										X	
<i>Cisticola exilis</i>	Golden-headed Cisticola							X				
<i>Malurus cyaneus</i>	Superb Fairy-wren							X				
<i>Artamus cyanopterus</i>	Dusky Woodswallow							X				

Scientific name	Common name	Status	Significance	Active search	Acoustic detector	Anecdotal record	Aquatic survey	Bird survey	Camera - aboreal	Camera - terrestrial	Nocturnal survey	Tile transect
<i>Ptilotula penicillata</i>	White-plumed Honeyeater							X				
<i>Phylidonyris novaehollandiae</i>	New Holland Honeyeater							X				
<i>Manorina melanocephala</i>	Noisy Miner							X				
<i>Anthochaera carunculata</i>	Red Wattlebird							X				
<i>Strepera graculina</i>	Pied Currawong							X				
<i>Gymnorhina tibicen</i>	Australian Magpie							X				
<i>Corvus mellori</i>	Little Raven							X				
<i>Turdus merula</i>	Common Blackbird	*						X				
<i>Turdus philomelos</i>	Song Thrush	*								X		
<i>Passer domesticus</i>	House Sparrow	*						X				
<i>Acridotheres tristis</i>	Common Myna	*						X				
<i>Sturnus vulgaris</i>	Common Starling	*						X				
<i>Carduelis carduelis</i>	European Goldfinch	*						X				
Mammals												
<i>Wallabia bicolor</i>	Black-tailed Wallaby			X						X		
<i>Vulpes vulpes</i>	Red Fox	PS		X								
<i>Vespadelus darlingtoni</i>	Large Forest Bat				X							
<i>Vespadelus vulturnus</i>	Little Forest Bat				X							
<i>Chalinolobus gouldii</i>	Gould's Wattled Bat				X							
<i>Tadarida australis</i>	White-striped Freetail Bat				X							
Reptiles												
<i>Lampropholis guichenoti</i>	Pale-flecked Garden Sunskink			X								X

Scientific name	Common name	Status	Significance	Active search	Acoustic detector	Anecdotal record	Aquatic survey	Bird survey	Camera - aboreal	Camera - terrestrial	Nocturnal survey	Tile transect
Frogs												
<i>Crinia signifera</i>	Common Froglet			X							X	
<i>Litoria ewingii</i>	Southern Brown Tree Frog										X	
<i>Litoria lesueuri</i>	Lesueur's Frog										X	
<i>Litoria raniformis</i>	Growling Grass Frog	VU en L	National	X							X	
<i>Limnodynastes dumerilii dumerilii</i>	Pobblebonk Frog										X	
Fishes												
<i>Anguilla australis</i>	Short-finned Eel						X				X	
<i>Galaxias maculatus</i>	Common Galaxias						X					
<i>Philypnodon grandiceps</i>	Flatheaded Gudgeon						X					
<i>Gambusia holbrooki</i>	Eastern Gambusia	*					X					
<i>Tinca tinca</i>	Tench	*					X					

A2.4 Fauna species recorded and survey methods used, Quartz Street Reserve

Table A2.4. Fauna species recorded and survey methods used, Quartz Street Reserve

Scientific name	Common name	Status	Significance	Active search	Acoustic detector	Anecdotal record	Aquatic survey	Bird survey	Camera - aboreal	Camera - terrestrial	Nocturnal survey	Tile transect
Birds												
<i>Ocyphaps lophotes</i>	Crested Pigeon							X				
<i>Grallina cyanoleuca</i>	Magpie-lark							X				
<i>Threskiornis spinicollis</i>	Straw-necked Ibis									X		
<i>Trichoglossus molucannus</i>	Rainbow Lorikeet							X				
<i>Parvipsitta porphyrocephala</i>	Purple-crowned Lorikeet							X				
<i>Eolophus roseicapilla</i>	Galah							X				
<i>Platycercus elegans</i>	Crimson Rosella							X				
<i>Psephotus haematonotus</i>	Red-rumped Parrot							X				
<i>Columba livia</i>	Domestic Pigeon	*						X				
<i>Rhipidura albiscapa</i>	Grey Fantail							X				
<i>Coracina novaehollandiae</i>	Black-faced Cuckoo-shrike							X				
<i>Acanthiza chrysorrhoa</i>	Yellow-rumped Thornbill							X				
<i>Cincloramphus cruralis</i>	Brown Songlark							X				
<i>Malurus cyaneus</i>	Superb Fairy-wren							X				
<i>Artamus cyanopterus</i>	Dusky Woodswallow							X				
<i>Ptilotula penicillata</i>	White-plumed Honeyeater							X				
<i>Phylidonyris novaehollandiae</i>	New Holland Honeyeater							X				

Scientific name	Common name	Status	Significance	Active search	Acoustic detector	Anecdotal record	Aqcautic survey	Bird survey	Camera - aboreal	Camera - terrestrial	Nocturnal survey	Tile transect
<i>Anthochaera carunculata</i>	Red Wattlebird							X				
<i>Acanthagenys rufogularis</i>	Spiny-cheeked Honeyeater							X				
<i>Neochmia temporalis</i>	Red-browed Finch							X				
<i>Gymnorhina tibicen</i>	Australian Magpie							X				
<i>Corvus mellori</i>	Little Raven							X				
<i>Pardalotus striatus</i>	Striated Pardalote							X				
<i>Turdus merula</i>	Common Blackbird	*						X				
<i>Alauda arvensis</i>	Eurasian Skylark	*						X				
<i>Passer domesticus</i>	House Sparrow	*						X				
<i>Acridotheres tristis</i>	Common Myna	*						X				
Mammals												
<i>Wallabia bicolor</i>	Black-tailed Wallaby			X								
<i>Macropus giganteus</i>	Eastern Grey Kangaroo									X		
<i>Oryctolagus cuniculus</i>	European Rabbit	PS				X						
<i>Pteropus poliocephalus</i>	Grey-headed Flying-fox	VU vu L	National								X	
<i>Vespadelus vulturnus</i>	Little Forest Bat				X							
<i>Mormopterus planiceps</i>	Southern Freetail Bat				X							
<i>Nyctophilus spp.</i>	Long-eared Bat species				X							
<i>Chalinolobus gouldii</i>	Gould's Wattled Bat				X							
<i>Tadarida australis</i>	White-striped Freetail Bat				X						X	
Reptiles												

