Department of Planning, Industry and Environment

NSW Wildlife Rehabilitation

2019–20 Annual Report

Preface

Bushfire, drought and flood in 2019–20 have seen wildlife in New South Wales subjected to some of the most challenging environmental conditions that can be experienced.

This report, being the third annual report prepared under the *NSW Volunteer Wildlife Rehabilitation Sector Strategy* (DPIE 2020) shows, in an extraordinary year, a spike in rescues and deaths. While this might not be surprising, given the widespread reporting about the number of wildlife that may have been affected by the 2019–20 bushfires, it is still a story that needs to be told and understood. The data provided by this sector in its annual reporting to the NSW National Parks and Wildlife Service (NPWS) helps tell that story.

When wildlife need help, it is the community of volunteer wildlife rehabilitators and veterinarians and all those who support them that make a real difference. The difference for wildlife is between pain and relief, recovery or suffering, life or death. As much as we would all like to have a different outcome, often providing a humane ending is the right and best thing to do. A great many animals were also saved, cared for and released. This is testimony to the quality of care they are receiving.

The data shows that some species have been hit harder than others. Grey-headed flying-foxes have experienced their worst year on record. Knowing this enables more specific measures to be taken to help protect this and other species in future.

A spike in the data also indicates people in this sector have been extremely busy and under immense pressure from an increased workload. For every animal attended there will be many people involved in rescuing, providing care and treatment, record keeping and hopefully release. All this may happen in a matter of days, weeks or months.

So, thank you to all the wildlife rehabilitation groups who have submitted their data on time so we can continue to tell government, industry and the community about the important work you all do.

Finally, an enormous thank you to all the wildlife volunteers and veterinarians, members of the public, non-government groups and response agencies, and donors here and abroad who contributed to fundraising for wildlife who, all, in the darkest hours, stood up to help our precious native wildlife.
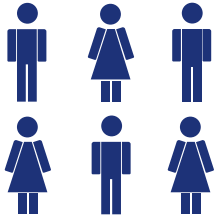
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NSW wildlife rehabilitation 2019–20 snapshot

People power

6698
volunteers

19.6%
increase from the previous year

21
local government areas record a >50% increase in volunteers

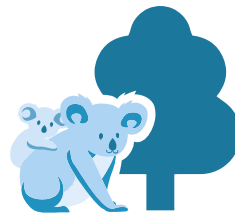## Wildlife rescues

129,024
native animals and **469** species rescued

35%
increase in rescues from the previous year

15,359
threatened animals rescued

12,571
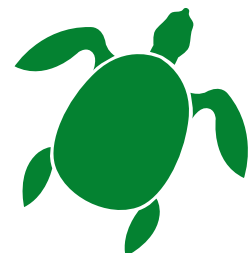grey-headed flying-foxes were the most-rescued species

A second chance

24,289
native animals released back to the wild

7%
decrease from the previous year

14%
of threatened animals released back into the wild

Introduction

This annual report is the collective story of the NSW wildlife rehabilitation sector. It is the third to be compiled by NPWS as part of the Department of Planning, Industry and Environment. It communicates the significant efforts of volunteers in the sector and reports on trends in the rescue and rehabilitation of sick and injured wildlife.

In 2019–20 there were 6698 volunteers who supported or were otherwise directly involved in wildlife rehabilitation. These volunteers represent more than a third of people involved in this activity across Australia and are dispersed across the State. Most of these volunteers belong to a wildlife rehabilitation group. They are augmented by a small number of independent individuals and other organisations such as zoos and fauna parks.

All wildlife rehabilitation providers collect data about the diversity and volume of rescued animals coming into care, including many threatened species. The data contains useful information on the type of animal, date of rescue, its sex, age, physical condition, reason for rescue and fate.

The data is collected and provided to NPWS for collation at the end of each financial year. Where possible, these records are then uploaded to NSW BioNet (NSW Government repository for wildlife data) and SEED (NSW Government Central Resource for Sharing and Enabling Environmental Data) to be used by species conservation officers, researchers and biodiversity assessors.

Apart from these annual reports, our new dashboard shows, over multiple years, what this sector does and what is happening to wildlife in New South Wales. It provides a rich resource from which many evidence-based analyses can be made, whether looking across the State or in your very own patch. With the help of the Foundation for National Parks and Wildlife's Wildlife Heroes program, we are communicating the dashboard's value to the community through social media, including podcasts.

This report gives an insight into the work of the wildlife rehabilitation sector. It provides a snapshot of key outcomes for 2019–20 in terms of volunteer numbers and animal rescues[1]. We focus on outcomes for native birds, mammals, reptiles and amphibians, and marine mammals and provide case studies to highlight the work of individual volunteers and species of interest. We also look at trends across reporting years to get a sense of what has changed.

The data presented has limitations. Not all wildlife rehabilitation organisations and individuals have submitted information at the time of writing this report (data providers are listed in Appendix 1). Data quality is also being continually improved and may be subject to change. NPWS has collated the various data sets and made every effort to improve consistency without compromising the accuracy of the results.

This report focuses predominantly on native animals. Introduced animals, fish and invertebrates have been omitted. Marine mammal rescues are treated separately and are not included in the data calculations.

[1] Rescues include all data except where the animal was unable to be located for rescue, the animal evaded capture or where advice was provided. (Sightings also excluded.)

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People in the sector

19.6% **increase** in volunteers this year

Volunteers are essential to wildlife rehabilitation. They are first responders to native animal emergencies, often working in challenging and confronting circumstances and bearing significant personal cost and stress. We could not do this work without their ongoing commitment and help.

This section reports on the number of volunteers in the sector calculated from membership lists provided by each wildlife rehabilitation group and includes independent licence holders.

In 2019–20 there were nearly 7000 wildlife rehabilitators in the sector with 17 groups reporting an increase in membership and 6 a decrease. Volunteer numbers have now increased each year since 2016–17 (Figure 1). The large increase in volunteer numbers from 2018–19 is likely due to the community's wide exposure to the tireless work of wildlife rehabilitators during the summer fires. The largest wildlife rehabilitation group is WIRES (Wildlife Information Rescue and Education Service Inc.) with over 3000 members spread across New South Wales.

Year	Number
2015–16	5774
2016–17	5275
2017–18	5374
2018–19	5602
2019–20	6698

Figure 1   Number of reported wildlife rehabilitation volunteers over the 5 years to 2019–20.

New volunteers are encouraged to watch our welcome video.

