

The Fauna of City of Canada Bay Local Government Area: 2013-2014



InSight Ecology – August 2014

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Photographs: Front cover (from top, then left to right across page) – Aerial photograph of the eastern section of Canada Bay LGA showing Queen Elizabeth Park in the centre foreground, looking north-east across Hen and Chicken Bay to Sydney CBD in the distance (taken 19 November 2011 – City of Canada Bay Council); Grey Ironbark *Eucalyptus paniculata* (shown in foreground) - part of a highly significant Sydney Turpentine-Ironbark Forest (STIF) remnant (a Threatened Ecologically Community in NSW) at the Rivendell CAF site (InSight Ecology, 2 April 2014); adult male Golden Whistler *Pachycephala pectoralis*, recorded in the study along a weedy ecotone between mangrove forest and STIF remnants at Yaralla Estate (en.wikipedia.org & Aviceda); Common Ringtail Possum *Pseudocheirus peregrinus*, recorded during the study in Cintra Park (as WIRES-released animals) and four bushland/parkland sites (InSight Ecology); revegetated native grassland at Brays Bay Reserve containing Kangaroo Grass *Themeda triandra* (formerly *T. australis*) with Spiny-headed Mat-rush *Lomandra longifolia* planted in the foreground (InSight Ecology); adult male Superb Fairy-wren *Malurus cyaneus*, a resident of remnant and planted vegetation including home gardens and parks particularly in western parts of the LGA (birdlifephotography.org.au – BirdLife Australia, Trevor Bullock); Sisters Bay panorama (Andy Doldissen, 9 April 2014); Eastern Water Skink *Eulamprus quoyii* recorded at Half Moon Bay, Brays Bay Reserve and other sites across the LGA (Andy Doldissen); Rakali (formerly called Water-rat) *Hydromys chrysogaster* is an indigenous amphibious mammal that still survives along parts of Parramatta River, feeds on aquatic invertebrates, shellfish and small fish and lives in burrows along stream banks – although not recorded during the study, Rakali have been reported since 1996 at Sisters Bay, Half Moon Bay, Cabarita foreshore and Bicentennial Park east (Inga.Simpson.com.au); Bar-tailed Godwit *Limosa lapponica*, an intercontinental migratory wader that forages along estuarine mudflats in the LGA in spring-autumn (Andy Doldissen); adult male (showing large claw) Two-toned Fiddler Crab *Uca vomeris* on an estuarine mudflat opposite Nield Park at Rodd Point (Andy Doldissen); Striated Heron *Butorides striata* stalks small fish and crustaceans along the water's edge of bays and estuaries in the LGA (Andy Doldissen); adult Little Black Cormorant *Phalacrocorax sulcirostris* fish in the bays and perch/roost in fringing old planted and remnant figs and eucalypts, forming sizeable feeding flocks often with other cormorant species (Andy Doldissen).

This report is dedicated to the memory of Andy Doldissen, a kindred bushcare spirit, wildlife photographer and an inspiration to us all.

Acknowledgements

This study was commissioned by the City of Canada Bay Council (CCBC) and coordinated by Robert Stevenson of Council's Bushcare section. The project was funded by the NSW Government's former Waste and Sustainability Improvement Payment Program.

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Seven (7) local schools participated in the project. The NSW Department of Education & Communities through the principals of these schools kindly provided before or after-hours access to conduct the surveys. They included Concord High School (Jacqueline Koob), Concord Public School (Anna Vountoulas), Strathfield North Public School (Frances Brewer), Mortlake Public School (Elizabeth Bransgrove and Bernadette Wilson), Abbotsford Public School (Chris Johnson), Drummoyne Public School (Gail Charlier) and Russell Lea Infants School (Lesley Pike). Glenys Grunfelder of Russell Lea Infants School supplied information on fauna species sighted on the school grounds.

I am very grateful to interested local residents and Bushcare and WIRES volunteers for their support and enthusiastic contribution of local knowledge, fauna observations, photographs and field assistance in the project. They included Andy Doldissen, Geoff Duggan, Dion Hobcroft, Judy Harrington, Hale Saldamli, Kris Spasojevic, Frances Davis, Merle Newton, Penny and John Smith, Annette Ellison, Chris Paine, Mandy Falkenmire, Peter Sweeney and Esther Hughes. All of these people accompanied me on some of the site surveys. Kris Spasojevic also provided WIRES contacts for local fauna rescue and release data. Andy Doldissen markedly improved the quality of the photographic record of fauna studied in the project by contributing his images and skills. Geoff Duggan put me in contact with local Cabarita foreshore residents to search for Rakali, together with Andy. Geoff also provided helpful local history of industrial land use around Cabarita, Abbotsford and Mortlake. Dion Hobcroft supplied his own recent records of avifauna observed in the LGA. Ron Pirota contributed skink photographs from Figtree Bay. Lois Michel and Pam Regan provided access to the City of Canada Bay Museum and Heritage Society library.

Executive summary

The City of Canada Bay is one of the oldest urban landscapes in Australia. The traditional land of the Wangal People of the Eora Nation, the area was explored by Europeans soon after the arrival of the First Fleet in 1788 and settled from 1793. This convoluted series of bays, jutting peninsulas and undulating country was teeming with biodiversity. Eventually, however, as the bush was cleared to make way for farms, housing and industry many species of native plants and animals disappeared or retreated to less accessible and arable river valleys to the north or south.

Today's indigenous plant and animal communities of the City of Canada Bay Local Government Area (LGA) survive in some of the last stands of remnant native vegetation in inner-western Sydney. They are the relicts of once floristically and structurally diverse ecosystems – small pockets of Sydney Turpentine-Ironbark Forest (STIF) on clay soils of undulating country, patches of eucalypt woodland on shallow Hawkesbury Sandstone soils of peninsula headlands and strips of swamp oak and mangrove forest along bays with tidal mudflats. Tiny remnants of estuarine saltmarsh still survive at just a few sites in the LGA – larger patches were infilled to establish golf courses and parkland from the 1930s to 1970s. This caused birds such as the saltmarsh specialist, White-fronted Chat, to disappear from the LGA. Less than 2% of the LGA's original native vegetation remains today.

Despite this process of pronounced habitat loss, fragmentation and species attrition, the City of Canada Bay is home to a remarkably diverse suite of indigenous fauna. Many of these are birds – some fly thousands of kilometres each year from the northern hemisphere to forage along the City's mudflats and mangroves. Others are bush birds that have managed to survive in STIF remnants on the Yaralla and Rivendell peninsulas – the joint jewels in the City's biodiversity crown. Australia's favourite bird – the Superb Fairy-wren – is a genuine success story with several populations living and breeding in urban home gardens and bush remnants in the western half of the LGA. Still others are bats, lizards, skinks, frogs and the cryptic Rakali – an amphibious mostly nocturnal native mammal that feeds on shellfish, crabs and fish and lives in burrows along river banks.

A survey of the native vertebrate fauna of the City of Canada Bay was undertaken in 2002-03. This sought to determine what species and habitats remained in the LGA, what activities threatened their existence and what actions were needed to protect and conserve them. This work provided a baseline against which the results of the current study could be compared and contrasted.

The current study systematically surveyed the occurrence, relative abundance, species richness and habitat use of terrestrial and aquatic avifauna present at 36 sites across the LGA in two consecutive seasons – spring 2013 and autumn 2014. Other fauna were recorded opportunistically during the bird surveys. Many of these sites were surveyed in the original study thus enabling a comparison of results between both studies to be made. Sites surveyed in the current work included bushland remnants, revegetated parkland, open parkland, urban neighbourhoods and aquatic habitats. Remnant and planted vegetation was surveyed in bushland reserves, parks, schools, golf courses, street verges and home gardens. A small team of volunteers and Council Bushcare staff worked closely with an experienced ornithologist to undertake these surveys during the day and at night.

A total of 4,766 birds were recorded in the study – 13% more birds were detected in autumn than in spring. Revegetated parkland sites yielded 33%, open parkland 22%, bushland remnants 21%, aquatic habitats 14%, and urban neighbourhood sites 9.5% of this total. The most abundant bird species were the ubiquitous Noisy Miner which accounted for 17% of all birds surveyed and Rainbow Lorikeet (13.7%). Large flocks of Little Corella and the introduced Common Myna were recorded at Massey Park Golf Course and Halliday Park, respectively. The least abundant birds were all members of a group of bushland species that have declined markedly or disappeared entirely from inner-western Sydney. These included Golden Whistler, Grey Fantail, Rufous Fantail, White-browed Scrubwren, Superb Fairy-wren, Red-browed Finch, Horsfield's Bronze-Cuckoo, Spangled Drongo, Yellow-faced Honeyeater, Eastern Spinebill and Mangrove Gerygone.

A total of 84 bird species from 39 families were recorded in the study which was similar to the total obtained in 2002-03 of 86 species. These included 79 native and 5 introduced species. Bushland remnants accounted for 49 or 81.7% of all terrestrial bird species (60) recorded in the study. Revegetated parkland supported 46 or 54.7% of all terrestrial and aquatic bird species (84) recorded in the study. Open parkland recorded 29 or 34.5% of all bird species detected in the study. Urban neighbourhood sites yielded 19 or 22.6% of the total bird species recorded while aquatic habitats accounted for 40 or 47.6% of all bird species recorded in the study.

The habitats of the City of Canada Bay provided or were considered to be likely to provide key food and foraging, roosting, refuge and breeding sites for a diverse suite of threatened native fauna species. These included 13 species of bird, mammal and amphibian listed under the federal Environment Protection and Biodiversity Conservation Act 1999 and/or NSW Threatened Species Conservation (TSC) Act 1995. Two endangered fauna populations listed under the TSC Act occur near the study area or have been recorded in the LGA. Three endangered ecological plant communities also occur in the City of Canada Bay. A total of 13 species subject to international migratory bird protection agreements with China, Japan and the Republic of Korea were recorded or are known to occur in the LGA. These included wading shorebirds – for example, Bar-tailed Godwit, Common Greenshank, Grey-tailed Tattler and Sharp-tailed Sandpiper and other birds such as Eastern Great Egret, Crested Tern and White-throated Needletail. A further 55 fauna species of local and regional conservation significance were recorded in the study. These included 46 bird, 2 mammal, 4 reptile and 3 amphibian species.

The protection and conservation of the City of Canada Bay's native fauna and their habitat requires knowledge, resources, support and coordinated and sustained action including monitoring and evaluation over time. A strategy to achieve this goal is presented in this report. This contains planning and on-ground actions that are realistic and balanced against constraints that local government and community groups typically face. The strategy can complement and be integrated with existing sustainability and environmental restoration initiatives either underway in the City of Canada Bay or in neighbouring LGAs. This works toward the vision of a better functioning, more connected urban landscape for the precious wildlife gems we have left and those we want to encourage back. Surely this is a future worth striving for.

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1. Introduction

1.1 Project background

There has been widespread recognition of the need to protect, conserve and re-establish viable habitat for native fauna in cities around the world (see, for example, Cardinale et al. 2012, Secretariat of the Convention on Biological Diversity 2012; Aronson et al. 2014). Most of these landscapes have been cleared of the majority of their indigenous habitat with consequent substantial species loss and impaired ecosystem functioning (McDonald et al. 2008; Pickett et al. 2011). Cities are not ecological wastelands, however - with appropriate planning and action urban landscapes can provide habitats for a range of different fauna species, albeit often from fewer genera than intact ecosystems. Resilient, urban-adapted generalist species often dominate these communities (see, for example, InSight Ecology 2010, 2012).

New knowledge is needed to help us understand how fauna function in these complex urban ecosystems. Information on how animals use different types and configurations of planted and remnant vegetation (greenspace), whether they can successfully reproduce and what factors determine their survival and persistence is essential to help guide urban biodiversity conservation programs (Commonwealth of Australia 2005; Pickett and Cadenasso 2006; Alberti 2010; InSight Ecology 2012; Ikin et al. 2013).

In Sydney, there has been substantial investment in the rehabilitation and restoration of bushland reserves, waterways, residential streets, parks and housing estates, major transport arteries, and former industrial sites over the past 30-40 years (NSW Department of Planning 2005, 2010). However, there has been little attention paid to determining whether this work is facilitating or hindering the movement and conservation of native fauna and their habitat in these landscapes. For example, Sydney's inner-west councils have rehabilitated and revegetated tracts of native vegetation along the Cooks River (Cooks River Foreshores Working Group 2006). Similar work has been undertaken in bushland and parkland reserves by City of Ryde and Hunter's Hill Council (see InSight Ecology 2010) and City of Canada Bay Local Government Area (LGA).

While these efforts seek to address habitat protection and rehabilitation, amelioration of local climate change effects, soil erosion control and water quality improvement objectives, their contribution to providing key foraging, breeding and linkage habitat for native fauna communities requires further investigation. Some progress has however been made through, for example, the Ryde/Hunter's Hill River to River Corridors Project (see InSight Ecology 2012).

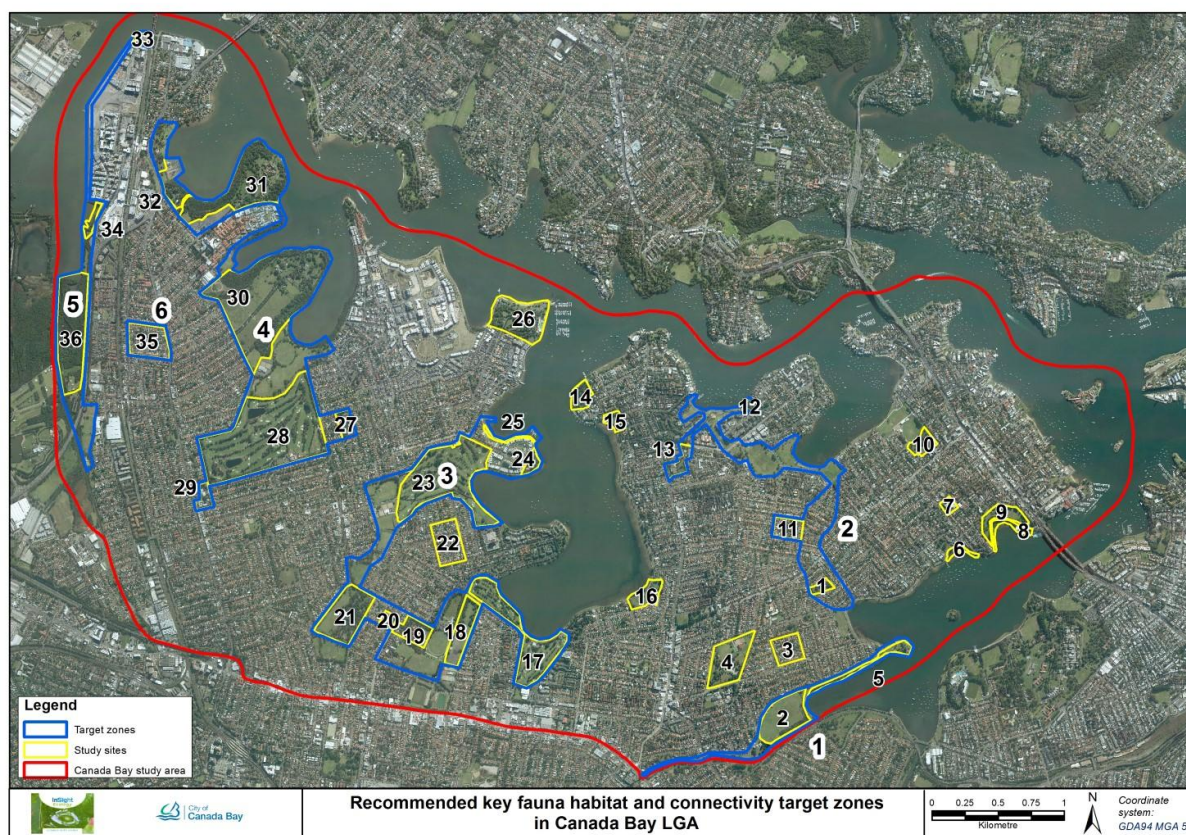
In 2002-2003 a survey of fauna and fauna habitats was undertaken by the consultant Dion Hobcroft for City of Canada Bay Council (City of Canada Bay 2003). This work obtained data on vertebrate fauna occurrence, habitat use and threats in a range of terrestrial and aquatic habitats across the LGA. Abundance data was also obtained for a number of individual bird species. This survey provided a baseline against which the results of the current study could be measured. Both investigations were designed to assist City of Canada Bay Council (hereafter termed "Council") protect and conserve indigenous fauna and their habitats and inform bushland and open space management plans and programs.

1.2 Objectives of the study

The study has four key objectives. These are to:

- Review existing fauna and flora surveys, studies, bush regeneration and rehabilitation reports and other relevant investigations undertaken for Council;
- Undertake two field surveys to determine the occurrence, relative abundance, species richness and habitat use of and impacts on avifauna in terrestrial and aquatic habitats across the study area (as defined in Figure 1), and include other fauna observed during these surveys;
- Provide recommendations to protect local indigenous fauna and their habitat, improve the condition of existing key habitat, create new habitat to increase local and regional connectivity, manage key threats and threatening processes, and assist in the future monitoring of fauna by Council staff, volunteers, schools and community groups;
- Promote community engagement and participation in the protection and monitoring of indigenous fauna populations over space and time.

Figure 1: Location of the study area within City of Canada Bay LGA. The image shows the location of all sites surveyed for fauna during the study (yellow lines, with numbers) as well as recommended target zones for key fauna habitat and connectivity actions (blue lines, with adjacent numbers). The red line denotes the boundaries of the study area and the City of Canada Bay LGA. Image: City of Canada Bay 2014.



2. Methods

2.1 Desktop review

A review of existing information on the fauna, flora, hydrology, European and Aboriginal heritage, and management of public land including bushland rehabilitation and regeneration in the study area was undertaken over the study period (1 November 2013- 30 June 2014). This included the original fauna survey report prepared by the consultant Dion Hobcroft for Council (City of Canada Bay 2003).

A total of 51 documents were examined during this review. Most of these were supplied by Council including 10 books and studies on Aboriginal and European history in the Concord and Drummoyne districts, bush regeneration contractors reports, and a series of bushcare volunteer reports for 7 sites (5 currently active) across the LGA. Sydney Olympic Park Authority also contributed significantly to this resource by allowing licensed electronic access to 20 fauna survey reports, studies and annual census data for the period 2000-2014. An additional 25 peer-reviewed scientific journal articles and some relevant recent fauna studies undertaken in nearby LGAs were accessed.

The NSW Office of Environment and Heritage's BioNet online facility was used to access historical NSW Wildlife Atlas data for the study area. Dion Hobcroft and Judy Harrington contributed their own recent observations of avifauna in the study area.

2.2 Field surveying

2.2.1 Selection of sites

A total of 35 sites were selected for surveying primarily avifauna over two seasons in the study area – late spring (November 20-28, 2013) and early autumn (April 1-10, 2014). An additional site – Concord Public School – was surveyed in the autumn period only, taking the total number of sites studied to 36. While many of these sites were surveyed during the original study in 2002-03 several new sites were investigated in the current study, particularly at schools and urban neighbourhood blocks. Figure 1 shows the spatial location of these sites in the study area while Table 1 lists their name and geographic location.

Table 1: List of all sites surveyed during the spring 2013 and autumn 2014 systematic avifaunal surveys in the study area. Most of these sites contained up to 4 different types of greenspace (see Appendix 1).

Site number	Site name	GPS coordinates		Comments
		latitude (south)	longitude (east)	
1	Russell Lea Infants School	33° 51' 41.1"	151° 08' 31.5"	old turpentine tree in schoolyard
		33° 51' 41.3"	151° 08' 35.1"	Musk Lorikeet in brush box
2	Timbrell Park	33° 52' 13.5"	151° 08' 27.9"	old planted trees
		33° 52' 17.2"	151° 08' 20.6"	near skate track
		33° 52' 09.4"	151° 08' 21.1"	on oval
3	Noble Street urban neighbourhood (UN)	33° 52' 00.3"	151° 08' 19.7"	southeast corner
		33° 51' 52.9"	151° 08' 22.3"	northern edge
4	Five Dock Park	33° 52' 03.6"	151° 08' 07.8"	southeast corner
		33° 52' 03.9"	151° 08' 01.0"	

Site number	Site name	GPS coordinates		Comments
		latitude (south)	longitude (east)	
		33° 51' 57.6"	151° 08' 01.3"	figbird
		33° 51' 54.5"	151° 08' 05.2"	figbird
5	Iron Cove – south-western foreshore from Iron Cove Creek to Rodd Point	33° 52' 13.2"	151° 08' 31.4"	taken opp Arthur St
		33° 51' 57.7"	151° 08' 49.6"	taken at Rodd Point
6	Half Moon Bay	33° 51' 34.6"	151° 09' 19.2"	domestic cat in drainpipe
		33° 51' 35.2"	151° 09' 10.1"	boat club
7	Drummoyne Public School	33° 51' 21.2"	151° 09' 08.7"	
		33° 51' 21.1"	151° 09' 11.7"	
8	Sisters Bay	33° 51' 29.5"	151° 09' 34.4"	swimming pool
		33° 51' 26.7"	151° 09' 24.0"	ringtail possum drey
		33° 51' 33.1"	151° 09' 24.4"	
9	Brett Park	33° 51' 22.7"	151° 09' 29.9"	figbird
		33° 51' 24.2"	151° 09' 23.3"	western end of park
		33° 51' 26.6"	151° 09' 22.2"	
		33° 51' 25.9"	151° 09' 30.1"	eastern end of park
10	Drummoyne Park	33° 51' 07.6"	151° 09' 00.5"	
		33° 51' 07.5"	151° 09' 04.8"	big eucalypt
11	Edenholme Road UN	33° 51' 23.9"	151° 08' 19.5"	corner Sibbick St & Edenholme Rd
		33° 51' 29.6"	151° 08' 26.9"	corner Mons & Murray Streets
		33° 51' 25.1"	151° 08' 27.6"	corner Mons St & Edenholme Rd
12	Figtree Bay Reserve	33° 50' 56.4"	151° 08' 13.1"	upper section
13	Abbotsford Public School	33° 51' 12.6"	151° 07' 48.5"	near Great Nth Rd
		33° 51' 11.4"	151° 07' 53.4"	eastern boundary
		33° 51' 06.4"	151° 07' 55.4"	northern corner
		33° 51' 06.3"	151° 07' 52.1"	
14	Quarantine Reserve	33° 50' 51.2"	151° 07' 25.0"	Tawny Frogmouth at entrance
		33° 50' 51.4"	151° 07' 22.6"	boundary of blackbutt stand
15	Henry Lawson Park	33° 50' 58.6"	151° 07' 30.2"	cheese tree patch
		33° 51' 00.1"	151° 07' 34.4"	
16	Halliday Park	33° 51' 43.5"	151° 07' 36.4"	
		33° 51' 39.4"	151° 07' 42.7"	northern end
17	Barnwell Park Golf Course	33° 52' 04.3"	151° 07' 05.6"	southern end adjacent to Leisure Centre
		33° 51' 55.6"	151° 07' 14.0"	
		33° 51' 40.8"	151° 06' 51.3"	opposite Cintra Park
18	Cintra Park	33° 51' 41.9"	151° 06' 48.6"	northern boundary near Lyons Rd
		33° 51' 49.9"	151° 06' 43.8"	
		33° 52' 01.7"	151° 06' 38.0"	near southern boundary with Gipps St

Site number	Site name	GPS coordinates		Comments
		latitude (south)	longitude (east)	
19	Concord High School	33° 51' 50.0"	151° 06' 29.0"	
20	Concord Public School	33° 51' 51.4"	151° 06' 07.2"	corner adjacent to Burwood Rd
		33° 51' 45.2"	151° 06' 24.4"	west-northwest corner of site
21	Queen Elizabeth Park	33° 51' 45.0"	151° 06' 15.6"	old turpentine
		33° 51' 52.7"	151° 06' 13.2"	old white mahogany
22	Empire Avenue UN	33° 51' 33.2"	151° 06' 39.7"	south-southeast corner in Tripod St
		33° 51' 23.0"	151° 06' 45.3"	northeast corner Empire Av & Salt St
23	Massey Park Golf Course	33° 51' 10.1"	151° 06' 37.0"	
		33° 51' 13.2"	151° 06' 42.3"	brushtail possum drey
		33° 51' 09.4"	151° 06' 54.7"	grass sward (planted)
24	Prince Edward Park	33° 51' 12.2"	151° 07' 05.5"	
		33° 51' 08.0"	151° 07' 08.6"	northern end
25	France Bay	33° 51' 03.5"	151° 06' 57.6"	Bar-tailed Godwit on mudflats
26	Cabarita Park	33° 50' 30.6"	151° 07' 10.9"	
		33° 50' 31.7"	151° 07' 02.1"	potential bushcare site
		33° 50' 35.8"	151° 06' 56.2"	
27	Mortlake Public School	33° 50' 56.8"	151° 06' 11.4"	remnant eucalypt
		33° 51' 01.9"	151° 06' 16.0"	
28	Concord Golf Course	33° 51' 03.4"	151° 06' 03.3"	
		33° 50' 48.9"	151° 05' 59.9"	
		33° 50' 56.4"	151° 05' 44.6"	coot on nest in dam
		33° 51' 02.8"	151° 05' 38.0"	ringtail possum drey
		33° 51' 05.0"	151° 05' 52.1"	
29	Strathfield North Public School	33° 51' 18.9"	151° 05' 33.7"	
		33° 51' 19.6"	151° 05' 29.4"	
		33° 51' 13.7"	151° 05' 30.6"	large silky oak in grounds
30	Yaralla Estate	33° 50' 17.2"	151° 06' 04.7"	STIF remnant
		33° 50' 17.6"	151° 05' 55.0"	White-browed Scrubwren
		33° 50' 21.7"	151° 05' 47.1"	Yellow Thornbill in mangroves
		33° 50' 27.8"	151° 05' 35.7"	near Nullawarra Av
		33° 50' 39.5"	151° 05' 46.4"	
		33° 50' 34.8"	151° 05' 53.0"	
31	Rivendell CAF Unit	33° 50' 04.7"	151° 05' 53.3"	at southeast boundary with Concord Hospital
		33° 49' 52.2"	151° 05' 48.7"	kookaburra nest in tree termite nest

Site number	Site name	GPS coordinates		Comments
		latitude (south)	longitude (east)	
		33° 50' 07.4"	151° 05' 31.1"	at white peg in ground
32	Rhodes Park & Brays Bay Reserve	33° 49' 54.0"	151° 05' 24.6"	Themeda grassland (planted)
		33° 50' 01.9"	151° 05' 22.7"	
33	Mill Park	33° 49' 25.0"	151° 05' 15.8"	New Holland Honeyeater
34	Rider Boulevard	33° 50' 06.7"	151° 05' 00.9"	mangroves
		33° 50' 10.9"	151° 04' 59.7"	southern end
35	Coonong Road UN	33° 50' 33.7"	151° 05' 10.3"	corner Coonong Rd & Queen St
		33° 50' 34.2"	151° 05' 14.2"	Superb Fairy-wren along Coonong Rd
		33° 50' 35.3"	151° 05' 20.6"	corner Coonong & Concord Roads
		33° 50' 42.8"	151° 05' 22.0"	corner Concord Rd & Wunda Rd
		33° 50' 41.2"	151° 05' 10.4"	corner Wunda Rd & Queen St
36	Bicentennial Park east	33° 50' 47.1"	151° 04' 51.0"	
		33° 50' 38.2"	151° 04' 50.5"	Mangrove Gerygone
		33° 50' 23.2"	151° 04' 51.3"	viewing tower
		33° 50' 24.7"	151° 04' 58.2"	eastern edge with road

The study area was inspected on 19 November 2013 with the project coordinator Robert Stevenson prior to the commencement of field surveying on 20 November 2013. A sampling design was developed based on the results of this reconnaissance, the need to survey key sites sampled during the 2002-03 study, and InSight Ecology's previous experience surveying particularly avifauna in this and adjoining/nearby LGAs in western and northern Sydney.

Five (5) different types of urban greenspace were surveyed in the study area. These included bushland remnant, revegetated parkland, open parkland, urban neighbourhood and aquatic habitats. Each of these greenspace types are outlined below. Most sites contained 2-4 different types of greenspace, each of which was separately surveyed for birds (see Appendix 1).

Bushland remnants in the LGA are all that remain of formerly extensive turpentine-ironbark forest on deep clay soils derived from Wianamatta Shale, shrubby eucalypt woodland on shallow Hawkesbury Sandstone soils, and estuarine mangrove and saltmarsh flats at the heads of bays along Parramatta River. Conversion of large tracts of these communities into farms in the later 1800s, suburbs by the 1930-40s and, in the case of mangrove forest and saltmarsh, golf courses and parks from the 1920-70s, has confined these remnants to small isolated pockets that persist in mostly the western part of the LGA (Russell 1982; Coupe 1983; Benson and Howell 1990, 1995).

Three endangered ecological communities characterise these remnants - Sydney Turpentine-Ironbark Forest (STIF), Swamp Oak Floodplain Forest (also termed "Estuarine Fringe Forest" – City of Canada Bay 2013a) and Coastal Saltmarsh (also termed "Estuarine Saltmarsh" – City of

Canada Bay 2013a). Patches of estuarine mangrove forest also remain – the largest remnant on Parramatta River persists at Homebush Bay (Benson and Howell 1990, 1995). Each STIF remnant was surveyed in the study - at Yaralla Estate, Rivendell CAF Unit and Queen Elizabeth Park and as small patches and individual isolated trees at Concord Golf Course, Russell Lea Infants School, Five Dock Park, Strathfield North Public School (suspected), Mortlake Public School and Rhodes Park. Mangrove forest occurred in Bicentennial Park east, Homebush Bay east, Brays Bay to Majors Bay, Kendall Bay, Exile Bay, Halliday Park, Five Dock Bay, Sisters Bay, Half Moon Bay and along the south-western foreshore of Iron Cove. All of these remnants except Kendall Bay and Exile Bay were surveyed during the study. Small pockets of remnant Swamp Oak Floodplain Forest were surveyed at Bicentennial Park east, Brays Bay, Rivendell CAF Unit, Yaralla Estate, Quarantine Reserve and Sisters Bay. Small patches of coastal saltmarsh were surveyed at Bicentennial Park east, Yaralla Estate, Rivendell CAF Unit, Prince Edward Park, Quarantine Reserve and Iron Cove. A total of 13 sites contained remnant native vegetation and were surveyed in the study.

Revegetated parkland sites consisted of mostly native tree, shrub and ground cover species. These have been planted to help re-establish native forest and woodland habitat, to enhance and buffer adjacent bushland remnants, or simply to beautify parks. These were typically bush regeneration and/or revegetation sites run by Council working with professional contractors and five currently active volunteer bushcare groups. The Mill Park revegetation site had been established approximately 3-5 years ago by a private company (Mirvac) involved in the residential development of Rhodes Peninsula (R. Stevenson pers. comm.). A total of 24 sites containing revegetated parkland were surveyed in the study area. These included Bicentennial Park east (mostly along the western side of Homebush Bay Drive), Rider Boulevard, Mill Park, Rhodes Park and Brays Bay Reserve, Concord Golf Course, Massey Park Golf Course, Barnwell Park Golf Course, Cabarita Park, Prince Edward Park, Strathfield North Public School, Concord High School, Concord Public School, Cintra Park, Halliday Park, Figtree Bay Reserve, Abbotsford Public School, Mortlake Public School, Henry Lawson Park, Drummoyne Park, Drummoyne Public School, Russell Lea Infants School, Five Dock Park, Brett Park and Timbrell Park.

Open parkland sites featured areas dominated by open grassed and paved surfaces with some narrow rows or isolated beds of planted indigenous and exotic vegetation. These typified open recreational space and included several parks with playgrounds, picnic areas, sporting ovals, car parks, and facilities. A total of 10 sites featuring open parkland areas were surveyed in the study area. These included Cintra Park, Halliday Park, Henry Lawson Park, Five Dock Park, Drummoyne Park, Brett Park and Timbrell Park and 3 golf courses – Concord, Massey Park and Barnwell Park.

Four (4) urban neighbourhood sites were surveyed in the study. These were blocks of usually three residential streets (each about 4 to 5 ha in area) featuring sealed surfaces (roads, streets and footpaths), mown verges of planted and mostly established native and exotic trees and shrubs, overhead powerlines, and houses with or without planted native and exotic shrubs, trees and garden beds in their yards (home gardens). They were surveyed to help determine the contribution of planted street verges and home gardens to bird community structure and habitat use across the LGA. Urban neighbourhood vegetation is a recognised as providing important supplementary habitat for urban birds in southern Australian cities (see, for example, Parsons et al. 2003, 2006; InSight Ecology 2010, 2012; Martin et al. 2011; Davis et al. 2012). Sites surveyed were Coonong Road (Concord West), Empire Avenue (Concord), Edenholve Road (Russell Lea), and Noble Street (Five Dock).

Aquatic habitats were also surveyed in the study since the LGA contains over 35 km of river foreshore (AECOM, 2010) that supports ecologically important tidal mudflats, beaches, mangroves and saltmarsh communities (City of Canada Bay 2003). A total of 16 sites containing aquatic habitats and often located along the foreshores of Parramatta River were surveyed in the study. These habitats included open water, tidal mudflats, beaches, natural foreshore rock exposures and artificial rockwalls or seawalls, streams, stormwater canals and drains and dams. Mudflats, beaches and foreshore rock exposures were surveyed at low tide. Sites included were Bicentennial Park east, Rhodes Park and Brays Bay Reserve, Concord Golf Course (3 dams), Barnwell Park Golf Course, Massey Park Golf Course, France Bay, Prince Edward Park, Cabarita Park, Cintra Park, Halliday Park, Quarantine Reserve, Figtree Bay Reserve, Sisters Bay, Half Moon Bay, Iron Cove foreshore and Timbrell Park. The three islands that fall within the LGA – Rodd, Snapper and Spectacle were not surveyed in this study.

2.2.2 Survey methods

Terrestrial and aquatic bird species were surveyed at each site in the study area in two contiguous seasons – spring (November 2013) and autumn (April 2014). This was undertaken to attempt to detect inter-seasonal differences in bird occurrence, relative abundance, species richness and community composition, as well as patterns of habitat use including habitat preferences, foraging strategies, food types and breeding dynamics. For instance, warm season breeding migrants such as Eastern Koel, Channel-billed Cuckoo and Sacred Kingfisher are present in Sydney in spring-summer but have usually departed by autumn (InSight Ecology 2011a, b, 2012). Several intercontinental migratory wader species forage in and near the study area in spring and summer but begin departing north by autumn (City of Canada Bay 2003; Sydney Olympic Park 2012). Knowledge of these patterns and their causal mechanisms can help inform the design of effective fauna habitat restoration and re-creation programs (see, for example, InSight Ecology 2008, 2012).

In bushland remnants and most parkland and aquatic sites the area search technique (InSight Ecology 2010, 2012) was deployed. This involved the surveyor (A.H.) steadily walking a loop route in which different forward and return legs, separated where possible by a distance of at least 100 metres, were taken through the main habitats present at each site. In urban neighbourhood sites, a block defined by usually three streets was walked, at a steady pace, along footpaths so that each route enclosed the entire sampled block without duplication of the course taken. The area of each of these blocks was usually 4-5 ha, depending on allotment size and configuration and street width and length. Single line transects were walked in smaller sites - Rider Boulevard, France Bay, Figtree Bay Reserve, Russell Lea Infants School and Iron Cove south-western foreshore to Rodd Point - where the area search method was not suitable.

All birds observed or heard at a site or along a line transect were recorded, including individuals using airspace above sites to forage in or commute between habitats. Care was taken not to record to the same bird twice for those observed flying or walking between different habitats. This was relevant for flocking, communally-living, or fast or very frequently moving species such as Noisy Miner, Rainbow Lorikeet, Welcome Swallow, Galah and Long-billed Corella. Particular care was taken in some parkland sites where, due to the small size of the reserve, forward and return search legs occurred within 100 metres of each other. This also helped to avoid committing the same error with more sedentary species such as Masked Lapwing, Australian

Magpie, Magpie-lark, and Grey Butcherbird that often employ stalking or “sit-and-wait” foraging strategies.

Data recorded during the surveys included the species present, number of individuals observed, sampling period (spring or autumn), date, time and location of record, greenspace type, behaviour (ie. foraging/feeding, bathing, preening, breeding, calling, mobbing, resting, flying), use of habitat, and other relevant information such as age, species composition and condition of remnants, revegetation and urban neighbourhood vegetation, weather, and bird interactions (e.g. predation, predator avoidance, mating/mate pursuits). Sites often contained up to 3 or 4 different types of greenspace (Appendix 1). Birds detected at these sites were recorded by the specific greenspace type they utilised and again care was taken not to count the same bird twice in a specific survey session.

All data obtained were entered into a MS Excel spreadsheet in nomenclatural form and taxonomic order consistent with Christidis and Boles (2008). Both common and scientific names of each bird recorded were used (Appendix 1). Common bird names are mostly used within the text of this report. All observations were made by the same experienced ornithologist (A.H.) using a pair of Zeiss 10x40BT® binoculars fixed to a Pro-Harness® chest-strap.

The order of surveying sites was different for each of the two surveys. The spring survey started in the east at Russell Lea Infants School and worked west, finishing at Bicentennial Park east site. The autumn survey began in the west at Bicentennial Park east and concluded in the east at Russell Lea Infants School and Iron Cove’s south-western foreshore. This approach was used to minimise the potential for the introduction of location or geographic bias into bird abundance, species richness and community structure data collected. This can arise when the same or similar geographical routes are taken to survey especially resident bird communities over more than one season. In addition, sites surveyed in mornings in the spring survey were mostly surveyed in afternoons in the return autumn survey. This helped minimise the potential impact of an introduction of time-of-day sampling bias in bird data obtained across both seasons.

The presence of other vertebrate fauna in the study area was recorded opportunistically during the bird surveys and at other times during the study. Information from the 2002-03 fauna survey (City of Canada Bay 2003), Sydney Olympic Park bat and reptile surveys and other studies were used to compile a picture of remnant native fauna communities in and adjacent to the LGA. Reports of Rakali occurrence were investigated first-hand through discussions with Andy Doldissen who provided 2008 photographs of Rakali tracks at Half Moon Bay and informal interviews with individual landholders along Cabarita foreshore in which large colour photographs of the species were shown to these residents. A pre-dawn/dawn survey (0545-0615 hours) targeting Rakali presence in rock overhangs and foreshore was conducted with Andy Doldissen at Half Moon Bay on 10 April 2014 (0545-0615 hours).

2.2.3 Survey effort

A total of 84.5 hours was spent systematically surveying avifauna in the study area. This effort was dispersed across 34 field sessions – 17 in each of the two survey periods. These occurred in late spring (November 20-28) 2013 and early autumn (April 1-10) 2014. Slightly more time (45.92 hours) was invested in the autumn survey than in the spring survey (38.58 hours). This reflected the inclusion of nocturnal surveys at 5 sites in autumn - only diurnal surveys were

undertaken in spring – and an additional diurnal survey at Yaralla Estate. The latter session occurred as part of the project’s community information day (see Section 2.5).

Surveys were generally conducted in peak morning (0615-1000 hours) and afternoon (1600-1800 hours) bird activity periods (termed “survey sessions”) on each survey day. No surveying occurred in windy or wet weather. A total of 3.5 survey sessions was lost to wet and/or windy weather during the study.

Bushland remnant and revegetated parkland sites were surveyed more intensively than other greenspace types. This was necessary to accurately sample terrestrial bird communities present in each bushland remnant and revegetated sites in the study area. For instance, there was a need to ensure that the risk of not detecting small woodland birds and more cryptic species was significantly minimised by investing additional time surveying structurally more complex sites - Yaralla Estate, Rivendell CAF Unit, Rhodes Park and Brays Bay Reserve and Bicentennial Park east. A total of 28.75 hours (2.21 hours per site, 13 sites) or 34% of the total survey effort was spent surveying bushland remnant sites in spring and autumn. Revegetated parkland sites were surveyed for a total of 35.33 hours (1.61 hours per site, 22 sites) or 41.8% of the total survey effort. Open parkland sites were surveyed for 9.08 hours (1 hour per site, 9 sites) or 10.7% of the total survey effort. Urban neighbourhood sites were surveyed for 4.42 hours (1.1 hour per site, 4 sites) or 5.2% of the overall survey effort. Aquatic habitats were surveyed for 6.92 hours (0.63 hour per site, 11 sites) or 8.2% of the total survey effort.

Within the context of the objectives of the study, these variations in proportionate survey effort between greenspace types were not considered to significantly affect the results obtained or their interpretation. They reflected the nature of present-day distribution of remnant and planted native vegetation and historical patterns of land use in the LGA.

2.3 Habitat assessment

A number of habitat attributes were recorded at representative sites in each greenspace type in the study area. These included community type, main plant (canopy and understorey) species present, height of main tree species present, habitat condition, vegetation structure (in bush remnants and revegetated parkland), bird use of habitats, estimated age and species composition of plantings (in revegetated parkland and urban blocks), type of urban neighbourhood habitats (ie. street verge, built structures, home gardens), type of aquatic habitat, and extent and type of disturbance (ie. presence of weeds, feral and domestic animals, evidence of predation, level of human incursion). Attributes of landscape context were also noted for selected sites in different greenspace types, ie. distance of planted or remnant vegetation to nearest neighbouring vegetation patch, position in the local and regional landscape, pattern of vegetation distribution, and edge type and size.

An image library was established for the project from a number of sources. A total of 3,248 photographs of plants, revegetated and rehabilitated sites, birds and other fauna, fauna habitats and landscapes were taken by InSight Ecology during both field surveys using two digital cameras - a Nikon D3200® (Nikkor® 55-300 mm lens) and a Canon PowerShot SX210 IS®. Images were stored using Microsoft Office Picture Manager 2007®. A number of other still photographs were provided by R. Stevenson and D. Oldfield of City of Canada Bay Council and bushcare volunteers A. Doldissen, M. Falkenmire, G. Duggan and H. Saldamli. Some of these

images are presented in this report. All images, data and related material were stored on a standard 500GB ATA HDD backed up to a 500GB external HDD.

2.4 Data analysis

Three key attributes of avifaunal communities were selected for basic analysis from data collected at each site in each greenspace type in the study area. These were relative abundance, species richness and habitat use. Bird community structure and use of habitat was examined qualitatively from site-specific data obtained during the study.

Bird survey data were examined for the total, mean, standard error and standard deviation from the mean for each greenspace type and for the overall study area using Microsoft Excel 2007. Changes in the key bird community variables sampled between the spring and autumn surveys were also examined. Survey effort was calculated by greenspace type and for the study period. Conservation significance was assessed by comparing survey results with historical data for the study area, schedules and provisions under the NSW Threatened Species Conservation Act 1995 and federal Environment Protection and Biodiversity Conservation Act 1999, international migratory bird conservation agreements, and using expert avifaunal knowledge.

2.5 Community participation

The engagement and participation of the local community was actively sought throughout the project. A total of 14 members of local communities across the LGA participated in the field survey program on a roster basis. Several of these people are involved in the five active local bushcare groups in the LGA. InSight Ecology worked closely with most of these people during the field component of the project. Five (5) nocturnal surveys were conducted in the autumn program, each including community volunteers. These took place at Concord Golf Course, Bicentennial Park east, Yaralla Estate, Queen Elizabeth Park and Quarantine Reserve.

A total of 27 people attended the project's community information day on 5 April 2014 at Yaralla Estate. This included a talk on the project's progress given by InSight Ecology at Concord RSL Club and a field walk through Yaralla's Sydney Turpentine-Ironbark Forest (STIF) remnant and beside mangrove forest along Parramatta River foreshore. A final presentation of the results of the study was given by InSight Ecology on 1 September 2014 at Concord Library.

Seven (7) local schools participated in the project by providing access to allow field surveys to be undertaken. These were Concord High School, Concord Primary School, Drummoyne Public School, Strathfield North Public School, Mortlake Public School, Abbotsford Public School, and Russell Lea Infants School. The latter four of these schools contained individual trees of the STIF EEC. Two public (Barnwell Park and Massey Park) and one private (Concord) golf courses also participated in the project by allowing access for the field surveys.

3. Results

3.1 Relative bird abundance

A total of 4,766 individual birds were recorded during the study (Appendix 1). The spring survey yielded 2,073 birds while in autumn 2,693 birds were recorded. This represented a 13% increase or 620 more birds recorded in autumn relative to spring.

Revegetated parkland sites accounted for the most number of birds with a total of 1,573 individuals or 33% of all birds recorded in the study (mean number of birds per site of 1.79, standard deviation from the mean [sd] 4.05). These sites recorded more birds in autumn (933, mean 2.07, sd 4.58) than in spring (649, mean 1.49, sd 3.36). Open parkland sites supported the next highest number of birds recorded across both surveys – 1,064 or 22.3% of all avifauna detected (mean 1.21, sd 6.05). Again, more birds were recorded at these sites in autumn (673, mean 1.49, sd 7.82) than in spring (395, mean 0.91, sd 3.21). Bushland remnants yielded 1,003 birds or 21.1% of the total survey sample (mean 1.14, sd 4.85). The number of birds recorded in these sites was similar in both seasons - spring (492, mean 1.13, sd 3.32) and autumn (511, mean 1.13, sd 5.92). Aquatic habitats accounted for 671 birds or 14.1% of all birds detected (mean 0.76, sd 3.88). Numbers of birds recorded were similar between seasons – 330 (mean 0.76, sd 3.96) in spring and 346 (mean 0.76, sd 3.77) in autumn. Urban neighbourhood sites yielded 455 birds or 9.5% of all birds recorded in the study (mean 0.52, sd 2.63) – only 4 such sites were surveyed in the study. Moderately more birds were recorded at these sites in autumn (248, mean 0.55, sd 2.99) than in spring (207, mean 0.47, sd 2.16).

The most abundant bird species recorded across all greenspace types in the study were Noisy Miner (809 individuals or 17% of all birds surveyed), Rainbow Lorikeet (656 or 13.7%), the introduced Common Myna (273 or 5.7%), Little Corella (239 or 5%), Welcome Swallow (235 or 4.9%), Australasian Figbird (204 or 4.3%), Silver Gull (197 or 4.1%), Musk Lorikeet (146 or 3%), Australian White Ibis (142 or 3%), Superb Fairy-wren (134 or 2.8%) and Crested Pigeon (127 or 2.6%). In the spring survey, the most abundant species were Noisy Miner, Rainbow Lorikeet, Silver Gull, Musk Lorikeet, Common Myna, Superb Fairy-wren, Welcome Swallow and Australian White Ibis. The surveyed autumn bird community was most abundantly represented by Noisy Miner, Rainbow Lorikeet, Common Myna, Welcome Swallow, Australasian Figbird, Little Corella, Silver Gull and Australian White Ibis. Plates 1-6 illustrate some of these species recorded during the study.

Notably, a flock of over 110 Common Myna was detected at ca 0600 on 7 April 2014 leaving a night roost site in Halliday Park mangroves headed for foraging grounds around Five Dock shops and light industrial zone. Several flocks of 20-40 birds each of Australasian Figbird foraged in autumn on the ripe fruit of old planted fig trees at Barnwell Park Golf Course, Drummoyne Park, Abbotsford Public School and Brett Park. A large flock of Little Corella (151 birds) foraged for the corms of fairway grasses at Massey Park Golf Course on 7 April 2014 and was earlier observed at this site by G. Duggan. A flock of 25 Little Egret foraged and flew just offshore from Prince Edward Park at Cabarita on 4 April 2014.

The least abundant avifauna recorded in the study was mostly insectivorous and some nectarivorous species of small-medium body size that forage and nest in shrubby understorey or canopy vegetation. These birds have declined markedly in abundance and, in many cases; have become extinct in inner-western Sydney. They depend on the retention of larger, contiguous tracts of quality forest and woodland much of which is now confined to national parks and reserves in the northern and outer southern suburbs (see, for example, Morris 1995; InSight Ecology 2012). Remarkable exceptions exist however, such as a small isolated population of Eastern Yellow Robin at Duck River Reserve, South Granville, approximately 10 km west of Canada Bay (InSight Ecology 2006).

The preservation of small but highly significant tracts of Sydney turpentine-ironbark forest at Yaralla Estate and Rivendell CAF Unit and mangrove forest at Bicentennial Park east provide the last key stands of remnant indigenous habitat for these bush birds in the study area (see Section 3.3). Species recorded in very low numbers and exclusively in these remnants during the study were Mangrove Gerygone, Yellow Thornbill, Golden Whistler, Spotted Pardalote (migratory/seasonally nomadic), Striated Pardalote (sedentary), Eastern Spinebill (autumn-winter visitor, dispersive), Yellow-faced Honeyeater, Rufous Fantail (migratory), Grey Fantail (part sedentary/migratory or dispersive), Spangled Drongo (migratory), Dollarbird (migratory), Mistletoebird and Red-browed Finch (Plates 7-13).

Plates 1-6: Some of the most abundant bird species recorded during the study (from left to right in each row) - Rainbow Lorikeet (Andy Doldissen); Noisy Miner with recent fledgling (Andy Doldissen); mangroves night roost site for Common Myna at Halliday Park (InSight Ecology); introduced Common Myna (abc.net.au); Little Corella at Massey Park Golf Course (InSight Ecology); part of a large mixed foraging flock of Little Corella and Long-billed Corella at Massey Park Golf Course, 7 April 2014 (InSight Ecology).



Plates 7-13: Some of the least abundant bird species recorded during the study (from left to right in each row) - Mangrove Gerygone (note the white line from bill curving over reddish eye – a characteristic that helps to distinguish this tiny species from Brown Gerygone, flickr.com - Steve Happ); Yellow Thornbill (ibc.lynxeds.com, Lindsay Hansch); adult male Eastern Spinebill (Greg Clancy); adult male Golden Whistler (en.wikipedia.org & Aviceda); Rufous Fantail (Greg Clancy); Grey Fantail (en.wikipedia.org); Red-browed Finch at Yaralla Estate, 2 April 2014 (Andy Doldissen).



3.2 Bird species richness

A total of 84 bird species from 39 families were recorded during the survey in the study area (Appendix 1). This included 79 native species and 5 introduced species (see Plates 14-24 for examples of terrestrial species and Plates 25-31 for aquatic species). The latter were Rock Dove, Spotted Dove, Red-whiskered Bulbul, Common Starling and Common Myna. Most species recorded were terrestrial (60 species or 71% of all species surveyed) while 24 were aquatic. In spring, 67 species (62 native, 5 introduced) were recorded, including 48 terrestrial and 19

aquatic species. The autumn survey yielded slightly more species - 75 (70 native, 5 introduced) and comprised 52 terrestrial and 23 aquatic species. Species such as White-faced Heron, Australian White Ibis and Sacred Kingfisher were considered terrestrial as they utilised land-based habitats more than aquatic habitats, especially for nesting.

Bushland remnants accounted for 81.7% (49 out of 60) of all terrestrial bird species and 71.8% (28 out of 39) of all bird families recorded during the study. Patches of remnant STIF and old-growth mangrove forest at Yaralla Estate, Rivendell CAF Unit, Bicentennial Park east and Rhodes Park and Brays Bay Reserve provided key habitat for small native insectivorous and nectarivorous species, many of which have declined markedly or disappeared from inner-western Sydney (see Section 3.3). These included Mangrove Gerygone, Yellow Thornbill, Spotted Pardalote, Striated Pardalote, Eastern Spinebill, Yellow-faced Honeyeater, White-browed Scrubwren, Rufous Fantail, Grey Fantail and Golden Whistler. Two other honeyeater species – New Holland and White-cheeked – were recorded at Yaralla Estate and two nearby planted sites. Three other endemics and all warm season migrants to southern Australia – Spangled Drongo, Sacred Kingfisher and the hollow-nesting Dollarbird – occurred only at Yaralla Estate, Rivendell CAF Unit and Bicentennial Park east. The total number of species recorded in spring and autumn in bushland remnant sites was nearly identical – 37 and 38, respectively. Four of the five introduced bird species also occurred in these remnants – Red-whiskered Bulbul was recorded only at Yaralla Estate.

Revegetated parkland sites supported 46 species or 54.7% of all bird species and 56.4% (22) of all bird families recorded in the study. Several planted sites supported native insectivores, insectivores/nectarivores and granivores, some of which have declined in inner-western Sydney. These were Australian King-Parrot (recorded at Rhodes Park and Brays Bay Reserve, Cabarita Park), Eastern Rosella (Concord Golf Course, Concord High School), Superb Fairy-wren (Bicentennial Park east, Rider Boulevard, Mill Park, Rhodes Park and Brays Bay Reserve, Mill Park and Massey Park Golf Course), White-browed Scrubwren (Rhodes Park and Brays Bay Reserve, Bicentennial Park east), Yellow Thornbill (Bicentennial Park east), New Holland Honeyeater (Mill Park) and Noisy Friarbird (Cintra Park). More species were recorded at these sites in spring (40) than in autumn (33) and included 4 introduced species – Rock Dove, Spotted Dove, Common Starling and Common Myna.

Open parkland sites were populated by resilient species adapted to the rigours of urban living including frequent disturbance by humans and dogs and tight competition for resources from other birds and some mammals. Parks including Cintra, Five Dock, Drummoyne, Brett, Henry Lawson and Halliday, sporting fields – Timbrell Park, Five Dock oval and Cintra Park netball courts and golf courses – Barnwell Park, Massey Park and Concord - were their domain. A total of 29 species (34.5% of all bird species recorded in the study) from 18 families (46.1% of all bird families surveyed) occupied open parkland sites. The main species were Australian Wood Duck, the introduced Rock Dove, Spotted Dove, Common Starling and Common Myna, Crested Pigeon, Australian White Ibis, Long-billed Corella, Little Corella, Rainbow Lorikeet, the ubiquitous native Noisy Miner, Australian Magpie, Australian Raven, Magpie-lark and Welcome Swallow. Larger flocks of the latter species were recorded in autumn than in spring. More species were also recorded in autumn (27) than in spring (22) at these sites.

Urban neighbourhood sites were dominated by Noisy Miner and Rainbow Lorikeet – two native species favoured by the supply of year-round nectar and water in callistemon, paperbark and brush box street verge plantings and home gardens. Other urban species recorded frequently in

the study were Common Myna - including 32 birds at Coonong Road site on 1 April 2014. Spotted Dove, Rock Dove, Crested Pigeon, Welcome Swallow, Australian Magpie and Australian Raven. In terms of bird species richness, urban neighbourhood sites were the least diverse type of greenspace surveyed in the study, accounting for 22.6% (19 species) of all bird species. The number of bird species recorded in spring (15) was similar to autumn (16) and included three introduced species – Spotted Dove, Rock Dove and Common Myna.

Aquatic habitats supported the second most species-diverse avifauna surveyed in the study. A total of 40 bird species or 47.6% of all species surveyed were recorded in a mix of estuarine mudflats, beaches, natural rock exposures and artificial seawalls, open water, streams, stormwater canals and drains and dams. These habitats were surveyed at 16 sites in the study area - Bicentennial Park east, Rhodes Park and Brays Bay Reserve, Concord Golf Course, Barnwell Park Golf Course, Massey Park Golf Course, Halliday Park, Cintra Park, Cabarita Park, France Bay, Prince Edward Park, Figtree Bay Reserve, Sisters Bay, Half Moon Bay, Quarantine Reserve, Timbrell Park and Iron Cove's south-western foreshore. Frequently recorded aquatic bird species were Australian Wood Duck, Pacific Black Duck, Little Pied Cormorant, Great Cormorant, Pied Cormorant, Eurasian Coot, Black-winged Stilt, Bar-tailed Godwit and Silver Gull. A group of mostly terrestrial species foraged on or over mudflats and beaches at low tide – Masked Lapwing, Australian White Ibis, White-faced Heron, Crested Pigeon, Willie Wagtail, Australian Magpie, Australian Raven, Welcome Swallow and the introduced Common Starling, Common Myna, Rock Dove and Spotted Dove. Tidal ponds and a stormwater canal at Bicentennial Park east supported Grey Teal, Chestnut Teal, cormorants, White-faced Heron, Eastern Great Egret, Dusky Moorhen and Eurasian Coot. Tidal mudflats at France Bay, Prince Edward Park, Halliday Park and Henry Lawson Park were foraged over by Bar-tailed Godwit, Black-winged Stilt, Silver Gull and Eastern Great Egret. Slightly more species were recorded using aquatic habitats in autumn (34) than in spring (31).

Plates 14-24: Some **terrestrial** bird species recorded during the study (from left to right in each row) - Tawny Frogmouth at Yaralla Estate (Andy Doldissen); female Australasian Figbird in fruiting Hackberry *Celtis occidentalis* at Yaralla Estate (Andy Doldissen); introduced Red-whiskered Bulbul at Yaralla Estate; urban-adapted White-cheeked Honeyeater (birdlifephotography.org.au - Terry Evans); Yellow-faced Honeyeater (Fir0002/Flagstaffotos, en.wikipedia.org); New Holland Honeyeater (en.wikipedia.org and flickr.com - Louise Docker); White-plumed Honeyeater (Andy Doldissen); adult female (at Yaralla Estate - Andy Doldissen) and male (in planted *Themeda triandra* grassland at Brays Bay Reserve - Daniel Oldfield, inset - en.wikipedia.org) Superb Fairy-wren; White-browed Scrubwren female (InSight Ecology, inset: male - G. Clancy); Red-rumped Parrot male (birdsinbackyards.net, K. Vang & W. Dabrowka).





A total of 17 bird species were listed in the 2002-03 survey report as likely to occasionally occur in the LGA (City of Canada Bay 2003). Seven (7) of these were recorded during the 2013-14 study, mostly at Yaralla Estate. They included Nankeen Kestrel, Horsfield's Bronze-Cuckoo, Striated Pardalote, Mangrove Gerygone, Yellow-faced Honeyeater, Rufous Fantail and Olive-backed Oriole. Others are considered likely to be vagrants to the study area and mostly at Yaralla Estate, Rivendell CAF Unit and/or possibly Bicentennial Park east. They include Brown

Quail, Whistling Kite, Southern Boobook, Eastern Barn Owl, Australian Pied Oystercatcher, Sooty Oystercatcher, Rufous Whistler, Leaden Flycatcher, Restless Flycatcher and Tree Martin.

Plates 25-31: A selection of **aquatic** bird species recorded during the study (from left to right in each row) - White-faced Heron (Andy Doldissen); Bar-tailed Godwit (Andy Doldissen); Australasian Darter drying on a breakwall at Kings Bay opposite Barnwell Park Golf Course, 24 November 2013 (InSight Ecology); Royal Spoonbill foraging along Iron Cove's south-western foreshore opposite Timbrell Park, 20 November 2013 (Andy Doldissen); Little Black Cormorant (mature bird in breeding plumage) at Half Moon Bay, 20 November 2013 (Andy Doldissen); Little Pied Cormorant (Andy Doldissen); Black-winged Stilt (Andy Doldissen).



3.3 Bird habitats and their use

A diverse suite of habitats were utilised by birds in the study area. These were present in isolated patches of bushland remnant including STIF, swamp oak floodplain forest, mangrove forest and saltmarsh, planted parkland – mostly lineal strips or small blocks in parks, golf courses, schools and along drainage canals, open parkland – golf course greens and fairways, sporting fields, school grounds and passive recreation areas, urban neighbourhoods – street verges, home gardens and buildings (mostly houses), and aquatic habitats including tidal mudflats, beaches in bays and along Parramatta River, natural rock exposures along foreshores, artificial rockwalls, open water, stormwater drains and canals, jetties, streams and dams.

3.3.1 Bushland remnant habitats

Bushland remnants in the study area are confined to two peninsulas of public land – Yaralla, comprising remnants of the original “Yaralla Bush”, and Rivendell CAF Unit site – one small and highly isolated STIF remnant at Queen Elizabeth Park, Concord, six bays supporting mangrove forest – Homebush, Brays, Yaralla, Majors, Sisters and Half Moon, and small pockets of saltmarsh at Bicentennial Park east, Rivendell CAF Unit, Yaralla Estate, Prince Edward Park and Iron Cove’s south-western foreshore. These remnants provided foraging, roosting, shelter/refuge and breeding habitat for a suite of indigenous resident and migratory bird species, many of which have declined markedly or have gone extinct from inner-western Sydney.

Isolated individual STIF and swamp oak floodplain forest remnant trees also provided food, shelter and, in some cases, nesting sites for birds and other fauna. STIF isolates occurred at Rhodes Park, Concord Golf Course, Mortlake Public School, Five Dock Park and Russell Lea Infants School. Swamp oak floodplain forest isolates occupied the Bicentennial Park east, Quarantine Reserve, Rhodes Park, Prince Edward Park and Sisters Bay sites. Other small and isolated patches of mangrove forest that provided important bird habitat survive at Kendall Bay, Halliday Park, Exile Bay, Quarantine Reserve, and along the Iron Cove south-western foreshore between Timbrell Park and Rodd Point.