Scientific name	Common name	Status	Significance	Active search	Acoustic detector	Anecdotal record	Aqcautic survey	Bird survey	Camera - aboreal	Camera - terrestrial	Nocturnal survey	Tile transect
<i>Tiliqua scincoides</i>	Common Blue-tongued Lizard											X
<i>Pseudemoia pagenstecheri</i>	Tussock Skink	vu	State									X

A2.5 Fauna species recorded and survey methods used, Gold Tree Hill Reserve

Table A2.5. Fauna species recorded and survey methods used, Gold Tree Hill Reserve

Scientific name	Common name	Status	Significance	Active search	Acoustic detector	Anecdotal record	Aquatic survey	Bird survey	Camera - aboreal	Camera - terrestrial	Nocturnal survey	Tile transect
Birds												
<i>Cacatua galerita</i>	Sulphur-crested Cockatoo							X				
<i>Trichoglossus molucannus</i>	Rainbow Lorikeet							X				
<i>Glossopsitta concinna</i>	Musk Lorikeet							X				
<i>Parvipsitta porphyrocephala</i>	Purple-crowned Lorikeet							X				
<i>Eolophus roseicapilla</i>	Galah							X				
<i>Platyercus elegans</i>	Crimson Rosella							X				
<i>Columba livia</i>	Domestic Pigeon	*						X				
<i>Pardalotus punctatus</i>	Spotted Pardalote							X				
<i>Rhipidura albiscapa</i>	Grey Fantail							X				
<i>Rhipidura leucophrys</i>	Willie Wagtail							X				
<i>Pachycephala pectoralis</i>	Golden Whistler							X				
<i>Colluricincla harmonica</i>	Grey Shrike-thrush							X				
<i>Grallina cyanoleuca</i>	Magpie-lark							X				
<i>Coracina novaehollandiae</i>	Black-faced Cuckoo-shrike							X				
<i>Acanthiza pusilla</i>	Brown Thornbill							X				
<i>Acanthiza chrysorrhoa</i>	Yellow-rumped Thornbill							X				
<i>Malurus cyaneus</i>	Superb Fairy-wren							X				
<i>Zosterops lateralis</i>	Silvereye							X				
<i>Ptilotula penicillata</i>	White-plumed Honeyeater							X				

Scientific name	Common name	Status	Significance	Active search	Acoustic detector	Anecdotal record	Aquatic survey	Bird survey	Camera - aboreal	Camera - terrestrial	Nocturnal survey	Tile transect
<i>Phylidonyris novaehollandiae</i>	New Holland Honeyeater							X				
<i>Anthochaera carunculata</i>	Red Wattlebird							X				
<i>Acanthagenys rufogularis</i>	Spiny-cheeked Honeyeater							X				
<i>Gymnorhina tibicen</i>	Australian Magpie							X				
<i>Corvus mellori</i>	Little Raven							X				
<i>Pardalotus striatus</i>	Striated Pardalote							X				
<i>Turdus merula</i>	Common Blackbird	*						X				
<i>Passer domesticus</i>	House Sparrow	*						X				
<i>Acridotheres tristis</i>	Common Myna	*						X				
<i>Carduelis carduelis</i>	European Goldfinch	*						X				
Mammals												
<i>Wallabia bicolor</i>	Black-tailed Wallaby									X		
<i>Oryctolagus cuniculus</i>	European Rabbit	PS				X				X		
<i>Vulpes vulpes</i>	Red Fox	PS								X		
<i>Vespadelus darlingtoni</i>	Large Forest Bat				X							
<i>Vespadelus vulturnus</i>	Little Forest Bat				X							
<i>Nyctophilus spp.</i>	Long-eared Bat species				X							
<i>Chalinolobus gouldii</i>	Gould's Wattled Bat				X							
<i>Mormopterus planiceps</i>	Southern Freetail Bat				X							
<i>Tadarida australis</i>	White-striped Freetail Bat				X						X	

A2.6 Fauna species recorded and survey methods used, Konagaderra Bridge Reserve

Table A2.6. Fauna species recorded and survey methods used, Konagaderra Bridge Reserve

Scientific name	Common name	Status	Significance	Active search	Acoustic detector	Anecdotal record	Aqcautic survey	Bird survey	Camera - aboreal	Camera - terrestrial	Nocturnal survey	Tile transect
Birds												
<i>Psephotus haematonotus</i>	Red-rumped Parrot											
<i>Falco cenchroides</i>	Nankeen Kestrel											
<i>Trichoglossus molucannus</i>	Rainbow Lorikeet											
<i>Cacatua galerita</i>	Sulphur-crested Cockatoo											
<i>Cacatua tenuirostris</i>	Long-billed Corella											
<i>Eolophus roseicapilla</i>	Galah											
<i>Platycercus elegans</i>	Crimson Rosella											
<i>Podargus strigoides</i>	Tawny Frogmouth											
<i>Dacelo novaeguineae</i>	Laughing Kookaburra											
<i>Hirundo neoxena</i>	Welcome Swallow											
<i>Rhipidura albiscapa</i>	Grey Fantail											
<i>Rhipidura leucophrys</i>	Willie Wagtail											
<i>Pachycephala pectoralis</i>	Golden Whistler											
<i>Colluricincla harmonica</i>	Grey Shrike-thrush											
<i>Grallina cyanoleuca</i>	Magpie-lark											
<i>Coracina novaehollandiae</i>	Black-faced Cuckoo-shrike											
<i>Acanthiza lineata</i>	Striated Thornbill											
<i>Sericornis frontalis</i>	White-browed Scrubwren											

Scientific name	Common name	Status	Significance	Active search	Acoustic detector	Anecdotal record	Aquatic survey	Bird survey	Camera - aboreal	Camera - terrestrial	Nocturnal survey	Tile transect
<i>Malurus cyaneus</i>	Superb Fairy-wren											
<i>Zosterops lateralis</i>	Silvereye											
<i>Ptilotula penicillata</i>	White-plumed Honeyeater											
<i>Phylidonyris novaehollandiae</i>	New Holland Honeyeater											
<i>Anthochaera carunculata</i>	Red Wattlebird											
<i>Neochmia temporalis</i>	Red-browed Finch											
<i>Gymnorhina tibicen</i>	Australian Magpie											
<i>Corvus mellori</i>	Little Raven											
<i>Pardalotus striatus</i>	Striated Pardalote											
<i>Acridotheres tristis</i>	Common Myna	*										
<i>Sturnus vulgaris</i>	Common Starling	*										
<i>Carduelis carduelis</i>	European Goldfinch	*										
Mammals												
<i>Vombatus ursinus</i>	Bare-nosed Wombat									X		
<i>Wallabia bicolor</i>	Black-tailed Wallaby									X		
<i>Felis catus</i>	Domestic Cat (feral)	PS								X		
<i>Vulpes vulpes</i>	Red Fox	PS								X		
Reptiles												
<i>Lampropholis guichenoti</i>	Pale-flecked Garden Sunskink											X
Frogs												
<i>Limnodynastes dumerilii dumerilii</i>	Pobblebonk Frog										X	