Wildlife rehabilitation volunteers live throughout most of New South Wales (Figure 2). The majority are concentrated in urban areas east of the Great Dividing Range. Six local government areas (LGAs) have over 200 members. Also 21 LGAs recorded at least a 50% increase in numbers from the previous year. Many of these LGAs are in Western NSW which now has 437 wildlife rehabilitation volunteers.
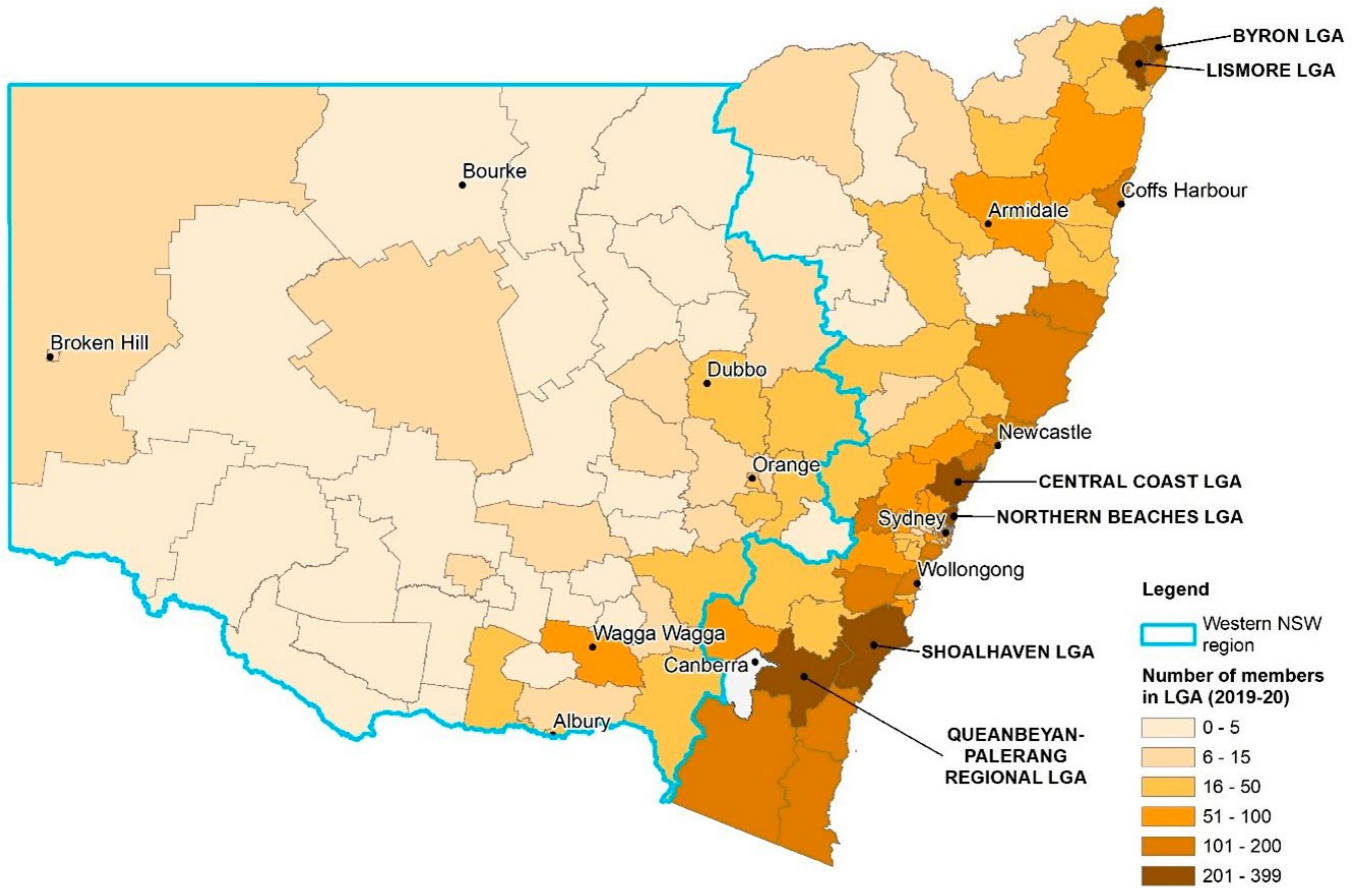
Figure 2 Distribution of volunteer wildlife rehabilitators by local government area 2019–20.

Volunteers in Western NSW are often the forgotten participants in wildlife rehabilitation. The distances they travel to rescue animals can take hours and involve driving hundreds of kilometres. Conditions can be harsh and access to resources scarce. RRANA (Rescue and Rehabilitation of Australian Native Animals) has been active in Broken Hill, in Far West NSW, for nearly 30 years. In this report, volunteers Lindy Hunt, Stephanie Jones and Barbara Hands tell their fascinating stories.

Member profiles

Lindy Hunt — Reptile coordinator and firearms officer for Rescue and Rehabilitation of Australian Native Animals

How long has the group been in operation and how did it all begin?
RRANA was formed by a local couple and a handful of other volunteers in 1992. Over the years the number of members has fluctuated, but generally the number of active rehabilitators ranges between 10 to 15 at any given point. The area we cover is roughly 144,000 square kilometres. Fortunately, we do have carers located in a couple of smaller communities within our boundaries. These volunteers predominately care for macropods but we often use them for assisting us to get injured birds and reptiles to Broken Hill for assessment and possible treatment. I think when you live in an isolated area the ability to use networks for transport becomes a finely honed skill, especially for our hard-working volunteers who take the emergency calls to our hotline.

Do you have specific animals you care for or rescue?
I care for bats, echidnas, and all manner of reptiles. RRANA does not rescue, relocate or rehabilitate snakes as the vast majority in the Far West are highly venomous. We are fortunate to have a snake-catching service in town. The most common reptile in care is the shingle-back lizard, and I have been caring for them for 16 years. I occasionally assist with birds of prey.

How long have you been a wildlife rehabilitator?
I have been a rehabber for 17 years. I never dreamed when I sat at my first meeting of the group and introduced myself that I would still be doing this all these years along the track.

What is your favourite thing about wildlife rehabilitation?
Gee that's a tough one, but I guess the most important thing for me are the friends that I have made over the years within the group. It's really refreshing, in this time of seemingly ever-increasing disregard for our wildlife by many state governments in Australia, that we can find a common bond with individuals in my community who also want to focus on one animal at a time and truly believe that every life matters, and that we can also be advocates for the voiceless.

If you had one piece of advice for other rehabilitators, what would it be?
The only piece of advice that I have for other wildlife rehabbers would be aimed specifically for people just starting their volunteering journey with wildlife. My advice would be to develop networks so you can gather information from other carers. Especially the older carers, the ones with fingertips or earlobes missing from corella bites, or the mac [macropod] carer with ringworm. Kidding.
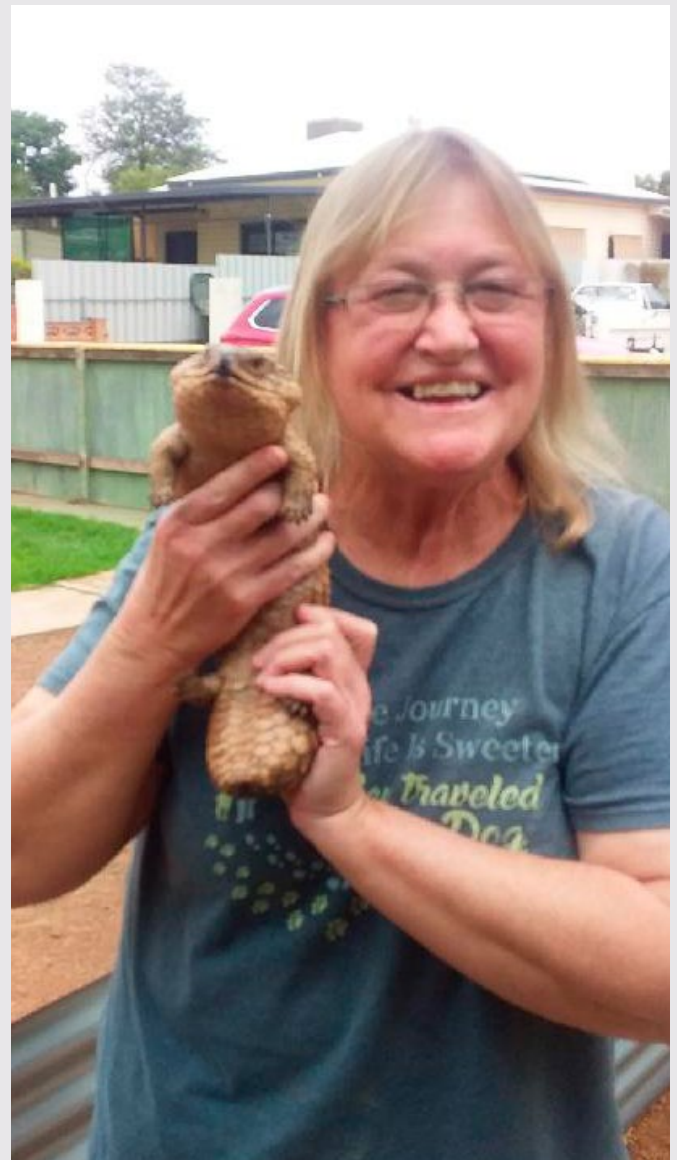
These experienced carers are the lifeblood of rehab. They are better than Google and generally happy to help. Don't burn your bridges. Respect their knowledge and be thankful they will impart their knowledge to help wildlife. Never stop learning. Take it all in. If it seems like a sensible idea, it is. Also, if you start to burn out, take some time out. Please look after yourself.

How did you get involved in rehabilitation?
I knew of RRANA's activities within the area from local media in the late 90s, but work commitments at that time didn't allow me to pursue membership and subsequent training. It wasn't until I started work at a local university hub that time allowed me to become a financial member and to undertake training, initially in macropods then reptiles. I also undertook the bird training at a later date.

Why do you do it?
That's an easy one, because basically I am a masochist. Especially after all these years! Seriously I do ask this same question from time to time. Especially when I'm stressing about the viability of a reptile in care, or worrying about updating procedural information for the group, or simple day-to-day activities… I wonder why? I guess it's the desire to make a difference for these reptiles. They have one chance at life and I'm here to try and get them back into the wild again as a fully functioning reptile. I have a lot of knowledge about their care and I try to share it with other interested people in the group. I have a disability and the somewhat sedentary life of a reptile certainly is a good 'fit' for me. I think I just found my niche back in 2004. I can no longer perform rescues, and thankfully there are other dedicated members who assist me by bringing injured reptiles to me rather than me attempting to chase a Gould's lizard down an embankment.

