Aussie Backyard Bird Count 2020 Results:

Hepburn Shire

Brolga Package



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## 1. Introduction

### 1.1 Aussie Backyard Bird Count

In 2014, as part of BirdLife Australia's National Bird Week celebrations, BirdLife Australia ran the first ever Aussie Backyard Bird Count — now one of the largest citizen science projects in Australia. The Aussie Backyard Bird Count provides an opportunity for everyone — from school children and their families to senior citizens and community groups — to become citizen scientists for one week every October. Over 85% of Australians live in urban environments, making the Aussie Backyard Bird Count a great way to get outside and connect with nature.

The data collected by these citizen scientists plays a vital role in providing important information to BirdLife Australia. We know more about threatened bird species than we do about our common backyard birds and the Aussie Backyard Bird Count helps to fill this critical knowledge gap. The Aussie Backyard Bird Count also helps raise the profile of bird species throughout Australia, highlighting their cultural and ecological importance and promoting a national passion for Australian birds.

Each year this national passion is confirmed, with the Aussie Backyard Bird Count attracting significant interest from eager members of the public. In 2020, over one hundred thousand Australians participated in the count, helping to contribute to our growing knowledge of Australian birds. Public involvement in the Aussie Backyard Bird Count continues to increase year on year, with the number of birds counted also increasing at a similar pace. Involvement from local councils has also risen consistently across the years, with more bird-focused events being held during Bird Week, improving public awareness of the importance of local birds within these communities. Furthermore, with the release of lesson plans that encourage students to participate both at school and at home, the number of schools taking part in the Aussie Backyard Bird Count continues to grow.

The national focus on birds is extremely important: data shows Australian backyards have been shrinking since the 1990s, and populations of some of our most familiar birds, like the Laughing Kookaburra, have shrunk with them. While data collected from the Aussie Backyard Bird Count is currently only a baseline for monitoring, results from the past five years show that Australian backyards — in all their shapes and sizes — continue to attract a range of birds, giving us hope that even as the iconic Aussie backyard shrinks, many native birds can and do remain. Past results from the Aussie Backyard Bird Count support the decline in kookaburra numbers over the years, while aggressive species such as the Noisy Miner appear to be increasing. With growing national and international concern for the welfare of our iconic Australian birds, citizen science projects such as the Aussie Backyard Bird Count provide an important insight into how Aussie birds are faring, and results from these projects can help formulate subsequent management decisions. The next Aussie Backyard Bird Count will take place from 18 - 24 October 2021.

#### 1.2 Birds in Backyards

BirdLife Australia's Urban Bird Program has a 20+ year history of working with partners and with the community to create urban landscapes that are a haven for native birds, people, and biodiversity as a whole.

Urbanisation is one of the most dramatic and rapidly expanding forms of man-made change to our landscapes. As our urban habitats change, our bird life does as well. The loss of urban bird diversity has both ecological and human/cultural consequences. With over 90% of Australians living in urban and regional centres, for many people, the only place where they connect with the natural world is in their own backyards. We have seen the importance of that connection to place really come to the forefront in the last 12 months. Birding at home has become a refuge for many.

Birds in Backyards is the cornerstone of our Urban Bird Program and builds knowledge, skills and practical support to develop action-oriented responses to the decline of bird diversity. Birds in Backyards began in 1998 and celebrated its 20th year as a national citizen science program in 2018. Underpinned by bird monitoring and habitat assessments, The Birds in Backyards Program encourages people to take conservation action for birds wherever they enjoy them – home, school, work, or local parks and reserves.

In 2017, our surveys joined BirdLife Australia's data portal Birdata. This survey data is used to inform policies, best practice guidelines, and provide advocacy for threatened species. We want people taking action for birds, informed by their own data. Data from these ongoing surveys can allow local councils to increase engagement amongst their residents, inform land management decisions and monitor the success of planting efforts in urban spaces.

