

Bathing Birds: Winter Report 2014

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Image courtesy of Michael

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Table of Contents

Introduction.....	2
Section 1. About our Citizen Scientists	2
Section 2. About the Birds visiting your Birdbath.....	6
Section 3. Birds by State	8
New South Wales.....	8
Queensland.....	8
Victoria.....	9
Australian Capital Territory.....	9
South Australia.....	10
Western Australia	10
Northern Territory	11
Tasmania.....	11
Section 4. Case Study Birds.....	12
Superb Fairy-wren.....	12
Eastern Spinebill	13
Double-barred finches	13
Silvereyes	14
Willie Wagtail.....	14
Rainbow Lorikeets.....	15
Sulphur-crested Cockatoo.....	15
Australian Magpie.....	16
Pied Currawong	16
Noisy Miner.....	17
House Sparrow.....	17
Common Myna	18
Section 5. Birds at your Birdbath.....	19
Small Birds versus Large Birds.....	19
Small Birds at your Birdbath	19
Large Birds at your Birdbath	21
What can I do to get smaller birds at my birdbath and in my garden?	22
Conclusion	24
Appendix: How we summed up our data	25

Introduction

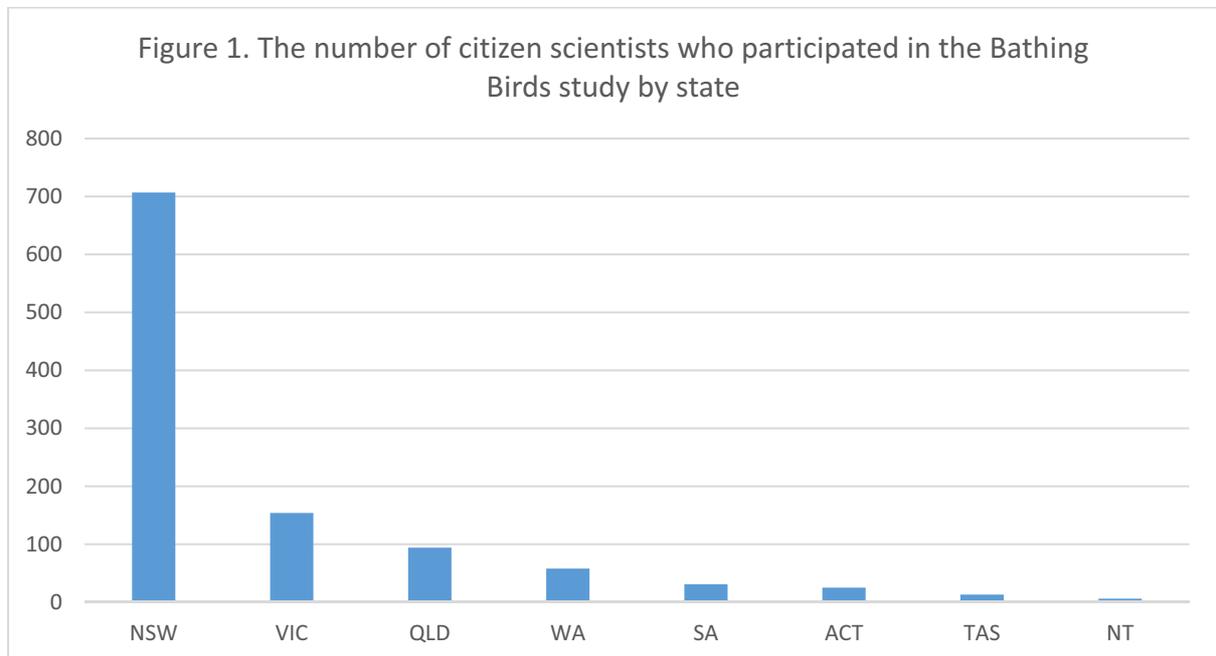
A massive **Thank You** to everyone who took part in the 2014 Bathing Birds study and supplied photos, especially Wanda from Sydney. If you have not already checked out her photos and many others on our Facebook page www.facebook.com/bathingbirds you are missing out! We at the National Parks Association of NSW, the Birds in Backyards Program and the University of Sydney are just thrilled with the response we have received and the fantastic data generated. In this report we are going to present you with what we have learned so far from this study. Bear in mind there is much more to do, including our repeat of this survey during summer – our summer survey will start on Friday the 23rd of January and will run until the 23rd of February. We are already excited about it!

We have divided this report into 5 sections; section 1 is about our citizen scientists, section 2 is about the birds visiting birdbaths, section 3 lists the top 10 birds visiting birdbaths by states, section 4 is case-studies on selected birds and section 5 is a discussion on the findings and what you can do to attract small birds into your garden.

We hope you enjoy reading this report and learn something new!

Section 1. About our Citizen Scientists

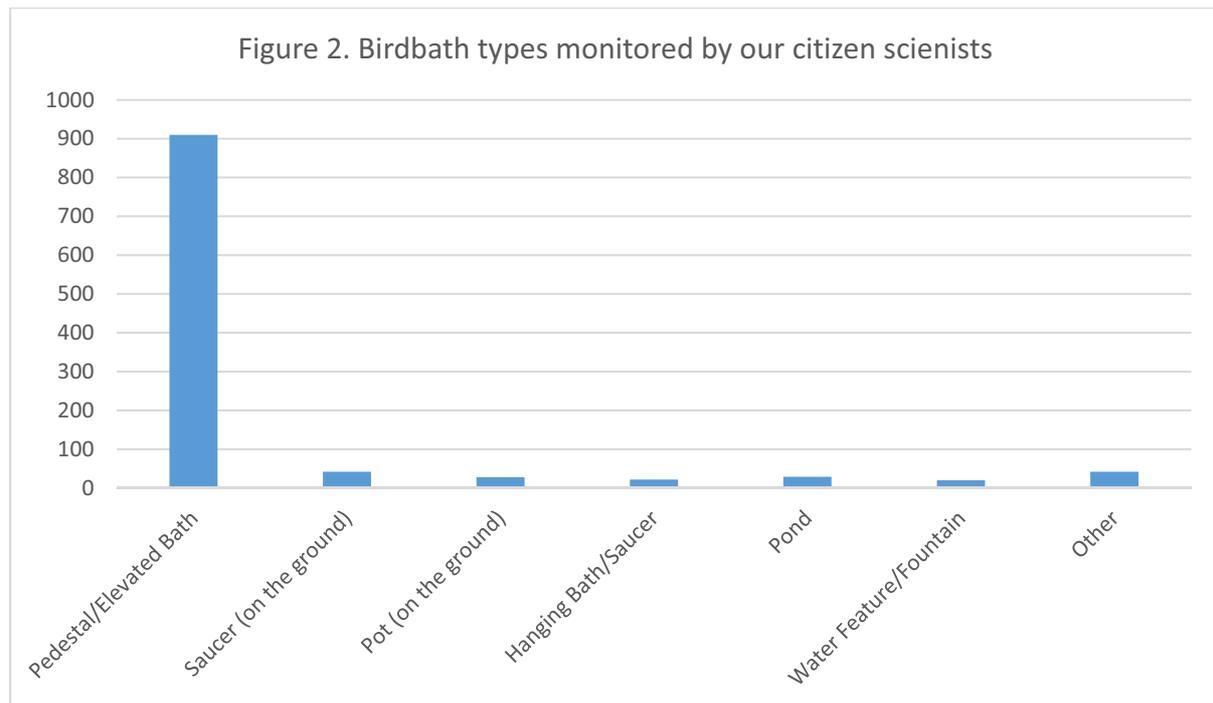
Our Bathing Birds study kicked off on the 27th of June and ran until the 27th of July 2014. We had 1,105 citizen scientists recording birds at birdbaths from all over Australia, submitting a total of 11,668 surveys! That's represents 226 species of birds and more than 47,000 individual sightings.