Habitat and microhabitat types that occurred in bushland remnant sites and the main bird species that utilised them included (Plates 32-46):

- Airspace above remnants, used by birds to forage for insects and perform courtship displays - Welcome Swallow, Black-faced Cuckoo-shrike and Dollarbird;
- Canopy and shrub foliage and flowers, branches, trunks and bark providing insects, nectar, seed, fruit and exudates and nest, roost and refuge sites – Crested Pigeon, Tawny Frogmouth, Sulphur-crested Cockatoo, Rainbow Lorikeet, Musk Lorikeet, Australian King-Parrot, Channel-billed Cuckoo, Laughing Kookaburra, Sacred Kingfisher, Superb Fairy-wren, White-browed Scrubwren, Mangrove Gerygone, Yellow Thornbill, Striated Pardalote, Yellow-faced Honeyeater, Noisy Miner, Red Wattlebird, Australasian Figbird, Grey Butcherbird, Pied Currawong, Grey Fantail, Australian Raven, Silvereye, Welcome Swallow and Red-whiskered Bulbul;
- Tree hollows including branches and trunks and standing dead trees (stags), used as observation and rest perches, roosts and nest sites – Pied Cormorant, Rainbow Lorikeet, Musk Lorikeet, Australian King-Parrot, Eastern Rosella, Laughing Kookaburra (in tree termite nests), Sacred Kingfisher (tree termite nester), Dollarbird, Striated Pardalote, Grey Butcherbird, Pied Currawong, Australian Raven and Welcome Swallow;

- Ground cover shrubs, grasses, sedges and herbs providing insects, nectar, seed, fruit and exudates and cover/refuge and nest sites – White-faced Heron, Australian White Ibis, Galah, Eastern Rosella, Superb Fairy-wren, White-browed Scrubwren, Noisy Miner, Willie Wagtail, Australian Raven, Magpie-lark, Common Myna and Red-browed Finch;
- Earthen banks, bare ground and exposed muddy sites – Spotted Pardalote (nest burrows in earthen banks), Magpie-lark and Welcome Swallow (mud-nesters);
- Fallen logs, rocks, seeds, fruits, insects, bark, soil and leaf litter – food and cover for small ground-foraging insectivores – White-browed Scrubwren and Superb Fairy-wren and potentially, the granivorous Brown Quail;
- Small water bodies within remnants including pools and wetland fringes around saltmarsh and mangroves - White-faced Heron, Australian White Ibis, Sacred Kingfisher, Magpie-lark and Australian Raven.

Plates 32-46: Examples of bushland remnant habitats and their avifauna recorded in the study (from left to right in each row, all uncredited photographs by InSight Ecology) - Tawny Frogmouth perched on an old Turpentine trunk in STIF remnant at Queen Elizabeth Park, 8.25 pm, 9 April 2014 (enhanced by Andy Doldissen); multi-stemmed remnant Turpentine at Queen Elizabeth Park; remnant White Stringybark at Queen Elizabeth Park; remnant Blackbutt with hollows and shrubby understorey at Rivendell CAF Unit; remnant Grey Ironbark-Grey Gum-Rough-barked Apple stand at Rivendell CAF Unit; remnant Grey Ironbark *Eucalyptus paniculata* at Rivendell CAF Unit; Australian King-Parrot in remnant acacia shrub layer at Yaralla Estate; Rainbow Lorikeets inspecting a potential nest hollow in old-growth mangrove forest at Rivendell CAF Unit; single remnant Grey Ironbark with small hollow at Concord Golf Course; lantana patch in STIF remnant at Yaralla Estate showing White-browed Scrubwren (inset - Neil Fifer, birdforum.net); fallen log microhabitat in STIF, Yaralla Estate; sandstone rock overhang microhabitat, Sisters Bay; Australasian Darter perched in old mangrove forest at Rivendell CAF Unit; remnant mangrove forest at Bicentennial Park east; a patch of remnant saltmarsh at Yaralla Estate.





3.3.2 Revegetated parkland habitats

There was considerable variation in the type, quality and quantity of fauna habitat present at revegetated parkland sites in the study area. This reflected differences in the age, areal extent, structural complexity, floristic composition and spatial configuration of planted vegetation present at surveyed sites. Older plantings (10-30+ year-old) comprising ground, shrub and canopy layers typically provided more potential foraging, roost/refuge and nest sites for birds than did younger revegetation. These older sites occurred at Brays Bay Reserve and Rhodes Park, Bicentennial Park east and Cabarita Park. Older block and wider (20 m+) lineal plantings offered a broader range of habitats and microhabitats for birds in the study area, especially small insectivorous passerines. These included more layers of vegetation and thus a greater selection of perches, foraging microhabitat such as decorticated bark, leaf rolls and fallen debris, and a wider diversity of suitable nest sites.

In contrast, younger (ca. 3-8 year-old) indigenous plantings comprised fewer foraging, roosting and breeding opportunities, often consisting of only one canopy layer and some ground cover such as clumps of *Lomandra longifolia*. They occurred at Rider Boulevard, Mill Park, Cintra Park, Henry Lawson Park and Brett Park. The strategic location of plantings to provide a degree of

habitat connectivity along riparian zones and roads and enhance remnant size enabled some cover-dependent species such as Superb Fairy-wren, White-browed Scrubwren and Yellow Thornbill to move between previously disjunct parts of their ranges. This was more evident at Brays Bay Reserve and Rhodes Park, Bicentennial Park east and Rider Boulevard and, potentially, Cintra Park and Figtree Bay Reserve. Two block plantings of lomandra and kangaroo grass at Massey Park Golf Course and Brays Bay Reserve provided foraging habitat for Superb Fairy-wren and White-browed Scrubwren (Brays Bay Reserve only). A planting of *Lomandra longifolia* and exotic Fountain Grass (*Pennisetum* sp.) around a small dam at Concord Golf Course provided cover for Buff-banded Rail and Purple Swamphen. Tree hollows, stags and fallen decaying logs were generally rare or absent from revegetated parkland sites.

Habitat and microhabitat types that occurred in revegetated parkland sites and the main bird species that utilised them were (Plates 47-55):

- Airspace above revegetation, used by birds to forage for insects and perform courtship displays - Welcome Swallow and Black-faced Cuckoo-shrike;
- Canopy and shrub foliage and flowers, branches, trunks and bark providing insects, nectar, seed, fruit, exudates, roost and refuge sites and, in older planted sites, potential nest sites – Crested Pigeon, Tawny Frogmouth, Sulphur-crested Cockatoo, Long-billed Corella, Rainbow Lorikeet, Musk Lorikeet, Australian King-Parrot, Eastern Rosella, Eastern Koel, Channel-billed Cuckoo, Laughing Kookaburra, Sacred Kingfisher, Superb Fairy-wren, White-browed Scrubwren, Yellow Thornbill, White-plumed Honeyeater, Noisy Miner, Little Wattlebird, Red Wattlebird, White-cheeked Honeyeater, New Holland Honeyeater, Noisy Friarbird, Black-faced Cuckoo-shrike, Australasian Figbird, Grey Butcherbird, Australian Magpie, Pied Currawong, Australian Raven, Silvereeye, Welcome Swallow and Common Myna;
- Dead outer tree branches in older plantings, used mostly as observation and rest perches and roosts, and some hollows in older planted eucalypts – Little Black Cormorant, Pied Cormorant, Australian White Ibis, Galah, Little Corella, Long-billed Corella, Sulphur-crested Cockatoo, Rainbow Lorikeet, Musk Lorikeet, Eastern Rosella, Laughing Kookaburra, Sacred Kingfisher, Black-faced Cuckoo-shrike, Australasian Figbird, Grey Butcherbird, Pied Currawong, Australian Raven, Magpie-lark and Welcome Swallow;
- Ground cover shrubs, grasses, sedges and herbs providing insects, nectar, seed, fruit and exudates and refuge – White-faced Heron, Australian White Ibis, Buff-banded Rail, Superb Fairy-wren, White-browed Scrubwren, Australian Magpie, Willie Wagtail, Australian Raven, Magpie-lark and Common Myna;
- Earthen banks and exposed muddy sites – Magpie-lark and Welcome Swallow collect mud for nest material;
- Fallen branches, insects, seeds, fruits, bark, soil and leaf litter, especially in older plantings – food and cover habitat for small ground-foraging insectivores – White-browed Scrubwren and Superb Fairy-wren and, potentially, the granivorous Brown Quail;
- Bare ground and weedy open areas within and beside revegetation, foraged in by four exotic species - Spotted Dove, Rock Dove, Common Starling and Common Myna, Crested Pigeon, Australian White Ibis, Galah, Little Corella, Laughing Kookaburra, Noisy Miner, Australian Magpie, Willie Wagtail and Australian Raven;
- Artificial water features within planted areas, e.g. a water feature at Kokoda Track Memorial Walkway, Rhodes Park – White-faced Heron, Australian White Ibis, Laughing

Kookaburra, Sacred Kingfisher, Noisy Miner, Red Wattlebird, Australian Magpie, Magpie-lark and Willie Wagtail.

Plates 47-55: Examples of revegetated parkland habitats utilised by birds in the study (from left to right in each row, all uncredited photographs by InSight Ecology) – block plantings of *Themeda triandra*, *Lomandra longifolia* and *Imperata cylindrica* at Brays Bay Reserve; *Lomandra longifolia* swards with lillypilly and acacia along pedestrian path at Brays Bay Reserve; Red Wattlebird feeding on nectar in planted callistemon, Rider Boulevard; Buff-banded Rail foraged among planted lomandra and grasses, Concord Golf Course, 3 April 2014 (Cathy Merchant - image taken Field of Mars Reserve, 10/6/12); Musk Lorikeet fed in flowering planted Brush Box, Russell Lea Infants School, 20/11/13; Tawny Frogmouth at day roost in planted Brush Box, Quarantine Reserve, 22/11/13; Little Corella (above) and Long-billed Corella (below) in planted fig, Massey Park Golf Course, 7 April 2014; pair of Sulphur-crested Cockatoo inspecting a potential nest hollow in old planted Grey Gum, Abbotsford Public School, 6 April 2014.





3.3.3 Open parkland habitats

Open parkland habitats were structurally simpler than their revegetated counterparts. They included airspace, grassed open areas – usually sporting fields, golf courses and passive recreation sites, built structures within open parkland such as playgrounds, picnic amenities and tall wire netting screens at golf courses, and isolated individual or single rows of planted trees often along paths, drainage lines or between fairways. These habitats occurred at 7 parks – Cintra, Five Dock, Halliday, Henry Lawson, Brett, Drummoyne and Timbrell – and 3 golf courses – Concord, Massey Park and Barnwell Park – in the study area. Birds that used these habitats were a mix of native and introduced species able to forage, roost, shelter and/or successfully breed in these more open environments, relatively resilient to frequent disturbance by humans, dogs, golf buggies and ground maintenance vehicles (Plates 56-61).

Plates 56-61: Typical open parkland habitats used by birds in the study (from left to right in each row, all photographs by InSight Ecology) – Australian Wood Duck foraged and bred at Concord Golf Course – Plate 57 shows a family group walking across a sand trap; Eurasian Coot foraged in small groups on fairways near a large dam in the northwest part of Concord Golf Course (both plates); Eastern Rosella at Massey Park Golf Course, 7 April 2014; White-faced Heron foraging on a fairway above a sand trap at Concord Golf Course, 3 April 2014.





Aerial insectivores – Welcome Swallow and occasionally Black-faced Cuckoo-shrike – foraged in airspace over parks and golf courses. Larger flocks of Welcome Swallow were recorded in autumn – 30 birds at Cintra Park and 28 at Timbrell Park – than in spring when small groups of 2-7 birds were commonly encountered.

Grassed open areas particularly ovals and golf course fairways, greens and the ‘rough’ between fairways (‘inter-fairways’) were the domain of native cockatoos and parrots. Four species of cockatoo foraged for corms (tubers) on golf course fairways and greens and/or fed on the fruit of planted elms, figs and some eucalypts in the inter-fairways. These were Little Corella, Long-billed Corella, Sulphur-crested Cockatoo and Galah. A large flock of 151 Little Corella was recorded foraging for the corms of fairway grasses at Massey Park Golf Course on 7 April 2014 – the same flock observed at this site on several occasions prior to the study (G. Duggan pers. comm.). A small group (7) of Long-billed Corella was observed on putting greens and tee-off sites digging for the tubers of fine turf grass species at Massey Park Golf Course on 7 April 2014. A group of 9 Sulphur-crested Cockatoo fed on exotic elm fruit and the new bark of planted oleander shrubs along the edge of a fairway at this golf course also on 7 April 2014. Galah was recorded as small groups - 6 birds at Cintra Park on 24 November 2013 and 4 birds each in spring and autumn at Concord Golf Course.

Two parrot species - Eastern Rosella and Red-rumped Parrot - were recorded in low numbers in the study. Queen Elizabeth Park, Concord Golf Course and Massey Park Golf Course were the only open parkland sites where Eastern Rosella was recorded during the study. This species has been previously recorded as a resident at Queen Elizabeth Park, for example, in August 2009 and May, August and October 2010 (bushland regeneration reports by Toolijooa Pty. Ltd.). Only one Red-rumped Parrot was detected during the surveys, an adult male at Cintra Park at 0810

hours on 6 April 2014. However, in the afternoon of that day (at ca. 1300 hours), two females and one male Red-rumped Parrot were observed at Massey Park Golf Course on the seawall fronting Exile Bay (G. Duggan pers. comm.). Other recent records exist for this species from the grassy verge of Massey Park Golf Course along Exile Bay and in a small patch of swamp oak floodplain forest at nearby Prince Edward Park, e.g. 2-3 birds on 4 February 2012 (M. Falkenmire pers. comm.). Dion Hobcroft who conducted the 2002-2003 fauna study also noted Red-rumped Parrot and Eastern Rosella occurring at Cintra Park, Barnwell Park Golf Course and Massey Park Golf Course (City of Canada Bay 2003). In addition, John Harding, a former local bird observer, recorded Red-rumped Parrot at Yaralla Estate on 9 September 2008.

A suite of other species foraged, roosted or nested in open mown grassed areas and their unmown or less-mown verges. These were Australian Wood Duck, Rock Dove, Spotted Dove, Crested Pigeon, Australian White Ibis, Eurasian Coot, Masked Lapwing, Silver Gull, Laughing Kookaburra, Noisy Miner, Grey Butcherbird, Australian Magpie, Willie Wagtail, Australian Raven, Magpie-lark, Common Starling and Common Myna. Exotic species – Rock Dove, Spotted Dove and Common Myna – were more common in parks near built-up commercial areas such as Five Dock Park, Cintra Park and Drummoyne Park. A breeding population of Australian Wood Duck foraged across greens and fairways at Massey Park Golf Course (22 birds), Concord Golf Course (32-45 birds), into the adjacent Strathfield North Public School (4 birds), and at Barnwell Park Golf Course (5 birds). Part of a breeding population of Eurasian Coot (15 out of 40 birds) foraged across a fairway below a large dam on Concord Golf Course in autumn. One Nankeen Kestrel was detected foraging above the oval at Five Dock Park on 5 April 2014.

Built structures within open parkland such as playgrounds, picnic amenities and tall wire netting screens at golf courses were also used by some avifauna. These were Little Corella – 52 birds perched on a tall wire screen at Barnwell Park Golf Course adjacent to Lyons Road West (25 November 2013), Australian White Ibis – on buildings at Strathfield North Public School, Crested Pigeon, Silver Gull, Sulphur-crested Cockatoo, Laughing Kookaburra, Noisy Miner, Australian Magpie, Willie Wagtail, Australian Raven, Magpie-lark, Welcome Swallow and Common Myna.

3.3.4 Urban neighbourhood habitats

Urban neighbourhood sites offered a range of different habitats for birds to forage in, perch, roost and, in some cases, breed. These habitats included sealed surfaces - roads, streets, gutters, footpaths, mown and vegetated street verges - with Brush Box *Lophostemon confertus* (5-16 m tall and often multi-coppiced from regular pruning), Broad-leaved Paperbark *Melaleuca quinquenervia* and Crimson Bottlebrush *Callistemon citrinus* as the most common native street verge plantings, urban structures - houses, fences, roof-mounted antennae, powerlines and streetlight poles, and home gardens (Plates 62-69). The latter featured a mix of introduced and native shrubs with dense foliage and nectar-rich flowers to 3 m tall and often as hedges, e.g. oleander, English box *Buxus sempervirens*, gardenia, Orange Jessamine *Murraya paniculata*, privet, camellia, hibiscus, magnolia, *Photinia robusta*, rose, Bird of Paradise *Strelitzia reginae*, grevillea, melaleuca and tea-tree and trees such as eucalypts, paperbarks, *Acmena* and *Syzygium* species (lilly pillies), she-oak, fig, Silky Oak *Grevillea robusta*, jacaranda, poplar, date palm, cypress, maple and liquidambar to 30 m tall in the front and rear yards of homes. Old planted and possibly individual remnant eucalypts occurred in the rear yards of Coonong Road urban neighbourhood site at Concord West. Other urban neighbourhood sites surveyed in the

study were Empire Avenue at Concord West, Edenholme Road at Russell Lea, and Noble Street at Five Dock.

Plates 62-69: Some urban neighbourhood habitats utilised by birds in the study (from left to right in each row, all uncredited photographs by InSight Ecology) – pruning of Brush Box street trees under powerlines along Arthur Street, Five Dock provided foliage as nest sites for Noisy Miner (Plate 62); Noisy Miner nestlings being fed by an adult in an eucalypt planted in a street verge (Plate 63); *Callistemon citrinus* produced copious nectar supplies for the ubiquitous Noisy Miner in a verge along Mons Street, Russell Lea (Plates 64-66); Superb Fairy-wrens were detected foraging and calling in an overgrown mixed exotic species hedge in the front yard of a property on Coonong Road (Plates 67-68); adult male Superb Fairy-wren (Plate 69 - David Cook, flickr.com).



Birds of urban neighbourhoods were the hardiest and most versatile avifauna of the study area, able to exploit foraging and nesting opportunities provided by humans and their infrastructure. They included a cohort of resident and migratory species that are common in other Sydney

suburbs (see InSight Ecology 2006, 2008, 2012). These were introduced and native ground granivores - Rock Dove, Spotted Dove, Crested Pigeon, Galah, Little Corella and Sulphur-crested Cockatoo, nectarivores – Rainbow Lorikeet and Musk Lorikeet, a migratory nest parasite Eastern Koel, an aerial insectivore – Welcome Swallow, two ground insectivores - Superb Fairy-wren and Australian Magpie, nectarivores/insectivores – White-plumed Honeyeater, Noisy Miner and Red Wattlebird, a frugivore Australasian Figbird, a carnivore Grey Butcherbird, and three omnivores – Common Myna, Australian Raven and Pied Currawong. The latter two species are notorious predators of the nestlings of bush birds. Pied Currawong has been implicated in the decline of small bush birds in Sydney (see, e.g., Major et al. 1996). Supplementary feeding by residents may help account for the presence of Grey Butcherbird at some of these sites.

Small populations of Superb Fairy-wren including adults and young birds were recorded in densely planted hedges and other home garden vegetation at the Coonong Road site and at other locations in Concord West, Concord, Rhodes, Cabarita and Canada Bay (see Records 413-429, Appendix 1). One group was detected calling in frontyard shrubs of a home near the intersection of Myall Street and Nullawarra Avenue opposite Yaralla Estate on 26 November 2013. Presumably these birds had flown across Nullawarra Avenue from habitat on Yaralla Estate where three fairy-wren groups were recorded in the spring and autumn surveys. One group of 2 adult males and 2 adult females were detected in densely planted and pruned hedges - 1.6 m tall *Acmena* sp., 1.3 m tall *Buxus sempervirens* and 1.5 m tall *Photinia robusta* - at Cape Cabarita residential complex on 23 November 2013. Other Superb Fairy-wren populations were recorded in similar hedgerows in modern residential apartments abutting the north-east corner of Massey Park Golf Course. They have also been reported from “The Anchorage”, part of a recent residential development at Breakfast Point, adjoining Cabarita Park (G. Duggan pers. comm.). These hedges provided important protection - especially from predators and the aggressive Noisy Miner – insect prey and most likely nest sites for fairy-wrens.

3.3.5 Aquatic habitats

The City of Canada Bay’s extensive foreshores and catchment provided a suite of natural and artificial habitats for aquatic and terrestrial/aquatic bird species and other fauna. The foreshores provide the most valuable migratory shorebird habitat along Parramatta River estuary. Habitats included open water, tidal mudflats, sandy beaches, natural rock platforms and escarpments, jetties, marinas, boats, artificial seawalls, gross pollutant traps and booms, stormwater canals and drains, fences and dams (Plates 70-77). Birds that foraged in or over, perched and or dried on, and sometimes nested in these habitats were a diverse mix of resident, dispersive/nomadic and migratory species. They included:

- Four duck species – Australian Wood Duck, Grey Teal, Chestnut Teal and Pacific Black Duck; Pacific Black Duck and Australian Wood Duck foraged and rested along the banks of dams on Concord Golf Course and in small drainage lines at Massey Park Golf Course; both teal species foraged and roosted in two enclosed ponds and a mangrove wetland at Bicentennial Park east - Chestnut Teal also rested on rocks and bathed in small rock pools at Sisters Bay;
- Open water diving birds – Australasian Grebe, Australasian Darter and four species of cormorant; Australasian Grebe (1-4 birds) foraged on two dams at Concord Golf Course; an Australasian Darter foraged in Iron Cove near the outlet of Iron Cove Creek and possibly the same bird dried on the Kings Bay breakwall opposite Barnwell Park Golf

Course and on a private jetty at the “Cape Cabarita” residential complex; Little Black Cormorant was observed ‘corralling’ fish into Canada Bay and Exile Bay by working as a ‘team’ of 90-100 birds (M. Falkenmire and G. Duggan pers. comm.), drying in a large flock - possibly the same group - on rocks at Rodd Island in September 2012 (A. Doldissen pers. comm.), and foraging in smaller numbers during the current study; Little Pied Cormorant and Pied Cormorant were recorded foraging in open water at several sites around the foreshores and in canals; Great Cormorant foraged as single birds in open water off Halliday Park and Figtree Bay Reserve and flew in 3 flocks totalling 56 birds south along Powells Creek from night roosts in Bicentennial Park’s Waterbird Refuge;

- Two large species that foraged by moving through open water and reaching below the water surface to scoop or snatch fish and other prey (Australian Pelican) or grazing algae and aquatic vegetation up to one metre under water (Black Swan);
- Herons and egrets foraged on fish and other prey along tidal mudflats and in the shallow waters of bays and estuaries; Striated Heron (2-3 individual birds) ambushed small fish and other prey by stalking them along the water’s edge at Half Moon Bay, Sisters Bay, Prince Edward Park and Brays Bay Reserve; White-faced Heron foraged as single birds on mudflats at low tide, in a wetland at Bicentennial Park east and around dams at Concord Golf Course; a flock of 25 Little Egret was detected in open water off Prince Edward Park on 4 April 2014; Eastern Great Egret as single birds in a wetland at Bicentennial Park east, along Yaralla Estate’s foreshore and in the shallow water of tidal mudflats at Halliday Park;
- Australian White Ibis foraged along tidal mudflats, natural rock exposures along foreshores, beaches, stormwater canals at Cintra Park and Iron Cove Creek and wetlands at several sites across the study area; a lone Royal Spoonbill sifted foreshore mud for invertebrate prey in the intertidal zone at Iron Cove’s south-western foreshore near Timbrell Park;
- Dusky Moorhen, Eurasian Coot and a lone Purple Swamphen foraged on and around dams at Concord Golf Course; a pair of Dusky Moorhen foraged with 3 new fledglings along a drainage line off Homebush Bay Drive at Bicentennial Park east on 28 November 2013;
- Two wading shorebirds – the seasonally dispersive or nomadic Black-winged Stilt (1-4 birds) and the intercontinental seasonal migrant Bar-tailed Godwit (groups of 10-18 birds) – foraged on tidal mudflats at Halliday Park, France Bay, Henry Lawson Park and Prince Edward Park during both surveys; a flock of 31 Bar-tailed Godwit was observed foraging on the France Bay mudflats earlier in the afternoon of the 23 November 2013 survey at that site (G. Duggan pers. comm.) and had also been observed at Exile Bay mudflats (M. Falkenmire pers. comm.);
- Two White-bellied Sea-Eagle foraged over the open water of Homebush Bay opposite Rider Boulevard site on 1 April 2014;
- Other species were Masked Lapwing, Crested Tern - foraged as single birds over open water at France Bay, Half Moon Bay, Halliday Park and Prince Edward Park - and Silver Gull while several terrestrial species also foraged in or perched/rested on aquatic habitat – Galah, Long-billed Corella, Sacred Kingfisher, Australian Magpie, Willie Wagtail, Australian Raven, Magpie-lark, Welcome Swallow, Common Starling and Common Myna.

Plates 70-77: A selection of aquatic habitats and their avifauna in the study area (from left to right in each row, uncredited photographs by InSight Ecology) – flock of ca. 60 Bar-tailed Godwit at a high tide rock platform roost at Prince Edward Park (M. Falkenmire, 12/03/12); Bar-tailed Godwit - on Exile Bay mudflats (M. Falkenmire, 13/11/06) and foraging in shallow water (M. Falkenmire, 14/01/07); Black-winged Stilt foraging in the shallows at Prince Edward Park (M. Falkenmire, 13/11/06); jetties and boats provided high tide roost sites for aquatic birds – the endangered (in NSW) Australian Pied Oystercatcher used this jetty (M. Falkenmire, 1/09/12); Halliday Park, a key shorebird low tide foraging and high tide roosting site; Eastern Great Egret foraged in the shallows at Halliday Park; a flock of 100+ Little Black Cormorant on a high tide rocky roost at Iron Cove, June 2008 (Andy Doldissen).





3.4 Other fauna

Other vertebrate fauna species were recorded opportunistically during the avifaunal surveys. These included arboreal native mammals, introduced mammals, the vulnerable (in NSW) Grey-headed Flying-fox *Pteropus poliocephalus* and some reptilian, amphibian and crustacean species. A native nocturnal and amphibious mammal previously reported from the study area – Rakali (formerly called Water-rat *Hydromys chrysogaster*) – was not detected during the study but is likely to occur in City of Canada Bay LGA. Several of these species, although not Rakali, were recorded during the 2002-03 baseline fauna study (City of Canada Bay 2003).

An arboreal marsupial, Common Ringtail Possum (Plate 78), was recorded at several sites in the study area. A small population was detected at Cintra Park where there have been releases of rehabilitated animals by local WIRES carers. Active dreys or spherical nests where ringtail possums spend their time during the day occurred in swamp oak and paperbark plantings along the canal (Plate 79). Dreys can also be built in hollow tree branches. Artificial nest boxes were also emplaced along the canal in planted swamp oak and eucalypts – some were occupied. Other active dreys were found at Bicentennial Park east including in planted swamp she-oak along the western edge of Homebush Bay Drive, Rivendell CAF Unit, Yaralla Estate, Concord Golf Course, Sisters Bay and along Henley Marine Drive south of Half Moon Bay. One animal was spotlighted leaving a small hollow section of a remnant White Stringybark *Eucalyptus globoidea* at Queen Elizabeth Park at 8.50 pm on 9 April 2014.

The Common Brushtail Possum was recorded as individual animals and/or active dreys at Bicentennial Park east, Rhodes Park and Brays Bay Reserve, Yaralla Estate, Rivendell CAF Unit, Cabarita Park, Concord Golf Course, Strathfield North Public School, Massey Park Golf Course, Queen Elizabeth Park, Concord High School, Quarantine Reserve, Russell Lea Infants School, Brett Park and Sisters Bay. A population of 6 animals foraged in a swamp she-oak forest remnant at Quarantine Reserve and in the home gardens of adjacent properties (Plates 80-81).

Plates 78 and 79: Common Ringtail Possum requires trees for constructing nests or dreys in, shrub cover and habitat corridors or ‘stepping stones’ to aid movement, although they are adaptable in urban landscapes. They feed on the leaves, flowers and fruit of native and exotic trees and shrubs. The drey shown was active and built in planted swamp she-oak at Cintra Park (both images by InSight Ecology).



Plates 80 and 81: A family group of 6 Common Brushtail Possum were recorded in remnant swamp oak floodplain forest at Quarantine Reserve during a spotlight survey on 8 April 2014. An adult male with a prominent scent gland on its chest is shown at left (Andy Doldissen) while the trees where these animals foraged are shown to the right (InSight Ecology).



The indigenous amphibious mammal, Rakali (Plates 82-86), has been reported from Sisters Bay since 1996 (A. Doldissen pers. comm.), Bicentennial Park (J. Harrington pers. comm.), Yaralla Estate (A. Doldissen pers. comm.), Cabarita foreshore (G. Duggan pers. comm.) and Rodd Point/Iron Cove (L. Hockley pers. comm.; City of Canada Bay 2003). Some residents living along the Cabarita foreshore within the Cape Cabarita complex reported seeing Rakali over the past 10-15 years. Two residents, Chris and Vicki Odman, last sighted a Rakali on their backyard pavers over 2 years ago which retreated to the water via an artificial rockwall when disturbed. A pre-dawn survey at Half Moon Bay on 10 April 2014 failed to detect Rakali although Andy Doldissen provided photographs of suspected Rakali tracks taken at low tide in the early morning on 3 June 2008 at the end of Thompsons Street, Half Moon Bay (Plate 84). Rakali are also known to live along the northern banks of Parramatta River between the Greenwich and Waverton peninsulas and along Lane Cove River (G. Strid and A. Duffy pers. comm.). Rakali construct burrows in stream banks and forage for aquatic worms, large insects, fish, mussels and other shellfish, crustaceans, frogs and birds. They carry shellfish, crabs and other prey to feeding platforms on stream banks, rocks and even the lawns of waterfront homes (L. Hockley pers. comm.), consume them and often leave the empty shells and crab carapaces behind as distinctive middens. Rakali are cryptic and require targeted systematic surveys to confirm their presence, population structure and viability, reproductive status and movement patterns (see recommendations in Section 4).

Grey-headed Flying-fox foraged as individuals and in small groups (10-50) in large figs, flowering paperbarks, eucalypts and planted bottlebrush at Concord Golf Course, Bicentennial Park east, Yaralla Estate, Rivendell CAF Unit, Brays Bay Reserve, Massey Park Golf Course, Queen Elizabeth Park, Quarantine Reserve, Five Dock Park, Timbrell Park and Drummoyne Park. An electrocuted individual was found on powerlines at the Noble Street urban neighbourhood site in Five Dock. No camps were found in the LGA. Seven species of microbat were recorded in Bicentennial Park, Major's Bay Reserve and Concord Golf Course (City of Canada Bay 2003).

Plates 82-86: Rakali is one of only two amphibious native Australian mammals (the other being Platypus) and has partially webbed hind feet for swimming and thick, water repelling fur (from left to right in each row) – adult eating a marine worm (hicub.org.au); an adult Rakali showing the white-tipped tail (Inga.Simpson.com.au); suspected Rakali tracks in sand on low tide at Half Moon Bay, June 2008 (Andy Doldissen); suitable Rakali habitat at the Half Moon Bay site where suspected Rakali tracks were photographed (Andy Doldissen, 10 April 2014); Rakali swimming (Ben McGruer, keys.lucidcentral.org).



Five species of introduced mammal were recorded during the study. These included European Brown Hare *Lepus europaeus*, European Red Fox *Vulpes vulpes*, Cat *Felis catus*, House Mouse *Mus musculus* and Black Rat *Rattus rattus*. A hare was detected at Bicentennial Park east. Fox was not detected during the study but 2-3 individuals are known to live around Yaralla Estate and 1-2 animals have been reported at Massey Park Golf Course and Cabarita Park (R. Stevenson pers. comm.). Recent fox scats were found along the Rivendell and Yaralla foreshores. Reports of individual foxes also exist for Concord Golf Course. The 2002-03 survey found single healthy individual foxes at Yaralla Estate, the adjoining Arthur Walker Reserve and at the now re-developed Walker Street Rhodes site, with reports from Concord Golf Course and adjoining LGAs (City of Canada Bay 2003).

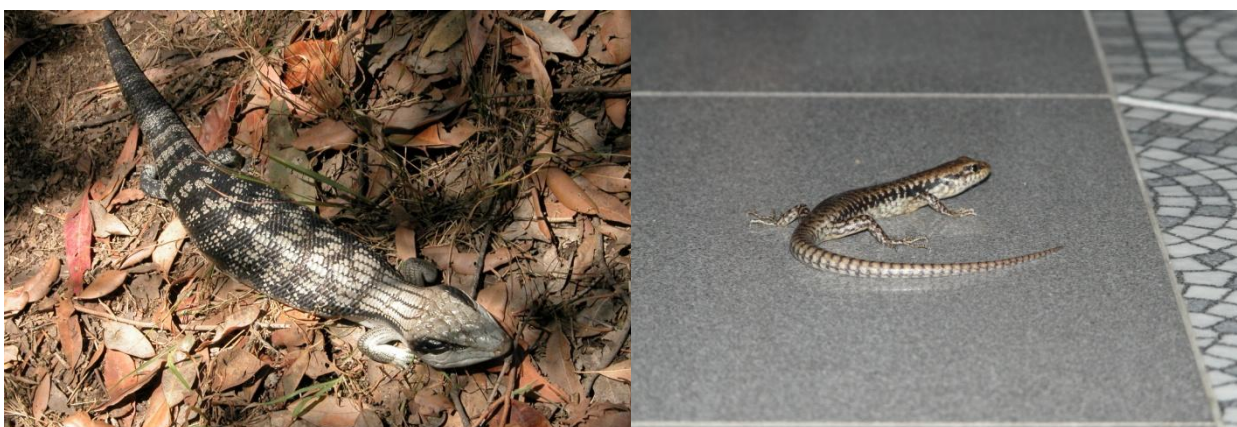
Domestic and feral cats were encountered at several sites, usually during early morning, late afternoon or evening (spotlight) bird survey sessions. They included two feral cats at Yaralla Estate, one at Rivendell CAF Unit and one at Bicentennial Park east. Domestic cats were sighted as single individuals at Yaralla Estate, Bicentennial Park east, Cabarita Park, all urban neighbourhood sites, Queen Elizabeth Park, Concord Golf Course - in planted lomandra and fountain grass around a small dam during an evening session on 7 April 2014, Cintra Park, Five Dock Park, Timbrell Park, Drummoyne Public School and in a street stormwater pipe under Henley Marine Drive at Half Moon Bay. Indirect evidence of cat presence in the form of recent scats and territory marking by urine was recorded at most sites, with heavy territory marking noted at Cintra Park, Mill Park, Drummoyne Public School, Russell Lea Infants School, Brett Park and Timbrell Park.

House Mouse and Black Rat were not recorded during the current study but commonly occur throughout the LGA (City of Canada Bay 2003). The introduced Brown Rat *R. norvegicus* was recorded at Rodd Point during the 2002-03 survey (City of Canada Bay 2003) but not detected during the current study. The European Rabbit *Oryctolagus cuniculus* was detected as a single individual at Bicentennial Park east near the southern edge of the main billabong on 1 April 2014 but was not recorded during the 2002-03 survey. Rabbit absence is often related to fox presence and effective control programs.

The reptilian fauna of the study area comprised at least seven skink and one dragon species. Both were detected during diurnal bird surveys. Skinks included Eastern Blue-tongue Lizard *Tiliqua scincoides* – at Yaralla Estate (Plate 87), Figtree Bay Reserve (2-3 individuals – R. Pirotta pers. comm.) and Coonong Road urban neighbourhood site at Concord West (reported by a local resident), with historical records from Concord Golf Course (City of Canada Bay 2003), Garden Skink *Lampropholis quichenoti*, Delicate Skink *L. delicata*, Bar-sided Skink *Eulamprus tenuis* – at Figtree Bay Reserve (Plate 88), Eastern Water Skink *E. quoyii*, Fence Skink *Cryptoblepharus virgatus* and Robust Ctenotus *Ctenotus robustus*. Australian Water Dragon *Itellagama lesueurii* was recorded as single individuals at two sites in the study - an adult swimming across Powells Creek at Bicentennial Park east and another adult basking on rocks at Rhodes Park. The Eastern Bearded Dragon *Pogona barbata* was not detected in the study or in the 2002-03 work. It seems likely to have been extirpated from the LGA despite rare historical records from Bicentennial Park. No snakes were detected during the study although two species – Red-bellied Black Snake *Pseudechis porphyriacus* and Eastern Brown Snake *Pseudonaja textilis* – are now rare in Bicentennial Park (SOPA 2014a). The Eastern Long-necked Turtle *Chelodina longicollis* was not detected in the current study but is likely to still occur in dams at Concord Golf Course where it was recorded in the 2002-03 survey (City of Canada Bay 2003) and at Bicentennial Park (SOPA 2014a).

Amphibians were represented by at least 4 frog species which were recorded at Concord Golf Course after rain in the November 2013 survey, Rhodes Park, Yaralla Estate and Bicentennial Park east. These were Peron's Tree Frog *Litoria peronii* – also detected on the ground in an inter-fairway strip during spotlighting at Concord Golf Course on 7 April 2014, Bleating Tree Frog *L. dentata* called at Concord Golf Course and Bicentennial Park east, Striped Marsh Frog *Limnodynastes peronii* called in a STIF remnant at Yaralla Estate, and Common Eastern Froglet *Crinia signifera* at Rhodes Park and Yaralla Estate. These species were also recorded during the 2002-03 survey.

Plates 87 and 88 (left to right): Eastern Blue-tongue Lizard at Yaralla Estate (Andy Doldissen); Bar-sided Skink detected in a small rocky escarpment at Figtree Bay Reserve – photograph was taken on the floor of an adjoining house where this species often visited (Ron Pirotta).



3.5 Fauna of conservation significance

Despite its highly urbanised nature, the City of Canada Bay LGA provides habitat for a surprisingly diverse suite of conservation-significant native fauna species, populations and communities. This reflects the type and amount of remnant and rehabilitated river foreshore habitat present, proximity to a likely source area for threatened and declining species – the remnant turpentine-ironbark, swamp oak and mangrove forests, saltmarsh and estuarine wetlands of Sydney Olympic Park, pockets of remnant woodland and forest preserved at Yaralla, Rivendell and Queen Elizabeth Park and other tracts of greenspace including three golf courses and revegetated parks. In fact, the LGA makes a significant contribution to protecting native fauna of conservation significance in inner-western Sydney – one of Australia's oldest urban landscapes.

3.5.1 Listed threatened species

Thirteen (13) threatened mammal, bird and amphibian species have been either recorded in the current study or earlier surveys or are considered likely to occur in City of Canada Bay LGA. These include 3 species listed under the national Environment Protection and Biodiversity Conservation (EPBC) Act 1999 – Swift Parrot *Lathamus discolor* (Endangered), Green and Golden Bell Frog *Litoria aurea* (Vulnerable) and Grey-headed Flying-fox *Pteropus poliocephalus* (Vulnerable). Swift Parrot and Green and Golden Bell Frog are also listed as Endangered under the NSW Threatened Species Conservation (TSC) Act 1995. Grey-headed Flying-fox is listed as Vulnerable under the TSC Act. Two other bat species – Eastern Bentwing-bat *Miniopterus*

schreibersii oceanensis and Little Bentwing-bat *M. australis* are also listed as Vulnerable under the TSC Act in NSW and are likely to occasionally occur in the LGA.

The Swift Parrot breeds in Tasmania and migrates to the east coast in autumn to forage through the winter on eucalypt nectar, psyllid insects, lerps, seeds and fruit (Plate 89). On the coast around Sydney, Spotted Gum *Corymbia maculata*, Red Bloodwood *C. gummifera*, Swamp Mahogany *Eucalyptus robusta*, Forest Red Gum *E. tereticornis* and Rough-barked Apple *Angophora floribunda* are targeted by this species (Saunders and Heinsohn 2008). Each of these species occurs in the LGA either as remnant or planted individual trees with best representation at Concord Golf Course – flowering swamp mahogany in April 2014, Yaralla Estate, Rivendell CAF Unit and Massey Park Golf Course. Some parks and schools have some planted Spotted Gum such as Concord High School, Cintra Park and Brett Park. The Swift Parrot was not recorded in the current study or during the 2002-03 survey both of which were undertaken at a time when these birds would have been mostly in Tasmania. This species may potentially visit the study area particularly during periods of inland drought. Swift Parrot has been recorded in or near neighbouring LGAs, for example, City of Ryde (InSight Ecology 2010).

Existing populations of Green and Golden Bell Frog (Plate 90) have been recorded at Bicentennial Park - Homebush Bay (one of the largest remaining NSW populations of this species), Arncliffe, Hammondville - Georges River, Merrylands, Clyde/Rosehill, Greenacre (3 locations), Kurnell (2 locations) and Rosebery (DEWHA 2009). A small breeding population was reported from a disused backyard swimming pool in Queen Street, Concord West in 1998 (City of Canada Bay 2003). This species was not detected during the current study. The site considered as having potential to support this species in the 2002-03 survey – an ephemeral wetland at Walker Street, Rhodes – has since been converted to medium-high density housing. There is potential for small populations of this species to persist in the LGA especially at Concord West. Targeted surveys after heavy summer rainfall are needed to confirm their presence.

Plates 89 and 90 (left to right): Two nationally listed threatened species that occur or are likely to occur in the study area - Swift Parrot (J.J. Harrison, en.wikipedia.org) and Green and Golden Bell Frog (LiquidGhoul, en.wikipedia.org)



Grey-headed Flying-fox was recorded in groups of up to ca. 50 individuals at Concord Golf Course where they fed in figs and flowering swamp mahogany, rough-barked apple and Lemon-

scented Gum *E. citriodora*. Smaller parties were detected feeding in and flying between flowering old planted *Melaleuca quinquenervia* at Major's Bay Reserve and Quarantine Reserve, remnant paperbark at Yaralla Estate, Rivendell CAF Unit and Queen Elizabeth Park and at other sites (Section 3.4). The nearest active Grey-headed Flying-fox camps are at Turrella Reserve, Wolli Creek, Parramatta Park and Ku-ring-gai Flying-fox Reserve, Gordon.

Eight (8) other fauna species – all birds – listed as Endangered or Vulnerable under the NSW TSC Act 1995 have been either recorded in the current study or earlier surveys or are considered likely to occur in the study area. These are profiled below.

Bush Stone-curlew *Burhinus grallarius* (Endangered). This is a tall (50-60 cm), long-legged, nocturnal, ground-foraging bird that has declined markedly in NSW to the point where it may become extinct within the next 10-20 years (NSW Environment & Heritage 2014a). It was recorded as a single individual at Timbrell Park on 14-15 February 2008 (Plates 91 and 92). This bird was attacked by a dog and broke one of its legs after becoming trapped under a wire fence near Iron Cove Creek canal (C. Price pers. comm.) within the park. It was rescued, later captured and then operated on at Taronga Zoo. Although the bird survived the operation, the bird unfortunately had to be euthanized because of its highly stressed condition (R. Stephenson pers. comm.). Not recorded during the study or the 2002-03 survey. Likely to only occur in the LGA as a very rare vagrant, possibly at the more sheltered sites such as Yaralla Estate and Rivendell CAF Unit where refuge could be sought during summer storms. Small coastal populations near Sydney are known from Pittwater/Brisbane Waters, west of Maitland, Karuah and Nowra (Department of Environment and Conservation NSW 2006).

Curlew Sandpiper *Calidris ferruginea* (Endangered). This is a medium-sized migratory shorebird that forages along the intertidal mudflats of bays and estuaries. It roosts on rocky shorelines, shingle, shell or sandy beaches, wetlands or saltmarsh (Plate 93). This species arrives in Australia from Siberia in August-November and departs in March-April. It was not recorded during the study but potential foraging and roosting habitat exists at Half Moon Bay, Sisters Bay, Quarantine Reserve, Halliday Park, Exile Bay, France Bay and Prince Edward Park.

Sanderling *Calidris alba* (Vulnerable). This species is a medium-sized migratory shorebird. It is known mostly from open sandy beaches and rocky outcrops exposed to the sea. However, it has also been recorded on the sandy shorelines of sheltered estuaries, bays and harbours (Higgins and Davies 1996). Birds arrive in Australia from the northern hemisphere in August-September and depart from March-May. This species was not recorded during the study. However, it may shelter from storms on tidal flats and forage on sandy beaches at Rodd Point, Quarantine Reserve, Henry Lawson Park, Prince Edward Park and Cabarita Park.

White-fronted Chat *Epthianura albifrons* (Vulnerable). This is a small, insectivorous, ground-foraging bird of saltmarsh and open grassland communities (Plate 94). Nests are open-cup structures built in low saltbush species and, in the Sydney region, low isolated mangroves (NSW Environment & Heritage 2014b). Open-cup nests sited close to the ground are more exposed to predation by snakes, cats, foxes, rodents and birds such as Australian Raven and Grey Butcherbird. This species has disappeared from much of Sydney as its preferred habitat has been converted to industrial estates, housing, golf courses and parks. White-fronted Chat is now confined to two last sub-populations in Sydney – one of which remains at Newington Nature Reserve (NR) in Bicentennial Park (see Section 3.5.2). The White-fronted Chat was not recorded in the study or in the 2002-03 survey - it appears likely to have been extirpated from

the LGA. It is included because of the proximity of the LGA to the current population at Newington NR and Badu Mangroves and Waterbird Refuge in Bicentennial Park. There is also some potential for the creation of new saltmarsh habitat and restoration of existing saltmarsh at Yaralla Estate and Rivendell CAF Unit.

Little Lorikeet *Glossopsitta pusilla* (Vulnerable). This species is the smallest lorikeet and feeds on nectar and pollen in the canopy of eucalypts including, on the coast, Blackbutt *E. pilularis* and Swamp Mahogany *E. robusta*, melaleucas and mistletoe fruit. It has been recorded as an irregular visitor to Sydney and the Central Coast, mostly from February-May (NSW Environment & Heritage 2011). This species was not recorded in the study or in the 2002-03 survey. However, it may occur when the above and possibly other eucalypts and paperbarks are flowering, potentially at Concord Golf Course, Yaralla Estate, Rivendell CAF Unit, Rhodes Park, Quarantine Reserve and Five Dock Park.

Sooty Oystercatcher *Haematopus fuliginosus* (Vulnerable). This is a large resident wader that breeds on offshore islands and rocky isolated headlands (Plate 95). It forages for worms, crabs, small fish, molluscs and shellfish along rocky intertidal shorelines and sandy beaches near intertidal mudflats including mangroves and saltmarsh. It is sensitive to disturbance by dogs and humans and was not recorded in the study or the 2002-03 survey. However, potential foraging and roosting habitat of rocky intertidal shorelines and sandy beaches adjoining intertidal mudflats occur at Rodd Point, Sisters Bay, Half Moon Bay, Halliday Park, Prince Edward Park, France Bay, and the eastern perimeter of Homebush Bay at Rhodes.

Australian Pied Oystercatcher *Haematopus longirostris* (Endangered). This species is also a large resident wader that forages on sand, mud and rock substrates at low tide for molluscs, worms, crabs, small fish and oysters (Plate 96). Intertidal mudflats, rock platforms and sandy open beaches are preferred and nesting occurs on coastal or estuarine beaches and sometimes saltmarsh or grassy areas. Less than 200 breeding pairs are estimated to be patchily dispersed along the NSW coastline, thus giving this species its Endangered status in NSW (NSW Environment & Heritage 2014c). Birds are sensitive to disturbance by dogs and humans. Two birds were observed roosting on Tingara Lane (off Dorking Road) jetty at France Bay on 1 September 2012 (M. Falkenmire pers. comm.). This species was not recorded during the study or the 2002-03 survey. However, potential foraging and roosting habitat occurs at Sisters Bay, Half Moon Bay, Iron Cove's south-western foreshore, Quarantine Reserve, Halliday Park, Prince Edward Park, France Bay, and the eastern side of Homebush Bay at Rhodes.

Powerful Owl *Ninox strenua* (Vulnerable). This is our largest owl – 60-70 cm with a wingspan of 120-160 cm. Powerful owls are forest carnivores but occur at low densities throughout their east coast range. They require large tracts of forest but do occur in fragmented landscapes such as northern Sydney (Plates 97 and 98). They hunt arboreal marsupials especially Common Ringtail Possum, Sugar Glider and Greater Glider as well as flying-fox and require large hollows in old (150+ year-old) eucalypts for nesting (NSW Environment & Heritage 2014d). Day roosts are preferred in dense well vegetated gullies - favoured canopy and understorey plant species include blackbutt, grey gum, turpentine, Black She-oak *Allocasuarina littoralis*, rough-barked apple, Blackwood *Acacia melanoxylon* and Cherry Ballart *Exocarpos cupressiformis* (NSW Environment & Heritage 2014d). This species was not recorded in the study or in the 2002-03 survey. Suitable nest and roost trees are generally absent or very scarce with the exception of some potential roost trees at Rivendell CAF Unit, Yaralla Estate and possibly Queen Elizabeth Park and Concord Golf Course. The presence of Common Ringtail Possum and Grey-headed

Flying-fox could attract birds to occasionally forage at these sites and possibly other sites in the LGA. Recent breeding, roosting and foraging records exist in Lane Cove River valley and its tributaries (see, for example, InSight Ecology 2010, 2011a, 2012) and other sites in Sydney.

Plates 91-98: Bush Stone-curlew at Timbrell Park (courtesy Nevil Lazarus, taken 14-15/2/08 - supplied by Robert Stevenson 21/11/13); Curlew Sandpiper in non-breeding plumage (biodiversitysnapshots.net.au Museum Victoria, Tom Tarrant); White-fronted Chat – adult male (birdsaustralia.com.au); Sooty Oystercatcher – northern race *ophthalmicus* shown - has shorter bill and larger, bare fleshy eye-ring than the southern nominate race *fuliginosus* (commons.wikimedia.org, Glen Fergus); Australian Pied Oystercatcher (en.wikipedia.org, Austins Ferry, J.J. Harrison); Powerful Owl at day roost in Lane Cove River catchment, 14 October 2010 and typically dense understorey roost habitat, 13 April 2012 (InSight Ecology, courtesy River to River Corridors Project - City of Ryde Council and Hunter's Hill Council).





3.5.2 Listed endangered populations and ecological communities

There are two (2) endangered populations of native fauna listed under the NSW TSC Act 1995 that occur near the study area or have been recorded in the LGA – White-fronted Chat and Long-nosed Bandicoot *Perameles nasuta*.

A highly isolated sub-population of 2-3 White-fronted Chat persists in saltmarsh and fringing vegetation at Newington NR, Bicentennial Park, approximately 2 km from the western perimeter of City of Canada Bay LGA (SOP 2014b). This number of birds is based on the results of recent annual spring bird censuses undertaken at Newington NR and Badu Mangroves and Waterbird Refuge, the latest census being 29 October 2013 (SOP 2014b), and on recent discussions with SOPA parkland ecologists. Badu Mangroves and the Waterbird Refuge are located on the western side of Powells Creek, less than 200 m from Bicentennial Park east site that was surveyed in the study. This is the last remnant of a once larger White-fronted Chat population at Newington NR – flocks of up to 26 birds were recorded in 1997 (Straw 1999), 20 birds in 2003, but by 2008 only 8 birds remained (Jenner 2008). This group comprised 6 males and 2 females and has suffered predation of nests and of a female sitting on a nest - no recruitment was recorded up to February 2011 (Jenner 2008; NSW Environment & Heritage 2014b). Without recruitment of new birds and especially females this population is likely to become extinct at Newington NR within the next few years.

The other sub-population of White-fronted Chat in Sydney occurs at Towra Point Nature Reserve in Botany Bay. An estimated 14-19 birds persist in larger (157 ha) expanses of saltmarsh than exist at Newington NR (14 ha) (Jenner 2008, NSW Environment & Heritage 2014b). However, the Towra Point sub-population is also highly imperilled being threatened by the loss of saltmarsh habitat and a reduction in its quality, disturbance by humans and dogs, elevated nest predation levels, and encroachment by mangroves (NSW Environment & Heritage 2014b).

In 2002, a small, highly isolated population of Long-nosed Bandicoot was discovered living in backyards and under old houses and buildings in inner-western Sydney (NSW Environment & Heritage 2014e). This species is a medium-sized, ground-dwelling, nocturnal marsupial that

forages for insects, insect larvae, plant roots and fungi by digging distinctive conical holes in the soil. They range in size from 310-425 mm long and adults weigh between 850 g-1.1 kg (Plates 99 and 100). During the day these animals shelter in nests of dry grass, small sticks and leaves, in dense vegetation or under old buildings. Key threats for bandicoots include collision with cars, predation by dogs, foxes and cats, removal of dense weedy ground cover and parkland vegetation, and renovation of old houses that replaces footings with concrete slabs and closure of ground-level cracks and crevices that prevent bandicoot access to nest sites under buildings (NSW Environment & Heritage 2014e).

The first recent inner-western Sydney record came from an animal trapped in the backyard of a house at Dulwich Hill. This was followed by dead bandicoots found at Lewisham, Dulwich Hill, Marrickville and one animal from Five Dock. Live animals were reported at Lewisham, Petersham and Dulwich Hill which may have been by animals dispersing along the Cooks River and a weedy freight rail corridor from Wolli Creek to the south (NSW Environment & Heritage 2014e). The Endangered Population determination for this species includes the LGAs of Marrickville, Canada Bay, Ashfield, Canterbury and Leichhardt.

The nearest known current records of Long-nosed Bandicoot exist at Lane Cove River, Ku-ring-gai Chase and Garigal National Parks, Manly Dam and Pittwater LGA and North Head in the north and Holsworthy Military Reserve and Royal and Heathcote National Parks in the south (NSW Environment & Heritage 2014e). Within the City of Canada Bay, suitable patches of bandicoot habitat may exist at Bicentennial Park east, Brays Bay Reserve, Rhodes Park, Rivendell CAF Unit, Yaralla Estate, Figtree Bay Reserve, and possibly Timbrell Park, although potentially high predation and human disturbance levels at some of these sites may prohibit bandicoot presence. Targeted surveys are needed to determine if the Long-nosed Bandicoot occurs at these and other sites in the LGA and to investigate the earlier Five Dock record.

Three endangered ecological communities also occur in the study area. These are Sydney Turpentine-Ironbark Forest, Swamp Oak Floodplain Forest and Coastal Saltmarsh. Remnants of these native vegetation communities occur in different parts of the study area and are described in Sections 2.2.1 and 3.3.1 of this report.

Plates 99 and 100: The Long-nosed Bandicoot has surprised many people including ecologists at its resilience and adaptability to life in highly urbanised landscapes such as inner-western and south-western Sydney. Left: a bandicoot recorded foraging in Alexandria Park Community Garden, taken 0518 hours, 20 April 2011 and see <http://communitygarden.org.au/2011/05/01/bandicoot/> (courtesy of). Right: an adult animal foraging at North Head, 17 May 2009 (commons.wikimedia.org, GregTheBusker).



3.5.3 Species of local and regional conservation significance

Fifty-five (55) native species of local and regional conservation significance were recorded in the study. These were birds and some mammals, reptiles and amphibians, most of which have declined in abundance and experienced significant reductions in range across the Sydney metropolitan region and especially the inner-west. Several of these species had small breeding populations at key sites in the study area including Yaralla Estate, Rivendell CAF Unit, Brays Bay Reserve and Rhodes Park, Bicentennial Park east, Concord Golf Course, Massey Park Golf Course, Queen Elizabeth Park, Cintra Park and Quarantine Reserve. Also, there is the possibility that other significant bird species could also be in the LGA but were not recorded during the study (see City of Canada Bay 2003 and Section 4.1.3).

Terrestrial avifauna included a mix of declining woodland species of inner and mid western Sydney and others that have become locally uncommon over the past 10-15 years. They were Eastern Rosella, Red-rumped Parrot, Tawny Frogmouth, Red-browed Finch, Dollarbird, Yellow Thornbill, Mangrove Gerygone, Spotted Pardalote, Striated Pardalote, Golden Whistler, Spangled Drongo, Rufous Fantail, Grey Fantail and Mistletoebird. Five honeyeater species – Eastern Spinebill, Yellow-faced Honeyeater, New Holland Honeyeater, White-cheeked Honeyeater and White-plumed Honeyeater – were locally significant because of their role in plant pollination and their sparse distribution or only occasional occurrence in the LGA. Three of these – New Holland, White-cheeked and White-plumed – have become urban-adapted species, visiting home gardens and parks planted with high nectar producing shrubs such as grevillea, callistemon and hibiscus. Other significant bird species included Superb Fairy-wren – small breeding populations throughout the western part of the study area, White-browed Scrubwren with small breeding populations at Yaralla Estate, Rivendell CAF Unit, Brays Bay Reserve and Rhodes Park and Bicentennial Park east, Musk Lorikeet, Scaly-breasted Lorikeet, Australian King-Parrot, Horsfield's Bronze-Cuckoo, Laughing Kookaburra, Sacred Kingfisher and Nankeen Kestrel. One Fan-tailed Cuckoo was recorded by D. Hobcroft at Yaralla Estate on 12 April 2014 (D. Hobcroft pers. comm.). Three Tree Martin were also observed flying high over Majors Bay on their winter migration north on 14 April 2014 (D. Hobcroft pers. comm.).

Significant aquatic birds recorded in the study included a total of 18 species. These were Black Swan, Australasian Grebe, Buff-banded Rail, Purple Swamphen, Dusky Moorhen – breeding at Bicentennial Park east, Eurasian Coot with a substantial breeding population at Concord Golf Course, Australian Wood Duck – also breeding at Concord Golf Course and Massey Park Golf Course, Striated Heron, Great Cormorant, a large population of Little Black Cormorant, Australian Pelican, Royal Spoonbill, Australasian Darter, Black-winged Stilt, Eastern Great Egret, Bar-tailed Godwit, White-bellied Sea-Eagle and Crested Tern. The last four of these species also have international conservation significance (Section 3.5.4). One Hoary-headed Grebe was observed on Majors Bay on 20 June 2014 (D. Hobcroft pers. comm.).

The remaining fauna species of conservation significance recorded in the study included 9 mammals, reptiles and amphibians. These were Common Ringtail Possum, Common Brushtail Possum, Eastern Blue-tongue Lizard, Bar-sided Skink, Australian Water Dragon, Robust Ctenotus, Bleating Tree Frog, Peron's Tree Frog and Common Eastern Froglet (see Section 3.4).

3.5.4 International migratory bird conservation agreements

There are four separate but complementary agreements between Australian and Asian Governments to protect migratory bird species and their critical non-breeding habitat. These include shorebirds millions of which visit Australia each year to escape the northern hemisphere winter. There are three bilateral conservation agreements - China-Australia Migratory Bird Agreement (CAMBA), Japan-Australia Migratory Bird Agreement (JAMBA), and Republic of Korea-Australia Migratory Bird Agreement (ROKAMBA), two conventions - RAMSAR Convention and Convention on Migratory Species, and the East Asian-Australasian Flyway Partnership. This latter mechanism encourages multilateral cooperation between countries to protect migratory birds along the full length of their journeys between East Asia and Australia. More information on these important initiatives and their partner programs are available at <http://www.environment.gov.au/biodiversity/migratory-species/migratory-waterbirds>.

A total of 13 migratory and marine bird species that were recorded in the study or in the 2002-2003 survey or are likely to occur in the LGA are listed under the CAMBA, JAMBA and/or ROKAMBA agreements. They are also listed as migratory or marine species under the Australian Government's EPBC Act 1999. Species listed under CAMBA, JAMBA and ROKAMBA are Bar-tailed Godwit, Common Greenshank *Tringa nebularia*, Grey-tailed Tattler *T. brevipes*, Sharp-tailed Sandpiper *C. acuminata*, Curlew Sandpiper, Sanderling, Common Tern *Sterna hirundo*, White-throated Needletail *Hirundapus caudacutus* and Pacific Golden Plover *Pluvialis fulva*. Eastern Great Egret *Ardea modesta* is listed under JAMBA and CAMBA only. White-bellied Sea-Eagle *Haliaeetus leucogaster* (CAMBA), Latham's Snipe *Gallinago hardwickii* (CAMBA and ROKAMBA) and Crested Tern *Thalasseus bergii* (JAMBA) complete this set of species.

4. Discussion

4.1 Bird assemblages of the City of Canada Bay – patterns and processes

4.1.1 Bird responses to landscape and habitat changes

Over the past 226 years, much of Sydney's native vegetation cover has been systematically removed for urban development to accommodate what are now approximately 4.8 million people (Australian Bureau of Statistics 2013). All that remains are some small, highly fragmented patches that are experiencing further decline in habitat condition from invasive species and edge impacts. Today's pattern of habitat distribution, size, connectivity and condition in the study area generally reflects this broad-scale process of change to the configuration, composition and connectivity of habitats across the Sydney region. It is a process characteristic of the impact of broad-scale landscape change on biodiversity across cities in Australia (e.g. Perth - Recher and Serventy 1991; How and Dell 2000; Adelaide - Tait et al. 2005; Melbourne - van der Ree 2004, White et al. 2005; Sydney - Benson and Howell 1990, 1995; Flannery 1999; Brisbane - Garden et al. 2006) and worldwide (see Secretariat of the Convention on Biological Diversity 2012).