The Urban Bird Program wants to see a diverse urban native bird community achieved by behavioural change through action-based research, education for sustainability and advocacy. Through our dedicated citizen scientists and our partners, we empower people to make changes at all levels (from individuals in a patch to government at landscape scales) to create and maintain habitat for birds. Local councils can partner with BirdLife Australia's Urban Bird Program to achieve education and conservation outcomes for our urban birds through our range of projects and education tools – let's get our communities taking action together!

## 2. 2020 Aussie Backyard Bird Count Statistics

The following statistics summarise the results of the 2020 Aussie Backyard Bird Count for the **Hepburn Shire**. The count ran from the **19**<sup>th</sup> to **25**<sup>th</sup> **October 2020**.

- **280** observers participated in the bird count, submitting **579** checklists.
- Submitted checklists ranged from between one and 19 per registered user (average of 2.77 per registered user).
- Observers counted birds for a combined duration of **183** hours and **52** minutes.
- Observers recorded a total of **16,134** individual birds during Bird Week.
- **145** bird species were recorded (Table 1).
- The reporting rate for individual species (percentage of total surveys a species was detected in) ranged from 0.17% (representing a single observation) to 75.65% (Table 1). Low reporting rates for species with high counts indicate that many birds of these species were reported within single surveys (i.e., seen in family groups or large flocks).
- **Table 1:** Total count and reporting rate (%) of all 145 bird species observed within the<br/>Hepburn Shire boundaries during the 2020 Aussie Backyard Bird Count.

\* Introduced species; RA = Rare; NT = Near Threatened; VU = Vulnerable; En = Endangered, CE = Critically Endangered (based on IUCN listings; BirdLife Australia, 2019).

Bird Species	Count	Reporting rate (%)	Bird Species	Count	Reporting rate (%)
Australian Wood Duck	2108	29.53	Black Swan	12	0.52
Australian Magpie	1596	75.65	Eurasian Skylark *	11	0.86
Crimson Rosella	1296	61.14	Grey Teal	11	0.86
Little Raven	1242	54.06	White-necked Heron	10	0.86
House Sparrow *	1113	25.56	Spotted Dove *	10	1.21
Sulphur-crested Cockatoo	1089	42.31	Brown-headed Honeyeater	10	1.55
Red Wattlebird	660	48.7	Little Pied Cormorant	9	0.86
Superb Fairy-wren	564	29.88	Mistletoebird	9	0.86
Common Blackbird *	512	29.02	Hooded Robin (NT)	8	0.52
Long-billed Corella	426	16.93	Brown Falcon	8	0.86
Galah	361	19.69	Scarlet Robin	8	1.04
Laughing Kookaburra	310	29.53	Tree Martin	7	0.52
Welcome Swallow	298	17.1	Yellow-rumped Thornbill	7	0.52
Grey Fantail	250	19	Rock Dove *	6	0.52
New Holland Honeyeater	247	17.44	Australasian Grebe	6	0.69
Little Corella	232	7.77	Shining Bronze-Cuckoo	6	0.69
White-winged Chough	221	8.64	Tawny Frogmouth	6	0.69
White-browed Scrubwren	185	11.57	Black-tailed Native-hen	5	0.17
Brown Thornbill	184	11.05	Diamond Firetail (NT)	5	0.35
Pied Currawong	175	13.82	Great Cormorant	5	0.35

