

Aussie Backyard Bird Count 2019 Results:

Wingecarribee Shire Council

Brolga Package

## BirdLife Australia

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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 of this nature in Australia. The Aussie Backyard Bird Count provides an opportunity for everyone — from school children, senior citizens, families and community groups — to become citizen scientists for one week every October. With over 85% of Australians living in urban environments with often limited opportunities to experience nature, the Aussie Backyard Bird Count is 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 our threatened birds than we do about our common backyard birds and the Aussie Backyard Bird Count helps to fill this knowledge gap, as well as increasing our understanding of Australian bird species that live where people live. The Aussie Backyard Bird Count also helps raise the profile of bird species throughout Australia, highlighting their importance and promoting a national passion for Australian birds.

Each year this natural passion is confirmed, with the Aussie Backyard Bird Count attracting significant interest from the public eager to be involved and help contribute to our growing knowledge of Australian birds. Public involvement continues to increase each year the Aussie Backyard Bird Count is run, with the number of birds counted also significantly increasing each year. Additionally, involvement by local councils increases year-on-year with more bird-focused events being held during Bird Week, improving the awareness and importance of local birds within their communities. And with the release of lesson plans which encourages students to participate both at school and at home, the number of schools participating in the Aussie Backyard Bird Count continues to grow.

The national focus on birds is extremely important with data showing Australian backyards have been shrinking since the 1990s, and populations of some of our most familiar birds like the Laughing Kookaburra, have also declined. While data collected from the Aussie Backyard Bird Count is currently only a baseline, results from the past four 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. 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 these iconic Australian birds, citizen science projects such as the Aussie Backyard Bird Count can help provide an insight into how Aussie birds are faring and results can help formulate subsequent management decisions. The next Aussie Backyard Bird Count will take place from 19 - 25 October 2020.

## **1.2 Birds in Backyards**

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. The Birds in Backyards Program builds knowledge, skills and practical support to develop action-oriented responses to the decline of bird diversity. The Birds in Backyards Program 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. There have been exciting changes recently - a new framework and program objectives are seeing The Birds in Backyards Program work with stakeholders towards an Urban Bird Conservation Action Plan – a tool to develop focussed strategies and projects to conserve Australia’s urban birds and measure our success. In 2017, our surveys joined BirdLife Australia’s data portal Birdata and have now joined the Birdata App as well. 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.

The ultimate goal of The Birds in Backyards Program is a diverse urban native bird community, achieved by behavioural change through action research, education for sustainability and advocacy. Through our dedicated citizen scientists and our partners, The Birds in Backyards Program empowers 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 The Birds in Backyards Program to achieve education and conservation outcomes for our urban birds – let’s get our communities taking action together!

## 2. 2019 Aussie Backyard Bird Count Statistics

The following statistics relate to the Wingecarribee Shire Council region during the Aussie Backyard Bird Count that ran from the 21<sup>st</sup> to 27<sup>th</sup> October 2019:

- 376 observers participated in the bird count, submitting 595 checklists
- Submitted checklists ranged from between 1 and 11 per registered user (average of 2.74 per registered user)
- The combined duration that observers surveyed over was 191 hours and 35 minutes
- A total of 14,272 individual birds were observed and recorded during bird week
- 166 bird species were recorded (Table 1)
- The reporting rate for species (percentage of surveys a species was detected in) ranged from 0.17 % to 68.74 % (Table 1). Species which had lots of individuals detected but were associated with a low reporting rate indicates that multiple birds were detected within single surveys (i.e. seen in large flocks).

Comparative statistics for the Aussie Backyard Bird Count between 2017 and 2019 for the council region are presented in Appendix 1.

**Table 1:** The complete species list and number of individuals observed within the Wingecarribee Shire Council boundaries during the 2019 Aussie Backyard Bird Count.

Bird Species	Count	Reporting rate (%)	Bird Species	Count	Reporting rate (%)
Crimson Rosella	1477	68.74	Glossy Black-Cockatoo (VU)	11	0.84
Sulphur-crested Cockatoo	1252	48.24	Jacky Winter	11	0.84
Australian Magpie	1088	60	White-eared Honeyeater	11	1.18
Australian Wood Duck	764	16.81	Sacred Kingfisher	10	1.18
Galah	746	31.26	Australasian Grebe	9	0.84
Noisy Miner	682	27.39	Little Black Cormorant	9	1.01
Little Corella	636	16.47	Australasian Darter	8	0.84
Australian King-Parrot	556	34.79	Channel-billed Cuckoo	8	1.18
Common Myna *	451	20.17	Domestic Duck *	8	0.5
Magpie-lark	353	29.24	Straw-necked Ibis	8	0.34
Pied Currawong	332	31.26	Australian Pelican	7	0.5
Australian Raven	330	24.54	Large-billed Scrubwren	7	0.67
Eastern Rosella	321	18.99	Olive-backed Oriole	7	1.01
Eurasian Coot	309	3.03	White-cheeked Honeyeater	7	0.67
House Sparrow *	296	9.92	Azure Kingfisher	6	0.5
Laughing Kookaburra	259	24.37	Little Pied Cormorant	6	1.01
Pacific Black Duck	249	6.39	Yellow-rumped Thornbill	6	0.5
Satin Bowerbird	243	20.34	Nankeen Night-Heron	5	0.34
Superb Fairy-wren	226	11.93	Barking Owl (VU)	5	0.17
Common Starling *	214	7.56	Black-chinned Honeyeater (VU)	5	0.34
Red Wattlebird	187	18.82	Southern Emu-wren	5	0.5