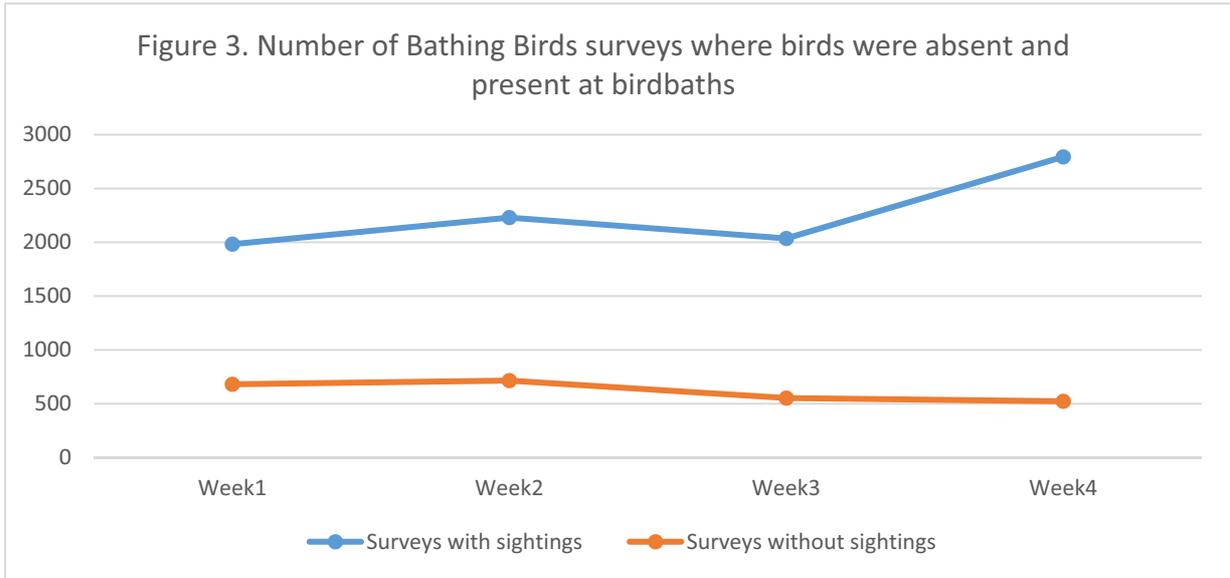
As shown in Figure 1, most of our citizen scientists were in NSW where we had 707 participants surveying their birdbaths. As always we are delighted to get participation for other states as well; we had 154 citizen scientists take part in Victoria, 94 in Queensland, 58 in Western Australia, 31 in South Australia, 13 in Tasmania and 6 citizen scientists in the Northern Territory. In the states where we had a low number of citizen scientists taking part

we hope to increase participation rate for the summer Bathing Birds survey so please spread the word!

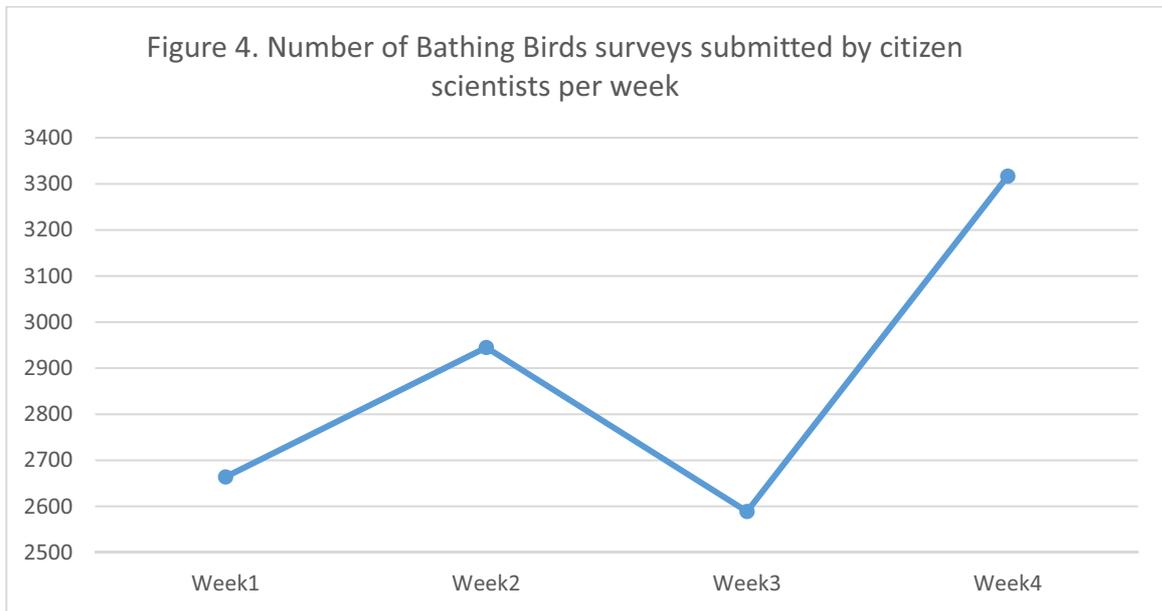
Figure 2 shows that pedestal baths were by far and away the most common birdbath monitored by our citizen scientists. Whilst it is great that we humans clearly have a preference, we do not yet have enough data on the other bath types to build up a clear picture of whether some birds prefer certain bath types.