Pacific Black Duck	165	9.84	Whistling Kite	5	0.52
Grey Shrike-thrush	125	13.64	Pallid Cuckoo	5	0.69
Straw-necked Ibis	120	2.07	Olive-backed Oriole	5	0.86
Yellow-faced Honeyeater	114	10.02	Southern Boobook	5	0.86
Common Starling *	111	5.01	Indian Peafowl *	4	0.17
Eastern Spinebill	94	9.84	Yellow Thornbill	4	0.17
Rainbow Lorikeet	93	4.15	Northern Mallard *	4	0.35
Silvereye	88	6.22	Rufous Fantail	4	0.52
Australian White Ibis	85	4.66	Yellow-billed Spoonbill	4	0.52
White-naped Honeyeater	85	5.7	Yellow-tufted Honeyeater	4	0.52
Eastern Rosella	82	3.63	Hoary-headed Grebe	3	0.17
Weebill	82	3.97	Australian King-Parrot	3	0.35
Willie Wagtail	79	6.91	Collared Sparrowhawk	3	0.35
Yellow-tailed Black- Cockatoo	72	2.59	Restless Flycatcher	3	0.35
Striated Pardalote	72	7.6	Horsfield's Bronze-Cuckoo	3	0.52
Spotted Pardalote	71	8.81	Red-browed Treecreeper	3	0.52
Magpie-lark	70	8.29	Australasian Shoveler (VU)	2	0.17
Red-browed Finch	64	3.11	Azure Kingfisher (NT)	2	0.17
Crested Pigeon	63	4.15	Banded Stilt	2	0.17
Rufous Whistler	52	5.53	Black Honeyeater	2	0.17
Striated Thornbill	48	3.97	Blue-billed Duck (En)	2	0.17
Eurasian Coot	46	4.15	Brush Bronzewing	2	0.17
Little Black Cormorant	44	2.25	Common Greenfinch *	2	0.17
Purple Swamphen	42	2.07	Domestic Goose *	2	0.17
Masked Lapwing	42	3.45	Musk Duck (VU)	2	0.17
Grey Currawong	42	4.49	Rainbow Bee-eater	2	0.17
White-faced Heron	40	6.56	Spotted Quail-thrush (NT)	2	0.17
White-throated Treecreeper	39	5.35	Black-shouldered Kite	2	0.35
Black-faced Cuckoo-shrike	38	4.66	Black Kite	2	0.35
Red-rumped Parrot	36	1.55	Grey Butcherbird	2	0.35
Fuscous Honeyeater	36	1.9	Helmeted Guineafowl *	2	0.35
Australian Raven	36	2.25	Little Eagle	2	0.35
White-eared Honeyeater	36	3.28	Square-tailed Kite (VU)	2	0.35
Common Bronzewing	36	3.97	Australasian Pipit	1	0.17
Musk Lorikeet	35	1.55	Australian Hobby	1	0.17
Buff-rumped Thornbill	35	2.25	Black-eared Cuckoo (NT)	1	0.17
Blue-winged Parrot	32	0.86	Black Duck-Mallard hybrid *	1	0.17
Wedge-tailed Eagle	32	3.11	Brown Goshawk	1	0.17
Australian Shelduck	30	0.35	Brown Songlark	1	0.17
Eastern Yellow Robin	30	3.11	Brush Cuckoo	1	0.17
Noisy Miner	27	1.21	Fairy Martin	1	0.17
Fan-tailed Cuckoo	26	3.8	Jacky Winter	1	0.17
Australian Reed-Warbler	24	1.73	Nankeen Kestrel	1	0.17

Golden Whistler	24	2.94	Olive Whistler	1	0.17
Common Myna *	20	1.9	Peaceful Dove	1	0.17
Brown Treecreeper (NT)	19	1.9	Peregrine Falcon	1	0.17
Dusky Moorhen	17	1.38	Pied Cormorant (NT)	1	0.17
Gang-gang Cockatoo	17	1.55	Powerful Owl (VU)	1	0.17
White-plumed Honeyeater	16	1.38	Red-capped Robin	1	0.17
European Goldfinch *	16	1.55	Satin Flycatcher	1	0.17
Sacred Kingfisher	16	2.07	Swamp Harrier	1	0.17
Dusky Woodswallow	14	1.38	White-throated Needletail (VU)	1	0.17
Domestic Duck *	13	0.86			

# 3. Distribution Map



Figure 1: Bird observations recorded within Hepburn Shire boundaries during the 2020 Aussie Backyard Bird Count. Bird observations that were recorded in a single survey overlap due to having the same GPS co-ordinates, so each yellow circle represents a single complete survey.