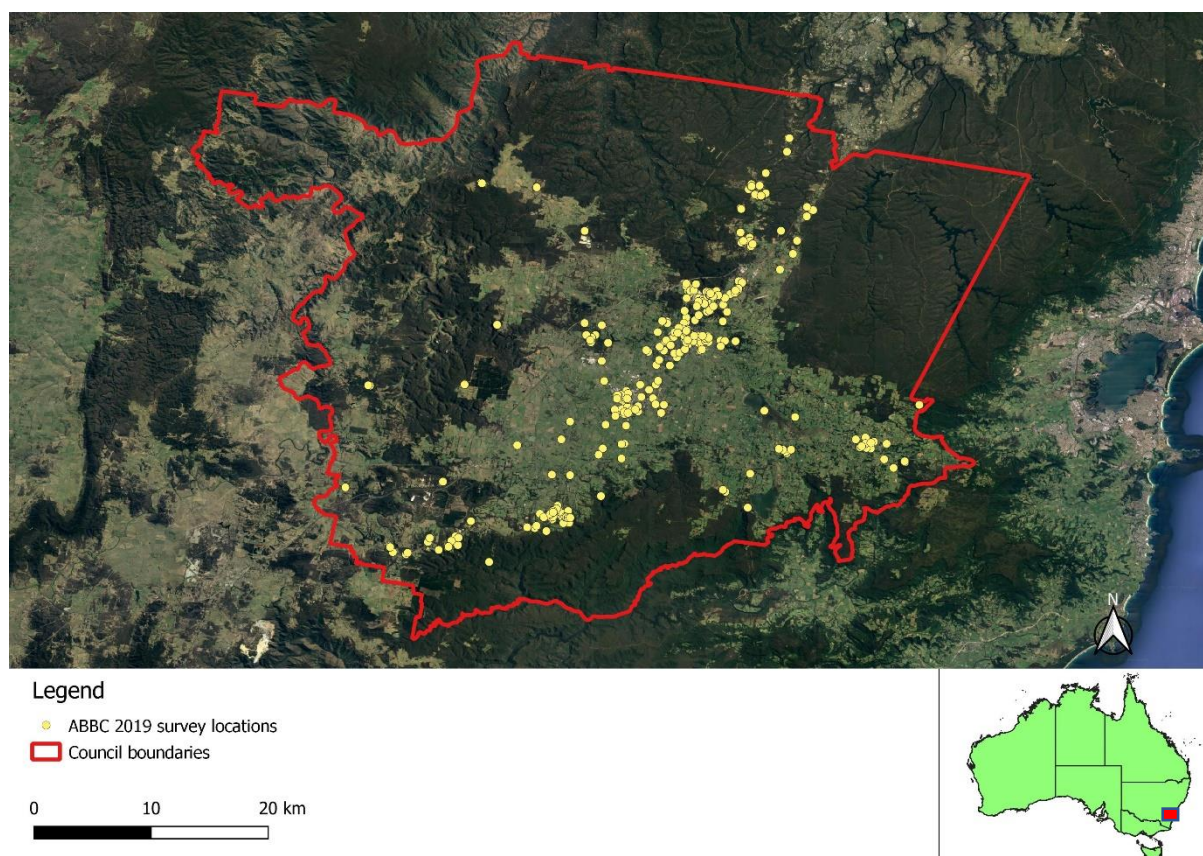
Crested Pigeon	179	15.13	Australasian Shoveler	4	0.34
Little Wattlebird	178	12.94	Bar-shouldered Dove	4	0.67
Little Raven	125	9.75	Buff-rumped Thornbill	4	0.34
Rainbow Lorikeet	118	6.39	Common Bronzewing	4	0.5
Welcome Swallow	113	7.73	Fan-tailed Cuckoo	4	0.5
Rock Dove *	105	3.03	Fuscous Honeyeater	4	0.5
Eastern Spinebill	94	8.57	Pheasant Coucal	4	0.5
Common Blackbird *	92	8.74	Scarlet Honeyeater	4	0.34
Red-browed Finch	87	1.85	Scarlet Robin (VU)	4	0.34
Grey Butcherbird	85	10.59	Southern Boobook	4	0.67
Hardhead	84	1.18	Tawny Frogmouth	4	0.67
Chestnut Teal	81	0.5	Variegated Fairy-wren	4	0.17
White-winged Chough	79	2.02	Wedge-tailed Eagle	4	0.5
Willie Wagtail	76	7.56	Yellow-throated Scrubwren	4	0.34
Yellow-faced Honeyeater	76	6.05	Australasian Pipit	3	0.17
Grey Fantail	56	4.54	Black Swan	3	0.34
Eastern Whipbird	55	6.72	European Goldfinch *	3	0.34
Brown Thornbill	54	3.03	Great Cormorant	3	0.5
Gang-gang Cockatoo	53	2.69	Little Grassbird	3	0.17
White-browed Scrubwren	53	3.36	Little Lorikeet (VU)	3	0.34
Masked Lapwing	50	3.7	Pied Cormorant	3	0.34
Purple Swamphen	49	2.52	Red-capped Plover	3	0.17
Yellow-tailed Black-Cockatoo	49	1.85	Red-rumped Parrot	3	0.17
Striated Pardalote	47	3.7	Rose Robin	3	0.17
Grey Teal	43	1.01	Spiny-cheeked Honeyeater	3	0.34
Eastern Koel	39	6.05	Black Kite	2	0.17
Freckled Duck (VU)	39	0.5	Blue-billed Duck (VU)	2	0.17
Long-billed Corella	36	1.68	Brown Treecreeper (VU)	2	0.17
Topknot Pigeon	34	2.02	Great Crested Grebe	2	0.17
Hoary-headed Grebe	32	0.5	Green Catbird	2	0.17
Musk Lorikeet	31	1.35	Hooded Robin (VU)	2	0.17
Magpie Goose (VU)	29	1.18	Intermediate Egret	2	0.17
Spotted Dove *	29	2.35	Masked Woodswallow	2	0.17
Australian Reed-Warbler	28	1.85	Musk Duck	2	0.17
Dusky Moorhen	28	2.18	Peaceful Dove	2	0.34
Striated Thornbill	28	2.02	Peregrine Falcon	2	0.34
Grey Currawong	27	1.51	Pied Stilt	2	0.17
New Holland Honeyeater	27	2.18	Red-browed Treecreeper	2	0.17
Tree Martin	27	1.34	Rufous Fantail	2	0.34
Bell Miner	24	1.68	Whistling Kite	2	0.34
Brown Gerygone	23	1.85	Australasian Figbird	1	0.17
Australian White Ibis	22	2.02	Australian Owllet-nightjar	1	0.17
Rufous Whistler	22	1.85	Black-fronted Dotterel	1	0.17
Silvereye	22	1.01	Black-shouldered Kite	1	0.17

Superb Lyrebird	22	2.35	Brown Goshawk	1	0.17
Wonga Pigeon	22	2.86	Cockatiel	1	0.17
Dollarbird	21	2.52	Flame Robin (VU)	1	0.17
Eastern Yellow Robin	21	2.69	Greenfinch *	1	0.17
Lewin's Honeyeater	21	2.52	Leaden Flycatcher	1	0.17
Dusky Woodswallow (VU)	20	1.17	Little Eagle (VU)	1	0.17
Spotted Pardalote	20	2.86	Olive Whistler (VU)	1	0.17
Brown Cuckoo-Dove	19	1.18	Pilotbird	1	0.17
Noisy Friarbird	18	1.85	Red-whiskered Bulbul *	1	0.17
Black Duck-Mallard hybrid *	17	1.01	Swamp Harrier	1	0.17
White-faced Heron	17	2.35	White-browed Woodswallow	1	0.17
Cattle Egret	16	0.5	White-necked Heron	1	0.17
White-throated Treecreeper	16	2.02	White-throated Gerygone	1	0.17
Beautiful Firetail	15	0.17	Yellow-billed Spoonbill	1	0.17
Common Greenfinch *	15	0.67			
Red-kneed Dotterel	15	0.5			
Australian Shelduck	14	0.84			
Black-faced Cuckoo-shrike	14	1.85			
Golden Whistler	14	1.18			
Grey Shrike-thrush	14	2.35			
Domestic Goose *	13	0.17			
Yellow Thornbill	13	0.67			

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



### 3. Distribution Map



**Figure 1:** Bird observations recorded within the council boundaries during the 2019 Aussie Backyard Bird Count. Bird observations that were recorded in a single survey overlap due to having the same GPS co-ordinates.