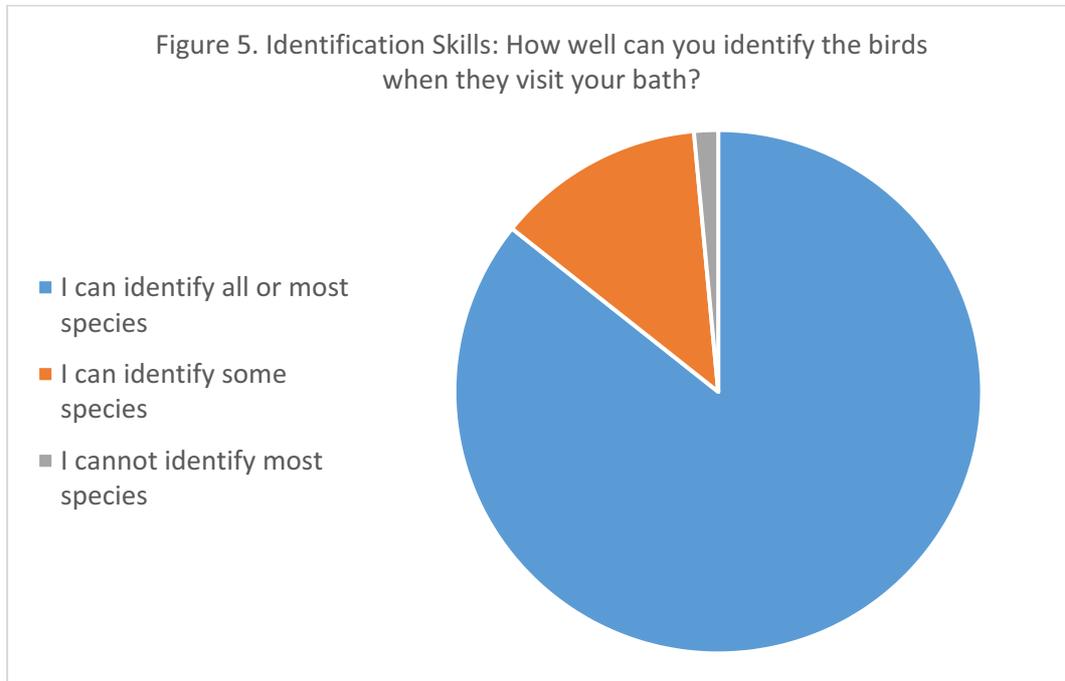
There were many instances in which citizen scientists were attempting to undertake a Bathing Birds survey, but no birds were visiting their birdbath. In order to allow us to capture this absence data, our citizen scientists filled out an additional weekly survey where they recorded if there were no bird sightings at the birdbath. As you can see from Figure 3, we did get a number of surveys with no bird sightings and these slightly decreased towards the end of the project. Our citizen scientists did report birds in the garden at the time of the surveys, just not using the bath. We can't say exactly why this was the case but not all birds drink every day, it also could be related to season (winter) and birds of course may be using alternative water sources as well. Interestingly a number of citizen scientists who had no bird sightings at their birdbaths during the survey period have since reported that they have seen birds using the bath.



Our citizen scientists worked hard for us during the Bathing Bird study period - Figure 4 shows the number of surveys that our citizen scientists submitted during the four weeks of the study. There was a big increase in week 4 with over 3,300 surveys submitted for the final week.



When involving the public in science it is important to have confidence in the data that is provided by your participants. As you can see from Figure 5, we are delighted that so many of our citizen scientists felt confident with identifying the birds that visited their baths. This makes the data more reliable and we have more trust in what was reported in the surveys.

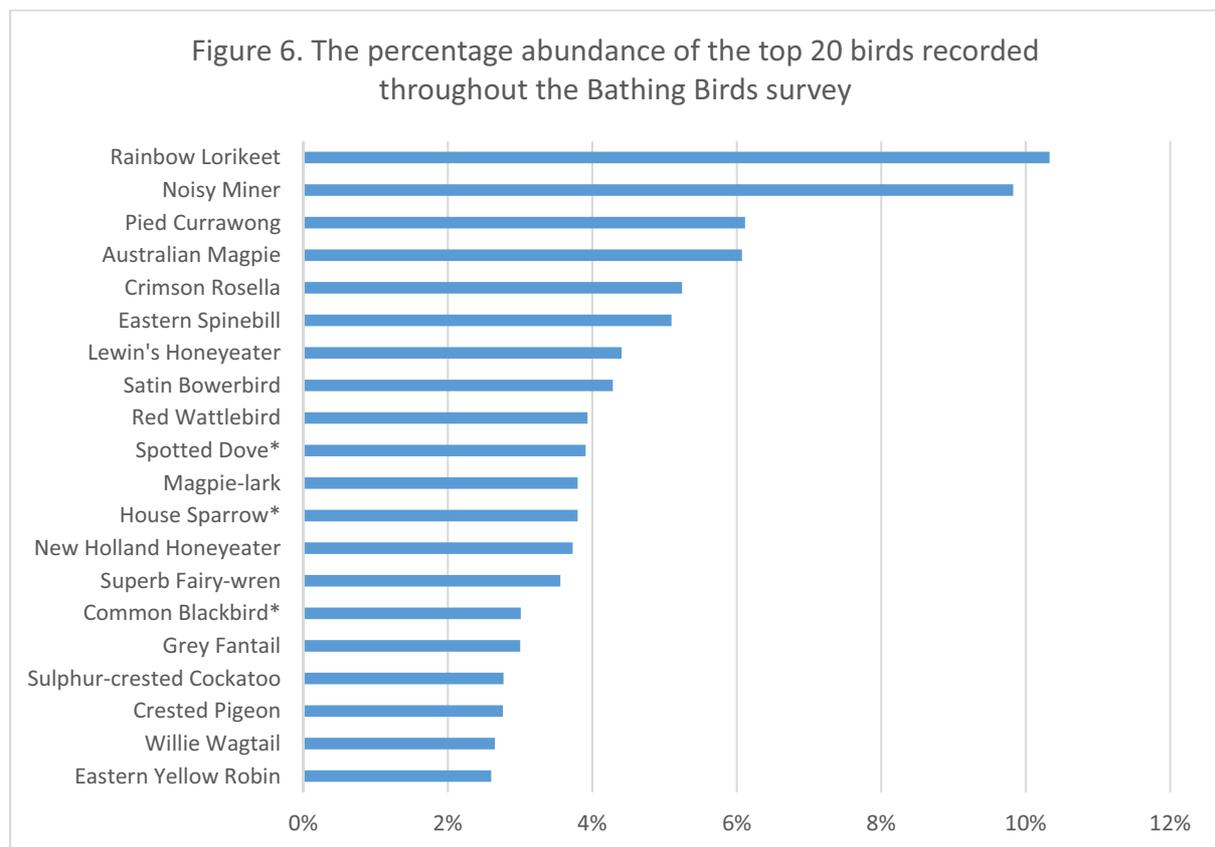


Section 2. About the Birds visiting your Birdbath

As mentioned at the start of this report, we will be presenting you with the over-arching findings of the Bathing Birds study. The results we discuss in this report are a reflection of the most common trends we have found among the birds observed instead of detailed analysis for each species. Remember we are only half way through our study and things might change during the summer study.

If you would like to find out how we interpreted the data present in this report please see the appendix section. Please note throughout the graphs and tables a * will be used to denote an introduced species.