What would you say to someone considering becoming a wildlife rehabilitator?
As I mentioned previously, please take care of yourself. Also, be accountable. Read the codes of practice and become familiar with the regulations surrounding wildlife in New South Wales. Policy changes all the time, so it's important to keep on top of changing regulations. Of course, no-one can learn this information all at once because there is so much to take in, but if the group sends out information for members, please read it. Communicate with other rehabilitators.

With all the different platforms of social media available now, there is no excuse for not passing on information and staying in touch. Of course, everyone has different levels of IT knowledge, but groups will often assist with basic help if required.

Do you have a particular rescue or animal that stands out for you?
Yes, and oddly enough it doesn't involve a reptile. Years ago I had a call from a member of the public that an adult emu was nearly fully submerged in an ornamental lake in Broken Hill. The bird coordinator kindly came with me on the rescue, and when we arrived, we were informed the poor animal had been in the lake for two days with water just below his or her head. We contacted the landowner to inform them of the situation and asked if they had a small boat, as the bird was just out of reach of our nets. It was obvious from their reply that they didn't care at all on how we were going to rescue this poor bird. To me that was the most upsetting part. The water was quite bad and it would have been dangerous for either of us to enter at this point of the lake. We tried to reach the emu for ages with our longest net, and after an hour or so we were reduced to tears of frustration and sadness as this poor animal was so weak. It was then that I spoke to the emu in my best calm voice. I said that we wanted to help her and that she would have to trust us. I quietly pleaded for her to come to me. Tears streaming down both our faces. After about 10 minutes or so she quietly moved around a partially submerged log and made her way to me, so we were able to lift her up onto the shore, which was really hard, but I think our blood was coursing with adrenaline seeing that she was positively responding to me. The poor thing was exhausted and lay quite still on the grass, no doubt in full blown myopathy. We wrapped her securely for transport, for her and our own safety, but midway through our trip she passed away in the car. I feel so much sadness still that this poor emu had been there for two days, and I cry still thinking about or even typing this now. It may have had to be one of those situations of having to be there to realise the gravity of the situation, and her trust in us, but for my friend and I it was truly a remarkable, memorable rescue. She passed away you say, but to us it was paramount that we cared, to not let her drown. Unlike the lake manager we cared, and we paid respect to her, and will never forget her.

Stephanie Jones — Treasurer, rescuer and rehabilitator for Rescue and Rehabilitation of Australian Native Animals

What is your current role in wildlife rehabilitation?

I have many roles in the group, and I am proud of each and every one of them. I am the Rehabilitation and Rescue of Australian Native Animals Treasurer. I love my position on the committee and I enjoy the paperwork side of it.

I am a dedicated bird rehabilitator, both in common birds, and I began care of birds of prey in 2020. I am one of 4 first responders for rescue. I am now vaccinated and ready for training for microbats. I am also trained in reptile rescue and basic care.

Do you have specific animals you care for or rescue?

I am a bird rehabilitator. When I joined RRANA, I was all about the cute and cuddly joeys, but I quickly gravitated to the birds. I do rescue all animals: birds, reptiles, macropods, echidnas and microbats.

How long have you been a wildlife rehabilitator?

I joined in June 2018. I have been with the group two years and 3 seasons.

What is your favourite thing about wildlife rehabilitation?

My favourite thing about the RRANA group is its members. We are like a big family. We help each other out wherever we can. I have also made some beautiful friendships through networking with other wildlife rescue and rehabilitators around Australia.

If you had one piece of advice for other rehabilitators, what would it be?

Don't let yourself burn out. I have almost come to the point of burning out, trying to juggle my wildlife volunteer responsibilities as well as my family. There are many hands in the group, it's always good to share loads.

How did you get involved in rehab?

My partner and I came across a euro female that had been hit by a car. She had a bad head injury and was also carrying a joey. We contacted RRANA to come collect the joey and the mum. The next day a wonderful lady who was the joey's carer called us to give us an update on him. After paying her a visit and seeing the little joey again, we quickly fell in love with what RRANA did for the community. We took a membership form and had it filled out and returned by the end of that day.

Why do you do it?

By seeing first-hand what RRANA did, it just made me so happy to see these rehabilitators giving all these animals a second chance at life. A dignified death for those who suffer. And it made me want to be a part of that, and help the group grow into what it is becoming today.

What would you say to someone considering becoming a wildlife rehabilitator?

It's one of the most selfless and rewarding but at times absolutely heart-shattering jobs that exists. You know you make a difference by small actions in the world of wildlife. It is something that I'll never regret.

Do you have a particular rescue or animal that stands out for you?

I love caring for my birds. I love magpies and their babies. Spring is my favourite time of year because its baby season. I get great enjoyment in seeing and hearing all the babies around, and also having babies in care, helping them gain weight, cure any health issues they have, then the best part is reuniting them with their parents. That is the best part of all.

Annual trends over five years

Before focusing on 2019–20, this section of the report investigates annual trends in wildlife rehabilitation data over the past five years. This enables us to compare results between years and see what is changing over time.

Number of rescues

471,012

native animal **rescues** over the five-year period to 2019–20

There were 471,012 native animals rescued over the 5-year period from 2015–16 to 2019–20: an annual average of 94,202. These rescues have involved 613 different native species. Birds were the most frequently rescued class of animal, their number increasing over each reporting year (Figure 3). They represent about 50% of all animals rescued.

The average number of bird rescues over these 5 years is 47,311, compared to 34,294 mammal rescues and 11,431 reptile and amphibian rescues. A relatively small number of unidentified animals are also rescued each year (1.2% of all reported rescues).
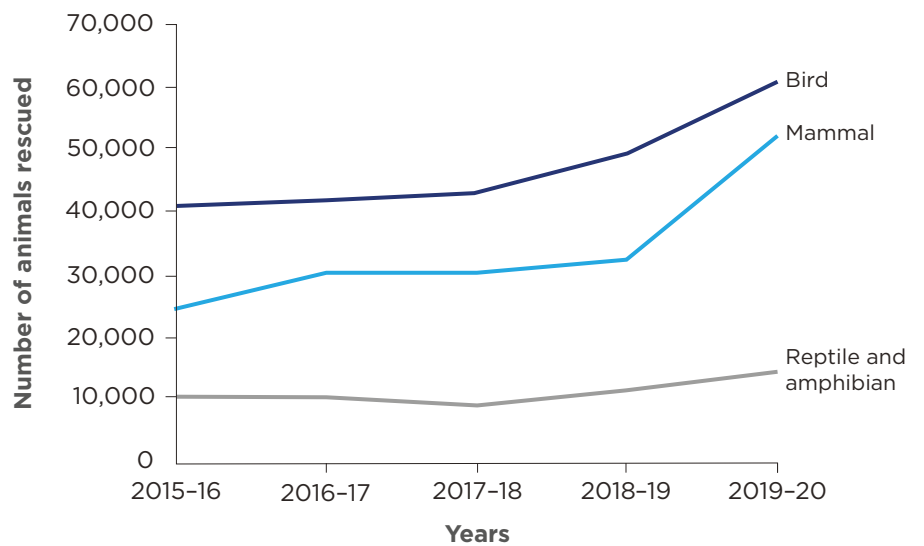

Figure 3   Number of rescues over the 5-year period 2015–16 to 2019–20 by class of animal.

Rainbow lorikeets remain the most common species, with 37,618 of these birds rescued, an annual average of 7524 (Figure 4). This species represents 8% of all animals rescued over the 5-year period. The common ringtail possum, eastern grey kangaroo, Australian magpie and common brushtail possum continue to be in the top 5 most-rescued species. Possum and macropod rescue numbers are also likely to be even higher because some were reported as 'unidentified possum' or 'unidentified macropod'. The grey-headed flying-fox rounds out the top 6, replacing tawny frogmouths from the previous year.