### 4. Species List: Least Common

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

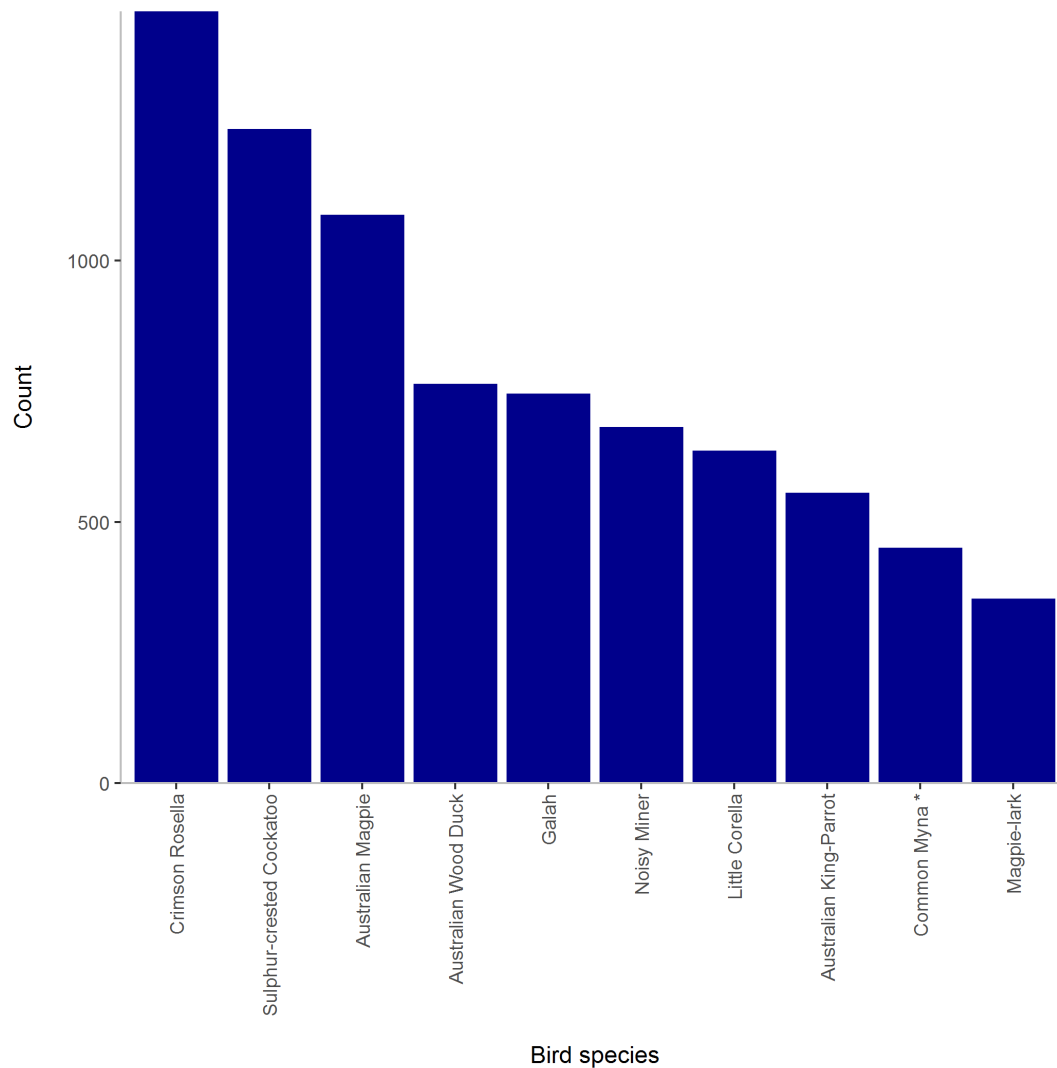
- |                             |                          |                            |
|-----------------------------|--------------------------|----------------------------|
| • Australasian Figbird      | • Flame Robin (VU)       | • Swamp Harrier            |
| • Australian Owlet-nightjar | • Greenfinch *           | • White-browed Woodswallow |
| • Black-fronted Dotterel    | • Leaden Flycatcher      | • White-necked Heron       |
| • Black-shouldered Kite     | • Little Eagle (VU)      | • White-throated Gerygone  |
| • Brown Goshawk             | • Olive Whistler (VU)    | • Yellow-billed Spoonbill  |
| • Cockatiel                 | • Pilotbird              |                            |
|                             | • Red-whiskered Bulbul * |                            |

All but two of the 21 bird species corresponding to a single observation are native to Australia. The Greenfinch and Red Whiskered Bulbul are introduced species. Four of these species are raptors and a further three species are associated with water habitats. The behaviours and habitat requirements of these species may account for the single observations recorded during bird week, especially if most surveys are occurring in people's backyards. In addition, three of these species have a threatened species listing and the low population levels of these species may account for the limited observations.

## 5. Species List: Most Common

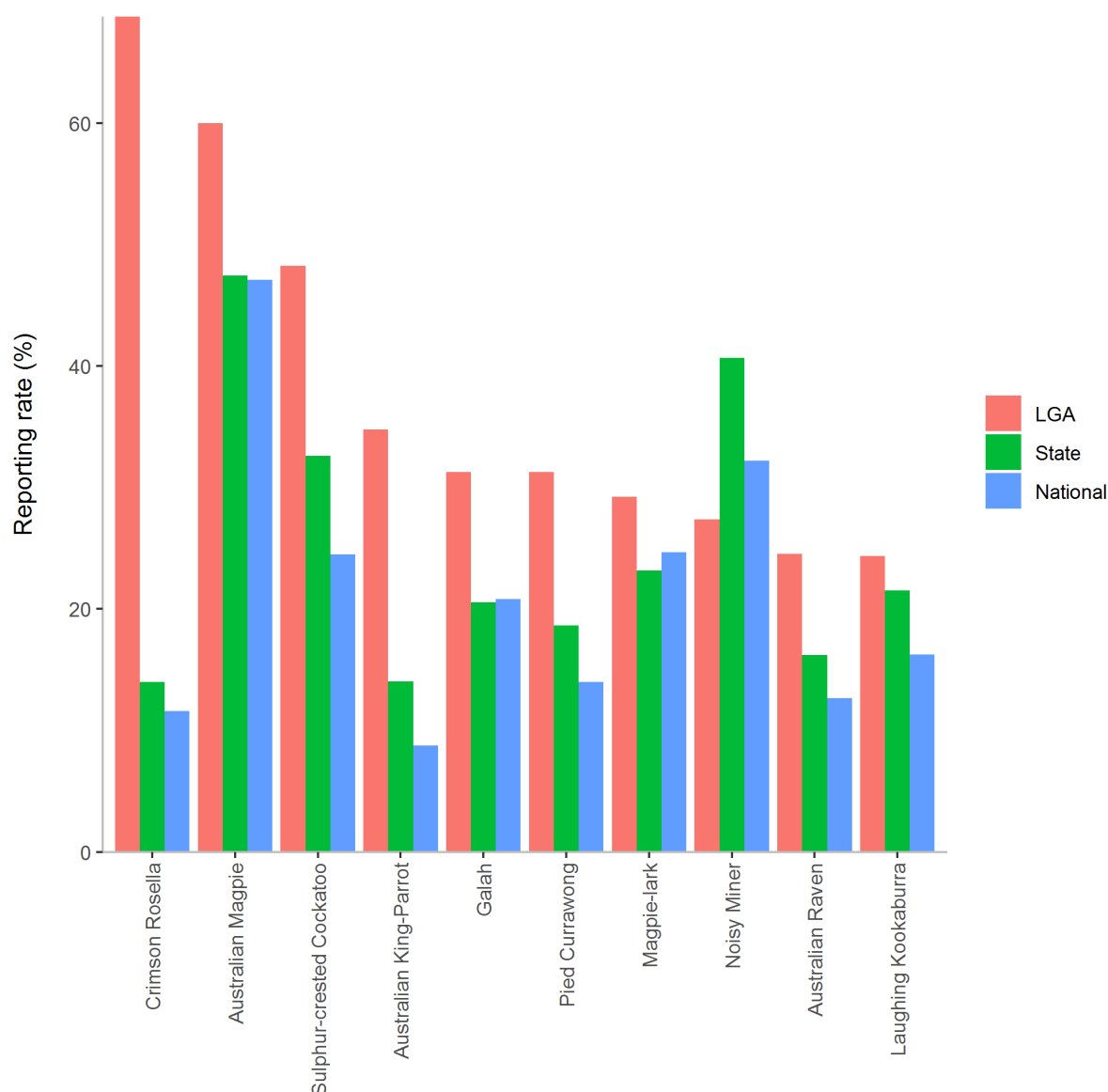
The ten most observed bird species recorded within the council boundaries ranged from 353 to 1,477 observations and included both native and introduced species (Figure 2). All ten species are considered to have secure populations within New South Wales.