We sorted the birds into the top 20 birds recorded in surveys from across Australia (Fig. 6) and found that Rainbow Lorikeets (occurring in over 10% of surveys) were the most commonly recorded bird followed by Noisy Miners (occurring in nearly 10% of surveys) at birdbath. However this may be a reflection of the high participation rate from NSW overshadowing results from other states.



Two of our common large urban birds, Pied Currawongs and Australia Magpies, were present in approximately 6% of surveys and were the third and fourth most commonly recorded bird. Despite the presences of these large and even aggressive species, the following small birds made it into the top 20 birds using birdbaths; Eastern Spinebills, Eastern Yellow Robins, Superb Fairy-wrens and Grey Fantails. Remember it maybe that

people who took part in this survey may do so because they have these lovely birds around, not necessarily that these birds are common overall in gardens (as we know for small birds that is not the case).

Introduced birds did feature in the top 20, as we would expect. Spotted Doves were seen in nearly 4% of surveys, House Sparrows occurred in nearly 4% of surveys and introduced Common Blackbirds in 3% of surveys. Interestingly Common Mynas were not recorded in the top 20 birds, making an appearance at number 24.

As well as having common birds visiting birdbaths, we were excited by some of our citizen scientists having unusual and even some threatened birds stopping by for a drink or to bathe. Amongst others we had sightings of an Emu in New South Wales, a Southern Cassowary in Far North Qld (federally endangered), a Victoria's Riflebird (one of our Birds of Paradise), a White-browed Woodswallow and even a tiny little Tasmanian Scrubwren (of course found only in Tasmania).



Image courtesy of Liz

Section 3. Birds by State

How did your state or territory rate? Take a look here at the top 10 most commonly seen specie. Remember in some states/territories our participation rate was low so what was seen and reported may not be representative of what is actually going on in birdbaths in that state/territory overall. This is why we need to increase the number of citizen scientists in these states for our summer surveys.

New South Wales

In NSW we had 707 citizen scientists submit 7,774 surveys!

Rainbow Lorikeets appeared in 13% of surveys while Noisy Miners were present in just over 11% making these two nectar-feeders the most abundant birds using birdbaths in NSW.



Top 10 birds in NSW	% of surveys
Rainbow Lorikeet	13.1%
Noisy Miner	11.5%
Pied Currawong	7.7%
Crimson Rosella	6.5%
Australian Magpie	6.3%
Satin Bowerbird	6.2%
Eastern Spinebill	5.8%
Lewin's Honeyeater	5.3%
Superb Fairy-wren	3.8%
Sulphur-crested Cockatoo	3.6%

There were some lovely smaller native birds in the top 10 - Eastern Spinebills and Lewin's Honeyeaters were present in nearly 6% of surveys and Superb Fairy-wrens in 4% of surveys respectively.

Satin Bowerbirds only appeared in the top 10 birds in NSW where they were recorded in 6% of surveys. No introduced species were present in the top

Queensland



In Queensland we had 94 citizen scientists submit 1,141 surveys.

Noisy Miners this time outranked Rainbow Lorikeets as the most abundant bird at birdbaths

appearing in nearly 18% of surveys. Noisy Miners are a particularly aggressive native honeyeater, known to dominate urban and regional bird communities along the east coast of Australia. A small native honeyeater the Brown Honeyeater appeared in 11% of surveys.

Top 10 birds in QLD	% of surveys
Noisy Miner	17.7%
Rainbow Lorikeet	11.1%
Brown Honeyeater	11.0%
Spotted Dove*	10.2%
Lewin's Honeyeater	7.9%
Blue-faced Honeyeater	7.7%
Grey Fantail	6.6%
Double-barred Finch	6.6%
Willie Wagtail	6.4%
Magpie-lark	6.2%

Once again small birds also appeared in the top 10 (in addition to the Brown Honeyeater) including Lewin's Honeyeaters, Grey Fantails, Double-barred Finches and Willie Wagtails. Unlike in NSW, there was an introduced bird in the top 10 – the Spotted Dove.

Victoria

In Victoria we had 154 citizen scientists submit 1,453 surveys.

Unlike other states/territories, the top 2 most abundant birds recorded at baths were two introduced birds; House Sparrows and Common Blackbirds – both appearing in nearly 9% of surveys respectively.



The most abundant native birds were small honeyeater, the New

Top 10 birds in Victoria	% of surveys
House Sparrow*	8.8%
Common Blackbird*	8.6%
New Holland Honeyeater	7.5%
Eastern Spinebill	4.9%
Australian Magpie	4.8%
Crimson Rosella	4.4%
Spotted Dove*	3.8%
Brown Thornbill	3.7%
Common Myna*	3.6%
Superb Fairy-wren	3.2%

Holland Honeyeater appearing in over 7% of surveys followed by the Eastern Spinebill (5% of surveys). We also had Brown Thornbills present in almost 4% of surveys and Superb Fairy-wrens present in just over 3% of surveys.

Victoria was the only state where the introduced Common Myna made an appearance in the top 10 birds, present in nearly 4% of surveys.

Australian Capital Territory



In the ACT we had 25 citizen scientists submit 330 surveys.

The most abundant bird species were Australian Magpies appearing in over 17%

of surveys followed by 2 common urban birds; the Red Wattlebird (a type of honeyeater) and Magpie-lark, both appearing in just over 12% of surveys respectively.

In the ACT we see the Crested Pigeon (a native pigeon as opposed to the doves we have also seen in some birdbaths) pop up in the top 10 – occurring in 4.5% of surveys, along with only 2 small native birds, the Eastern Spinebill again and the Grey Fantail.

Top 10 birds in ACT	% of surveys
Australian Magpie	17.2%
Red Wattlebird	12.4%
Magpie-lark	12.4%
Crimson Rosella	10.3%
Pied Currawong	10.3%
House Sparrow*	6.6%
Sulphur-crested Cockatoo	4.5%
Crested Pigeon	4.5%
Eastern Spinebill	4.2%
Grey Fantail	3.3%

South Australia

In South Australia we had 31 citizen scientists submit 333 surveys.

As in Victoria, the introduced House Sparrow was the most abundant bird appearing in nearly 19% of surveys (about 1 in 5 surveys!) while the introduced Common Blackbird appeared in over 8% of surveys



Top 10 birds in SA	% of surveys
House Sparrow*	18.6%
New Holland Honeyeater	15.0%
Magpie-lark	12.9%
Common Blackbird*	8.4%
Red Wattlebird	7.8%
Crested Pigeon	6.9%
Spotted Dove*	6.3%
Australian Magpie	6.0%
Superb Fairy-wren	5.1%
White-plumed Honeyeater	4.2%

The most abundant native bird was the New Holland Honeyeater appearing in 15% of surveys followed by Magpie-larks present in nearly 13% of surveys.

The Superb Fairy-wren was the only native small insectivorous bird to appear on the list, appearing in just over 5% of surveys and the White-plumed Honeyeater (a small native nectar-feeder) also crept into the top 10.