In contrast with this landscape-scale process of extensive habitat loss, fragmentation and modification, have been episodes of revegetation, mostly on publicly owned land over at least the past three decades. At the local and regional scale, this has introduced an array of indigenous and exotic vegetation into this landscape. Coupled with earlier plantings along streets, on private properties and in parks, these activities have shaped the type, amount,

quality and condition of habitats available to birds and other fauna. In effect, there has been an incremental transformation of this landscape, especially in Sydney's inner-west, south and north-west, from one of mainly sealed surfaces with minimal vegetation cover to a complex mosaic of ribbons, patches and conduits of green interwoven with 'red-roof suburbia'.

Bird assemblages have responded to these changes over time by either adapting, colonising or disappearing from habitats in this landscape. A cohort of medium to large-bodied indigenous and introduced birds dominates the native and exotic vegetation planted in parks, along streets, and in the front and rear-yards of houses across the study area and other districts. These are opportunistic, resilient/highly adaptable and often aggressive species that survive, reproduce, and have ultimately colonised these novel urban habitats. These include Noisy Miner, Rainbow Lorikeet, Red Wattlebird, Crested Pigeon, Australian Raven, Australian Magpie, Magpie-lark, Grey Butcherbird and Pied Currawong. The introduced species are the ground-foraging granivores - Spotted Dove and Rock Dove and the ubiquitous omnivores - Common Myna and Common Starling.

Bird assemblages of City of Canada Bay's bushland remnants are residual populations of what were once, prior to intensive urbanisation, much richer woodland and forest bird communities. They comprise a surprisingly diverse mix of resident, nomadic and migratory species confined mostly to a narrow (50-125 m wide) continuum of STIF and mangrove forest. This extends from Brays Bay Reserve around the Rivendell and Yaralla peninsulas to Majors Bay. Habitat patches at Bicentennial Park east are mostly mangrove forest and wetland while the STIF remnant at Queen Elizabeth Park is small and very isolated. The rows of mixed remnant and planted eucalypts at Concord Golf Course are generally too narrow and lack an understorey component to support cover-dependent bush birds. Other remnants are highly isolated across the rest of the LGA. They are confined to even smaller sites such as Figtree Bay Reserve, Quarantine Reserve, Sisters Bay and Half Moon Bay.

Historical records confirm the incremental loss of small and medium-sized bush birds from these and other inner-western and inner north-western Sydney bushland remnants (Blakers et al. 1984; Barrett et al. 2003; InSight Ecology 2010). Species now apparently extinct from Yaralla Estate, Rivendell CAF Unit, Brays Bay Reserve and Rhodes Park and Queen Elizabeth Park include mostly insectivorous and nectarivorous woodland/forest and some grassland dependent endemics. Key members are Pheasant Coucal, White-throated Treecreeper, Satin Bowerbird, Variegated Fairy-wren, Speckled Warbler, Brown Gerygone, Brown Thornbill, Scarlet Honeyeater, White-naped Honeyeater, Yellow-tufted Honeyeater, Varied Sittella, Crested Shrike-tit, Grey Shrike-thrush, Jacky Winter, Eastern Yellow Robin, Little Grassbird, Double-barred Finch, Diamond Firetail and Australasian Pipit. Some of these species have been intermittently recorded at Newington Nature Reserve in Bicentennial Park (SOPA 2014b, D. Hobcroft pers. comm.).

Contrasted against this pattern of bush bird decline and extirpation in the LGA are two potential success stories. Two other native ground-foraging insectivores – Superb Fairy-wren and White-browed Scrubwren – appear to be maintaining small breeding populations in the western part of the LGA. Both species utilised patches of weedy undergrowth in remnants and revegetation at Bicentennial Park east, Brays Bay Reserve and Rhodes Park and Yaralla Estate. In addition, Superb Fairy-wren parties foraged in home gardens with dense hedges at Concord West – Coonong Road, Queen Street, Wunda Road and Nullawarra Avenue and Cabarita, plantings at Rider Boulevard and Mill Park and a weedy remnant at Rivendell CAF Unit. Their

presence at the Concord West sites could reflect proximity to a major source population of this species at Bicentennial Park. Further work might reveal additional populations of both species at other sites with suitably dense understorey vegetation in the LGA.

Land reclamation programs that began in the 1920s and continued to the 1970s significantly reduced the area and quality of aquatic habitats for birds and other fauna across the LGA (Russell 1982; Coupe 1983; Benson and Howell 1990, 1995). These involved the infilling of extensive mangrove and saltmarsh flats in the heads of bays and inlets along Parramatta River for garbage tips, parks and golf courses. These habitats would have supported a diverse suite of migratory and resident shorebirds, waterbirds, land birds and other fauna. The bays affected were Homebush Bay, Brays Bay (part is now McIlwaine Park), Yaralla Bay, Majors Bay (part is now Majors Bay Reserve), Exile Bay (part is now Massey Park Golf Course, Edwards Park and Greenlees Park), Canada Bay (now Cintra Park and St Lukes Park), Kings Bay (now Barnwell Park Golf Course), Five Dock Bay and Iron Cove Bay (part is now Timbrell Park) (Benson and Howell 1995). A total of 19.8 ha of mangroves now remain in the LGA (City of Canada Bay 2013b). The mudflats and mangrove forests of the study area continue to provide the most important foraging, roost and shelter habitat for waterbirds, shorebirds and other fauna along Parramatta River.

4.1.2 The Noisy Miner conquest

The most abundant and successful of the native urban-adapted birds in City of Canada Bay are the Noisy Miner and Rainbow Lorikeet, followed by Little Corella, Welcome Swallow and Australasian Figbird. A total of 1,186 Noisy Miner and 957 Rainbow Lorikeet were recorded during the study. The Noisy Miner is a colony-living honeyeater that aggressively protects food sources and breeding territories, repelling intruders and competitors through mobbing behaviour. This species has rapidly colonised almost all forms of urban greenspace and their habitats across Sydney over the past 15 years (see Higgins et al. 2001; Parsons et al. 2003, 2006; French et al. 2005). In doing so, Noisy Miners may have either pushed out other species or taken over habitat niches vacated by species during earlier rounds of extirpation. The aggressive exclusion of birds from potential woodland and forest habitat by over-abundant Noisy Miners is now listed as a key threatening process to the health of woodland birds and their habitat under the EPBC Act 1999 and NSW Threatened Species Conservation Act 1995.

In the study area, species that may have been adversely affected by the Noisy Miner include smaller honeyeaters such as Yellow-faced Honeyeater, Eastern Spinebill and White-plumed Honeyeater, small shrub and canopy-foraging insectivores – Yellow Thornbill, Striated Pardalote, Grey Fantail and Golden Whistler and the once-common introduced House Sparrow and introduced Common Blackbird. The House Sparrow was not recorded in the study but was observed foraging along shopfront pavements at Concord, Five Dock and Drummoyne. The Common Blackbird was not recorded in the study or observed within the study area. Competition for food and nest sites from Spotted Dove, Common Myna and Common Starling, predation by Grey Butcherbird, Pied Currawong and Australian Raven and mammalian carnivores, and a reduction in the amount of suitable nest sites are other plausible key factors implicated in the apparent decline of these two species across suburban Sydney. It is also feasible that the relatively low numbers of Willie Wagtail recorded in the study may reflect these combined pressures of competition from Noisy Miners and predation by avian and mammalian carnivores, although further work would be needed to confirm this. The Willie

Wagtail is an indigenous, open-nesting, ground-foraging insectivore usually considered to be resilient and relatively well adapted to urban life.

Habitats offering open canopies, nectar-rich plants such as grevillea, banksia, callistemon, strelitzia and camellia, dense foliage supplying nest sites and insects such as eucalypts, paperbark, camellia and brush box, supplementary food and water supplies - often from home gardens and parks, and plenty of edge habitat have contributed to the success of the Noisy Miner in Sydney and other highly urbanised landscapes such as Melbourne (see, e.g., White et al. 2005) and Brisbane (see Catterall 2004; Garden et al. 2006). Where these conditions are less favourable such in dense shrub layers along Yaralla Estate and Rivendell CAF Unit foreshores, Noisy Miners are less abundant. Strategic management of urban greenspace for biodiversity conservation should, if possible, utilise this knowledge of Noisy Miner ecology.

The cosmopolitan diet of the Noisy Miner in suburban Sydney which includes grain-based food scraps available from outdoor café tables, rubbish bins and footpaths is another adaptive advantage this species has over other honeyeaters, especially during times when nectar is less available or of lower quality. Consequently, Noisy Miners are able to directly compete for food with the introduced Common Myna and Common Starling, although nest site preferences differ markedly between these species. Co-existence rather than exclusion, however, seems the more likely long-term outcome for these three species in the Sydney urban landscape.

In these ways, Noisy Miners may be viewed as potential ‘engineers’ of structural change in Sydney’s urban bird communities. Their ability to readily and frequently - up to 3-4 clutches in a season that starts in September and ends in April - breed in and thus rapidly colonise urban habitats, broaden their diet and adapt their foraging strategy, and potentially displace other indigenous and exotic species, from within and possibly outside their foraging guild, has established the Noisy Miner, together with the Rainbow Lorikeet, as the dominant bird species in suburban Sydney. This has important implications for the strategic conservation management of other avifauna and their habitat, and indeed overall biodiversity values, in City of Canada Bay and other LGAs across suburban Sydney.

4.1.3 Changes in bird communities – 2002-2014

The 2002-03 fauna survey conducted by Dion Hobcroft for City of Canada Bay aimed to establish a baseline against which later changes in the range and abundance of LGA’s fauna communities could be assessed (City of Canada Bay 2003). The current study has revealed a number of changes that have occurred over the past 12 years in the status, composition and distribution of bird populations and their use of habitat in the study area. These are discussed below. Unfortunately, the absence of site and species-specific abundance data for all birds recorded in the 2002-03 survey has precluded a quantitative comparison of how relative bird abundance has changed in the LGA since that survey – however, a qualitative review has been possible. The current study thus establishes the baseline for future assessment of change in relative bird abundance and species richness in the study area.

The 2002-03 survey recorded a total of 86 native bird species compared with 84 species recorded in the current study. The species composition of these communities differed between the two studies. Birds recorded in the 2002-03 survey but not in the 2013-14 study were three raptors - Black-shouldered Kite, Australian Hobby and Peregrine Falcon, one waterfowl - Hardhead, four intercontinental migratory shorebirds - Common Greenshank, Curlew

Sandpiper, Sharp-tailed Sandpiper and Pacific Golden Plover, Topknot Pigeon, Yellow-tailed Black-Cockatoo, White-throated Needletail, Yellow-rumped Thornbill – recorded in horse paddocks at Yaralla, and two introduced species – a ground-foraging insectivore Common Blackbird and the small granivore House Sparrow. Both of these introduced birds have declined markedly in urban habitats across Sydney over the last decade (Barrett et al. 2003 and see below).

Conversely, 16 species recorded in the current study were not detected during the 2002-03 survey. They included Black Swan at Bicentennial Park east, two aquatic birds - Little Egret and Purple Swamphen (also part-terrestrial), a raptor - Nankeen Kestrel, Buff-banded Rail - at Concord Golf Course, Australian King-Parrot, Scaly-breasted Lorikeet, three summer breeding migrants, all recorded in STIF at Yaralla Estate - Horsfield's Bronze-Cuckoo, Rufous Fantail and Olive-backed Oriole, the small uncommon insectivore - Mangrove Gerygone at Bicentennial Park east, Striated Pardalote, three honeyeaters - Yellow-faced Honeyeater, Eastern Spinebill and Noisy Friarbird, and a shrub insectivore and member of the declining woodland bird group in western Sydney - Golden Whistler at Yaralla Estate.

The 2002-03 fauna report's checklist section included statements about the occurrence status (ie. common, uncommon, scarce/rare) of individual fauna species in the LGA and their breeding and occupancy (ie. resident or visitor) status, based on the results of the survey and other sources (City of Canada Bay 2003). In light of the results of the current study, the status of occurrence, breeding and occupancy of 36 bird species is revised below. This includes data on species abundance from the recent surveys and information explaining why some species appear to have increased, declined or been extirpated (ie. gone extinct) from the LGA since the 2002-03 survey. Only those species whose status has changed since the 2002-03 survey are discussed.

Australian Wood Duck *Chenonetta jubata*: This herbivorous duck is a moderately common breeding resident at specific sites within the LGA. It was classified as locally common in 2002-03 survey report). It was recorded breeding in locally significant numbers at Concord Golf Course (32-45 birds) and Massey Golf Course (22). Other smaller groups occurred at Barnwell Golf Course (5), Strathfield North Public School (4 - a likely offshoot of the adjacent Concord Golf Course population) and Bicentennial Park East (2). Wood ducks require hollows in old trees to nest and open grassy areas to forage with nearby freshwater bodies such as small drainage lines and temporary pools.

Chestnut Teal *Anas castanea*: Uncommon resident in the LGA – recorded in small numbers only on a billabong at Bicentennial Park east (8 birds) and along the shoreline rocks at Sisters Bay (2 birds). It was described as the most abundant duck species recorded in the 2002-03 survey.

Crested Pigeon *Ocyphaps lophotes*: Now a common breeding resident (only locally moderately common in 2002-03) – recorded in small-medium numbers at most sites throughout the LGA. Recorded in two larger groups of 17 birds each at Empire Avenue urban neighbourhood site on 2 April 2014 (roosting) and Massey Park Golf Course on 7 April 2014 (foraging).

Australian Pelican *Pelecanus conspicillatus*: Uncommon non-breeding visitor/resident – recorded mostly as single birds at Sisters Bay, Half Moon Bay, France Bay and Halliday Park.

Dusky Moorhen *Gallinula tenebrosa*: Scarce, locally significant breeding resident – recorded as 2 adults with 3 fledged young in a drainage line at Bicentennial Park east and as 2 adults in a small reedy freshwater dam at Concord Golf Course. Recorded as having potentially bred at Concord Golf Course in the 2002-03 survey.

Eurasian Coot *Fulica atra*: Scarce locally significant breeding resident/visitor – recorded as a significant population of 40 birds including a pair that bred on a large freshwater dam at Concord Golf Course (November 2013); this group dwindled to 15 birds by autumn 2013; also a single bird on the billabong at Bicentennial Park east. More individuals of this species were recorded at Concord Golf Course in 2013-14 than in the 2002-03 survey when it was not detected breeding at this site.

Bar-tailed Godwit *Limosa lapponica*: Moderately common non-breeding warm season visitor – recorded in small groups at France Bay (18 birds), Prince Edward Park (13), Halliday Park (10) and Henry Lawson Park (13). A flock of 31 birds was reported at France Bay on 23 November 2013 (Section 3.3.5) while about 60 birds were observed at a high tide rock platform roost at Prince Edward Park on 12 March 2012 (M. Falkenmire pers. comm.); also at Exile Bay. Numbers could have been expected to be higher at the peak of summer in the LGA but were unlikely to have approached the total of about 350 birds reported from Cabarita several years ago (City of Canada Bay 2003).

Black-winged Stilt *Himantopus himantopus*: Scarce to uncommon non-breeding visitor – recorded in small numbers at France Bay (2 birds), Halliday Park (4) and Henry Lawson Park (4). Present in lower numbers than recorded in 2002-03 survey.

Galah *Eolophus roseicapillus*: Uncommon likely breeding resident. This species is not widespread throughout the LGA and may have declined in population size since the 2002-03 survey. It was recorded in small numbers at Concord Golf Course where breeding may have occurred (9 birds), Rivendell CAF Unit (2), Cintra Park (6), Sisters Bay (3), Half Moon Bay (3) and Rodd Point (6). Galahs are probably being out-competed by Little Corella and Rainbow Lorikeet for food and nest hollows in the LGA.

Long-billed Corella *Cacatua tenuirostris*: Uncommon likely breeding resident (termed a scarce resident in 2002-03). Recorded in small numbers and sometimes in foraging groups with Little Corella at Rivendell CAF Unit (2 birds), Halliday Park (2-5), Massey Park Golf Course (7), Concord Golf Course (2) and Cintra Park (1). These birds may have originated from feral flocks following the escape and/or release of birds from aviaries - the core range of this species is western inland Victoria (Higgins 1999; Pizzey and Knight 2007).

Little Corella *Cacatua sanguinea*: Common breeding resident (described as a scarce to locally common breeding resident in 2002-03). Recorded in two large flocks - 151 birds at Massey Park Golf Course and 52 birds at Barnwell Park Golf Course. This species has been steadily expanding its range coastwards in eastern and southern Australia (Higgins 1999; Pizzey and Knight 2007) and has increased its numbers in the study area over the past decade. These flocks may also have been augmented by birds escaping or being released from aviaries. Smaller numbers were recorded at Concord Golf Course (4), Cintra Park (5), Yaralla Estate (2), Quarantine Reserve (7), Halliday Park (6), Mortlake Public School (4) and Edenholme Road urban neighbourhood (4).

Sulphur-crested Cockatoo *Cacatua galerita*: Moderately common breeding resident, present as single birds, pairs or 3 birds at 13 sites throughout the LGA – exception was 12 birds at Massey Park Golf Course, 7 April 2014. Confirmed breeding at Abbotsford Public School and Concord Golf Course. Likely more common now than recorded in 2002-03 survey.

Rainbow Lorikeet *Trichoglossus haematodus*: Very common, overly-abundant breeding resident. This species was recorded at all sites in the LGA – most likely has substantially increased its numbers since the 2002-03 survey when it was described as a common visitor. Second most abundant bird species recorded in the study behind the Noisy Miner. This species is an aggressive competitor for nectar and nest hollow sites including in mangrove forest. It is possibly implicated in the apparent decline of the Eastern Rosella and Red-rumped Parrot in the LGA (see below).

Musk Lorikeet *Glossopsitta concinna*: Locally common irruptive blossom nomad (previously described as a rare to scarce non-breeding irruptive visitor). Breeding not confirmed – recorded in groups of 4-12 birds at 13 sites across the LGA. Largest group recorded was 32 birds in flowering remnant Grey Ironbark and Rough-barked Apple trees at Concord Golf Course on 28 November 2013. Visits dependent on timing and possibly quality of nectar flows from key food trees and shrubs, especially Brush Box, Blackbutt, Grey Ironbark, Lemon-scented Gum, Spotted Gum, Swamp Mahogany, Forest Red Gum, angophoras, paperbark and callistemon.

Eastern Rosella *Platycercus eximius*: Scarce to uncommon breeding resident – was termed a locally moderately common breeding resident in 2002-03. Recorded as 2-6 individuals at 6 sites in the LGA – Queen Elizabeth Park (3 birds), Yaralla Estate (2-4), Rivendell CAF Unit (one pair searched for a suitable nest hollow in remnant Grey Ironbark, 26 November 2013), Concord Golf Course (2-3), Massey Park Golf Course (6) and Concord High School (2). Decline in status may be linked to increased competition from Rainbow Lorikeet for suitable nest hollows and a possible reduction in the supply of seeding grasses, particularly during the breeding season.

Red-rumped Parrot *Psephotus haematonotus*: Scarce possibly breeding resident – was classified as a locally moderately common resident in 2002-03. This species has decreased in abundance and possibly distribution across the LGA since the earlier survey. Only a single bird was recorded at Cintra Park in the 2013-14 survey (on 6 April 2014), although a group of 3 birds was separately observed at Massey Park Golf Course later that day and 2-3 birds were detected at Prince Edward Park on 4 February 2012 (see Section 3.3.3).

Eastern Koel *Eudynamis orientalis*: Termed an uncommon breeding resident in 2002-03 survey but is now moderately common – recorded as single birds at 16 sites across the LGA in the spring 2013 survey. An increase in koel numbers across Sydney has been attributed to an increase in the planting of figs (*Ficus* sp.) as street and park trees for shade and beautification and the spread of the Red Wattlebird into the nectar-rich suburban gardens and parks (Morris 1995). The fruit of figs is a key food item for Eastern Koel while the main host for this parasitic cuckoo is the Red Wattlebird.

Laughing Kookaburra *Dacelo novaeguineae*: An uncommon breeding resident in the LGA (described as scarce in 2002-03) – recorded at 8 sites in 2013-14, usually as 1-2 birds at each site. Likely bred at Concord High School and Concord Golf Course in November 2013 – also recorded breeding at the latter site in 2002-03.

Superb Fairy-wren *Malurus cyaneus*: A locally common breeding resident that has colonised urban and revegetated parkland habitats in the western part of the LGA, apparently since the 2002-03 survey. The report of this earlier survey described the Superb Fairy-wren being “absent from most urban areas”. Nine (9) populations of this species were recorded in the 2013-14 study – at Bicentennial Park east (maximum of 12 birds), Rhodes – Rider Boulevard (6) to Mill Park (5) and Rhodes Park and Brays Bay Reserve (5), Concord West – Coonong Road urban neighbourhood (11), Rivendell CAF Unit (13), Yaralla Estate (25) plus birds heard calling in home gardens along Nullawarra Avenue opposite Yaralla, and Massey Park Golf Course (6). Most of these populations comprised adult and juvenile birds indicating that breeding had occurred. Other populations occurred at residential developments at Cape Cabarita and Breakfast Point (see Section 3.3.4). These populations are likely to have formed by birds dispersing out from source populations in Bicentennial Park and at Yaralla Estate and Rivendell CAF Unit – the Rider Boulevard, Mill Park, Cape Cabarita and Massey Park Golf Course populations are likely examples. The current study provides evidence to indicate the ability of the Superb Fairy-wren to opportunistically move throughout an urban landscape using suitably dense planted shrubs and remnant habitat to find food, mates and establish new populations (see also Crates et al. 2011). Targeted surveying might reveal the presence of other local populations or sub-populations, hopefully also in the eastern part of the LGA.

White-browed Scrubwren *Sericornis frontalis*: Described as a “very localised scarce breeding resident” in the 2002-03 survey report but is now classified as a localised uncommon breeding resident. Recorded at 3 sites in 2013-14 which contained dense weedy understorey vegetation in remnant STIF and a weedy edge abutting a swamp oak forest and mangrove forest (Yaralla Estate - adults with 2 juveniles), in planted native grassland (Brays Bay Reserve – an adult pair with 2 juveniles), and in lantana under planted swamp oak at Bicentennial Park east (adult pair). Targeted surveying may detect single breeding pairs of this species at other sites with thick understorey vegetation in the study area, e.g. Figtree Bay Reserve, Sisters Bay.

Yellow-rumped Thornbill *Acanthiza chrysorrhoa*: This is a ground-foraging thornbill that moves in small groups along the short grass edges of woodland, shrubland, paddocks, plantations, parks and golf courses. It was described as a very localised scarce breeding resident in the 2002-03 work and was recorded only from the horse paddocks at Yaralla. This species was not recorded in the LGA in 2013-14. The most recent records were both from Yaralla - 9 September 2008 (J. Harding via R. Stevenson unpubl. data - number of birds observed were not indicated) and 28 July 2010 (one bird - D. Hobcroft pers. comm.). There is the possibility that this species has been extirpated from the LGA or, at best, is a very rare resident.

Yellow Thornbill *Acanthiza nana*: This small insectivore forages in small groups or pairs in the foliage of acacias, mangroves, paperbarks and eucalypts, often along riparian zones. Described as locally common in 2002-03 but now is an uncommon breeding resident in the LGA. Recorded in 2013-14 in swamp oak forest and mangroves at Bicentennial Park east (5-13 birds) and mangrove forest at Yaralla Estate (5 birds).

White-plumed Honeyeater *Lichenostomus penicillatus*: An uncommon breeding resident in 2013-14 in the LGA – previously classified as a locally moderately common breeding resident widespread throughout the LGA in 2002-03. Recorded in low numbers at 5 sites in 2013-14 – Timbrell Park (one pair likely nesting in paperbarks), Iron Cove’s south-western foreshore (2), Halliday Park (1), Mill Park (2) and Rhodes Park/Brays Bay Reserve (1).

Little Wattlebird *Anthochaera chrysoptera*: A locally uncommon breeding resident in the LGA – classified as moderately common in the 2002-03 survey. Recorded breeding in both 2002-03 and 2013 (2 birds) at Timbrell Park and foraging (not breeding) in planted banksia at Figtree Bay Reserve and the adjacent Wiremill Park, Chiswick, 7 April 2014 (2 birds).

New Holland Honeyeater *Phylidonyris novaehollandiae*: An uncommon to scarce resident, breeding status unconfirmed in the LGA – classified as a locally moderately common breeding resident in 2002-03. Recorded at 2 sites in 2013-14 – Yaralla Estate (1 bird) and Mill Park (2-4 birds) (see Appendix 1).

Australasian Figbird *Sphecotheres vieillotii*: A common breeding resident recorded in 2013-14 at 19 sites throughout the LGA, usually in large fruiting fig trees and other fruiting trees and shrubs such as hackberry and privet. The size of foraging flocks increased from low numbers in spring to larger groups in autumn – 37 birds at Barnwell Park Golf Course, 29 at Drummoyne Park, 22 at Abbotsford Public School and 21 at Brett Park (Appendix 1). Breeding confirmed at Yaralla Estate and Barnwell Park Golf Course in November 2013. Classified as moderately common in the 2002-03 survey.

Grey Butcherbird *Cracticus torquatus*: Described as a locally moderately common breeding resident in 2002-03 but is now common in most habitats – recorded as single birds and pairs at 26 sites across the LGA in 2013-14. Breeding confirmed at 9 sites (Appendix 1). This species is a known predator of young birds in the nest.

Willie Wagtail *Rhipidura leucophrys*: A moderately common breeding resident in the LGA. This endearing small bird is a ground-foraging, open-cup nesting insectivore that appears well-adapted to urban life. It is characteristically seen perched on low posts and fences wagging its tail then drops down to forage on lawns, paddock-bushland edges, streets, parks and home gardens. Recorded in low numbers, mostly as single birds or pairs at 11 sites in 2013-14. Breeding confirmed at 5 sites - Timbrell Park, Halliday Park, Massey Park Golf Course, Yaralla Estate and Iron Cove's south-western foreshore (Appendix 1). There are concerns that Willie Wagtail numbers have been steadily declining in suburban Sydney over the past two decades, possibly in response to increased nest predation by Pied Currawong, Grey Butcherbird, Black Rat and domestic cat and competition for nest sites and food from Noisy Miner - see survey results from Strathfield LGA (InSight Ecology 2008) and City of Ryde and Hunter's Hill LGAs (InSight Ecology 2010, 2012).

Golden-headed Cisticola *Cisticola exilis*: Not recorded in the 2013-14 study but recorded in 2002-03 in a wetland that has now been removed at Walker Street, Rhodes (see below). Thus, this species seems likely to have been extirpated from the LGA.

Welcome Swallow *Hirundo neoxena*: Classified as a moderately common widespread breeding resident in 2002-03 but now common across the LGA - recorded at most sites in 2012-13. Foraging flocks of 12-30 birds were recorded in autumn 2014 at Cintra Park, Timbrell Park, Quarantine Reserve and Empire Avenue urban neighbourhood.

Red-whiskered Bulbul *Pycnonotus jocosus*: This species was introduced to Sydney in ca. 1880 (Pizzey and Knight 2007). Described as a moderately common breeding resident in 2002-03 but is now uncommon and highly localised in the LGA. It was recorded only at Yaralla Estate in 2013-14, on the edge of a weedy STIF remnant in two small breeding groups. The bulbul's

occurrence at a given site is associated with the presence of fruiting shrubs, trees and vines especially exotic privet, hackberry (*Celtis* sp.), African olive, mulberry, blackberry and lantana. Bushland regeneration activities across the LGA have reduced the amount and extent of these infestations. This may have helped confine bulbuls to small but significant pockets of weedy woodland/forest at Yaralla Estate and Rivendell CAF Unit.

Common Blackbird *Turdus merula*: Described as locally moderately common breeding resident in the 2002-03 survey but was not recorded in the LGA in 2013-14. This species can be difficult to detect as it forages on the ground often under dense shrubs for earthworms and other soil and litter layer invertebrates. Thus, it may have been undetected during the current study. The more likely scenario however is that the blackbird has gone locally extinct or is present in low numbers in only a few locations such as Yaralla Estate and Powells Creek Reserve. This would be consistent with the results of surveys conducted from 2010-12 in nearby LGAs such as City of Ryde and Hunter's Hill where only one bird was detected (InSight Ecology 2012). Factors implicated in the blackbird's decline seem likely to be elevated predation levels of eggs, nestlings and fledglings by cats and carnivorous birds such as Pied Currawong and Grey Butcherbird, reduced availability of suitable nest and refuge sites in dense shrubs – possibly because of competition from Spotted Dove, and moderately high levels of competition for food (especially earthworms) from Australian Magpie and Magpie-lark.

Double-barred Finch *Taeniopygia bichenovii*: Described in 2002-03 as a very localised possible breeding resident recorded only at Walker Street, Rhodes. The removal of the grassland/wetland at this site after the 2002-03 survey (see below) may have extirpated this small native granivore from the LGA - it was not recorded in the 2013-14 study.

Red-browed Finch *Neochmia temporalis*: This is an uncommon, high localised probably breeding resident, recorded only at Yaralla Estate in the 2013-14 study (3-4 birds, Appendix 1). A ground-foraging native granivore this bird requires grassland in the LGA.

House Sparrow *Passer domesticus*: This small introduced grain-eating bird was once widespread across suburban Sydney but was only observed during the 2013-14 study in the main shopping precincts of Concord, Five Dock and Drummoyne. Competition with the introduced Common Myna for nest sites in the eaves and roofs of houses and the renovation or replacement of older-style homes with modern ones and apartment blocks have probably contributed to the sparrow's demise, together with predation by rats and other predators.

European Goldfinch *Carduelis carduelis*: In 2002-03 this small introduced granivore was classified as a scarce breeding resident recorded at Rodd Point, Yaralla and the Walker Street Rhodes grassland. Removal of the latter habitat and lack of detection during the 2013-14 study suggests that this species may have been extirpated from the LGA or, at best, is very rare.

A number of factors might help explain why these changes occurred between the 2002-03 and 2013-14 surveys. These included human-mediated impacts such as predation by cats, habitat disturbance by dogs and humans and the removal of local bird habitat. An important wetland/grassland was cleared to make way for a major development at Walker Street Rhodes in the period between the two studies. This site supported several species recorded in the 2002-03 survey but not detected at any site during the 2013-14 study - Golden-headed Cisticola, Double-barred Finch, Brown Goshawk, Latham's Snipe, Nankeen Night-Heron and European Goldfinch. Other human-based factors could have helped account for several of the

more resilient, urban-adapted bird species becoming more common and abundant in the LGA. These include the supplementary feeding of wild birds especially Grey Butcherbird, Australian Magpie and Laughing Kookaburra, provision of watering points encouraging Noisy Miner, and planting of shrub and tree species in home gardens, street verges and public reserves that produce almost year-round supplies of nectar, insects and other food for Rainbow Lorikeet, Noisy Miner and Red Wattlebird. These plantings have also produced some good news in the LGA – the increased presence of Superb Fairy-wren in home gardens and some reserves, recently voted Australia’s favourite bird <http://www.australiasfavouritebird.org.au/>.

Other factors may have been landscape effects such as the impact of habitat loss and fragmentation in nearby LGAs and events affecting the number and species diversity of migratory shorebirds in their northern hemisphere breeding range and along their migratory flyway, variability in rainfall, temperature and humidity and its impact on the local availability, amount and quality of food, competition and predation pressure, traits and habitat preferences of different species recorded in the two studies, and sampling effects such as the time of survey (year and stage of breeding season) and survey method and effort, especially the number of sites surveyed and their replication across different greenspace types and seasons. The original survey was conducted in late January and early February 2003 at a range of sites and included records from other fauna surveyors and volunteers compiled during the previous (2001-02) breeding season. Surveys for the current study occurred over two 9 day periods in one spring (2013) and one autumn (2014) at 35-36 sites across the LGA. Ideally, surveys need to be repeated over several years and seasons in order to detect clear trends of change in fauna communities.

4.2 Urban greenspace as wildlife habitat in the City of Canada Bay

4.2.1 Bushland remnants: building blocks for re-connecting habitat

Bushland remnants at Yaralla Estate, Rivendell CAF Unit, Rhodes Park, Bicentennial Park east, Concord Golf Course and Queen Elizabeth Park contain the last stands of woodland/forest habitat for native fauna in the City of Canada Bay. They are small (0.3-5 ha) and isolated within an urban landscape of over 84,000 people (Australian Bureau of Statistics via .id the population experts 2014). Despite this, these remnants still support a surprisingly diverse suite of indigenous bird species (73.1% of all bird species recorded in the study); several found nowhere else in the LGA. Most have drastically declined in abundance and range across inner-western Sydney; others have disappeared entirely from this landscape. The Superb Fairy-wren however appears to be making a comeback.

The building blocks for returning a degree of habitat connectivity and ecological function to the City of Canada Bay are the Yaralla and Rivendell peninsulas. Opportunities exist for taking action to protect and re-connect fauna habitat at Bicentennial Park with remnant and planted vegetation present around the three bays – Brays, Yaralla and Majors. The latter will involve establishing a linkage to Concord Golf Course and enhancement of habitats within the golf course itself. Other priorities for increasing habitat connectivity and improving existing key fauna habitat occur between Massey Park Golf Course, Queen Elizabeth Park and Barnwell Park Golf Course, Abbotsford to Nield Park at Rodd Point, and Rodd Point to Timbrell Park. These are discussed in Section 5.

4.2.2 Revegetated parkland: valuable bird habitat or Noisy Miner haven?

Revegetated parkland provided foraging and, for some species, breeding habitat for 68.6% of all bird species recorded during the study. However, most of these species were aggressive, resilient, invasive or predatory birds - Noisy Miner, Rainbow Lorikeet, Red Wattlebird, Pied Currawong, Australian Raven and Grey Butcherbird - or birds such as Australasian Figbird and Eastern Koel attracted to the copious fruit of figs. These bird species are usually associated with more open habitats characterised by substantial amounts of edge and flowering trees and shrubs. The flowering native and exotic trees and shrubs planted in the street verges, parks, golf courses, schools and home gardens of the City of Canada Bay provide an almost year-round food supply for birds like the Noisy Miner and Rainbow Lorikeet.

Only a small suite of native woodland/forest bird species were able to exploit the food, shelter and nesting resources of revegetated parkland. This was largely because of the high numbers of aggressive/competitive species present, particularly Noisy Miner and Rainbow Lorikeet, an absence of understorey vegetation in older planted sites such as Concord Golf Course and Massey Park Golf Course, and the highly fragmented nature of the landscape that offered reduced connectivity between planted patches. Other factors included the number of avian and mammalian nest predators present, young age of some plantings, narrow width and low habitat condition of planted strips, and frequent disturbance by humans, cats and dogs.

The City of Canada Bay's numerous parklands and reserves, 95 in total, provide opportunities for connecting and enhancing highly isolated remnants, riparian habitat and urban neighbourhood vegetation across the LGA. Strategic planning, design and implementation of revegetation and bush regeneration programs can utilise this network of parks to improve the value of habitat for birds and other fauna. Some of this work continues through the local Bushcare and professional bush regeneration networks. However, opportunities exist to increase habitat connectivity, size and width, improve habitat condition, and establish understorey vegetation to provide new habitat and make conditions less suitable for the Noisy Miner at key locations throughout the LGA (see Section 5).

4.2.3 Urban neighbourhood habitats: more than streetscape

The City of Canada Bay is one of Sydney's oldest urban areas, first settled by European people in 1793 (Coupe 1983). The replacement of much of its native vegetation with sealed surfaces and, particularly since the end of WWII, planted trees and shrubs has created habitat for mostly birds - 28.3% of all bird species recorded in the study and some reptiles and amphibians. These relatively leafy suburbs provide the basic life cycle needs of these species – food, water, shelter and breeding sites.

The ornithological and ecological reality, however, is that urban neighbourhood habitats in the study area mostly cater for a cohort of resilient, urban-adapted species (Sections 3.3.4 and 4.1.3). With the exception of Superb Fairy-wren and White-plumed Honeyeater, small bush birds are usually excluded from these sites. This reflects, in part, the lack of suitable shrub and ground cover vegetation for foraging, nesting and refuge by many of these smaller species. Competitive and predatory interactions between species and disturbance and predation by cats, rats, dogs and humans are also implicated. Supplementary feeding and water provisioning of birds by residents and planting of grevillea, callistemon and other high nectar-producing species in gardens have also favoured the colonisation of urban neighbourhood habitats by

larger birds, especially the Noisy Miner, and Rainbow Lorikeet, Red Wattlebird, Laughing Kookaburra and Grey Butcherbird (Section 4.1.3 and for control advice see Appendix 2). Landscape attributes such as distance from source remnants such as Yaralla Estate and Bicentennial Park and poor habitat connectivity may also be factors that have contributed to this dearth of small native birds in the LGA's urban neighbourhoods.

Urban neighbourhood habitats need to be viewed as more than just streetscape vegetation, without devaluing the contribution of street trees and shrubs to the structure of Australian urban bird communities (see Young et al. 2007). The role and function of home garden habitats in providing viable foraging, breeding and shelter habitat for birds need to be properly understood. These habitats include mown lawns, cultivated garden beds, planted ground cover, shrubs and trees, individual remnant trees, and garden ornaments such as ponds, fountains and birdbaths. Do these habitats function to facilitate the movement of small birds into and through urban neighbourhoods and if so, how? What is the importance of location to existing remnants, vegetated parks and reserves? Would urban habitats perform better in this role if species such as the Noisy Miner and Pied Currawong were present in fewer numbers? (An obvious question to some) What specific actions would represent best value for money and time invested in helping to re-connect previously isolated Superb Fairy-wren and White-browed Scrubwren populations? These are just some examples of the types of questions that need to be addressed prior to planning and implementing revegetation for small birds in urban neighbourhoods.

In the City of Canada Bay there is potential to provide suitable habitat to gradually attract some small bush birds and other fauna back into urban neighbourhoods. The building blocks of interstitial or 'stepping stone' habitat are there, at least for species capable of foraging in, moving through and breeding in planted garden hedges, shrubs and lawns such as the Superb Fairy-wren. We have evidence in this study from Cape Cabarita residential complex that this species is already using dense low hedges in which to forage and potentially nest. Any future planting of this habitat needs to be accompanied by a considerable improvement in the control and management of cats and dogs, especially if we are to see more vulnerable ground-foraging species like Red-browed Finch return to some home gardens (Section 5). A long-term (10 years+) community-based program is needed to plan and implement the strategic revegetation of suitable parts of the LGA for other bushland bird species.

4.2.4 Aquatic habitats: protecting foreshores and more

Despite a heavy industrial past, the aquatic environment of the City of Canada Bay continues to support some of Sydney's most significant waterbirds and long-distance migratory shorebirds, an iconic amphibious mammal, fish, eel, crab and countless other marine organisms. The extensive foreshores and their tidal mudflats, beaches, rocky outcrops and artificial seawalls provide food and important foraging, high tide roosting, drying and refuge sites for 59.7% of all bird species recorded in the study. Other habitats such as open water in bays, islands, estuarine wetlands, saltmarsh, drainage canals, jetties, creeks and freshwater dams add to this diversity of foraging and breeding substrate for aquatic birds and other fauna. Important breeding populations of Eurasian Coot, Dusky Moorhen and Australian Wood Duck, all uncommon to rare in Sydney's inner-west, depend on freshwater dams at Concord Golf Course, a canal at Massey Park Golf Course and a permanent drainage line off Homebush Bay Drive at Bicentennial Park east.

The ongoing protection and improvement of the condition of these diverse habitats is a high priority in the LGA. Key threats include dog and human incursion onto mudflats and high tide shorebird roost sites, high nutrient flows from stormwater drains promoting mangrove incursion into mudflats, overall poor water quality from Iron Cove Creek, Cintra Park and other stormwater canals, hydrological fluctuations affecting the health and survival of saltmarsh communities, wave erosion of foreshores caused by boats and ferries and littering of bays, creeks, canals and wetlands. An anti-littering public footpath art project along the Bay Run – a 7 km long walking and running trail that follows the foreshore along Henley Marine Drive from Iron Cove Bridge at Drummoyne to Timbrell Park, Five Dock – is a useful initiative. Other actions are needed to improve the protection of these valuable aquatic assets of the LGA (Section 5).

4.3 Conservation targets – focusing action on the ground

A fundamental cornerstone of best-practice ecosystem management involves identifying and protecting, through strategic intervention, species, communities and habitats of conservation significance. Realistic targets need to be set and adequate resources committed to implement these actions on the ground. Ongoing monitoring is a core, although often neglected, part of this work. Several opportunities exist to enhance current programs and implement new actions to protect indigenous fauna communities and their habitats in the City of Canada Bay. A key group to focus these efforts on is native woodland and forest birds many of which have declined markedly in Australian urban landscapes over the past two decades (see, e.g., Recher and Serventy 1991; Sewell and Catterall 1998; Barrett et al. 2003; Parsons et al. 2006; InSight Ecology 2012). Other fauna species with a range of sensitivities to the loss of habitat condition and connectivity would also be benefited by these actions. An improved understanding of the biology and ecology of an iconic aquatic mammal the Rakali in the LGA could significantly help protect its riverbank and marine habitat by reducing key threats and raising community awareness and support (Section 5).

Bushland remnants at Yaralla, Rivendell, Brays Bay and Rhodes Park, Concord Golf Course and Queen Elizabeth Park require ongoing habitat protection, creation and enhancement to retain and improve their biodiversity values. Key target activities at these sites are the reduction of the weed burden in remnants but undertaken using a patch-mosaic approach so as to maintain a supply of dense ground and shrub layers for cover-dependent species such as White-browed Scrubwren and Superb Fairy-wren and protect basking sites for Eastern Blue-tongue Lizard, planting of suitable shrub and ground cover vegetation under strips and patches of eucalypts at Concord Golf Course, structured block ('stepping stone') and lineal ('habitat linkage') plantings to increase habitat connectivity across the Yaralla and Rivendell peninsulas (see Section 5.2), and improved control of mammalian predators principally European Red Fox, cat and Black Rat.

The strategic revegetation of parkland is another activity that could help improve the quality, connectivity and functional value of native fauna habitats in the City of Canada Bay. Here the emphasis is on actions to improve the structural complexity and floristic diversity of local indigenous plantings (including denser plantings), widening revegetation strips to reduce the amount of edge habitat for Noisy Miner and possibly reduce predation levels, and filling gaps between plantings to improve local habitat connectivity. Some of this work is already underway at Bushcare sites such as Lovedale Place at Brays Bay. Opportunities exist for these strategic plantings to occur at Yaralla Estate, Brays Bay Reserve, Majors Bay Reserve, Concord Golf Course, Massey Park Golf Course, Barnwell Park Golf Course, Five Dock Park and Timbrell Park.

Conservation actions in urban neighbourhood and open parkland habitats should complement those undertaken in adjoining revegetated parkland and remnant bushland. Key actions could include planting new native ground covers, shrubs and small trees as habitat for small birds such as Superb Fairy-wren and other native fauna in home gardens, adopting other wildlife-friendly practices in home gardens including providing rocks and small logs as lizard and skink habitat, responsibly managing pet cats and dogs, e.g. curfewing and bell-collaring cats and using leashes to prevent dogs from chasing waterbirds and other wildlife in parks, avoiding feeding native birds and reducing home garden and park watering points such as leaking taps and dog dishes – key haunts of Noisy Miner, and sharing of knowledge and ideas with other residents and councils trying to protect and create urban wildlife habitat. An effective community education and engagement program is essential prior to undertaking these actions in the LGA. Existing avenues could include Council’s Bushcare program and sustainable living initiative as well as strengthening links with community-based initiatives such as the Birds in Backyards and WIRES programs. Appendix 2 provides more information about these issues and ameliorative actions.

Protecting and enhancing the City of Canada Bay’s diverse aquatic habitats need to focus on several key target activities. These include protecting designated tidal mudflats as dog-free foraging sites especially for migratory shorebirds, excluding human and dog access to identified waterbird high tide roost sites, promoting the importance of jetties as high tide roost sites for waterbirds, protecting and where feasible expanding saltmarsh remnants, increasing the habitat values of freshwater dams at Concord Golf Course, improving the quality of water flowing into bays, removing plastic and other waste along foreshores, and improving communication and coordination across regulatory agency jurisdictions (Section 5). An education and engagement program developed in consultation with local community, Council, state government and other key stakeholders is needed prior to any implementation of these actions in the LGA.

5. Recommendations

5.1 Overview

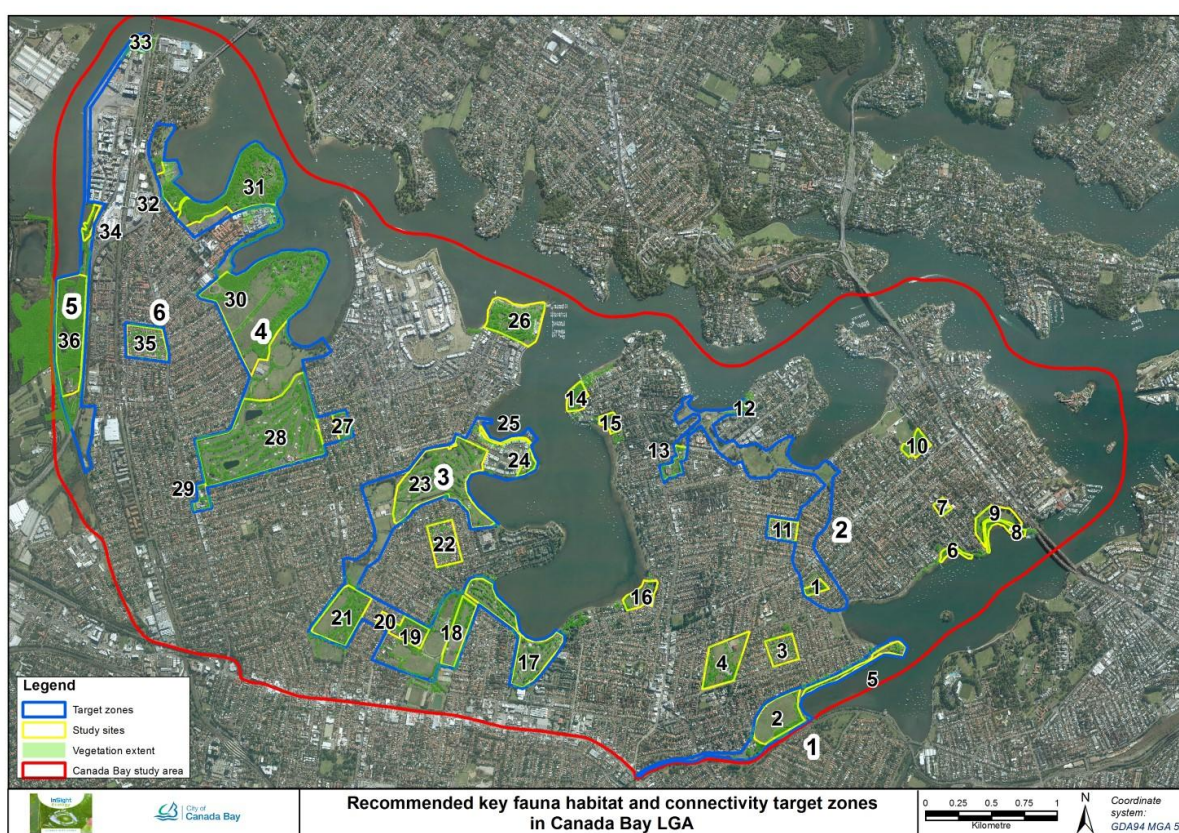
In this section, an integrated strategy is presented to protect native fauna and their habitat, improve the condition of existing habitat, and create new habitat in the City of Canada Bay. A suite of recommended actions are provided together with pertinent management considerations. Emphasis is placed on improving the ecological structure and function of remnant bushland, parkland, urban neighbourhood and aquatic habitats for native fauna across the LGA. Protecting and enhancing existing habitat, increasing habitat connectivity, rehabilitating degraded habitat, reducing threats and managing threatening processes, implementing effective monitoring, and improving community engagement, education and participation are key enabling attributes of the strategy.

This is a long-term strategy for significant and measurable improvement in the ecological health of the City of Canada Bay. It encourages the integration of practical biodiversity conservation actions with sustainable living initiatives and practices, some of which are already underway in the LGA. This strategy will take time, community support and the ongoing commitment of resources to make it happen but, importantly, it is achievable.

5.2 Key fauna habitat and connectivity target zones

Five key fauna habitat and connectivity target zones have been identified in the City of Canada Bay (Figure 2). The location of these zones are based on existing patterns of vegetation distribution, presence of key fauna species and their ecology including patterns of habitat use and dispersal, feasibility of on-ground actions particularly planting new habitat to increase connectivity and enhancing existing habitat, availability of funding and other resources, and level of community support especially the presence of existing Bushcare groups. Key fauna species targeted by these zones are native understorey and groundcover-dependent woodland and forest birds, as well as aquatic species including migratory and resident shorebirds and some waterbirds. However, other indigenous fauna including other birds, some mammals, amphibians and reptiles also stand to benefit from these actions. Each target zone includes both terrestrial and aquatic habitats.

Figure 2: Recommended key habitat and connectivity target zones in City of Canada Bay LGA. The jewel in Canada Bay's crown is Target Zone 4 which includes remnant STIF, saltmarsh and swamp oak floodplain forest EECs and mangrove forest at Yaralla Estate and Rivendell CAF Unit. Target Zone 1 = Iron Cove Creek to Rodd Point, 2 = Nield Park to Five Dock Bay and Abbotsford Bay, 3 = Kings Bay to Exile Bay and France Bay, 4 = Strathfield North Public School to Brays Bay including Yaralla and Rivendell peninsulas, 5 = Mill Park to Biccennial Park east and Powells Creek Reserve, 6 = Coonong Road urban neighbourhood site. Each target zone is indicated by a blue line and a number highlighted in white; light green solid areas within each target zone represent remnant and planted vegetation; yellow lines represent sites surveyed during the study and are accompanied by an ID number. The red line denotes the boundaries of both the study area and the City of Canada Bay LGA. Image: City of Canada Bay 2014.



The term ‘habitat linkage’ is used instead of ‘wildlife corridor’ until target fauna are recorded using these remnants and revegetation as corridors to move, forage and disperse across their ranges. The use of the term “strategy” refers to the overall initiative of protecting and enhancing existing fauna habitat, creating new habitat and monitoring fauna use of remnant and planted habitat within each of the target zones in the City of Canada Bay. This includes habitat in bushland reserves, parkland, golf courses, schools, home gardens and street verges.

This strategy uses a mix of different yet complementary habitat protection, enhancement, creation and linkage actions in each target zone – creating new habitat at key sites, protecting and enhancing existing habitat, planting new habitat linkages, and undertaking community education and engagement programs. New structured habitat is inserted into the target zone as lineal strips (‘habitat linkages’) typically along road and rail reserves and blocks (‘stepping stones’) in reserves, some parks and golf courses, and home gardens. Structured habitat in this context refers to the provision of floristically and structurally diverse indigenous vegetation layers of local provenance – ground (grass, sedge, prostrate/low spreading shrubs), shrub and tree strata. Care needs to be taken to avoid shrubs such as grevillea and callistemon that have flowers which are accessed by Noisy Miner – shrubs with smaller floral tubes such as some *Leptospermum* and *Hakea* species should be used in preference (see Appendix 2). Decaying logs, leaf litter, soil and rocks are also key elements of structured habitat. The avifaunal habitat value of existing remnants and revegetation is enhanced by improving their protection, structure and condition and increasing their size to expand their core habitat area and thus reduce the edge to area ratio.

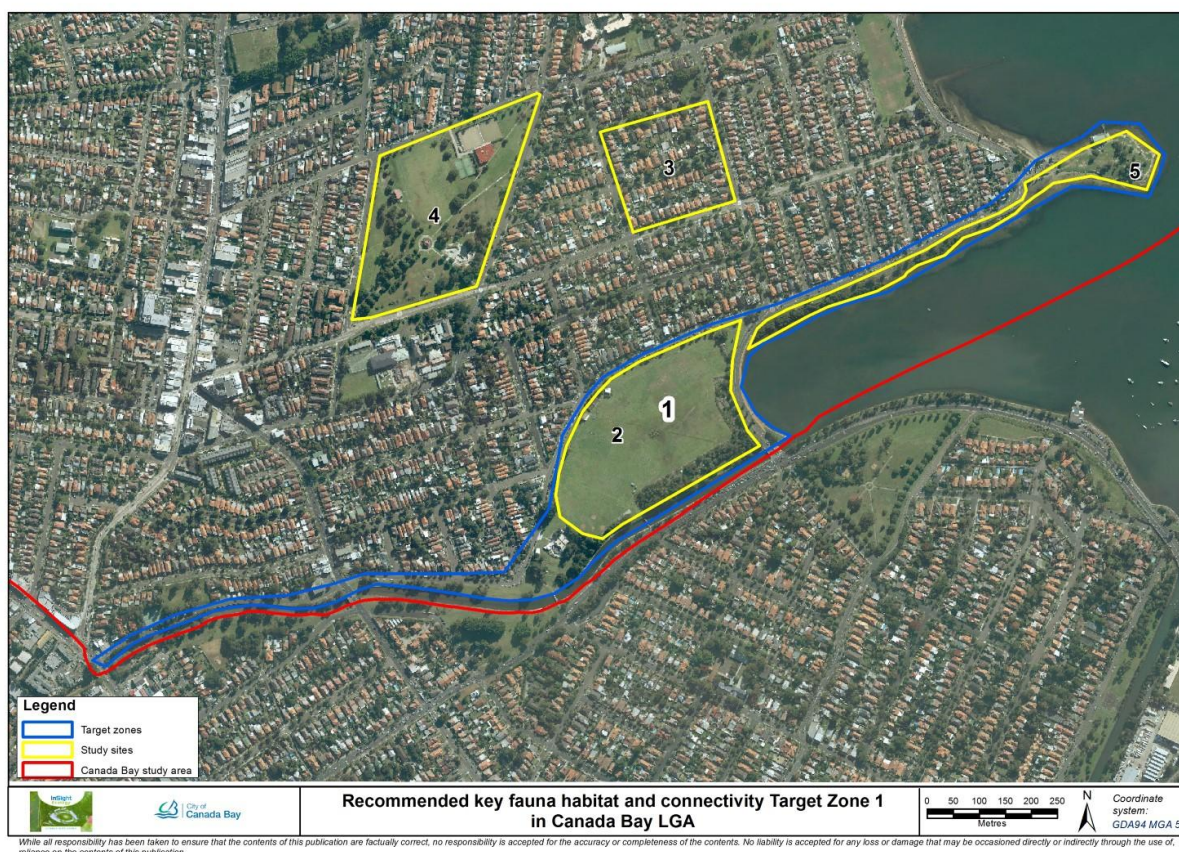
Key native terrestrial bird species targeted by these interventions are Superb Fairy-wren, White-browed Scrubwren, Red-browed Finch, Double-barred Finch, Grey Shrike-thrush, Leaden Flycatcher, Restless Flycatcher, Black-faced Monarch, Grey Fantail, Rufous Fantail, Eastern Yellow Robin, Rufous Whistler, Golden Whistler, Crested Shrike-tit, Spotted Pardalote, Striated Pardalote, Mangrove Gerygone, Yellow Thornbill, Yellow-rumped Thornbill, Brown Thornbill, Willie Wagtail, Eastern Spinebill, White-plumed Honeyeater, New Holland Honeyeater, White-cheeked Honeyeater, White-throated Treecreeper and Tawny Frogmouth (often roosts in the understorey and forages close to the ground). Some of these species - Grey Shrike-thrush, Eastern Yellow Robin, Crested Shrike-tit, Brown Thornbill, Rufous Whistler and White-throated Treecreeper - once occurred in the City of Canada Bay but appear likely to have become locally extinct through habitat loss, modification and fragmentation and predation. In time and following implementation of the recommended actions below, some of these birds might return to the LGA. In the City of Ryde and Hunter’s Hill LGAs to the north, protection of woodland/forest remnants at, for example, Field of Mars Reserve and Lane Cove River National Park, combined with efforts to enhance and re-connect smaller remnant patches has retained most of these species; albeit in low numbers (see InSight Ecology 2010, 2012). The main aquatic species targeted are Buff-banded Rail, Dusky Moorhen, Purple Swamphen, Royal Spoonbill, Australasian Darter, Black-winged Stilt, Eastern Great Egret, Striated Heron, Bar-tailed Godwit, and other migratory shorebirds.

A key pre-requisite for the successful implementation of actions recommended in each target zone is community education, engagement and participation including liaison with other environmental protection and land management organisations. Specific suggestions to aid this are included in each section below and see Appendix 2.

Target Zone 1: Iron Cove Creek and Timbrell Park to Rodd Point (Figure 3)

In this zone the aim is to improve the structure and condition of existing planted habitat, plant new habitat to link isolated patches of revegetation, and undertake activities to reduce coarse waste pollution along the foreshore and at the Iron Cove Creek outflow. Creating new habitat patches within Timbrell Park is constrained by the park's value as an important recreational venue for the local community.

Figure 3: Target Zone 1 – Iron Cove Creek and Timbrell Park to Rodd Point including Henley Marine Drive mudflats and mangroves. The blue line is the target zone; yellow lines are sites surveyed in the study; the red line is part of the boundary of the study area and LGA. Image: City of Canada Bay 2014.



Recommended actions are:

- Plant new structured habitat in small blocks and strips along upper Iron Cove Creek from the corner of Parramatta Road and Henley Marine Drive to the footbridge in Timbrell Park;
- Establish a ground cover and understorey component to existing established (15-25 year-old) plantings of swamp she-oak, paperbark, brush box and Bangalay *Eucalyptus botryoides* (possibly remnant trees) at Timbrell Park;
- Plant a low (under 1.5 m tall and not more than 2 m wide) grass and shrub strip in the road verge along Henley Marine Drive to help link Timbrell Park with Rodd Point; this would provide food for White-plumed Honeyeater, Silvereve and Willie Wagtail, enhance the habitat value of existing small patch lomandra plantings and may help facilitate Superb Fairy-wren (if present) movement along the foreshore;

- If feasible, establish ground, shrub and tree cover at Rodd Point using lomandra, paperbark, swamp she-oak, bangalay and other native species – the current site is very open and heavily trampled by humans – exclusion fencing may be needed;
- Encourage the removal of accumulated plastic and other coarse waste at Rodd Point Beach, along the mangroves adjacent to Henley Marine Drive, and from the trash rack at the Iron Cove Creek outflow into Iron Cove; Rodd Point and Henley Marine Drive foreshore could be a registered community Clean-Up Australia Day site;
- Encourage Roads and Maritime Services to review the effectiveness of the trash rack at the Iron Cove Creek outflow – it appears to have been damaged by past storm events and/or other impacts;

Target Zone 2: Nield Park to Five Dock Bay and Abbotsford Bay (Figure 4)

This is a proposed cross-landscape linkage spanning the mid-section of Drummoyne Peninsula. It starts at Nield Park on Iron Cove’s western shore and extends to Five Dock Bay and Abbotsford Bay. The zone links Nield Park with Russell Lea Infants School via existing street and home garden plantings. It continues via Edenholme Road urban neighbourhood site to three public open space areas around Five Dock Bay – Russell, Lysaght and Campbell Parks. The three parks then link with Figtree Bay Reserve and Wiremill Park via Bibby and Fortescue Streets before heading southwest along Melrose Crescent to Abbotsford Public School.

Figure 4: Target Zone 2 - Nield Park to Five Dock Bay and Abbotsford Bay: The pattern of distribution of remnant and planted vegetation in this area is evident. The blue line is the target zone; yellow lines are sites surveyed in the study; the red line is part of the boundary of the study area and LGA. Image: City of Canada Bay 2014.