The most detected species within the council boundaries was the Crimson Rosella, which was the fifteenth most reported species across the state. The second most detected species within the council boundaries was the Sulphur crested Cockatoo, which was third in the state list. One introduced species appears in the council's top 10, the Common Myna, which was the sixth most observed species across the state. Overall, five of the species were the same as the top 10 across the state, with Crimson Rosella, Australian Wood Duck, Little Corella, Australian King Parrot and Magpie Lark not appearing in the state-wide top 10 species list.



**Figure 2:** The ten most observed bird species within the council boundaries during the 2019 Aussie Backyard Bird Count. \* indicates introduced species.

All but one of the most reported species within the council had higher reporting rates when compared with state and national rates (Figure 3). The Noisy Miner had a lower reporting rate than both state and national reporting rates. The most reported species, the Crimson Rosella had a much higher reporting rate compared with other surveys conducted across the state and country with the species being counted in approximately two-thirds of all surveys.



**Figure 3:** Comparison between the reporting rates of the top ten counted species during the 2019 Aussie Backyard Bird Count within the council boundaries, State and Nationally.

## 6. Introduced Species

Thirteen introduced species were recorded within the council boundaries during the 2019 Aussie Backyard Bird Count (Table 2, Figure 4). Introduced species were observed the centre of the council's boundaries with the suburb of Moss Vale reporting the highest numbers of introduced species, however this may be an artefact of sampling bias (Figures 4, 5).

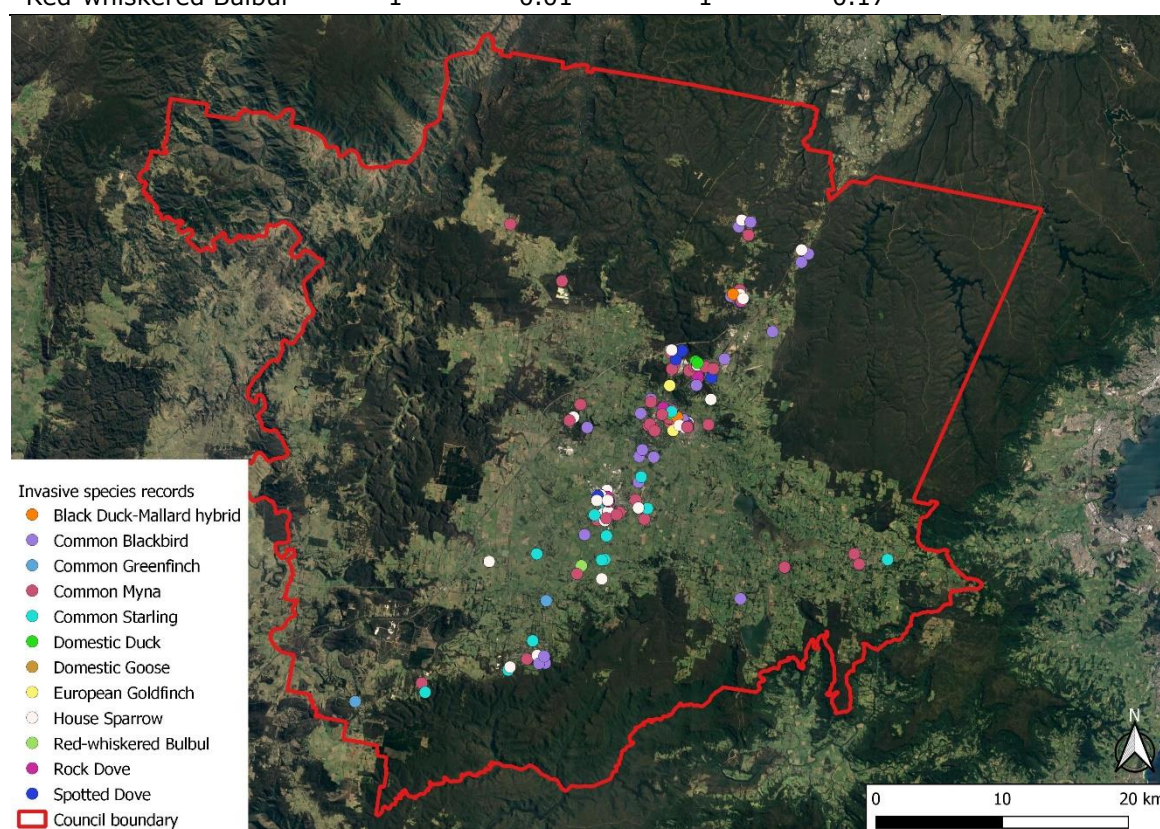
The Red-whiskered Bulbul was reported in one survey in the suburb of Werai. The Red-whiskered Bulbul has the potential to become a serious pest in areas where it becomes established as it can displace wildlife, become an additional vector for the spread of weeds and damage agricultural crops.