A2.7 Fauna species recorded and survey methods used, Moto X-track Reserve

Table A2.7. Fauna species recorded and survey methods used, Moto X-track Reserve

Scientific name	Common name	Status	Significance	Active search	Acoustic detector	Anecdotal record	Aquatic survey	Bird survey	Camera - aboreal	Camera - terrestrial	Nocturnal survey	Tile transect
Birds												
<i>Ocyphaps lophotes</i>	Crested Pigeon							X				
<i>Gallinula tenebrosa</i>	Dusky Moorhen							X				
<i>Fulica atra</i>	Eurasian Coot							X				
<i>Anas superciliosa</i>	Pacific Black Duck							X				
<i>Trichoglossus molucannus</i>	Rainbow Lorikeet							X				
<i>Glossopsitta concinna</i>	Musk Lorikeet							X				
<i>Columba livia</i>	Domestic Pigeon	*						X				
<i>Spilopelia chinensis</i>	Spotted Dove	*						X		X		
<i>Chroicocephalus novaehollandiae</i>	Silver Gull							X				
<i>Hirundo neoxena</i>	Welcome Swallow							X				
<i>Rhipidura leucophrys</i>	Willie Wagtail							X				
<i>Grallina cyanoleuca</i>	Magpie-lark							X				
<i>Coracina novaehollandiae</i>	Black-faced Cuckoo-shrike							X				
<i>Sericornis frontalis</i>	White-browed Scrubwren							X				
<i>Acrocephalus australis</i>	Australian Reed Warbler							X			X	
<i>Malurus cyaneus</i>	Superb Fairy-wren							X				
<i>Ptilotula penicillata</i>	White-plumed Honeyeater							X				
<i>Phylidonyris novaehollandiae</i>	New Holland Honeyeater							X				

Scientific name	Common name	Status	Significance	Active search	Acoustic detector	Anecdotal record	Aquatic survey	Bird survey	Camera - aboreal	Camera - terrestrial	Nocturnal survey	Tile transect
<i>Anthochaera carunculata</i>	Red Wattlebird							X				
<i>Gymnorhina tibicen</i>	Australian Magpie							X				
<i>Corvus mellori</i>	Little Raven							X				
<i>Turdus merula</i>	Common Blackbird	*						X	X	X		
<i>Alauda arvensis</i>	Eurasian Skylark	*						X				
<i>Passer domesticus</i>	House Sparrow	*						X				
<i>Acridotheres tristis</i>	Common Myna	*						X				
<i>Sturnus vulgaris</i>	Common Starling	*						X				
<i>Carduelis carduelis</i>	European Goldfinch	*						X				
Mammals												
<i>Wallabia bicolor</i>	Black-tailed Wallaby			X						X		
<i>Macropus giganteus</i>	Eastern Grey Kangaroo			X						X		
<i>Vulpes vulpes</i>	Red Fox	PS								X		
<i>Rattus rattus</i>	Black Rat	*							X			
<i>Vespadelus vulturnus</i>	Little Forest Bat				X							
<i>Chalinolobus gouldii</i>	Gould's Wattle Bat				X							
<i>Tadarida australis</i>	White-striped Freetail Bat				X						X	
Reptiles												
<i>Saproscincus mustelinus</i>	Weasel Skink											X
<i>Lampropholis guichenoti</i>	Pale-flecked Garden Sunskink											X
<i>Pseudonaja textilis</i>	Eastern Brown Snake			X								

A2.8 Fauna species recorded and survey methods used, Northpark Reserve

Table A2.8. Fauna species recorded and survey methods used, Northpark Reserve

Scientific name	Common name	Status	Significance	Active search	Acoustic detector	Anecdotal record	Aquatic survey	Bird survey	Camera - aboreal	Camera - terrestrial	Nocturnal survey	Tile transect
Birds												
<i>Todiramphus spp.</i>	Unidentified Kingfisher								X			
<i>Ocyphaps lophotes</i>	Crested Pigeon									X		
<i>Gallinula tenebrosa</i>	Dusky Moorhen							X				
<i>Porphyrio melanotus</i>	Australasian Swamphe							X		X		
<i>Fulica atra</i>	Eurasian Coot							X				
<i>Tachybaptus novaehollandiae</i>	Australasian Grebe							X				
<i>Phalacrocorax fuscescens</i>	Black-faced Cormorant							X				
<i>Microcarbo melanoleucos</i>	Little Pied Cormorant							X				
<i>Threskiornis molucca</i>	Australian White Ibis							X				
<i>Chenonetta jubata</i>	Australian Wood Duck							X				
<i>Anas superciliosa</i>	Pacific Black Duck							X				
<i>Anas gracilis</i>	Grey Teal							X				
<i>Oxyura australis</i>	Blue-billed Duck							X				
<i>Trichoglossus molucannus</i>	Rainbow Lorikeet							X				
<i>Cacatua galerita</i>	Sulphur-crested Cockatoo							X				
<i>Eolophus roseicapilla</i>	Galah							X				
<i>Columba livia</i>	Domestic Pigeon	*						X				
<i>Spilopelia chinensis</i>	Spotted Dove	*						X		X		