Western Australia



In Western Australia we had 58 citizen scientists submit 451 surveys.

Honeyeaters were very common at birdbaths in WA. The most abundant bird was the New Holland Honeyeater which was recorded in over 28% of surveys followed by the Red Wattlebird appearing in nearly 17% of surveys and Brown Honeyeaters in almost 15% of surveys.

It was great to see that both Silvereyes and Grey Fantails were recorded in the top 10 birds using birdbaths (5% and 4% respectively), more abundant than Australian Magpies which were present in 3% of surveys.

WA was the only state/territory where the Laughing Dove (an introduced species from Africa) made the top 10 where it appeared in 7% of surveys.

Top 10 birds in WA	% of surveys
New Holland Honeyeater	28.3%
Red Wattlebird	16.8%
Brown Honeyeater	14.8%
Willie Wagtail	11.9%
Singing Honeyeater	8.8%
Laughing Dove*	7.1%
Silvereye	5.1%
Magpie-lark	4.2%
Grey Fantail	4.2%
Australian Magpie	3.1%

Northern Territory

In the Northern Territory we had 6 citizen scientists submit 64 surveys.

Top 10 birds in NT	% of surveys
White-plumed Honeyeater	28.1%
Double-barred Finch	18.7%
Crimson Finch	17.1%
Zebra Finch	15.6%
Spiny-cheeked Honeyeater	15.6%
Peaceful Dove	10.9%
Bar-shouldered Dove	9.3%
White-gaped Honeyeater	6.2%
Singing Honeyeater	4.6%
Blue-faced Honeyeater	4.6%

The most abundant bird recorded was the White-plumed Honeyeater appearing in over 28% of surveys followed by the following finches: Double-barred Finches in nearly 19% of surveys, Crimson Finches in 17% and Zebra Finches in nearly 16% of surveys. This was the only state/territory with such a large proportion of finches.



Tasmania



In Tasmania we had 13 citizen scientists submit 122 surveys.

Small native birds dominated our Tasmanian birdbaths with no large or aggressive birds appearing in the top 10. Grey Fantails and Eastern Spinebills were both abundant at birdbaths appearing in just over 16% of surveys followed

by Superb Fairy-wrens (12% of surveys) and New Holland Honeyeaters (nearly 11% of surveys).

The Tasmanian Thornbill appeared in nearly 10% of surveys. These Thornbills are very similar and sometimes mistaken for Brown Thornbills which also appeared in the top 10 birds recorded in Tasmania

The House Sparrow was the only introduced bird in the top 10, present in nearly 7% of surveys.

Top 10 birds in Tasmania	% of surveys
Grey Fantail	16.3%
Eastern Spinebill	16.3%
Superb Fairy-wren	12.3%
New Holland Honeyeater	10.6%
Yellow-throated Honeyeater	9.8%
Tasmanian Thornbill	9.8%
Crescent Honeyeater	9.8%
Brown Thornbill	9.0%
House Sparrow*	6.5%
Silvereye	6.5%

Section 4. Case Study Birds

Rather than go through each individual species and report back on their birdbath and garden trends, we have chosen a sub-section of birds that cover a range of different types of birds to look at what stands out in gardens where these birds are found.

For each of our bird groups we present both the proportion of surveys and the proportion of gardens they were recorded in (remember each garden has multiple surveys completed within it). We then examine how the following attributes of a garden may influence on what birds visit them:

1. Was the vegetation composition mostly native plants, a mixture of native and introduced plants or mostly introduced plants?
2. Were pets present (dogs, cats, domestic birds)?
3. Were birds feed by people?
4. How often was the water in the birdbath changed?
5. How far from vegetation was the birdbath?

Please note that these findings are broad trends for each species. After the summer survey we will do a thorough statistical analysis on all of the results and provide more detailed information on birdbath and garden preferences for these birds.

Superb Fairy-wren

Superb Fairy-wrens came in as the 14th most abundant bird overall (see Fig 6) were present in 3.5% of surveys and in 13% of gardens. These gorgeous little blue adult males and brown females (and juvenile birds), live in small family territories. They feed on insects and other invertebrates on open lawn space but need dense native shrubs for shelter and nest sites.

Superb Fairy-wrens appeared to be more commonly reported in gardens where:

- ✓ Vegetation composition was mostly native
- ✓ Pets were not present
- ✓ Birds were not fed by people
- ✓ Water was changed daily
- ✓ Birdbath was touching vegetation



Image courtesy of Wanda

Read more about Superb Fairy-wrens here:

www.birdsinbackyards.net/species/Malurus-cyaneus

Eastern Spinebill

Eastern Spinebills came in as the 6th most abundant bird overall (see Fig 6) and were present in 5% of surveys and in 14% of gardens. Spinebills are small (11 g) honeyeaters. Their long thin beaks are perfect for gathering nectar from plants like Grevilleas, Banksias and especially long tubular flowers like Epacrids and Correas.

Eastern Spinebills appeared to be more commonly reported in gardens where:

- ✓ Vegetation composition was mostly native
- ✓ Pets were not present
- ✓ Birds were not fed by people
- ✓ Water was changed frequently (daily/weekly)
- ✓ Birdbath was touching vegetation



Image courtesy of Wanda

Read more about Eastern Spinebills here:

www.birdsinbackyards.net/species/Acanthorhynchus-tenuirostris

Double-barred finches

Double-barred finches came in as the 31st most abundant bird overall and were present in 1.5% of surveys and in 3% of gardens. These finches are a type of long-tailed grass-finch – and so unsurprisingly, they search for seeds on the ground. Large flocks of more than 40 birds can come together in search of food.

Double-barred finches appeared to be more commonly reported in gardens where:

- ✓ Vegetation composition was native, introduced or a mix
- ✓ Pets did not appear to influence their presence
- ✓ Birds were fed daily by people
- ✓ Water was changed frequently
- ✓ Birdbath was touching vegetation



Image courtesy of Narelle

Read more about Double-barred Finches here:

www.birdsinbackyards.net/species/Taeniopygia-bichenovii

Silvereyes

Silvereyes came in as the 28th most abundant bird overall and were present in nearly 2% of surveys and in 6% of gardens. They are an interesting little bird too – silvereyes eat both insects and fruits, forming flocks during winter (often with other birds) but feed alone or in pairs during the breeding season. They are also ‘partial migrants’, whilst some members of the population stay in the same area year-round, others migrate north-south. Birds from Tasmania will travel all the way to south-east Queensland each year (and back again!).