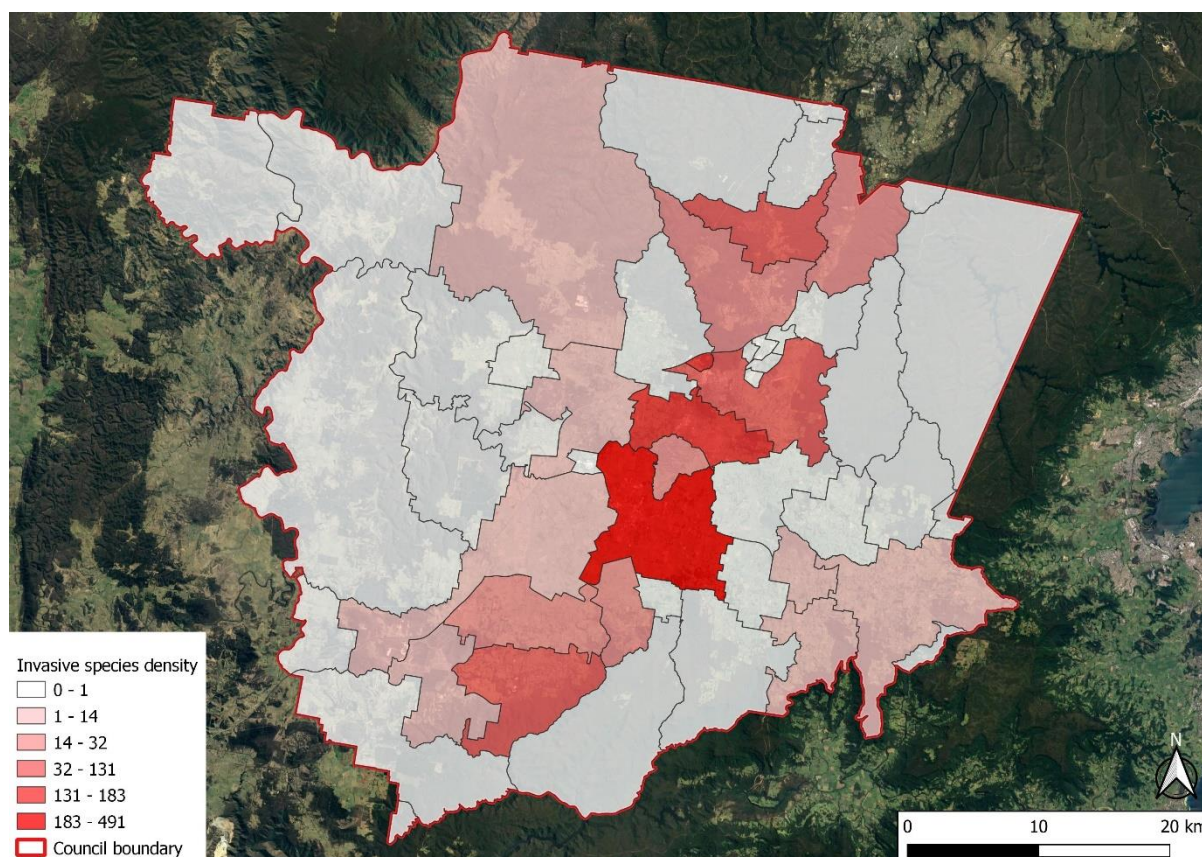
A high bird count relative to surveys conducted indicates that observers encounter multiple individuals either throughout the duration of the survey period or all together (e.g. in a flock; Table 2).

**Table 2:** Survey statistics for the introduced bird species recorded within the council boundaries during the 2019 Aussie Backyard Bird Count.

Species	Count	Proportion of total count (%)	Number of surveys detected in	Reporting rate (%)
Common Myna	451	3.16	120	20.17
House Sparrow	296	2.07	59	9.92
Common Starling	214	1.5	45	7.56
Rock Dove	105	0.74	18	3.03
Common Blackbird	92	0.64	52	8.74
Spotted Dove	29	0.2	14	2.35
Black Duck-Mallard hybrid	17	0.12	6	1.01
Common Greenfinch	15	0.11	4	0.67
Domestic Goose	13	0.09	1	0.17
Domestic Duck	8	0.06	3	0.5
European Goldfinch	3	0.02	2	0.34
Greenfinch	1	0.01	1	0.17
Red-whiskered Bulbul	1	0.01	1	0.17



**Figure 4:** Distribution of the introduced bird species recorded within the council boundaries during the 2019 Aussie Backyard Bird Count. Bird observations that were recorded in a single survey overlap due to having the same GPS co-ordinates.



**Figure 5:** Number of introduced birds recorded per suburb within the council boundaries during the 2019 Aussie Backyard Bird Count.

## 7. Native Species of Management Concern

Since European settlement approximately 234 species of Australian bird are either 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 where required. The Aussie Backyard Bird Count provides an opportunity for members of the community to participate in this important work. In total, 18 species of bird were recorded within the council boundaries that are listed as threatened.

**Table 3:** List of threatened species recorded within the council boundaries.

Bird Species	Conservation status	Count	Reporting rate (%)
Barking Owl	(VU)	5	0.17
Black-chinned Honeyeater	(VU)	5	0.34
Blue-billed Duck	(VU)	2	0.17

Brown Treecreeper	(VU)	2	0.17
Dusky Woodswallow	(VU)	20	1.17
Flame Robin	(VU)	1	0.17
Freckled Duck	(VU)	39	0.5
Glossy Black-Cockatoo	(VU)	11	0.84
Hooded Robin	(VU)	2	0.17
Little Eagle	(VU)	1	0.17
Little Lorikeet	(VU)	3	0.34
Magpie Goose	(VU)	29	1.18
Olive Whistler	(VU)	1	0.17
Scarlet Robin	(VU)	4	0.34

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:

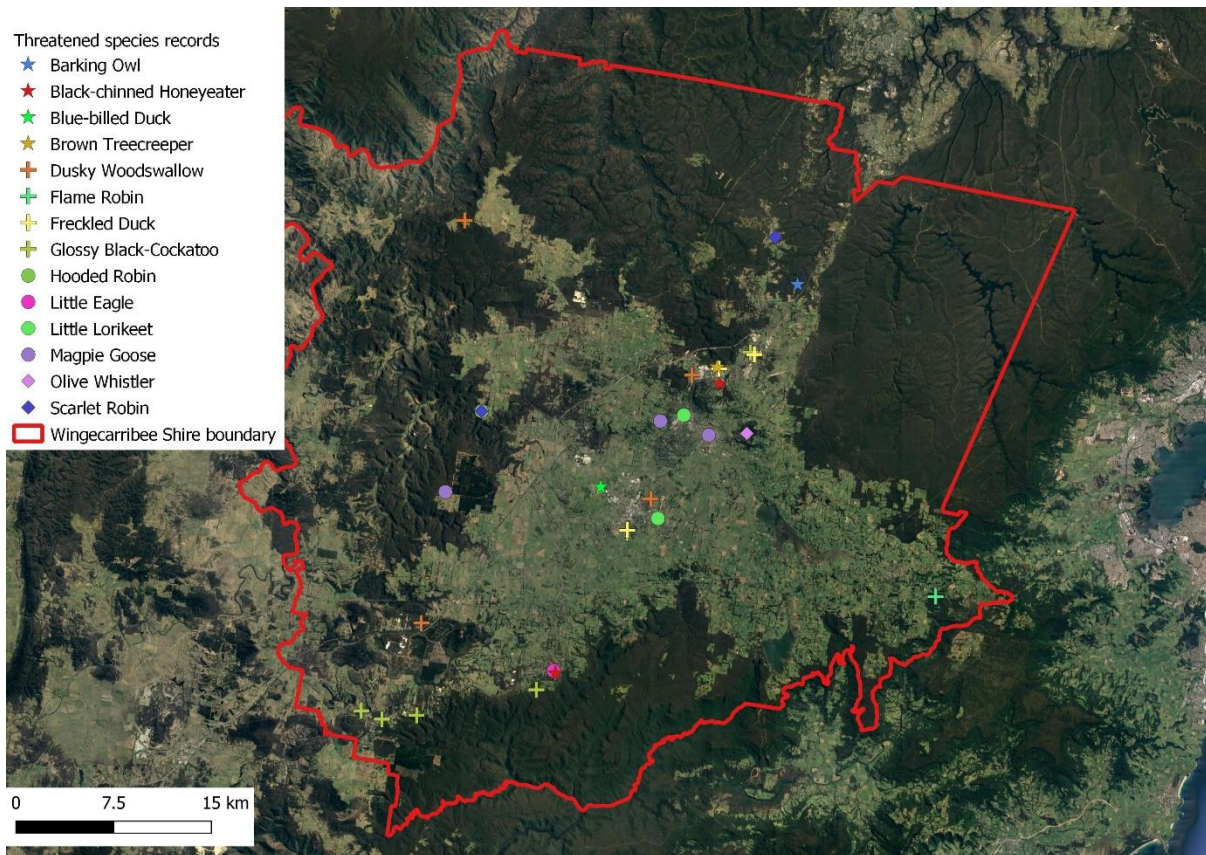
- Monitor habitat restoration activities and bird populations to determine priority habitat sites and population trends
- Identify and monitor climate change impacts on woodland habitat and woodland-dependent bird species
- Improve the management and protection of woodland habitat on private and public 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