Key sections of this zone, planning and management considerations and recommended actions are:

- Nield Park: Plant new patches of native groundcover and shrubs in the northern section and, if possible, along the western edge of the park. Focus on establishing structured habitat to provide future foraging and refuge resources for understorey birds. Educate local residents about cat and dog control to protect native wildlife – newly planted areas may need to be fenced off. Utilise the existing Bushcare and WIRES networks and consider running community information and education events to help engage and inform local residents;
- Russell Lea Infants School: Work with key staff to select and plant indigenous shrubs and groundcover species under or near existing remnant Turpentine and Forest Red Gum trees, members of the Sydney Turpentine-Ironbark Forest EEC, on the school grounds – exclusion fencing is recommended to minimise trampling. Ensure protection and re-planting where needed of the native Weeping Meadow Grass *Microlaena stipoides*. Educate parents of children attending the school and adjoining local residents to support this work specifically and the strategy generally;
- Edenholme Road urban neighbourhood site: The intention is to improve the value of the site as fauna habitat and encourage its use as a habitat stepping stone for birds and other fauna moving between Iron Cove and Five Dock Bay. It is the first of six sites targeted for community education about the strategy and to encourage suitable habitat plantings in street verges and home gardens – termed Home Gardens and Street Verges Site 1. Support of this action, at least on a trial basis, will be needed from Council’s sustainability section. Engage and educate the local community possibly community information events, promote wildlife-friendly pet management and investigate the feasibility of planting shrubs and groundcovers in small blocks under existing established trees in street verges along Sibbick Street, Edenholme Road, Mons Street and Murray Street;
- Russell Park, Lysaght Park and Campbell Park, Five Dock Bay: Insert structured plantings of new habitat in blocks at suitable sites in each park to provide stepping stones for birds and other fauna using and moving through this part of the target zone. Selection of plant species will be influenced by soil type, aspect and drainage with a focus on creating dense understorey and ground cover using acacia, allocasuarina, hakea and leptospermum species. Mudflats present at low tide and any high tide roost sites for waterbirds and shorebirds need to be protected – appropriate signage is recommended. Engagement and education of local residents and park users is essential, again possibly using community field days;
- Figtree Bay Reserve and Wiremill Park: Encourage continued maintenance of the sandstone woodland of remnant *Angophora costata* and planted figs, lemon-scented gum, grevillea, *Banksia integrifolia* and understorey shrubs at Figtree Bay Reserve by Chiswick Bushcare Group. Microhabitat provided by sandstone shelves and a rockwall emplacement currently support breeding populations of Garden Sunskink and Eastern Blue-tongue Lizard. Tawny Frogmouths has been recorded by a local resident. Enhance the existing sandstone bench remnant at the site of the old BHP wiremill adjacent to Wiremill Park with new structured planted blocks and strips to improve linkage with Figtree Bay Reserve. Engagement with the company managing the high rise residential development at this site is essential and should emphasise the overall goals of the strategy and the site significance of the sandstone bench remnant as fauna habitat. Engagement and education of residents about the strategy in this residential complex is also recommended, possibly through information sessions;
- Foreshore Park, Montrose Reserve, Harbourview Crescent and Melrose Crescent, Abbotsford Bay: Review for potential to establish new structured habitat blocks of shrubs and

groundcover vegetation at Foreshore Park, without impinging on this park’s local open space value. Continue to protect the fauna habitat values of native vegetation at the small Montrose Reserve. Engage and educate landholders adjacent to Montrose Reserve and along Harbourview Crescent and Melrose Crescent about these actions locally and for the overall strategy. Properties along Melrose Crescent and Harbourview Crescent are Home Gardens and Street Verges Site 2. Review potential for insertion of structured habitat blocks along parts of Melrose Crescent.

- Abbotsford Public School: Work with the principal, key staff and students to enhance past tree-planting work undertaken at this site by planting blocks of understorey shrubs and ground cover around old remnant and planted eucalypts and brush box in the school grounds. Encourage parents of children attending this school and adjacent residents to support and be involved in the implementation of the strategy at this site and in their home gardens.

Target Zone 3: Kings Bay to Exile Bay and France Bay (Figure 5)

This zone extends from Barnwell Park Golf Course south to Cintra Park and St Lukes Park then west to Concord High School, Concord Public School and Queen Elizabeth Park. The zone then heads north-east to Massey Park Golf Course via Rothwell Park, Jessie Stewart Reserve, Greenlees Park and Edwards Park. Cabarita Peninsula which includes the Cape Cabarita residential development and Prince Edward Park are also included in the zone as is France Bay.

Figure 5: Target Zone 3 - Kings Bay to Exile Bay and Frances Bay: The pattern of distribution of remnant and planted vegetation in this area is evident, particularly at Barnwell Park Golf Course, Queen Elizabeth Park and Massey Park Golf Course. This zone includes key aquatic habitats at Prince Edward Park (Site 24) and Cabarita foreshore and France Bay (Site 25), as well as the Tingara Lane (off Dorking Road) jetty and the private jetty at Cabarita. Image: City of Canada Bay 2014.



Key sections of this zone, planning and management considerations and recommended actions are:

Barnwell Park Golf Course to Cintra Park and St Lukes Park:

- Determine the feasibility of creating structured plantings of new shrub and ground cover habitat in the inter-fairway or 'rough' areas, ie. between fairways, on Barnwell Park Golf Course. Establish these if possible to provide small stepping stones of habitat within a local landscape mostly devoid of significant ground and shrub cover;
- The need to protect and enhance fauna habitats at Barnwell Park Golf Course should be discussed and action coordinated within Council, ie. between Bushcare, planning and engineering sections, and with proponents of any future development proposals that may impact on the fauna habitat conservation values of Barnwell Park Golf Course and Cintra Park;
- The fauna habitat value of the northern section of Barnwell Park Golf Course could benefit from the establishment of planted patches and strips of native habitat - trees, shrubs and groundcovers;
- A new parkland development called St Lukes Park North is currently underway adjacent to the northern section of Cintra Park. If possible, negotiate the plantings of native trees, shrub and groundcovers to enhance fauna habitat values present at Cintra Park. Promote community engagement and education in fauna protection and implementation of the strategy in this locality;
- The established stands of planted swamp she-oak, eucalypts and paperbark flanking Cintra Park canal provide important day refuge habitat (dreys) for Common Ringtail Possum and foraging sites for several native bird species. They require protection from removal for recreational space, other development or vandalism – several of these trees adjacent to the St Lukes Park North site had been removed prior to the April 2014 survey;
- Block plantings of shrubs and groundcover plants are needed to improve habitat diversity under eucalypts and paperbarks along Cintra Park canal. Fencing and signage to exclude and inform recreational users during the establishment phase is recommended;
- Continue working with the WIRES group at Cintra Park to encourage monitoring of the success and destination of Common Ringtail Possum releases. Determine the threshold population size of this species at Cintra Park given constraints on the number of available habitat trees, nest boxes, food supplies and longer-term habitat security issues. Control of the number of animals released at Cintra Park may be needed in line with the results of this review - this may have already been considered by the WIRES group. It may be possible to target other nearby parks for these releases if suitable habitat exists and dog attack and car collision risks are not onerous;
- Undertake community engagement and education including potentially organised field information days or sessions at each site to help protect existing and new plantings of native habitat and ringtail possums, especially at Cintra Park, protect a high tide drying site of Australasian Darter along the Kings Bay seawall opposite the golf course and adjacent mudflats for foraging shorebirds, and to raise awareness of the overall strategy.

Concord High School, Concord Public School and the Crane Street corridor:

- Work with the principals, key staff and students of both these schools to enhance the Crane Street corridor and existing planted sites at each school with shrub and ground cover

plantings under established trees – some new sites for structured plantings including rocks and logs could benefit fauna habitat values at these schools; securing ongoing teacher interest and school support remains a key challenge in this work;

- Promote the strategy to raise community awareness and stimulate participation in the blocks between the schools and Queen Elizabeth Park. This is the area bounded by Burwood Road, Crane Street, Broughton Street and Stanley Street and is Home Gardens and Street Verges Site 3. It forms an important link between Queen Elizabeth Park and Cintra Park and has the potential to improve fauna habitat values, particularly for species moving between these parts of the zone. This area could be extended south to Gipps Street thus potentially improving fauna habitat values by, for example, promoting wildlife-friendly cat and dog management. Consider running community information sessions or field days.

Queen Elizabeth Park to Massey Park Golf Course:

- Where possible increase the area of planted understorey and herb/grass habitat around STIF remnant trees at Queen Elizabeth Park using fencing and signage to inform people about the strategy and help deter access – field information sessions may also help. These patches need to be expanded and connected to provide a wider suite of foraging and potentially nesting habitat for small insectivorous birds and to discourage Noisy Miner incursion;
- Continue to support the valuable bush regeneration work undertaken by Concord Bushcare Group at Queen Elizabeth Park focusing on providing shrub cover for small birds including Superb Fairy-wren (potential for their return, in time);
- Determine the suitability of Rothwell Park, Jessie Stewart Reserve, Greenlees Park and Edwards Park for block plantings of native ground covers, shrubs and trees – plant out where appropriate. The aim is to provide a degree of habitat connectivity between Queen Elizabeth Park and Massey Park Golf Course using these reserves;
- Determine the feasibility of creating structured plantings of new shrub and ground cover habitat along non-fairway sections of Massey Park Golf Course. Establish these if possible to provide small stepping stones of habitat within a local landscape mostly devoid of significant ground and shrub cover;
- Improve community awareness of the value of habitat trees present at the golf course including those used by nesting birds;
- Encourage protection of a waterbird high tide roost site along the golf course's seawall fronting Exile Bay by increasing community awareness. A planted *Themeda triandra* grassland patch in the golf course's north-eastern corner could benefit from fencing and signage to protect Superb Fairy-wren foraging habitat from dogs;
- Work with golf course staff and possibly NSW Environment and Heritage to develop non-lethal methods to mitigate damage caused by Long-billed Corella foraging under grass layers on greens and tees – this also applies to Barnwell Park Golf Course.

Cabarita Peninsula including Prince Edward Park and France Bay:

- Protect important low tide foraging and high tide roost habitats of migratory shorebirds and waterbirds at France Bay, Cape Cabarita residential complex, Prince Edward Park and northern Exile Bay through a targeted local community education program including a community field day. This should focus on increasing the awareness and knowledge of local residents and boat/jetty users regarding the importance of these birds and their habitat and individual actions they can take to protect them such as controlling dog access to the

foreshore - an on-leash only policy is recommended along France Bay mudflats and Prince Edward Park foreshore, not littering the water or mudflats (e.g. peril of plastics message), and respecting interim species protection actions that may be needed. These include consideration of a trial fencing-out of France Bay mudflats and Prince Edward Park rocky platform or restricting human and dog access by signage and ranger patrol during the main summer residency period of Bar-tailed Godwit and other waders. Liaison with Roads and Maritime Services will be needed. Online information and external funding would assist in implementing these actions;

- Encourage local residents along Cabarita foreshore and specifically Rosemeadow Drive to take part in a community-based Rakali monitoring project, similar to one started in 1989 by St Kilda Earthcare group in inner Melbourne (see <http://www.earthcarestkilda.org.au/get-involved/rakali-watch/>). This could be a real local community engagement tool that might also flow-on to help achieve the above shorebird protection actions in the area. Ideally, the project should have a research component and include other sites and local communities where Rakali have been recorded or could occur in the LGA especially Sisters Bay, Half Moon Bay, Brays Bay, Yaralla and Rivendell peninsulas and Powells Creek at Bicentennial Park;
- Continue to support Cabarita Bushcare Group and their important habitat restoration activities at Prince Edward Park including focusing on planting shrub and groundcover habitat for Superb Fairy-wren and other small birds.

Target Zone 4: Strathfield North Public School to Brays Bay including Concord Golf Course and Yaralla and Rivendell peninsulas (Figure 6)

This zone conserves the City of Canada Bay's most significant remnant native vegetation. It features 3.5 km of contiguous riparian forest habitat. This allows some fauna to move between Majors Bay and Brays Bay without barriers such as roads, houses or open parkland. The zone is divided into three sections – Strathfield North Public School, Concord Golf Course and Mortlake Public School, Majors Bay Reserve, Arthur Walker Reserve and Yaralla Estate, and Rivendell CAF Unit, Lovedale Place, Rhodes Park, Brays Bay Reserve and McIlwaine Park.

Key sections of this zone, planning and management considerations and recommended actions are:

Strathfield North Public School, Concord Golf Course and Mortlake Public School:

- Work with the principal, key staff and students to protect individual remnant trees for their fauna habitat values – these are White Stringybark *Eucalyptus globoidea* (and its surrounding native grasses), Rough-barked Apple *Angophora floribunda*, Broad-leaved Apple *A. subvelutina* and Broad-leaved Paperbark *Melaleuca quinquenervia* in the school grounds and Broad-leaved Apple (likely planted) in the Cumming Avenue street verge. Some of these trees may have been pruned or possibly removed during site works in April-June 2014. Remaining healthy trees require protection – those with hollows may provide nesting habitat for a local population of Australian Wood Duck;
- Strengthen bushcare links between Strathfield North P.S. and the adjacent Concord Golf Course with a focus on the value of maintaining a canopy connection across Cumming Avenue for the movement of Common Brushtail Possum and Common Ringtail Possum;
- Determine the feasibility of establishing shrub and ground cover block plantings at the northern end of the school grounds and along Cumming Avenue;

Figure 6: Target Zone 4 – Strathfield North Public School to Brays Bay: This shows a continuous strip of remnant native forest and woodland extending from Brays Bay in the north (Site 32) via Rivendell (Site 31) and Yaralla (Site 30) peninsulas to Majors Bay in the south with poor connection to remnant and planted strips at Concord Golf Course (Site 28). Strathfield North Public School (Site 29) and Mortlake Public School (Site 27) are also shown. Target Zones 5 and 6 are also indicated. The blue line is the target zone; yellow lines are sites surveyed in the study; the red line is part of the boundary of the study area and LGA. Image: City of Canada Bay 2014.



- Where possible at Concord Golf Course, enhance existing shrub and ground cover plantings and provide new understorey habitat between fairways, in areas adjoining the northern (Yaralla Street, Nullawarra Avenue and Norman Street) and western (Cumming Avenue) perimeters, and under the remnant stands in the south-east and south-west corners;
- Consider increasing the width of existing she-oak and eucalypt strips along the northern perimeter of the golf course using STIF member tree and shrub species. This would improve the currently thin canopy connection with Majors Bay Reserve and may help understorey birds move between this area and northern parts of the zone;

- Plant non-invasive native reeds and rushes around the margins of both larger dams (in the north-west and south-west corners of the golf course) to provide refuge and nesting habitat for Eurasian Coot, Dusky Moorhen, Australasian Grebe, Purple Swamphen and cover-dependent cryptic species such as Nankeen Night-Heron and Buff-banded Rail. Students from nearby Mortlake Public School and Concord Bushcare volunteers could assist in this work;
- Work with the principal, key staff and students of Mortlake Public School to protect individual remnant Broad-leaved Apple for their fauna habitat values. Some of these trees may have been pruned or possibly removed during site works in April-June 2014. Remaining healthy trees require protection;
- Promote the strategy to raise community awareness and stimulate participation in the block between Mortlake Public School and Concord Golf Course. This is the area bounded by Majors Bay Road, Brays Road, Noble Street and Archer Street and is Home Gardens and Street Verges Site 4. This block could help improve canopy habitat linkage between the school and the golf course and thus help facilitate movement of some fauna between these parts of the zone.

Majors Bay Reserve, Arthur Walker Reserve and Yaralla Estate

- Plant blocks of tree, shrub and groundcover habitat in parts of Majors Bay Reserve away from existing sporting fields to improve the poor degree of habitat linkage currently offered by this reserve to Concord Golf Course in the south and Yaralla Estate in the north. This would also provide habitat for understorey-dependent species such as White-browed Scrubwren and Superb Fairy-wren and potentially facilitate their movement into habitats at Concord Golf Course;
- Maintained the existing rehabilitated grassland in Arthur Walker Reserve as foraging habitat for Red-browed Finch, Superb Fairy-wren and potentially Brown Quail and other grassland species such as skinks and Eastern Blue-tongue Lizard;
- Continue current bush regeneration work in the STIF remnants in the south-east and north-west corners of Yaralla Estate. This should be undertaken using a patch mosaic approach to ensure some weedy undergrowth patches are retained for Superb Fairy-wren and White-browed Scrubwren use while other patches are being regenerated to STIF-member native groundcover and shrub species. Key weed species to target include African olive, celtis, green cestrum, ochna, lantana, honeysuckle, morning glory and privet;
- Implement bush regeneration works along the weedy ecotone of STIF, swamp-oak floodplain forest and mangrove forest communities along Yaralla peninsula using the patch mosaic approach and targeting the above species. This will help improve habitat values especially for ground and understorey foraging and nesting birds while increasing the potential for the eventual return of key bird species such as Eastern Yellow Robin, Grey Shrike-thrush, Crested Shrike-tit, Brown Thornbill and White-throated Treecreeper;
- Continue protection and enhancement of remnant saltmarsh patches along Yaralla headland foreshores. Investigate the feasibility of increasing the size of existing saltmarsh patches and establishing new saltmarsh patches to provide habitat, potentially for future White-fronted Chat re-introduction (if feasible) and other bird species – consultation with Sydney Olympic Park and their saltmarsh nursery is recommended;
- Fence off and install appropriate signage to protect a patch of Parramatta Wattle *Acacia parramattensis* and Australian Blackthorn *Bursaria spinosa* from a proposed off-leash dog exercise area in the north-west corner of Yaralla Estate that abuts Nullawarra Avenue;

- Plant patches of Sunshine Wattle *Acacia terminalis*, Australian Blackthorn and other shrubs as small habitat linkages and stepping stones for Superb Fairy-wren, White-browed Scrubwren and other understorey birds. The aim is to link Yaralla's northern remnant with its southern remnant by inserting these new habitat blocks and strips along existing fences (white wooden railing and posts) that delineate internal paddock boundaries across cleared sections of Yaralla Estate. Negotiate with NSW Health and other relevant interest groups to achieve this, preferably as part of an overall biodiversity management plan prepared for Yaralla Estate and Rivendell CAF Unit and in recognition of recommendations made in the 2014-2016 draft management plan for Yaralla Estate;
- Raise awareness of and stimulate participation by residents living opposite Yaralla Estate along the western side of Nullawarra Avenue, from the junction of Moala Street to the junction of Wilga Street opposite Arthur Walker Reserve, in protecting a Superb Fairy-wren population and their home garden habitat. This should include wildlife-friendly cat and dog management; community information session is recommended, ideally as part of a field day at Yaralla Estate. This strip of private residences is Home Gardens and Street Verges Site 5.

Rivendell CAF Unit, Lovedale Place, Rhodes Park, Brays Bay Reserve and McIlwaine Park:

- Protect and enhance remnant STIF trees scattered throughout the grounds of Rivendell CAF Unit and swamp oak floodplain forest and mangrove forest along the Rivendell to Lovedale Place foreshores by encouraging planting of shrub and ground cover blocks under isolated trees and clumps. There is an opportunity to plant out an area currently mown near Rocky Point on the northern tip of the Rivendell peninsula.
- Support the preparation of a biodiversity plan of management for the Rivendell and Yaralla peninsulas in consultation with NSW Health, Yaralla Bushcare Group and other relevant stakeholders. This should contain strategies and actions to protect and enhance remnant native vegetation, reduce threats particularly improving fox and cat control, fencing off newly planted areas with signage as required, weed control, managing public access, and engaging and educating NSW Health staff and contractors about the plan and their participation to help implement it;
- Establish dense block plantings of groundcover and shrub species to widen existing lomandra, lillypilly and other revegetation in the upper section of Brays Bay Reserve near the viewing point. This will enhance foraging habitat for a small population of White-browed Scrubwren and Superb Fairy-wren. Similar opportunities for these enhancement plantings exist within Rhodes Park;
- Protect existing planted *Themeda triandra* grassland on the mid and lower slopes of the above site at Brays Bay Reserve from proposed re-development of the landing site in 2015. This will protect important foraging and likely breeding habitat of White-browed Scrubwren and Superb Fairy-wren and possibly frog species and reptile species. Detailed recommendations for this specific site have been supplied by InSight Ecology to Council on 10 December 2013 and these should be followed in negotiation with the key stakeholders. Key progress at this site has recently been achieved by Council's Bushcare section;
- Determine the feasibility of creating blocks of groundcover and shrub species under existing planted trees at McIlwaine Park. This will provide small habitat stepping stones for Superb Fairy-wren, White-browed Scrubwren and possibly other fauna allowing to disperse out from existing habitat patches at Brays Bay Reserve and Rhodes Park.

Target Zone 5: Mill Park to Bicentennial Park east and Powells Creek Reserve (Figure 6)

This zone aims to re-connect habitat along the eastern shoreline of Homebush Bay with important mangrove forest, swamp oak floodplain forest and a tidal creek in the eastern section of Bicentennial Park. This park is managed by Sydney Olympic Park Authority (SOPA).

Key planning and management considerations and recommended actions are:

- Determine the feasibility of planting small blocks and strips of small trees, shrubs and groundcovers along the terrestrial eastern edge of Homebush Bay from Mill Park to the northern boundary of Bicentennial Park opposite Liberty Grove. These could provide habitat stepping stones to facilitate the movement and dispersal of a population of Superb Fairy-wren from Bicentennial Park to Mill Park and attract several honeyeaters and possibly other fauna;
- Community education is recommended in the higher density area of Rhodes peninsula east of the train line, particularly about the control of dogs and cats and their impact on resident fairy-wren populations and other fauna. Working together with Sydney Water and SOPA will also be essential;
- Educate and negotiate Council engineering and works staff to retain existing structured habitat plantings (e.g. Australian blackthorn and wattles) along the mangrove edge at Rider Boulevard;
- Structured habitat plantings of shrubs and groundcover species could also be inserted in some parts of Powells Creek Reserve to increase fauna habitat complexity and foraging resources. These may require fencing and signage during the establishment phase. Fencing and signage should also be considered to protect a drainage line that flows into Powells Creek from Homebush Bay Drive;
- Community engagement and education to improve cat and dog incursion, reduce littering and enlist of the overall strategy is recommended right along this zone.

Target Zone 6: Coonong Road urban neighbourhood site (Figure 6)

This site in Concord West comprises a block of three east-west aligned streets – Coonong, Bangalla and Wunda Roads, bordered by Concord Road on the eastern side and Queen Street along the western perimeter. It is positioned between Yaralla Estate to the east and Bicentennial Park to the west. Some individual, possibly remnant eucalypts - Red Mahogany and Grey Ironbark - occur in the backyard of properties in Wunda Road and Queen Street. Small populations of Superb Fairy-wren with young birds were recorded foraging in home garden hedges of small-leaved privet, photinia and camellia along Coonong Road and Wunda Road. A community education and engagement project is recommended at this site with the aim of protecting and enhancing Superb Fairy-wren and other native fauna habitat. This is Home Gardens and Street Verges Site 6.

Prioritising action across the target zones

There is a need to prioritise a program of on-ground action in these target zones given pertinent project resourcing constraints. The following proposed order of action is provided in an attempt to ensure the work can be undertaken in a staged approach matched against available resources. These include in-kind contributions from schools, Bushcare, WIRES and BirdLife Australia volunteers and SOPA and potential future funds from avenues such as the

NSW Environmental Trust. Protection of foreshore areas including tidal mudflats, rocky outcrops, creek inflows and mangrove communities is the responsibility of Roads and Maritime Services. Liaison with this organisation to facilitate improved protection and management of these habitats is highly recommended.

- Target Zone 4 – recognises that Yaralla Estate and Rivendell CAF Unit are *the* key remnants in the LGA and are one of only a few significant bushland remnants left in Sydney’s inner-west;
- Target Zone 3 – contains two Council-owned golf courses with ‘foundation’ native tree cover for building future habitat stepping stones and linkages around; also good school and community group presence and past/current Bushcare group involvement;
- Target Zone 2 – the only bay-to-bay proposed linkage; challenges exist across mostly private tenure but with potential gains from effective (and new) community engagement that attempts to reach beyond existing environmental programs;
- Target Zone 5 – actions in much of this zone are already in place but requires more community education including within Council and other organisations such as Sydney Water;
- Target Zone 1 – a challenging assignment with competing open space demands from users especially at Timbrell Park and Rodd Point and along the Bay Run section of Iron Cove’s western shoreline; however, this should not deter attempting recommended actions in this zone.

5.3 Other sites requiring protection

There are several other sites in the LGA that fall outside of the target zones but require urgent action to protect native fauna and flora and their habitats. These include mangroves and tidal mudflats at Half Moon Bay and Sisters Bay where littering has shrouded the upper sections of their beaches and rocky ledges, old STIF trees at Five Dock Park mostly from vandalism, tidal mudflats at Henry Lawson Park, mangrove and swamp oak forest remnants at Quarantine Reserve, exclusion fencing and signage is recommended to keep dogs out of the tidal mudflats and high tide roost sites for migratory waders and other waterbirds at Halliday Park as well as culling of a large flock of Common Myna that roost in the mangroves, and planting groundcover and shrub patches to improve habitat values at Cabarita Park. The latter site needs exclusion and signage along its northern sandstone slope to protect remnant native grasses, herbs and shrubs from trampling and removal. Cabarita Bushcare Group should target some of their work to achieve these actions at Cabarita Park.

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Appendices

Appendix 1: City of Canada Bay Fauna Study 2013-14: All birds recorded by InSight Ecology during the spring and autumn surveys

^incl. STIF, swamp oak floodplain forest, saltmarsh, mangrove forest #incl. beaches, mudflats, open water, streams, canals, dams, seawalls, natural rock outcrops, jetties * introduced species

Record No.	Common Name	Scientific Name	Date	Time	Site No.	Site Name	Site location	Bushland Remnant [^]	Revegetated Parkland	Open Parkland	Urban Neighbourhood	Aquatic habitats #	Comments
1	Black Swan	<i>Cygnus atratus</i>	O10414	0710-1020	36	Bicentennial Park east	S 33° 50' 38.2" E 151° 04' 50.5"	0	0	0	0	2	flew from Waterbird Refuge south along Powells Creek; with R. Stevenson, D. Oldfield & F. Davis
2	Australian Wood Duck	<i>Chenonetta jubata</i>	241113	0930-1035	29	Strathfield North Public School	S 33° 51' 18.9" E 151° 05' 33.7"	0	0	4	0	0	foraged on mown lawn N section with remnant rough-barked apple & white stringybark - 3 female, 1 male, likely from adjacent Concord Golf Course
3	Australian Wood Duck	<i>Chenonetta jubata</i>	281113	1645-1850	28	Concord Golf Course	S 33° 50' 48.9" E 151° 05' 59.9", S 33° 50' 56.4" E 151° 05' 44.6"	0	0	0	0	45	rested on fairway just S of small reedy dam in NE cnr (15); rested on fairway just E of northern dam & around dam banks (27, incl 8 juvs) & on banks of southern dam (3); likely some of these birds were recorded in nearby Strathfield North PS
4	Australian Wood Duck	<i>Chenonetta jubata</i>	O70414	1710-1740	17	Barnwell Park Golf Course	S 33° 51' 55.6" E 151° 07' 14.0"	0	0	5	0	0	foraged on fairway & green - southern section; with D. Oldfield
5	Australian Wood Duck	<i>Chenonetta jubata</i>	O70414	1535-1700	23	Massey Park Golf Course	S 33° 51' 10.1" E 151°	0	0	22	0	0	foraged on fairways and nr drainage lines, mix of

Record No.	Common Name	Scientific Name	Date	Time	Site No.	Site Name	Site location	Bushland Remnant [^]	Revegetated Parkland	Open Parkland	Urban Neighbourhood	Aquatic habitats #	Comments
							06' 37.0", S 33° 51' 13.2" E 151° 06' 42.3"						mostly adults with some immature birds; with D. Oldfield
6	Australian Wood Duck	<i>Chenonetta jubata</i>	O30414	0710-0910	28	Concord Golf Course	S 33° 50' 48.9" E 151° 05' 59.9", S 33° 50' 56.4" E 151° 05' 44.6", S 33° 51' 02.8" E 151° 05' 38.0"	0	0	32	0	0	rested on fairway just S of small reedy dam in NE cnr (6 - 3 adults, 3 immatures); rested on fairway just E of northern dam (19, incl 5 immatures) & on fairway west of largest dam (7 - 2 adults with 5 recent fledglings); with D. Oldfield
7	Grey Teal	<i>Anas gracilis</i>	281113	0615-0900	36	Bicentennial Park east	S 33° 50' 38.2" E 151° 04' 50.5"	0	0	0	0	18	foraged in open water and perched on stumps and debris banks in the billabong; with R. Stevenson & D. Oldfield
8	Grey Teal	<i>Anas gracilis</i>	O10414	0710-1020	36	Bicentennial Park east	S 33° 50' 38.2" E 151° 04' 50.5"	0	0	0	0	6	foraged in open water and perched on stumps and debris banks in the billabong; with R. Stevenson, D. Oldfield & F. Davis
9	Chestnut Teal	<i>Anas castanea</i>	211113	1710-1810	8	Sisters Bay	S 33° 51' 26.7" E 151° 09' 24.0"	0	0	0	0	2	perched on rocks @ water's edge; with A. Doldissen
10	Chestnut Teal	<i>Anas castanea</i>	281113	0615-0900	36	Bicentennial Park east	S 33° 50' 38.2" E 151° 04' 50.5"	0	0	0	0	8	foraged in open water and rested on debris banks in billabong; with R. Stevenson & D. Oldfield
11	Chestnut Teal	<i>Anas castanea</i>	O90414	0730-0815	8	Sisters Bay	S 33° 51' 29.5" E 151° 09' 34.4"	0	0	0	0	1	adult male obs drinking water from rock along bay; with A. Doldissen & C. Paine

Record No.	Common Name	Scientific Name	Date	Time	Site No.	Site Name	Site location	Bushland Remnant ^A	Revegetated Parkland	Open Parkland	Urban Neighbourhood	Aquatic habitats #	Comments
12	Pacific Black Duck	<i>Anas superciliosa</i>	211113	0855-0935	12	Figtree Bay Reserve	S 33° 50' 56.4" E 151° 08' 13.1"	0	0	0	0	2	perched on rocks at water's edge
13	Pacific Black Duck	<i>Anas superciliosa</i>	251113	0945-1120	23	Massey Park Golf Course	S 33° 51' 10.1" E 151° 06' 37.0"	0	0	1	0	0	with R. Stevenson & D. Oldfield
14	Pacific Black Duck	<i>Anas superciliosa</i>	281113	0615-0900	36	Bicentennial Park east	S 33° 50' 38.2" E 151° 04' 50.5"	0	0	0	0	2	foraged in open water at billabong; with R. Stevenson & D. Oldfield
15	Pacific Black Duck	<i>Anas superciliosa</i>	281113	1645-1850	28	Concord Golf Course	S 33° 51' 05.0" E 151° 05' 52.1"	0	0	0	0	1	banks of smaller S dam
16	Pacific Black Duck	<i>Anas superciliosa</i>	030414	0710-0910	28	Concord Golf Course	S 33° 50' 48.9" E 151° 05' 59.9", S 33° 50' 56.4" E 151° 05' 44.6"	0	0	0	0	3	foraged on water in small reedy dam with Dusky Moorhen & Purple Swamphen & on main dam; with D. Oldfield
17	Australasian Grebe	<i>Tachybaptus novaehollandiae</i>	281113	1645-1850	28	Concord Golf Course	S 33° 50' 56.4" E 151° 05' 44.6", S 33° 51' 05.0" E 151° 05' 52.1"	0	0	0	0	4	2 foraged on larger northern dam & 2 on smaller southern dam
18	Australasian Grebe	<i>Tachybaptus novaehollandiae</i>	030414	0710-0910	28	Concord Golf Course	S 33° 51' 05.0" E 151° 05' 52.1"	0	0	0	0	1	foraged on medium-sized dam with little fringing vegetation in SW cnr; with D. Oldfield
19	Rock Dove *	<i>Columba livia</i>	201113	1050-1120	4	Five Dock Park	S 33° 52' 03.9" E 151° 08' 01.0"	0	0	19	0	0	foraged on oval & park edge nr Great North Rd
20	Rock Dove *	<i>Columba livia</i>	201113	1620-1720	5	Iron Cove - south-western foreshore from Iron Cove Ck to Rodd Point	S 33° 52' 13.2" E 151° 08' 31.4" (Arthur St); S 33° 51' 57.7" E 151° 08' 49.6"	0	0	0	0	1	in mangroves @ low tide; with A. Doldissen

Record No.	Common Name	Scientific Name	Date	Time	Site No.	Site Name	Site location	Bushland Remnant ^A	Revegetated Parkland	Open Parkland	Urban Neighbourhood	Aquatic habitats #	Comments
							(Rodd Pt)						
21	Rock Dove *	<i>Columba livia</i>	211113	0755-0840	10	Drummoyne Park	S 33° 51' 07.6" E 151° 09' 00.5"	0	0	1	0	0	foraged on path edge
22	Rock Dove *	<i>Columba livia</i>	211113	1710-1810	8	Sisters Bay	S 33° 51' 26.7" E 151° 09' 24.0"	0	0	0	0	3	foraged in mangroves @ low tide; with A. Doldissen
23	Rock Dove *	<i>Columba livia</i>	231113	1610-1710	27	Mortlake Public School	S 33° 50' 56.8" E 151° 06' 11.4"	0	0	7	0	0	on asphalt playground; with G. Duggan
24	Rock Dove *	<i>Columba livia</i>	241113	0930-1035	29	Strathfield North Public School	S 33° 51' 18.9" E 151° 05' 33.7"	0	0	0	5	0	likely nesting under eaves Correys Av side
25	Rock Dove *	<i>Columba livia</i>	281113	0920-1110	26	Cabarita Park	S 33° 50' 30.6" E 151° 07' 10.9"	0	8	0	0	0	with G. Duggan, R. Stevenson, D. Oldfield
26	Rock Dove *	<i>Columba livia</i>	010414	0710-1020	36	Bicentennial Park east	S 33° 50' 47.1" E 151° 04' 51.0"	0	1	0	0	0	foraged around playground area; with R. Stevenson, D. Oldfield & F. Davis
27	Rock Dove *	<i>Columba livia</i>	050414	1615-1645	4	Five Dock Park	S 33° 52' 03.9" E 151° 08' 01.0"	0	0	2	0	0	foraged on oval
28	Rock Dove *	<i>Columba livia</i>	060414	0850-0950	13	Abbotsford Public School	S 33° 51' 11.4" E 151° 07' 53.4", S 33° 51' 12.6" E 151° 07' 48.5"	0	0	7	0	0	with C. Paine
29	Rock Dove *	<i>Columba livia</i>	100414	0730-0850	5	Iron Cove - southwestern foreshore from Iron Cove Ck to Rodd Point	S 33° 52' 13.2" E 151° 08' 31.4" (Arthur St); S 33° 51' 57.7" E 151° 08' 49.6" (Rodd Pt)	0	0	0	0	2	foraged in mangroves @ ebb tide (low @ 1109); with A. Doldissen & F. Davis

Record No.	Common Name	Scientific Name	Date	Time	Site No.	Site Name	Site location	Bushland Remnant [^]	Revegetated Parkland	Open Parkland	Urban Neighbourhood	Aquatic habitats #	Comments
30	Rock Dove *	<i>Columba livia</i>	O80414	0650-0715	7	Drummoyne Public School	S 33° 51' 21.2" E 151° 09' 08.7"	0	0	7	0	0	foraged on school playground (sealed)
31	Rock Dove *	<i>Columba livia</i>	O80414	0835-0935	10	Drummoyne Park	S 33° 51' 07.6" E 151° 09' 00.5"	0	2	3	0	0	foraged on mown grasses areas under old planted trees & footpath; with E. Hughes
32	Rock Dove *	<i>Columba livia</i>	O80414	1655-1730	1	Russell Lea Infants School	S 33° 51' 41.3" E 151° 08' 35.1"	0	0	1	0	0	foraged in open grassed playground area
33	Rock Dove *	<i>Columba livia</i>	O40414	0700-0745	27	Mortlake Public School	S 33° 50' 56.8" E 151° 06' 11.4"	0	0	4	0	0	on sealed and grassed sections of playground; with G. Duggan
34	Rock Dove *	<i>Columba livia</i>	O30414	1750-1830	29	Concord High School	S 33° 51' 50.0" E 151° 06' 29.0"	0	0	4	0	0	foraged in playground; with P. Smith
35	Rock Dove *	<i>Columba livia</i>	O30414	1530-1610	20	Concord Public School	S 30° 51' 51.4" E 151° 06' 07.2"	0	0	3	0	0	foraged in schoolyard
36	Rock Dove *	<i>Columba livia</i>	O30414	0935-1040	26	Cabarita Park	S 33° 50' 30.6" E 151° 07' 10.9"	0	8	8	0	0	with G. Duggan
37	Rock Dove *	<i>Columba livia</i>	O70414	0600-0800	16	Halliday Park	S 33° 51' 39.4" E 151° 07' 42.7"	0	0	4	0	0	foraged around playground area; with J. Harrington
38	Rock Dove *	<i>Columba livia</i>	O20414	1545-1825	30	Yaralla Estate	S 33° 50' 34.8" E 151° 05' 53.0"	0	0	5	0	0	foraged in old horse paddock nr main entrance; with R. Stevenson, D. Oldfield, A. Doldissen & F. Davis
39	Spotted Dove *	<i>Streptopelia chinensis</i>	201113	0710-0840	1	Russell Lea Infants School	S 33° 51' 41.1" E 151° 08' 31.5"	0	0	1	0	0	called
40	Spotted Dove *	<i>Streptopelia chinensis</i>	201113	0900-1010	2	Timbrell Park	S 33° 52' 09.4" E 151°	0	0	5	0	0	foraged on oval perimeters

Record No.	Common Name	Scientific Name	Date	Time	Site No.	Site Name	Site location	Bushland Remnant [^]	Revegetated Parkland	Open Parkland	Urban Neighbourhood	Aquatic habitats #	Comments
							08' 21.1"						
41	Spotted Dove *	<i>Streptopelia chinensis</i>	201113	1050-1120	4	Five Dock Park	S 33° 52' 03.9" E 151° 08' 01.0"	0	0	11	0	0	foraged on oval
42	Spotted Dove *	<i>Streptopelia chinensis</i>	201113	1620-1720	5	Iron Cove - south-western foreshore from Iron Cove Ck to Rodd Point	S 33° 52' 13.2" E 151° 08' 31.4" (Arthur St); S 33° 51' 57.7" E 151° 08' 49.6" (Rodd Pt)	0	0	0	0	4	foraged in mangroves @ low tide; with A. Doldissen
43	Spotted Dove *	<i>Streptopelia chinensis</i>	211113	1030-1050	11	Edenholme Road	S 33° 51' 23.9" E 151° 08' 19.5"	0	0	0	2	0	called & observed
44	Spotted Dove *	<i>Streptopelia chinensis</i>	231113	1035-1115	22	Empire Avenue	S 33° 51' 33.2" E 151° 06' 39.7"	0	0	0	4	0	likely nesting in dense exotic cypress in front yards; with M. Newton
45	Spotted Dove *	<i>Streptopelia chinensis</i>	241113	1620-1815	18	Cintra Park	S 33° 51' 49.9" E 151° 06' 43.8"	0	0	1	0	0	with K. Spasojevic & H. Saldamli
46	Spotted Dove *	<i>Streptopelia chinensis</i>	251113	0655-0915	17	Barnwell Park Golf Course	S 33° 52' 04.3" E 151° 07' 05.6" (S end nr Five Dock Leisure Centre)	0	0	1	0	0	southern section; with R. Stevenson & D. Oldfield
47	Spotted Dove *	<i>Streptopelia chinensis</i>	261113	0645-0845	30	Yaralla Estate	S 33° 50' 17.6" E 151° 05' 55.0"	2	0	0	0	0	southern section - STIF remnant edge with Majors Bay Reserve oval; with R. Stevenson & D. Oldfield
48	Spotted Dove *	<i>Streptopelia chinensis</i>	261113	0925-1040	30	Yaralla Estate	S 33° 50' 27.8" E 151° 05' 35.7"	3	0	0	0	0	northern section - dryland STIF remnant in NW cnr; with R. Stevenson & D. Oldfield

Record No.	Common Name	Scientific Name	Date	Time	Site No.	Site Name	Site location	Bushland Remnant [^]	Revegetated Parkland	Open Parkland	Urban Neighbourhood	Aquatic habitats #	Comments
49	Spotted Dove *	<i>Streptopelia chinensis</i>	271113	0625-0740	32	Rhodes Park & Brays Bay Reserve	S 33° 49' 54.0" E 151° 05' 24.6"	0	2	0	0	0	with R. Stevenson & D. Oldfield
50	Spotted Dove *	<i>Streptopelia chinensis</i>	271113	1020-1110	35	Coonong Road	S 33° 50' 35.3" E 151° 05' 20.6"	0	0	0	8	0	likely nesting in old home garden exotic cypress; with R. Stevenson & D. Oldfield
51	Spotted Dove *	<i>Streptopelia chinensis</i>	271113	1710-1800	16	Halliday Park	S 33° 51' 39.4" E 151° 07' 42.7"	0	0	1	0	0	likely nesting in mangrove patch
52	Spotted Dove *	<i>Streptopelia chinensis</i>	030414	0935-1040	26	Cabarita Park	S 33° 50' 30.6" E 151° 07' 10.9"	0	0	2	0	0	with G. Duggan
53	Spotted Dove *	<i>Streptopelia chinensis</i>	080414	1655-1730	1	Russell Lea Infants School	S 33° 51' 41.3" E 151° 08' 35.1"	0	0	1	0	0	foraged in open grassed playground area
54	Spotted Dove *	<i>Streptopelia chinensis</i>	090414	1630-1740	2	Timbrell Park	S 33° 52' 13.5" E 151° 08' 27.9"	0	5	0	0	0	foraged on ground among tall planted lomandra sward on E side of oval fronting bay; with A. Doldissen
55	Spotted Dove *	<i>Streptopelia chinensis</i>	050414	1655-1715	3	Noble Street	S 33° 51' 52.9" E 151° 08' 22.3"	0	0	0	1	0	foraged along footpath
56	Spotted Dove *	<i>Streptopelia chinensis</i>	050414	1615-1645	4	Five Dock Park	S 33° 52' 03.9" E 151° 08' 01.0"	0	0	2	0	0	foraged on oval
57	Spotted Dove *	<i>Streptopelia chinensis</i>	100414	0730-0850	5	Iron Cove - south-western foreshore from Iron Cove Ck to Rodd Point	S 33° 52' 13.2" E 151° 08' 31.4" (Arthur St)	0	0	0	0	3	foraged in mangroves @ ebb tide (low @ 1109); with A. Doldissen & F. Davis

Record No.	Common Name	Scientific Name	Date	Time	Site No.	Site Name	Site location	Bushland Remnant [^]	Revegetated Parkland	Open Parkland	Urban Neighbourhood	Aquatic habitats #	Comments
58	Spotted Dove *	<i>Streptopelia chinensis</i>	O80414	0730-0825	11	Edenholme Road	S 33° 51' 23.9" E 151° 08' 19.5", S 33° 51' 25.1" E 151° 08' 27.6"	0	0	0	4	0	called, foraged street verges, rooftops; with E. Hughes
59	Spotted Dove *	<i>Streptopelia chinensis</i>	O20414	1115-1145	22	Empire Avenue	S 33° 51' 33.2" E 151° 06' 39.7", S 33° 51' 23.0" E 151° 06' 45.3"	0	0	0	4	0	obs in dense exotic cypress in front yards (possibly re-nesting?); with R. Stevenson
60	Spotted Dove *	<i>Streptopelia chinensis</i>	100414	O620-0710	6	Half Moon Bay	S 33° 51' 35.2" E 151° 09' 10.1"	0	0	0	0	2	foraged on sandy beach above mudflat; preceded by Rakali search 0545-0610; with A. Doldissen & F. Davis
61	Spotted Dove *	<i>Streptopelia chinensis</i>	O20414	1545-1825	30	Yaralla Estate	S 33° 50' 17.6" E 151° 05' 55.0"	2	0	0	0	0	southern section - STIF remnant edge with Majors Bay Reserve oval; with R. Stevenson, D. Oldfield, A. Doldissen & F. Davis
62	Spotted Dove *	<i>Streptopelia chinensis</i>	O20414	1005-1055	32	Rhodes Park & Brays Bay Reserve	S 33° 49' 54.0" E 151° 05' 24.6"	0	0	2	0	0	with R. Stevenson & A. Ellison
63	Spotted Dove *	<i>Streptopelia chinensis</i>	O10414	1810-1840	35	Coonong Road	S 33° 50' 35.3" E 151° 05' 20.6"	0	0	0	6	0	with R. Stevenson, F. Davis & A. Ellison
64	Spotted Dove *	<i>Streptopelia chinensis</i>	O30414	1530-1610	20	Concord Public School	S 30° 51' 51.4" E 151° 06' 07.2"	0	0	8	0	0	foraged school playground area
65	Spotted Dove *	<i>Streptopelia chinensis</i>	O30414	1630-1710	29	Strathfield North Public School	S 33° 51' 19.6" E 151° 05' 29.4"	0	0	3	0	0	foraged in playground

Record No.	Common Name	Scientific Name	Date	Time	Site No.	Site Name	Site location	Bushland Remnant ^A	Revegetated Parkland	Open Parkland	Urban Neighbourhood	Aquatic habitats #	Comments
66	Spotted Dove *	<i>Streptopelia chinensis</i>	070414	0600-0800	16	Halliday Park	S 33° 51' 43.5" E 151° 07' 36.4"	2	0	0	0	0	obs leaving night roost in main mangrove patch at ca. 0600 (J.H.); with J. Harrington (J.H.)
67	Crested Pigeon	<i>Ocyphaps lophotes</i>	201113	0710-0840	1	Russell Lea Infants School	S 33° 51' 41.1" E 151° 08' 31.5"	0	0	2	0	0	foraged on grass
68	Crested Pigeon	<i>Ocyphaps lophotes</i>	201113	1050-1120	4	Five Dock Park	S 33° 52' 03.9" E 151° 08' 01.0"	0	0	8	0	0	courted
69	Crested Pigeon	<i>Ocyphaps lophotes</i>	211113	0855-0935	12	Figtree Bay Reserve	S 33° 50' 56.4" E 151° 08' 13.1"	0	2	0	0	0	foraged
70	Crested Pigeon	<i>Ocyphaps lophotes</i>	231113	0915-1015	19	Concord High School	S 33° 51' 50.0" E 151° 06' 29.0"	0	0	1	0	0	with M. Newton
71	Crested Pigeon	<i>Ocyphaps lophotes</i>	231113	1035-1115	22	Empire Avenue	S 33° 51' 33.2" E 151° 06' 39.7"	0	0	0	1	0	with M. Newton
72	Crested Pigeon	<i>Ocyphaps lophotes</i>	231113	1610-1710	27	Mortlake Public School	S 33° 50' 56.8" E 151° 06' 11.4"	0	0	2	0	0	with G. Duggan
73	Crested Pigeon	<i>Ocyphaps lophotes</i>	231113	1800-1825	24	Prince Edward Park	S 33° 51' 12.2" E 151° 07' 05.5"	0	2	0	0	0	with G. Duggan
74	Crested Pigeon	<i>Ocyphaps lophotes</i>	241113	1620-1815	18	Cintra Park	S 33° 51' 49.9" E 151° 06' 43.8"	0	0	2	0	0	with K. Spasojevic & H. Saldamli
75	Crested Pigeon	<i>Ocyphaps lophotes</i>	251113	0655-0915	17	Barnwell Park Golf Course	S 33° 52' 04.3" E 151° 07' 05.6" (S end nr Five Dock Leisure Centre) & S 33° 51'	0	0	8	0	0	southern section; with R. Stevenson & D. Oldfield

Record No.	Common Name	Scientific Name	Date	Time	Site No.	Site Name	Site location	Bushland Remnant [^]	Revegetated Parkland	Open Parkland	Urban Neighbourhood	Aquatic habitats #	Comments
							55.6" E 151° 07' 14.0" (mid-section)						
76	Crested Pigeon	<i>Ocyphaps lophotes</i>	251113	0655-0915	17	Barnwell Park Golf Course	S 33° 51' 40.8" E 151° 06' 51.3"	0	0	3	0	0	northern section (N of Lyons Rd west); with R. Stevenson & D. Oldfield
77	Crested Pigeon	<i>Ocyphaps lophotes</i>	251113	0945-1120	23	Massey Park Golf Course	S 33° 51' 10.1" E 151° 06' 37.0"	0	0	3	0	0	with R. Stevenson & D. Oldfield
78	Crested Pigeon	<i>Ocyphaps lophotes</i>	251113	0945-1120	23	Massey Park Golf Course	S 33° 51' 13.2" E 151° 06' 42.3"	0	0	4	0	0	with R. Stevenson & D. Oldfield
79	Crested Pigeon	<i>Ocyphaps lophotes</i>	271113	0625-0740	32	Rhodes Park & Brays Bay Reserve	S 33° 49' 54.0" E 151° 05' 24.6"	0	0	1	0	0	with R. Stevenson & D. Oldfield
80	Crested Pigeon	<i>Ocyphaps lophotes</i>	271113	1020-1110	35	Coonong Road	S 33° 50' 33.7" E 151° 05' 10.3"	0	0	0	3	0	with R. Stevenson & D. Oldfield
81	Crested Pigeon	<i>Ocyphaps lophotes</i>	281113	0920-1110	26	Cabarita Park	S 33° 50' 30.6" E 151° 07' 10.9"	0	3	0	0	0	with G. Duggan, R. Stevenson, D. Oldfield
82	Crested Pigeon	<i>Ocyphaps lophotes</i>	281113	1645-1850	28	Concord Golf Course	S 33° 50' 48.9" E 151° 05' 59.9"	0	0	6	0	0	foraged on fairway
83	Crested Pigeon	<i>Ocyphaps lophotes</i>	281113	1645-1850	28	Concord Golf Course	S 33° 51' 05.0" E 151° 05' 52.1"	0	2	0	0	0	foraged under planted tea-tree shrub fringe of smaller southern dam
84	Crested Pigeon	<i>Ocyphaps lophotes</i>	080414	2030-2145	14	Quarantine Reserve	S 33° 50' 51.4" E 151° 07' 22.6"	2	0	0	0	0	obs 2 birds at roost in swamp oak forest; night session with R. Stevenson, A. Doldissen, J. Harrington, P. Smith & E. Hughes

Record No.	Common Name	Scientific Name	Date	Time	Site No.	Site Name	Site location	Bushland Remnant [^]	Revegetated Parkland	Open Parkland	Urban Neighbourhood	Aquatic habitats #	Comments
85	Crested Pigeon	<i>Ocyphaps lophotes</i>	090414	0730-0815	8	Sisters Bay	S 33° 51' 33.1" E 151° 09' 24.4"	0	0	0	0	2	foraged along mufat @ low tide; with A. Doldissen & C. Paine
86	Crested Pigeon	<i>Ocyphaps lophotes</i>	100414	0730-0850	5	Iron Cove - south-western foreshore from Iron Cove Ck to Rodd Point	S 33° 52' 13.2" E 151° 08' 31.4" (Arthur St); S 33° 51' 57.7" E 151° 08' 49.6" (Rodd Pt)	0	1	0	0	2	foraged along planted street verge & at Rodd Point beach; with A. Doldissen & F. Davis
87	Crested Pigeon	<i>Ocyphaps lophotes</i>	030414	1750-1830	19	Concord High School	S 33° 51' 50.0" E 151° 06' 29.0"	0	0	2	0	0	with P. Smith
88	Crested Pigeon	<i>Ocyphaps lophotes</i>	020414	1115-1145	22	Empire Avenue	S 33° 51' 33.2" E 151° 06' 39.7"	0	0	0	17	0	obs perched (rested) in part-deciduous backyard poplar @ 10 Tripod St; with R. Stevenson
89	Crested Pigeon	<i>Ocyphaps lophotes</i>	070414	0600-0800	16	Halliday Park	S 33° 51' 39.4" E 151° 07' 42.7"	0	0	2	0	0	foraged nr playground; with J. Harrington
90	Crested Pigeon	<i>Ocyphaps lophotes</i>	231113	1800-1825	24	Prince Edward Park	S 33° 51' 12.2" E 151° 07' 05.5"	0	1	0	0	0	with M. Falkenmire & P. Sweeney
91	Crested Pigeon	<i>Ocyphaps lophotes</i>	060414	0630-0825	18	Cintra Park	S 33° 51' 49.9" E 151° 06' 43.8", S 33° 52' 01.7" E 151° 06' 38.0"	0	0	6	0	0	with K. Spasojevic, H. Saldamli, M. Newton, P. & J. Smith
92	Crested Pigeon	<i>Ocyphaps lophotes</i>	070414	1710-1740	17	Barnwell Park Golf Course	S 33° 51' 40.8" E 151° 06' 51.3"	0	0	2	0	0	northern section; with D. Oldfield
93	Crested Pigeon	<i>Ocyphaps lophotes</i>	070414	1535-1700	23	Massey Park Golf Course	S 33° 51' 10.1" E 151° 06' 37.0", S	0	5	17	0	0	with D. Oldfield

Record No.	Common Name	Scientific Name	Date	Time	Site No.	Site Name	Site location	Bushland Remnant ^A	Revegetated Parkland	Open Parkland	Urban Neighbourhood	Aquatic habitats #	Comments
							33° 51' 13.2" E 151° 06' 42.3"						
94	Crested Pigeon	<i>Ocyphaps lophotes</i>	O80414	0650-0715	7	Drummoyne Public School	S 33° 51' 21.2" E 151° 09' 08.7"	0	0	1	0	0	foraged on playground
95	Crested Pigeon	<i>Ocyphaps lophotes</i>	O40414	0800-0820	25	France Bay	S 33° 51' 03.5" E 151° 06' 57.6"	0	0	0	0	1	foraged on the beach at low tide
96	Crested Pigeon	<i>Ocyphaps lophotes</i>	O50414	1730-1755	15	Henry Lawson Park	S 33° 51' 00.1" E 151° 07' 34.4"	0	0	2	0	0	foraged in open mown area
97	Crested Pigeon	<i>Ocyphaps lophotes</i>	O80414	0730-0825	11	Edenholme Road	S 33° 51' 29.6" E 151° 08' 26.9"	0	0	0	4	0	foraged on street verge, front lawns; with E. Hughes
98	Crested Pigeon	<i>Ocyphaps lophotes</i>	O80414	1530-1640	21	Queen Elizabeth Park	S 33° 51' 45.0" E 151° 06' 15.6"	2	0	0	0	0	perched on old turpentine branch; with G. Duggan
99	Crested Pigeon	<i>Ocyphaps lophotes</i>	O30414	0935-1040	26	Cabarita Park	S 33° 50' 30.6" E 151° 07' 10.9"	0	1	2	0	0	with G. Duggan
100	Crested Pigeon	<i>Ocyphaps lophotes</i>	O30414	0710-0910	28	Concord Golf Course	S 33° 50' 56.2" E 151° 05' 46.6"	0	0	2	0	0	foraged on fairway; with D. Oldfield
101	Tawny Frogmouth	<i>Podargus strigoides</i>	221113	1020-1115	14	Quarantine Reserve	S 33° 50' 51.2" E 151° 07' 25.0"	0	1	0	0	0	in brushbox nr Checkley St entrance; with R. Stevenson & D. Oldfield
102	Tawny Frogmouth	<i>Podargus strigoides</i>	O20414	2045-2215	30	Yaralla Estate	S 33° 50' 21.7" E 151° 05' 47.1"	2	0	0	0	0	roosting in mangrove forest and lantana edge along bayside walking trail; night session with R. Stevenson, D. Oldfield, K. Spasojevic, H. Saldamli, K. Davis & A. Ellison
103	Tawny Frogmouth	<i>Podargus strigoides</i>	O90414	2030-2130	21	Queen Elizabeth	S 33° 51' 45.0" E 151°	1	0	0	0	0	adult roosted in old remnant turpentine @ E

Record No.	Common Name	Scientific Name	Date	Time	Site No.	Site Name	Site location	Bushland Remnant ^A	Revegetated Parkland	Open Parkland	Urban Neighbourhood	Aquatic habitats #	Comments
						Park	06' 15.6"						side of park - night session ; with R. Stevenson & H. Saldamli
104	Australasian Darter	<i>Anhinga novaehollandiae</i>	201113	1620-1720	5	Iron Cove - south-western foreshore from Iron Cove Ck to Rodd Point	S 33° 52' 13.2" E 151° 08' 31.4" (Arthur St); S 33° 51' 57.7" E 151° 08' 49.6" (Rodd Pt)	0	0	0	0	1	adult bird foraged in open water nr Iron Cove Ck outflow; with A. Doldissen
105	Australasian Darter	<i>Anhinga novaehollandiae</i>	040414	0800-0820	25	France Bay	S 33° 51' 03.5" E 151° 06' 57.6"	0	0	0	0	1	drying plumage on Cape Cabarita private jetty
106	Little Pied Cormorant	<i>Microcarbo melanoleucos</i>	271113	0625-0740	32	Rhodes Park & Brays Bay Reserve	S 33° 49' 54.0" E 151° 05' 24.6"	0	0	0	0	1	adult bird foraged at water's edge near old wharf; with R. Stevenson & D. Oldfield
107	Little Pied Cormorant	<i>Microcarbo melanoleucos</i>	281113	0615-0900	36	Bicentennial Park east	S 33° 50' 47.1" E 151° 04' 51.0"	0	0	0	0	1	adult bird foraged in Powells Creek; with R. Stevenson & D. Oldfield
108	Little Pied Cormorant	<i>Microcarbo melanoleucos</i>	040414	0800-0820	25	France Bay	S 33° 51' 03.5" E 151° 06' 57.6"	0	0	0	0	1	foraged in open water at low tide
109	Little Pied Cormorant	<i>Microcarbo melanoleucos</i>	040414	0830-0845	24	Prince Edward Park	S 33° 51' 12.2" E 151° 07' 05.5"	0	0	0	0	1	foraged off beach; with M. Falkenmire & P. Sweeney
110	Little Pied Cormorant	<i>Microcarbo melanoleucos</i>	070414	0600-0800	16	Halliday Park	S 33° 51' 39.4" E 151° 07' 42.7"	0	0	0	0	2	foraged on open water in bay adjacent to park; with J. Harrington
111	Little Pied Cormorant	<i>Microcarbo melanoleucos</i>	100414	0730-0850	5	Iron Cove - south-western foreshore from Iron Cove Ck to	S 33° 52' 13.2" E 151° 08' 31.4" (Arthur St); S 33° 51' 57.7" E 151°	0	0	0	0	2	open water foraged - one nr Iron Cove Ck outflow & the other at Rodd Pt; with A. Doldissen & F. Davis

Record No.	Common Name	Scientific Name	Date	Time	Site No.	Site Name	Site location	Bushland Remnant [^]	Revegetated Parkland	Open Parkland	Urban Neighbourhood	Aquatic habitats #	Comments
						Rodd Point	08' 49.6" (Rodd Pt)						
112	Great Cormorant	<i>Phalacrocorax carbo</i>	211113	0855-0935	12	Figtree Bay Reserve	S 33° 50' 56.4" E 151° 08' 13.1"	0	0	0	0	1	adult bird foraged in open water
113	Great Cormorant	<i>Phalacrocorax carbo</i>	281113	0615-0900	36	Bicentennial Park east	S 33° 50' 38.2" E 151° 04' 50.5"	0	0	0	0	8	adult (green eye) & juvenile (brown eye) birds foraged in open water & dried on old stump along billabong edge; with R. Stevenson & D. Oldfield
114	Great Cormorant	<i>Phalacrocorax carbo</i>	010414	0710-1020	36	Bicentennial Park east	S 33° 50' 38.2" E 151° 04' 50.5"	0	0	0	0	56	3 flocks flew from night roost in Waterbird Refuge south along Powells Ck; with R. Stevenson, D. Oldfield & F. Davis
115	Great Cormorant	<i>Phalacrocorax carbo</i>	070414	0600-0800	16	Halliday Park	S 33° 51' 39.4" E 151° 07' 42.7"	0	0	0	0	1	foraged in open water in bay adjacent to park; with J. Harrington
116	Little Black Cormorant	<i>Phalacrocorax sulcirostris</i>	211113	1710-1810	8	Sisters Bay	S 33° 51' 26.7" E 151° 09' 24.0"	0	4	0	0	0	mature birds (green eye) roosted & dried in 1949-planted old fig; with A. Doldissen
117	Little Black Cormorant	<i>Phalacrocorax sulcirostris</i>	070414	0945-1035	12	Figtree Bay Reserve	S 33° 50' 56.4" E 151° 08' 13.1"	0	0	0	0	1	dried wings on a rock
118	Little Black Cormorant	<i>Phalacrocorax sulcirostris</i>	040414	0800-0820	25	France Bay	S 33° 51' 03.5" E 151° 06' 57.6"	0	0	0	0	2	foraged in open water at low tide
119	Little Black Cormorant	<i>Phalacrocorax sulcirostris</i>	030414	0935-1040	26	Cabarita Park	S 33° 50' 30.6" E 151° 07' 10.9"	0	0	0	0	1	with G. Duggan