Silvereyes appeared to be more commonly reported in gardens where:

- ✓ Vegetation composition was native, introduced or a mix
- ✓ Pets were not present
- ✓ Birds were not fed by people
- ✓ Water was changed frequently (daily/weekly)
- ✓ Birdbath was touching vegetation



Image courtesy of Alison

Read more about Silvereyes here:

www.birdsinbackyards.net/species/Zosterops-lateralis

Willie Wagtail

Willie Wagtails came in as the 19th most abundant bird overall (see Fig 6) and were present in nearly 3% of surveys and in 10% of gardens. Despite being a small bird, they are not usually reliant on dense vegetation cover. Instead they forage for insects out of open lawn space (with that characteristic tail waggle) and will even build their nests on exposed branches. Instead of seeking shelter, they rely on aggression to protect themselves and their young.

Willie Wagtails appeared to be more commonly reported in gardens where:

- ✓ Vegetation composition was mostly native or a mix
- ✓ Pets did not appear to influence their presence
- ✓ Birds were not fed by people
- ✓ Water was changed daily
- ✓ Birdbath was close to vegetation



Image courtesy of Wanda

Read more about Willie Wagtails here:

www.birdsinbackyards.net/species/Rhipidura-leucophrys

Rainbow Lorikeets

Rainbow Lorikeets came in as the top most abundant bird overall (see Fig 6) and were present in over 10% of surveys and in 21% of gardens. They are one of the most common birds in general in urban areas around the east coast of Australia (with a population also introduced to Perth), moving in large and noisy flocks to feed on flowering native plants like Eucalypts and Grevilleas. They will also sometimes take seeds, insects and fruit as well.

Rainbow Lorikeets appeared to be more commonly reported in gardens where:

- ✓ Vegetation composition was native, introduced or a mix
- ✓ Pets did not appear to influence their presence
- ✓ Birds were fed daily by people
- ✓ Water was changed frequently (daily/weekly)
- ✓ Birdbath proximity to vegetation was not important



Image courtesy of Linda

Read more about Rainbow Lorikeets here:

www.birdsinbackyards.net/species/Trichoglossus-haematodus

Sulphur-crested Cockatoo

Sulphur-crested Cockatoo came in as the 17th most abundant bird overall (see Fig 6) and were present in nearly 3% of surveys and in 7% of gardens. These noisy birds are one of our most iconic species. They feed in flocks (usually with one standing guard) and will eat a range of different things both in trees and on the ground – from tubers and roots in the grounds, to seeds, nuts and berries.

Sulphur-crested Cockatoo appeared to be more commonly reported in gardens where:

- ✓ Vegetation composition was native, introduced or a mix
- ✓ Pets did not appear to influence their presence
- ✓ Birds were fed daily by people
- ✓ Water was changed frequently (daily/weekly)
- ✓ Birdbath proximity to vegetation was not important



Image courtesy of Julie

Read more about Sulphur-crested Cockatoos here:

www.birdsinbackyards.net/species/Cacatua-galerita

Australian Magpie

Australian Magpies came in as the 4th most abundant bird overall (see Fig 6) and were present in 6% of surveys and in 20% of gardens. One of our most common backyard birds, Australian Magpies are found all over Australia. Groups are territorial – they feed mostly on the ground for invertebrates (they are actually not big meat-eaters!) and a small proportion of them (usually males), will swoop during the breeding season in an attempt to protect their young.

Australian Magpies appeared to be more commonly reported in gardens where:

- ✓ Vegetation composition was native, introduced or a mix
- ✓ Pets did not appear to influence their presence
- ✓ Birds were fed frequently
- ✓ Water was changed frequently (daily/weekly)
- ✓ Birdbath proximity to vegetation was not important



Image courtesy of Anne

Read more about Australian Magpies here:

www.birdsinbackyards.net/species/Cracticus-tibicen

Pied Currawong

Pied Currawong came in as the 3rd most abundant bird overall (see Fig 6) and were present in 6% of surveys and 17% of gardens. These large birds are another east coast species and have a varied diet. They not only eat berries (and are responsible for spreading some weeds) and invertebrates, but they are also predatory – especially on eggs and chicks of small birds. Like their relatives the Butcherbirds, they sometimes use a ‘larder’ – a tree fork or crevice where they can skewer their prey.

Pied Currawong appeared to be more commonly reported in gardens where:

- ✓ Vegetation composition was native, introduced or a mix
- ✓ Pets did not appear to influence their presence
- ✓ Feeding birds did not appear to influence their presences
- ✓ Water was changed frequently (daily/weekly)
- ✓ Birdbath proximity to vegetation was not important



Image courtesy of Kim

Read more about Pied Currawongs here:

www.birdsinbackyards.net/species/Strepera-graculina

Noisy Miner

Noisy Miner came in as the 2nd most abundant bird overall (see Fig 6) and were present in almost 10% of surveys and in 21% of gardens. They are a dominant member of the urban bird communities of east coast Australia. Forming large territories of multiple families, these honeyeaters will chase away other birds and are thought to play a large role in shaping our urban bird populations. Basically if you are smaller than a Noisy Miner, you find it tough to live in gardens with them.

Noisy Miners appeared to be more commonly reported in gardens where:

- ✓ Vegetation composition was native, introduced or a mix
- ✓ Pets did not appear to influence their presence
- ✓ Feeding birds did not appear to influence their presence
- ✓ Frequency of changing water was not important
- ✓ Birdbath proximity to vegetation was not important



Image courtesy of Debbie

Read more about Noisy Miners here:

www.birdsinbackyards.net/species/Manorina-melanocephala

House Sparrow

House Sparrows came in as the 12th most abundant bird overall (see Fig 6) and were present in nearly 4% of surveys and in 8% of gardens. These introduced birds were once more common in Australia (and indeed worldwide) than they are now. They are actually large finches and can be found in small groups or huge flocks. One reason for the successful establishment of the House Sparrow in Australia and, indeed, all over the world, is its ability to feed on a wide range of foodstuffs. House Sparrows will eat insects, spiders, berries, seeds, flower buds and scraps of food discarded by humans. There are many reports of birds entering canteens in buildings to feed, with birds even learning to activate automatic doors in order to gain entry.

House Sparrows appeared to be more commonly reported in gardens where:

- ✓ Vegetation composition was mostly introduced
- ✓ Pets did not appear to influence their presence
- ✓ Birds were fed daily by people
- ✓ Water was changed daily
- ✓ Birdbath was touching vegetation



Image courtesy of Alison

Read more about House Sparrows here:

www.birdsinbackyards.net/species/Passer-domesticus

Common Myna

Common Mynas were the 24th most abundant bird overall and present in just over 2% of surveys and in 8% of gardens. Surprisingly this most hated bird was not as common in birdbaths as we expected – though undoubtedly they are visiting many more gardens (just not necessarily their birdbaths) and are on the increase. They are doing well because they like open lawn space, buildings and food scraps that we leave outside (like dog and cat food) but can cause problems for other birds when they invade hollows and nest boxes.