Grey-headed flying-fox rescues have fluctuated in the past 5 years, with a significant increase in rescues in 2019–20. Further detail is provided on page 33.
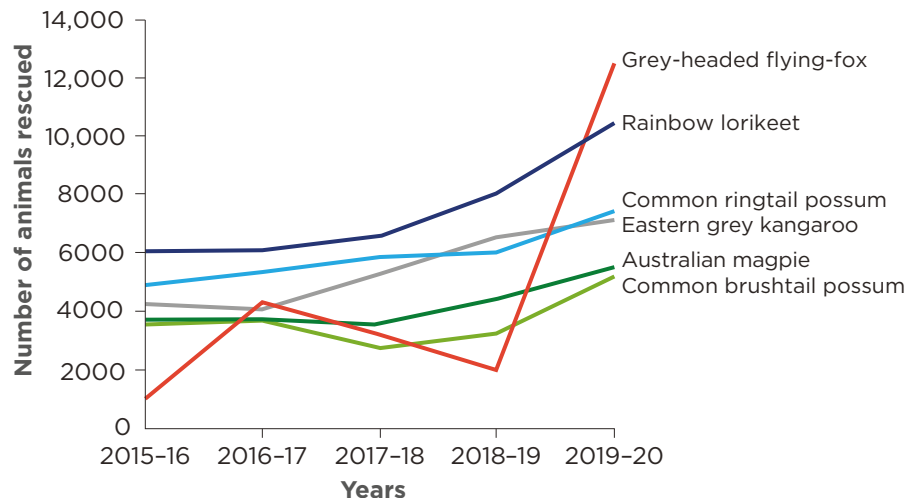
Figure 4   Most frequently rescued species over the 5-year period 2015–16 to 2019–20.

Rescues due to drought **increased**

150

times in 2019–20

Reasons for rescue

When encountering a wild animal requiring rescue, the cause of injury or illness is not always obvious. Consequently, each year over half of all rescues are assigned an 'unknown' reason for rescue. When a reason is identified, 40% can be attributed to some form of human activity (Appendix 2).
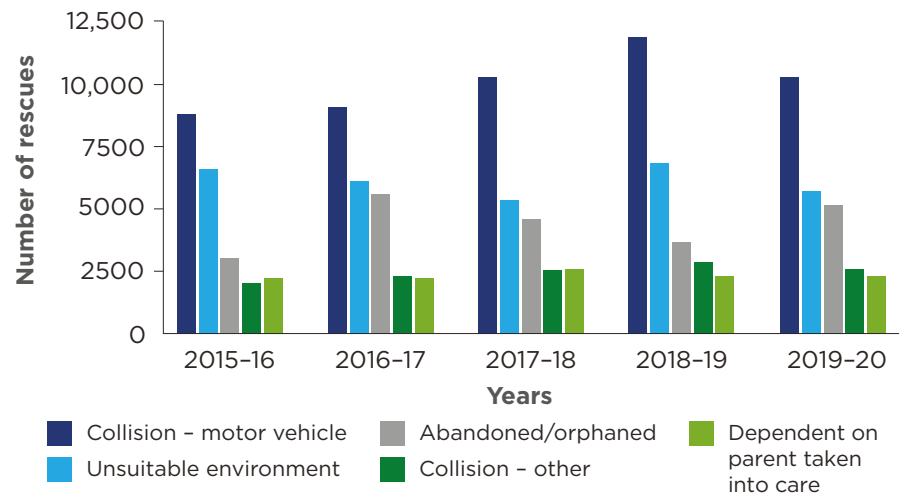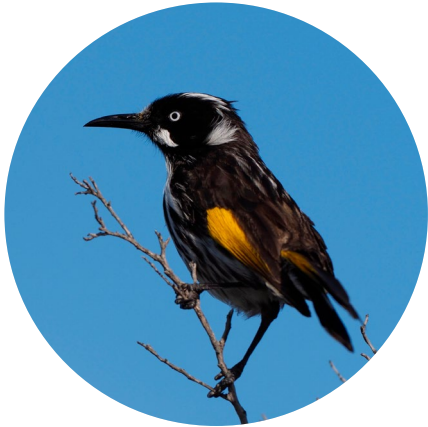

Figure 5   Most frequent reasons for rescue over the 5-year period 2015–16 to 2019–20.

The top 5 encounter types, excluding 'unknowns', represent nearly 60% of all animal rescues (Figure 5). Even with a slight decrease in rescues resulting from 'collision – motor vehicle', this remains the most frequent encounter type with 50,898 rescues over the 5-year period. 'Collision – motor vehicle' is the reason for 11% of all rescues, or 24% when unknowns are removed from the analysis.

The most notable change in reported reasons for rescue is the 150-fold increase in 'Event – drought' between 2018–19 and 2019–20 (Figure 6). There have been only mild fluctuations in the past 5 years, and the significant increase this last year is likely to be the result of drought and bushfires affecting food and water availability for wildlife.
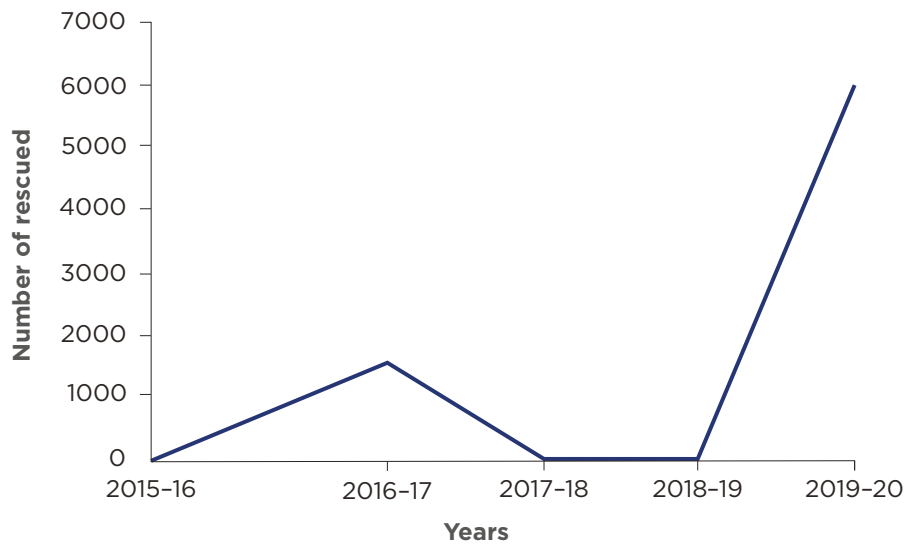

Figure 6   'Event – drought' rescues reported over the 5-year period 2015–16 to 2019–20.

Fate of rescued animals

The fate of rescued animals remains relatively consistent over the previous 5 years (Figure 7). Overall, 121,205 rehabilitated animals have been released back into the wild, about 26% of all rescues, although the proportion varies depending on species. Each year, an average of 39,853 animals die or require euthanasia, compared to 24,241 animals that are released. This year, there was a notable decrease in the percentage of animals released in conjunction with an increase in the 'other' fate category compared to previous years. The category 'other' encompasses rescued animals that may remain in care, that are left and observed, that are transferred to veterinarians or other organisations, or are surrendered as pets with a new owner.
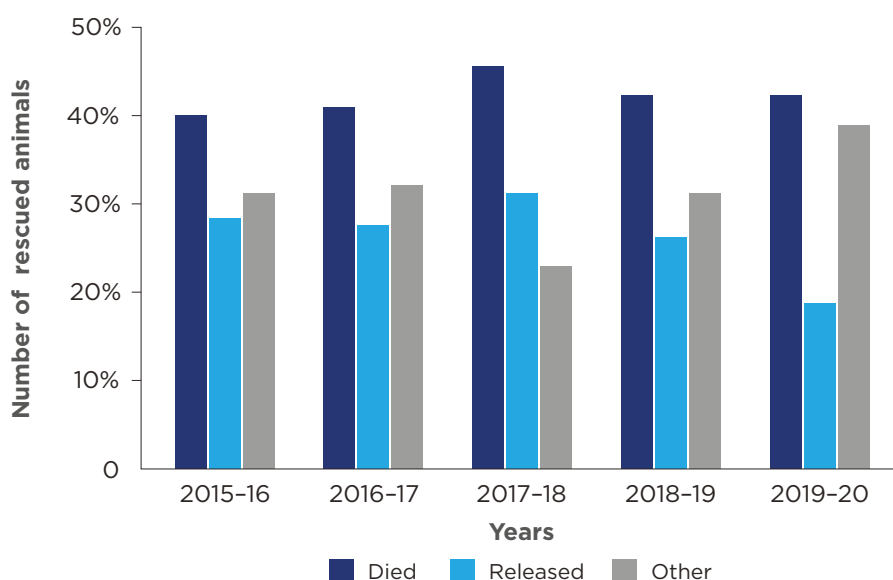

Figure 7   Comparison of fate of animals over the 5-year period 2015–16 to 2019–20.