# 4. Species List: Least Common

The least commonly observed bird species recorded within the Hepburn Shire boundaries all corresponded to one single survey observation and included:

- Australasian Pipit
- Australasian
   Shoveler (VU)
- Australian Hobby
- Azure Kingfisher (NT)
- Banded Stilt
- Black Duck-Mallard hybrid \*
- Black Honeyeater
- Black-eared Cuckoo (NT)
- Black-tailed Nativehen
- Blue-billed Duck (En)
- Brown Goshawk

- Brown Songlark
- Brush Bronzewing
- Brush Cuckoo
- Common
   Greenfinch \*
- Domestic Goose \*
- Fairy Martin
- Hoary-headed Grebe
- Indian Peafowl \*
- Jacky Winter
- Musk Duck (VU)
- Nankeen Kestrel
- Olive Whistler
  - Peaceful Dove

- Peregrine Falcon
- Pied Cormorant (NT)
- Powerful Owl (VU)
- Rainbow Bee-eater
- Red-capped Robin
- Satin Flycatcher
- Spotted Quailthrush (NT)
- Swamp Harrier
- White-throated Needletail (VU)
- Yellow Thornbill

**30** of the **34** bird species reported only once are native to Australia. The Black Duck-Mallard hybrid is a hybrid species produced by interbreeding of the native Pacific Black Duck with the introduced Northern Mallard/Domestic Duck, and the Common Greenfinch, Domestic Goose and Indian Peafowl are both introduced species. **Nine** of the 30 native species are classified as threatened in the state of Victoria, with the Blue-billed Duck classed as Endangered. Five of the 34 species are raptors, one is nocturnal, and a range of species are associated with aquatic habitats such as wetlands and coastlines. Many of the remaining species avoid urban and cleared areas and occur in locally under-visited habitats like woodlands and sclerophyll forests, which are spread throughout the shire. The behaviours and habitat requirements of these species may account for the lack of reports during Bird Week, especially if most surveys occurred in people's backyards.

## 5. Species List: Most Common

The ten most abundant bird species recorded within the Hepburn Shire boundaries comprised both native and introduced species, with abundances ranging from **426** to **2,108** individual birds (Figure 2). The House Sparrow and Common Blackbird are both introduced species, while the remaining eight native species are considered to have secure populations within Victoria.

The most-counted species, the Australian Wood Duck, was reported in higher numbers than in most regions of the state or country (ranking 21<sup>st</sup> in the state and 19<sup>th</sup> in the country). Unusually large congregations of this species are often seen at local lakes, such as Lake Daylesford. The second-most abundant species, the Australian Magpie, was also the second-most-counted species state-wide, and third-most-counted nationally, and the third-most-observed species, the Crimson Rosella was only the 17<sup>th</sup>-most-counted species in Victoria. The Long-billed Corella, in 10<sup>th</sup> place, was also reported in much higher numbers than the state-wide and national average. This species is distributed widely across Victoria and southern NSW and has been introduced to many other parts of the country, but is most abundant in its core range of central and western Victoria. The remaining species from the Top 10 were also ranked highly in state counts, reflecting the similarity of Hepburn Shire urban environments to other regional population centres in central and southern Victoria. The Common Myna (in 6<sup>th</sup> place) is the only introduced species to appear in the council's Top 10 this year, with the next-most abundant species being the Spotted Dove in 20<sup>th</sup> place.



Figure 2: The ten most abundant bird species within the Hepburn Shire boundaries during the 2020 Aussie Backyard Bird Count. \* indicates introduced species.

Except for the Common Blackbird, most of the ten most frequently reported species from Hepburn Shire had higher reporting rates than in the rest of Victoria and the country as a whole (Figure 3). This difference was most pronounced for the Australian Wood Duck and Crimson Rosella. Crimson Rosellas are common in cooler upland regions of Victoria than the highy urbanised lowlands of Melbourne's central and western suburbs, which may explain their increased reporting rate in Hepburn Shire. The Superb Fairy-wren was also reported at much higher rates than the state average, indicating Hepburn Shire has retained more areas of inhabitable undergrowth (exotic or natural) in its local environments than many other state councils.