Record No.	Common Name	Scientific Name	Date	Time	Site No.	Site Name	Site location	Bushland Remnant [^]	Revegetated Parkland	Open Parkland	Urban Neighbourhood	Aquatic habitats #	Comments
120	Pied Cormorant	<i>Phalacrocorax varius</i>	211113	1710-1810	8	Sisters Bay	S 33° 51' 26.7" E 151° 09' 24.0"	0	2	0	0	0	adult birds roosted in 1949-planted old fig, nr Little Black Cormorant; with A. Doldissen
121	Pied Cormorant	<i>Phalacrocorax varius</i>	281113	0615-0900	36	Bicentennial Park east	S 33° 50' 24.7" E 151° 04' 58.2"	0	0	0	0	3	adult birds foraged in open water of Homebush Bay opp walking path; with R. Stevenson & D. Oldfield
122	Pied Cormorant	<i>Phalacrocorax varius</i>	100414	0620-0710	6	Half Moon Bay	S 33° 51' 34.6" E 151° 09' 19.2" (to north of)	4	0	0	0	0	perched in large old fig opp end Thompson St N end of bay @0630; preceded by Rakali search 0545-0610; with A. Doldissen & F. Davis
123	Pied Cormorant	<i>Phalacrocorax varius</i>	100414	0730-0850	5	Iron Cove - south-western foreshore from Iron Cove Ck to Rodd Point	S 33° 52' 13.2" E 151° 08' 31.4" (Arthur St) - opposite, in bay	0	0	0	0	1	foraged in open water in Iron Cove Bay opp Timbrell Park; with A. Doldissen & F. Davis
124	Pied Cormorant	<i>Phalacrocorax varius</i>	010414	0710-1020	36	Bicentennial Park east	S 33° 50' 24.7" E 151° 04' 58.2"	0	0	0	0	6	foraged and flew along Powells Ck; with R. Stevenson, D. Oldfield & F. Davis
125	Pied Cormorant	<i>Phalacrocorax varius</i>	040414	0800-0820	25	France Bay	S 33° 51' 03.5" E 151° 06' 57.6"	0	0	0	0	1	foraged in open water at low tide
126	Pied Cormorant	<i>Phalacrocorax varius</i>	060414	0630-0825	18	Cintra Park	S 33° 52' 01.7" E 151° 06' 38.0"	0	0	0	0	1	foraged in canal @ low tide; with K. Spasojevic, H. Saldamli, M. Newton, P. & J. Smith

Record No.	Common Name	Scientific Name	Date	Time	Site No.	Site Name	Site location	Bushland Remnant [^]	Revegetated Parkland	Open Parkland	Urban Neighbourhood	Aquatic habitats #	Comments
127	Australian Pelican	<i>Pelecanus conspicillatus</i>	211113	1710-1810	8	Sisters Bay	S 33° 51' 26.7" E 151° 09' 24.0"	0	0	0	0	1	foraged in shallows near rocks; with A. Doldissen
128	Australian Pelican	<i>Pelecanus conspicillatus</i>	231113	1835-1910	25	France Bay	S 33° 51' 03.5" E 151° 06' 57.6"	0	0	0	0	1	perched on jetty at end Tingara Lane off Dorking Rd @ north end of bay; with G. Duggan
129	Australian Pelican	<i>Pelecanus conspicillatus</i>	100414	0620-0710	6	Half Moon Bay	S 33° 51' 35.2" E 151° 09' 10.1"	0	0	0	0	1	foraged in open water of bay then flew across Iron Cove towards Rozelle; preceded by Rakali search 0545-0610; with A. Doldissen & F. Davis
130	Australian Pelican	<i>Pelecanus conspicillatus</i>	040414	0800-0820	25	France Bay	S 33° 51' 03.5" E 151° 06' 57.6"	0	0	0	0	1	perched on jetty at end Tingara Lane off Dorking Rd @ north end of bay
131	Australian Pelican	<i>Pelecanus conspicillatus</i>	070414	0600-0800	16	Halliday Park	S 33° 51' 39.4" E 151° 07' 42.7"	0	0	0	0	2	foraged on open water in bay adjacent to park; with J. Harrington
132	Eastern Great Egret	<i>Ardea modesta</i>	261113	0925-1040	30	Yaralla Estate	S 33° 50' 21.7" E 151° 05' 47.1"	0	0	0	0	1	Listed marine species (EPBC Act); listed migratory species - protected under EPBC Act, JAMBA & CAMBA; with R. Stevenson & D. Oldfield
133	Eastern Great Egret	<i>Ardea modesta</i>	010414	0710-1020	36	Bicentennial Park east	S 33° 50' 38.2" E 151° 04' 50.5"	0	0	0	0	1	Listed marine & migratory species - protected under EPBC Act, JAMBA & CAMBA, foraged in shallows of billabong E side of small walking track; with R. Stevenson, D. Oldfield & F. Davis

Record No.	Common Name	Scientific Name	Date	Time	Site No.	Site Name	Site location	Bushland Remnant [^]	Revegetated Parkland	Open Parkland	Urban Neighbourhood	Aquatic habitats #	Comments
134	Eastern Great Egret	<i>Ardea modesta</i>	070414	0600-0800	16	Halliday Park	S 33° 51' 39.4" E 151° 07' 42.7"	0	0	0	0	1	Listed marine & migratory species - protected under EPBC Act, JAMBA & CAMBA, foraged on main beach's mudflat @ low tide; with J. Harrington
135	Striated Heron	<i>Butorides striata</i>	201113	1820-1845	6	Half Moon Bay	S 33° 51' 34.6" E 151° 09' 19.2"	0	0	0	0	1	foraged on rock/open water edge; with A. Doldissen
136	Striated Heron	<i>Butorides striata</i>	271113	0625-0740	32	Rhodes Park & Brays Bay Reserve	S 33° 49' 54.0" E 151° 05' 24.6"	0	1	0	0	0	grey morph adult in mangroves; with R. Stevenson & D. Oldfield
137	Striated Heron	<i>Butorides striata</i>	100414	0620-0710	6	Half Moon Bay	S 33° 51' 34.6" E 151° 09' 19.2"	0	0	0	0	1	adult dark morph bird flew fr perch on moored boat into bay to forage - possibly same bird recorded the previous day at nearby Sisters Bay; survey preceded by a Rakali search 0545-0610; with A. Doldissen & F. Davis
138	Striated Heron	<i>Butorides striata</i>	090414	0730-0815	8	Sisters Bay	S 33° 51' 33.1" E 151° 09' 24.4"	0	0	0	0	1	adult dark morph bird foraged S end of bay, mobbed by 2 Noisy Miner; with A. Doldissen & C. Paine
139	Striated Heron	<i>Butorides striata</i>	040414	0830-0845	24	Prince Edward Park	S 33° 51' 12.2" E 151° 07' 05.5"	0	0	0	0	1	immature bird flew in from Exile Bay mangroves @ low tide & foraged on mudflat edge; with M. Falkenmire & P. Sweeney

Record No.	Common Name	Scientific Name	Date	Time	Site No.	Site Name	Site location	Bushland Remnant [^]	Revegetated Parkland	Open Parkland	Urban Neighbourhood	Aquatic habitats #	Comments
140	White-faced Heron	<i>Egretta novaehollandiae</i>	271113	0930-1000	33	Mill Park	S 33° 49' 25.0" E 151° 05' 15.8"	0	0	0	0	2	foraged along foreshore at low tide; with R. Stevenson & D. Oldfield
141	White-faced Heron	<i>Egretta novaehollandiae</i>	281113	0615-0900	36	Bicentennial Park east	S 33° 50' 24.7" E 151° 04' 58.2"	0	0	0	0	1	foraged along mown grass edge with walking path; with R. Stevenson & D. Oldfield
142	White-faced Heron	<i>Egretta novaehollandiae</i>	281113	0920-1110	26	Cabarita Park	S 33° 50' 30.6" E 151° 07' 10.9"	0	1	0	0	0	with G. Duggan, R. Stevenson, D. Oldfield
143	White-faced Heron	<i>Egretta novaehollandiae</i>	281113	1645-1850	28	Concord Golf Course	S 33° 51' 05.0" E 151° 05' 52.1"	0	0	0	0	1	foraged along banks of smaller southern dam
144	White-faced Heron	<i>Egretta novaehollandiae</i>	100414	0730-0850	5	Iron Cove - south-western foreshore from Iron Cove Ck to Rodd Point	S 33° 52' 13.2" E 151° 08' 31.4" (Arthur St); S 33° 51' 57.7" E 151° 08' 49.6" (Rodd Pt)	0	0	0	0	1	foraged along mudflat & mangroves and Rodd Pt rocks & beach @ ebb tide (low @ 1109); with A. Doldissen & F. Davis
145	White-faced Heron	<i>Egretta novaehollandiae</i>	090414	0730-0815	8	Sisters Bay	S 33° 51' 33.1" E 151° 09' 24.4"	0	0	0	0	2	foraged on mudflat & rock @ low tide S end of bay; with A. Doldissen & C. Paine
146	White-faced Heron	<i>Egretta novaehollandiae</i>	040414	0800-0820	25	France Bay	S 33° 51' 03.5" E 151° 06' 57.6"	0	0	0	0	1	foraged on the rocks nr Cape Cabarita @ low tide
147	White-faced Heron	<i>Egretta novaehollandiae</i>	070414	0600-0800	16	Halliday Park	S 33° 51' 39.4" E 151° 07' 42.7", S 33° 51'	0	0	0	0	3	foraged on mudflat @ low tide & adjacent mudflat between ends of Wymston Pde &

Record No.	Common Name	Scientific Name	Date	Time	Site No.	Site Name	Site location	Bushland Remnant [^]	Revegetated Parkland	Open Parkland	Urban Neighbourhood	Aquatic habitats #	Comments
							43.5° E 151° 07' 36.4"						Friend Ave; with J. Harrington
148	White-faced Heron	<i>Egretta novaehollandiae</i>	O10414	0710-1020	36	Bicentennial Park east	S 33° 50' 38.2" E 151° 04' 50.5"	0	0	0	0	1	foraged along edge of billabong E side of small walking track; with R. Stevenson, D. Oldfield & F. Davis
149	White-faced Heron	<i>Egretta novaehollandiae</i>	O40414	0830-0845	24	Prince Edward Park	S 33° 51' 12.2" E 151° 07' 05.5"	0	0	0	0	2	foraged along rocky mudflats @ low tide; with M. Falkenmire & P. Sweeney
150	White-faced Heron	<i>Egretta novaehollandiae</i>	O30414	0710-0910	28	Concord Golf Course	S 33° 51' 02.8" E 151° 05' 38.0"	0	0	2	0	0	foraged along edge of fairway; with D. Oldfield
151	White-faced Heron	<i>Egretta novaehollandiae</i>	O20414	0715-0940	31	Rivendell CAF Unit	S 33° 49' 52.2" E 151° 05' 48.7"	1	0	0	0	0	foraged in mangrove forest mudflats; with R. Stevenson
152	Little Egret	<i>Egretta garzetta</i>	O40414	0830-0845	24	Prince Edward Park	S 33° 51' 12.2" E 151° 07' 05.5"	0	0	0	0	25	flock flew from open water off park's beach to Exile Bay; with M. Falkenmire & P. Sweeney
153	Australian White Ibis	<i>Threskiornis molucca</i>	201113	0900-1010	2	Timbrell Park	S 33° 52' 09.4" E 151° 08' 21.1"	0	0	3	0	0	foraged on oval
154	Australian White Ibis	<i>Threskiornis molucca</i>	201113	1050-1130	4	Five Dock Park	S 33° 52' 03.9" E 151° 08' 01.0"	0	0	2	0	0	foraged on oval & environs
155	Australian White Ibis	<i>Threskiornis molucca</i>	201113	1620-1720	5	Iron Cove - south-western foreshore from Iron Cove Ck to	S 33° 52' 13.2" E 151° 08' 31.4" (Arthur St); S 33° 51' 57.7" E 151°	0	0	0	0	4	foraged on mudflats @ low tide; with A. Doldissen

Record No.	Common Name	Scientific Name	Date	Time	Site No.	Site Name	Site location	Bushland Remnant [^]	Revegetated Parkland	Open Parkland	Urban Neighbourhood	Aquatic habitats #	Comments
						Rodd Point	08' 49.6" (Rodd Pt)						
156	Australian White Ibis	<i>Threskiornis molucca</i>	211113	1710-1810	8	Sisters Bay	S 33° 51' 26.7" E 151° 09' 24.0"	0	0	0	0	2	foraged on mudflats @ low tide; with A. Doldissen
157	Australian White Ibis	<i>Threskiornis molucca</i>	221113	1125-1205	15	Henry Lawson Park	S 33° 51' 00.1" E 151° 07' 34.4"	0	0	1	0	0	with R. Stevenson & D. Oldfield
158	Australian White Ibis	<i>Threskiornis molucca</i>	221113	1610-1710	13	Abbotsford Public School	S 33° 51' 12.6" E 151° 07' 48.5"	0	0	1	0	0	scavenging scraps near bins
159	Australian White Ibis	<i>Threskiornis molucca</i>	231113	0915-1015	19	Concord High School	S 33° 51' 50.0" E 151° 06' 29.0"	0	0	16	0	0	on grassed area; with M. Newton
160	Australian White Ibis	<i>Threskiornis molucca</i>	241113	0930-1035	29	Strathfield North Public School	S 33° 51' 18.9" E 151° 05' 33.7"	0	0	0	2	0	scavenging scraps in schoolyard paved area
161	Australian White Ibis	<i>Threskiornis molucca</i>	241113	1620-1815	18	Cintra Park	S 33° 51' 49.9" E 151° 06' 43.8"	0	0	2	0	0	with H. Saldamli & K. Spasojevic
162	Australian White Ibis	<i>Threskiornis molucca</i>	251113	0655-0915	17	Barnwell Park Golf Course	S 33° 52' 04.3" E 151° 07' 05.6" (S end nr Five Dock Leisure Centre)	0	0	1	0	0	southern section; with R. Stevenson & D. Oldfield
163	Australian White Ibis	<i>Threskiornis molucca</i>	251113	0655-0915	17	Barnwell Park Golf Course	S 33° 51' 40.8" E 151° 06' 51.3"	0	0	4	0	0	northern section (N of Lyons Rd west); with R. Stevenson & D. Oldfield
164	Australian White Ibis	<i>Threskiornis molucca</i>	251113	0945-1120	23	Massey Park Golf Course	S 33° 51' 10.1" E 151° 06' 37.0"	0	0	1	0	0	with R. Stevenson & D. Oldfield

Record No.	Common Name	Scientific Name	Date	Time	Site No.	Site Name	Site location	Bushland Remnant [^]	Revegetated Parkland	Open Parkland	Urban Neighbourhood	Aquatic habitats #	Comments
165	Australian White Ibis	<i>Threskiornis molucca</i>	261113	0925-1040	30	Yaralla Estate	S 33° 50' 21.7" E 151° 05' 47.1"	0	0	0	0	1	northern section mangrove forest - foraged in tidal mudflat; with R. Stevenson & D. Oldfield
166	Australian White Ibis	<i>Threskiornis molucca</i>	271113	0830-0915	34	Rider Boulevard	S 33° 50' 10.9" E 151° 04' 59.7"	0	4	0	0	0	with R. Stevenson & D. Oldfield
167	Australian White Ibis	<i>Threskiornis molucca</i>	271113	1710-1800	16	Halliday Park	S 33° 51' 39.4" E 151° 07' 42.7"	0	0	2	0	0	foraged around playground area
168	Australian White Ibis	<i>Threskiornis molucca</i>	281113	0615-0900	36	Bicentennial Park east	S 33° 50' 47.1" E 151° 04' 51.0"	0	0	0	0	1	foraged on mudflats with mangroves; with R. Stevenson & D. Oldfield
169	Australian White Ibis	<i>Threskiornis molucca</i>	281113	0920-1110	26	Cabarita Park	S 33° 50' 30.6" E 151° 07' 10.9"	0	9	0	0	0	scavenging picnic ground bins; with G. Duggan, R. Stevenson, D. Oldfield
170	Australian White Ibis	<i>Threskiornis molucca</i>	281113	1645-1850	28	Concord Golf Course	S 33° 50' 48.9" E 151° 05' 59.9", S 33° 51' 02.8" E 151° 05' 38.9"	0	0	6	0	0	foraged on fairway
171	Australian White Ibis	<i>Threskiornis molucca</i>	010414	0710-1020	36	Bicentennial Park east	S 33° 50' 24.7" E 151° 04' 58.2"	6	4	0	0	9	foraged in mangroves, parkland & Powells Ck; with R. Stevenson, D. Oldfield & F. Davis
172	Australian White Ibis	<i>Threskiornis molucca</i>	040414	0700-0745	27	Mortlake Public School	S 33° 50' 56.8" E 151° 06' 11.4"	0	0	1	0	0	foraged on playground; with G. Duggan
173	Australian White Ibis	<i>Threskiornis molucca</i>	100414	0730-0850	5	Iron Cove - south-western foreshore	S 33° 52' 13.2" E 151° 08' 31.4" (Arthur St)	0	0	0	0	1	foraged in mudflat & mangroves @ ebb tide (low @ 1109); with A. Doldissen & F. Davis

Record No.	Common Name	Scientific Name	Date	Time	Site No.	Site Name	Site location	Bushland Remnant [^]	Revegetated Parkland	Open Parkland	Urban Neighbourhood	Aquatic habitats #	Comments
						from Iron Cove Ck to Rodd Point							
174	Australian White Ibis	<i>Threskiornis molucca</i>	O90414	0730-0815	8	Sisters Bay	S 33° 51' 26.7" E 151° 09' 24.0"	0	0	0	0	1	foraged on mudflats @ mid-tide (low tide was @ 0332); with A. Doldissen & C. Paine
175	Australian White Ibis	<i>Threskiornis molucca</i>	O60414	0850-0950	13	Abbotsford Public School	S 33° 51' 12.6" E 151° 07' 48.5", S 33° 51' 11.4" E 151° 07' 53.4"	0	0	8	0	0	scavenging scraps near bins, playgrounds; with C. Paine
176	Australian White Ibis	<i>Threskiornis molucca</i>	O60414	0630-0825	18	Cintra Park	S 33° 51' 49.9" E 151° 06' 43.8", S 33° 52' 01.7" E 151° 06' 38.0"	0	0	8	0	3	foraged in canal @ low tide & on grassed areas; with H. Saldamli, K. Spasojevic, M. Newton, P. & J. Smith
177	Australian White Ibis	<i>Threskiornis molucca</i>	O70414	1710-1740	17	Barnwell Park Golf Course	S 33° 52' 04.3" E 151° 07' 05.6", S 33° 51' 55.6" E 151° 07' 14.0"	0	0	5	0	0	foraged on fairways & tees - southern section; with D. Oldfield
178	Australian White Ibis	<i>Threskiornis molucca</i>	O70414	1710-1740	17	Barnwell Park Golf Course	S 33° 51' 40.8" E 151° 06' 51.3"	0	0	4	0	0	foraged on fairway - northern section; with D. Oldfield
179	Australian White Ibis	<i>Threskiornis molucca</i>	O70414	1535-1700	23	Massey Park Golf Course	S 33° 51' 10.1" E 151° 06' 37.0", S 33° 51' 09.4" E 151° 06' 54.7"	0	0	7	0	0	foraged along fairway edges & tees; with D. Oldfield

Record No.	Common Name	Scientific Name	Date	Time	Site No.	Site Name	Site location	Bushland Remnant [^]	Revegetated Parkland	Open Parkland	Urban Neighbourhood	Aquatic habitats #	Comments
180	Australian White Ibis	<i>Threskiornis molucca</i>	O40414	0800-0820	25	France Bay	S 33° 51' 03.5" E 151° 06' 57.6"	0	0	0	0	3	foraged on the beach at low tide
181	Australian White Ibis	<i>Threskiornis molucca</i>	O40414	0830-0845	24	Prince Edward Park	S 33° 51' 12.2" E 151° 07' 05.5"	0	0	1	0	0	foraged in grassed open area; with M. Falkenmire & P. Sweeney
182	Australian White Ibis	<i>Threskiornis molucca</i>	O70414	0600-0800	16	Halliday Park	S 33° 51' 39.4" E 151° 07' 42.7", S 33° 51' 43.5" E 151° 07' 36.4"	0	0	5	0	7	foraged on mudflat @ low tide & playground area in park, obs leaving night roost in mangroves @ ca 0600 (J.H.); with J. Harrington (J.H.)
183	Australian White Ibis	<i>Threskiornis molucca</i>	O90414	0615-0705	9	Brett Park	S 33° 51' 22.7" E 151° 09' 29.9"	0	0	1	0	0	foraged on midslope open sports area; with A. Doldissen & C. Paine
184	Australian White Ibis	<i>Threskiornis molucca</i>	O30414	0710-0910	28	Concord Golf Course	S 33° 51' 02.8" E 151° 05' 38.9"	0	0	6	0	0	foraged on fairway; with D. Oldfield
185	Royal Spoonbill	<i>Platalea regia</i>	201113	1620-1720	5	Iron Cove - south-western foreshore from Iron Cove Ck to Rodd Point	S 33° 52' 13.2" E 151° 08' 31.4" (Arthur St); S 33° 51' 57.7" E 151° 08' 49.6" (Rodd Pt)	0	0	0	0	1	shallow water mudflat foraged @ low tide; with A. Doldissen
186	White-bellied Sea-Eagle	<i>Haliaeetus leucogaster</i>	O10414	1640-1710	34	Rider Boulevard	S 33° 50' 10.9" E 151° 04' 59.7"	0	0	0	0	2	two adults foraged over tidal flats, mobbed by Aust Raven; listed as marine and migratory under EPBC Act, protected under CAMBA; with R.

Record No.	Common Name	Scientific Name	Date	Time	Site No.	Site Name	Site location	Bushland Remnant^	Revegetated Parkland	Open Parkland	Urban Neighbourhood	Aquatic habitats #	Comments
													Stevenson & F. Davis
187	Nankeen Kestrel	<i>Falco cenchroides</i>	O50414	1615-1645	4	Five Dock Park	S 33° 52' 03.9" E 151° 08' 01.0"	0	0	1	0	0	foraged above oval
188	Purple Swamphen	<i>Porphyrio porphyrio</i>	O30414	0710-0910	28	Concord Golf Course	S 33° 50' 48.9" E 151° 05' 59.9"	0	0	0	0	1	foraged in the water among aquatic vegetation on a small dam; with D. Oldfield
189	Buff-banded Rail	<i>Gallirallus philippensis</i>	O30414	0710-0910	28	Concord Golf Course	S 33° 50' 48.9" E 151° 05' 59.9"	0	1	0	0	0	foraged along edge of tee then into planted sward of Pennisetum sp. (likely exotic grass and noxious weed) and Lomandra longifolia fringing a small dam; with D. Oldfield
190	Dusky Moorhen	<i>Gallinula tenebrosa</i>	281113	0615-0900	36	Bicentennial Park east	S 33° 50' 24.7" E 151° 04' 58.2"	0	0	0	0	5	2 adults & 3 recent fledglings foraged along a permanent drainage line off Homebush Bay Dr; with R. Stevenson & D. Oldfield
191	Dusky Moorhen	<i>Gallinula tenebrosa</i>	281113	1645-1850	28	Concord Golf Course	S 33° 50' 48.9" E 151° 05' 59.9"	0	0	0	0	2	on small reedy dam NE cnr
192	Dusky Moorhen	<i>Gallinula tenebrosa</i>	O10414	0710-1020	36	Bicentennial Park east	S 33° 50' 24.7" E 151° 04' 58.2"	0	0	0	0	2	2 adults only foraged along a permanent line off Homebush Bay Dr; with R. Stevenson, D. Oldfield & F. Davis
193	Dusky Moorhen	<i>Gallinula tenebrosa</i>	O30414	0710-0910	28	Concord Golf Course	S 33° 50' 48.9" E 151° 05' 59.9"	0	0	0	0	2	on small reedy dam with Purple Swamphen and Buff-banded Rail; with D. Oldfield

Record No.	Common Name	Scientific Name	Date	Time	Site No.	Site Name	Site location	Bushland Remnant^	Revegetated Parkland	Open Parkland	Urban Neighbourhood	Aquatic habitats #	Comments
194	Eurasian Coot	<i>Fulica atra</i>	281113	1645-1850	28	Concord Golf Course	S 33° 50' 56.4" E 151° 05' 44.6"	0	0	0	0	40	most on or rested around large northern dam, incl one pair nesting in W end of dam on a pumpline plastic float structure
195	Eurasian Coot	<i>Fulica atra</i>	O30414	0710-0910	28	Concord Golf Course	S 33° 50' 56.4" E 151° 05' 44.6"	0	0	0	0	15	group rested on bare banks & on water on largest dam; with D. Oldfield
196	Eurasian Coot	<i>Fulica atra</i>	O10414	0710-1020	36	Bicentennial Park east	S 33° 50' 38.2" E 151° 04' 50.5"	0	0	0	0	1	foraged on billabong; with R. Stevenson, D. Oldfield & F. Davis
197	Black-winged Stilt	<i>Himantopus himantopus</i>	231113	1835-1910	25	France Bay	S 33° 51' 03.5" E 151° 06' 57.6"	0	0	0	0	2	low tide foraged on mudflats; with G. Duggan
198	Black-winged Stilt	<i>Himantopus himantopus</i>	O40414	0800-0820	25	France Bay	S 33° 51' 03.5" E 151° 06' 57.6"	0	0	0	0	2	foraged on the beach at low tide nr jetty at end of Tingara Lane off Dorking Rd
199	Black-winged Stilt	<i>Himantopus himantopus</i>	O50414	1730-1755	15	Henry Lawson Park	S 33° 51' 00.1" E 151° 07' 34.4"	0	0	0	0	4	foraged on sand/mudflat @ low tide with godwits & gulls
200	Black-winged Stilt	<i>Himantopus himantopus</i>	O70414	0600-0800	16	Halliday Park	S 33° 51' 43.5" E 151° 07' 36.4"	0	0	0	0	4	small group foraged with godwits on mudflats @ low tide at western & eastern ends of bay, flushed by unleashed dog (before 9 am off-leash time) around to mudflat between the ends of Wymston Pde & Friend Ave; with J. Harrington

Record No.	Common Name	Scientific Name	Date	Time	Site No.	Site Name	Site location	Bushland Remnant [^]	Revegetated Parkland	Open Parkland	Urban Neighbourhood	Aquatic habitats #	Comments
201	Masked Lapwing	<i>Vanellus miles</i>	201113	1050-1130	4	Five Dock Park	S 33° 52' 03.9" E 151° 08' 01.0"	0	0	3	0	0	1 recent fledgling with 2 adults on oval
202	Masked Lapwing	<i>Vanellus miles</i>	201113	1820-1845	6	Half Moon Bay	S 33° 51' 34.6" E 151° 09' 19.2"	0	0	0	0	2	foraged on mudflats @ low tide; with A. Doldissen
203	Masked Lapwing	<i>Vanellus miles</i>	211113	1710-1810	8	Sisters Bay	S 33° 51' 26.7" E 151° 09' 24.0"	0	0	0	0	4	foraged on mudflats @ low tide; with A. Doldissen
204	Masked Lapwing	<i>Vanellus miles</i>	221113	1125-1205	15	Henry Lawson Park	S 33° 51' 00.1" E 151° 07' 34.4"	0	0	2	0	0	with R. Stevenson & D. Oldfield
205	Masked Lapwing	<i>Vanellus miles</i>	251113	0655-0915	17	Barnwell Park Golf Course	S 33° 51' 55.6" E 151° 07' 14.0" (mid-section)	0	0	2	0	0	southern section (S of Lyons Rd west); with R. Stevenson & D. Oldfield
206	Masked Lapwing	<i>Vanellus miles</i>	251113	0655-0915	17	Barnwell Park Golf Course	S 33° 51' 40.8" E 151° 06' 51.3"	0	0	2	0	0	northern section (N of Lyons Rd west); with R. Stevenson & D. Oldfield
207	Masked Lapwing	<i>Vanellus miles</i>	251113	0945-1120	23	Massey Park Golf Course	S 33° 51' 10.1" E 151° 06' 37.0"	0	0	7	0	0	with R. Stevenson & D. Oldfield

Record No.	Common Name	Scientific Name	Date	Time	Site No.	Site Name	Site location	Bushland Remnant [^]	Revegetated Parkland	Open Parkland	Urban Neighbourhood	Aquatic habitats #	Comments
208	Masked Lapwing	<i>Vanellus miles</i>	271113	0830-0915	34	Rider Boulevard	S 33° 50' 10.9" E 151° 04' 59.7"	0	0	2	0	0	on mown edge; with R. Stevenson & D. Oldfield
209	Masked Lapwing	<i>Vanellus miles</i>	281113	1645-1850	28	Concord Golf Course	S 33° 50' 48.9" E 151° 05' 59.9"	0	0	4	0	0	foraged on fairway
210	Masked Lapwing	<i>Vanellus miles</i>	070414	0600-0800	16	Halliday Park	S 33° 51' 43.5" E 151° 07' 36.4"	0	0	0	0	2	foraged on mudflats @ low tide; with J. Harrington
211	Masked Lapwing	<i>Vanellus miles</i>	050414	1730-1755	15	Henry Lawson Park	S 33° 51' 00.1" E 151° 07' 34.4"	0	0	2	0	0	foraged on open grassed area
212	Masked Lapwing	<i>Vanellus miles</i>	2030-2130	090414	21	Queen Elizabeth Park	S 33° 51' 45.0" E 151° 06' 15.6" (to north of this remnant)	0	0	2	0	0	disturbed resting on ground under oval lights @ N end of park - night session ; with R. Stevenson & H. Saldamli
213	Masked Lapwing	<i>Vanellus miles</i>	070414	0815-0905	14	Quarantine Reserve	S 33° 50' 51.4" E 151° 07' 22.6"	0	0	1	0	0	foraged on open grassy area
214	Masked Lapwing	<i>Vanellus miles</i>	070414	1535-1700	23	Massey Park Golf Course	S 33° 51' 13.2" E 151° 06' 42.3"	0	0	3	0	0	with D. Oldfield
215	Masked Lapwing	<i>Vanellus miles</i>	020414	1005-1055	32	Rhodes Park & Brays Bay Reserve	S 33° 50' 01.9" E 151° 05' 22.7"	0	0	2	0	0	on mown open area; with R. Stevenson & A. Ellison
216	Masked Lapwing	<i>Vanellus miles</i>	030414	0710-0910	28	Concord Golf Course	S 33° 50' 48.9" E 151° 05' 59.9"	0	0	2	0	0	foraged on fairway; with D. Oldfield
217	Bar-tailed Godwit	<i>Limosa lapponica</i>	231113	1800-1825	24	Prince Edward Park	S 33° 51' 12.2" E 151° 07' 05.5"	0	0	0	0	13	foraged between this site and adjacent Exile Bay mangrove mudflats @ low tide; listed as marine and migratory

Record No.	Common Name	Scientific Name	Date	Time	Site No.	Site Name	Site location	Bushland Remnant^	Revegetated Parkland	Open Parkland	Urban Neighbourhood	Aquatic habitats #	Comments
													under EPBC Act; also protected under Bonn Convention, JAMBA, CAMBA, ROKAMBA
218	Bar-tailed Godwit	<i>Limosa lapponica</i>	231113	1835-1910	25	France Bay	S 33° 51' 03.5" E 151° 06' 57.6"	0	0	0	0	18	foraged on mudflats @ low tide; listed as marine and migratory under EPBC Act; also protected under Bonn Convention, JAMBA, CAMBA, ROKAMBA
219	Bar-tailed Godwit	<i>Limosa lapponica</i>	070414	0600-0800	16	Halliday Park	S 33° 51' 39.4" E 151° 07' 42.7", S 33° 51' 43.5" E 151° 07' 36.4"	0	0	0	0	10	foraged on mudflats @ low tide with stilts, gulls & others (flushed by unleashed dog) - included 1 bird still in breeding plumage & 1 banded bird missing its left foot (orange over green colour bands, was banded 5-6 yrs ago at Sydney Olympic Park's waterbird refuge [J.H.]); listed as marine and migratory under EPBC Act, also protected under JAMBA, CAMBA, ROKAMBA; with J. Harrington (J.H.)
220	Bar-tailed Godwit	<i>Limosa lapponica</i>	050414	1730-1755	15	Henry Lawson Park	S 33° 51' 00.1" E 151° 07' 34.4"	0	0	0	0	13	foraged on sand/mudflats @ low tide then flew around to next small sand/mudflats nr end Charlton St; listed as marine and migratory under EPBC Act; also protected under Bonn Convention, JAMBA, CAMBA, ROKAMBA

Record No.	Common Name	Scientific Name	Date	Time	Site No.	Site Name	Site location	Bushland Remnant [^]	Revegetated Parkland	Open Parkland	Urban Neighbourhood	Aquatic habitats #	Comments
221	Crested Tern	<i>Thalasseus bergii</i>	100414	0620-0710	6	Half Moon Bay	S 33° 51' 35.2" E 151° 09' 10.1"	0	0	0	0	1	foraged low over open water of bay; survey preceded by a Rakali search 0545-0610; with A. Doldissen & F. Davis
222	Crested Tern	<i>Thalasseus bergii</i>	070414	0600-0800	16	Halliday Park	S 33° 51' 39.4" E 151° 07' 42.7"	0	0	0	0	1	foraged over open water adjacent to northern end of park; with J. Harrington
223	Crested Tern	<i>Thalasseus bergii</i>	040414	0800-0820	25	France Bay	S 33° 51' 03.5" E 151° 06' 57.6"	0	0	0	0	1	foraged low over open water @ low tide
224	Crested Tern	<i>Thalasseus bergii</i>	040414	0830-0845	24	Prince Edward Park	S 33° 51' 12.2" E 151° 07' 05.5"	0	0	0	0	1	foraged low over open water adjacent to beach; with M. Falkenmire & P. Sweeney
225	Silver Gull	<i>Chroicocephalus novaehollandiae</i>	201113	1620-1720	5	Iron Cove - southwestern foreshore from Iron Cove Ck to Rodd Point	S 33° 52' 13.2" E 151° 08' 31.4" (Arthur St); S 33° 51' 57.7" E 151° 08' 49.6" (Rodd Pt)	0	0	0	0	24	foraged on mangrove mudflats @ low tide, Rodd Pt beach, mown park and verges; with A. Doldissen
226	Silver Gull	<i>Chroicocephalus novaehollandiae</i>	201113	1820-1845	6	Half Moon Bay	S 33° 51' 34.6" E 151° 09' 19.2"	0	0	0	0	5	foraged on mudflats @ low tide; with A. Doldissen
227	Silver Gull	<i>Chroicocephalus novaehollandiae</i>	211113	0855-0935	12	Figtree Bay Reserve	S 33° 50' 56.4" E 151° 08' 13.1"	0	0	0	0	2	rested at water's edge
228	Silver Gull	<i>Chroicocephalus novaehollandiae</i>	211113	1710-1810	8	Sisters Bay	S 33° 51' 26.7" E 151° 09' 24.0"	0	0	0	0	39	rested & foraged mudflats @ low tide; with A. Doldissen

Record No.	Common Name	Scientific Name	Date	Time	Site No.	Site Name	Site location	Bushland Remnant [^]	Revegetated Parkland	Open Parkland	Urban Neighbourhood	Aquatic habitats #	Comments
229	Silver Gull	<i>Chroicocephalus novaehollandiae</i>	231113	1835-1910	25	France Bay	S 33° 51' 03.5" E 151° 06' 57.6"	0	0	0	0	8	low tide foraged on mudflats; with G. Duggan
230	Silver Gull	<i>Chroicocephalus novaehollandiae</i>	251113	0655-0915	17	Barnwell Park Golf Course	S 33° 51' 40.8" E 151° 06' 51.3"	0	0	5	0	0	northern section (N of Lyons Rd west); with R. Stevenson & D. Oldfield
231	Silver Gull	<i>Chroicocephalus novaehollandiae</i>	281113	1645-1850	28	Concord Golf Course	S 33° 51' 05.0" E 151° 05' 52.1"	0	0	0	0	3	sitting on surface of smaller southern dam
232	Silver Gull	<i>Chroicocephalus novaehollandiae</i>	050414	1730-1755	15	Henry Lawson Park	S 33° 51' 00.1" E 151° 07' 34.4"	0	0	0	0	35	foraged & rested on small sand/mudflat @ low tide with godwits
233	Silver Gull	<i>Chroicocephalus novaehollandiae</i>	010414	1640-1710	34	Rider Boulevard	S 33° 50' 10.9" E 151° 04' 59.7"	0	0	0	0	2	foraged on mudflats @ low tide; with R. Stevenson & F. Davis
234	Silver Gull	<i>Chroicocephalus novaehollandiae</i>	010414	0710-1020	36	Bicentennial Park east	S 33° 50' 24.7" E 151° 04' 58.2"	0	0	0	0	2	foraged along Powells Ck; with R. Stevenson, D. Oldfield & F. Davis
235	Silver Gull	<i>Chroicocephalus novaehollandiae</i>	100414	0730-0850	5	Iron Cove - south-western foreshore from Iron Cove Ck to Rodd Point	S 33° 52' 13.2" E 151° 08' 31.4" (Arthur St); S 33° 51' 57.7" E 151° 08' 49.6" (Rodd Pt)	0	0	0	0	7	foraged on mangrove mudflats @ ebb tide & Rodd Pt beach; with A. Doldissen & F. Davis
236	Silver Gull	<i>Chroicocephalus novaehollandiae</i>	100414	0620-0710	6	Half Moon Bay	S 33° 51' 34.6" E 151° 09' 19.2" (adjacent to - on mudflat & beach)	0	0	0	0	4	foraged on mudflat & beach; preceded by Rakali search 0545-0610; with A. Doldissen & F. Davis
237	Silver Gull	<i>Chroicocephalus novaehollandiae</i>	070414	0945-1035	12	Figtree Bay Reserve	S 33° 50' 56.4" E 151° 08' 13.1"	0	0	0	0	2	foraged along water's edge
238	Silver Gull	<i>Chroicocephalus novaehollandiae</i>	090414	0730-0815	8	Sisters Bay	S 33° 51' 26.7" E 151°	0	0	0	0	3	foraged mudflats @ mid-tide (low tide was

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							09' 24.0"						@ 0332); with A. Doldissen & C. Paine
239	Silver Gull	<i>Chroicocephalus novaehollandiae</i>	O40414	0800-0820	25	France Bay	S 33° 51' 03.5" E 151° 06' 57.6"	0	0	0	0	2	foraged on mudflats at low tide
240	Silver Gull	<i>Chroicocephalus novaehollandiae</i>	O60414	0630-0825	18	Cintra Park	S 33° 51' 49.9" E 151° 06' 43.8"	0	0	5	0	6	foraged @ low tide in canal & along mown canal edges; with H. Saldamli, K. Spasojevic, M. Newton, P. & J. Smith
241	Silver Gull	<i>Chroicocephalus novaehollandiae</i>	O70414	0600-0800	16	Halliday Park	S 33° 51' 39.4" E 151° 07' 42.7", S 33° 51' 43.5" E 151° 07' 36.4"	0	0	15	0	25	night-roosted & foraged @ low tide on mudflats, rock wall and beach, also on mown open areas; with J. Harrington
242	Silver Gull	<i>Chroicocephalus novaehollandiae</i>	O40414	0830-0845	24	Prince Edward Park	S 33° 51' 12.2" E 151° 07' 05.5"	0	0	0	0	1	foraged along sandy beach; with M. Falkenmire & P. Sweeney
243	Silver Gull	<i>Chroicocephalus novaehollandiae</i>	1005-1055	O20414	32	Rhodes Park & Brays Bay Reserve	S 33° 49' 52.9" E 151° 05' 28.7"	0	0	0	0	2	foraged in water nr wharf; with R. Stevenson & A. Ellison
244	Galah	<i>Eolophus roseicapillus</i>	201113	1620-1720	5	Iron Cove - south-western foreshore from Iron Cove Ck to Rodd Point	S 33° 52' 13.2" E 151° 08' 31.4" (Arthur St); S 33° 51' 57.7" E 151° 08' 49.6" (Rodd Pt)	0	0	0	0	6	Rodd Point beach and mown grass fringe; with A. Doldissen
245	Galah	<i>Eolophus roseicapillus</i>	201113	1820-1845	6	Half Moon Bay	S 33° 51' 34.6" E 151° 09' 19.2"	3	0	0	0	0	with A. Doldissen
246	Galah	<i>Eolophus roseicapillus</i>	211113	1710-1810	8	Sisters Bay	S 33° 51' 26.7" E 151° 09' 24.0"	0	3	0	0	0	with A. Doldissen

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247	Galah	<i>Eolophus roseicapillus</i>	241113	1620-1815	18	Cintra Park	S 33° 51' 49.9" E 151° 06' 43.8"	0	0	6	0	0	foraged along mown canal edge nr St Lukes Park; with K. Spasojevic & H. Saldamli
248	Galah	<i>Eolophus roseicapillus</i>	261113	1630-1830	31	Rivendell CAF Unit	S 33° 50' 04.7" E 151° 05' 53.3"	0	2	0	0	0	foraged on mown lawn
249	Galah	<i>Eolophus roseicapillus</i>	281113	1645-1850	28	Concord Golf Course	S 33° 51' 03.4" E 151° 06' 03.3", S 33° 50' 48.9" E 151° 05' 59.9"	0	5	4	0	0	recent fledgling obs begging food fr adult on fairway
250	Galah	<i>Eolophus roseicapillus</i>	030414	0710-0910	28	Concord Golf Course	S 33° 51' 03.4" E 151° 06' 03.3"	0	5	4	0	0	foraged along fairway; with D. Oldfield
251	Long-billed Corella	<i>Cacatua tenuirostris</i>	261113	1630-1830	31	Rivendell CAF Unit	S 33° 50' 04.7" E 151° 05' 53.3"	0	2	0	0	0	digging corms out of lawn nr boatshed access
252	Long-billed Corella	<i>Cacatua tenuirostris</i>	271113	1710-1800	16	Halliday Park	S 33° 51' 39.4" E 151° 07' 42.7"	0	0	0	0	2	drinking from mudflat pool @ low tide
253	Long-billed Corella	<i>Cacatua tenuirostris</i>	281113	1645-1850	28	Concord Golf Course	S 33° 50' 48.9" E 151° 05' 59.9"	0	0	2	0	0	foraged on fairway, with Little Corella
254	Long-billed Corella	<i>Cacatua tenuirostris</i>	070414	1535-1700	23	Massey Park Golf Course	S 33° 51' 10.1" E 151° 06' 37.0"	0	0	7	0	0	foraged on greens, tee & fairway at clubhouse end digging up fine turf species looking for tubers, not with Little Corella flock; with D. Oldfield
255	Long-billed Corella	<i>Cacatua tenuirostris</i>	070414	0600-0800	16	Halliday Park	S 33° 51' 39.4" E 151° 07' 42.7"	0	5	0	0	0	perched & preened with Little Corella flock in planted spotted gum; with J. Harrington
256	Long-billed Corella	<i>Cacatua tenuirostris</i>	060414	0630-0825	18	Cintra Park	S 33° 51' 49.9" E 151° 06' 43.8"	0	0	1	0	0	foraged on grassed area; with K. Spasojevic, H. Saldamli, M. Newton, P. & J. Smith

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257	Little Corella	<i>Cacatua sanguinea</i>	241113	1620-1815	18	Cintra Park	S 33° 51' 49.9" E 151° 06' 43.8"	0	0	5	0	0	foraged on corms mown grass edge with St Lukes Park; with K. Spasojevic & H. Saldamli
258	Little Corella	<i>Cacatua sanguinea</i>	251113	0655-0915	17	Barnwell Park Golf Course	S 33° 52' 04.3" E 151° 07' 05.6" (S end nr Five Dock Leisure Centre) & S 33° 51' 55.6" E 151° 07' 14.0" (mid-section)	0	0	52	0	0	perched on ball interception wire screen along Lyons Rd West, southside; with R. Stevenson & D. Oldfield
259	Little Corella	<i>Cacatua sanguinea</i>	281113	1645-1850	28	Concord Golf Course	S 33° 50' 48.9" E 151° 05' 59.9"	0	0	4	0	0	foraged on fairway with Long-billed Corella, flew off
260	Little Corella	<i>Cacatua sanguinea</i>	070414	1535-1700	23	Massey Park Golf Course	S 33° 51' 13.2" E 151° 06' 42.3"	0	0	151	0	0	foraged for corms on fairway in a large flock of all Little Corella, flew, called - the large flock reported by G. Duggan previously; with D. Oldfield
261	Little Corella	<i>Cacatua sanguinea</i>	020414	1545-1825	30	Yaralla Estate	S 33° 50' 39.5" E 151° 05' 46.4"	0	0	2	0	0	foraged on mown open area, northern section; with R. Stevenson, D. Oldfield, A. Doldissen & F. Davis
262	Little Corella	<i>Cacatua sanguinea</i>	070414	0815-0905	14	Quarantine Reserve	S 33° 50' 51.4" E 151° 07' 22.6"	0	7	0	0	0	perched & called in planted eucalypts nr lower slope swamp oak patch
263	Little Corella	<i>Cacatua sanguinea</i>	060414	0630-0825	18	Cintra Park	S 33° 52' 01.7" E 151° 06' 38.0"	0	0	4	0	0	flew onto netball court fence, called; with K. Spasojevic, H. Saldamli, M. Newton, P. & J. Smith

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264	Little Corella	<i>Cacatua sanguinea</i>	O70414	0600-0800	16	Halliday Park	S 33° 51' 39.4" E 151° 07' 42.7"	0	6	0	0	0	perched, preened & fed on new fruit & some flowers of planted spotted gum & lemon-scented gum, with 5 Long-billed Corella; with J. Harrington
265	Little Corella	<i>Cacatua sanguinea</i>	O80414	0730-0825	11	Edenholme Road	S 33° 51' 29.6" E 151° 08' 26.9"	0	0	0	4	0	fed on unripe golden elm fruit in home garden North Court Rd & environs; with E. Hughes
266	Little Corella	<i>Cacatua sanguinea</i>	O40414	0700-0745	27	Mortlake Public School	S 33° 50' 56.8" E 151° 06' 11.4"	0	0	4	0	0	called & obs in planted brushbox; with G. Duggan
267	Sulphur-crested Cockatoo	<i>Cacatua galerita</i>	201113	1050-1120	4	Five Dock Park	S 33° 52' 03.9" E 151° 08' 01.0"	1	0	0	0	0	perched in old remnant grey ironbark (<i>Eucalyptus paniculata</i>) in SE cnr of park
268	Sulphur-crested Cockatoo	<i>Cacatua galerita</i>	211113	0705-0740	7	Drummoyne Public School	S 33° 51' 21.2" E 151° 09' 08.7"	0	3	0	0	0	perched called in brush box
269	Sulphur-crested Cockatoo	<i>Cacatua galerita</i>	221113	1610-1710	13	Abbotsford Public School	S 33° 51' 12.6" E 151° 07' 48.5"	0	2	0	0	0	inspecting hollow in Forest Red Gum in front grounds
270	Sulphur-crested Cockatoo	<i>Cacatua galerita</i>	231113	0700-0830	21	Queen Elizabeth Park	S 33° 51' 45.0" E 151° 06' 15.6"	2	0	0	0	0	with M. Newton
271	Sulphur-crested Cockatoo	<i>Cacatua galerita</i>	231113	1610-1710	27	Mortlake Public School	S 33° 50' 56.8" E 151° 06' 11.4"	1	0	0	0	0	in remnant white stringybark; with G. Duggan
272	Sulphur-crested Cockatoo	<i>Cacatua galerita</i>	251113	0945-1120	23	Massey Park Golf Course	S 33° 51' 10.1" E 151° 06' 37.0"	0	0	3	0	0	with R. Stevenson & D. Oldfield
273	Sulphur-crested Cockatoo	<i>Cacatua galerita</i>	281113	1645-1850	28	Concord Golf Course	S 33° 50' 48.9" E 151° 05' 59.9"	0	1	0	0	0	perched in old planted Tallowwood <i>E. microcorys</i>

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274	Sulphur-crested Cockatoo	<i>Cacatua galerita</i>	O60414	0630-0825	18	Cintra Park	S 33° 51' 41.9" E 151° 06' 48.6"	0	1	0	0	0	called from high in planted eucalypt; with K. Spasojevic, H. Saldamli, M. Newton, P. & J. Smith
275	Sulphur-crested Cockatoo	<i>Cacatua galerita</i>	O70414	0600-0800	16	Halliday Park	S 33° 51' 39.4" E 151° 07' 42.7"	0	1	0	0	0	perched, called in planted spotted gum nr corellas; with J. Harrington
276	Sulphur-crested Cockatoo	<i>Cacatua galerita</i>	O80414	0730-0825	11	Edenholme Road	S 33° 51' 29.6" E 151° 08' 26.9"	0	0	0	1	0	called from perch on powerpole in Mons St; with E. Hughes
277	Sulphur-crested Cockatoo	<i>Cacatua galerita</i>	O60414	0850-0950	13	Abbotsford Public School	S 33° 51' 12.6" E 151° 07' 48.5"	0	3	0	0	0	one pair inspected potential nest hollow in Forest Red Gum in front grounds nr boundary with Great North Rd; with C. Paine
278	Sulphur-crested Cockatoo	<i>Cacatua galerita</i>	O70414	0815-0905	14	Quarantine Reserve	S 33° 50' 51.4" E 151° 07' 22.6"	1	0	0	0	0	perched & called in old blackbutt on upper slope
279	Sulphur-crested Cockatoo	<i>Ocyphaps lophotes</i>	O50414	1730-1755	15	Henry Lawson Park	S 33° 51' 00.1" E 151° 07' 34.4"	0	1	0	0	0	perched called in tall planted blackbutt
280	Sulphur-crested Cockatoo	<i>Cacatua galerita</i>	O70414	1535-1700	23	Massey Park Golf Course	S 33° 51' 10.1" E 151° 06' 37.0", S 33° 51' 13.2" E 151° 06' 42.3"	0	3	9	0	0	foraged on ground along edge of fairway & some obs eating oleander new bark; with D. Oldfield
281	Sulphur-crested Cockatoo	<i>Cacatua galerita</i>	O30414	0710-0910	28	Concord Golf Course	S 33° 51' 03.4" E 151° 06' 03.3"	2	2	0	0	0	perched in old planted Tallowwood <i>E. microcorys</i> & remnant swamp mahogany; with

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													D. Oldfield
282	Sulphur-crested Cockatoo	<i>Cacatua galerita</i>	020414	0715-0940	31	Rivendell CAF Unit	S 33° 49' 52.2" E 151° 05' 48.7"	2	0	0	0	0	perched, called in STIF remnant; with R. Stevenson
283	Rainbow Lorikeet	<i>Trichoglossus haematodus</i>	201113	0710-0840	1	Russell Lea Infants School	S 33° 51' 41.1" E 151° 08' 31.5"	5	10	0	0	0	in flowering brushbox & red bloodwood (planted)
284	Rainbow Lorikeet	<i>Trichoglossus haematodus</i>	201113	1015-1035	3	Noble Street	S 33° 51' 52.9" E 151° 08' 22.3"	0	0	0	12	0	foraged in flowering brushbox street verge
285	Rainbow Lorikeet	<i>Trichoglossus haematodus</i>	201113	1050-1120	4	Five Dock Park	S 33° 52' 03.9" E 151° 08' 01.0"	4	0	0	0	0	commuting between flowering spotted gum (Domremy College) & old grey ironbarks in park
286	Rainbow Lorikeet	<i>Trichoglossus haematodus</i>	211113	0705-0740	7	Drummoyne Public School	S 33° 51' 21.2" E 151° 09' 08.7"	0	8	0	0	0	foraged in flowering brushbox
287	Rainbow Lorikeet	<i>Trichoglossus haematodus</i>	211113	0755-0840	10	Drummoyne Park	S 33° 51' 07.6" E 151° 09' 00.5"	0	31	0	0	0	foraged in flowering eucalypt in park
288	Rainbow Lorikeet	<i>Trichoglossus haematodus</i>	211113	1030-1050	11	Edenholme Road	S 33° 51' 23.9" E 151° 08' 19.5"	0	0	0	13	0	foraged in street verge flowering brushbox & callistemon
289	Rainbow Lorikeet	<i>Trichoglossus haematodus</i>	211113	1610-1655	9	Brett Park	S 33° 51' 22.7" E 151° 09' 29.9"	0	2	0	0	0	with A. Doldissen
290	Rainbow Lorikeet	<i>Trichoglossus haematodus</i>	221113	1020-1115	14	Quarantine Reserve	S 33° 50' 51.2" E 151° 07' 25.0"	9	0	0	0	0	with R. Stevenson & D. Oldfield
291	Rainbow Lorikeet	<i>Trichoglossus haematodus</i>	221113	1125-1205	15	Henry Lawson Park	S 33° 51' 00.1" E 151° 07' 34.4"	0	0	1	0	0	with R. Stevenson & D. Oldfield
292	Rainbow Lorikeet	<i>Trichoglossus haematodus</i>	221113	1610-1710	13	Abbotsford Public School	S 33° 51' 12.6" E 151° 07' 48.5"	0	16	0	0	0	foraged in flowering brush box in grounds

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293	Rainbow Lorikeet	<i>Trichoglossus haematodus</i>	231113	0700-0830	21	Queen Elizabeth Park	S 33° 51' 45.0" E 151° 06' 15.6"	10	0	0	0	0	with M. Newton
294	Rainbow Lorikeet	<i>Trichoglossus haematodus</i>	231113	0915-1015	19	Concord High School	S 33° 51' 50.0" E 151° 06' 29.0"	0	9	0	0	0	with M. Newton
295	Rainbow Lorikeet	<i>Trichoglossus haematodus</i>	231113	1035-1115	22	Empire Avenue	S 33° 51' 33.2" E 151° 06' 39.7"	0	0	0	17	0	foraged in flowering callistemon street verge; with M. Newton
296	Rainbow Lorikeet	<i>Trichoglossus haematodus</i>	231113	1610-1710	27	Mortlake Public School	S 33° 50' 56.8" E 151° 06' 11.4"	0	6	0	0	0	foraged in flowering brush box; with G. Duggan
297	Rainbow Lorikeet	<i>Trichoglossus haematodus</i>	241113	0930-1035	29	Strathfield North Public School	S 33° 51' 18.9" E 151° 05' 33.7"	0	4	0	0	0	flowering old planted brush box
298	Rainbow Lorikeet	<i>Trichoglossus haematodus</i>	241113	1620-1815	18	Cintra Park	S 33° 51' 49.9" E 151° 06' 43.8"	0	5	0	0	0	with H. Saldamli & K. Spasojevic
299	Rainbow Lorikeet	<i>Trichoglossus haematodus</i>	251113	0655-0915	17	Barnwell Park Golf Course	S 33° 52' 04.3" E 151° 07' 05.6" (S end nr Five Dock Leisure Centre) & S 33° 51' 55.6" E 151° 07' 14.0" (mid-section)	0	16	0	0	0	southern section (S of Lyons Rd west); with R. Stevenson & D. Oldfield
300	Rainbow Lorikeet	<i>Trichoglossus haematodus</i>	251113	0945-1120	23	Massey Park Golf Course	S 33° 51' 10.1" E 151° 06' 37.0"	0	5	0	0	0	with R. Stevenson & D. Oldfield
301	Rainbow Lorikeet	<i>Trichoglossus haematodus</i>	261113	0645-0845	30	Yaralla Estate	S 33° 50' 17.6" E 151° 05' 55.0"	4	0	0	0	0	southern section - STIF remnant; with R. Stevenson & D. Oldfield

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302	Rainbow Lorikeet	<i>Trichoglossus haematodus</i>	261113	0925-1040	30	Yaralla Estate	S 33° 50' 27.8" E 151° 05' 35.7"	2	0	0	0	0	northern section - dryland STIF remnant in NW cnr; with R. Stevenson & D. Oldfield
303	Rainbow Lorikeet	<i>Trichoglossus haematodus</i>	261113	1630-1830	31	Rivendell CAF Unit	S 33° 49' 52.2" E 151° 05' 48.7"	8	4	0	0	0	foraged in remnant & planted eucalypts, near Rocky Pt
304	Rainbow Lorikeet	<i>Trichoglossus haematodus</i>	261113	1630-1830	31	Rivendell CAF Unit	S 33° 50' 50.7" E 151° 05' 31.1"	12	4	0	0	0	foraged, flew, called - western corner
305	Rainbow Lorikeet	<i>Trichoglossus haematodus</i>	271113	0830-0915	34	Rider Boulevard	S 33° 50' 10.9" E 151° 04' 59.7"	0	2	0	0	0	with R. Stevenson & D. Oldfield
306	Rainbow Lorikeet	<i>Trichoglossus haematodus</i>	271113	1020-1110	35	Coonong Road	S 33° 50' 33.7" E 151° 05' 10.3"	0	0	0	3	0	foraged in flowering street verge brushbox; with R. Stevenson & D. Oldfield
307	Rainbow Lorikeet	<i>Trichoglossus haematodus</i>	271113	1710-1800	16	Halliday Park	S 33° 51' 39.4" E 151° 07' 42.7"	0	8	0	0	0	foraged in flowering spotted gum (planted)
308	Rainbow Lorikeet	<i>Trichoglossus haematodus</i>	281113	0920-1110	26	Cabarita Park	S 33° 50' 30.6" E 151° 07' 10.9"	0	3	0	0	0	with G. Duggan, R. Stevenson, D. Oldfield
309	Rainbow Lorikeet	<i>Trichoglossus haematodus</i>	281113	1645-1850	28	Concord Golf Course	S 33° 51' 03.4" E 151° 06' 03.3", S 33° 50' 48.9" E 151° 05' 59.9"	24	23	0	0	0	foraged in flowering rough-barked apple, grey ironbark, paperbark & callistemon; called
310	Rainbow Lorikeet	<i>Trichoglossus haematodus</i>	100414	0730-0850	5	Iron Cove - south-western foreshore from Iron Cove Ck to Rodd Point	S 33° 52' 13.2" E 151° 08' 31.4" (Arthur St), S 33° 51' 57.7" E 151° 08' 49.6" (Rodd Pt)	0	6	0	0	0	foraged in street verge flowering paperbark & at Rodd Point; with A. Doldissen & F. Davis

Record No.	Common Name	Scientific Name	Date	Time	Site No.	Site Name	Site location	Bushland Remnant [^]	Revegetated Parkland	Open Parkland	Urban Neighbourhood	Aquatic habitats #	Comments
311	Rainbow Lorikeet	<i>Trichoglossus haematodus</i>	O80414	1655-1730	1	Russell Lea Infants School	S 33° 51' 41.1" E 151° 08' 31.5"	2	14	0	0	0	foraged, called in flowering remnant forest red gum (food tree of Grey-headed flew-fox) & planted callistemon
312	Rainbow Lorikeet	<i>Trichoglossus haematodus</i>	O50414	1655-1715	3	Noble Street	S 33° 51' 52.9" E 151° 08' 22.3"	0	0	0	6	0	foraged in home garden Acmena shrubs & flowering callistemon, called & flew
313	Rainbow Lorikeet	<i>Trichoglossus haematodus</i>	O50414	1615-1645	4	Five Dock Park	S 33° 52' 03.9" E 151° 08' 01.0"	4	6	0	0	0	foraged, called & flew between planted brushbox & remnant grey ironbark
314	Rainbow Lorikeet	<i>Trichoglossus haematodus</i>	O80414	0650-0715	7	Drummoyne Public School	S 33° 51' 21.2" E 151° 09' 08.7"	0	8	0	0	0	foraged in flowering planted ironbark on E side of school
315	Rainbow Lorikeet	<i>Trichoglossus haematodus</i>	O80414	0835-0935	10	Drummoyne Park	S 33° 51' 07.6" E 151° 09' 00.5", S 33° 51' 07.5" E 151° 09' 04.8"	0	15	0	0	0	foraged in flowering eucalypt in park
316	Rainbow Lorikeet	<i>Trichoglossus haematodus</i>	O80414	0730-0825	11	Edenholme Road	S 33° 51' 23.9" E 151° 08' 19.5", S 33° 51' 25.1" E 151° 08' 27.6", S 33° 51' 29.6" E 151° 08' 26.9"	0	0	0	33	0	foraged in street verge & home garden flowering callistemon, paperbark, smooth-barked apple; with E. Hughes
317	Rainbow Lorikeet	<i>Trichoglossus haematodus</i>	O90414	1630-1740	2	Timbrell Park	S 33° 52' 17.2" E 151° 08' 20.6"	0	4	0	0	0	foraged in planted eucalypts & paperbark patch; with A. Doldissen
318	Rainbow Lorikeet	<i>Trichoglossus haematodus</i>	100414	O620-0710	6	Half Moon Bay	S 33° 51' 34.6" E 151°	0	2	0	0	0	foraged in flowering planted swamp mahogany; preceded by

Record No.	Common Name	Scientific Name	Date	Time	Site No.	Site Name	Site location	Bushland Remnant [^]	Revegetated Parkland	Open Parkland	Urban Neighbourhood	Aquatic habitats #	Comments
							09' 19.2"						Rakali search 0545-0610; with A. Doldissen & F. Davis
319	Rainbow Lorikeet	<i>Trichoglossus haematodus</i>	090414	0730-0815	8	Sisters Bay	S 33° 51' 26.7" E 151° 09' 24.0"	0	7	0	0	0	foraged & called in planted fig and brushbox; with A. Doldissen & C. Paine
320	Rainbow Lorikeet	<i>Trichoglossus haematodus</i>	090414	0615-0705	9	Brett Park	S 33° 51' 26.6" E 151° 09' 22.2", S 33° 51' 25.9" E 151° 09' 30.1"	0	14	0	0	0	foraged in planted sheoak & angophora midslope section; with A. Doldissen & C. Paine
321	Rainbow Lorikeet	<i>Trichoglossus haematodus</i>	070414	0815-0905	14	Quarantine Reserve	S 33° 50' 51.4" E 151° 07' 22.6"	13	12	0	0	0	foraged in & flew into & out of flowering old blackbutt and planted ironbark, one pair inspected potential nest hollows in old mangroves
322	Rainbow Lorikeet	<i>Trichoglossus haematodus</i>	050414	1730-1755	15	Henry Lawson Park	S 33° 51' 00.1" E 151° 07' 34.4"	0	0	7	0	0	foraged in flowering <i>Banksia integrifolia</i>
323	Rainbow Lorikeet	<i>Trichoglossus haematodus</i>	060414	0850-0950	13	Abbotsford Public School	S 33° 51' 12.6" E 151° 07' 48.5"	0	16	0	0	0	foraged in flowering <i>Melaleuca quinquenervia</i> at front of school; with C. Paine
324	Rainbow Lorikeet	<i>Trichoglossus haematodus</i>	080414	1530-1640	21	Queen Elizabeth Park	S 33° 51' 45.0" E 151° 06' 15.6"	8	0	0	0	0	incl pair @ dead tree hollow in old turpentine patch; with G. Duggan
325	Rainbow Lorikeet	<i>Trichoglossus haematodus</i>	030414	1750-1830	19	Concord High School	S 33° 51' 50.0" E 151° 06' 29.0"	0	11	0	0	0	with P. Smith
326	Rainbow Lorikeet	<i>Trichoglossus haematodus</i>	040414	0700-0745	27	Mortlake Public School	S 33° 50' 56.8" E 151° 06' 11.4"	0	5	0	0	0	called from old rough-barked apple; with G. Duggan

Record No.	Common Name	Scientific Name	Date	Time	Site No.	Site Name	Site location	Bushland Remnant ^A	Revegetated Parkland	Open Parkland	Urban Neighbourhood	Aquatic habitats #	Comments
327	Rainbow Lorikeet	<i>Trichoglossus haematodus</i>	O30414	1630-1720	29	Strathfield North Public School	S 33° 51' 18.9" E 151° 05' 33.7"	0	13	0	0	0	foraged in flowering old planted <i>Melaleuca quinquenervia</i>
328	Rainbow Lorikeet	<i>Trichoglossus haematodus</i>	O60414	0630-0825	18	Cintra Park	S 33° 51' 49.9" E 151° 06' 43.8"	0	17	0	0	0	foraged in flowering planted swamp mahogany; with H. Saldamli, K. Spasojevic, M. Newton, P. & J. Smith
329	Rainbow Lorikeet	<i>Trichoglossus haematodus</i>	O70414	1710-1740	17	Barnwell Park Golf Course	S 33° 52' 04.3" E 151° 07' 05.6"	0	2	0	0	0	southern section; with D. Oldfield
330	Rainbow Lorikeet	<i>Trichoglossus haematodus</i>	O70414	1535-1700	23	Massey Park Golf Course	S 33° 51' 10.1" E 151° 06' 37.0", S 33° 51' 13.2" E 151° 06' 42.3"	0	18	0	0	0	foraged in paperbarks & eucalypts; with D. Oldfield
331	Rainbow Lorikeet	<i>Trichoglossus haematodus</i>	O20414	1545-1825	30	Yaralla Estate	S 33° 50' 17.6" E 151° 05' 55.0"	7	0	0	0	0	southern section - STIF remnant; with R. Stevenson, D. Oldfield, A. Doldissen & F. Davis
332	Rainbow Lorikeet	<i>Trichoglossus haematodus</i>	O20414	0715-0940	31	Rivendell CAF Unit	S 33° 49' 52.2" E 151° 05' 48.7"	9	0	0	0	0	one pair nesting in old mangrove hollow; with R. Stevenson
333	Rainbow Lorikeet	<i>Trichoglossus haematodus</i>	O20414	1005-1055	32	Rhodes Park & Brays Bay Reserve	S 33° 50' 01.9" E 151° 05' 22.7"	0	2	0	0	0	feeding on flowering planted <i>Melaleuca quinquenervia</i> ; with R. Stevenson & A. Ellison
334	Rainbow Lorikeet	<i>Trichoglossus haematodus</i>	O10414	1810-1840	35	Coonong Road	S 33° 50' 33.7" E 151° 05' 10.3"	0	0	0	16	0	perched in brushbox, foraged in flowering callistemon & pre-roosted in rearyard old eucalypts in Wunda Rd; with R. Stevenson, F. Davis & A. Ellison
335	Rainbow Lorikeet	<i>Trichoglossus haematodus</i>	O40414	0830-0845	24	Prince Edward	S 33° 51' 12.2" E 151°	0	7	0	0	0	foraged in callistemon & paperbark; with M. Falkenmire & P.