Scientific name	Common name	Status	Significance	Active search	Acoustic detector	Anecdotal record	Aquatic survey	Bird survey	Camera - aboreal	Camera - terrestrial	Nocturnal survey	Tile transect
<i>Chroicocephalus novaehollandiae</i>	Silver Gull							X				
<i>Vanellus miles</i>	Masked Lapwing							X				
<i>Hirundo neoxena</i>	Welcome Swallow							X				
<i>Petrochelidon nigricans</i>	Tree Martin							X				
<i>Rhipidura leucophrys</i>	Willie Wagtail							X				
<i>Pachycephala rufiventris</i>	Rufous Whistler							X				
<i>Grallina cyanoleuca</i>	Magpie-lark							X				
<i>Acanthiza chrysorrhoa</i>	Yellow-rumped Thornbill							X				
<i>Sericornis frontalis</i>	White-browed Scrubwren							X				
<i>Cincloramphus cruralis</i>	Brown Songlark							X				
<i>Acrocephalus australis</i>	Australian Reed Warbler							X				
<i>Malurus cyaneus</i>	Superb Fairy-wren							X	X			
<i>Zosterops lateralis</i>	Silvereye							X				
<i>Ptilotula penicillata</i>	White-plumed Honeyeater							X				
<i>Phylidonyris novaehollandiae</i>	New Holland Honeyeater							X				
<i>Anthochaera carunculata</i>	Red Wattlebird							X				
<i>Neochmia temporalis</i>	Red-browed Finch							X				
<i>Gymnorhina tibicen</i>	Australian Magpie							X		X		
<i>Corvus mellori</i>	Little Raven							X		X		
<i>Pardalotus striatus</i>	Striated Pardalote							X				
<i>Turdus merula</i>	Common Blackbird	*						X				
<i>Alauda arvensis</i>	Eurasian Skylark	*						X				

Scientific name	Common name	Status	Significance	Active search	Acoustic detector	Anecdotal record	Aquatic survey	Bird survey	Camera - aboreal	Camera - terrestrial	Nocturnal survey	Tile transect
<i>Passer domesticus</i>	House Sparrow	*						X				
<i>Chloris chloris</i>	European Greenfinch	*						X				
<i>Acridotheres tristis</i>	Common Myna	*						X				
<i>Sturnus vulgaris</i>	Common Starling	*						X		X		
<i>Carduelis carduelis</i>	European Goldfinch	*						X				
Mammals												
<i>Macropus giganteus</i>	Eastern Grey Kangaroo			X		X				X		
<i>Wallabia bicolor</i>	Black-tailed Wallaby									X		
<i>Vulpes vulpes</i>	Red Fox	PS								X		
<i>Vespadelus darlingtoni</i>	Large Forest Bat				X							
<i>Vespadelus vulturnus</i>	Little Forest Bat				X							
<i>Mormopterus planiceps</i>	Southern Freetail Bat				X							
<i>Chalinolobus gouldii</i>	Gould's Wattle Bat				X							
<i>Tachyglossus aculeatus</i>	Short-beaked Echidna									X		
Reptiles												
<i>Lampropholis guichenoti</i>	Pale-flecked Garden Sunskink											X
<i>Pseudemoia pagenstecheri</i>	Tussock Skink	vu	State									X
<i>Pseudonaja textilis</i>	Eastern Brown Snake											X
Frogs												
<i>Crinia signifera</i>	Common Froglet										X	
<i>Litoria raniformis</i>	Growling Grass Frog	VU en L	National								X	
<i>Litoria ewingii</i>	Southern Brown Tree Frog										X	

Scientific name	Common name	Status	Significance	Active search	Acoustic detector	Anecdotal record	Aquatic survey	Bird survey	Camera - aboreal	Camera - terrestrial	Nocturnal survey	Tile transect
Fishes												
<i>Gambusia holbrooki</i>	Eastern Gambusia	*					X					
<i>Philypnodon grandiceps</i>	Flatheaded Gudgeon						X					
<i>Retropinna semoni</i>	Australian Smelt						X					
<i>Misgurnus anguillicaudatus</i>	Oriental Weatherloach	*					X					
Invertebrates												
<i>Synemon plana</i>	Golden Sun Moth	CR cr L	National	X								

A2.9 Fauna species recorded and survey methods used, O’Herns Road Reserve

Table A2.9. Fauna species recorded and survey methods used, O’Herns Road Reserve

Scientific name	Common name	Status	Significance	Active search	Acoustic detector	Anecdotal record	Aqcautic survey	Bird survey	Camera - aboreal	Camera - terrestrial	Nocturnal survey	Tile transect
Birds												
<i>Ocyphaps lophotes</i>	Crested Pigeon							X				
<i>Gallinula tenebrosa</i>	Dusky Moorhen							X			X	
<i>Fulica atra</i>	Eurasian Coot							X				
<i>Microcarbo melanoleucos</i>	Little Pied Cormorant							X				
<i>Nycticorax caledonicus</i>	Nankeen Night-Heron	nt	Local								X	
<i>Anas superciliosa</i>	Pacific Black Duck							X				
<i>Anas gracilis</i>	Grey Teal							X				
<i>Aquila audax</i>	Wedge-tailed Eagle							X				
<i>Haliastur sphenurus</i>	Whistling Kite							X				
<i>Trichoglossus molucannus</i>	Rainbow Lorikeet							X				
<i>Cacatua galerita</i>	Sulphur-crested Cockatoo							X				
<i>Cacatua tenuirostris</i>	Long-billed Corella							X				
<i>Eolophus roseicapilla</i>	Galah							X				
<i>Columba livia</i>	Domestic Pigeon	*						X				
<i>Spilopelia chinensis</i>	Spotted Dove	*						X				
<i>Chroicocephalus novaehollandiae</i>	Silver Gull							X				
<i>Vanellus miles</i>	Masked Lapwing							X				
<i>Hirundo neoxena</i>	Welcome Swallow							X				

Scientific name	Common name	Status	Significance	Active search	Acoustic detector	Anecdotal record	Aquatic survey	Bird survey	Camera - aboreal	Camera - terrestrial	Nocturnal survey	Tile transect
<i>Rhipidura albiscapa</i>	Grey Fantail							X				
<i>Rhipidura leucophrys</i>	Willie Wagtail							X				
<i>Grallina cyanoleuca</i>	Magpie-lark							X				
<i>Acanthiza pusilla</i>	Brown Thornbill							X				
<i>Acanthiza chrysorrhoa</i>	Yellow-rumped Thornbill							X				
<i>Sericornis frontalis</i>	White-browed Scrubwren							X	X			
<i>Cincloramphus mathewsi</i>	Rufous Songlark							X				
<i>Acrocephalus australis</i>	Australian Reed Warbler							X			X	
<i>Cisticola exilis</i>	Golden-headed Cisticola							X				
<i>Malurus cyaneus</i>	Superb Fairy-wren							X				
<i>Pardalotus punctatus</i>	Spotted Pardalote							X				
<i>Zosterops lateralis</i>	Silvereeye							X				
<i>Ptilotula penicillata</i>	White-plumed Honeyeater							X				
<i>Phylidonyris novaehollandiae</i>	New Holland Honeyeater							X				
<i>Anthochaera carunculata</i>	Red Wattlebird							X				
<i>Neochmia temporalis</i>	Red-browed Finch							X				
<i>Gymnorhina tibicen</i>	Australian Magpie							X				
<i>Corvus mellori</i>	Little Raven							X	X			
<i>Pardalotus striatus</i>	Striated Pardalote							X				
<i>Turdus merula</i>	Common Blackbird	*						X				
<i>Alauda arvensis</i>	Eurasian Skylark	*						X				
<i>Passer domesticus</i>	House Sparrow	*						X				