**Figure 3:** Comparison of the reporting rates (%) of the ten most frequently reported species during the 2020 Aussie Backyard Bird Count within the Hepburn Shire boundaries, with Victorian and national reporting rates.

# 6. Introduced Species

**Fifteen** introduced bird species were recorded within the council boundaries during the 2020 Aussie Backyard Bird Count (Table 2, Figure 4), though the Black Duck-Mallard hybrid is only a partial descendant of the Domestic Duck, and not a truly distinct species. Introduced species records were clustered tightly around major towns of Clunes, Creswick, Daylesford, and Hepburn (Figure 4); however, this appears to be partially due to survey bias, as relatively few surveys were submitted from the more remote farming and conservation regions. The Common Blackbird (29.02%) and House Sparrow (25.56%) were reported in a far higher proportion of surveys than the remaining thirteen introduced species, with the Common Starling the only other species to be reported from more than 5%. The Rock Dove and Spotted Dove, both very common in much of the state, comprised just 0.1% of the shire's total bird count. Figure 4 gives an overall indication of introduced species distribution across Hepburn Shire, but individual species distributions are difficult to discern due to the overlap of records. Accordingly, individual distribution maps for each introduced species have been provided in **Appendix 1**.

Species	Count	Proportion of total count (%)	Number of surveys detected in	Reporting rate (%)
House Sparrow	1113	6.9	148	25.56
Common Blackbird	512	3.17	168	29.02
Common Starling	111	0.69	29	5.01
Common Myna	20	0.12	11	1.9
European Goldfinch	16	0.1	9	1.55
Domestic Duck	13	0.08	5	0.86
Eurasian Skylark	11	0.07	5	0.86
Spotted Dove	10	0.06	7	1.21
Rock Dove	6	0.04	3	0.52
Indian Peafowl	4	0.02	1	0.17
Northern Mallard	4	0.02	2	0.35
Common Greenfinch	2	0.01	1	0.17
Domestic Goose	2	0.01	1	0.17
Helmeted Guineafowl	2	0.01	2	0.35
Black Duck- Mallard hybrid	1	0.01	1	0.17

Table 2: Survey statistics for the introduced bird	species recorded within Hepburn Shire boundaries
during the 2020 Aussie Backyard Bird	Count.



**Figure 4:** Distribution of the introduced bird species recorded within Hepburn Shire boundaries during the 2020 Aussie Backyard Bird Count. Bird observations that were recorded in a single survey overlap due to having the same GPS co-ordinates.

# 7. Native Species of Management Concern

European colonisation has had a large impact on the conservation status of Australian birds. Approximately 234 species of Australian bird are now classified by the International Union for Conservation of Nature (IUCN) as Extinct, threatened with extinction or Near Threatened (Garnett *et al*, 2011). It is critical that we gain an understanding of where these threatened species persist so that we can implement appropriate management actions in these areas. The Aussie Backyard Bird Count provides an opportunity for community members to participate in this important work.

In total, **13** species of bird listed as threatened were recorded within the council boundaries (Table 3, Figure 6). The Brown Treecreeper was recorded in almost 2% of total surveys. Figure 5 gives an overall indication of threatened species distribution across Hepburn Shire, but individual species distributions are difficult to discern due to the overlap of records. Accordingly, individual distribution maps for each introduced species have been provided in **Appendix 2**.

Bird Species	Status	Count	Reporting rate (%)
Australasian Shoveler	(VU)	2	0.17
Azure Kingfisher	(NT)	2	0.17
Black-eared Cuckoo	(NT)	1	0.17
Blue-billed Duck	(En)	2	0.17
Brown Treecreeper	(NT)	19	1.9
Diamond Firetail	(NT)	5	0.35
Hooded Robin	(NT)	8	0.52
Musk Duck	(VU)	2	0.17
Pied Cormorant	(NT)	1	0.17
Powerful Owl	(VU)	1	0.17
Spotted Quail-thrush	(NT)	2	0.17
Square-tailed Kite	(VU)	2	0.35
White-throated Needletail	(VU)	1	0.17

Table 3: List of threatened species recorded within Hepburn Shire boundaries.