Common Mynas appeared to be more commonly reported in gardens where:

- ✓ Vegetation composition was native, introduced or a mix
- ✓ Pets did not appear to influence their presence
- ✓ Birds were fed by people
- ✓ Water was changed frequently (daily/weekly)
- ✓ Birdbath proximity to vegetation was not important



Image courtesy of Ben

Read more about Common Mynas here:

www.birdsinbackyards.net/species/Sturnus-tristis

Section 5. Birds at your Birdbath

As with all animals, birds need water to survive. Though some birds, particularly those who feed on fruit and nectar, like Rainbow Lorikeets can extract moisture from their food, most birds need to drink water every day. Birds also use water for bathing, to clean their feathers and remove parasites. For these reasons, a dependable supply of fresh, clean water is attractive to most birds. Indeed our Bathing Birds study supports this, as birds appear to use baths where the water was changed frequently. For small birds, our study suggests that placing the birdbath near trees or dense vegetation seems to favour these smaller birds. It is likely that placing baths close to vegetation provides these birds with an escape route if a predator approaches. The vegetation can also provide shade and help keep the water cool and reduce evaporation. Furthermore, birds cannot fly well when they are wet, so they may be more vulnerable to predators when bathing. Vegetation cover located close to birdbaths can provide birds with a safe place to hide and an escape route if predators are sighted.

Small Birds versus Large Birds

Our findings from the Bathing Birds study has shown some interesting relationships between our garden styling's and the types of birds visiting. We have divided the birds used in the case studies into two groups; "small birds" and "large birds". The "small bird" group is made up of those less than 20 g in weight: Eastern Spinebills, Superb Fairy-wrens, Silvereyes, Double-barred Finches, Willie Wagtails and introduced House Sparrows. The "large bird" group is made up of all of those over 20 g: Rainbow Lorikeets, Sulphur-crested Cockatoos, Australian Magpie, Pied Currawong, Noisy Miner and introduced Common Mynas.

Small Birds at your Birdbath

Let's first look at the small birds group. Superb Fairy-wrens and Eastern Spinebills appeared more common at birdbaths where the vegetation composition was mostly native while Silvereyes, Willie Wagtails and Double-barred Finches seemed to show no strong preference for a particular vegetation composition (native versus introduced plants). The reason for this might be connected to the diet and foraging behaviour of these birds. Superb Fairy-wrens mostly forage on the ground for insects and other small arthropods and previous research suggests that these birds show strong preference for gardens with dense native shrubs. They use these native shrubs for shelter, leaving them only to forage on the lawn before retreating again.



Grey Fantails showed up in 11% of gardens and 3% of surveys overall. Image courtesy of Wanda

Eastern Spinebills, one of our smallest and most active honeyeaters feed primarily on nectar obtained from a wide array of flowers (e.g. Grevillea and Banksias) and will use gardens with sufficient native vegetation to act as cover and a food source. In contrast, Silvereyes are

omnivorous, feeding on insects and large amount of fruit and nectar, both from native and introduced plants, making them an occasional pest of commercial orchards. This also would explain their presence in gardens with introduced as well as native plants. Vegetation composition of the plants did not appear as vital for Willie Wagtails and Double-barred Finches, possible due to their foraging behaviour. Both birds forage in open habitats, such as grass lawns, where Willie Wagtails hunt for insects and Double-barred Finches feed on seed, so the vegetation composition of the plants themselves may not be as important.



The Red-brow Finch showed up in 7% of gardens and 2% of surveys overall. Image courtesy of Phillip

Double-barred Finches and Willie Wagtails appeared not to be deterred by the presence of pets when using birdbaths. This may seem surprising as Willie Wagtails will hunt for insects by darting around lawns wagging their tails horizontally when foraging making them vulnerable to predators. However Willie Wagtails are actually quite aggressive and territorial and are known to swoop dogs and cats that approach their nest too closely. This aggressive behaviour might also explain why they used birdbaths up to one metre away from

vegetation. Willie Wagtails show their aggression when their white eyebrow becomes flared and more prominent than when the bird is relaxed. In fact, despite being a small native bird, Willie Wagtails are actually a relatively successful urban bird and are common sight in urban parks and lawns. While Double-barred Finches are not aggressive like Willie Wagtails, they are nomadic and move in large flocks where there is likely to be safety in numbers.

House Sparrows were introduced from Britain between 1863 and 1870, first into Victoria and later into other areas including Sydney, Brisbane and Hobart. They were the most abundant bird recorded at birdbaths in Victoria and South Australia and were also present in the top 10 birds recorded in the ACT and Tasmania. Overall House Sparrows were recorded in 8% of gardens and were more abundant where the vegetation composition was mostly introduced plants and people fed birds. Like the Double-barred Finches and Willie Wagtails, the presence of pets did not appear to affect their use of birdbaths. House Sparrows, as with other introduced birds, are strongly associated with human habitation and have become adapted to living with us. Reasons for the successful establishment of House Sparrows is their ability to feed on a wide range of foodstuffs and that they can breed throughout the year, ensuring that birds that are predated on are quickly replaced. Did you know that House Sparrows are actually declining worldwide? In their native Europe this decline is a cause for huge concern (though we are not worried here of course!). It is likely that habitat loss (removal of shrubs and hedges) is likely to be responsible for this.



The Eastern Yellow Robin showed up in 8% of gardens and 3% of surveys overall. Image courtesy of Wanda

Large Birds at your Birdbath

Now let's look at the large birds group and see how their requirements are different from those of smaller birds. Rainbow Lorikeets and Noisy Miners were the most common birds in two states, New South Wales and Queensland, where they were recorded in 21% of gardens. Interestingly these birds did not appear in the top 10 birds recorded in other states.



The Red Wattlebird showed up in 13% of gardens and 4% of surveys overall. Image courtesy of Wanda

All of the large birds seemed to be recorded in gardens with birdbaths that had certain traits in common. Unlike the small birds discussed above, the proximity of the birdbath to vegetation did not appear to influence or deter these large birds from using the bath. This is not surprising given that all of these bigger birds are not reliant on dense vegetation. In addition there was not a strong preference for a native vegetation composition, despite Rainbow Lorikeets and Noisy Miners being primary nectar feeders. A possible reason for this could be due to the prolific flowering plants such as Grevillea hybrids that provide food year round. Common Myna, Australian Magpies, Sulphur-crested Cockatoo and Rainbow Lorikeets appear to be attracted to gardens where birds are fed while Pied Currawongs and Noisy Miners were did not appear to be influenced by people feeding birds. This is in contrast to the small bird group who were less common in gardens where people provide food. Some birds such as Australian Magpies and Sulphur-crested Cockatoos will become accustomed to being fed and will return to the same place looking for food. Past research has shown that the presence of Pied Currawongs in gardens is negatively related with presence of Silvereyes and gardens with Noisy Miners are less likely to have small birds in them.