Scientific name	Common name	Status	Significance	Active search	Acoustic detector	Anecdotal record	Aquatic survey	Bird survey	Camera - aboreal	Camera - terrestrial	Nocturnal survey	Tile transect
<i>Chloris chloris</i>	European Greenfinch	*						X				
<i>Acridotheres tristis</i>	Common Myna	*						X				
<i>Sturnus vulgaris</i>	Common Starling	*						X				
<i>Carduelis carduelis</i>	European Goldfinch	*						X				
Mammals												
<i>Wallabia bicolor</i>	Black-tailed Wallaby									X		
<i>Macropus giganteus</i>	Eastern Grey Kangaroo			X								
<i>Nyctophilus sp.</i>	Long-eared Bat species				X							
<i>Mormopterus planiceps</i>	Southern Freetail Bat				X							
<i>Chalinolobus gouldii</i>	Gould's Wattle Bat				X							
<i>Tadarida australis</i>	White-striped Freetail Bat				X						X	
Reptiles												
<i>Pseudemoia pagenstecheri</i>	Tussock Skink	vu	State									X
<i>Pseudonaja textilis</i>	Eastern Brown Snake											X
<i>Lampropholis guichenoti</i>	Pale-flecked Garden Sunskink											X
Frogs												
<i>Crinia signifera</i>	Common Froglet										X	
Fishes												
<i>Anguilla australis</i>	Southern Shortfin Eel										X	
<i>Gambusia holbrooki</i>	Eastern Gambusia	*					X					
<i>Philypnodon grandiceps</i>	Flatheaded Gudgeon						X					
Invertebrates												

Scientific name	Common name	Status	Significance	Active search	Acoustic detector	Anecdotal record	Aquatic survey	Bird survey	Camera - aboreal	Camera - terrestrial	Nocturnal survey	Tile transect
<i>Synemon plana</i>	Golden Sun Moth	CR cr L	National	X								

A2.10 Fauna species recorded and survey methods used, Patullos Lane Reserve

Table A2.10. Fauna species recorded and survey methods used, Patullos Lane Reserve

Scientific name	Common name	Status	Significance	Active search	Acoustic detector	Anecdotal record	Aqcautic survey	Bird survey	Camera - aboreal	Camera - terrestrial	Nocturnal survey	Tile transect
Birds												
<i>Gallinula tenebrosa</i>	Dusky Moorhen							X				
<i>Microcarbo melanoleucos</i>	Little Pied Cormorant							X				
<i>Egretta novaehollandiae</i>	White-faced Heron							X				
<i>Nycticorax caledonicus</i>	Nankeen Night-Heron	nt	Local								X	
<i>Anas superciliosa</i>	Pacific Black Duck							X				
<i>Anas castanea</i>	Chestnut Teal							X				
<i>Anas gracilis</i>	Grey Teal							X				
<i>Trichoglossus molucannus</i>	Rainbow Lorikeet							X				
<i>Cacatua tenuirostris</i>	Long-billed Corella							X				
<i>Spilopelia chinensis</i>	Spotted Dove	*						X		X		
<i>Anthus australis</i>	Australian Pipit							X				
<i>Hirundo neoxena</i>	Welcome Swallow							X				
<i>Petroica phoenicea</i>	Flame Robin							X				
<i>Acanthiza chrysorrhoa</i>	Yellow-rumped Thornbill							X				
<i>Cincloramphus mathewsi</i>	Rufous Songlark							X				
<i>Acrocephalus australis</i>	Australian Reed Warbler							X			X	
<i>Cisticola exilis</i>	Golden-headed Cisticola							X				

Scientific name	Common name	Status	Significance	Active search	Acoustic detector	Anecdotal record	Acoustic survey	Bird survey	Camera - arboreal	Camera - terrestrial	Nocturnal survey	Tile transect
<i>Malurus cyaneus</i>	Superb Fairy-wren							X				
<i>Zosterops lateralis</i>	Silvereye							X				
<i>Ptilotula penicillata</i>	White-plumed Honeyeater							X				
<i>Phylidonyris novaehollandiae</i>	New Holland Honeyeater							X				
<i>Anthochaera carunculata</i>	Red Wattlebird							X				
<i>Gymnorhina tibicen</i>	Australian Magpie							X				
<i>Corvus mellori</i>	Little Raven							X		X		
<i>Turdus merula</i>	Common Blackbird	*						X				
<i>Chloris chloris</i>	European Greenfinch	*						X				
<i>Acridotheres tristis</i>	Common Myna	*						X		X		
<i>Sturnus vulgaris</i>	Common Starling	*						X				
<i>Carduelis carduelis</i>	European Goldfinch	*						X				
Mammals												
<i>Wallabia bicolor</i>	Black-tailed Wallaby									X	X	
<i>Macropus giganteus</i>	Eastern Grey Kangaroo			X						X		
<i>Rattus rattus</i>	Black Rat	*								X		
<i>Vulpes vulpes</i>	Red Fox	PS								X		
<i>Vespadelus vulturnus</i>	Little Forest Bat				X							
<i>Vespadelus darlingtoni</i>	Large Forest Bat				X							
<i>Mormopterus planiceps</i>	Southern Freetail Bat				X							
<i>Chalinolobus gouldii</i>	Gould's Wattle Bat				X							
<i>Tadarida australis</i>	White-striped Freetail Bat				X						X	

Scientific name	Common name	Status	Significance	Active search	Acoustic detector	Anecdotal record	Acoustic survey	Bird survey	Camera - aboreal	Camera - terrestrial	Nocturnal survey	Tile transect
Reptiles												
<i>Chelodina longicollis</i>	Eastern Snake-necked Turtle	dd		X								
<i>Eulamprus tympanum tympanum</i>	Southern Water Skink			X								
Frogs												
<i>Limnodynastes peronii</i>	Striped Marsh Frog										X	
<i>Crinia signifera</i>	Common Froglet			X							X	
Fishes												
<i>Cyprinus carpio</i>	European Carp	*		X								
Invertebrates												
<i>Synemon plana</i>	Golden Sun moth	CR cr L	National	X								