**Figure 5:** Distribution of the threatened bird species within the Hepburn Shire boundaries during the 2020 Aussie Backyard Bird Count. Bird observations that were recorded in a single survey overlap due to having the same GPS co-ordinates.

**Five** threatened woodland-associated bird species were recorded within the Hepburn Shire boundaries in 2020:

- Black-eared Cuckoo (Near Threatened)
- Brown Treecreeper (Near Threatened)
- Diamond Firetail (Near Threatened)
- Hooded Robin (Near Threatened)
- Spotted Quail-thrush (Near Threatened)

Since European settlement, over 80% of Australia's temperate woodlands have been cleared, resulting in many woodland-dependent bird species experiencing population declines resulting in species becoming threatened (BirdLife Australia, 2015). The temperate south-eastern regions of Australia have experienced the largest number of woodland species declines. In response to the documented declines in woodland bird species, BirdLife Australia has implemented the *Woodland Birds for Biodiversity Project* to enhance the conservation of declining and threatened woodland bird species. This project builds on the recovery efforts of the Critically Endangered Regent Honeyeater which has been the focus of long-term intensive recovery initiatives by BirdLife Australia and due to their high profile, act as a flagship species for the conservation of other threatened woodland bird species. The *Woodland Birds for Biodiversity Project* aims to:

- Monitor habitat restoration activities and bird populations to determine priority habitat sites and population trends.
- Identify and monitor climate change impacts on woodland habitat and woodland-dependent bird species.
- Improve the management and protection of woodland habitat on private and public land.
- Restoration and revegetation of areas to improve the amount of available habitat and connectivity of this habitat.
- Community education and involvement in survey efforts and monitoring.

**Two** threatened raptor species were recorded within the Hepburn Shire boundaries in 2020:

- Powerful Owl (Vulnerable)
- Square-tailed Kite (Vulnerable)

A number of Australian raptor species are threatened due to habitat destruction and fragmentation, loss of nesting hollows, declining prey availability, and the use of rodenticides. The Powerful Owl is a high-profile species listed as Vulnerable in Victoria. To help conserve Powerful Owls, a research scientist and a member of the community developed the Powerful Owl Project in Victoria. This project was then taken on by BirdLife Australia which seeks to study the breeding and behaviour ecology of Powerful Owls and improve the management of the species such as through the protection of crucial habitat (BirdLife Australia, 2016b). The project also aims to educate the community and land managers in urban conservation, while recruiting volunteers to participate in the project and record information for future scientific

analysis (BirdLife Australia, 2016). BirdLife Australia has since expanded on the success of the Powerful Owl project in Sydney and implemented a Powerful Owl project in Melbourne.

**Five** species of threatened waterbird were recorded within the Hepburn Shire boundaries in 2020:

- Australasian Shoveler (Vulnerable)
- Azure Kingfisher (Near Threatened)
- Blue-billed Duck (Endangered)
- Musk Duck (Vulnerable)
- Pied Cormorant (Near Threatened)

Numerous Australian waterfowl and wetland-associated birds are threatened due to the continual loss and degradation of wetlands and natural waterways, through practices such as water diversion, river regulation, land clearing and changes in salinity (BirdLife Australia, 2015).

### 8. Data Limitations

The Aussie Backyard Bird Count has the potential to be an extremely valuable long-term monitoring tool for Australian bird species and communities. Data collected over several years in regions of interest can be used to assess population trends for target species, guilds, and ecological communities. These data can also inform local management decisions: for example, increased control of introduced species with an upward population trend, or implementation of additional conservation actions for native species with downward population trends.