Case study: Podcasts and dashboards

How are we telling others about the important data volunteers collect? Listen to the Wildlife Heroes Podcast episode 'One animal at a time'. In this episode NPWS staff discuss the value of wildlife rehabilitation data and how we are using it to improve species management and conservation programs. In other episodes in this series there are stories from volunteers, researchers and vets about species such as birds of prey and koalas, and work at Southern Cross Wildlife Hospital.

Volunteers can also interrogate the new NSW Wildlife Rehabilitation dashboard. This interactive tool allows you to visualise rescue numbers across a number of years. You can filter the data by species, LGA, reason for rescue, and fate.

The year in focus 2019–20

129,024

native animals
and

469

species were
rescued in
2019–20

In 2019–20, a total of 129,024 native animals were reported rescued across 469 species (n=27 groups and 13 licensed individuals). The number of rescues was 35% higher than the previous year (2018–19) and the number of species rescued increased by 7%.

Top 10 species rescued

The 10 most-rescued species in 2019–20 are shown in Figure 8. Like previous years, these species represent about 47% of all animals rescued. The grey-headed flying-fox, a threatened species, was the most common species with 12,571 animals rescued (further detail about flying-foxes is provided on page 33). Overall, all species in the top 10 experienced an increase in the number of rescues compared to the previous year. Common brushtail possum rescues increased by 64% compared to the previous year. Common ringtail and brushtail possums combined make up almost 10% of all rescues.

Males and females each accounted for about 9% of rescues where sex was recorded. Equal sex ratios have been reported since 2017–18. Where age was identified, adults (22%) and juvenile and young (25%) accounted for most rescues.
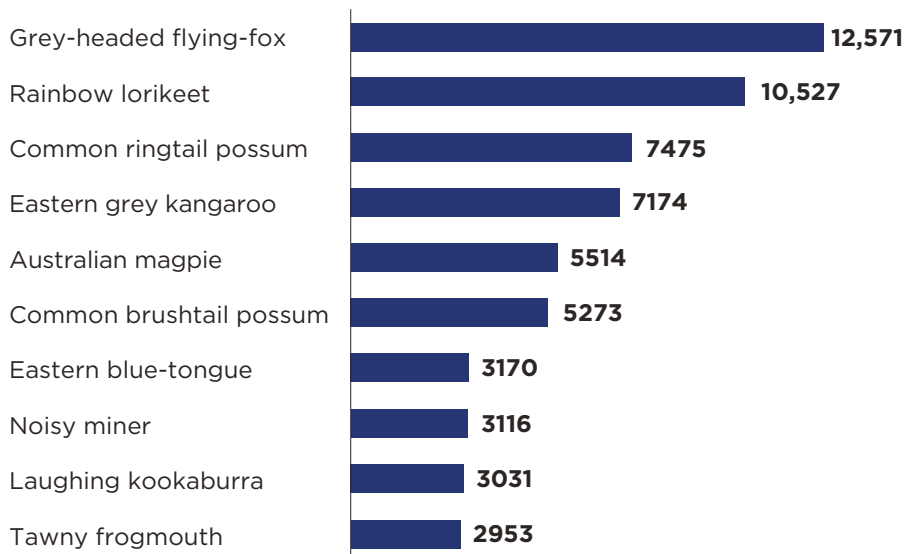

Species	Count
Grey-headed flying-fox	12,571
Rainbow lorikeet	10,527
Common ringtail possum	7475
Eastern grey kangaroo	7174
Australian magpie	5514
Common brushtail possum	5273
Eastern blue-tongue	3170
Noisy miner	3116
Laughing kookaburra	3031
Tawny frogmouth	2953

Figure 8 Ten most-rescued species in 2019–20.

Case study: Possums and gliders

Possums and gliders are among the more frequently rescued species, with common brushtail and common ringtail possums in the top 10 most-rescued species over the past 5 years.

In 2019–20, a total of 15,986 possums and gliders across 10 species were rescued. This includes 3 threatened species, the squirrel glider, eastern pygmy-possum and yellow-bellied glider.

Where reasons for rescue are known, the majority of possum and glider rescues involve orphaned animals. This accounts for 28% of all possum and glider rescues. Motor vehicle collisions, being rescued from an unsuitable environment, cat attacks, and falling from a nest or tree, round off the top 5 most common reasons for rescue.

About 10% of all possum and glider rescues were in the Northern Beaches Council area in Sydney.

Figure 9 Possum and glider rescues each month in 2019–20.

Possum and glider rescues are relatively constant throughout the year, with most rescues occurring in August and September (Figure 9). Even in the quietest months of the year, more than 1000 possums and gliders are rescued by volunteers.

About 21% of rescued possums and gliders are successfully rehabilitated and released. For 3 species, feathertail gliders, eastern pygmy-possums and the greater glider, more rescued animals were released than those that died or were euthanased.

NPWS has recently published new resources for rehabilitating all possums and gliders. They include a code of practice and initial treatment and care guidelines for rescued possums and gliders. The introduction of new training standards will also help to ensure volunteers are trained to meet the standards of care outlined in the code of practice.

Top 5 possum and glider species rescued	Number reported 2019–20
Common ringtail possum	7475
Common brushtail possum	5273
Sugar glider	484
Short-eared possum	279
Feathertail glider	272

Case study: Looking After Our Kosciuszko Orphans Triage Centre

During the intense 2019–20 bushfires, Looking After Our Kosciuszko Orphans (LAOKO) rallied their troops to rescue and assist injured wildlife. Elena Guarracino, LAOKO volunteer and triage centre manager, said they worked closely with organisations including Vets Beyond Borders (VBB) and Helping You Help Animals NZ (HUHANZ) to set up search and rescue operations, a temporary wildlife triage centre, and rehabilitation sites for recovered wildlife. Vital assistance was provided by Sydney Metropolitan Wildlife Services (SMWS), International Fund for Animal Welfare (IFAW), Port Macquarie Koala Hospital, Moreton Bay Koala Rescue, Taronga Zoo, Wollongong University, in addition to support from a number of other organisations including Wildcare Queanbeyan, Australian Defence Force Reserves, Snowy Monaro Regional Council, Cooma Correctional Centre, Possumwood and Vets for Compassion.

The Cooma Snowy Mountains Tourist Park functioned as the triage centre, and over a 4-month period 138 animals were presented to the centre, including 65 macropods, 27 koalas and 14 wombats. Animals were brought in by search and rescue teams, members of the public, NSW Police Force and Rural Fire Service volunteers. It was a whole-of-community effort with community members and local businesses providing meals for volunteers, assisting with accommodation, building enclosures and donating equipment.

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Summer was the busiest season for wildlife rescues, correlating with the severe bushfires during this time. Rescues in November, December and January account for 37% of all rescues (Figure 10). Unlike the previous 2 years, there was a noticeable peak in rescues in December, with 20,191 rescues during this month. 58% of rescues in December were mammals, largely accounting for this peak, followed by birds (34%) and reptiles and amphibians (7%). June (6384) and July (6530) recorded the lowest number of rescues (Figure 10).
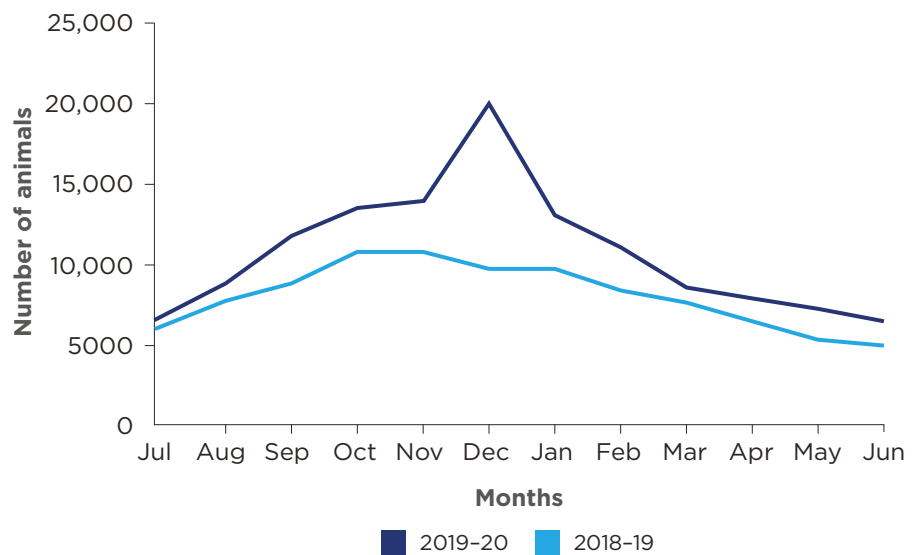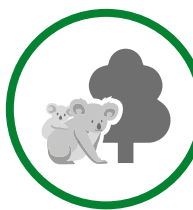

Figure 10 Rescues reported each month 2018–19 and 2019–20.