Record No.	Common Name	Scientific Name	Date	Time	Site No.	Site Name	Site location	Bushland Remnant^	Revegetated Parkland	Open Parkland	Urban Neighbourhood	Aquatic habitats #	Comments
						Park	07' 05.5"						Sweeney
336	Rainbow Lorikeet	<i>Trichoglossus haematodus</i>	070414	0600-0800	16	Halliday Park	S 33° 51' 39.4" E 151° 07' 42.7", S 33° 51' 43.5" E 151° 07' 36.4"	0	17	0	0	0	foraged in flowering spotted gum & lemon-scented gum (planted), obs leaving night roost in mangroves @ ca 0600 (J.H.); with J. Harrington (J.H.)
337	Rainbow Lorikeet	<i>Trichoglossus haematodus</i>	030414	1530-1610	20	Concord Public School	S 33° 51' 45.2" E 151° 06' 24.4"	0	6	0	0	0	foraged in flowering <i>Melaleuca quinquenervia</i>
338	Rainbow Lorikeet	<i>Trichoglossus haematodus</i>	030414	0935-1040	26	Cabarita Park	S 33° 50' 30.6" E 151° 07' 10.9", S 33° 50' 31.7" E 151° 07' 02.1"	0	17	0	0	0	foraged; with G. Duggan
339	Rainbow Lorikeet	<i>Trichoglossus haematodus</i>	030414	0710-0910	28	Concord Golf Course	S 33° 51' 03.4" E 151° 06' 03.3", S 33° 50' 48.9" E 151° 05' 59.9", S 33° 51' 02.8" E 151° 05' 38.0"	22	5	0	0	0	foraged in flowering swamp mahogany, lemon-scented gum, spotted gum, paperbark & callistemon, called; with D. Oldfield
340	Rainbow Lorikeet	<i>Trichoglossus haematodus</i>	010414	0710-1020	36	Bicentennial Park east	S 33° 50' 38.2" E 151° 04' 50.5"	4	0	0	0	0	one pair searched for nest hollow in old mangrove forest W side of small track and adjacent to Powells Ck; with R. Stevenson, D. Oldfield & F. Davis
341	Scaly-breasted Lorikeet	<i>Trichoglossus chlorolepidotus</i>	201113	0710-0840	1	Russell Lea Infants School	S 33° 51' 41.1" E 151° 08' 31.5"	0	4	0	0	0	foraged in flowering brushbox & red bloodwood street tree (Whittall St, adjac S side)

Record No.	Common Name	Scientific Name	Date	Time	Site No.	Site Name	Site location	Bushland Remnant [^]	Revegetated Parkland	Open Parkland	Urban Neighbourhood	Aquatic habitats #	Comments
342	Musk Lorikeet	<i>Glossopsitta concinna</i>	201113	1050-1120	4	Five Dock Park	S 33° 52' 03.9" E 151° 08' 01.0"	0	8	0	0	0	foraged in planted flowering brushbox
343	Musk Lorikeet	<i>Glossopsitta concinna</i>	221113	1610-1710	13	Abbotsford Public School	S 33° 51' 12.6" E 151° 07' 48.5"	0	9	0	0	0	foraged in flowering old planted Forest red Gum front grounds
344	Musk Lorikeet	<i>Glossopsitta concinna</i>	231113	0700-0830	21	Queen Elizabeth Park	S 33° 51' 45.0" E 151° 06' 15.6"	11	0	0	0	0	departed in SE direction towards Cintra Park; with M. Newton
345	Musk Lorikeet	<i>Glossopsitta concinna</i>	231113	1610-1710	27	Mortlake Public School	S 33° 50' 56.8" E 151° 06' 11.4"	0	4	0	0	0	foraged in flowering brushbox; with G. Duggan
346	Musk Lorikeet	<i>Glossopsitta concinna</i>	241113	1620-1815	18	Cintra Park	S 33° 51' 49.9" E 151° 06' 43.8"	0	7	0	0	0	foraged in flowering lemon-scented gum; with H. Saldamli & K. Spasojevic
347	Musk Lorikeet	<i>Glossopsitta concinna</i>	251113	0655-0915	17	Barnwell Park Golf Course	S 33° 52' 04.3" E 151° 07' 05.6" (S end nr Five Dock Leisure Centre) & S 33° 51' 55.6" E 151° 07' 14.0" (midsection)	0	7	0	0	0	southern section - in flowering planted grey ironbark; with R. Stevenson & D. Oldfield
348	Musk Lorikeet	<i>Glossopsitta concinna</i>	261113	0645-0845	30	Yaralla Estate	S 33° 50' 17.6" E 151° 05' 55.0"	3	0	0	0	0	southern section - STIF remnant, foraged flowering eucalypts; with R. Stevenson & D. Oldfield
349	Musk Lorikeet	<i>Glossopsitta concinna</i>	271113	1710-1800	16	Halliday Park	S 33° 51' 39.4" E 151° 07' 42.7"	0	1	0	0	0	foraged in flowering & planted spotted gum
350	Musk Lorikeet	<i>Glossopsitta concinna</i>	281113	1645-1850	28	Concord Golf Course	S 33° 51' 03.4" E 151°	32	0	0	0	0	foraged in flowering rough-barked apple &

Record No.	Common Name	Scientific Name	Date	Time	Site No.	Site Name	Site location	Bushland Remnant [^]	Revegetated Parkland	Open Parkland	Urban Neighbourhood	Aquatic habitats #	Comments
							06' 03.3", S 33° 50' 48.9" E 151° 05' 59.9"						grey ironbark (interfairways and perimeters); called
351	Musk Lorikeet	<i>Glossopsitta concinna</i>	O10414	1810-1840	35	Coonong Road	S 33° 50' 33.7" E 151° 05' 10.3"	0	0	0	6	0	perched in brush box; with R. Stevenson, F. Davis & A. Ellison
352	Musk Lorikeet	<i>Glossopsitta concinna</i>	O60414	0850-0950	13	Abbotsford Public School	S 33° 51' 12.6" E 151° 07' 48.5"	0	4	0	0	0	foraged in flowering <i>Melaleuca quinquenervia</i> in front grounds of school & flew; with C. Paine
353	Musk Lorikeet	<i>Glossopsitta concinna</i>	O80414	0730-0825	11	Edenholme Road	S 33° 51' 29.6" E 151° 08' 26.9"	0	0	0	4	0	foraged in flowering smooth-barked apple (Mons St); with E. Hughes
354	Musk Lorikeet	<i>Glossopsitta concinna</i>	O90414	0615-0705	9	Brett Park	S 33° 51' 24.2" E 151° 09' 23.3"	0	5	0	0	0	foraged in planted midslope eucalypts; with A. Doldissen & C. Paine
355	Musk Lorikeet	<i>Glossopsitta concinna</i>	O60414	0630-0825	18	Cintra Park	S 33° 51' 49.9" E 151° 06' 43.8"	0	6	0	0	0	foraged in flowering (planted) paperbark & swamp mahogany; with H. Saldamli, K. Spasojevic, M. Newton, P. & J. Smith
356	Musk Lorikeet	<i>Glossopsitta concinna</i>	O70414	1710-1740	17	Barnwell Park Golf Course	S 33° 52' 04.3" E 151° 07' 05.6", S 33° 51' 55.6" E 151° 07' 14.0"	0	6	0	0	0	southern section - foraged in flowering paperbark; with D. Oldfield
357	Musk Lorikeet	<i>Glossopsitta concinna</i>	O70414	0815-0905	14	Quarantine Reserve	S 33° 50' 51.4" E 151° 07' 22.6"	12	3	0	0	0	foraged in & flew into & out of flowering old blackbutt and planted ironbark, harrassed by Noisy Miner in blackbutt nr stables

Record No.	Common Name	Scientific Name	Date	Time	Site No.	Site Name	Site location	Bushland Remnant [^]	Revegetated Parkland	Open Parkland	Urban Neighbourhood	Aquatic habitats #	Comments
358	Musk Lorikeet	<i>Glossopsitta concinna</i>	070414	0600-0800	16	Halliday Park	S 33° 51' 39.4" E 151° 07' 42.7", S 33° 51' 43.5" E 151° 07' 36.4"	0	12	0	0	0	foraged in flowering & planted spotted gum & lemon-scented gum; with J. Harrington
359	Musk Lorikeet	<i>Glossopsitta concinna</i>	030414	0710-0910	28	Concord Golf Course	S 33° 51' 05.0" E 151° 05' 52.1"	0	6	0	0	0	foraged in flowering lemon-scented gum in SW cnr nr Links Av, called & flew; with D. Oldfield
360	Australian King-Parrot	<i>Alisterus scapularis</i>	261113	0645-0845	30	Yaralla Estate	S 33° 50' 17.6" E 151° 05' 55.0"	2	0	0	0	0	southern section - STIF remnant; with R. Stevenson & D. Oldfield
361	Australian King-Parrot	<i>Alisterus scapularis</i>	271113	0625-0740	32	Rhodes Park & Brays Bay Reserve	S 33° 49' 54.0" E 151° 05' 24.6"	0	2	0	0	0	with R. Stevenson & D. Oldfield
362	Australian King-Parrot	<i>Alisterus scapularis</i>	020414	1545-1825	30	Yaralla Estate	S 33° 50' 17.6" E 151° 05' 55.0"	2	0	0	0	0	southern section - STIF remnant, adult male with sub-adult male; with R. Stevenson, D. Oldfield, A. Doldissen & F. Davis
363	Australian King-Parrot	<i>Alisterus scapularis</i>	030414	0935-1040	26	Cabarita Park	S 33° 50' 35.8" E 151° 06' 56.2"	0	2	0	0	0	adult male & female feeding on <i>Pittosporum undulatum</i> seeds on the ground; with G. Duggan
364	Eastern Rosella	<i>Platycercus eximius</i>	231113	0700-0830	21	Queen Elizabeth Park	S 33° 51' 45.0" E 151° 06' 15.6"	0	0	3	0	0	foraged on seeding grasses; with M. Newton
365	Eastern Rosella	<i>Platycercus eximius</i>	261113	0645-0845	30	Yaralla Estate	S 33° 50' 17.6" E 151° 05' 55.0"	4	0	0	0	0	southern section - STIF remnant; with R. Stevenson & D. Oldfield
366	Eastern Rosella	<i>Platycercus eximius</i>	261113	1630-1830	31	Rivendell CAF Unit	S 33° 49' 52.2" E 151° 05' 48.7"	2	0	0	0	0	nest hollow searching in old ironbarks
367	Eastern Rosella	<i>Platycercus eximius</i>	281113	1645-1850	28	Concord Golf Course	S 33° 50' 48.9" E 151° 05' 59.9"	0	0	3	0	0	foraged on edge of tee NE side nr Majors Bay Rd (some good hollows)

Record No.	Common Name	Scientific Name	Date	Time	Site No.	Site Name	Site location	Bushland Remnant [^]	Revegetated Parkland	Open Parkland	Urban Neighbourhood	Aquatic habitats #	Comments
368	Eastern Rosella	<i>Platycercus eximius</i>	O70414	1535-1700	23	Massey Park Golf Course	S 33° 51' 10.1" E 151° 06' 37.0", S 33° 51' 13.2" E 151° 06' 42.3"	0	0	6	0	0	foraged on fairway edges and tee; with D. Oldfield
369	Eastern Rosella	<i>Platycercus eximius</i>	O20414	1545-1825	30	Yaralla Estate	S 33° 50' 17.6" E 151° 05' 55.0"	2	0	0	0	0	southern section - STIF remnant; with R. Stevenson, D. Oldfield, A. Doldissen & F. Davis
370	Eastern Rosella	<i>Platycercus eximius</i>	O30414	0710-0910	28	Concord Golf Course	S 33° 50' 48.9" E 151° 05' 59.9", S 33° 51' 05.0" E 151° 05' 52.1"	2	2	0	0	0	foraged, also 1 perched in turpentine & spotted gum nr Links Ave, mobbed by Noisy Miner; with D. Oldfield
371	Eastern Rosella	<i>Platycercus eximius</i>	O30414	1750-1830	19	Concord High School	S 33° 51' 50.0" E 151° 06' 29.0"	0	2	0	0	0	perched in planted eucalypts on W side; with P. Smith
372	Red-rumped Parrot	<i>Psephotus haematonotus</i>	O60414	0630-0825	18	Cintra Park	S 33° 51' 49.9" E 151° 06' 43.8"	0	0	1	0	0	one adult male obs on canal's western fence (likely flew from foraged on nearby St Lukes Park) then flew east; with H. Saldamli, K. Spasojevic, M. Newton, P. & J. Smith
373	Eastern Koel	<i>Eudynamys orientalis</i>	201113	0710-0840	1	Russell Lea Infants School	S 33° 51' 41.1" E 151° 08' 31.5"	0	1	0	0	0	called
374	Eastern Koel	<i>Eudynamys orientalis</i>	201113	0900-1010	2	Timbrell Park	S 33° 52' 09.4" E 151° 08' 21.1"	0	1	0	0	0	called
375	Eastern Koel	<i>Eudynamys orientalis</i>	201113	1050-1120	4	Five Dock Park	S 33° 52' 03.9" E 151° 08' 01.0"	0	1	0	0	0	called
376	Eastern Koel	<i>Eudynamys orientalis</i>	211113	0755-0840	10	Drummoyne Park	S 33° 51' 07.6" E 151°	0	1	0	0	0	male called in eucalypt

Record No.	Common Name	Scientific Name	Date	Time	Site No.	Site Name	Site location	Bushland Remnant ^A	Revegetated Parkland	Open Parkland	Urban Neighbourhood	Aquatic habitats #	Comments
							09' 00.5"						
377	Eastern Koel	<i>Eudynamys orientalis</i>	211113	1610-1655	9	Brett Park	S 33° 51' 22.7" E 151° 09' 29.9"	0	1	0	0	0	male called in planted strip midslope; with A. Doldissen
378	Eastern Koel	<i>Eudynamys orientalis</i>	221113	1020-1115	14	Quarantine Reserve	S 33° 50' 51.2" E 151° 07' 25.0"	1	0	0	0	0	male called in old blackbutt; with R. Stevenson & D. Oldfield
379	Eastern Koel	<i>Eudynamys orientalis</i>	231113	1035-1115	22	Empire Avenue	S 33° 51' 33.2" E 151° 06' 39.7"	0	0	0	1	0	male called & obs in front yard jacaranda; with M. Newton
380	Eastern Koel	<i>Eudynamys orientalis</i>	231113	1610-1710	27	Mortlake Public School	S 33° 50' 56.8" E 151° 06' 11.4"	1	0	0	0	0	male called; with G. Duggan
381	Eastern Koel	<i>Eudynamys orientalis</i>	241113	0930-1035	29	Strathfield North Public School	S 33° 51' 18.9" E 151° 05' 33.7"	1	0	0	0	0	in remnant white stringybark
382	Eastern Koel	<i>Eudynamys orientalis</i>	241113	1620-1815	18	Cintra Park	S 33° 51' 49.9" E 151° 06' 43.8"	0	1	0	0	0	male called in Swamp Oak <i>Casuarina glauca</i> ; with K. Spasojevic & H. Saldamli
383	Eastern Koel	<i>Eudynamys orientalis</i>	251113	0655-0915	17	Barnwell Park Golf Course	S 33° 51' 55.6" E 151° 07' 14.0" (mid-section)	0	1	0	0	0	southern section (S of Lyons Rd west) - male called; with R. Stevenson & D. Oldfield
384	Eastern Koel	<i>Eudynamys orientalis</i>	251113	0945-1120	23	Massey Park Golf Course	S 33° 51' 10.1" E 151° 06' 37.0"	0	1	0	0	0	male called; with R. Stevenson & D. Oldfield
385	Eastern Koel	<i>Eudynamys orientalis</i>	261113	0645-0845	30	Yaralla Estate	S 33° 50' 17.6" E 151° 05' 55.0"	1	0	0	0	0	southern section - STIF remnant, male called; with R. Stevenson & D. Oldfield
386	Eastern Koel	<i>Eudynamys orientalis</i>	271113	0830-0915	34	Rider Boulevard	S 33° 50' 10.9" E 151° 04' 59.7"	0	1	0	0	0	male called; with R. Stevenson & D. Oldfield
387	Eastern Koel	<i>Eudynamys orientalis</i>	271113	1020-1110	35	Coonong Road	S 33° 50' 33.7" E 151° 05' 10.3"	0	0	0	1	0	male called in street verge brushbox; with R. Stevenson & D. Oldfield

Record No.	Common Name	Scientific Name	Date	Time	Site No.	Site Name	Site location	Bushland Remnant ^A	Revegetated Parkland	Open Parkland	Urban Neighbourhood	Aquatic habitats #	Comments
388	Eastern Koel	<i>Eudynamys orientalis</i>	281113	1645-1850	28	Concord Golf Course	S 33° 51' 03.4" E 151° 06' 03.3", S 33° 50' 48.9" E 151° 05' 59.9"	2	0	0	0	0	males called
389	Channel-billed Cuckoo	<i>Scythrops novaehollandiae</i>	201113	0710-0840	1	Russell Lea Infants School	S 33° 51' 41.1" E 151° 08' 31.5"	0	1	0	0	0	called
390	Channel-billed Cuckoo	<i>Scythrops novaehollandiae</i>	201113	1050-1130	4	Five Dock Park	S 33° 52' 03.9" E 151° 08' 01.0"	0	2	0	0	0	called
391	Channel-billed Cuckoo	<i>Scythrops novaehollandiae</i>	211113	1610-1655	9	Brett Park	S 33° 51' 22.7" E 151° 09' 29.9"	0	2	0	0	0	male & female in old fig; with A. Doldissen
392	Channel-billed Cuckoo	<i>Scythrops novaehollandiae</i>	271113	0625-0740	32	Rhodes Park & Brays Bay Reserve	S 33° 50' 01.9" E 151° 05' 22.7"	1	0	0	0	0	male called in a remnant Grey Box <i>Eucalyptus moluccana</i> tree; with R. Stevenson & D. Oldfield
393	Channel-billed Cuckoo	<i>Scythrops novaehollandiae</i>	281113	0920-1110	26	Cabarita Park	S 33° 50' 30.6" E 151° 07' 10.9"	0	1	0	0	0	with G. Duggan, R. Stevenson, D. Oldfield
394	Horsfield's Bronze-Cuckoo	<i>Chalcites basalus</i>	281113	0615-0900	36	Bicentennial Park east	S 33° 50' 47.1" E 151° 04' 51.0"	1	0	0	0	0	called near mangroves; with R. Stevenson & D. Oldfield
395	Laughing Kookaburra	<i>Dacelo novaeguineae</i>	211113	1710-1810	8	Sisters Bay	S 33° 51' 26.7" E 151° 09' 24.0"	1	0	0	0	0	in rough-barked apple
396	Laughing Kookaburra	<i>Dacelo novaeguineae</i>	231113	0700-0830	21	Queen Elizabeth Park	S 33° 51' 45.0" E 151° 06' 15.6"	1	0	0	0	0	with M. Newton
397	Laughing Kookaburra	<i>Dacelo novaeguineae</i>	231113	0915-1015	19	Concord High School	S 33° 51' 50.0" E 151° 06' 29.0"	0	2	0	0	0	male obs feeding female pre-conditioning for breeding; with M. Newton
398	Laughing Kookaburra	<i>Dacelo novaeguineae</i>	251113	0655-0915	17	Barnwell Park Golf	S 33° 51' 55.6" E 151°	0	1	0	0	0	southern section; with R. Stevenson & D.

Record No.	Common Name	Scientific Name	Date	Time	Site No.	Site Name	Site location	Bushland Remnant [^]	Revegetated Parkland	Open Parkland	Urban Neighbourhood	Aquatic habitats #	Comments
						Course	07' 14.0" (mid-section)						Oldfield
399	Laughing Kookaburra	<i>Dacelo novaeguineae</i>	261113	0645-0845	30	Yaralla Estate	S 33° 50' 17.6" E 151° 05' 55.0"	2	0	0	0	0	southern section - STIF remnant, likely bred; with R. Stevenson & D. Oldfield
400	Laughing Kookaburra	<i>Dacelo novaeguineae</i>	281113	0920-1110	26	Cabarita Park	S 33° 50' 30.6" E 151° 07' 10.9"	0	1	0	0	0	with G. Duggan, R. Stevenson, D. Oldfield
401	Laughing Kookaburra	<i>Dacelo novaeguineae</i>	281113	1645-1850	28	Concord Golf Course	S 33° 51' 03.4" E 151° 06' 03.3"	1	0	0	0	0	perched in inter-fairway remnant red mahogany
402	Laughing Kookaburra	<i>Dacelo novaeguineae</i>	090414	1630-1740	2	Timbrell Park	S 33° 52' 17.2" E 151° 08' 20.6"	0	1	0	0	0	foraged in planted eucalypts & paperbark nr canal; with A. Doldissen
403	Laughing Kookaburra	<i>Dacelo novaeguineae</i>	080414	1530-1640	21	Queen Elizabeth Park	S 33° 51' 45.0" E 151° 06' 15.6"	1	0	0	0	0	perched in old turpentine; with G. Duggan
404	Laughing Kookaburra	<i>Dacelo novaeguineae</i>	030414	1750-1830	19	Concord High School	S 33° 51' 50.0" E 151° 06' 29.0"	0	2	0	0	0	foraged in planted eucalypts on W side; with P. Smith
405	Laughing Kookaburra	<i>Dacelo novaeguineae</i>	070414	1710-1740	17	Barnwell Park Golf Course	S 33° 51' 07' 14.0" (mid-section)	0	1	0	0	0	foraged on fairway edge - southern section; with D. Oldfield
406	Laughing Kookaburra	<i>Dacelo novaeguineae</i>	070414	2030-2245	27	Concord Golf Course	S 33° 51' 03.4" E 151° 06' 03.3"	5	0	0	0	0	roosted together in an inter-fairway remnant grey ironbark - night session; with D. Oldfield, J. Harrington, H. Saldamli, K. Spasojevic
407	Laughing Kookaburra	<i>Dacelo novaeguineae</i>	030414	0935-1040	26	Cabarita Park	S 33° 50' 30.6" E 151° 07' 10.9"	0	2	0	0	0	with G. Duggan

Record No.	Common Name	Scientific Name	Date	Time	Site No.	Site Name	Site location	Bushland Remnant [^]	Revegetated Parkland	Open Parkland	Urban Neighbourhood	Aquatic habitats #	Comments
408	Laughing Kookaburra	<i>Dacelo novaeguineae</i>	2030-2130	090414	21	Queen Elizabeth Park	S 33° 51' 45.0" E 151° 06' 15.6"	0	0	2	0	0	disturbed rested on ground under oval lights @ N end of park - night session; with R. Stevenson & H. Saldamli
409	Sacred Kingfisher	<i>Todiramphus sanctus</i>	201113	0900-1010	2	Timbrell Park	S 33° 52' 09.4" E 151° 08' 21.1"	0	1	0	0	0	called in old planted paperbark & eucalypt patch
410	Sacred Kingfisher	<i>Todiramphus sanctus</i>	020414	0715-0940	31	Rivendell CAF Unit	S 33° 50' 04.7" E 151° 05' 53.3"	0	0	0	0	2	obs entering water for prey along waterfront around old boathouse; with R. Stevenson
411	Sacred Kingfisher	<i>Todiramphus sanctus</i>	020414	1545-1825	30	Yaralla Estate	S 33° 50' 17.6" E 151° 05' 55.0"	1	0	0	0	0	obs perched on outer eucalypt branch nr paddock edge (southern STIF remnant) then flew east toward mangroves; with R. Stevenson, D. Oldfield, A. Doldissen & F. Davis
412	Dollarbird	<i>Eurystomus orientalis</i>	020414	1545-1825	30	Yaralla Estate	S 33° 50' 17.6" E 151° 05' 55.0"	1	0	0	0	0	called from in southern section STIF remnant; with R. Stevenson, D. Oldfield, A. Doldissen & F. Davis
413	Superb Fairy-wren	<i>Malurus cyaneus</i>	271113	1020-1110	35	Coonong Road	S 33° 50' 33.7" E 151° 05' 10.3" (cnr Coonong Rd & Queen St), S 33° 50' 34.2" E 151° 05' 14.2" (Coonong Rd) & S 33° 50' 42.8" E 151° 05'	0	0	0	11	0	3 grps (likely with juveniles) - 4 birds @ 140, 140, 148 Queen St home gardens, 4 birds in small-leaf privet hedge @ 18 Coonong Rd & in camellias and magnolias @ 11A Coonong Rd, 3 birds at rear (exotic hedges) 16 Wunda Rd; with R. Stevenson & D. Oldfield

Record No.	Common Name	Scientific Name	Date	Time	Site No.	Site Name	Site location	Bushland Remnant [^]	Revegetated Parkland	Open Parkland	Urban Neighbourhood	Aquatic habitats #	Comments
							22.0" (Wunda Rd)						
414	Superb Fairy-wren	<i>Malurus cyaneus</i>	281113	0615-0900	36	Bicentennial Park east	S 33° 50' 38.2" E 151° 04' 50.5", S 33° 50' 24.7" E 151° 04' 58.2"	4	7	0	0	0	3 grps of birds: 4 adults in edge of mangroves along track, 4 birds nr <i>Themeda</i> strip planting after small footbridge & in lantana along Homebush Bay Drive (3 birds); with R. Stevenson & D. Oldfield
415	Superb Fairy-wren	<i>Malurus cyaneus</i>	261113	1630-1830	31	Rivendell CAF Unit	S 33° 50' 04.7" E 151° 05' 53.3"	9	0	0	0	0	foraged along lantana-clad banks of mangroves & swamp oak remnants, 2 groups of 5 and 4 (including immatures)
416	Superb Fairy-wren	<i>Malurus cyaneus</i>	271113	0625-0740	32	Rhodes Park & Brays Bay Reserve	S 33° 49' 54.0" E 151° 05' 24.6"	0	5	0	0	0	foraged in & moving between planted lomandra and <i>Themeda</i> swards and mangrove-fringing weeds incl lantana; with R. Stevenson & D. Oldfield
417	Superb Fairy-wren	<i>Malurus cyaneus</i>	271113	0830-0915	34	Rider Boulevard	S 33° 50' 10.9" E 151° 04' 59.7"	0	6	0	0	0	foraged in and moving along planted <i>Bursaria spinosa</i> , acacia and weedy fringe with planted mangroves, incl 2 juveniles; with R. Stevenson & D. Oldfield
418	Superb Fairy-wren	<i>Malurus cyaneus</i>	271113	0930-1000	33	Mill Park	S 33° 49' 25.0" E 151° 05' 15.8"	0	5	0	0	0	foraged in planted lomandra, dianella, blady grass swards between concrete walking paths; with R. Stevenson & D. Oldfield

Record No.	Common Name	Scientific Name	Date	Time	Site No.	Site Name	Site location	Bushland Remnant^	Revegetated Parkland	Open Parkland	Urban Neighbourhood	Aquatic habitats #	Comments
419	Superb Fairy-wren	<i>Malurus cyaneus</i>	261113	0645-0845	30	Yaralla Estate	S 33° 50' 17.6" E 151° 05' 55.0"	13	0	0	0	0	southern section - lantana & other weed understorey in STIF remnant & towards mangrove fringe, 3 groups of 5, 6 & 2 birds each, incl immatures; with R. Stevenson & D. Oldfield
420	Superb Fairy-wren	<i>Malurus cyaneus</i>	261113	0925-1040	30	Yaralla Estate	S 33° 50' 27.8" E 151° 05' 35.7", S 33° 50' 39.5" E 151° 05' 46.4"	12	0	0	0	0	northern section - in lantana abutting Yaralla & Brays Bay swamp oak & mangrove forests & NW STIF & <i>Bursaria spinosa</i> remnant, 3 groups of 4 each incl immatures; with R. Stevenson & D. Oldfield
421	Superb Fairy-wren	<i>Malurus cyaneus</i>	020414	0715-0940	31	Rivendell CAF Unit	S 33° 49' 52.2" E 151° 05' 48.7", S 33° 50' 04.7" E 151° 05' 53.3"	8	0	0	0	0	2 groups: one (4 birds) foraged in dense patch of exotic plants - <i>Arundo donax</i> (Giant Reed), NZ Hibiscus, African Olive & Phoenix Palm growing beside swamp oak forest & mangroves nr Rocky Pt, group 2 (4 birds) foraged in lantana in SE cnr; with R. Stevenson
422	Superb Fairy-wren	<i>Malurus cyaneus</i>	020414	0715-0940	31	Rivendell CAF Unit	S 33° 49' 56.3" E 151° 05' 52.1"	5	0	0	0	0	3rd grp (5 birds) foraged in lantana, Australian Blackthorn <i>Bursaria spinosa</i> , (native) Coffee Bush <i>Breynia oblongifolia</i> , Large Mock-olive <i>Notelaea longifolia</i> & African Olive under STIF canopy; with R. Stevenson

Record No.	Common Name	Scientific Name	Date	Time	Site No.	Site Name	Site location	Bushland Remnant [^]	Revegetated Parkland	Open Parkland	Urban Neighbourhood	Aquatic habitats #	Comments
423	Superb Fairy-wren	<i>Malurus cyaneus</i>	O20414	1005-1055	32	Rhodes Park & Brays Bay Reserve	S 33° 49' 54.0" E 151° 05' 24.6"	0	3	0	0	0	foraged in dense planted lomandra & <i>Themeda</i> patches nr Oliveto Restaurant; with R. Stevenson & A. Ellison
424	Superb Fairy-wren	<i>Malurus cyaneus</i>	O10414	1640-1710	34	Rider Boulevard	S 33° 50' 10.9" E 151° 04' 59.7"	0	6	0	0	0	foraged in and moving along planted <i>Bursaria spinosa</i> , acacia and weedy fringe with planted mangroves, incl 2 subadults; with R. Stevenson & F. Davis
425	Superb Fairy-wren	<i>Malurus cyaneus</i>	O70414	1535-1700	23	Massey Park Golf Course	S 33° 51' 09.4" E 151° 06' 54.7"	0	6	0	0	0	foraged & called in planted grass sward, flew into and out of adjacent <i>Murroya paniculata</i> (1.5-2.2m tall) hedge in house's backyard; with D. Oldfield
426	Superb Fairy-wren	<i>Malurus cyaneus</i>	O10414	1810-1840	35	Coonong Road	S 33° 50' 42.8" E 151° 05' 22.0"	0	0	0	2	0	one adult male, one adult female in frontyard hibiscus shrub @ 25 Wunda Rd (@ 1820, called & obs); with R. Stevenson, F. Davis & A. Ellison
427	Superb Fairy-wren	<i>Malurus cyaneus</i>	O10414	0710-1020	36	Bicentennial Park east	S 33° 50' 47.1" E 151° 04' 51.0", S 33° 50' 24.7" E 151° 04' 58.2"	3	9	0	0	0	3 grps of birds: 5 adults in edge of mangroves along track, 4 birds nr <i>Themeda</i> strip planting after small footbridge & in lantana along Homebush Bay Drive (3 birds); with R. Stevenson, D. Oldfield & F. Davis

Record No.	Common Name	Scientific Name	Date	Time	Site No.	Site Name	Site location	Bushland Remnant [^]	Revegetated Parkland	Open Parkland	Urban Neighbourhood	Aquatic habitats #	Comments
428	Superb Fairy-wren	<i>Malurus cyaneus</i>	O20414	1545-1710	30	Yaralla Estate	S 33° 50' 17.6" E 151° 05' 55.0"	11	0	0	0	0	southern section - lantana & other weed understorey in STIF remnant, 3 groups of 3, 4 & 4 birds each; with R. Stevenson, D. Oldfield, A. Doldissen & F. Davis
429	Superb Fairy-wren	<i>Malurus cyaneus</i>	O20414	1720-1825	30	Yaralla Estate	S 33° 50' 27.8" E 151° 05' 35.7"	9	0	0	0	0	northern section - in NW cnr STIF remnant incl blackthorn clumps, 1 group of 9 birds incl sub-adults; with R. Stevenson, D. Oldfield, A. Doldissen & F. Davis
430	White-browed Scrubwren	<i>Sericornis frontalis</i>	261113	0925-1040	30	Yaralla Estate	S 33° 50' 21.7" E 151° 05' 47.1"	4	0	0	0	0	northern section - in lantana, cassia & bamboo abutting Yaralla Bay mangrove & swamp oak forests, 2 adults with 2 juveniles; with R. Stevenson & D. Oldfield
431	White-browed Scrubwren	<i>Sericornis frontalis</i>	271113	0625-0740	32	Rhodes Park & Brays Bay Reserve	S 33° 49' 54.0" E 151° 05' 24.6"	0	4	0	0	0	foraged in & moved between planted lomandra and <i>Themeda</i> swards and mangrove-fringing weeds incl lantana, adult pair with 2 juveniles; with R. Stevenson & D. Oldfield
432	White-browed Scrubwren	<i>Sericornis frontalis</i>	O20414	1545-1845	30	Yaralla Estate	S 33° 50' 17.6" E 151° 05' 55.0"	2	0	0	0	0	southern section - foraged & called in dense lantana patch nr pumping station under STIF remnant, adult male with adult female; with R. Stevenson, D. Oldfield, A. Doldissen & F. Davis

Record No.	Common Name	Scientific Name	Date	Time	Site No.	Site Name	Site location	Bushland Remnant [^]	Revegetated Parkland	Open Parkland	Urban Neighbourhood	Aquatic habitats #	Comments
433	White-browed Scrubwren	<i>Sericornis frontalis</i>	O10414	0710-1020	36	Bicentennial Park east	S 33° 50' 24.7" E 151° 04' 58.2"	0	2	0	0	0	one adult male & one adult female foraged in lantana understorey below planted swamp oak along W edge Homebush Bay Dr, near Superb Fairy-wren group; with R. Stevenson, D. Oldfield & F. Davis
434	Mangrove Gerygone	<i>Gerygone levigaster</i>	261113	0925-1040	30	Yaralla Estate	S 33° 50' 21.7" E 151° 05' 47.1"	2	0	0	0	0	northern section - foraged & called in Yaralla Bay mangrove forest; with R. Stevenson & D. Oldfield
435	Mangrove Gerygone	<i>Gerygone levigaster</i>	281113	0615-0900	36	Bicentennial Park east	S 33° 50' 38.2" E 151° 04' 50.5"	2	0	0	0	0	both males called in remnant mangrove forest along track to tower; with R. Stevenson & D. Oldfield
436	Yellow Thornbill	<i>Acanthiza nana</i>	261113	0925-1040	30	Yaralla Estate	S 33° 50' 21.7" E 151° 05' 47.1"	6	0	0	0	0	northern section - in high quality remnant mangrove forest and swamp oak forest at Yaralla Bay; with R. Stevenson & D. Oldfield
437	Yellow Thornbill	<i>Acanthiza nana</i>	281113	0615-0900	36	Bicentennial Park east	S 33° 50' 47.1" E 151° 04' 51.0", S 33° 50' 24.7" E 151° 04' 58.2"	13	2	0	0	0	foraged in mangroves nr playground along Powells Creek, with silvereeye and in planted she-oaks along Homebush Bay Drive; with R. Stevenson & D. Oldfield
438	Yellow Thornbill	<i>Acanthiza nana</i>	O20414	1545-1825	30	Yaralla Estate	S 33° 50' 21.7" E 151° 05' 47.1"	5	0	0	0	0	southern section - in high quality remnant mangrove forest along bayside walking track; with R. Stevenson, D. Oldfield, A. Doldissen &

Record No.	Common Name	Scientific Name	Date	Time	Site No.	Site Name	Site location	Bushland Remnant^	Revegetated Parkland	Open Parkland	Urban Neighbourhood	Aquatic habitats #	Comments
													F. Davis
439	Yellow Thornbill	<i>Acanthiza nana</i>	O10414	0710-1020	36	Bicentennial Park east	S 33° 50' 47.1" E 151° 04' 51.0"	5	0	0	0	0	foraged in swamp oak forest fringing billabong along walking track; with R. Stevenson, D. Oldfield & F. Davis
440	Spotted Pardalote	<i>Pardalotus punctatus</i>	281113	0615-0900	36	Bicentennial Park east	S 33° 50' 47.1" E 151° 04' 51.0"	2	0	0	0	0	pair foraged on insects in flowering & fruiting Bleeding Heart Tree <i>Homalanthus populifolius</i> along edge of Powells Creek mangroves; with R. Stevenson & D. Oldfield
441	Striated Pardalote	<i>Pardalotus striatus</i>	261113	0925-1040	30	Yaralla Estate	S 33° 50' 21.7" E 151° 05' 47.1"	1	0	0	0	0	northern section remnant & old planted eucalypts; with R. Stevenson & D. Oldfield
442	Striated Pardalote	<i>Pardalotus striatus</i>	O10414	0710-1020	36	Bicentennial Park east	S 33° 50' 47.1" E 151° 04' 51.0"	1	0	0	0	0	called in swamp oak forest fringing billabong along walking track; with R. Stevenson, D. Oldfield & F. Davis
443	Striated Pardalote	<i>Pardalotus striatus</i>	O20414	1545-1825	30	Yaralla Estate	S 33° 50' 17.6" E 151° 05' 55.0"	1	0	0	0	0	called in southern section STIF remnant; with R. Stevenson, D. Oldfield, A. Doldissen & F. Davis
444	Eastern Spinebill	<i>Acanthorhynchus tenuirostris</i>	O50414	1030-1150	30	Yaralla Estate	S 33° 50' 21.7" E 151° 05' 47.1"	2	0	0	0	0	field day walk along bayside mangroves trail - called & foraged, obs with field day participants 2 adult males in weedy edge incl celtis, exotic vines & lantana

Record No.	Common Name	Scientific Name	Date	Time	Site No.	Site Name	Site location	Bushland Remnant ^A	Revegetated Parkland	Open Parkland	Urban Neighbourhood	Aquatic habitats #	Comments
445	Yellow-faced Honeyeater	<i>Lichenostomus chrysops</i>	261113	0925-1040	30	Yaralla Estate	S 33° 50' 21.7" E 151° 05' 47.1"	2	0	0	0	0	northern section remnant & old planted eucalypts; with R. Stevenson & D. Oldfield
446	Yellow-faced Honeyeater	<i>Lichenostomus chrysops</i>	O20414	1545-1825	30	Yaralla Estate	S 33° 50' 17.2" E 151° 06' 04.7"	2	0	0	0	0	called & obs in southern section STIF remnant; with R. Stevenson, D. Oldfield, A. Doldissen & F. Davis
447	White-plumed Honeyeater	<i>Lichenostomus penicillatus</i>	201113	0900-1010	2	Timbrell Park	S 33° 52' 09.4" E 151° 08' 21.1"	0	2	0	0	0	likely nesting in old (1988)-planted paperbarks
448	White-plumed Honeyeater	<i>Lichenostomus penicillatus</i>	201113	1620-1720	5	Iron Cove - south-western foreshore from Iron Cove Ck to Rodd Point	S 33° 52' 13.2" E 151° 08' 31.4" (Arthur St); S 33° 51' 57.7" E 151° 08' 49.6" (Rodd Pt)	0	0	0	2	0	in paperbark road verge nr Duchess Av; with A. Doldissen
449	White-plumed Honeyeater	<i>Lichenostomus penicillatus</i>	271113	1710-1800	16	Halliday Park	S 33° 51' 39.4" E 151° 07' 42.7"	0	1	0	0	0	foraged in planted & flowering spotted gum
450	White-plumed Honeyeater	<i>Lichenostomus penicillatus</i>	100414	0730-0850	5	Iron Cove - south-western foreshore from Iron Cove Ck to Rodd Point	S 33° 52' 13.2" E 151° 08' 31.4" (Arthur St) - opp Duchess Av junction	0	0	0	1	0	perched on powerlines outside 66 Henley Marine Dve nr junction Duchess Av - same site as Nov 13 survey record; with A. Doldissen & F. Davis
451	White-plumed Honeyeater	<i>Lichenostomus penicillatus</i>	O10414	1720-1755	33	Mill Park	S 33° 49' 25.0" E 151° 05' 15.8"	0	2	0	0	0	feeding on nectar of planted Swamp Mahogany & <i>Banksia ericifolia</i> ; with R. Stevenson & F. Davis
452	White-plumed Honeyeater	<i>Lichenostomus penicillatus</i>	O20414	1005-1055	32	Rhodes Park & Brays Bay Reserve	S 33° 50' 01.9" E 151° 05' 22.7"	1	0	0	0	0	foraged for foliar insects in mangrove remnant; with R. Stevenson & A.

Record No.	Common Name	Scientific Name	Date	Time	Site No.	Site Name	Site location	Bushland Remnant ^A	Revegetated Parkland	Open Parkland	Urban Neighbourhood	Aquatic habitats #	Comments
													Ellison
453	Noisy Miner	<i>Manorina melanocephala</i>	201113	0710-0840	1	Russell Lea Infants School	S 33° 51' 41.1" E 151° 08' 31.5"	5	12	0	0	0	2 groups of 2 fledglings in flowering brush box
454	Noisy Miner	<i>Manorina melanocephala</i>	201113	0900-1010	2	Timbrell Park	S 33° 52' 09.4" E 151° 08' 21.1"	0	7	0	0	0	2 groups of 2 juveniles
455	Noisy Miner	<i>Manorina melanocephala</i>	201113	1015-1035	3	Noble Street	S 33° 51' 52.9" E 151° 08' 22.3"	0	0	0	14	0	3 groups of 2 recent fledglings
456	Noisy Miner	<i>Manorina melanocephala</i>	201113	1050-1120	4	Five Dock Park	S 33° 52' 03.9" E 151° 08' 01.0"	0	15	5	0	0	2 fledglings; foraged in flowering planted brush box
457	Noisy Miner	<i>Manorina melanocephala</i>	201113	1620-1720	5	Iron Cove - south-western foreshore from Iron Cove Ck to Rodd Point	S 33° 52' 13.2" E 151° 08' 31.4" (Arthur St); S 33° 51' 57.7" E 151° 08' 49.6" (Rodd Pt)	0	2	0	0	0	foraged in street verge flowering paperbark
458	Noisy Miner	<i>Manorina melanocephala</i>	201113	1820-1845	6	Half Moon Bay	S 33° 51' 34.6" E 151° 09' 19.2"	10	0	0	0	0	2 groups of 2 juveniles; with A. Doldissen
459	Noisy Miner	<i>Manorina melanocephala</i>	211113	0705-0740	7	Drummoyne Public School	S 33° 51' 21.2" E 151° 09' 08.7"	0	10	0	0	0	foraged in flowering brushbox
460	Noisy Miner	<i>Manorina melanocephala</i>	211113	0755-0840	10	Drummoyne Park	S 33° 51' 07.6" E 151° 09' 00.5"	0	17	0	0	0	foraged in old eucalypts
461	Noisy Miner	<i>Manorina melanocephala</i>	211113	0855-0935	12	Figtree Bay Reserve	S 33° 50' 56.4" E 151° 08' 13.1"	2	2	0	0	0	foraged in eucalypts
462	Noisy Miner	<i>Manorina melanocephala</i>	211113	1030-1050	11	Edenholme Road	S 33° 51' 23.9" E 151° 08' 19.5"	0	0	0	17	0	foraged in street verge & home garden flowering brushbox, callistemon, eucalypts

Record No.	Common Name	Scientific Name	Date	Time	Site No.	Site Name	Site location	Bushland Remnant ^A	Revegetated Parkland	Open Parkland	Urban Neighbourhood	Aquatic habitats #	Comments
463	Noisy Miner	<i>Manorina melanocephala</i>	211113	1610-1655	9	Brett Park	S 33° 51' 22.7" E 151° 09' 29.9"	0	6	0	0	0	in planted mid and lower slope tree & shrub strips; with A. Doldissen
464	Noisy Miner	<i>Manorina melanocephala</i>	211113	1710-1810	8	Sisters Bay	S 33° 51' 26.7" E 151° 09' 24.0"	6	0	0	0	0	with A. Doldissen
465	Noisy Miner	<i>Manorina melanocephala</i>	221113	1020-1115	14	Quarantine Reserve	S 33° 50' 51.2" E 151° 07' 25.0"	6	4	0	0	0	3 groups of juveniles (5); with R. Stevenson & D. Oldfield
466	Noisy Miner	<i>Manorina melanocephala</i>	221113	1125-1205	15	Henry Lawson Park	S 33° 51' 00.1" E 151° 07' 34.4"	4	4	0	0	0	foraged in remnant blackbutt tree & planted trees (incl 3 juveniles); with R. Stevenson & D. Oldfield
467	Noisy Miner	<i>Manorina melanocephala</i>	221113	1610-1710	13	Abbotsford Public School	S 33° 51' 12.6" E 151° 07' 48.5"	0	16	0	0	0	incl 3 groups of 2 juveniles each; foraged flowering brushbox & callistemon
468	Noisy Miner	<i>Manorina melanocephala</i>	231113	0700-0830	21	Queen Elizabeth Park	S 33° 51' 45.0" E 151° 06' 15.6"	20	0	0	0	0	2 groups of 2 juveniles; with M. Newton
469	Noisy Miner	<i>Manorina melanocephala</i>	231113	0915-1015	19	Concord High School	S 33° 51' 50.0" E 151° 06' 29.0"	0	4	0	0	0	with M. Newton
470	Noisy Miner	<i>Manorina melanocephala</i>	231113	1035-1115	22	Empire Avenue	S 33° 51' 33.2" E 151° 06' 39.7"	0	0	0	11	0	foraged in flowering callistemon street verge; with M. Newton
471	Noisy Miner	<i>Manorina melanocephala</i>	231113	1610-1710	27	Mortlake Public School	S 33° 50' 56.8" E 151° 06' 11.4"	2	4	0	0	0	incls 2 juveniles; with G. Duggan
472	Noisy Miner	<i>Manorina melanocephala</i>	231113	1800-1825	24	Prince Edward Park	S 33° 51' 12.2" E 151° 07' 05.5"	0	3	0	0	0	with G. Duggan
473	Noisy Miner	<i>Manorina melanocephala</i>	241113	0930-1035	29	Strathfield North Public School	S 33° 51' 18.9" E 151° 05' 33.7"	5	0	0	0	0	foraged in flowering remnant rough-barked apple

Record No.	Common Name	Scientific Name	Date	Time	Site No.	Site Name	Site location	Bushland Remnant ^A	Revegetated Parkland	Open Parkland	Urban Neighbourhood	Aquatic habitats #	Comments
474	Noisy Miner	<i>Manorina melanocephala</i>	241113	1620-1815	18	Cintra Park	S 33° 51' 49.9" E 151° 06' 43.8"	0	10	0	0	0	2 groups of 2 juveniles; with H. Saldamli & K. Spasojevic
475	Noisy Miner	<i>Manorina melanocephala</i>	251113	0655-0915	17	Barnwell Park Golf Course	S 33° 52' 04.3" E 151° 07' 05.6" (S end nr Five Dock Leisure Centre)	0	6	0	0	0	mobbed figbird - southern section; with R. Stevenson & D. Oldfield
476	Noisy Miner	<i>Manorina melanocephala</i>	251113	0655-0915	17	Barnwell Park Golf Course	S 33° 51' 40.8" E 151° 06' 51.3"	0	19	0	0	0	northern section (N of Lyons Rd west) - 3 sets of juveniles; with R. Stevenson & D. Oldfield
477	Noisy Miner	<i>Manorina melanocephala</i>	251113	0945-1120	23	Massey Park Golf Course	S 33° 51' 10.1" E 151° 06' 37.0"	0	9	4	0	0	incl 4 juveniles; with R. Stevenson & D. Oldfield
478	Noisy Miner	<i>Manorina melanocephala</i>	261113	0645-0845	30	Yaralla Estate	S 33° 50' 17.6" E 151° 05' 55.0"	10	0	0	0	0	southern section - STIF remnant, with 3 juveniles; with R. Stevenson & D. Oldfield
479	Noisy Miner	<i>Manorina melanocephala</i>	261113	1630-1830	31	Rivendell CAF Unit	S 33° 50' 04.7" E 151° 05' 53.3"	15	6	0	0	0	incl 3 group of 2 juveniles each
480	Noisy Miner	<i>Manorina melanocephala</i>	271113	0625-0740	32	Rhodes Park & Brays Bay Reserve	S 33° 50' 01.9" E 151° 05' 22.7"	8	0	0	0	0	with R. Stevenson & D. Oldfield
481	Noisy Miner	<i>Manorina melanocephala</i>	271113	0830-0915	34	Rider Boulevard	S 33° 50' 10.9" E 151° 04' 59.7"	0	5	0	0	0	incl 2 juveniles; with R. Stevenson & D. Oldfield
482	Noisy Miner	<i>Manorina melanocephala</i>	271113	0930-1000	33	Mill Park	S 33° 49' 25.0" E 151° 05' 15.8"	0	2	0	0	0	with R. Stevenson & D. Oldfield
483	Noisy Miner	<i>Manorina melanocephala</i>	271113	1020-1110	35	Coonong Road	S 33° 50' 35.3" E 151° 05' 20.6"	0	0	0	9	0	foraged & nesting in flowering brush box street trees; with R. Stevenson & D. Oldfield

Record No.	Common Name	Scientific Name	Date	Time	Site No.	Site Name	Site location	Bushland Remnant ^A	Revegetated Parkland	Open Parkland	Urban Neighbourhood	Aquatic habitats #	Comments
484	Noisy Miner	<i>Manorina melanocephala</i>	271113	1710-1800	16	Halliday Park	S 33° 51' 39.4" E 151° 07' 42.7"	0	8	8	0	0	in flowering spotted gum (planted)
485	Noisy Miner	<i>Manorina melanocephala</i>	281113	0615-0900	36	Bicentennial Park east	S 33° 50' 47.1" E 151° 04' 51.0"	0	4	0	0	0	with R. Stevenson & D. Oldfield
486	Noisy Miner	<i>Manorina melanocephala</i>	281113	0920-1110	26	Cabarita Park	S 33° 50' 30.6" E 151° 07' 10.9"	0	9	0	0	0	with G. Duggan, R. Stevenson, D. Oldfield
487	Noisy Miner	<i>Manorina melanocephala</i>	281113	1645-1850	28	Concord Golf Course	S 33° 51' 03.4" E 151° 06' 03.3"	12	15	10	0	0	7 grps of juveniles (15 birds) with adults (22), in flowering callistemon, paperbark, rough-barked apple
488	Noisy Miner	<i>Manorina melanocephala</i>	O80414	1655-1730	1	Russell Lea Infants School	S 33° 51' 41.1" E 151° 08' 31.5", S 33° 51' 41.3" E 151° 08' 35.1"	8	12	0	0	0	foraged in budding grey gum & flowering planted callistemon & teatree, also in remnant turpentine, with 4 juveniles
489	Noisy Miner	<i>Manorina melanocephala</i>	O90414	1630-1740	2	Timbrell Park	S 33° 52' 13.5" E 151° 08' 27.9", S 33° 52' 17.2" E 151° 08' 20.6"	0	18	0	0	0	foraged in planted smooth-barked apple & flowering paperbark, incl 3 juveniles; with A. Doldissen
490	Noisy Miner	<i>Manorina melanocephala</i>	O50414	1655-1715	3	Noble Street	S 33° 51' 52.9" E 151° 08' 22.3"	0	0	0	11	0	all adults, foraged in callistemon & <i>Acmena</i>
491	Noisy Miner	<i>Manorina melanocephala</i>	O50414	1615-1645	4	Five Dock Park	S 33° 52' 03.9" E 151° 08' 01.0"	2	9	3	0	0	2 sets of 2 juveniles in large fig; 2 birds in remnant grey ironbark
492	Noisy Miner	<i>Manorina melanocephala</i>	100414	0730-0850	5	Iron Cove - south-western foreshore from Iron Cove Ck to Rodd Point	S 33° 52' 13.2" E 151° 08' 31.4" (Arthur St)	0	2	0	0	0	foraged in street verge flowering paperbark; with A. Doldissen & F. Davis

Record No.	Common Name	Scientific Name	Date	Time	Site No.	Site Name	Site location	Bushland Remnant ^A	Revegetated Parkland	Open Parkland	Urban Neighbourhood	Aquatic habitats #	Comments
493	Noisy Miner	<i>Manorina melanocephala</i>	O90414	0730-0815	8	Sisters Bay	S 33° 51' 26.7" E 151° 09' 24.0", S 33° 51' 33.1" E 151° 09' 24.4"	0	7	0	0	0	foraged & called in planted eucalypt, fig and brush box, obs probing ripe Port Jackson Fig fruit & taking small spiders from between individual fruit within clusters; with A. Doldissen & C. Paine
494	Noisy Miner	<i>Manorina melanocephala</i>	O80414	0650-0715	7	Drummoyne Public School	S 33° 51' 21.2" E 151° 09' 08.7"	0	6	0	0	0	foraged in flowering planted ironbark on E side of school
495	Noisy Miner	<i>Manorina melanocephala</i>	O80414	0835-0935	10	Drummoyne Park	S 33° 51' 07.6" E 151° 09' 00.5"	0	10	0	0	0	foraged in old eucalypts
496	Noisy Miner	<i>Manorina melanocephala</i>	O70414	0945-1035	12	Figtree Bay Reserve	S 33° 50' 56.4" E 151° 08' 13.1"	0	4	0	0	0	foraged in eucalypts
497	Noisy Miner	<i>Manorina melanocephala</i>	O80414	0730-0825	11	Edenholme Road	S 33° 51' 23.9" E 151° 08' 19.5", S 33° 51' 29.6" E 151° 08' 26.9", S 33° 51' 25.1" E 151° 08' 27.6"	0	0	0	24	0	foraged in street verge & home garden flowering callistemon, smooth-barked apple, with 3 juveniles; with E. Hughes
498	Noisy Miner	<i>Manorina melanocephala</i>	O90414	0615-0705	9	Brett Park	S 33° 51' 22.7" E 151° 09' 29.9"; S 33° 51' 24.2" E 151° 09' 23.3"	0	15	0	0	0	foraged & called in planted midslope strip & environs, incl 3 juveniles; with A. Doldissen & C. Paine
499	Noisy Miner	<i>Manorina melanocephala</i>	100414	O620-0710	6	Half Moon Bay	S 33° 51' 34.6" E 151° 09' 19.2"	0	7	0	0	0	foraged in flowering planted swamp mahogany; preceded by Rakali search 0545-0610; with A. Doldissen & F. Davis

Record No.	Common Name	Scientific Name	Date	Time	Site No.	Site Name	Site location	Bushland Remnant [^]	Revegetated Parkland	Open Parkland	Urban Neighbourhood	Aquatic habitats #	Comments
500	Noisy Miner	<i>Manorina melanocephala</i>	O70414	0815-0905	14	Quarantine Reserve	S 33° 50' 51.4" E 151° 07' 22.6"	8	11	0	0	0	foraged in old flowering blackbutt, planted ironbark & figs
501	Noisy Miner	<i>Manorina melanocephala</i>	O50414	1730-1755	15	Henry Lawson Park	S 33° 51' 00.1" E 151° 07' 34.4"	0	2	0	0	0	foraged in flowering planted <i>Banksia integrifolia</i>
502	Noisy Miner	<i>Manorina melanocephala</i>	O60414	0850-0950	13	Abbotsford Public School	S 33° 51' 12.6" E 151° 07' 48.5", S 33° 51' 11.4" E 151° 07' 53.4"	0	15	0	0	0	foraged in flowering <i>Melaleuca quinquenervia</i> , all adults; with C. Paine
503	Noisy Miner	<i>Manorina melanocephala</i>	O80414	1530-1640	21	Queen Elizabeth Park	S 33° 51' 45.0" E 151° 06' 15.6"	13	0	0	0	0	foraged in old remnant eucalypts & turpentine, with 2 juveniles; with G. Duggan
504	Noisy Miner	<i>Manorina melanocephala</i>	231113	0915-1015	19	Concord High School	S 33° 51' 50.0" E 151° 06' 29.0"	0	8	0	0	0	with P. Smith
505	Noisy Miner	<i>Manorina melanocephala</i>	O20414	1115-1145	22	Empire Avenue	S 33° 51' 33.2" E 151° 06' 39.7", S 33° 51' 23.0" E 151° 06' 45.3"	0	0	0	12	0	foraged in flowering spotted gum rearyard & street verge incl callistemon; with R. Stevenson
506	Noisy Miner	<i>Manorina melanocephala</i>	O40414	0700-0745	27	Mortlake Public School	S 33° 50' 56.8" E 151° 06' 11.4"	0	3	0	0	0	with G. Duggan
507	Noisy Miner	<i>Manorina melanocephala</i>	231113	1800-1825	24	Prince Edward Park	S 33° 51' 12.2" E 151° 07' 05.5"	0	13	0	0	0	foraged in callistemon along side track; with M. Falkenmire & P. Sweeney
508	Noisy Miner	<i>Manorina melanocephala</i>	O30414	1630-1720	29	Strathfield North Public School	S 33° 51' 18.9" E 151° 05' 33.7"	3	2	0	0	0	foraged in flowering old planted <i>Melaleuca quinquenervia</i> & remnant white stringybark & rough-barked apple (not flowering)