However, caution should be taken when interpreting the results from the Aussie Backyard Bird Count. The backyards surveyed for the Count will not constitute a random selection of Australian backyards. Previous analyses of similar surveys suggest that participants are more likely to have 'bird-friendly' gardens, which can support a higher abundance and diversity of birds, than the average citizen (Dunn et al., 2005; Spurr, 2012). Additionally, participants are more likely to record bird species that favour habitat associated with urban parks and gardens than those specialised to other habitat types. Urban-avoidant species, and species confined to habitats like wetlands or coastlines, are unlikely to be recorded in backyard environments. The absence of these species from the Count may not imply low abundance or restricted distributions, but rather that the specific habitats of these species were under-surveyed.

The number of counted birds may also be over-inflated due to the potential for observers to count the same bird/s multiple times during a single 20-minute survey, or across the one-week survey period. Remote and regional parts of Australia are also likely to be under-represented in surveys (or not represented at all), making data interpretation for these regions more difficult. The Aussie Backyard Bird Count is also restricted to a single week in late October, so data from the count cannot be used to determine seasonal trends in species abundance, and migratory species absent from certain regions during this time period will not be represented in the final dataset for those regions.

GPS coordinates from participant surveys should also be used with caution, as several factors may influence their accuracy and precision. Participants may select their location incorrectly when starting a 20-minute survey in the Backyard Bird Count app, though the coordinates will usually fall within the general boundaries of the surveyed area. Excluding user error, the accuracy of these coordinates should fall within 5-50 metres of the true survey start point. In some environments, the app may be unable to obtain an accurate GPS fix; this is most relevant for surveys submitted from indoor environments, near tall buildings or under heavy cloud cover. Wi-Fi connections usually provide fast and accurate GPS results, but in rare cases, surveys submitted by connecting to moving Wi-Fi hotspots (e.g., a nearby Wi-Fi-enabled car) can return highly inaccurate GPS coordinates. If forced to use mobile towers, rather than Wi-Fi or GPS, to determine the position of the user, the app may return coordinates more than 1 km from the true location of a survey. Coordinates generated using computer IP addresses, for surveys submitted from personal computers not connected to a Wi-Fi network, can also be highly inaccurate.

The quality of survey results also depends on the experience and skill participants have with counting and identifying birds. The Aussie Backyard Bird Count app notifies users if they select species not found in their survey location, and the national dataset has been vetted by experienced observers to minimise the number of misidentifications. This year, an additional round of data vetting has been carried out at a local council level, but while every effort has been made to remove misidentifications, it is probable that some remain in the final council datasets. However, common and familiar backyard species are less likely to be misidentified than urban-avoidant species (Cannon, 1999), so survey results for these species can be analysed with relative confidence.

Finally, it may become apparent at the mapping stage for Brolga reports that some identifications of introduced, threatened or target species were incorrect (for example, records of local shorebirds on an urban street away from coastlines). However, it is unfeasible to update these records at the final mapping stage, so mapped species data should be analysed with this understanding.

## 9. What Birds in Backyards Can Offer

We are fortunate in Australia to have such a diverse and colourful range of native birds living amongst us in the urban landscape. These birds provide an opportunity for people to appreciate and connect with wildlife daily, and increasingly, research is linking access to biodiversity with a person's quality of life. This has been particularly important during the ongoing COVID-19 pandemic.

Urban spaces are not only for 'common' birds. Over 600 native bird species use urban areas, including 71 state and federally listed species. Better management of our urban spaces is critical for the conservation of Australia's birds. We can help both threatened birds AND keep the common birds common, just by working on our doorstep!

Changes in our gardening practices and increasing urbanisation are driving change in our bird life – for example, the simplification of our gardens and the loss of shrubs has removed important food, shelter and nesting locations. If vegetation in gardens is managed to promote a diversity of native bird species, it will provide a valuable secondary habitat for conserving native bird populations, particularly as our natural habitat continues to be destroyed. In the urban landscape, engaging with the wider community is necessary to turn around this trend of habitat loss, and provides a unique opportunity to engage large numbers of the general community actively in the conservation of biodiversity.