Why is wildlife coming into care?

Mammals accounted for

99%

of all drought-related rescues

'Unknown' accounted for 61% of rescues this year. Of the remaining rescues, the top 10 reasons for rescue in 2019–20 are shown in Figure 11. Like previous years, 'Collision–motor vehicle' was again the largest known cause for rescue, particularly for birds. It accounted for 10,412 rescues, a 13.5% decrease on the previous year. 'Event – drought' was another significant reason for rescue and characterises rescues where the animal is suffering from the impacts of drought, for example, a malnourished and dehydrated animal. Mammals were the largest group in this category, accounting for 99% of drought-related rescues.

The primary reasons for rescue are comparable across years, with the exception this year being the inclusion of drought and fire, both in the top 10 reasons for rescue. Rescues attributed to 'Abandoned/orphaned', 'Fallen from nest or tree' and 'Entanglement – other' also increased this year. Further detail on the cause of rescue for individual mammals, birds, and reptiles and amphibians is provided in the following sections.
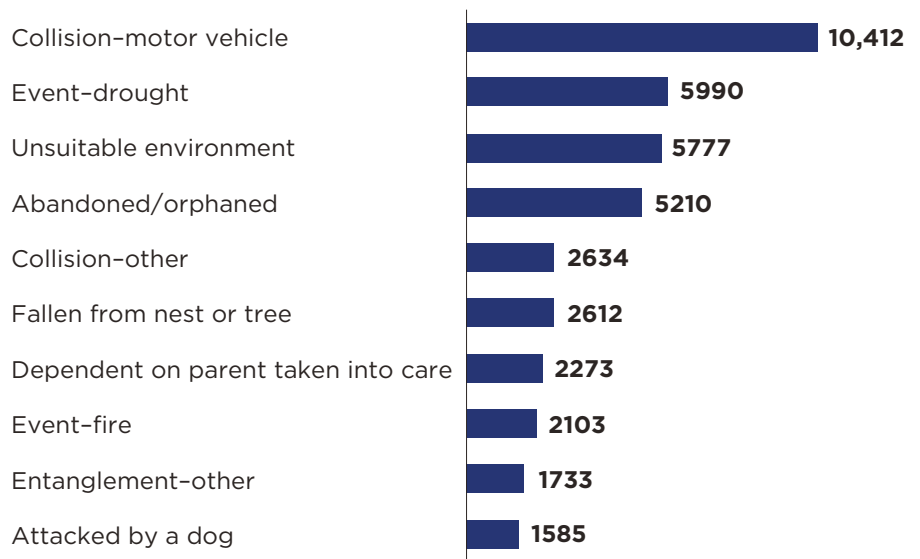

Collision–motor vehicle	10,412
Event–drought	5990
Unsuitable environment	5777
Abandoned/orphaned	5210
Collision–other	2634
Fallen from nest or tree	2612
Dependent on parent taken into care	2273
Event–fire	2103
Entanglement–other	1733
Attacked by a dog	1585

Figure 11   Top 10 reasons for rescue in 2019–20.

Fate of rescued animals

Rescued animals are usually found in a severely vulnerable state compromising their chances of survival; consequently, many cannot be rehabilitated and returned to the wild. Overall, 19% of all rescued animals (24,289) were rehabilitated and released in 2019–20. This was about a 7% decrease on 2018–19, where 26% of rescued animals were released. This decrease was observed across all classes of rescued animals, but most notable in reptiles and amphibians (Figure 12).
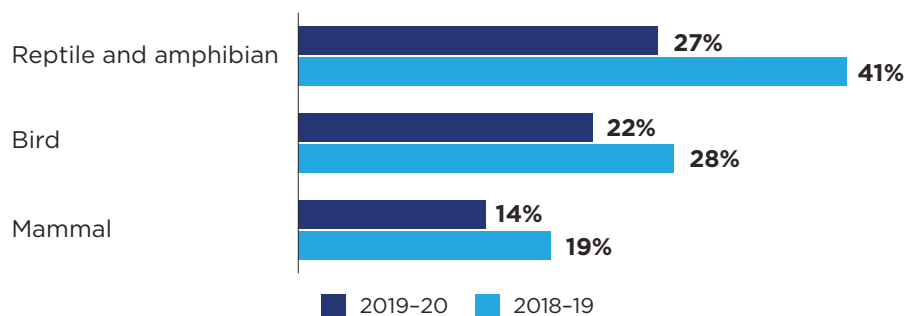

	2019–20	2018–19
Reptile and amphibian	27%	41%
Bird	22%	28%
Mammal	14%	19%

Figure 12   Percentage of animals rehabilitated and released, by class, for 2018–19 and 2019–20.

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15,359

threatened **animals** were rescued

Threatened species

Volunteers rescued 90 different NSW threatened species this year totalling 15,359 animals, a 284% increase on the previous year. A total of 23 critically endangered animals across 6 species were rescued. Twelve red-tailed black-cockatoos were rescued, making them the most common critically endangered species rescued.

Grey-headed flying-foxes, koalas and green turtles have consistently represented the top 3 most-rescued threatened species, and together represent about 94% of all threatened animal rescues.

Top 5 rescued threatened species	Number rescued 2019–20
Grey-headed flying-fox	12,571
Koala	1681
Green turtle	248
Sooty tern	159
Squirrel glider	57

The sooty tern was among the top 5 threatened species rescued this year, a fivefold increase compared to last year (31 rescues in 2018–19). The reason for rescue was unknown for the majority (67%) of cases. Where reason was identified, storm events accounted for 73% of rescues. There were also 57 squirrel gliders rescued, a 12% decrease compared to the previous year.

Case study: Behind the scenes of koala rehabilitation

Leaves matter

Morgan Philpott is a member of WIRES and has been rehabilitating koalas for eight years. He believes feeding koalas in care is one of the important aspects of koala rehabilitation. Morgan says, 'you have to know what they eat, how to identify feed trees, and how to locate them to harvest'. Koalas feed almost exclusively on eucalyptus leaves and can consume up to half a kilo of leaf each day. Feeding injured and sick koalas is particularly important as providing adequate nutrition can be key to their recovery.

Morgan grew up on a hobby farm and during those early years developed a keen interest in wildlife and flora. As a wildlife rehabilitator, he cultivated this interest and took it upon himself to learn about tree species identification and how to safely harvest browse, being mindful of the impact on the tree. Having a younger brother with a bush regeneration business helped, and Morgan says, 'I'm always learning, always discovering things about trees and what koalas eat'.

Collecting food for koalas can be a full-time job. When Morgan is busy, sometimes with up to four koalas in care, he easily spends up to 20 hours a week collecting

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browse. He works together with colleagues, such as John Stark, sharing the workload and ensuring all the koalas are well fed. Morgan provides fresh browse for koalas daily. 'Koalas can be fussy creatures, so I aim to give them a minimum of 3 different species of tree every day' he says. When out foraging for browse, Morgan looks for particular tree species, but also looks at the type of leaf which is best to feed koalas. For example, he identifies trees that are cut back around powerlines as these are a good source of epicormic growth. Once he has harvested from an area, he leaves that area to regenerate and looks further afield, working with landowners and community members to source feed trees.

Wildlife rehabilitators working with koalas undertake training on food collection and tree identification. As Morgan says, 'It can be a long learning process, but an important one if you are considering working with koalas'. Morgan mentors volunteers in his group, sharing his interest and knowledge of tree identification and harvesting techniques. Morgan's keen interest for wildlife has passed on to the next generation and he now works side-by-side with his daughter Tyler, also a WIRES member and a passionate wildlife rehabilitator.

Counting koalas

Aside from the demands of rescuing and rehabilitating wildlife, volunteer wildlife rehabilitators play an important role in collecting data. There can be a range of information collected from the point of a rescue call to when an animal is released. The coordination of information collection and the organisation of this data is an enormous task.

Katrina Jeffery is the data coordinator at Friends of the Koala (FoK) and is a self-confessed data detective. She has held a few different positions within the group and inevitably migrated towards a data-focused role given her expertise in the area. Katrina works with developing databases professionally and has used her skill and knowledge to reimagine the data collection and management process at FoK.