A2.11 Fauna species recorded and survey methods used, Growling Grass Frog Nature Reserve

Table A2.11. Fauna species recorded and survey methods used, Growling Grass Frog Nature Reserve

Scientific name	Common name	Status	Significance	Active search	Acoustic detector	Anecdotal record	Aquatic survey	Bird survey	Camera - aboreal	Camera - terrestrial	Nocturnal survey	Tile transect
Birds												
<i>Ocyphaps lophotes</i>	Crested Pigeon							X				
<i>Tachybaptus novaehollandiae</i>	Australasian Grebe							X				
<i>Egretta novaehollandiae</i>	White-faced Heron									X		
<i>Chenonetta jubata</i>	Australian Wood Duck							X		X	X	
<i>Anas superciliosa</i>	Pacific Black Duck							X				
<i>Trichoglossus molucannus</i>	Rainbow Lorikeet							X				
<i>Cacatua sanguinea</i>	Little Corella							X				
<i>Columba livia</i>	Domestic Pigeon	*						X				
<i>Spilopelia chinensis</i>	Spotted Dove	*						X		X		
<i>Vanellus miles</i>	Masked Lapwing							X				
<i>Hirundo neoxena</i>	Welcome Swallow							X				
<i>Rhipidura albiscapa</i>	Grey Fantail							X				
<i>Rhipidura leucophrys</i>	Willie Wagtail							X				
<i>Grallina cyanoleuca</i>	Magpie-lark							X		X		
<i>Coracina novaehollandiae</i>	Black-faced Cuckoo-shrike							X				
<i>Epthianura albifrons</i>	White-fronted Chat							X				
<i>Acanthiza lineata</i>	Striated Thornbill							X				
<i>Cisticola exilis</i>	Golden-headed Cisticola							X				

Scientific name	Common name	Status	Significance	Active search	Acoustic detector	Anecdotal record	Aquatic survey	Bird survey	Camera - aboreal	Camera - terrestrial	Nocturnal survey	Tile transect
<i>Malurus cyaneus</i>	Superb Fairy-wren							X		X		
<i>Pardalotus punctatus</i>	Spotted Pardalote							X				
<i>Ptilotula penicillata</i>	White-plumed Honeyeater							X				
<i>Phylidonyris novaehollandiae</i>	New Holland Honeyeater							X				
<i>Anthochaera carunculata</i>	Red Wattlebird							X				
<i>Neochmia temporalis</i>	Red-browed Finch							X				
<i>Gymnorhina tibicen</i>	Australian Magpie							X		X		
<i>Corvus mellori</i>	Little Raven							X		X		
<i>Turdus merula</i>	Common Blackbird	*						X				
<i>Passer domesticus</i>	House Sparrow	*						X			X	
<i>Acridotheres tristis</i>	Common Myna	*						X		X		
<i>Sturnus vulgaris</i>	Common Starling	*						X				
<i>Carduelis carduelis</i>	European Goldfinch	*						X				
Mammals												
<i>Tachyglossus aculeatus</i>	Short-beaked Echidna									X		
<i>Wallabia bicolor</i>	Black-tailed Wallaby									X		
<i>Macropus giganteus</i>	Eastern Grey Kangaroo			X						X		
<i>Oryctolagus cuniculus</i>	European Rabbit	PS				X				X		
<i>Vulpes vulpes</i>	Red Fox	PS								X		
<i>Pteropus poliocephalus</i>	Grey-headed Flying-fox	VU vu L	National								X	
<i>Vespadelus vulturnus</i>	Little Forest Bat						X					
<i>Vespadelus darlingtoni</i>	Large Forest Bat						X					

Scientific name	Common name	Status	Significance	Active search	Acoustic detector	Anecdotal record	Aquatic survey	Bird survey	Camera - aboreal	Camera - terrestrial	Nocturnal survey	Tile transect
<i>Mormopterus planiceps</i>	Southern Freetail Bat				X							
<i>Tadarida australis</i>	White-striped Freetail Bat				X						X	
<i>Chalinolobus gouldii</i>	Gould's Wattled Bat				X						X	
Reptiles												
<i>Chelodina longicollis</i>	Eastern Snake-necked Turtle	dd		X							X	
<i>Pseudemoia pagenstecheri</i>	Tussock Skink	vu	State									X
Frogs												
<i>Limnodynastes peronii</i>	Striped Marsh Frog										X	
<i>Limnodynastes tasmaniensis</i>	Spotted Marsh Frog (race unknown)										X	
<i>Crinia signifera</i>	Common Froglet			X							X	
<i>Limnodynastes dumerilii dumerilii</i>	Pobblebonk Frog										X	

A2.12 Fauna species recorded and survey methods used, Rushwood Drive Reserve

Table A2.12. Fauna species recorded and survey methods used, Rushwood Drive Reserve

Scientific name	Common name	Status	Significance	Active search	Acoustic detector	Anecdotal record	Aquatic survey	Bird survey	Camera - aboreal	Camera - terrestrial	Nocturnal survey	Tile transect
Birds												
<i>Gallinula tenebrosa</i>	Dusky Moorhen							X				
<i>Porphyrio melanotus</i>	Australasian Swamphen							X				
<i>Fulica atra</i>	Eurasian Coot							X				
<i>Egretta novaehollandiae</i>	White-faced Heron							X				
<i>Ardea pacifica</i>	White-necked Heron							X				
<i>Anas superciliosa</i>	Pacific Black Duck							X				
<i>Anas castanea</i>	Chestnut Teal							X				
<i>Anas gracilis</i>	Grey Teal							X				
<i>Aquila audax</i>	Wedge-tailed Eagle		Local					X				
<i>Trichoglossus molucannus</i>	Rainbow Lorikeet							X				
<i>Columba livia</i>	Domestic Pigeon	*						X				
<i>Spilopelia chinensis</i>	Spotted Dove	*						X				
<i>Rhipidura albiscapa</i>	Grey Fantail							X				
<i>Rhipidura leucophrys</i>	Willie Wagtail							X	X			
<i>Coracina novaehollandiae</i>	Black-faced Cuckoo-shrike							X				
<i>Lalage tricolor</i>	White-winged Triller		Local					X				
<i>Acanthiza chrysorrhoa</i>	Yellow-rumped Thornbill							X				
<i>Cincloramphus mathewsi</i>	Rufous Songlark		Local					X				
<i>Acrocephalus australis</i>	Australian Reed Warbler										X	