Seven threatened woodland-associated bird species were detected within the council boundaries during bird week (Figure 6):

- Black-chinned Honeyeater – Vulnerable
- Brown Treecreeper – Vulnerable
- Dusky Woodswallow – Vulnerable
- Flame Robin – Vulnerable
- Hooded Robin – Vulnerable
- Olive Whistler - Vulnerable



- Scarlet Robin - Vulnerable



**Figure 6:** Distribution of the threatened species within the council boundaries.

A number of Australian raptor species are threatened due to habitat destruction and fragmentation, loss of nesting hollows and declining prey availability. Two threatened raptor species were detected within the council boundaries (Figure 6):

- Barking Owl - Vulnerable
- Little Eagle - Vulnerable

Numerous species of Australian parrots are threatened in Australia. Across Australia, each species of parrot faces its own set of conservation challenges. However, many parrot species are experiencing population declines due to the lack of suitable nesting sites, particularly tree hollows which parrots are dependent on especially for successful breeding, and reliable food access. Habitat loss and modification is decreasing the number of tree hollows available for threatened parrot species to nest in and the hollows that do remain are fiercely competed over which are won and subsequently used by the more aggressive bird species (e.g. Crimson Rosellas, Galahs, Starlings) and marsupials (BirdLife Australia, 2015). Without a suitably sized tree hollow, parrots are unable to breed during the breeding season.

Two threatened parrot species were detected within the council boundaries (Figure 6):



- Glossy Black-Cockatoo - Vulnerable
- Little Lorikeet – Vulnerable

Numerous Australian water birds are also threatened due to the continual loss and degradation of wetlands through practices such as water diversion, river regulation, clearing of land and changes in salinity (BirdLife Australia, 2015). Threatened water bird species detected within the council boundaries during the 2019 bird week (Figure 6) include:

- Magpie Goose - Vulnerable
- Blue-billed Duck - Vulnerable
- Freckled Duck – Vulnerable

## 8. Species Specific Results

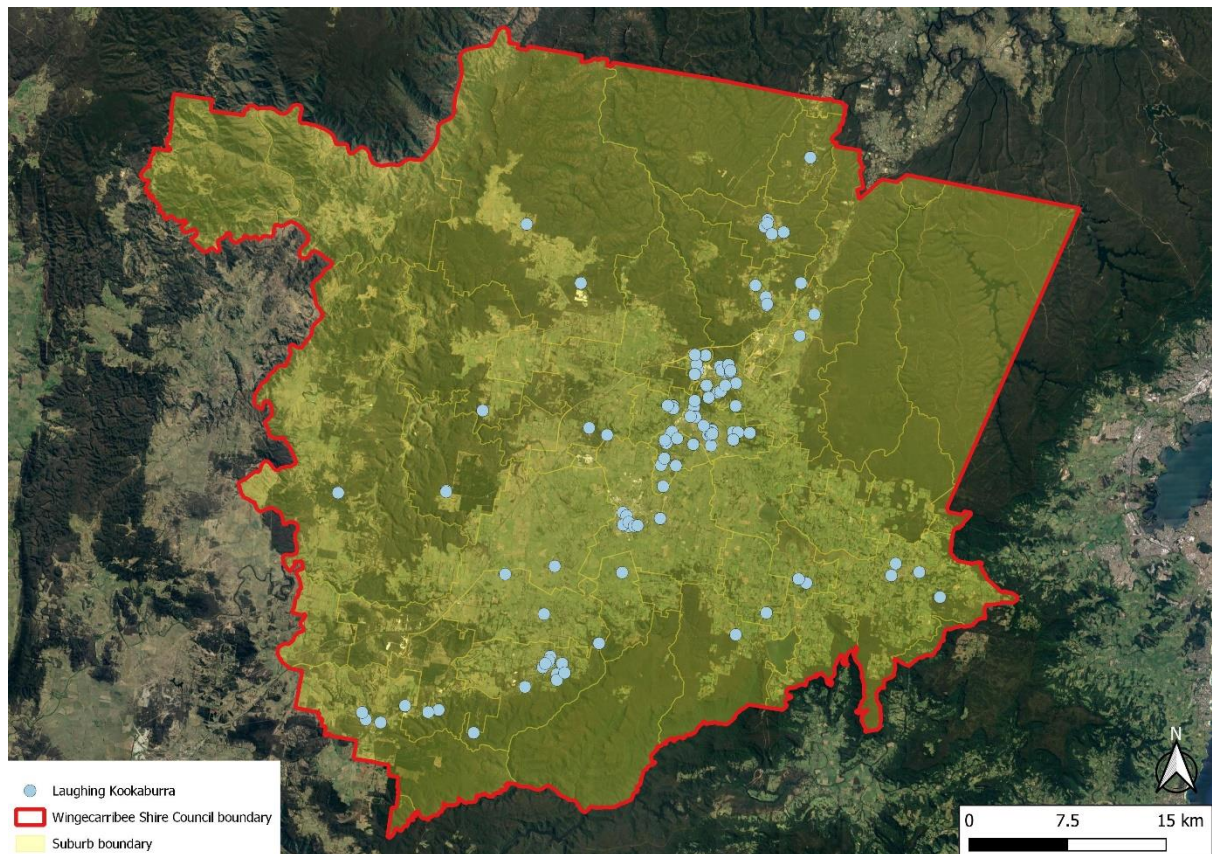
### 8.1 Laughing Kookaburra

During the 2019 Aussie Backyard Bird Count, 259 Laughing Kookaburra were counted within the council boundaries making them the 16<sup>th</sup> most frequently encountered bird species in the region. The bird count has increased in each of the previous three years, however due to a substantial increase in total surveys submitted, the reporting rate has decreased slightly from a high of 27.66% in 2018 to 24.37% in 2019 (Table 4). This reporting rate is still higher than the state reporting rate of 21.50%.

The Laughing Kookaburra was observed throughout the council region where surveys were conducted. The suburbs that the species were observed in the highest numbers were Mittagong (47 individuals), Bowral (44 individuals), Burradoo (22 individuals) and Moss Vale (19 individuals).

**Table 4:** Species specific statistics for the Laughing Kookaburra showing the total number of surveys conducted, the total number of birds observed and the reporting rate for 2017 – 2019.

<b>Laughing Kookaburra</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>
Total surveys	250	423	595
Bird Count	108	199	259
Reporting Rate (%)	21.6	27.66	24.37



**Figure 7:** Distribution of Laughing Kookaburra within the council boundaries (red line) during the 2019 Aussie Backyard Bird Count. Bird observations recorded in a single survey overlap as they have the same GPS co-ordinates.