Katrina lives on acreage with prime koala habitat, and she and her husband planted around 700 trees during their first years on the property. He was unfortunately diagnosed with motor neurone disease in 2013. After caring for her husband through his illness, Katrina wandered out on her property and observed that more than 2000 koala feed trees had self-sown in that time. 'This changed my life', says Katrina. She got funding from Landcare, got a property management plan, and joined FoK to find out more about koalas and how she could contribute. She now has a funded conservation agreement on the property that is known as Koala Gardens.

On a regular day, Katrina balances her professional work with her volunteer work and finds time in her day to work on data. She gathers data from the website, where members of the public can report sightings, from hotline operators who receive calls about koalas, and from rehabilitators with koalas in care. She checks the data quality and enters it into a single larger database. 'It can be quite complex to enter some of the data' she says, 'I double-check accuracy of locations, and clarify queries which may arise while processing the data'.

Katrina says, 'the exciting thing about data is not the collecting of it, but the questions you can ask once you have it'. FoK receives data-related requests internally from members and externally from interested parties. Katrina produces customised reports based on these requests, and the reports are regularly discussed at FoK committee meetings. 'Data has greater implications' she says, 'sometimes we know it, but it's different when you look at a graph to see that something is changing'. For example, through using data, Katrina has identified certain stretches of road where koalas are at higher risk of motor vehicle injury, and that an increasing number of younger female koalas are being rescued and diagnosed with chlamydial infection.

'I try to do a lot of work explaining data to volunteers and members of the public' she says, 'to see how useful the data can be, that's empowering for people, if they know why we collect data'. Katrina works closely with volunteers and members of FoK to improve the data collection process. She writes notes for volunteers operating the hotline, provides information in training packs, and is always ready to help volunteers.

FoK has more than 30 years of data on koalas, and Katrina's more recent work has been an important contribution to this dataset. She has also recently begun working with researchers from NPWS on retrospectively analysing this data. In balancing life, work and data coordination, Katrina spends time every day out on the property observing the koala colony she lives among and recording her own set of data on the koala response to habitat restoration.

Funding to assist koala rehabilitators

In 2019–20, 5 wildlife rehabilitation groups and two independent licence holders received a total of $114,742 in funding from the NSW Koala Strategy. The funding has enabled 5 wildlife rehabilitation providers to build new enclosures. These new enclosures will increase and strengthen the network of koala rehabilitation enclosures in New South Wales and will result in more koalas accessing faster assistance. In addition, funds were provided for new medical equipment at the new Port Stephens koala hospital. FoK was able to purchase a new rescue trailer which will increase their capacity to respond to bushfire emergencies.

This funding is in addition to the $185,000 provided in 2018–19 to 17 wildlife rehabilitation providers to help replenish their koala rescue equipment (rescue poles, cages, bags and suitable work health and safety gear). An additional $120, 000 will be allocated in 2020–21.

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Birds
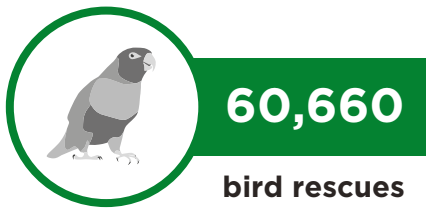
60,660

bird rescues

In 2019–20, 60,660 birds were rescued across 326 species, including 54 threatened species. Advice to the community was given about a further 3585 birds, mostly rainbow lorikeets and Australian magpies. The number of bird rescues increased by about 22% on the previous year, and the number of species rescued also increased by 45 species.

The 10 bird species most rescued in 2019–20 are shown in Figure 13. These species comprise 55% of all birds rescued. Rainbow lorikeets, Australian magpies, laughing kookaburras, tawny frogmouths and noisy miners have been consistently represented in the top 5 most-rescued species each year for the past 3 years. Once again, rainbow lorikeets were the most common species and account for 17% of birds rescued. The Australian white ibis is a new species in the top 10 this year, replacing Australian wood ducks from the previous year.

All bird species experienced an increase in rescues this year. Australian magpies were the second most-rescued bird, with 5514 individuals being rescued, a 24% increase on the previous year. Barbara Hands from RRANA is an experienced bird rehabilitator. You can read her story about a rescued magpie in the member profile below.
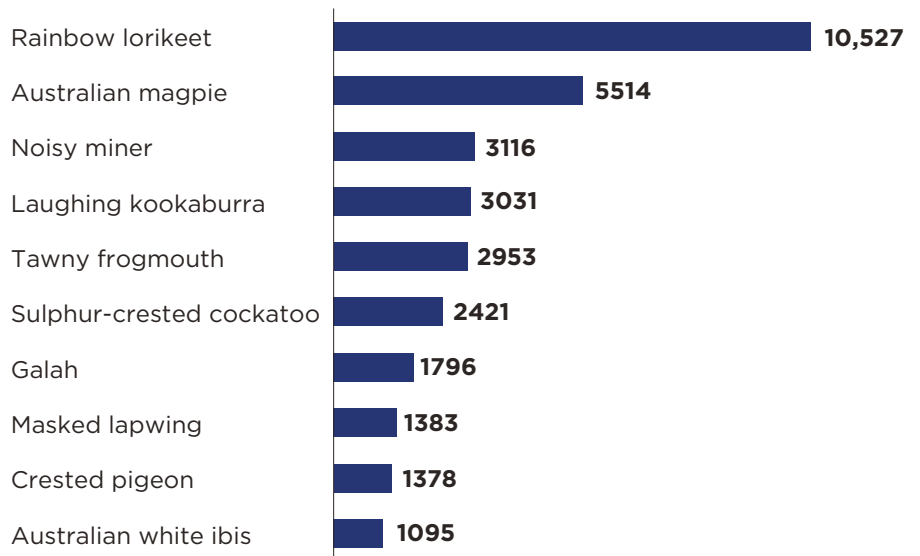

Species	Count
Rainbow lorikeet	10,527
Australian magpie	5514
Noisy miner	3116
Laughing kookaburra	3031
Tawny frogmouth	2953
Sulphur-crested cockatoo	2421
Galah	1796
Masked lapwing	1383
Crested pigeon	1378
Australian white ibis	1095

Figure 13   Top 10 bird species rescued in 2019–20.

The age of more than half of the birds rescued was reported as unknown. Of the remainder, about 20% were adults and 23% were juveniles and young. Sex was reported in only 3% of rescues, with males and females equally represented.

As expected, spring was again the busiest season for bird rescues (34%), closely followed by summer (30%). The winter months are the quietest for rescues, with the lowest number of rescues this year recorded in July (3133 rescues) (Figure 14).
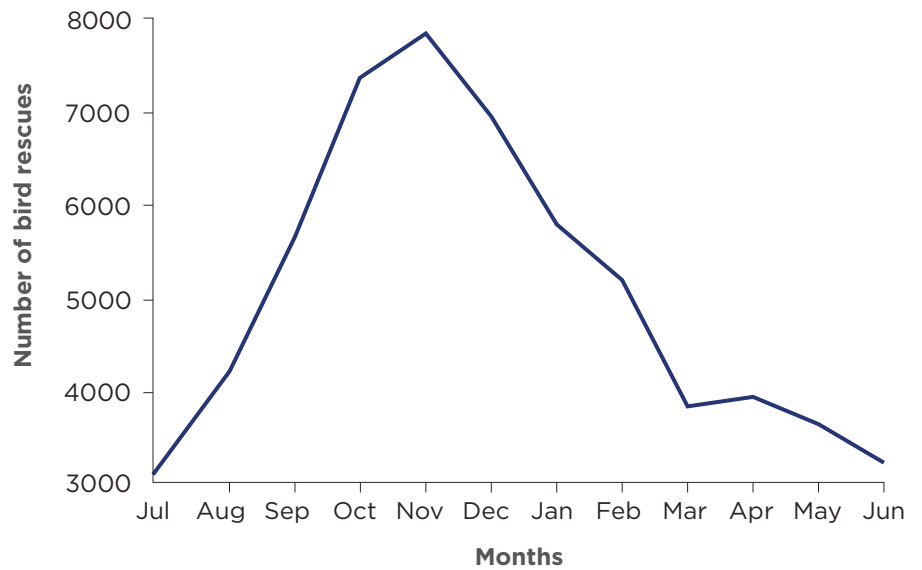
Figure 14   Bird rescues each month in 2019–20.