Scientific name	Common name	Status	Significance	Active search	Acoustic detector	Anecdotal record	Aquatic survey	Bird survey	Camera - aboreal	Camera - terrestrial	Nocturnal survey	Tile transect
<i>Malurus cyaneus</i>	Superb Fairy-wren							X	X			
<i>Ptilotula penicillata</i>	White-plumed Honeyeater							X				
<i>Phylidonyris novaehollandiae</i>	New Holland Honeyeater							X				
<i>Anthochaera carunculata</i>	Red Wattlebird							X				
<i>Neochmia temporalis</i>	Red-browed Finch							X				
<i>Gymnorhina tibicen</i>	Australian Magpie							X				
<i>Corvus mellori</i>	Little Raven							X	X	X		
<i>Turdus merula</i>	Common Blackbird	*						X		X		
<i>Alauda arvensis</i>	Eurasian Skylark	*						X				
<i>Passer montanus</i>	Eurasian Tree Sparrow	*						X				
<i>Passer domesticus</i>	House Sparrow	*						X				
<i>Sturnus vulgaris</i>	Common Starling	*						X				
<i>Carduelis carduelis</i>	European Goldfinch	*						X				
Mammals												
<i>Trichosurus vulpecula</i>	Common Brush-tailed Possum								X			
<i>Wallabia bicolor</i>	Black-tailed Wallaby									X		
<i>Macropus giganteus</i>	Eastern Grey Kangaroo			X		X				X		
<i>Oryctolagus cuniculus</i>	European Rabbit	PS				X						
<i>Vulpes vulpes</i>	Red Fox	PS								X		
<i>Chalinolobus gouldii</i>	Gould's Wattled Bat				X						X	
Reptiles												
<i>Pseudemoia pagenstecheri</i>	Tussock Skink	vu	State									X
<i>Egernia cunninghami</i>	Cunningham's Skink			X							X	

Scientific name	Common name	Status	Significance	Active search	Acoustic detector	Anecdotal record	Aquatic survey	Bird survey	Camera - aboreal	Camera - terrestrial	Nocturnal survey	Tile transect
<i>Parasuta flagellum</i>	Little Whip Snake											X
<i>Pseudonaja textilis</i>	Eastern Brown Snake			X								
<i>Chelodina longicollis</i>	Eastern Snake-necked Turtle	dd		X			X					
Frogs												
<i>Limnodynastes tasmaniensis</i>	Spotted Marsh Frog (race unknown)										X	
<i>Limnodynastes dumerilii dumerilii</i>	Pobblebonk Frog										X	
<i>Crinia signifera</i>	Common Froglet			X							X	
<i>Limnodynastes peronii</i>	Striped Marsh Frog										X	
Fishes												
<i>Anguilla australis</i>	Short-finned Eel						X					
<i>Gambusia holbrooki</i>	Eastern Gambusia	*					X					
<i>Philypnodon grandiceps</i>	Flatheaded Gudgeon						X					
<i>Misgurnus anguillicaudatus</i>	Oriental Weatherloach	*					X					

A2.13 Fauna species recorded and survey methods used, 630 Hume Highway Reserve

Table A2.13. Fauna species recorded and survey methods used, 630 Hume Highway Reserve

Scientific name	Common name	Status	Significance	Active search	Acoustic detector	Anecdotal record	Aqcautic survey	Bird survey	Camera - aboreal	Camera - terrestrial	Nocturnal survey	Tile transect
Birds												
<i>Ocyphaps lophotes</i>	Crested Pigeon							X				
<i>Microcarbo melanoleucos</i>	Little Pied Cormorant							X				
<i>Threskiornis molucca</i>	Australian White Ibis							X				
<i>Ardea pacifica</i>	White-necked Heron							X				
<i>Nycticorax caledonicus</i>	Nankeen Night-Heron	nt	Local								X	
<i>Chenonetta jubata</i>	Australian Wood Duck							X				
<i>Anas superciliosa</i>	Pacific Black Duck							X				
<i>Elanus axillaris</i>	Black-shouldered Kite							X				
<i>Falco longipennis</i>	Australian Hobby							X				
<i>Trichoglossus molucannus</i>	Rainbow Lorikeet							X				
<i>Cacatua galerita</i>	Sulphur-crested Cockatoo							X				
<i>Chrysococcyx osculans</i>	Black-eared Cuckoo	nt	Local					X				
<i>Columba livia</i>	Domestic Pigeon	*						X				
<i>Spilopelia chinensis</i>	Spotted Dove	*						X				
<i>Vanellus miles</i>	Masked Lapwing										X	
<i>Hirundo neoxena</i>	Welcome Swallow							X				
<i>Rhipidura leucophrys</i>	Willie Wagtail							X				
<i>Petroica phoenicea</i>	Flame Robin							X				

Scientific name	Common name	Status	Significance	Active search	Acoustic detector	Anecdotal record	Aquatic survey	Bird survey	Camera - arboreal	Camera - terrestrial	Nocturnal survey	Tile transect
<i>Acrocephalus australis</i>	Australian Reed Warbler							X				
<i>Cisticola exilis</i>	Golden-headed Cisticola							X			X	
<i>Malurus cyaneus</i>	Superb Fairy-wren							X				
<i>Pardalotus punctatus</i>	Spotted Pardalote							X				
<i>Ptilotula penicillata</i>	White-plumed Honeyeater							X				
<i>Phylidonyris novaehollandiae</i>	New Holland Honeyeater							X				
<i>Anthochaera carunculata</i>	Red Wattlebird							X				
<i>Gymnorhina tibicen</i>	Australian Magpie							X				
<i>Corvus mellori</i>	Little Raven							X				
<i>Pardalotus striatus</i>	Striated Pardalote							X				
<i>Turdus merula</i>	Common Blackbird	*						X				
<i>Alauda arvensis</i>	Eurasian Skylark	*						X				
<i>Passer domesticus</i>	House Sparrow	*						X				
<i>Chloris chloris</i>	European Greenfinch	*						X				
<i>Acridotheres tristis</i>	Common Myna	*						X				
<i>Sturnus vulgaris</i>	Common Starling	*						X				
<i>Carduelis carduelis</i>	European Goldfinch	*						X				
Mammals												
<i>Macropus giganteus</i>	Eastern Grey Kangaroo			X		X				X		
<i>Rattus rattus</i>	Black Rat	*							X			
<i>Lepus europaeus</i>	European Brown Hare	PS		X								
<i>Oryctolagus cuniculus</i>	European Rabbit	PS		X		X				X		