Unlike a number of smaller birds discussed earlier, the presence of pets appeared not to deter these larger birds, possibly because of the bird's aggressive or confident behaviour. For example some Australian Magpies are known to swoop people (and their pets) especially during breeding season and will even enter houses looking for food, undeterred by pets. Rainbow Lorikeets will form pairs to defend their feeding and nesting areas aggressively, chasing off smaller birds and mobbing other dominating birds such as Noisy Miners and Australian Magpies. The aggressive behaviour of Noisy Miners and their impact on smaller birds has been well documented. Gregarious and territorial, Noisy Miners will forage, bathe, breed and defend territories communally through mobbing predators such as cats and chasing, pecking and fighting with other birds. It seems that they are at least partially responsible for a loss of small native birds from our parks and gardens.



The Magpie-lark showed up in 13% of gardens and 4% of surveys overall. Image courtesy of Linda

Surprisingly, Victoria was the only state where the introduced Common Myna made an appearance in the top 10 birds sighted where it was recorded in 8% of gardens. The Common Myna was first introduced into Victoria between 1862 and 1872. It was hoped that the bird would combat insect pests, particularly locust plagues and cane beetles. Its success in Australia is partly to do with its opportunistic behaviour (they eat just about anything!) and aggressiveness towards other species particularly when competing for nest sites (in suburbia that is usually nest boxes, though they more often use holes in our rooves). Another reason Mynas are so successful in Australia is due to its evolutionary origins; having evolved in the open woodlands of India, the Myna is well suited to habitats with tall vertical structures and little to no vegetation ground cover, features characteristic of city streets and many urban nature reserves. Basically, we have created a fantastic place for them – lots of open lawn space, food to scavenge and man-made structures to nest in.



The introduced Common Blackbird showed up in 10% of gardens and 3% of surveys overall. Image courtesy of Yvonne

What can I do to get smaller birds at my birdbath and in my garden?

The key to designing a bird-friendly garden is to create a multi-layered habitat of ground covers, small and medium shrubs (i.e. **create density**) and, where possible, trees that will provide year-round food and shelter locations for many different species. Use these simple principles to help you plan your garden. You will find them equally useful for designing a brand new garden or modifying an existing design.

- **Plant for vertical and horizontal structure:** Avoid stark simplicity. Simplified garden structure and design may seem convenient but reduces the volume and variety of food and shelter for small birds.
- **Plant for shelter:** Several shrubs close together (five or more) can form dense, protective thickets, great habitat for small birds. Grow rambling, light climbers in amongst medium to tall shrubs and trees, to give extra shelter and possible nesting sites
- **Plant for food:** Small birds eat nectar from native flowers and seed from native grasses, as well as associated insects. Mulch your garden to encourage insect life.

- **Plant locals:** Plants that grow naturally in your area are suited to local conditions. They will provide the right food and shelter for local native birds, unlike some hybrids or plants from other parts of Australia, and are less likely to become weeds in adjacent bushland areas. If you can't get locally native plants, general natives are the next best thing. Talk to your local council to get a plant list for your region and the location of your nearest locally native nursery.
- **Create diversity:** Small birds use ground covers, grasses, small, medium and large shrubs.
- **Plant below trees:** A dense understorey is less attractive to Noisy Miners but enjoyed by smaller birds.
- **Plant for seasonality:** Different plants will flower and fruit at different times of the year. Ensure there is always food sources available in your garden by looking at the flowering and fruiting times of potential plants.
- **Remove exotic species that produce berries:** Over time, replace fruiting plants like Cotoneaster that attract Currawongs.
- **Reduce lawn area:** Replace unused lawn areas with garden beds or native grasses which produce attractive seed heads that provide food for finches and other seedeaters such as Crimson Rosellas. Some lawn is not a bad thing though – so you don't have to get rid of it all.
- **Use small gardens effectively:** With limited space, it is better to plant several plants of the same type, than only one of several types of different plants.
- **Design for formality or informality:** A variety of Australian native plants can be planted to create a formal garden or a bush-like garden, whatever you prefer. Most native plants respond very well to pruning. In fact pruning helps create all-important density that small native birds need.
- **Provide water:** Our Bathing Birds study has shown just how important birdbaths are to a huge range of our bird life. Whilst we are still analysing the data, we would suggest:
 - **Using a range of bird baths** – try saucers or hanging baths along with the common pedestal bath
 - **Place the baths very near to native plants (shrubs or trees)**
 - **Keep the water clean (ideally daily)**
 - **Locate the birdbath away from dogs and cats**
 - **Avoid feeding birds as well. Instead let your garden provide the food resources that birds are looking for naturally**

For more information and tips bird-friendly gardening, visit the Birds in Backyards website – <http://www.birdsinbackyards.net>

Conclusion

As this report has shown the information collected in this study is extremely valuable and adds to our understanding of birdbath usage and the factors that influence presence of birds in our gardens. In particular, we have addressed a number of relationships between small birds and garden characteristics which implies that even by making simple adjustments to the composition of a garden, many of these small birds may be able to utilise gardens.

The winter study provides a great point of reference for understanding the water needs of various species and can be compared to the summer months when there is far greater pressure on birds to find fresh water. It will be very interesting to see if the dominate birds we have found in this study stay the same in the summer or if and how they change.

As we said earlier the summer survey will run again for just over 4 weeks again, starting Friday the 23rd of January until 23rd of February. We strongly encourage everybody to take part again and to please help us spread the word so we can get more participation, especially in states where there were low participation rates in the winter survey. As you have seen from this report, the more people who take part, the more informative our results will be!

Again we would like to thank all of you who took part in the winter survey - we most certainly could not have done it without you! Don't forget to stay in touch using our facebook page (www.facebook.com/bathingbirds) to share photos and stories about our wonderful bird life and we very much look forward to working with you all again in January!!



The New Holland Honey Eater appeared on 9% of gardens and 4% of surveys overall. Image courtesy of Wanda

Appendix: How we summed up our data

Our citizen scientists were asked to record the species (e.g. Rainbow Lorikeet) and the number of birds (5 Rainbow Lorikeets) that visited the birdbath during a survey period (20 minutes). As observed by our citizen scientists the same bird can make multiple visits to the bath during the 20 minute survey period, resulting in an inflated number of sightings for that bird. To eliminate this bias, we only recorded a bird as being present once in a single survey, regardless of how many times it may have appeared during that 20 minutes.

All the surveys were then combined, and were expressed the presence of a species (e.g. Rainbow Lorikeet) as a percentage of all the bird species in all surveys combined. This allows us to express the abundance of a species (Rainbow Lorikeets) relative to the abundance of all bird species. This means we could use presence vs absence to compare relative abundance of certain species. We do this in 2 ways:

1. Proportion of surveys where a species is sighted (a/b), where
a = number of distinct surveys where a species was recorded and
b = the total number of surveys conducted
This proportion allows us to rank the relative abundance of various species against each other, independent of garden location/type
2. Proportion of Gardens where a species is sighted (x/y), where
x = number of distinct gardens where a species was recorded and
y = the total number of gardens surveyed
This allows us to look at the relative success of various garden/birdbath features at attracting specific species

See You All In January!



Image courtesy of Wanda



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