Record No.	Common Name	Scientific Name	Date	Time	Site No.	Site Name	Site location	Bushland Remnant [^]	Revegetated Parkland	Open Parkland	Urban Neighbourhood	Aquatic habitats #	Comments
509	Noisy Miner	<i>Manorina melanocephala</i>	O60414	0630-0825	18	Cintra Park	S 33° 51' 49.9" E 151° 06' 43.8"	0	25	5	0	0	foraged in flowering (planted) swamp mahogany & paperbark, 2 groups of 2 juveniles; with H. Saldamli, K. Spasojevic, M. Newton, P. & J. Smith
510	Noisy Miner	<i>Manorina melanocephala</i>	O70414	1710-1740	17	Barnwell Park Golf Course	S 33° 51' 55.6" E 151° 07' 14.0"	0	4	0	0	0	southern section; with D. Oldfield
511	Noisy Miner	<i>Manorina melanocephala</i>	O70414	1710-1740	17	Barnwell Park Golf Course	S 33° 51' 40.8" E 151° 06' 51.3"	0	5	0	0	0	northern section; with D. Oldfield
512	Noisy Miner	<i>Manorina melanocephala</i>	O70414	1535-1700	23	Massey Park Golf Course	S 33° 51' 10.1" E 151° 06' 37.0", S 33° 51' 13.2" E 151° 06' 42.3"	0	9	4	0	0	foraged in paperbarks & eucalypts; with D. Oldfield
513	Noisy Miner	<i>Manorina melanocephala</i>	O20414	1545-1825	30	Yaralla Estate	S 33° 50' 17.6" E 151° 05' 55.0"	9	0	0	0	0	southern section - STIF remnant; with R. Stevenson, D. Oldfield, A. Doldissen & F. Davis
514	Noisy Miner	<i>Manorina melanocephala</i>	O20414	0715-0940	31	Rivendell CAF Unit	S 33° 50' 04.7" E 151° 05' 53.3"	10	0	0	0	0	with R. Stevenson
515	Noisy Miner	<i>Manorina melanocephala</i>	O20414	1005-1055	32	Rhodes Park & Brays Bay Reserve	S 33° 50' 01.9" E 151° 05' 22.7"	0	14	0	0	0	with R. Stevenson & A. Ellison
516	Noisy Miner	<i>Manorina melanocephala</i>	O10414	1640-1710	34	Rider Boulevard	S 33° 50' 10.9" E 151° 04' 59.7"	0	2	0	0	0	with R. Stevenson & F. Davis
517	Noisy Miner	<i>Manorina melanocephala</i>	O10414	1720-1755	33	Mill Park	S 33° 49' 25.0" E 151° 05' 15.8"	0	9	0	0	0	foraged in flowering callistemon & lemon-scented gum; with R. Stevenson & F. Davis
518	Noisy Miner	<i>Manorina melanocephala</i>	O10414	1810-1840	35	Coonong Road	S 33° 50' 35.3" E 151°	0	0	0	15	0	foraged in home garden callistemon & exotics;

Record No.	Common Name	Scientific Name	Date	Time	Site No.	Site Name	Site location	Bushland Remnant [^]	Revegetated Parkland	Open Parkland	Urban Neighbourhood	Aquatic habitats #	Comments
							05' 20.6"						with R. Stevenson, F. Davis & A. Ellison
519	Noisy Miner	<i>Manorina melanocephala</i>	O70414	0600-0800	16	Halliday Park	S 33° 51' 39.4" E 151° 07' 42.7", S 33° 51' 43.5" E 151° 07' 36.4"	0	12	7	0	0	foraged in flowering spotted gum & lemon-scented gum (planted), with 2 juveniles; with J. Harrington
520	Noisy Miner	<i>Manorina melanocephala</i>	O10414	0710-1020	36	Bicentennial Park east	S 33° 50' 47.1" E 151° 04' 51.0"	0	1	0	0	0	with R. Stevenson, D. Oldfield & F. Davis
521	Noisy Miner	<i>Manorina melanocephala</i>	O30414	0935-1040	26	Cabarita Park	S 33° 50' 30.6" E 151° 07' 10.9"	0	22	0	0	0	with G. Duggan
522	Noisy Miner	<i>Manorina melanocephala</i>	O30414	0710-0910	28	Concord Golf Course	S 33° 51' 03.4" E 151° 06' 03.3", S 33° 50' 48.9" E 151° 05' 59.9"	35	14	0	0	0	4 grps of juveniles (8 birds) with adults (41), in flowering swamp mahogany, paperbark & lemon-scented gum; with D. Oldfield
523	Noisy Miner	<i>Manorina melanocephala</i>	O30414	1530-1610	20	Concord Public School	S 33° 51' 45.2" E 151° 06' 24.4"	0	2	0	0	0	foraged in planted flowering Callistemon row
524	Little Wattlebird	<i>Anthochaera chrysoptera</i>	201113	0900-1010	2	Timbrell Park	S 33° 52' 09.4" E 151° 08' 21.1"	0	2	0	0	0	territory-called in 1988-planted paperbarks
525	Little Wattlebird	<i>Anthochaera chrysoptera</i>	O90414	1630-1740	2	Timbrell Park	S 33° 52' 17.2" E 151° 08' 20.6"	0	2	0	0	0	fed in flowering <i>Banksia ericifolia</i> planted along edge of paperbark strip abutting S cnr of oval; with A. Doldissen
526	Little Wattlebird	<i>Anthochaera chrysoptera</i>	O70414	0945-1035	12	Figtree Bay Reserve	S 33° 50' 56.4" E 151° 08' 13.1"	0	2	0	0	0	foraged in planted flowering <i>Banksia integrifolia</i> in adjoining Wiremill Park then entered this reserve, called
527	Red Wattlebird	<i>Anthochaera carunculata</i>	201113	0710-0840	1	Russell Lea Infants	S 33° 51' 41.1" E 151°	0	2	0	0	0	called & foraged in flowering brush box

Record No.	Common Name	Scientific Name	Date	Time	Site No.	Site Name	Site location	Bushland Remnant [^]	Revegetated Parkland	Open Parkland	Urban Neighbourhood	Aquatic habitats #	Comments
						School	08' 31.5"						
528	Red Wattlebird	<i>Anthochaera carunculata</i>	201113	0900-1010	2	Timbrell Park	S 33° 52' 09.4" E 151° 08' 21.1"	0	4	0	0	0	2 adults with 1 recent fledgling in 1988-planted paperbarks
529	Red Wattlebird	<i>Anthochaera carunculata</i>	201113	1050-1120	4	Five Dock Park	S 33° 52' 03.9" E 151° 08' 01.0"	2	0	0	0	0	commuting between flowering spotted gum in Domremy College & old grey ironbarks in park
530	Red Wattlebird	<i>Anthochaera carunculata</i>	201113	1820-1845	6	Half Moon Bay	S 33° 51' 34.6" E 151° 09' 19.2"	1	0	0	0	0	with A. Doldissen
531	Red Wattlebird	<i>Anthochaera carunculata</i>	231113	1035-1115	22	Empire Avenue	S 33° 51' 33.2" E 151° 06' 39.7"	0	0	0	3	0	foraged & likely nesting in flowering street verge callistemon and calothamnus; with M. Newton
532	Red Wattlebird	<i>Anthochaera carunculata</i>	241113	0930-1035	29	Strathfield North Public School	S 33° 51' 18.9" E 151° 05' 33.7"	0	3	0	0	0	adult fed 1 recent fledgling in flowering brush box along Concord Rd side
533	Red Wattlebird	<i>Anthochaera carunculata</i>	251113	0655-0915	17	Barnwell Park Golf Course	S 33° 51' 55.6" E 151° 07' 14.0" (mid-section)	0	1	0	0	0	southern section; with R. Stevenson & D. Oldfield
534	Red Wattlebird	<i>Anthochaera carunculata</i>	251113	0655-0915	17	Barnwell Park Golf Course	S 33° 51' 40.8" E 151° 06' 51.3"	0	1	0	0	0	northern section (N of Lyons Rd West) - in flowering <i>Melaleuca quinquenervia</i> nr 15th tee; with R. Stevenson & D. Oldfield
535	Red Wattlebird	<i>Anthochaera carunculata</i>	261113	0645-0845	30	Yaralla Estate	S 33° 50' 17.6" E 151° 05' 55.0"	6	0	0	0	0	southern section remnant - adults & juvenile; with R. Stevenson & D. Oldfield
536	Red Wattlebird	<i>Anthochaera carunculata</i>	271113	0625-0740	32	Rhodes Park & Brays Bay Reserve	S 33° 49' 54.0" E 151° 05' 24.6"	0	2	0	0	0	foraged in large planted Weeping Fig <i>Ficus benjamina</i> nr Concord

Record No.	Common Name	Scientific Name	Date	Time	Site No.	Site Name	Site location	Bushland Remnant [^]	Revegetated Parkland	Open Parkland	Urban Neighbourhood	Aquatic habitats #	Comments
													Rd; with R. Stevenson & D. Oldfield
537	Red Wattlebird	<i>Anthochaera carunculata</i>	271113	1020-1110	35	Coonong Road	S 33° 50' 35.3" E 151° 05' 20.6"	0	0	0	3	0	foraged & nesting in flowering brushbox street trees; with R. Stevenson & D. Oldfield
538	Red Wattlebird	<i>Anthochaera carunculata</i>	271113	1710-1800	16	Halliday Park	S 33° 51' 39.4" E 151° 07' 42.7"	0	1	0	0	0	foraged in lemon-scented gum
539	Red Wattlebird	<i>Anthochaera carunculata</i>	281113	0615-0900	36	Bicentennial Park east	S 33° 50' 47.1" E 151° 04' 51.0"	1	0	0	0	0	with R. Stevenson & D. Oldfield
540	Red Wattlebird	<i>Anthochaera carunculata</i>	281113	0920-1110	26	Cabarita Park	S 33° 50' 30.6" E 151° 07' 10.9"	0	1	0	0	0	with G. Duggan, R. Stevenson, D. Oldfield
541	Red Wattlebird	<i>Anthochaera carunculata</i>	281113	1645-1850	28	Concord Golf Course	S 33° 51' 03.4" E 151° 06' 03.3", S 33° 50' 48.9" E 151° 05' 59.9"	1	1	0	0	0	foraged in flowering rough-barked apple, paperbark
542	Red Wattlebird	<i>Anthochaera carunculata</i>	090414	1630-1740	2	Timbrell Park	S 33° 52' 13.5" E 151° 08' 27.9", S 33° 52' 17.2" E 151° 08' 20.6"	0	12	0	0	0	all adults, foraged on <i>Banksia ericifolia</i> nectar and insects along S edge of oval then into 1988-planted paperbarks, some flew towards Iron Cove mangroves; with A. Doldissen
543	Red Wattlebird	<i>Anthochaera carunculata</i>	100414	0730-0850	5	Iron Cove - southwestern foreshore from Iron Cove Ck to Rodd Point	S 33° 52' 13.2" E 151° 08' 31.4" (Arthur St)	0	1	0	0	0	foraged & called in flowering callistemon street verge plantings opposite Hood Av; with A. Doldissen & F. Davis
544	Red Wattlebird	<i>Anthochaera carunculata</i>	080414	1530-1640	21	Queen Elizabeth	S 33° 51' 45.0" E 151°	1	0	0	0	0	foraged in old remnant eucalypts & turpentine, called; with G. Duggan

Record No.	Common Name	Scientific Name	Date	Time	Site No.	Site Name	Site location	Bushland Remnant ^A	Revegetated Parkland	Open Parkland	Urban Neighbourhood	Aquatic habitats #	Comments
						Park	06' 15.6"						
545	Red Wattlebird	<i>Anthochaera carunculata</i>	241113	0930-1035	29	Strathfield North Public School	S 33° 51' 18.9" E 151° 05' 33.7"	0	1	0	0	0	foraged in flowering paperbark
546	Red Wattlebird	<i>Anthochaera carunculata</i>	O30414	1530-1610	20	Concord Public School	S 33° 51' 45.2" E 151° 06' 24.4"	0	3	0	0	0	foraged in flowering <i>Melaleuca quinquenervia</i> along W side of school
547	Red Wattlebird	<i>Anthochaera carunculata</i>	O70414	1710-1740	17	Barnwell Park Golf Course	S 33° 51' 55.6" E 151° 07' 14.0"	0	2	0	0	0	southern section (S of Lyons Rd West) - foraged in planted eucalypts; with D. Oldfield
548	Red Wattlebird	<i>Anthochaera carunculata</i>	O20414	1545-1825	30	Yaralla Estate	S 33° 50' 17.6" E 151° 05' 55.0"	3	0	0	0	0	foraged in southern section remnant; with R. Stevenson, D. Oldfield, A. Doldissen & F. Davis
549	Red Wattlebird	<i>Anthochaera carunculata</i>	O20414	0715-0940	31	Rivendell CAF Unit	S 33° 49' 52.2" E 151° 05' 48.7"	1	0	0	0	0	foraged in STIF remnant; with R. Stevenson
550	Red Wattlebird	<i>Anthochaera carunculata</i>	O20414	1005-1055	32	Rhodes Park & Brays Bay Reserve	S 33° 49' 54.0" E 151° 05' 24.6", S 33° 50' 01.9" E 151° 05' 22.7"	0	3	0	0	0	foraged in old planted Blackbutt & in large planted Weeping Fig <i>Ficus benjamina</i> nr Concord Rd; with R. Stevenson & A. Ellison
551	Red Wattlebird	<i>Anthochaera carunculata</i>	O10414	1020-1110	35	Coonong Road	S 33° 50' 35.3" E 151° 05' 20.6"	0	0	0	1	0	in brushbox street trees; with R. Stevenson, F. Davis & A. Ellison
552	Red Wattlebird	<i>Anthochaera carunculata</i>	O70414	0600-0800	16	Halliday Park	S 33° 51' 39.4" E 151° 07' 42.7"	0	1	0	0	0	foraged in flowering <i>Melaleuca quinquenervia</i> nr N end of park; with J. Harrington

Record No.	Common Name	Scientific Name	Date	Time	Site No.	Site Name	Site location	Bushland Remnant [^]	Revegetated Parkland	Open Parkland	Urban Neighbourhood	Aquatic habitats #	Comments
553	Red Wattlebird	<i>Anthochaera carunculata</i>	O10414	1810-1840	36	Bicentennial Park east	S 33° 50' 47.1" E 151° 04' 51.0", S 33° 50' 24.7" E 151° 04' 58.2"	2	2	0	0	0	called & foraged in mangroves and plantings along Homebush Bay Dr; with R. Stevenson, D. Oldfield & F. Davis
554	Red Wattlebird	<i>Anthochaera carunculata</i>	O10414	1720-1755	33	Mill Park	S 33° 49' 25.0" E 151° 05' 15.8"	0	1	0	0	0	foraged in flowering callistemon & lemon-scented gum; with R. Stevenson & F. Davis
555	Red Wattlebird	<i>Anthochaera carunculata</i>	O30414	0710-0910	28	Concord Golf Course	S 33° 50' 48.9" E 151° 05' 59.9"	0	1	0	0	0	called in planted swamp oaks along Majors Bay Rd edge; with D. Oldfield
556	Red Wattlebird	<i>Anthochaera carunculata</i>	O60414	0630-0825	18	Cintra Park	S 33° 51' 49.9" E 151° 06' 43.8"	0	1	0	0	0	foraged in flowering (planted) paperbark; with H. Saldamli, K. Spasojevic, M. Newton, P. & J. Smith
557	New Holland Honeyeater	<i>Phylidonyris novaehollandiae</i>	261113	0645-0845	30	Yaralla Estate	S 33° 50' 17.6" E 151° 05' 55.0"	1	0	0	0	0	southern section - STIF remnant, in flowering mistletoe nr foreshore walk fence; with R. Stevenson & D. Oldfield
558	New Holland Honeyeater	<i>Phylidonyris novaehollandiae</i>	271113	0930-1000	33	Mill Park	S 33° 49' 25.0" E 151° 05' 15.8"	0	2	0	0	0	feeding on nectar of planted <i>Banksia ericifolia</i> , <i>Callistemon citrinus</i> & eucalypts; with R. Stevenson & D. Oldfield
559	New Holland Honeyeater	<i>Phylidonyris novaehollandiae</i>	O10414	1720-1755	33	Mill Park	S 33° 49' 25.0" E 151° 05' 15.8"	0	4	0	0	0	feeding on planted <i>Acacia parramattensis</i> exudate & nectar of planted <i>Banksia ericifolia</i> , <i>Callistemon citrinus</i> & Swamp Mahogany; with R. Stevenson & F. Davis

Record No.	Common Name	Scientific Name	Date	Time	Site No.	Site Name	Site location	Bushland Remnant ^A	Revegetated Parkland	Open Parkland	Urban Neighbourhood	Aquatic habitats #	Comments
560	White-cheeked Honeyeater	<i>Phylidonyris niger</i>	271113	0830-0915	34	Rider Boulevard	S 33° 50' 10.9" E 151° 04' 59.7"	0	2	0	0	0	moving between planted callistemon, mangroves and street shrubs, balcony gardens; with R. Stevenson & D. Oldfield
561	White-cheeked Honeyeater	<i>Phylidonyris niger</i>	261113	0645-0845	30	Yaralla Estate	S 33° 50' 17.6" E 151° 05' 55.0"	2	0	0	0	0	southern section - STIF remnant, in flowering mistletoe & the noxious weed (tree) <i>Celtis sinensis</i> nr foreshore walk fence; with R. Stevenson & D. Oldfield
562	Noisy Friarbird	<i>Philemon corniculatus</i>	060414	0630-0825	18	Cintra Park	S 33° 51' 49.9" E 151° 06' 43.8"	0	1	0	0	0	adult foraged in flowering (planted) swamp mahogany at edge of main carpark, mobbed by 4 Noisy Miners but stood ground; with H. Saldamli, K. Spasojevic, M. Newton & P. & J. Smith
563	Black-faced Cuckoo-shrike	<i>Coracina novaehollandiae</i>	271113	0625-0740	32	Rhodes Park & Brays Bay Reserve	S 33° 49' 54.0" E 151° 05' 24.6"	0	1	0	0	0	with R. Stevenson & D. Oldfield
564	Black-faced Cuckoo-shrike	<i>Coracina novaehollandiae</i>	261113	0925-1040	30	Yaralla Estate	S 33° 50' 27.8" E 151° 05' 35.7"	2	0	0	0	0	northern section - dryland STIF remnant in NW cnr; with R. Stevenson & D. Oldfield
565	Black-faced Cuckoo-shrike	<i>Coracina novaehollandiae</i>	201113	0900-1010	2	Timbrell Park	S 33° 52' 09.4" E 151° 08' 21.1"	0	1	0	0	0	with A. Doldissen
566	Black-faced Cuckoo-shrike	<i>Coracina novaehollandiae</i>	261113	0645-0845	30	Yaralla Estate	S 33° 50' 17.6" E 151° 05' 55.0"	4	0	0	0	0	southern section - STIF remnant, mate pursuits; with R. Stevenson & D. Oldfield
567	Black-faced Cuckoo-shrike	<i>Coracina novaehollandiae</i>	020414	1005-1055	32	Rhodes Park & Brays Bay Reserve	S 33° 49' 54.0" E 151° 05' 24.6"	0	1	0	0	0	with R. Stevenson & A. Ellison

Record No.	Common Name	Scientific Name	Date	Time	Site No.	Site Name	Site location	Bushland Remnant ^A	Revegetated Parkland	Open Parkland	Urban Neighbourhood	Aquatic habitats #	Comments
568	Black-faced Cuckoo-shrike	<i>Coracina novaehollandiae</i>	070414	0815-0905	14	Quarantine Reserve	S 33° 50' 51.4" E 151° 07' 22.6"	0	1	0	0	0	foraged over lower slope
569	Black-faced Cuckoo-shrike	<i>Coracina novaehollandiae</i>	090414	1630-1740	2	Timbrell Park	S 33° 52' 09.4" E 151° 08' 21.1"	0	0	1	0	0	foraged insects high over oval; with A. Doldissen
570	Golden Whistler	<i>Pachycephala pectoralis</i>	050414	1030-1150	30	Yaralla Estate	S 33° 50' 21.7" E 151° 05' 47.1"	1	0	0	0	0	field day walk along bayside mangroves trail - adult male called in weedy edge incl celtis, with field day participants
571	Australasian Figbird	<i>Sphecotheres vieilloti</i>	201113	1050-1120	4	Five Dock Park	S 33° 52' 03.9" E 151° 08' 01.0"	0	9	0	0	0	foraged in figs & flowering large spotted gum in Domremy College opposite park & flew across & in fig nr waypoints 02 & 04
572	Australasian Figbird	<i>Sphecotheres vieilloti</i>	211113	1610-1655	9	Brett Park	S 33° 51' 22.7" E 151° 09' 29.9"	0	1	0	0	0	male called in old fig
573	Australasian Figbird	<i>Sphecotheres vieilloti</i>	231113	0700-0830	21	Queen Elizabeth Park	S 33° 51' 45.0" E 151° 06' 15.6"	1	0	0	0	0	with M. Newton
574	Australasian Figbird	<i>Sphecotheres vieilloti</i>	231113	1610-1710	27	Mortlake Public School	S 33° 50' 56.8" E 151° 06' 11.4"	1	0	0	0	0	with G. Duggan
575	Australasian Figbird	<i>Sphecotheres vieilloti</i>	241113	1620-1815	18	Cintra Park	S 33° 51' 49.9" E 151° 06' 43.8"	0	2	0	0	0	adult male & female in paperbark; with K. Spasojevic & H. Saldamli
576	Australasian Figbird	<i>Sphecotheres vieilloti</i>	251113	0655-0915	17	Barnwell Park Golf Course	S 33° 52' 04.3" E 151° 07' 05.6" (S end nr Five Dock Leisure Centre) & S 33° 51'	0	8	0	0	0	southern section - incl recent fledgling fed by female, in weeping fig (<i>Ficus benjamina</i>); with R. Stevenson & D. Oldfield

Record No.	Common Name	Scientific Name	Date	Time	Site No.	Site Name	Site location	Bushland Remnant [^]	Revegetated Parkland	Open Parkland	Urban Neighbourhood	Aquatic habitats #	Comments
							55.6" E 151° 07' 14.0" (mid-section)						
577	Australasian Figbird	<i>Sphecotheres vieilloti</i>	251113	0945-1120	23	Massey Park Golf Course	S 33° 51' 10.1" E 151° 06' 37.0"	0	4	0	0	0	adult pairs foraged in planted figs; with R. Stevenson & D. Oldfield
578	Australasian Figbird	<i>Sphecotheres vieilloti</i>	261113	0645-0845	30	Yaralla Estate	S 33° 50' 17.6" E 151° 05' 55.0"	5	0	0	0	0	southern section - STIF remnant, feeding on fruiting privet, African Olive & <i>Celtis sinensis</i> ; with R. Stevenson & D. Oldfield
579	Australasian Figbird	<i>Sphecotheres vieilloti</i>	261113	0925-1040	30	Yaralla Estate	S 33° 50' 21.7" E 151° 05' 47.1"	8	0	0	0	0	northern section - in high quality remnant mangrove forest abutting swamp oak forest at Yaralla Bay; with R. Stevenson & D. Oldfield
580	Australasian Figbird	<i>Sphecotheres vieilloti</i>	261113	1630-1830	31	Rivendell CAF Unit	S 33° 49' 52.2" E 151° 05' 48.7"	1	0	0	0	0	male called in turpentine
581	Australasian Figbird	<i>Sphecotheres vieilloti</i>	271113	1710-1800	16	Halliday Park	S 33° 51' 39.4" E 151° 07' 42.7"	0	2	0	0	0	adult pair perched in lemon-scented gum
582	Australasian Figbird	<i>Sphecotheres vieilloti</i>	281113	0920-1110	26	Cabarita Park	S 33° 50' 30.6" E 151° 07' 10.9"	0	3	0	0	0	foraged on fruit of Rusty Fig <i>Ficus rubiginosa</i> & Weeping Fig <i>F. benjamina</i> ; with G. Duggan, R. Stevenson, D. Oldfield
583	Australasian Figbird	<i>Sphecotheres vieilloti</i>	281113	1645-1850	28	Concord Golf Course	S 33° 51' 03.4" E 151° 06' 03.3"	0	4	0	0	0	2 adult females, 2 males perched top of old paperbark, called
584	Australasian Figbird	<i>Sphecotheres vieilloti</i>	080414	0650-0715	7	Drummoyne Public School	S 33° 51' 21.2" E 151° 09' 08.7"	0	1	0	0	0	foraged in fruiting camphor laurel on E side of school
585	Australasian Figbird	<i>Sphecotheres vieilloti</i>	080414	0835-0935	10	Drummoyne Park	S 33° 51' 07.6" E 151°	0	29	0	0	0	foraged in two large figs & fed on green fruits of

Record No.	Common Name	Scientific Name	Date	Time	Site No.	Site Name	Site location	Bushland Remnant [^]	Revegetated Parkland	Open Parkland	Urban Neighbourhood	Aquatic habitats #	Comments
							09' 00.5"						<i>Ficus hillii</i> & <i>F. macrophylla</i> , predom females but with several adult males; with E. Hughes
586	Australasian Figbird	<i>Sphecotheres vieilloti</i>	080414	0730-0825	11	Edenholme Road	S 33° 51' 25.1" E 151° 08' 27.6"	0	0	0	2	0	foraged in old planted fig in backyard; with E. Hughes
587	Australasian Figbird	<i>Sphecotheres vieilloti</i>	090414	0615-0705	9	Brett Park	S 33° 51' 22.7" E 151° 09' 29.9", S 33° 51' 25.9" E 151° 09' 30.1"	0	21	0	0	0	flock foraged & called in large fruiting fig; with A. Doldissen & C. Paine
588	Australasian Figbird	<i>Sphecotheres vieilloti</i>	090414	1630-1740	2	Timbrell Park	S 33° 52' 09.4" E 151° 08' 21.1"	0	1	0	0	0	called from old planted fig nr cricket nets SW cnr of oval; with A. Doldissen
589	Australasian Figbird	<i>Sphecotheres vieilloti</i>	070414	0815-0905	14	Quarantine Reserve	S 33° 50' 51.4" E 151° 07' 22.6"	0	5	0	0	0	fed on ripe camphor laurel fruit
590	Australasian Figbird	<i>Sphecotheres vieilloti</i>	060414	0850-0950	13	Abbotsford Public School	S 33° 51' 12.6" E 151° 07' 48.5"	0	22	0	0	0	fed on ripe camphor laurel fruit nr Henry Lawson Cottage & at front of school; with C. Paine
591	Australasian Figbird	<i>Sphecotheres vieilloti</i>	070414	1710-1740	17	Barnwell Park Golf Course	S 33° 51' 55.6" E 151° 07' 14.0" (mid-section), S 33° 51' 40.8" E 151° 06' 51.3" (northern section)	0	37	0	0	0	southern & northern sections - incl flock of 30 birds foraged in weeping fig <i>Ficus benjamina</i> then flew to northern section of course, in weeping fig <i>Ficus benjamina</i> ; with D. Oldfield
592	Australasian Figbird	<i>Sphecotheres vieilloti</i>	070414	1535-1700	23	Massey Park Golf Course	S 33° 51' 10.1" E 151°	0	8	0	0	0	foraged in fruiting fig trees, flock of ca 20

Record No.	Common Name	Scientific Name	Date	Time	Site No.	Site Name	Site location	Bushland Remnant^	Revegetated Parkland	Open Parkland	Urban Neighbourhood	Aquatic habitats #	Comments
							06' 37.0", S 33° 51' 13.2" E 151° 06' 42.3"						birds flew over headed towards Prince Edward Park area (not counted); with D. Oldfield
593	Australasian Figbird	<i>Sphecotheres vieilloti</i>	O20414	1545-1825	30	Yaralla Estate	S 33° 50' 17.6" E 151° 05' 55.0"	13	0	0	0	0	southern section - STIF remnant, feeding on fruiting privet & <i>Celtis sinensis</i> , more adult females and immature birds than adult males; with R. Stevenson, D. Oldfield, A. Doldissen & F. Davis
594	Australasian Figbird	<i>Sphecotheres vieilloti</i>	O20414	1545-1825	30	Yaralla Estate	S 33° 50' 21.7" E 151° 05' 47.1"	2	0	0	0	0	northern section - in isolated old red mahogany nr swamp oak forest at Yaralla Bay; with R. Stevenson, D. Oldfield, A. Doldissen & F. Davis
595	Australasian Figbird	<i>Sphecotheres vieilloti</i>	O20414	0715-0940	31	Rivendell CAF Unit	S 33° 49' 52.2" E 151° 05' 48.7"	1	0	0	0	0	one bird in 200+ yr-old Red Mahogany <i>Eucalyptus resinifera</i> ; with R. Stevenson
596	Australasian Figbird	<i>Sphecotheres vieilloti</i>	O70414	0600-0800	16	Halliday Park	S 33° 51' 43.5" E 151° 07' 36.4"	0	4	0	0	0	foraged & called in large fig adjacent Udal Av end of park; with J. Harrington
597	Australasian Figbird	<i>Sphecotheres vieilloti</i>	O30414	1530-1610	20	Concord Public School	S 30° 51' 51.4" E 151° 06' 07.2"	0	9	0	0	0	group of 2 adult males & 7 adult females + immature birds, congregated & called in bare branch tops of old camphor laurel along Burwood Rd boundary
598	Olive-backed Oriole	<i>Oriolus sagittatus</i>	O20414	1545-1825	30	Yaralla Estate	S 33° 50' 17.6" E 151° 05' 55.0"	4	0	0	0	0	southern section - STIF remnant, feeding on fruiting privet & <i>Celtis</i>

Record No.	Common Name	Scientific Name	Date	Time	Site No.	Site Name	Site location	Bushland Remnant ^A	Revegetated Parkland	Open Parkland	Urban Neighbourhood	Aquatic habitats #	Comments
													<i>sinensis</i> , with figbird flock; with R. Stevenson, D. Oldfield, A. Doldissen & F. Davis
599	Olive-backed Oriole	<i>Oriolus sagittatus</i>	070414	1710-1740	17	Barnwell Park Golf Course	S 33° 51' 40.8" E 151° 06' 51.3"	0	1	0	0	0	called & obs in planted inter-fairway fig, with figbird flock; with D. Oldfield
600	Grey Butcherbird	<i>Cracticus torquatus</i>	201113	0710-0840	1	Russell Lea Infants School	S 33° 51' 41.1" E 151° 08' 31.5"	1	0	0	0	0	called in Forest Red Gum
601	Grey Butcherbird	<i>Cracticus torquatus</i>	201113	1050-1130	4	Five Dock Park	S 33° 52' 03.9" E 151° 08' 01.0"	0	2	0	0	0	incl 1 juvenile
602	Grey Butcherbird	<i>Cracticus torquatus</i>	211113	0705-0740	7	Drummoyne Public School	S 33° 51' 21.2" E 151° 09' 08.7"	0	1	0	0	0	called
603	Grey Butcherbird	<i>Cracticus torquatus</i>	211113	0755-0840	10	Drummoyne Park	S 33° 51' 07.6" E 151° 09' 00.5"	0	2	0	0	0	both adults
604	Grey Butcherbird	<i>Cracticus torquatus</i>	211113	1030-1050	11	Edenholme Road	S 33° 51' 23.9" E 151° 08' 19.5"	0	0	0	1	0	called
605	Grey Butcherbird	<i>Cracticus torquatus</i>	221113	1020-1115	14	Quarantine Reserve	S 33° 50' 51.2" E 151° 07' 25.0"	2	2	0	0	0	2 juveniles & 2 adults; with R. Stevenson & D. Oldfield
606	Grey Butcherbird	<i>Cracticus torquatus</i>	221113	1610-1710	13	Abbotsford Public School	S 33° 51' 12.6" E 151° 07' 48.5"	0	2	0	0	0	perched & called in old white stringybark @ front
607	Grey Butcherbird	<i>Cracticus torquatus</i>	231113	0700-0830	21	Queen Elizabeth Park	S 33° 51' 45.0" E 151° 06' 15.6"	2	0	0	0	0	with M. Newton
608	Grey Butcherbird	<i>Cracticus torquatus</i>	241113	1620-1815	18	Cintra Park	S 33° 51' 49.9" E 151° 06' 43.8"	0	1	0	0	0	with H. Saldamli & K. Spasojevic
609	Grey Butcherbird	<i>Cracticus torquatus</i>	261113	0645-0845	30	Yaralla Estate	S 33° 50' 17.6" E 151° 05' 55.0"	2	0	0	0	0	southern section - STIF remnant; with R. Stevenson & D. Oldfield

Record No.	Common Name	Scientific Name	Date	Time	Site No.	Site Name	Site location	Bushland Remnant ^A	Revegetated Parkland	Open Parkland	Urban Neighbourhood	Aquatic habitats #	Comments
610	Grey Butcherbird	<i>Cracticus torquatus</i>	261113	1630-1830	31	Rivendell CAF Unit	S 33° 50' 04.7" E 151° 05' 53.3"	0	1	0	0	0	called in brush box
611	Grey Butcherbird	<i>Cracticus torquatus</i>	271113	0830-0915	34	Rider Boulevard	S 33° 50' 10.9" E 151° 04' 59.7"	0	1	0	0	0	with R. Stevenson & D. Oldfield
612	Grey Butcherbird	<i>Cracticus torquatus</i>	271113	1710-1800	16	Halliday Park	S 33° 51' 39.4" E 151° 07' 42.7"	0	1	0	0	0	called
613	Grey Butcherbird	<i>Cracticus torquatus</i>	281113	0615-0900	36	Bicentennial Park east	S 33° 50' 38.2" E 151° 04' 50.5"	2	0	0	0	0	adult & immature; with R. Stevenson & D. Oldfield
614	Grey Butcherbird	<i>Cracticus torquatus</i>	281113	0920-1110	26	Cabarita Park	S 33° 50' 30.6" E 151° 07' 10.9"	0	1	0	0	0	with G. Duggan, R. Stevenson, D. Oldfield
615	Grey Butcherbird	<i>Cracticus torquatus</i>	281113	1645-1850	28	Concord Golf Course	S 33° 51' 03.4" E 151° 06' 03.3"	1	0	0	0	0	called in old turpentine
616	Grey Butcherbird	<i>Cracticus torquatus</i>	080414	1655-1730	1	Russell Lea Infants School	S 33° 51' 41.1" E 151° 08' 31.5"	1	0	0	0	0	foraged, one adult and one juvenile in remnant turpentine
617	Grey Butcherbird	<i>Cracticus torquatus</i>	050414	1655-1715	3	Noble Street	S 33° 51' 52.9" E 151° 08' 22.3"	0	0	0	1	0	foraged in home garden
618	Grey Butcherbird	<i>Cracticus torquatus</i>	090414	1630-1740	2	Timbrell Park	S 33° 52' 09.4" E 151° 08' 21.1"	0	3	0	0	0	immature bird & 2 adults called & perched along planted edge with oval; with A. Doldissen
619	Grey Butcherbird	<i>Cracticus torquatus</i>	100414	0730-0850	5	Iron Cove - southwestern foreshore from Iron Cove Ck to Rodd Point	S 33° 52' 13.2" E 151° 08' 31.4" (Arthur St)	0	2	0	0	0	adult & immature birds, perched in street verge old paperbark; with A. Doldissen & F. Davis
620	Grey Butcherbird	<i>Cracticus torquatus</i>	090414	0730-0815	8	Sisters Bay	S 33° 51' 29.5" E 151° 09' 34.4"	0	0	0	1	0	perched & called in brushbox; with A. Doldissen & C. Paine

Record No.	Common Name	Scientific Name	Date	Time	Site No.	Site Name	Site location	Bushland Remnant [^]	Revegetated Parkland	Open Parkland	Urban Neighbourhood	Aquatic habitats #	Comments
621	Grey Butcherbird	<i>Cracticus torquatus</i>	O90414	0615-0705	9	Brett Park	S 33° 51' 24.2" E 151° 09' 23.3"	0	1	0	0	0	called in sheoak; with A. Doldissen & C. Paine
622	Grey Butcherbird	<i>Cracticus torquatus</i>	O80414	0835-0935	10	Drummoyne Park	S 33° 51' 07.6" E 151° 09' 00.5"	0	1	0	0	0	mobbed Aust Raven; with E. Hughes
623	Grey Butcherbird	<i>Cracticus torquatus</i>	O80414	0730-0825	11	Edenholme Road	S 33° 51' 29.6" E 151° 08' 26.9"	0	0	0	1	0	called in large golden elm North Court Rd & Murray St; with E. Hughes
624	Grey Butcherbird	<i>Cracticus torquatus</i>	O70414	0815-0905	14	Quarantine Reserve	S 33° 50' 51.4" E 151° 07' 22.6"	2	0	0	0	0	immature & adult in upper slope blackbutt nr stables
625	Grey Butcherbird	<i>Cracticus torquatus</i>	O60414	0850-0950	13	Abbotsford Public School	S 33° 51' 11.4" E 151° 07' 53.4"	0	1	0	0	0	perched & called at rear of school in old brushbox; with C. Paine
626	Grey Butcherbird	<i>Cracticus torquatus</i>	O80414	1530-1640	21	Queen Elizabeth Park	S 33° 51' 45.0" E 151° 06' 15.6"	2	0	0	0	0	foraged in old turpentine; with G. Duggan
627	Grey Butcherbird	<i>Cracticus torquatus</i>	O60414	0630-0825	18	Cintra Park	S 33° 51' 41.9" E 151° 06' 48.6"	0	2	0	0	0	foraged & called in planted swamp oak grove; with H. Saldamli, K. Spasojevic, M. Newton, P. & J. Smith
628	Grey Butcherbird	<i>Cracticus torquatus</i>	O30414	1750-1830	19	Concord High School	S 33° 51' 50.0" E 151° 06' 29.0"	0	1	0	0	0	with P. Smith
629	Grey Butcherbird	<i>Cracticus torquatus</i>	O20414	1545-1845	30	Yaralla Estate	S 33° 50' 17.6" E 151° 05' 55.0"	2	0	0	0	0	southern section - STIF remnant; with R. Stevenson, D. Oldfield, A. Doldissen & F. Davis
630	Grey Butcherbird	<i>Cracticus torquatus</i>	O20414	0715-0940	31	Rivendell CAF Unit	S 33° 50' 04.7" E 151° 05' 53.3"	2	0	0	0	0	with R. Stevenson
631	Grey Butcherbird	<i>Cracticus torquatus</i>	O30414	1630-1720	29	Strathfield North Public School	S 33° 51' 13.7" E 151° 05' 30.6"	0	1	0	0	0	juvenile

Record No.	Common Name	Scientific Name	Date	Time	Site No.	Site Name	Site location	Bushland Remnant ^A	Revegetated Parkland	Open Parkland	Urban Neighbourhood	Aquatic habitats #	Comments
632	Grey Butcherbird	<i>Cracticus torquatus</i>	O40414	0700-0745	27	Mortlake Public School	S 33° 51' 01.9" E 151° 06' 16.0"	0	0	1	0	0	foraged; with G. Duggan
633	Grey Butcherbird	<i>Cracticus torquatus</i>	O40414	0830-0845	24	Prince Edward Park	S 33° 51' 12.2" E 151° 07' 05.5"	0	1	0	0	0	foraged; with M. Falkenmire & P. Sweeney
634	Grey Butcherbird	<i>Cracticus torquatus</i>	O70414	0600-0800	16	Halliday Park	S 33° 51' 39.4" E 151° 07' 42.7"	0	2	0	0	0	perched in planted eucalypt, mobbed by Pied Currawong; with J. Harrington
635	Grey Butcherbird	<i>Cracticus torquatus</i>	O10414	0710-1020	36	Bicentennial Park east	S 33° 50' 38.2" E 151° 04' 50.5"	2	0	0	0	0	1 immature, 1 adult; with R. Stevenson, D. Oldfield & F. Davis
636	Grey Butcherbird	<i>Cracticus torquatus</i>	O20414	1005-1055	32	Rhodes Park & Brays Bay Reserve	S 33° 50' 01.9" E 151° 05' 22.7"	0	2	0	0	0	adult & immature; with R. Stevenson & A. Ellison
637	Grey Butcherbird	<i>Cracticus torquatus</i>	O30414	0935-1040	26	Cabarita Park	S 33° 50' 30.6" E 151° 07' 10.9"	0	1	0	0	0	with G. Duggan
638	Grey Butcherbird	<i>Cracticus torquatus</i>	O30414	0710-0910	28	Concord Golf Course	S 33° 51' 03.4" E 151° 06' 03.3", S 33° 51' 02.8" E 151° 05' 38.0"	4	0	0	0	0	adults obs, foraged & called; with D. Oldfield
639	Australian Magpie	<i>Cracticus tibicen</i>	201113	0900-1010	2	Timbrell Park	S 33° 52' 09.4" E 151° 08' 21.1"	0	0	2	0	0	foraged on oval
640	Australian Magpie	<i>Cracticus tibicen</i>	201113	1050-1130	4	Five Dock Park	S 33° 52' 03.9" E 151° 08' 01.0"	0	0	5	0	0	foraged on oval
641	Australian Magpie	<i>Cracticus tibicen</i>	201113	1620-1720	5	Iron Cove - south-western foreshore from Iron Cove Ck to Rodd Point	S 33° 51' 57.7" E 151° 08' 49.6" (Rodd Pt)	0	0	0	0	2	Rodd Point beach and mown grass fringe; with A. Doldissen

Record No.	Common Name	Scientific Name	Date	Time	Site No.	Site Name	Site location	Bushland Remnant ^A	Revegetated Parkland	Open Parkland	Urban Neighbourhood	Aquatic habitats #	Comments
642	Australian Magpie	<i>Cracticus tibicen</i>	211113	1030-1050	11	Edenholme Road	S 33° 51' 23.9" E 151° 08' 19.5"	0	0	0	2	0	walked along footpath
643	Australian Magpie	<i>Cracticus tibicen</i>	221113	1020-1115	14	Quarantine Reserve	S 33° 50' 51.2" E 151° 07' 25.0"	0	0	4	0	0	2 juveniles with 2 adults; with R. Stevenson & D. Oldfield
644	Australian Magpie	<i>Cracticus tibicen</i>	221113	1125-1205	15	Henry Lawson Park	S 33° 51' 00.1" E 151° 07' 34.4"	0	0	5	0	0	incl 2 juveniles; with R. Stevenson & D. Oldfield
645	Australian Magpie	<i>Cracticus tibicen</i>	221113	1610-1710	13	Abbotsford Public School	S 33° 51' 12.6" E 151° 07' 48.5"	0	0	2	0	0	foraged on mown area
646	Australian Magpie	<i>Cracticus tibicen</i>	231113	0700-0830	21	Queen Elizabeth Park	S 33° 51' 45.0" E 151° 06' 15.6"	0	1	0	0	0	with M. Newton
647	Australian Magpie	<i>Cracticus tibicen</i>	231113	1035-1115	22	Empire Avenue	S 33° 51' 33.2" E 151° 06' 39.7"	0	0	0	2	0	adult & juvenile; with M. Newton
648	Australian Magpie	<i>Cracticus tibicen</i>	231113	1610-1710	27	Mortlake Public School	S 33° 50' 56.8" E 151° 06' 11.4"	0	1	2	0	0	with G. Duggan
649	Australian Magpie	<i>Cracticus tibicen</i>	241113	1620-1815	18	Cintra Park	S 33° 51' 49.9" E 151° 06' 43.8"	0	0	1	0	0	with K. Spasojevic & H. Saldamli
650	Australian Magpie	<i>Cracticus tibicen</i>	251113	0655-0915	17	Barnwell Park Golf Course	S 33° 52' 04.3" E 151° 07' 05.6" (S end nr Five Dock Leisure Centre) & S 33° 51' 55.6" E 151° 07' 14.0" (midsection)	0	0	3	0	0	southern section (S of Lyons Rd west); with R. Stevenson & D. Oldfield
651	Australian Magpie	<i>Cracticus tibicen</i>	251113	0655-0915	17	Barnwell Park Golf Course	S 33° 51' 40.8" E 151° 06' 51.3"	0	0	3	0	0	northern section (N of Lyons Rd west) - nr 15th tee; with R. Stevenson

Record No.	Common Name	Scientific Name	Date	Time	Site No.	Site Name	Site location	Bushland Remnant^	Revegetated Parkland	Open Parkland	Urban Neighbourhood	Aquatic habitats #	Comments
													& D. Oldfield
652	Australian Magpie	<i>Cracticus tibicen</i>	251113	0945-1120	23	Massey Park Golf Course	S 33° 51' 10.1" E 151° 06' 37.0"	0	0	2	0	0	with R. Stevenson & D. Oldfield
653	Australian Magpie	<i>Cracticus tibicen</i>	261113	1630-1830	31	Rivendell CAF Unit	S 33° 50' 04.7" E 151° 05' 53.3"	0	2	0	0	0	foraged under plantings
654	Australian Magpie	<i>Cracticus tibicen</i>	271113	1020-1110	35	Coonong Road	S 33° 50' 35.3" E 151° 05' 20.6"	0	0	0	5	0	incl 1 juvenile; with R. Stevenson & D. Oldfield
655	Australian Magpie	<i>Cracticus tibicen</i>	271113	1710-1800	16	Halliday Park	S 33° 51' 39.4" E 151° 07' 42.7"	0	0	1	0	0	foraged near path
656	Australian Magpie	<i>Cracticus tibicen</i>	281113	0615-0900	36	Bicentennial Park east	S 33° 50' 47.1" E 151° 04' 51.0"	0	0	4	0	0	incl 2 juveniles; with R. Stevenson & D. Oldfield
657	Australian Magpie	<i>Cracticus tibicen</i>	281113	0920-1110	26	Cabarita Park	S 33° 50' 30.6" E 151° 07' 10.9"	0	2	0	0	0	with G. Duggan, R. Stevenson, D. Oldfield
658	Australian Magpie	<i>Cracticus tibicen</i>	050414	1655-1715	3	Noble Street	S 33° 51' 52.9" E 151° 08' 22.3"	0	0	0	3	0	foraged along footpaths and street verge
659	Australian Magpie	<i>Cracticus tibicen</i>	080414	0835-0935	10	Drummoyne Park	S 33° 51' 07.5" E 151° 09' 04.8"	0	0	4	0	0	foraged on grassed area, incl 1 juvenile; with E. Hughes
660	Australian Magpie	<i>Cracticus tibicen</i>	080414	0730-0825	11	Edenholme Road	S 33° 51' 23.9" E 151° 08' 19.5", S 33° 51' 25.1" E 151° 08' 27.6"	0	0	0	3	0	foraged along street verge, frontyards; with E. Hughes
661	Australian Magpie	<i>Cracticus tibicen</i>	070414	0815-0905	14	Quarantine Reserve	S 33° 50' 51.2" E 151° 07' 25.0"	0	0	3	0	0	foraged on grassed area & path
662	Australian Magpie	<i>Cracticus tibicen</i>	050414	1730-1755	15	Henry Lawson Park	S 33° 51' 00.1" E 151° 07' 34.4"	0	0	11	0	0	incl 5 immature birds

Record No.	Common Name	Scientific Name	Date	Time	Site No.	Site Name	Site location	Bushland Remnant [^]	Revegetated Parkland	Open Parkland	Urban Neighbourhood	Aquatic habitats #	Comments
663	Australian Magpie	<i>Cracticus tibicen</i>	O60414	0850-0950	13	Abbotsford Public School	S 33° 51' 12.6" E 151° 07' 48.5"	0	0	5	0	0	with C. Paine
664	Australian Magpie	<i>Cracticus tibicen</i>	281113	1645-1850	28	Concord Golf Course	S 33° 51' 03.4" E 151° 06' 03.3"	0	0	7	0	0	incl 2 juveniles
665	Australian Magpie	<i>Cracticus tibicen</i>	O20414	1115-1145	22	Empire Avenue	S 33° 51' 33.2" E 151° 06' 39.7"	0	0	0	3	0	adult & 2 immature birds; with R. Stevenson
666	Australian Magpie	<i>Cracticus tibicen</i>	O40414	0700-0745	27	Mortlake Public School	S 33° 50' 56.8" E 151° 06' 11.4"	0	0	2	0	0	foraged around playground, with G. Duggan
667	Australian Magpie	<i>Cracticus tibicen</i>	O30414	1630-1720	29	Strathfield North Public School	S 33° 51' 18.9" E 151° 05' 33.7", S 33° 51' 13.7" E 151° 05' 30.6"	0	0	2	0	0	foraged on lawn & paved playground area
668	Australian Magpie	<i>Cracticus tibicen</i>	O60414	0630-0825	18	Cintra Park	S 33° 51' 49.9" E 151° 06' 43.8"	0	0	3	0	0	with K. Spasojevic, H. Saldamli, M. Newton, P. & J. Smith
669	Australian Magpie	<i>Cracticus tibicen</i>	O70414	1710-1740	17	Barnwell Park Golf Course	S 33° 52' 04.3" E 151° 07' 05.6", S 33° 51' 40.8" E 151° 06' 51.3"	0	0	4	0	0	southern & northern sections, incl 1 immature bird; with D. Oldfield
670	Australian Magpie	<i>Cracticus tibicen</i>	O70414	1535-1700	23	Massey Park Golf Course	S 33° 51' 10.1" E 151° 06' 37.0"	0	0	3	0	0	with D. Oldfield
671	Australian Magpie	<i>Cracticus tibicen</i>	O20414	1005-1055	32	Rhodes Park & Brays Bay Reserve	S 33° 50' 01.9" E 151° 05' 22.7"	0	1	0	0	0	with R. Stevenson & A. Ellison
672	Australian Magpie	<i>Cracticus tibicen</i>	O10414	1810-1840	35	Coonong Road	S 33° 50' 35.3" E 151° 05' 20.6"	0	0	0	2	0	with R. Stevenson, F. Davis & A. Ellison
673	Australian Magpie	<i>Cracticus tibicen</i>	O70414	0600-0800	16	Halliday Park	S 33° 51' 39.4" E 151° 07' 42.7"	0	0	2	0	0	with J. Harrington

Record No.	Common Name	Scientific Name	Date	Time	Site No.	Site Name	Site location	Bushland Remnant ^A	Revegetated Parkland	Open Parkland	Urban Neighbourhood	Aquatic habitats #	Comments
674	Australian Magpie	<i>Cracticus tibicen</i>	040414	0830-0845	24	Prince Edward Park	S 33° 51' 12.2" E 151° 07' 05.5"	0	0	2	0	0	foraged; with M. Falkenmire & P. Sweeney
675	Australian Magpie	<i>Cracticus tibicen</i>	030414	0935-1040	26	Cabarita Park	S 33° 50' 30.6" E 151° 07' 10.9", S 33° 50' 35.8" E 151° 06' 56.2"	0	2	4	0	0	with G. Duggan
676	Australian Magpie	<i>Cracticus tibicen</i>	030414	0710-0910	28	Concord Golf Course	S 33° 51' 03.4" E 151° 06' 03.3"	0	0	6	0	0	incl 2 immature birds; with D. Oldfield
677	Pied Currawong	<i>Strepera graculina</i>	201113	0710-0840	1	Russell Lea Infants School	S 33° 51' 41.1" E 151° 08' 31.5"	0	1	0	0	0	called fr perch in eucalypt
678	Pied Currawong	<i>Strepera graculina</i>	201113	1820-1845	6	Half Moon Bay	S 33° 51' 34.6" E 151° 09' 19.2"	1	0	0	0	0	perched in fig; with A. Doldissen
679	Pied Currawong	<i>Strepera graculina</i>	211113	0705-0740	7	Drummoyne Public School	S 33° 51' 21.2" E 151° 09' 08.7"	0	3	0	0	0	called & observed
680	Pied Currawong	<i>Strepera graculina</i>	211113	1030-1050	11	Edenholme Road	S 33° 51' 23.9" E 151° 08' 19.5"	0	0	0	1	0	in brush box verge
681	Pied Currawong	<i>Strepera graculina</i>	211113	1710-1810	8	Sisters Bay	S 33° 51' 26.7" E 151° 09' 24.0"	1	0	0	0	0	with A. Doldissen
682	Pied Currawong	<i>Strepera graculina</i>	221113	1125-1205	15	Henry Lawson Park	S 33° 51' 00.1" E 151° 07' 34.4"	1	0	0	0	0	with R. Stevenson & D. Oldfield
683	Pied Currawong	<i>Strepera graculina</i>	221113	1610-1710	13	Abbotsford Public School	S 33° 51' 12.6" E 151° 07' 48.5"	1	0	0	0	0	in individual likely remnant white stringybark in carpark
684	Pied Currawong	<i>Strepera graculina</i>	231113	1035-1115	22	Empire Avenue	S 33° 51' 33.2" E 151° 06' 39.7"	0	0	0	1	0	with M. Newton
685	Pied Currawong	<i>Strepera graculina</i>	241113	1620-1815	18	Cintra Park	S 33° 51' 49.9" E 151° 06' 43.8"	0	2	0	0	0	with H. Saldamli & K. Spasojevic

Record No.	Common Name	Scientific Name	Date	Time	Site No.	Site Name	Site location	Bushland Remnant ^A	Revegetated Parkland	Open Parkland	Urban Neighbourhood	Aquatic habitats #	Comments
686	Pied Currawong	<i>Strepera graculina</i>	261113	0645-0845	30	Yaralla Estate	S 33° 50' 17.6" E 151° 05' 55.0"	3	0	0	0	0	southern section - STIF remnant; with R. Stevenson & D. Oldfield
687	Pied Currawong	<i>Strepera graculina</i>	261113	1630-1830	31	Rivendell CAF Unit	S 33° 49' 52.2" E 151° 05' 48.7"	3	0	0	0	0	perched & called in old turpentine & blackbutt
688	Pied Currawong	<i>Strepera graculina</i>	271113	0830-0915	34	Rider Boulevard	S 33° 50' 10.9" E 151° 04' 59.7"	0	2	0	0	0	with R. Stevenson & D. Oldfield
689	Pied Currawong	<i>Strepera graculina</i>	271113	0930-1000	33	Mill Park	S 33° 49' 25.0" E 151° 05' 15.8"	0	1	0	0	0	with R. Stevenson & D. Oldfield
690	Pied Currawong	<i>Strepera graculina</i>	271113	1020-1110	35	Coonong Road	S 33° 50' 35.3" E 151° 05' 20.6"	0	0	0	2	0	with R. Stevenson & D. Oldfield
691	Pied Currawong	<i>Strepera graculina</i>	281113	1645-1850	28	Concord Golf Course	S 33° 50' 48.9" E 151° 05' 59.9"	0	2	0	0	0	perched in interfairway
692	Pied Currawong	<i>Strepera graculina</i>	080414	1655-1730	1	Russell Lea Infants School	S 33° 51' 41.1" E 151° 08' 31.5"	0	1	0	0	0	foraged, perched in old turpentine
693	Pied Currawong	<i>Strepera graculina</i>	090414	0615-0705	9	Brett Park	S 33° 51' 24.2" E 151° 09' 23.3"; S 33° 51' 26.6" E 151° 09' 22.2"	0	4	0	0	0	foraged & called in planted sheoak & rough-barked angophora midslope; with A. Doldissen & C. Paine
694	Pied Currawong	<i>Strepera graculina</i>	100414	0620-0710	6	Half Moon Bay	S 33° 51' 34.6" E 151° 09' 19.2"	0	1	0	0	0	perched in planted swamp mahogany; preceded by Rakali search 0545-0610; with A. Doldissen & F. Davis
695	Pied Currawong	<i>Strepera graculina</i>	080414	0835-0935	10	Drummoyne Park	S 33° 51' 21.2" E 151° 09' 08.7"	0	3	0	0	0	foraged, called in old planted eucalypt & figs; with E. Hughes
696	Pied Currawong	<i>Strepera graculina</i>	080414	0650-0715	7	Drummoyne Public School	S 33° 51' 21.2" E 151° 09' 08.7"	0	3	0	0	0	called, foraged in schoolyard brush box

Record No.	Common Name	Scientific Name	Date	Time	Site No.	Site Name	Site location	Bushland Remnant [^]	Revegetated Parkland	Open Parkland	Urban Neighbourhood	Aquatic habitats #	Comments
697	Pied Currawong	<i>Strepera graculina</i>	O80414	0730-0825	11	Edenholme Road	S 33° 51' 23.9" E 151° 08' 19.5"	0	0	0	3	0	called in street verge brush box; with E. Hughes
698	Pied Currawong	<i>Strepera graculina</i>	O70414	1710-1740	17	Barnwell Park Golf Course	S 33° 52' 04.3" E 151° 07' 05.6", S 33° 51' 40.8" E 151° 06' 51.3"	0	0	3	0	0	southern & northern sections; with D. Oldfield
699	Pied Currawong	<i>Strepera graculina</i>	O70414	1535-1700	23	Massey Park Golf Course	S 33° 51' 13.2" E 151° 06' 42.3"	0	2	0	0	0	with D. Oldfield
700	Pied Currawong	<i>Strepera graculina</i>	O90414	0730-0815	8	Sisters Bay	S 33° 51' 26.7" E 151° 09' 24.0"	0	1	0	0	0	called from old fig with A. Doldissen & C. Paine
701	Pied Currawong	<i>Strepera graculina</i>	O70414	0815-0905	14	Quarantine Reserve	S 33° 50' 51.4" E 151° 07' 22.6"	0	1	0	0	0	perched & called on lower slope nr swamp oak patch
702	Pied Currawong	<i>Strepera graculina</i>	O50414	1730-1755	15	Henry Lawson Park	S 33° 51' 00.1" E 151° 07' 34.4"	0	4	0	0	0	foraged in planted blackbutt
703	Pied Currawong	<i>Strepera graculina</i>	O60414	0850-0950	13	Abbotsford Public School	S 33° 51' 12.6" E 151° 07' 48.5"	0	1	0	0	0	with C. Paine
704	Pied Currawong	<i>Strepera graculina</i>	O30414	1750-1830	19	Concord High School	S 33° 51' 50.0" E 151° 06' 29.0"	0	1	0	0	0	with P. Smith
705	Pied Currawong	<i>Strepera graculina</i>	O20414	1115-1145	22	Empire Avenue	S 33° 51' 33.2" E 151° 06' 39.7"	0	0	0	1	0	with R. Stevenson
706	Pied Currawong	<i>Strepera graculina</i>	O60414	0630-0825	18	Cintra Park	S 33° 51' 49.9" E 151° 06' 43.8"	0	1	0	0	0	with H. Saldamli, K. Spasojevic, M. Newton, P. & J. Smith
707	Pied Currawong	<i>Strepera graculina</i>	O30414	0935-1040	26	Cabarita Park	S 33° 50' 30.6" E 151° 07' 10.9"	0	1	0	0	0	with G. Duggan
708	Pied Currawong	<i>Strepera graculina</i>	O20414	1545-1825	30	Yaralla Estate	S 33° 50' 17.6" E 151° 05' 55.0"	3	0	0	0	0	southern section - STIF remnant; with R. Stevenson & D. Oldfield

Record No.	Common Name	Scientific Name	Date	Time	Site No.	Site Name	Site location	Bushland Remnant [^]	Revegetated Parkland	Open Parkland	Urban Neighbourhood	Aquatic habitats #	Comments
709	Pied Currawong	<i>Strepera graculina</i>	261113	1630-1830	31	Rivendell CAF Unit	S 33° 49' 52.2" E 151° 05' 48.7", S 33° 50' 04.7" E 151° 05' 53.3"	5	0	0	0	0	foraged & called in old white & red mahoganies & turpentine; with R. Stevenson
710	Pied Currawong	<i>Strepera graculina</i>	O30414	0710-0910	28	Concord Golf Course	S 33° 51' 02.8" E 151° 05' 38.0", S 33° 51' 03.4" E 151° 06' 03.3"	0	2	0	0	0	called from swamp-oaks along Majors Bay Rd & mobbed by 2 Noisy Miner; with D. Oldfield
711	Pied Currawong	<i>Strepera graculina</i>	O10414	0710-1020	36	Bicentennial Park east	S 33° 50' 47.1" E 151° 04' 51.0", S 33° 50' 24.7" E 151° 04' 58.2"	2	2	0	0	0	foraged through swamp oak & mangrove forests & planted areas; with R. Stevenson, D. Oldfield & F. Davis
712	Pied Currawong	<i>Strepera graculina</i>	O70414	0600-0800	16	Halliday Park	S 33° 51' 39.4" E 151° 07' 42.7", S 33° 51' 43.5" E 151° 07' 36.4"	0	2	2	0	0	called, perched, foraged in planted eucalypts & she-oak patches; with J. Harrington
713	Spangled Drongo	<i>Dicrurus bracteatus</i>	O10414	2045-2230	36	Bicentennial Park east	S 33° 50' 38.2" E 151° 04' 50.5"	1	0	0	0	0	roosted in swamp oak forest along small walking track to tower; night session with R. Stevenson, F. Davis, H. Saldamli, J. Harrington & A. Ellison
714	Spangled Drongo	<i>Dicrurus bracteatus</i>	O20414	2045-2215	30	Yaralla Estate	S 33° 50' 21.7" E 151° 05' 47.1"	1	0	0	0	0	roosted in mangrove forest along bayside walking trail; night session with R. Stevenson, D. Oldfield, K. Spasojevic, H. Saldamli, F. Davis & A. Ellison

Record No.	Common Name	Scientific Name	Date	Time	Site No.	Site Name	Site location	Bushland Remnant [^]	Revegetated Parkland	Open Parkland	Urban Neighbourhood	Aquatic habitats #	Comments
715	Rufous Fantail	<i>Rhipidura rufifrons</i>	050414	1030-1150	30	Yaralla Estate	S 33° 50' 21.7" E 151° 05' 47.1"	1	0	0	0	0	field day walk along bayside mangroves trail - 1 called adult obs with field day participants in weedy edge incl celtis
716	Grey Fantail	<i>Rhipidura albiscapa</i>	020414	1545-1825	30	Yaralla Estate	S 33° 50' 17.6" E 151° 05' 55.0"	2	0	0	0	0	foraged in southern section STIF remnant; with R. Stevenson, D. Oldfield, A. Doldissen & F. Davis
717	Willie Wagtail	<i>Rhipidura leucophrys</i>	201113	0900-1010	2	Timbrell Park	S 33° 52' 09.4" E 151° 08' 21.1"	0	4	0	0	0	2 adults & 1 recent fledgling in 1988-planted paperbarks
718	Willie Wagtail	<i>Rhipidura leucophrys</i>	201113	1620-1720	5	Iron Cove - southwestern foreshore from Iron Cove Ck to Rodd Point	S 33° 52' 13.2" E 151° 08' 31.4" (Arthur St); S 33° 51' 57.7" E 151° 08' 49.6" (Rodd Pt)	0	0	0	0	1	mobbed raven in mudflat mangroves thus likely was nesting; with A. Doldissen
719	Willie Wagtail	<i>Rhipidura leucophrys</i>	251113	0655-0915	17	Barnwell Park Golf Course	S 33° 52' 04.3" E 151° 07' 05.6" (S end nr Five Dock Leisure Centre)	0	1	0	0	0	southern section (S of Lyons Rd west); with R. Stevenson & D. Oldfield
720	Willie Wagtail	<i>Rhipidura leucophrys</i>	251113	0945-1120	23	Massey Park Golf Course	S 33° 51' 10.1" E 151° 06' 37.0"	0	1	0	0	0	likely nesting in paperbark, mobbed by Noisy Miner; with R. Stevenson & D. Oldfield
721	Willie Wagtail	<i>Rhipidura leucophrys</i>	261113	0925-1040	30	Yaralla Estate	S 33° 50' 21.7" E 151° 05' 47.1"	1	0	0	0	0	northern section - Yaralla Bay mangrove forest, swamp oak & STIF remnants; with R.