The Urban Bird Program has a range of projects that councils can engage with:

#### Birds In Backyards

Birds in Backyards encourages people to learn in their own space in order to establish an initial connection with the natural world in a somewhat unnatural setting. It is not simply about providing people with information about birds in their local area but it is about building on that initial interest and encouraging people to learn more and then take action for birds. Our program takes a three-pronged approach: LEARN about Aussie birds, PARTICIPATE in surveying, and CREATE habitat and change.

Birds in Backyards can work with your council to provide resources or collaborate on projects. For example:

- Hard copy materials such as 'A4 Backyard Birds of' posters (that can be made available in six languages), bookmarks, bird trading cards, and gardening advice brochures.
- 'Train the trainer' workshops and associated materials, or direct public workshops.
- Online learning opportunities via our new e-learning platform for residents to discover bird-friendly gardening, nest box building tips, or bird identification resources.
- Ongoing monitoring programs for participants via our Backyard Bird surveys, with feedback provided.

#### Birds in Schools

Birds in Schools (BIS) empowers primary students to build knowledge and understanding of wildlife and conservation by actively engaging them as citizen scientists. Outdoor learning and hands-on experiences result in the pupils getting a deeper and more involved understanding of their world. Teachers are supported to deliver lessons through our e-learning platform, allowing us to deliver BIS throughout the country. They don't go it alone though - our staff provide training and advice, as well as connecting to classrooms directly.

The students monitor the birds and habitat of their school or home, contributing to BirdLife Australia's Birdata platform and contributing to our understanding of birds throughout Australia. They then investigate their findings and develop an action plan that helps their local bird life based on their own discoveries with the council working with them to implement these plans.

Councils can work with us to create a network of BIS schools in your region.

#### Budding Birdos

Budding Birdos aims to introduce participants to birding and citizen science via an experienced facilitator and online coursework hosted on our e-learning platform. The program is a unique combination of LGA biodiversity and engagement priorities, that link to BirdLife Australia's monitoring and education resources by guiding participants through social events, e-learning and participation in bird surveying in a fun and relaxing way. The goal is to have an active, engaged, and enthusiastic community of people who are networked and inspired to build a better world for urban biodiversity. The course can be designed with specific goals in mind for the LGA – whether that is to create habitat in public or private space or set up ongoing monitoring in particular sites.

#### Powerful Owl Project

The Powerful Owl Project is a science-led community-based initiative that supports the conservation of Powerful Owls as an environmental indicator of the health of urban birds along the east coast of Australia. We have monitored and researched the ecology of urban Powerful Owls across Greater Sydney since 2011 and in South East Victoria since 2016 - educating land managers and the general community about building habitat to conserve Powerful Owls and other urban birds and provided fine-scale ecological data about habitat use to advise appropriate land management practices associated with fire and vegetation management for this Threatened species.

Contact us for information about Powerful Owls that you may have in your LGA and conservation concerns or if you wish to look at engaging your residents in this citizen science activity.

For more information on these specific projects or others you are looking to develop, please contact Urban Birds Program Manager Dr. Holly Parsons at **holly.parsons@birdlife.org.au**.

### 10. References

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# 11. Appendix One – Introduced Species Maps

The individual distribution maps for each introduced species recorded within council boundaries during the 2020 Aussie Backyard Bird Count, in alphabetical order, are presented in Appendix One. No figure captions have been provided, as the format is identical to that of Figure 5.

















0 5 10 20 30 40 Legend ▲ Common Myna Hepburn Shire





































































# 12. Appendix Two – Threatened Species Maps

The individual distribution maps for each threatened species recorded within council boundaries during the 2020 Aussie Backyard Bird Count, in alphabetical order, are presented in Appendix Two. No figure caption has been provided, as the format is identical to that of Figure 5.











































