## 8.2 Eastern Spinebill

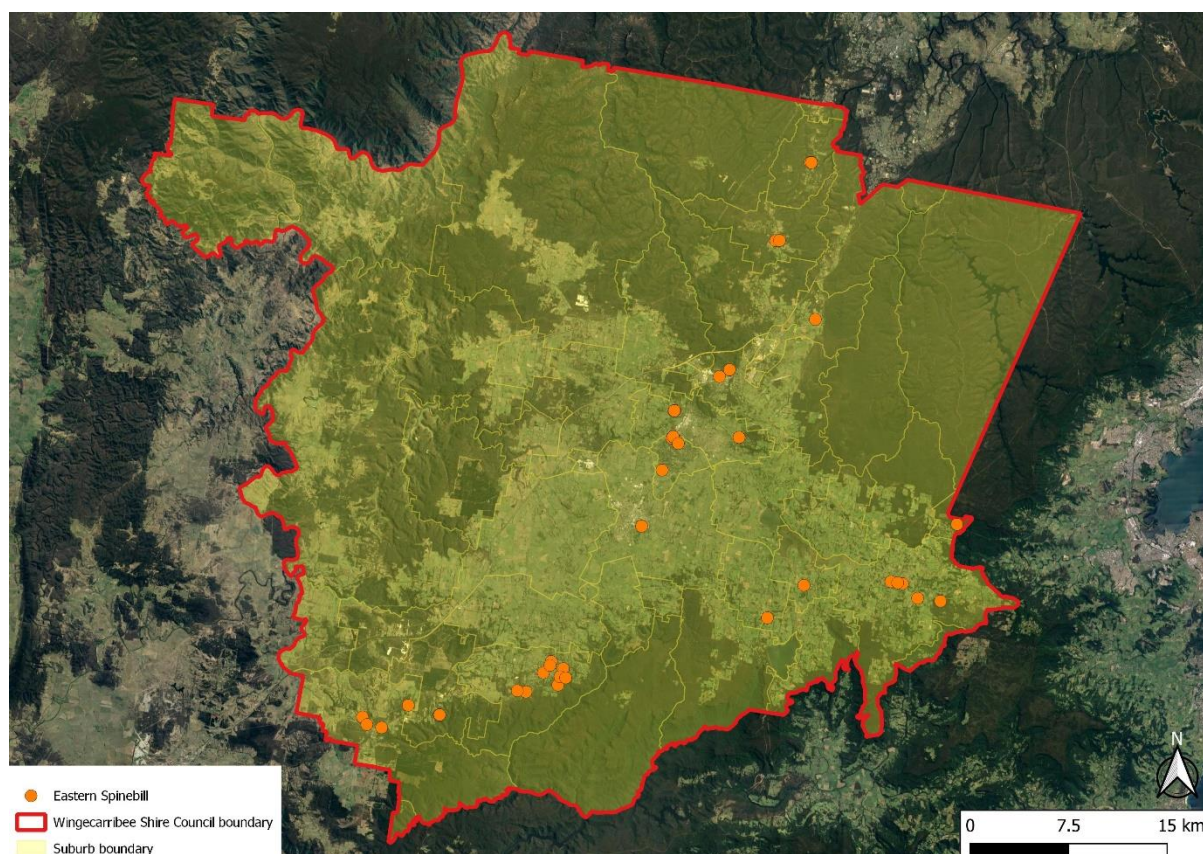
A total of 94 Eastern Spinebill were counted within the council boundaries during the 2019 Aussie Backyard Bird Count making them the 28<sup>th</sup> most frequently encountered species in the region. The total number of individuals counted has increased slightly since 2018, when 91 birds were observed. However, due to the total number of surveys submitted in the council region increasing, the reporting rate was much lower in 2019 (8.57%) than in 2018 (11.11%) and is more comparable to 2017 figures (8.4%). The reporting rate for this species across the state in 2019 was much lower at 5.41%.

The Eastern Spinebill was observed throughout the council region where surveys were conducted, except for the western portion where there were no records despite some surveys being conducted there. The suburbs that recorded the highest numbers of Eastern Spinebill were Bundanoon (22 individuals), Robertson (11 individuals), Penrose (11 individuals) and Bowral (10 individuals).



**Table 5:** Species specific statistics for the Eastern Spinebill showing the total number of surveys conducted, the total number of birds observed and the reporting rate for 2017 – 2019.

<b>Eastern Spinebill</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>
Total surveys	250	423	595
Bird Count	27	91	94
Reporting Rate (%)	8.4	11.11	8.57



**Figure 8:** Distribution of Eastern Spinebill within the council boundaries (red line) during the 2019 Aussie Backyard Bird Count. Bird observations recorded in a single survey overlap as they have the same GPS co-ordinates.

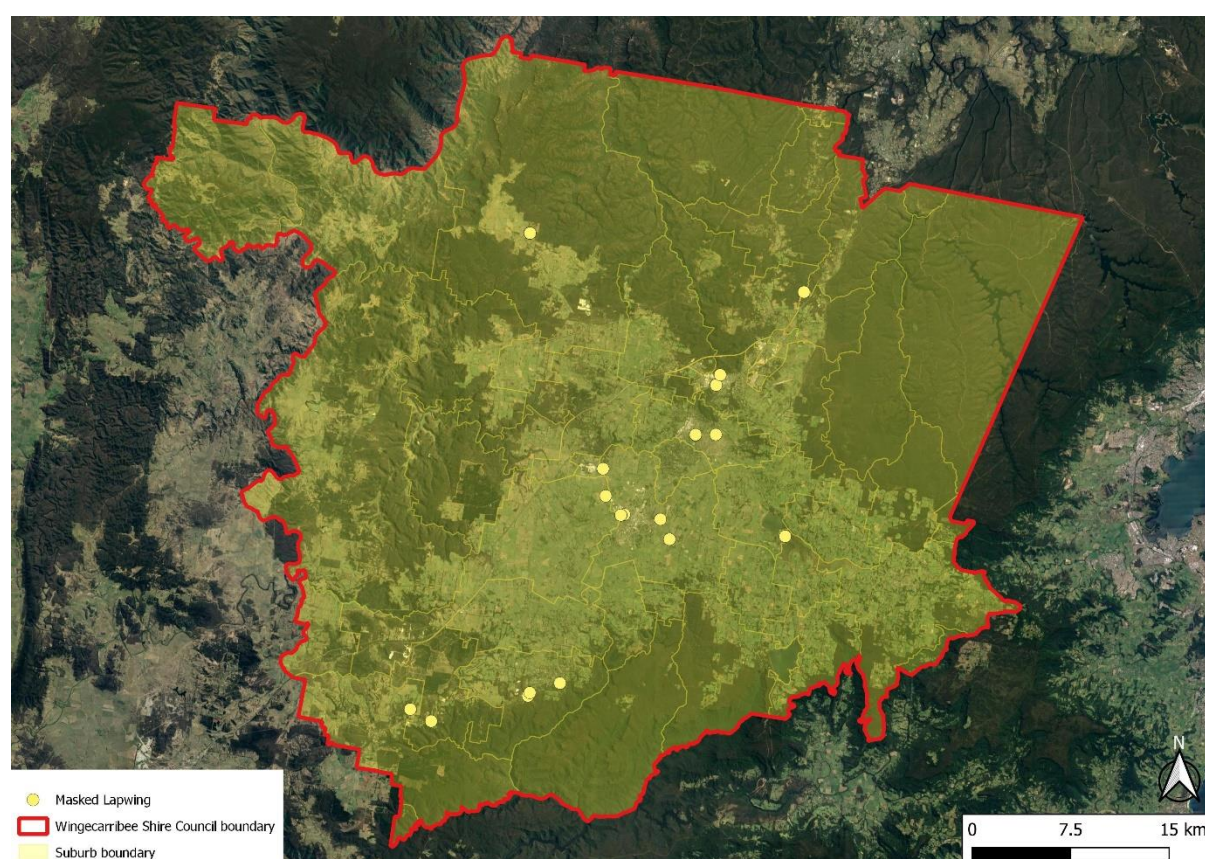
### 8.3 Masked Lapwing

Fifty Masked Lapwing were observed within the council boundaries during the 2019 Aussie Backyard Bird Count making them the 42<sup>nd</sup> most frequently encountered bird species in the region. The total number observed has increased each year since 2017 when 14 individuals were reported. Although the total number of surveys conducted has also increased over this time, the reporting rate has also increased slightly from 3.31% in 2018 to 3.70% in 2019. This is still much lower than the state-wide reporting rate for Masked Lapwing, which was 7.79%.