Record No.	Common Name	Scientific Name	Date	Time	Site No.	Site Name	Site location	Bushland Remnant [^]	Revegetated Parkland	Open Parkland	Urban Neighbourhood	Aquatic habitats #	Comments
													Stevenson & D. Oldfield
722	Willie Wagtail	<i>Rhipidura leucophrys</i>	271113	0625-0740	32	Rhodes Park & Brays Bay Reserve	S 33° 49' 54.0" E 151° 05' 24.6"	0	0	2	0	0	with R. Stevenson & D. Oldfield
723	Willie Wagtail	<i>Rhipidura leucophrys</i>	271113	0930-1000	33	Mill Park	S 33° 49' 25.0" E 151° 05' 15.8"	0	2	0	0	0	with R. Stevenson & D. Oldfield
724	Willie Wagtail	<i>Rhipidura leucophrys</i>	271113	1710-1800	16	Halliday Park	S 33° 51' 39.4" E 151° 07' 42.7"	0	0	2	0	0	likely nesting in mangrove patch
725	Willie Wagtail	<i>Rhipidura leucophrys</i>	281113	0615-0900	36	Bicentennial Park east	S 33° 50' 47.1" E 151° 04' 51.0"	0	1	0	0	0	with R. Stevenson & D. Oldfield
726	Willie Wagtail	<i>Rhipidura leucophrys</i>	090414	1630-1740	2	Timbrell Park	S 33° 52' 09.4" E 151° 08' 21.1", S 33° 52' 13.5" E 151° 08' 27.9"	0	1	2	0	0	2 adults & 1 immature bird foraged in old paperbarks and across W end of mown oval; with A. Doldissen
727	Willie Wagtail	<i>Rhipidura leucophrys</i>	100414	0730-0850	5	Iron Cove - southwestern foreshore from Iron Cove Ck to Rodd Point	S 33° 52' 13.2" E 151° 08' 31.4" (Arthur St)	0	0	0	0	1	foraged & called in mudflat mangroves opposite Duchess Av junction; with A. Doldissen & F. Davis
728	Willie Wagtail	<i>Rhipidura leucophrys</i>	070414	1710-1740	17	Barnwell Park Golf Course	S 33° 52' 04.3" E 151° 07' 05.6"	0	0	1	0	0	southern section (S of Lyons Rd west); with D. Oldfield
729	Willie Wagtail	<i>Rhipidura leucophrys</i>	030414	0935-1040	26	Cabarita Park	S 33° 50' 30.6" E 151° 07' 10.9"	0	1	0	0	0	foraged on ground; with G. Duggan
730	Willie Wagtail	<i>Rhipidura leucophrys</i>	020414	1545-1825	30	Yaralla Estate	S 33° 50' 17.6" E 151° 05' 55.0"	3	0	0	0	0	foraged along paddock edge with southern section STIF remnant; with R. Stevenson, D. Oldfield, A. Doldissen & F. Davis

Record No.	Common Name	Scientific Name	Date	Time	Site No.	Site Name	Site location	Bushland Remnant^	Revegetated Parkland	Open Parkland	Urban Neighbourhood	Aquatic habitats #	Comments
731	Willie Wagtail	<i>Rhipidura leucophrys</i>	O20414	1005-1055	32	Rhodes Park & Brays Bay Reserve	S 33° 49' 54.0" E 151° 05' 24.6"	1	0	0	0	0	foraged in mangrove remnant; with R. Stevenson & A. Ellison
732	Willie Wagtail	<i>Rhipidura leucophrys</i>	O70414	0600-0800	16	Halliday Park	S 33° 51' 43.5" E 151° 07' 36.4"	1	0	0	0	1	obs leaving night roost in main mangrove patch at ca. 0600 (J.H.), foraged across mudflat @ low tide using rocks as perches; with J. Harrington (J.H.)
733	Willie Wagtail	<i>Rhipidura leucophrys</i>	O10414	0710-1020	36	Bicentennial Park east	S 33° 50' 47.1" E 151° 04' 51.0"	0	2	0	0	0	under <i>Casuarina glauca</i> S end of billabong nr small tower trackside; with R. Stevenson, D. Oldfield & F. Davis
734	Willie Wagtail	<i>Rhipidura leucophrys</i>	O20414	0715-0940	31	Rivendell CAF Unit	S 33° 49' 52.2" E 151° 05' 48.7"	1	0	0	0	0	foraged; with R. Stevenson
735	Australian Raven	<i>Corvus coronoides</i>	201113	0710-0840	1	Russell Lea Infants School	S 33° 51' 41.1" E 151° 08' 31.5"	0	0	1	0	0	perched in old turpentine
736	Australian Raven	<i>Corvus coronoides</i>	201113	0900-1010	2	Timbrell Park	S 33° 52' 09.4" E 151° 08' 21.1"	0	0	2	0	0	foraged
737	Australian Raven	<i>Corvus coronoides</i>	201113	1015-1035	3	Noble Street	S 33° 51' 52.9" E 151° 08' 22.3"	0	0	0	1	0	called
738	Australian Raven	<i>Corvus coronoides</i>	201113	1050-1120	4	Five Dock Park	S 33° 52' 03.9" E 151° 08' 01.0"	0	0	2	0	0	nest in grey ironbark top in melaleuca patch
739	Australian Raven	<i>Corvus coronoides</i>	201113	1620-1720	5	Iron Cove - south-western foreshore from Iron Cove Ck to Rodd Point	S 33° 52' 13.2" E 151° 08' 31.4" (Arthur St); S 33° 51' 57.7" E 151° 08' 49.6" (Rodd Pt)	0	0	0	0	5	foraged on beach and mudflats @ low tide; with A. Doldissen

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740	Australian Raven	<i>Corvus coronoides</i>	201113	1820-1845	6	Half Moon Bay	S 33° 51' 34.6" E 151° 09' 19.2"	0	0	0	0	3	foraged on beach & mudflats; with A. Doldissen
741	Australian Raven	<i>Corvus coronoides</i>	211113	0755-0840	10	Drummoyne Park	S 33° 51' 07.6" E 151° 09' 00.5"	0	0	3	0	0	mobbed by Noisy Miner
742	Australian Raven	<i>Corvus coronoides</i>	211113	1610-1655	9	Brett Park	S 33° 51' 22.7" E 151° 09' 29.9"	0	1	0	0	0	with A. Doldissen
743	Australian Raven	<i>Corvus coronoides</i>	211113	1710-1810	8	Sisters Bay	S 33° 51' 26.7" E 151° 09' 24.0"	0	2	0	0	0	with A. Doldissen
744	Australian Raven	<i>Corvus coronoides</i>	231113	0915-1015	19	Concord High School	S 33° 51' 50.0" E 151° 06' 29.0"	0	0	2	0	0	with M. Newton
745	Australian Raven	<i>Corvus coronoides</i>	241113	0930-1035	29	Strathfield North Public School	S 33° 51' 18.9" E 151° 05' 33.7"	0	0	4	0	0	called, foraged playground area
746	Australian Raven	<i>Corvus coronoides</i>	241113	1620-1815	18	Cintra Park	S 33° 51' 49.9" E 151° 06' 43.8"	0	3	0	0	0	with H. Saldamli & K. Spasojevic
747	Australian Raven	<i>Corvus coronoides</i>	261113	0925-1040	30	Yaralla Estate	S 33° 50' 27.8" E 151° 05' 35.7"	3	0	0	0	0	northern section - dryland STIF remnant in NW cnr, mobbed raptor; with R. Stevenson & D. Oldfield
748	Australian Raven	<i>Corvus coronoides</i>	261113	1630-1830	31	Rivendell CAF Unit	S 33° 50' 04.7" E 151° 05' 53.3"	0	2	0	0	0	called
749	Australian Raven	<i>Corvus coronoides</i>	271113	0625-0740	32	Rhodes Park & Brays Bay Reserve	S 33° 50' 01.9" E 151° 05' 22.7"	2	0	0	0	0	with R. Stevenson & D. Oldfield
750	Australian Raven	<i>Corvus coronoides</i>	281113	0615-0900	36	Bicentennial Park east	S 33° 50' 47.1" E 151° 04' 51.0"	3	0	0	0	3	foraged on mudflats with mangroves and in old mangrove forest; with R. Stevenson & D. Oldfield

Record No.	Common Name	Scientific Name	Date	Time	Site No.	Site Name	Site location	Bushland Remnant^	Revegetated Parkland	Open Parkland	Urban Neighbourhood	Aquatic habitats #	Comments
751	Australian Raven	<i>Corvus coronoides</i>	281113	0920-1110	26	Cabarita Park	S 33° 50' 31.7" E 151° 07' 02.1"	0	3	0	0	0	with G. Duggan, R. Stevenson, D. Oldfield
752	Australian Raven	<i>Corvus coronoides</i>	080414	0835-0935	10	Drummoyne Park	S 33° 51' 07.6" E 151° 09' 00.5"	0	0	2	0	0	mobbed by Grey Butcherbird; with E. Hughes
753	Australian Raven	<i>Corvus coronoides</i>	090414	0615-0705	9	Brett Park	S 33° 51' 22.7" E 151° 09' 29.9"	0	0	1	0	0	foraged edge of midslope open sports area; with A. Doldissen & C. Paine
754	Australian Raven	<i>Corvus coronoides</i>	030414	1630-1720	29	Strathfield North Public School	S 33° 51' 13.7" E 151° 05' 30.6"	0	0	1	0	0	foraged around playground area
755	Australian Raven	<i>Corvus coronoides</i>	060414	0630-0825	18	Cintra Park	S 33° 51' 49.9" E 151° 06' 43.8", S 33° 52' 01.7" E 151° 06' 38.0"	0	0	2	0	0	foraged along netball court & grassed areas; with H. Saldamli, K. Spasojevic, M. Newton, P. & J. Smith
756	Australian Raven	<i>Corvus coronoides</i>	060414	0850-0950	13	Abbotsford Public School	S 33° 51' 11.4" E 151° 07' 53.4"	0	0	2	0	0	foraged on sealed playground & edges; with C. Paine
757	Australian Raven	<i>Corvus coronoides</i>	010414	0710-1020	36	Bicentennial Park east	S 33° 50' 47.1" E 151° 04' 51.0"	0	4	0	0	0	foraged in playground & planted areas; with R. Stevenson, D. Oldfield & F. Davis
758	Australian Raven	<i>Corvus coronoides</i>	030414	0710-0910	28	Concord Golf Course	S 33° 51' 02.8" E 151° 05' 38.0", S 33° 51' 03.4" E 151° 06' 03.3"	2	2	0	0	0	with D. Oldfield
759	Australian Raven	<i>Corvus coronoides</i>	040414	0700-0745	27	Mortlake Public School	S 33° 50' 56.8" E 151° 06' 11.4", S 33° 51' 01.9" E 151° 06' 16.0"	0	0	5	0	0	foraged around playground & paths, with G. Duggan

Record No.	Common Name	Scientific Name	Date	Time	Site No.	Site Name	Site location	Bushland Remnant ^A	Revegetated Parkland	Open Parkland	Urban Neighbourhood	Aquatic habitats #	Comments
760	Magpie-lark	<i>Grallina cyanoleuca</i>	201113	0900-1010	2	Timbrell Park	S 33° 52' 09.4" E 151° 08' 21.1"	0	0	4	0	0	on oval
761	Magpie-lark	<i>Grallina cyanoleuca</i>	221113	1020-1115	14	Quarantine Reserve	S 33° 50' 51.2" E 151° 07' 25.0"	0	0	1	0	0	with R. Stevenson & D. Oldfield
762	Magpie-lark	<i>Grallina cyanoleuca</i>	221113	1125-1205	15	Henry Lawson Park	S 33° 51' 00.1" E 151° 07' 34.4"	0	0	1	0	0	with R. Stevenson & D. Oldfield
763	Magpie-lark	<i>Grallina cyanoleuca</i>	251113	0655-0915	17	Barnwell Park Golf Course	S 33° 52' 04.3" E 151° 07' 05.6" (S end nr Five Dock Leisure Centre) & S 33° 51' 55.6" E 151° 07' 14.0" (midsection)	0	0	3	0	0	southern section (S of Lyons Rd west); with R. Stevenson & D. Oldfield
764	Magpie-lark	<i>Grallina cyanoleuca</i>	251113	0655-0915	17	Barnwell Park Golf Course	S 33° 51' 40.8" E 151° 06' 51.3"	0	0	2	0	0	northern section (N of Lyons Rd west); with R. Stevenson & D. Oldfield
765	Magpie-lark	<i>Grallina cyanoleuca</i>	251113	0945-1120	23	Massey Park Golf Course	S 33° 51' 10.1" E 151° 06' 37.0"	0	0	2	0	0	with R. Stevenson & D. Oldfield
766	Magpie-lark	<i>Grallina cyanoleuca</i>	261113	0645-0845	30	Yaralla Estate	S 33° 50' 17.6" E 151° 05' 55.0"	2	0	0	0	0	southern section - STIF remnant; with R. Stevenson & D. Oldfield
767	Magpie-lark	<i>Grallina cyanoleuca</i>	271113	1710-1800	16	Halliday Park	S 33° 51' 39.4" E 151° 07' 42.7"	0	0	2	0	0	foraged on mown grass
768	Magpie-lark	<i>Grallina cyanoleuca</i>	281113	0615-0900	36	Bicentennial Park east	S 33° 50' 47.1" E 151° 04' 51.0"	0	1	0	0	0	with R. Stevenson & D. Oldfield
769	Magpie-lark	<i>Grallina cyanoleuca</i>	030414	1630-1720	29	Strathfield North Public School	S 33° 51' 13.7" E 151° 05' 30.6"	0	0	2	0	0	foraged around lawns & playground

Record No.	Common Name	Scientific Name	Date	Time	Site No.	Site Name	Site location	Bushland Remnant [^]	Revegetated Parkland	Open Parkland	Urban Neighbourhood	Aquatic habitats #	Comments
770	Magpie-lark	<i>Grallina cyanoleuca</i>	O90414	1630-1740	2	Timbrell Park	S 33° 52' 09.4" E 151° 08' 21.1"	0	0	5	0	0	foraged on oval; with A. Doldissen
771	Magpie-lark	<i>Grallina cyanoleuca</i>	O90414	0730-0815	8	Sisters Bay	S 33° 51' 26.7" E 151° 09' 24.0"	0	0	0	0	3	foraged on mudflats @ mid-tide (low tide was @ 0332); with A. Doldissen & C. Paine
772	Magpie-lark	<i>Grallina cyanoleuca</i>	O70414	0815-0905	14	Quarantine Reserve	S 33° 50' 51.4" E 151° 07' 22.6"	0	0	1	0	0	foraged on grassy open area
773	Magpie-lark	<i>Grallina cyanoleuca</i>	O50414	1730-1755	15	Henry Lawson Park	S 33° 51' 00.1" E 151° 07' 34.4"	0	0	1	0	0	foraged on open area
774	Magpie-lark	<i>Grallina cyanoleuca</i>	O20414	1005-1055	32	Rhodes Park & Brays Bay Reserve	S 33° 50' 01.9" E 151° 05' 22.7"	0	1	0	0	0	with R. Stevenson & A. Ellison
775	Magpie-lark	<i>Grallina cyanoleuca</i>	O30414	0710-0910	28	Concord Golf Course	S 33° 51' 02.8" E 151° 05' 38.0"	0	0	2	0	0	with D. Oldfield
776	Silvereye	<i>Zosterops lateralis</i>	261113	0645-0845	30	Yaralla Estate	S 33° 50' 17.6" E 151° 05' 55.0"	16	0	0	0	0	southern section - STIF remnant, feeding on fruiting lantana & other weeds; with R. Stevenson & D. Oldfield
777	Silvereye	<i>Zosterops lateralis</i>	261113	0925-1040	30	Yaralla Estate	S 33° 50' 21.7" E 151° 05' 47.1"	4	0	0	0	0	northern section - in high quality remnant mangrove forest abutting swamp oak forest at Yaralla Bay, with Yellow Thornbill; with R. Stevenson & D. Oldfield
778	Silvereye	<i>Zosterops lateralis</i>	271113	0830-0915	34	Rider Boulevard	S 33° 50' 10.9" E 151° 04' 59.7"	0	2	0	0	0	in mangroves; with R. Stevenson & D. Oldfield
779	Silvereye	<i>Zosterops lateralis</i>	281113	0615-0900	36	Bicentennial Park east	S 33° 50' 47.1" E 151° 04' 51.0", S	23	2	0	0	0	foraged in remnant mangrove forest nr playground along

Record No.	Common Name	Scientific Name	Date	Time	Site No.	Site Name	Site location	Bushland Remnant [^]	Revegetated Parkland	Open Parkland	Urban Neighbourhood	Aquatic habitats #	Comments
							33° 50' 24.7" E 151° 04' 58.2"						Powells Creek, with yellow thornbill & in planted sheoaks along Homebush Bay Dr; with R. Stevenson & D. Oldfield
780	Silvereye	<i>Zosterops lateralis</i>	O20414	1545-1825	30	Yaralla Estate	S 33° 50' 17.6" E 151° 05' 55.0", S 33° 50' 21.7" E 151° 05' 47.1"	14	0	0	0	0	southern section - STIF remnant, fed on fruit of camphor laurel & other weeds; with R. Stevenson, D. Oldfield, A. Doldissen & F. Davis
781	Silvereye	<i>Zosterops lateralis</i>	O10414	0710-1020	36	Bicentennial Park east	S 33° 50' 47.1" E 151° 04' 51.0"	10	0	0	0	0	foraged in remnant mangrove forest along Powells Creek; with R. Stevenson, D. Oldfield & F. Davis
782	Silvereye	<i>Zosterops lateralis</i>	O50414	1030-1150	30	Yaralla Estate	S 33° 50' 21.7" E 151° 05' 47.1"	15	0	0	0	0	field day walk along bayside mangroves trail - called & foraged, obs with field day participants in weedy edge incl celtis, exotic vines & lantana
783	Welcome Swallow	<i>Hirundo neoxena</i>	201113	0900-1010	2	Timbrell Park	S 33° 52' 09.4" E 151° 08' 21.1"	0	0	4	0	0	foraged over oval
784	Welcome Swallow	<i>Hirundo neoxena</i>	201113	1620-1720	5	Iron Cove - south-western foreshore from Iron Cove Ck outflow to Rodd Point	S 33° 52' 13.2" E 151° 08' 31.4" (Arthur St); S 33° 51' 57.7" E 151° 08' 49.6" (Rodd Pt)	0	0	0	0	2	with A. Doldissen
785	Welcome Swallow	<i>Hirundo neoxena</i>	201113	1820-1845	6	Half Moon Bay	S 33° 51' 34.6" E 151° 09' 19.2"	2	0	0	0	0	with A. Doldissen

Record No.	Common Name	Scientific Name	Date	Time	Site No.	Site Name	Site location	Bushland Remnant ^A	Revegetated Parkland	Open Parkland	Urban Neighbourhood	Aquatic habitats #	Comments
786	Welcome Swallow	<i>Hirundo neoxena</i>	211113	0855-0935	12	Figtree Bay Reserve	S 33° 50' 56.4" E 151° 08' 13.1"	0	2	0	0	0	foraged low
787	Welcome Swallow	<i>Hirundo neoxena</i>	211113	1610-1655	9	Brett Park	S 33° 51' 22.7" E 151° 09' 29.9"	0	2	0	0	0	with A. Doldissen
788	Welcome Swallow	<i>Hirundo neoxena</i>	221113	1020-1115	14	Quarantine Reserve	S 33° 50' 51.2" E 151° 07' 25.0"	2	0	0	0	0	with R. Stevenson & D. Oldfield
789	Welcome Swallow	<i>Hirundo neoxena</i>	221113	1125-1205	15	Henry Lawson Park	S 33° 51' 00.1" E 151° 07' 34.4"	0	0	2	0	0	with R. Stevenson & D. Oldfield
790	Welcome Swallow	<i>Hirundo neoxena</i>	221113	1610-1710	13	Abbotsford Public School	S 33° 51' 12.6" E 151° 07' 48.5"	0	2	0	0	0	foraged high
791	Welcome Swallow	<i>Hirundo neoxena</i>	231113	1035-1115	22	Empire Avenue	S 33° 51' 33.2" E 151° 06' 39.7"	0	0	0	5	0	with M. Newton
792	Welcome Swallow	<i>Hirundo neoxena</i>	241113	1620-1815	18	Cintra Park	S 33° 51' 49.9" E 151° 06' 43.8"	0	0	4	0	0	with H. Saldamli & K. Spasojevic
793	Welcome Swallow	<i>Hirundo neoxena</i>	251113	0655-0915	17	Barnwell Park Golf Course	S 33° 52' 04.3" E 151° 07' 05.6" (S end nr Five Dock Leisure Centre) & S 33° 51' 55.6" E 151° 07' 14.0" (midsection)	0	0	7	0	0	southern section (S of Lyons Rd west); with R. Stevenson & D. Oldfield
794	Welcome Swallow	<i>Hirundo neoxena</i>	251113	0945-1120	23	Massey Park Golf Course	S 33° 51' 10.1" E 151° 06' 37.0"	0	0	2	0	0	with R. Stevenson & D. Oldfield
795	Welcome Swallow	<i>Hirundo neoxena</i>	261113	0645-0845	30	Yaralla Estate	S 33° 50' 17.6" E 151° 05' 55.0"	2	0	0	0	0	southern section - STIF remnant; with R. Stevenson & D. Oldfield

Record No.	Common Name	Scientific Name	Date	Time	Site No.	Site Name	Site location	Bushland Remnant ^A	Revegetated Parkland	Open Parkland	Urban Neighbourhood	Aquatic habitats #	Comments
796	Welcome Swallow	<i>Hirundo neoxena</i>	261113	0925-1040	30	Yaralla Estate	S 33° 50' 21.7" E 151° 05' 47.1"	2	0	0	0	0	northern section; with R. Stevenson & D. Oldfield
797	Welcome Swallow	<i>Hirundo neoxena</i>	261113	1630-1830	31	Rivendell CAF Unit	S 33° 50' 04.7" E 151° 05' 53.3"	2	0	0	0	0	foraged high
798	Welcome Swallow	<i>Hirundo neoxena</i>	271113	0830-0915	34	Rider Boulevard	S 33° 50' 10.9" E 151° 04' 59.7"	0	2	0	0	0	with R. Stevenson & D. Oldfield
799	Welcome Swallow	<i>Hirundo neoxena</i>	271113	1020-1110	35	Coonong Road	S 33° 50' 33.7" E 151° 05' 10.3"	0	0	0	4	0	with R. Stevenson & D. Oldfield
800	Welcome Swallow	<i>Hirundo neoxena</i>	271113	1710-1800	16	Halliday Park	S 33° 51' 39.4" E 151° 07' 42.7"	0	0	7	0	0	foraged low over grass
801	Welcome Swallow	<i>Hirundo neoxena</i>	281113	0615-0900	36	Bicentennial Park east	S 33° 50' 47.1" E 151° 04' 51.0"	3	0	0	0	0	with R. Stevenson & D. Oldfield
802	Welcome Swallow	<i>Hirundo neoxena</i>	281113	0920-1110	26	Cabarita Park	S 33° 50' 30.6" E 151° 07' 10.9"	0	8	0	0	0	with G. Duggan, R. Stevenson, D. Oldfield
803	Welcome Swallow	<i>Hirundo neoxena</i>	281113	1645-1850	28	Concord Golf Course	S 33° 51' 03.4" E 151° 06' 03.3"	0	0	2	0	0	foraged close above fairway
804	Welcome Swallow	<i>Hirundo neoxena</i>	050414	1615-1645	4	Five Dock Park	S 33° 52' 03.9" E 151° 08' 01.0"	0	3	2	0	0	foraged over oval and planted areas
805	Welcome Swallow	<i>Hirundo neoxena</i>	050414	1655-1715	3	Noble Street	S 33° 51' 52.9" E 151° 08' 22.3"	0	0	0	2	0	foraged & called
806	Welcome Swallow	<i>Hirundo neoxena</i>	090414	1630-1740	2	Timbrell Park	S 33° 52' 09.4" E 151° 08' 21.1"	0	0	28	0	0	group foraged low over oval; with A. Doldissen
807	Welcome Swallow	<i>Hirundo neoxena</i>	100414	0730-0850	5	Iron Cove - south-western foreshore from Iron Cove Ck	S 33° 52' 13.2" E 151° 08' 31.4" (Arthur St); S 33° 51' 57.7" E 151°	0	0	0	0	4	foraged low across mudflat & Rodd Pt beach & park area; with A. Doldissen & F. Davis

Record No.	Common Name	Scientific Name	Date	Time	Site No.	Site Name	Site location	Bushland Remnant ^A	Revegetated Parkland	Open Parkland	Urban Neighbourhood	Aquatic habitats #	Comments
						outflow to Rodd Point	08' 49.6" (Rodd Pt)						
808	Welcome Swallow	<i>Hirundo neoxena</i>	100414	0620-0710	6	Half Moon Bay	S 33° 51' 35.2" E 151° 09' 10.1"	0	0	0	0	2	foraged low over mudflat & open water; preceded by Rakali search 0545-0610; with A. Doldissen & F. Davis
809	Welcome Swallow	<i>Hirundo neoxena</i>	070414	0945-1035	12	Figtree Bay Reserve	S 33° 50' 56.4" E 151° 08' 13.1"	0	5	0	0	0	foraged high over the reserve
810	Welcome Swallow	<i>Hirundo neoxena</i>	080414	0835-0935	10	Drummoyne Park	S 33° 51' 07.6" E 151° 09' 00.5"	0	4	0	0	0	foraged over planted areas; with E. Hughes
811	Welcome Swallow	<i>Hirundo neoxena</i>	090414	0615-0705	9	Brett Park	S 33° 51' 22.7" E 151° 09' 29.9"	0	0	2	0	0	foraged high over open sports area; with A. Doldissen & C. Paine
812	Welcome Swallow	<i>Hirundo neoxena</i>	070414	0815-0905	14	Quarantine Reserve	S 33° 50' 51.2" E 151° 07' 25.0", S 33° 50' 51.4" E 151° 07' 22.6"	6	18	0	0	0	foraged over hilltop area
813	Welcome Swallow	<i>Hirundo neoxena</i>	050414	1730-1755	15	Henry Lawson Park	S 33° 51' 00.1" E 151° 07' 34.4"	0	0	2	0	0	foraged over open area
814	Welcome Swallow	<i>Hirundo neoxena</i>	060414	0850-0950	13	Abbotsford Public School	S 33° 51' 12.6" E 151° 07' 48.5"	0	0	6	0	0	foraged over playground and track; with C. Paine
815	Welcome Swallow	<i>Hirundo neoxena</i>	020414	1115-1145	22	Empire Avenue	S 33° 51' 33.2" E 151° 06' 39.7", S 33° 51' 23.0" E 151° 06' 45.3"	0	0	0	12	0	foraged high and low; with R. Stevenson
816	Welcome Swallow	<i>Hirundo neoxena</i>	060414	0630-0825	18	Cintra Park	S 33° 51' 49.9" E 151° 06' 43.8"	0	0	30	0	0	large flock foraged over netball courts & central footbridge area; with H. Saldamli, K. Spasojevic, M. Newton, P. & J.

Record No.	Common Name	Scientific Name	Date	Time	Site No.	Site Name	Site location	Bushland Remnant ^A	Revegetated Parkland	Open Parkland	Urban Neighbourhood	Aquatic habitats #	Comments
													Smith
817	Welcome Swallow	<i>Hirundo neoxena</i>	O70414	1710-1740	17	Barnwell Park Golf Course	S 33° 52' 04.3" E 151° 07' 05.6" (southern section), S 33° 51' 40.8" E 151° 06' 51.3" (northern section)	0	0	6	0	0	southern & northern sections; with D. Oldfield
818	Welcome Swallow	<i>Hirundo neoxena</i>	O70414	1535-1700	23	Massey Park Golf Course	S 33° 51' 10.1" E 151° 06' 37.0", S 33° 51' 13.2" E 151° 06' 42.3"	0	0	6	0	0	foraged high and low; with D. Oldfield
819	Welcome Swallow	<i>Hirundo neoxena</i>	O20414	1545-1825	30	Yaralla Estate	S 33° 50' 17.6" E 151° 05' 55.0"	5	0	0	0	0	southern section - STIF remnant; with R. Stevenson, D. Oldfield, A. Doldissen & F. Davis
820	Welcome Swallow	<i>Hirundo neoxena</i>	O30414	1630-1720	29	Strathfield North Public School	S 33° 51' 13.7" E 151° 05' 30.6"	0	0	2	0	0	foraged over airspace above school
821	Welcome Swallow	<i>Hirundo neoxena</i>	O10414	1640-1710	34	Rider Boulevard	S 33° 50' 10.9" E 151° 04' 59.7"	0	2	0	0	0	with R. Stevenson & F. Davis
822	Welcome Swallow	<i>Hirundo neoxena</i>	O10414	1810-1840	35	Coonong Road	S 33° 50' 33.7" E 151° 05' 10.3"	0	0	0	1	0	with R. Stevenson, F. Davis & A. Ellison
823	Welcome Swallow	<i>Hirundo neoxena</i>	O70414	0600-0800	16	Halliday Park	S 33° 51' 39.4" E 151° 07' 42.7", S 33° 51' 43.5" E 151° 07' 36.4"	0	0	8	0	0	foraged low over open grassed area; with J. Harrington

Record No.	Common Name	Scientific Name	Date	Time	Site No.	Site Name	Site location	Bushland Remnant [^]	Revegetated Parkland	Open Parkland	Urban Neighbourhood	Aquatic habitats #	Comments
824	Welcome Swallow	<i>Hirundo neoxena</i>	O10414	0710-1020	36	Bicentennial Park east	S 33° 50' 47.1" E 151° 04' 51.0"	3	0	0	0	0	with R. Stevenson, D. Oldfield & F. Davis
825	Welcome Swallow	<i>Hirundo neoxena</i>	O30414	0935-1040	26	Cabarita Park	S 33° 50' 30.6" E 151° 07' 10.9"	0	2	0	0	0	foraged high; with G. Duggan
826	Welcome Swallow	<i>Hirundo neoxena</i>	O40414	0800-0820	25	France Bay	S 33° 51' 03.5" E 151° 06' 57.6"	0	0	0	0	2	foraged low across open water
827	Welcome Swallow	<i>Hirundo neoxena</i>	O30414	1530-1610	20	Concord Public School	S 30° 51' 51.4" E 151° 06' 07.2"	0	0	2	0	0	foraged above playground area
828	Welcome Swallow	<i>Hirundo neoxena</i>	O40414	0830-0845	24	Prince Edward Park	S 33° 51' 12.2" E 151° 07' 05.5"	0	2	0	0	0	foraged over planted area; with M. Falkenmire & P. Sweeney
829	Red-whiskered Bulbul *	<i>Pycnonotus jocosus</i>	261113	0645-0845	30	Yaralla Estate	S 33° 50' 17.6" E 151° 05' 55.0"	6	0	0	0	0	southern section - fruiting lantana, green cestrum & privet understorey in STIF remnant; with R. Stevenson & D. Oldfield
830	Red-whiskered Bulbul *	<i>Pycnonotus jocosus</i>	261113	0925-1040	30	Yaralla Estate	S 33° 50' 21.7" E 151° 05' 47.1"	2	0	0	0	0	northern section - in fruiting privet & green cestrum, African Olive abutting swamp oak forest at Yaralla Bay; with R. Stevenson & D. Oldfield
831	Red-whiskered Bulbul *	<i>Pycnonotus jocosus</i>	O20414	1545-1825	30	Yaralla Estate	S 33° 50' 17.6" E 151° 05' 55.0", nr S 33° 50' 21.7" E 151° 05' 47.1"	10	0	0	0	0	southern section - called & feeding in fruiting celtis & in privet understorey in STIF remnant; with R. Stevenson, D. Oldfield, A. Doldissen & F. Davis
832	Common Starling *	<i>Sturnus vulgaris</i>	201113	0900-1010	2	Timbrell Park	S 33° 52' 09.4" E 151°	0	0	2	0	0	foraged on oval

Record No.	Common Name	Scientific Name	Date	Time	Site No.	Site Name	Site location	Bushland Remnant [^]	Revegetated Parkland	Open Parkland	Urban Neighbourhood	Aquatic habitats #	Comments
							08' 21.1"						
833	Common Starling *	<i>Sturnus vulgaris</i>	201113	1620-1720	5	Iron Cove - south-western foreshore from Iron Cove Ck to Rodd Point	S 33° 52' 13.2" E 151° 08' 31.4" (Arthur St)	0	0	0	0	3	foraged on mudflat only (no mangroves) @ low tide; with A. Doldissen
834	Common Starling *	<i>Sturnus vulgaris</i>	201113	1620-1720	5	Iron Cove - south-western foreshore from Iron Cove Ck to Rodd Point	S 33° 52' 13.2" E 151° 08' 31.4" (Arthur St); S 33° 51' 57.7" E 151° 08' 49.6" (Rodd Pt)	11	0	0	0	0	foraged on in regenerating & established mangrove forest on mudflats @ low tide; with A. Doldissen
835	Common Starling *	<i>Sturnus vulgaris</i>	201113	1820-1845	6	Half Moon Bay	S 33° 51' 34.6" E 151° 09' 19.2"	0	0	0	0	3	foraged on open mudflat @ low tide; with A. Doldissen
836	Common Starling *	<i>Sturnus vulgaris</i>	221113	1125-1205	15	Henry Lawson Park	S 33° 51' 00.1" E 151° 07' 34.4"	0	0	4	0	0	foraged on mown grass; with R. Stevenson & D. Oldfield
837	Common Starling *	<i>Sturnus vulgaris</i>	261113	0645-0845	30	Yaralla Estate	S 33° 50' 17.6" E 151° 05' 55.0"	6	0	0	0	0	southern section - STIF remnant edge with Majors Bay Reserve oval; with R. Stevenson & D. Oldfield
838	Common Starling *	<i>Sturnus vulgaris</i>	271113	1710-1800	16	Halliday Park	S 33° 51' 39.4" E 151° 07' 42.7"	0	0	3	0	0	foraged on open mown area
839	Common Starling *	<i>Sturnus vulgaris</i>	100414	0730-0850	5	Iron Cove - south-western foreshore from Iron Cove Ck to	S 33° 51' 57.7" E 151° 08' 49.6" (nr Rodd Pt)	0	0	0	0	3	foraged on mudflat @ ebb tide (low tide @ 1109) and flew in and out of young mangroves on mudflat, opp Hood Av; with A. Doldissen & F. Davis

Record No.	Common Name	Scientific Name	Date	Time	Site No.	Site Name	Site location	Bushland Remnant [^]	Revegetated Parkland	Open Parkland	Urban Neighbourhood	Aquatic habitats #	Comments
						Rodd Point							
840	Common Starling*	<i>Sturnus vulgaris</i>	080414	0835-0935	10	Drummoyne Park	S 33° 51' 07.6" E 151° 09' 00.5"	0	12	0	0	0	foraged in fruiting old planted figs with figbird flock; proximity to Drummoyne shops & available food supplies influenced this species' presence; with E. Hughes
841	Common Myna*	<i>Sturnus tristis</i>	201113	0900-1010	2	Timbrell Park	S 33° 52' 09.4" E 151° 08' 21.1"	0	0	12	0	0	foraged on oval
842	Common Myna*	<i>Sturnus tristis</i>	201113	1015-1035	3	Noble Street	S 33° 51' 52.9" E 151° 08' 22.3"	0	0	0	8	0	foraged along streets
843	Common Myna*	<i>Sturnus tristis</i>	201113	1050-1130	4	Five Dock Park	S 33° 52' 03.9" E 151° 08' 01.0"	0	0	1	0	0	foraged on oval
844	Common Myna*	<i>Sturnus tristis</i>	201113	1620-1720	5	Iron Cove - south-western foreshore from Iron Cove Ck to Rodd Point	S 33° 52' 13.2" E 151° 08' 31.4" (Arthur St)	0	0	0	0	3	foraged on mudflat with some mangroves @ low tide; with A. Doldissen
845	Common Myna*	<i>Sturnus tristis</i>	211113	0705-0740	7	Drummoyne Public School	S 33° 51' 21.2" E 151° 09' 08.7"	0	2	0	0	0	brushbox and on playground
846	Common Myna*	<i>Sturnus tristis</i>	211113	1030-1050	11	Edenholme Road	S 33° 51' 23.9" E 151° 08' 19.5"	0	0	0	5	0	foraged front yard and verge bins, gutters
847	Common Myna*	<i>Sturnus tristis</i>	231113	1035-1115	22	Empire Avenue	S 33° 51' 33.2" E 151° 06' 39.7"	0	0	0	8	0	foraged along street verge, bins, gutters, rooftops; with M. Newton

Record No.	Common Name	Scientific Name	Date	Time	Site No.	Site Name	Site location	Bushland Remnant [^]	Revegetated Parkland	Open Parkland	Urban Neighbourhood	Aquatic habitats #	Comments
848	Common Myna*	<i>Sturnus tristis</i>	231113	1610-1710	27	Mortlake Public School	S 33° 50' 56.8" E 151° 06' 11.4"	0	0	2	0	0	pair nesting in blocked downpipe at Brays Rd main entrance of school building; with G. Duggan
849	Common Myna*	<i>Sturnus tristis</i>	231113	1835-1910	25	France Bay	S 33° 51' 03.5" E 151° 06' 57.6"	0	0	0	0	3	foraged @ low tide on mudflats; with G. Duggan
850	Common Myna*	<i>Sturnus tristis</i>	241113	0930-1035	29	Strathfield North Public School	S 33° 51' 18.9" E 151° 05' 33.7"	0	0	0	2	0	scavenging schoolyard scraps
851	Common Myna*	<i>Sturnus tristis</i>	261113	0645-0845	30	Yaralla Estate	S 33° 50' 17.6" E 151° 05' 55.0"	1	0	0	0	0	southern section - STIF remnant edge with Majors Bay Reserve oval; with R. Stevenson & D. Oldfield
852	Common Myna*	<i>Sturnus tristis</i>	261113	0925-1040	30	Yaralla Estate	S 33° 50' 21.7" E 151° 05' 47.1"	3	0	0	0	0	northern section - Yaralla Bay mangrove forest, swamp oak & STIF remnants; with R. Stevenson & D. Oldfield
853	Common Myna*	<i>Sturnus tristis</i>	271113	0830-0915	34	Rider Boulevard	S 33° 50' 10.9" E 151° 04' 59.7"	0	2	0	0	0	mown grass edge; with R. Stevenson & D. Oldfield
854	Common Myna*	<i>Sturnus tristis</i>	271113	1020-1110	35	Coonong Road	S 33° 50' 33.7" E 151° 05' 10.3"	0	0	0	18	0	pair nesting in house gutter @ 144 Queen St, others foraged & called along street verges, gutters, rooftops; with R. Stevenson & D. Oldfield
855	Common Myna*	<i>Sturnus tristis</i>	271113	1710-1800	16	Halliday Park	S 33° 51' 39.4" E 151° 07' 42.7"	0	0	2	0	0	mobbed by 7 Noisy Miner nr playground
856	Common Myna*	<i>Sturnus tristis</i>	281113	0615-0900	36	Bicentennial Park east	S 33° 50' 47.1" E 151° 04' 51.0"	2	1	0	0	0	obs carrying food to nest in park; with R. Stevenson & D. Oldfield

Record No.	Common Name	Scientific Name	Date	Time	Site No.	Site Name	Site location	Bushland Remnant ^A	Revegetated Parkland	Open Parkland	Urban Neighbourhood	Aquatic habitats #	Comments
857	Common Myna*	<i>Sturnus tristis</i>	281113	0920-1110	26	Cabarita Park	S 33° 50' 31.7" E 151° 07' 02.1"	0	3	0	0	0	with G. Duggan, R. Stevenson, D. Oldfield
858	Common Myna*	<i>Sturnus tristis</i>	090414	0730-0815	8	Sisters Bay	S 33° 51' 29.5" E 151° 09' 34.4"	0	0	0	0	2	perched & called on rocks beside water; with A. Doldissen & C. Paine
859	Common Myna*	<i>Sturnus tristis</i>	090414	1630-1740	2	Timbrell Park	S 33° 52' 09.4" E 151° 08' 21.1"	0	0	16	0	0	foraged on mown grass at E edge of oval nr planted paperbarks & eucalypts; with A. Doldissen
860	Common Myna*	<i>Sturnus tristis</i>	100414	0620-0710	6	Half Moon Bay	S 33° 51' 34.6" E 151° 09' 19.2"	0	0	0	0	2	foraged on mudflat on ebb tide (low tide was @ 1109); preceded by Rakali search 0545-0610; with A. Doldissen & F. Davis
861	Common Myna*	<i>Sturnus tristis</i>	050414	1615-1645	4	Five Dock Park	S 33° 52' 03.9" E 151° 08' 01.0"	0	0	2	0	0	foraged on path & mown area
862	Common Myna*	<i>Sturnus tristis</i>	080414	0650-0715	7	Drummoyne Public School	S 33° 51' 21.2" E 151° 09' 08.7"	0	0	4	0	0	foraged on sealed playground area, eaves
863	Common Myna*	<i>Sturnus tristis</i>	080414	0730-0825	11	Edenholme Road	S 33° 51' 23.9" E 151° 08' 19.5", S 33° 51' 25.1" E 151° 08' 27.6"	0	0	0	5	0	foraged front yard and verge bins, gutters; with E. Hughes
864	Common Myna*	<i>Sturnus tristis</i>	020414	1115-1145	22	Empire Avenue	S 33° 51' 33.2" E 151° 06' 39.7", S 33° 51' 23.0" E 151° 06' 45.3"	0	0	0	4	0	foraged, called; with R. Stevenson
865	Common Myna*	<i>Sturnus tristis</i>	040414	0830-0845	24	Prince Edward Park	S 33° 51' 12.2" E 151° 07' 05.5"	0	0	0	0	1	foraged on rocky mudflats @ low tide; with M. Falkenmire & P. Sweeney

Record No.	Common Name	Scientific Name	Date	Time	Site No.	Site Name	Site location	Bushland Remnant [^]	Revegetated Parkland	Open Parkland	Urban Neighbourhood	Aquatic habitats #	Comments
866	Common Myna*	<i>Sturnus tristis</i>	O30414	1530-1610	20	Concord Public School	S 30° 51' 51.4" E 151° 06' 07.2"	0	0	6	0	0	scavenging around schoolyard bins & playground area
867	Common Myna*	<i>Sturnus tristis</i>	O30414	1630-1720	29	Strathfield North Public School	S 33° 51' 19.6" E 151° 05' 29.4"	0	2	0	0	0	foraged along planted strip Concord Rd side
868	Common Myna*	<i>Sturnus tristis</i>	O10414	1810-1840	35	Coonong Road	S 33° 50' 33.7" E 151° 05' 10.3"	0	0	0	32	0	foraged, called, perched along kerbs, gutters, eaves, rooftops; with R. Stevenson, F. Davis & A. Ellison
869	Common Myna*	<i>Sturnus tristis</i>	O70414	0600-0800	16	Halliday Park	S 33° 51' 43.5" E 151° 07' 36.4"	110	0	0	0	0	large flock obs (by J. Harrington) leaving night roost in main mangrove belt @ ca 0600 (first light)
870	Common Myna*	<i>Sturnus tristis</i>	O10414	0710-1020	36	Bicentennial Park east	S 33° 50' 47.1" E 151° 04' 51.0"	0	7	0	0	0	foraged around rubbish bins and playground area; with R. Stevenson, D. Oldfield & F. Davis
871	Common Myna*	<i>Sturnus tristis</i>	O30414	0935-1040	26	Cabarita Park	S 33° 50' 30.6" E 151° 07' 10.9"	0	0	2	0	0	with G. Duggan
872	Mistletoebird	<i>Dicaeum hirundinaceum</i>	261113	0925-1040	30	Yaralla Estate	S 33° 50' 27.8" E 151° 05' 35.7"	2	0	0	0	0	northern section - dryland STIF remnant in NW cnr; with R. Stevenson & D. Oldfield
873	Red-browed Finch	<i>Neochmia temporalis</i>	261113	0645-0845	30	Yaralla Estate	S 33° 50' 17.6" E 151° 05' 55.0"	4	0	0	0	0	southern section - STIF remnant grassy edge, feeding on seeding exotic & native grasses; with R. Stevenson & D. Oldfield
874	Red-browed Finch	<i>Neochmia temporalis</i>	O50414	1030-1150	30	Yaralla Estate	S 33° 50' 21.7" E 151° 05' 47.1"	3	0	0	0	0	field day walk along bayside mangroves trail - called & foraged, obs with field day participants in weedy

Record No.	Common Name	Scientific Name	Date	Time	Site No.	Site Name	Site location	Bushland Remnant^	Revegetated Parkland	Open Parkland	Urban Neighbourhood	Aquatic habitats #	Comments	
													edge incl celtis, exotic vines, grasses & lantana	
875	Red-browed Finch	<i>Neochmia temporalis</i>	O20414	1545-1825	30	Yaralla Estate	S 33° 50' 17.6" E 151° 05' 55.0"	4	0	0	0	0	southern section - STIF remnant grassy edge, feeding on seeding exotic (especially Pigeon Grass <i>Setaria</i> sp.) grasses; with R. Stevenson, D. Oldfield, A. Doldissen & F. Davis.	
	Note: Site 20 (Concord Public School) was surveyed only in autumn (April) 2014.													
		<i>Total individuals</i>						1003	1573	1064	455	671	overall total individuals = 4,766	
		<i>Mean</i>						1.1462857	1.797714	1.216	0.52	0.767735	Mean/treatment = 953.2	
		<i>Std Dev (SD)</i>						4.8507797	4.059229	6.058088	2.6310938	3.888752	SD/treatment = 4.292	
		Total bird species recorded	84 (79 native, 5 introduced) = 60 native terrestrial species (incl. White-faced Heron, Sacred Kingfisher, Australian White Ibis, Buff-banded Rail) and 24 native aquatic species (not incl. White-faced Heron but incl Silver Gull, Striated Heron, White-bellied Sea-Eagle)											

Appendix 2: Practical guidelines for creating and enhancing bird habitat in the City of Canada Bay LGA

A number of practical guidelines for conserving and creating bird habitat are provided to assist in the planning of current and future bushland regeneration and rehabilitation programs in the City of Canada Bay LGA. These will help improve the survival prospects of cover-dependent bush birds and other fauna while also enhancing the condition and integrity of fauna habitat.

These guidelines and recommendations are informed by the results of the 2002-03 fauna survey (City of Canada Bay 2003) and the 2013-14 study. The principles and practices of landscape ecology and biological conservation in highly fragmented urban environments provide the scientific basis for this advice. These include the creation and maintenance of habitat connectivity across local and regional scales, protection and restoration of habitat condition, improvement of structural complexity and floristic diversity, mitigation of threats including invasive and predatory species, and community education. Application of these elements will help improve the ecological function, structural complexity and floristic diversity of bird habitat in the City of Canada Bay LGA.

Bush remnants including isolated small patches

Protect EECs including STIF, estuarine saltmarsh and estuarine swamp oak fringe forest and other significant plant communities of coastal sandstone gully forest and ridgetop woodland, wetland and estuarine mangrove by mitigating impacts on habitat condition and native, non-invasive bird populations present. Particular attention should be given to the:

- Control of feral and domestic animals including fox, cat, dog, rabbit and hare – locating and destroying fox dens is needed at Rivendell, Yaralla and any other affected site including rabbit warrens; consider using signposted 1080 baiting trials at Yaralla and Rivendell and fox trapping at other sites;
- Reduction of edge effects through best-practice weed and fire management;
- Exclusion of human access and associated impacts - rubbish-dumping, pet-dumping, wild fire;
- Maintenance of existing fences and installation of new fences with community information signposting around newly planted blocks;
- Liaison with other land management authorities including Sydney Water, SOPA, Roads & Maritime Services and neighbouring councils.

If possible, increase the size of remnants through structured planting of local provenance species. Care is needed to avoid increasing the angularity of the remnant so as not to unnecessarily impede bird movement.

Raise community awareness, support and participation in habitat restoration and rehabilitation projects in bush remnants and adjacent parkland reserves. Consider introducing an “Adopt-a-Bush-Remnant” (or revegetated park) program giving local residents the opportunity to directly contribute to the conservation and ongoing management of habitat for native biodiversity. This could work well through the 5 participating schools that have isolated patches of remnant STIF and sandstone ridgetop woodland on their grounds – Strathfield North Public School, Mortlake Public School, Concord High School, Abbotsford Public School and Russell Lea Infants School.

Most of these schools have recorded native diurnal birds, Tawny Frogmouth, Common Brushtail Possum, Common Ringtail Possum and Grey-headed Flying-fox on their properties.

Revegetated parkland including individual older native trees

Increase the structural complexity and floristic diversity of revegetated parkland habitats by planting different layers of indigenous vegetation of local provenance, i.e. native grasses and sedges, rock and log ground cover, low and mid-level shrubs, tree and tall shrub canopies. Each layer should contain a range of different plant species to provide a more diverse suite of foraging options for birds. The creation of wider - preferably to 50-60 metres if possible, more continuous tracts of this vegetation with a denser understorey - preferably to 75-80% projective foliage cover will help exclude Noisy Miners while providing key foraging, roosting/refuge and breeding habitat for small birds.

In existing planted areas, progressively replace senescing shrubs and trees such as wattles, grevilleas and callistemons with local provenance native grasses, shrubs, trees and some vines. Preference should be given to species that do not produce copious amounts of nectar and have smaller floral tubes (e.g. small-flower leptospermum and hakea) thus restricting Noisy Miner access (and see below).

When planning and establishing new areas of revegetation introduce patchiness to ensure that a mosaic of different types of microhabitat are available for use, especially by small native birds. These could include bark and rock substrates, dense foliage at different heights, different species of local native flowering plants (not cultivars), fallen logs, and leaf litter.

Buffer existing and new riparian plantings with native tubestock of local provenance to protect core linkages and waterways from wind, pollutants, soil erosion and reduce Noisy Miner incursion. This is particularly important along parts of Parramatta River and its tributaries where site constraints may prevent new or existing plantings reaching a minimum width of 80 metres.

Monitor bird use and maintain the condition over time of plantings, paying particular attention to water pollution control, weed invasion, incursion by Noisy Miners, predatory species - carnivorous birds and mammals, other sources of disturbance including humans and their pets, foraging and breeding activity, and the need for infill or replacement plantings. Exclusion fencing with project signage may be required at some sites.

Review existing revegetation policies, plans and programs to ensure the above actions are incorporated, where possible, into proposed strategies and on-ground work programs. Implementation should be staged in accordance with the availability of resources and operational priorities. If appropriate, consider the inclusion of the above actions in council's bush regeneration and parkland revegetation training modules for field staff, or develop new modules to include these actions.

Continue to promote community awareness of and participation in the protection and long-term maintenance of revegetated parkland and regenerated bushland. Suggested new initiatives could include "Adopt-a-Corridor", "Adopt-a-Park" and "SOS (Save Our Small birds)". Integration with or extension of Council's current project on greening street verges would be helpful to ensure ecologically-based bird-friendly principles are included in council

recommendations. Each of these programs could be developed in partnership with local Bushcare and community groups and professional ecologists.

Continue to engage and negotiate with other land managers, e.g. Energy Australia, State Rail, SOPA, Sydney Water, Roads and Maritime Services and Telstra, to support and assist in strategic habitat restoration and corridor protection works. Local Land Services could assist in these negotiations.

Managing the Noisy Miner threat

Understand the biology and ecology of this species, especially its habitat preferences and interactions with other bird species. Become familiar with the history of the Noisy Miner conquest of Sydney's suburban greenspace, particularly contributing factors at the local and regional scales. Access research conducted on this species particularly in Sydney and Melbourne.

Use this knowledge to manipulate the characteristics of the Noisy Miner's preferred habitat, especially in parkland, riparian zones and urban neighbourhoods. Pay particular attention to:

- Increasing the structural complexity, density - increase the understorey density of plantings to 75-80% projective foliage cover and canopy floristic diversity of planted stands, width and length of existing plantings to a minimum of 80 metres where possible to reduce edge effects and provide core interior habitat for small birds;
- Connecting existing small blocks of planted native vegetation to create closed and continuous canopies;
- Replacing grevillea and callistemon cultivars with local provenance native species that produce less nectar and/or have smaller floral tubes preventing or minimising access by Noisy Miners (e.g. Native Fuchsia *Epacris longifolia*);
- Increasing the diversity of native plants in streetscapes to reduce the number of brush box which provide copious nectar and insects and ideal Noisy Miner nest sites;
- Encouraging small bird-friendly management of private gardens.

Enlist the support and participation of local Bushcare and school communities to help manage the Noisy Miner threat on their properties. This will involve educating residents in the selection and planting of small bird-friendly native plants, planting densely-foliaged garden habitat to help establish a network of corridors, buffers, and 'stepping stones' for small birds, reducing water sources in areas heavily infested by Noisy Miners, and removing food scraps – Noisy Miners often scavenge bread and other scraps from outdoor tables including cafes!

Promote monitoring of Noisy Miner populations at selected sites in urban neighbourhoods and open and revegetated parkland in the LGA. Focus on their abundance, reproductive success, survivorship, interaction with other colonies, nest site selection and habitat use.

Bringing back the small birds to urban neighbourhoods

Equip local residents and community groups with the knowledge and skills to encourage small birds back into private gardens and streetscapes. Key enabling tools include information sessions, workshops/field days, bird surveys, and advice on plant selection, garden design, maintenance of existing local indigenous vegetation, creation of local indigenous replacement habitat before removing weeds, management of Noisy Miners, helping to establish 'stepping

stones' and urban wildlife corridors, use of habitat buffers, supplementary feeding, cat management, and monitoring and reduction of watering points. Cats should be kept indoors or in a commercially available outdoor cat enclosure (bell collars and night curfews are not sufficient). Each of these components has potential to be a separate education module. The Birds in Backyards Program has helpful information to assist with these tasks.

Manage the Noisy Miner threat as recommended above.

Identify gaps in suitable indigenous vegetation cover across the urban landscape and if possible, using local community and government support, attempt to join these to create a broad corridor across the LGA. This would comprise a network of private garden and streetscape vegetation for small birds with the goal of facilitating their movement through the urban matrix and providing habitat. This has been discussed in earlier sections of this document.

Promote monitoring of the population dynamics - abundance, reproductive success, survivorship, viability and interactions with other species, nest site selection and habitat use (especially movement) of White-browed Scrubwren and Superb Fairy-wren populations at selected target zones in the LGA. This could be undertaken through local Bushcare groups and interested volunteers coordinated by a trained ornithologist. This is needed to better understand the ecology and biology of these species and to evaluate/review the impact of corridor establishment and streetscape and private garden management practices on these small birds.

Ensure that appropriate communication of these efforts occurs in local media and local government biodiversity conservation networks. Contribute project material to the Bushcare section of Council's website. If possible, provide other opportunities for the broader community to become aware of, and involved in, these projects.

Introduced birds

Increase the structural complexity and density of urban greenspace utilised by introduced bird species in the LGA. This will make bush remnants, revegetated parkland, open parkland and urban neighbourhood habitats less attractive, especially for breeding, to introduced birds present in the City of Canada Bay, namely Spotted Dove, Common Myna, Common Starling and Rock Dove.

Discouraging the use of introduced cypress - *Cupressus* sp. including 'Pencil Pine' - in gardens will help reduce the number of nest sites favoured by Spotted Dove. Reducing the amount of mown grassed areas and promoting the use of local provenance plant species will also help make urban habitats less attractive to introduced birds.

Direct control of Common Myna (also called Indian Myna) and Common Starling numbers may need to be considered at some urban neighbourhood and open parkland sites such as Halliday Park and Mortlake Public School where nesting was detected. Physical removal of Common Myna nest sites in the eaves and roof spaces of buildings and ethical culling of this species have been successfully conducted by professional contractors in several other council areas. Excellent resources are available from the NSW north coast's Indian Myna Control Project (see <http://www.indianmynaproject.com.au>).

Enlist the support and cooperation of the local and regional community to help reduce the amount and type of litter left in picnic areas, along footpaths and walking trails and on ovals in the LGA. This will help reduce food sources for especially Spotted Dove and Common Myna.

Promote community awareness and understanding of issues associated with nest box use in urban areas. Alternatively, the use of nest boxes with smaller holes, different designs and hung from variable heights and/or locations may help exclude Common Myna and aggressive indigenous species such as Rainbow Lorikeet and Galah.

Similarly, promote community awareness and understanding of issues concerning the supplementary feeding of birds in urban habitats. This can concentrate substantial numbers of introduced granivores and omnivores in small areas and potentially reduce the attractiveness and quality of garden habitats for small native birds. If feeding is sustained on properties adjacent to a bush remnant it may, over time, lead to the establishment of breeding colonies of Common Starling, Common Myna or Spotted Dove in or along the edges of the remnant. This can lower the quality of habitats for small native birds in the actual remnant, potentially reducing their survival prospects. Feeding of meat scraps can attract predatory native species such as Grey Butcherbird and Pied Currawong which if sustained can also make garden habitats less attractive to small birds.