Scientific name	Common name	Status	Significance	Active search	Acoustic detector	Anecdotal record	Aquatic survey	Bird survey	Camera - arboreal	Camera - terrestrial	Nocturnal survey	Tile transect
<i>Felis catus</i>	Domestic Cat (feral)	PS									X	
<i>Vulpes vulpes</i>	Red Fox	PS							X	X		
<i>Mormopterus planiceps</i>	Southern Freetail Bat				X							
<i>Tadarida australis</i>	White-striped Freetail Bat				X						X	
<i>Chalinolobus gouldii</i>	Gould's Wattled Bat				X						X	
Reptiles												
<i>Lampropholis guichenoti</i>	Pale-flecked Garden Sunskink											X
Frogs												
<i>Crinia signifera</i>	Common Froglet			X							X	
<i>Limnodynastes tasmaniensis</i>	Spotted Marsh Frog (race unknown)										X	

A2.14 Fauna species recorded and survey methods used, John Laffan Reserve

Table A2.14. Fauna species recorded and survey methods used, John Laffan Reserve

Scientific name	Common name	Status	Significance	Active search	Acoustic detector	Anecdotal record	Acoustic survey	Bird survey	Camera - aboreal	Camera - terrestrial	Nocturnal survey	Tile transect
Birds												
<i>Ocyphaps lophotes</i>	Crested Pigeon							X				
<i>Gallinula tenebrosa</i>	Dusky Moorhen							X				
<i>Threskiornis spinicollis</i>	Straw-necked Ibis							X				
<i>Accipiter fasciatus</i>	Brown Goshawk							X				
<i>Aquila audax</i>	Wedge-tailed Eagle		Local					X				
<i>Elanus axillaris</i>	Black-shouldered Kite							X				
<i>Falco berigora</i>	Brown Falcon							X				
<i>Falco cenchroides</i>	Nankeen Kestrel							X				
<i>Trichoglossus molucannus</i>	Rainbow Lorikeet							X				
<i>Calyptorhynchus funereus</i>	Yellow-tailed Black-Cockatoo							X				
<i>Cacatua tenuirostris</i>	Long-billed Corella							X				
<i>Eolophus roseicapilla</i>	Galah							X				
<i>Psephotus haematonotus</i>	Red-rumped Parrot							X				
<i>Columba livia</i>	Domestic Pigeon	*						X				
<i>Spilopelia chinensis</i>	Spotted Dove	*						X				
<i>Hirundo neoxena</i>	Welcome Swallow							X				
<i>Rhipidura albiscapa</i>	Grey Fantail							X				
<i>Rhipidura leucophrys</i>	Willie Wagtail							X				

Scientific name	Common name	Status	Significance	Active search	Acoustic detector	Anecdotal record	Aquatic survey	Bird survey	Camera - aboreal	Camera - terrestrial	Nocturnal survey	Tile transect
<i>Acanthiza nana</i>	Yellow Thornbill							X				
<i>Acanthiza pusilla</i>	Brown Thornbill							X				
<i>Acanthiza chrysorrhoa</i>	Yellow-rumped Thornbill							X				
<i>Sericornis frontalis</i>	White-browed Scrubwren							X				
<i>Cincloramphus cruralis</i>	Brown Songlark		Local					X				
<i>Cisticola exilis</i>	Golden-headed Cisticola							X				
<i>Malurus cyaneus</i>	Superb Fairy-wren							X		X		
<i>Pardalotus punctatus</i>	Spotted Pardalote							X				
<i>Zosterops lateralis</i>	Silvereye							X				
<i>Ptilotula penicillata</i>	White-plumed Honeyeater							X				
<i>Phylidonyris novaehollandiae</i>	New Holland Honeyeater							X				
<i>Anthochaera carunculata</i>	Red Wattlebird							X				
<i>Gymnorhina tibicen</i>	Australian Magpie							X				
<i>Corvus mellori</i>	Little Raven							X				
<i>Pardalotus striatus</i>	Striated Pardalote							X				
<i>Turdus merula</i>	Common Blackbird	*						X		X		
<i>Alauda arvensis</i>	Eurasian Skylark	*						X				
<i>Acridotheres tristis</i>	Common Myna	*						X				
<i>Sturnus vulgaris</i>	Common Starling	*						X				
<i>Carduelis carduelis</i>	European Goldfinch	*						X				
Mammals												
<i>Tachyglossus aculeatus</i>	Short-beaked Echidna		Local	X								

Scientific name	Common name	Status	Significance	Active search	Acoustic detector	Anecdotal record	Aquatic survey	Bird survey	Camera - aboreal	Camera - terrestrial	Nocturnal survey	Tile transect
<i>Vombatus ursinus</i>	Bare-nosed Wombat		Local			X				X		
<i>Wallabia bicolor</i>	Black-tailed Wallaby									X		
<i>Macropus giganteus</i>	Eastern Grey Kangaroo			X						X		
<i>Austronomus australis</i>	White-striped Freetail											
<i>Ozimops planiceps</i>	Southern Freetail				X							
<i>Vespadelus vulturnus</i>	Little Forest Bat				X							
<i>Vespadelus darlingtoni</i>	Large Forest Bat				X							
<i>Chalinolobus gouldii</i>	Gould's Wattle Bat				X							
<i>Rattus rattus</i>	Black Rat	*							X			
<i>Capra hircus</i>	Goat (feral)	*		X								
<i>Vulpes vulpes</i>	Red Fox	PS		X					X	X		
Reptiles												
<i>Lampropholis guichenoti</i>	Pale-flecked Garden Sunskink											X
<i>Pseudemoia pagenstecheri</i>	Tussock Skink	vu	State									X
<i>Tiliqua scincoides</i>	Common Blue-tongued Lizard			X								
Frogs												
<i>Limnodynastes tasmaniensis</i>	Spotted Marsh Frog (race unknown)										X	
<i>Crinia signifera</i>	Common Froglet			X							X	
<i>Litoria ewingii</i>	Southern Brown Tree Frog										X	
<i>Limnodynastes dumerilii dumerilii</i>	Pobblebonk Frog										X	