The Masked Lapwing was observed predominantly in the central and southern areas where the habitat is typically more open. The suburbs that recorded the highest numbers of Masked Lapwing were Moss Vale (19 individuals), Colo Vale (8 individuals), Bowral (5 individuals) and Bundanoon (4 individuals).

**Table 6:** Species specific statistics for the Masked Lapwing showing the total number of surveys conducted, the total number of birds observed and the reporting rate for 2017 – 2019.

Masked Lapwing	2017	2018	2019
Total surveys	250	423	595
Bird Count	14	26	50
Reporting Rate (%)	3.2	3.31	3.7



**Figure 9:** Distribution of Masked Lapwing within the council boundaries (red line) during the 2019 Aussie Backyard Bird Count. Bird observations recorded in a single survey overlap as they have the same GPS co-ordinates.



## 9. Data Limitations

An annual backyard bird survey occurring in gardens across Australia has the potential to be an extremely valuable monitoring tool for Australian bird species and communities. Over years, data collected from regions can be used to detect population trends for target species (both native and introduced), for different species guilds and for bird communities within specific areas. For example, detection of regional and/or national changes in the abundance and distribution of species especially those of management concern, such as downward trends of native species, or upward trends of pest species. Subsequent management actions can therefore be implemented in response to the survey results.

However, some caution must be taken when interpreting the results from such a survey. The backyards that are surveyed will not constitute a random selection of backyards across Australia. Previous analyses of surveys of a similar nature have suggested that participants are more likely to be interested in birds and have more 'bird-friendly' gardens than the country as a whole (Dunn et al., 2005; Spurr, 2012). If this is correct, the number of birds reported from surveyed backyards could be higher than the average number present within a typical Australian backyard. Additionally, bird species that are more likely to utilise habitat associated with backyard gardens are more likely to be recorded, thus represented, in the dataset than species that are specialised to other habitat types such as forests or water bodies. The lack of presence of these species within the dataset does not imply low abundance or scarce distribution but rather their specific habitat was not represented in the survey.

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 their 20-minute survey period. Furthermore, some regions may have small sample sizes, with some areas being under-represented (or not represented at all) which will influence data interpretation and population trends within an area and across the country. Survey results are also subject to temporal biases and only provide information of bird communities within a one-week period during spring. Hence, the Aussie Backyard Bird Count survey can be said to monitor population and distribution trends within the backyards of participants during the particular time period but results may not necessarily be applicable to Australia as a whole, or to the entire region specifically being analysed.

Furthermore, the GPS co-ordinates of surveys may not be completely accurate due to numerous factors. User error may occur when selecting their location through the app, as the placement of the survey flag may not precisely fall on their true location. However, the submitted co-ordinates will provide the general location where the survey occurred. Excluding user error, the accuracy of the GPS coordinates should fall within 5-50 metres as the app waits for up to 20 seconds to obtain an accurate GPS fix. If a GPS fix can't be found within this time, less accurate coordinates may be recorded. Being indoors, near tall buildings and heavy cloud cover can all lead to obtaining a poor GPS fix, or no GPS at all. Having Wi-Fi on and being near a Wi-Fi hotspot can give a fast, accurate result in most cases, but occasionally this can also result in a wildly inaccurate point in the case of a moving Wi-Fi hotspot. Most of the time this is not a problem or will be picked up by the user when they are looking at the map. If the app can't get a GPS fix and can't use Wi-Fi then it will fall back to using mobile towers, which can reduce accuracy to 1 km or even worse. The accuracy when submitting surveys on the website is much less predictable than the app. Most computers do not have a GPS so it has to rely on either Wi-Fi or the IP address. Wi-Fi can be quite accurate, but IP address-based locations are very rough – it basically just identifies which city you live in. If you are in a rural area sometimes it will just put you in the nearest major city/centre.

The skill and experience of observers conducting backyard surveys in correctly identifying birds will vary and also influence the validity of the survey results. The Aussie Backyard Bird Count

app provided the first instance of minimising incorrect species identifications by clearly indicating to the user if a species that they had selected to include on their checklist was “unlikely based on survey location”. Once the survey data was collected in the BirdLife Australia office, data was further vetted based on species distribution information. While every effort was undertaken to vet the survey data of mis-identified birds, it is still probable that some misidentifications will be included in the dataset and caution is needed when analysing the results. However, a previous study has implied that identification of species occurring in participants backyards are more likely to be correct as these species are familiar to the observer and are likely to be relatively common species (Cannon, 1999).

## 10. What Birds in Backyards Can Offer

We are fortunate in Australia to have such a diverse and colourful range of native birds that live 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 biodiversity with a person’s quality of life. In Britain, bird life is so valued that the UK government uses information about their wild birds as a measure of the health of the environment as a whole. This environmental indicator is published alongside more familiar economic and social indicators and reinforces the point that the maintenance of biodiversity is a key part of sustainability.

But our urban bird communities in Australia are changing. Small birds, like Spinebills and Fairy-wrens, were once more common in parks or gardens are now disappearing and being replaced by large and aggressive species like the Noisy Miner and Pied Currawong. Changes in our gardening practices and increasing urbanisation seem to be largely responsible for this – the simplification of our gardens and the loss of shrubs has removed important food, shelter and nesting locations. If vegetation in gardens could be managed to promote a diversity of native bird species, it will provide a valuable secondary habitat for conserving native bird populations, particularly as natural habitat continues to be destroyed. In the urban landscape, engaging with the wider community is necessary in order to turn around this habitat loss and provides a unique opportunity to engage large numbers of the general community actively in the conservation of biodiversity.

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 2019 posters (that can be made available in 6 languages), bookmarks, bird trading cards, gardening advice brochures
- Train the trainer workshops and associated materials or direct public workshops
- Ongoing monitoring programs for participants via our Backyard Bird surveys with feedback provided

- Children's engagement activities and school resources – ask us about our Birds in Schools programs. Options available from fully supported to teacher-delivered

For more information, please contact Urban Birds Program Manager Dr. Holly Parsons – [holly.parsons@birdlife.org.au](mailto:holly.parsons@birdlife.org.au).



## 11. References

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## 12. Appendix 1

The table below compares the Aussie Backyard Bird Count statistics within the council boundaries between 2017 and 2019.

	Year		
	2017	2018	2019
Number of observers	184	261	376
Total bird count	6169	9284	14272
Total surveys	250	423	595
Total species	132	143	166
Minimum checklists per user	1	1	1
Maximum checklists per user	16	11	11
Average checklists per user	2.34	2.32	2.74
Survey length (hours)	80.38	136.02	191.58