The cause of nearly 69% of bird rescues was 'unknown'. 'Collision–motor vehicle' and 'collision–other' account for approximately one-third of all known encounters (Figure 15). The species most impacted by these two encounter types was the rainbow lorikeet (1067 rescues) and the laughing kookaburra (632 rescues). Psittacine beak and feather disease (PBFD) was reported in just over 3% of rescues this year and has been consistently in the top 10 over the past 3 years.

Reason	Count
Collision–motor vehicle	4108
Collision–other	2217
Fallen from nest or tree	2155
Unsuitable environment	1597
Abandoned/orphaned	1583
Disease–other	981
Dependent on parent taken into care	892
Attacked by cat	658
Disease–psittacine beak and feather	635
Attacked by bird	595
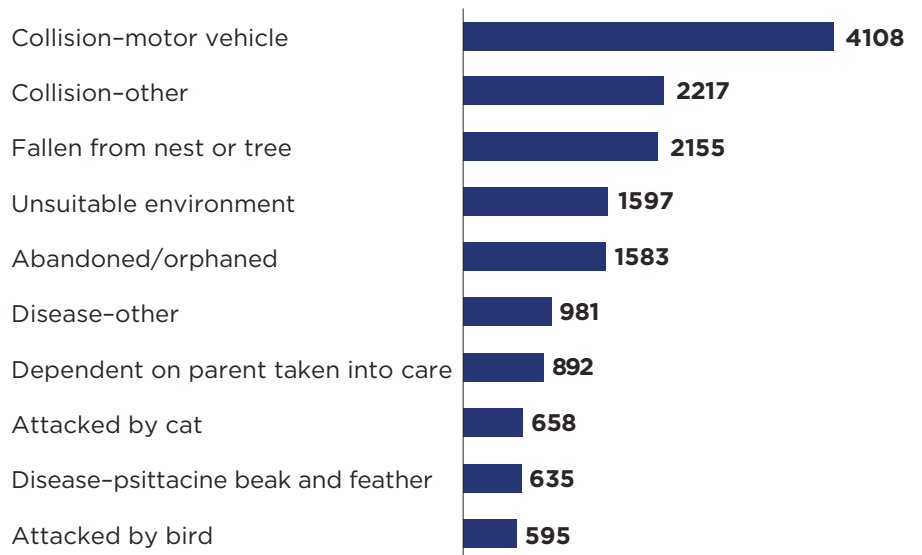
Figure 15   Top 10 reasons for bird rescues 2019–20.

22%

of birds were **rehabilitated** and **released**

Overall, 22% of birds rescued in 2019–20 were rehabilitated and released. A breakdown of the outcomes of the top 10 commonly rescued species is provided in Figure 16.

Laughing kookaburras had the highest release rates (34%) and are the only species in the top 10 to have more rescued birds released than died. This is notable as motor vehicle collisions were the primary known reason for rescue in kookaburras. In most cases the trauma resulting from motor vehicle collisions is associated with a poor outcome for the animals involved. Sulphur-crested cockatoos had the lowest release percentage (8%), likely due to the impact of disease (PBFD) and motor vehicle collisions.

Species	Released	Died
Rainbow lorikeet	2111 released	4719 died
Australian magpie	1178 released	1834 died
Noisy miner	825 released	1123 died
Laughing kookaburra	1020 released	930 died
Tawny frogmouth	807 released	1049 died
Sulphur-crested cockatoo	195 released	1300 died
Galah	278 released	924 died
Masked lapwing	242 released	285 died
Crested pigeon	322 released	694 died
Australian white ibis	163 released	392 died

Figure 16 Fate of commonly rescued birds in 2019–20.

Member profile

Barbara Hands — Bird care trainer, bird coordinator, bird care mentor, Rescue and Rehabilitation of Australian Native Animals

What is your current role in wildlife rehabilitation?
My name is Barbara Hands. My current role is bird care trainer, bird coordinator and bird care mentor. I also keep the bird data spreadsheet records to submit annually to NPWS.

Do you have specific animals you care for or rescue?
Yes, any native bird coming into RRANA care.

During my years as a member I have concentrated only on bird care. Apart from my love of birds, I saw a great need to concentrate only on their care. In general, not a lot of new members choose bird care and often birds are by far the largest numbers of rescued animals in groups such as ours. When asked what type of birds I care for my answer is, 'any bird from as big as a wedge-tailed eagle to as small as a welcome swallow chick'.

How long have you been a wildlife rehabilitator?
I became a wildlife rehabilitator in November 2006.

What is your favourite thing about wildlife rehabilitation?
My absolute favourite thing is to reunite a chick or juvenile I have had in care with its parents or family group. I love the excited fluttering of the youngster's wings on seeing its parent, and the 'Where the heck have you been?' greeting. I also enjoy the friendships I have made along the way. Nothing beats the company of a group of like-minded people. I also feel great satisfaction teaching newer members about bird care.

If you had one piece of advice for rehabilitators, what would it be?
Don't develop a habit of blaming yourself if a bird you are caring for dies or needs to be euthanased. Look upon each bird you have cared for as a positive learning experience no matter what the outcome.

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How did you get involved in rehabilitation?

My cat brought me a honeyeater chick it had grabbed from our garden. I called the RRANA rescue number and joined soon after. Following that, my husband built a large cat run that prevented our cat from bringing us any more bird presents.

Why do you do it?

My involvement has been a big part of my life since I retired from full-time employment. I had always been involved in caring roles, so wildlife care seemed to be a natural thing for me to be involved in. With so many different species of birds, it presents a constant challenge to learn about their care needs. Some are similar, but many of them require needs that differ greatly. I have always consulted experts.

This practice has been invaluable over the years. I have also found computer research to play a big part as a 'go to' for contacts and information. I hope to impart a lot of what I have learned to younger bird carers, as I get older and slow down hands-on care.

What would you say to someone considering becoming a wildlife rehabilitator?

First consider what time you could devote to wildlife care and ask some questions about what is involved in the care of the animal or animals of your choice. Ask if you could have a chat with a carer in the group who cares for your choice of animal or animals. Google the NSW code of practice for rehabilitation for your choice of native animal care. This will give you a good understanding of what is required of our group under our wildlife rehabilitation licence. Finally, undertake the group's relevant training courses on offer.

Do you have a particular rescue or animal that stands out for you?

The one that often comes to mind is a juvenile magpie rescue, care and release I undertook. The man who called had noticed the bird in his garden, unable to fly and looking worse for wear. On examining the bird after rescuing it, it was obvious its feathers had been burnt and probably from being close to a power pole flare involving another bird's electrocution. The caller said they had lost power the day before he noticed the bird. I find it most inappropriate that the power companies call this 'bird strike'. The poor bird had all wing and tail feathers destroyed by the power flare but fortunately there was no other damage.

I had learned how to imp a bird feather during a bird of prey course our group arranged to be conducted here in Broken Hill, so I decided to put what was learnt into action. Without imping new feathers to the bird, it may have taken a year to molt and re-grow new feathers. A call-out to other wildlife care groups for donor feathers of a deceased bird had a quick response. During a call to the people who taught the imping technique, I learned that magpies will lay still for a considerable length of time when placed on their back with a cover over their face for the imping procedure. Most birds need this to be done under anaesthetic.

Next came the preparation of the donor feathers. All the bird's feathers were replaced in three sessions with four group members working as a team. One held the birds head with the cover over it. Another held its legs, and it took two people to fit and glue the prepared feathers to the bird. The bird was called Batman. It looked like its new wings were a cape due to the donor being a bigger bird. This problem was fixed by a quick trim of its tail only.

After a couple of days in a big aviary getting used to flying with its new super plumage, the big day for its release came, involving the caller, who was glad to be the person to let it free, along with those involved in the imping process.

Batman flew off like a bat out of hell, screeching all the way to the very top of a big pine tree. A great photo of the fellow releasing the bird was placed in the local newspaper a couple of days later.

Reptiles and amphibians

14,583

reptile and **amphibian** rescues
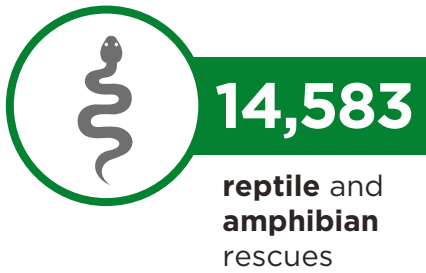
This year 14,583 reptiles and amphibians were rescued across 95 species, including 10 threatened species, an increase in rescues of 22% on 2018–19. There were also 1400 requests for advice.

Snakes (particularly elapids and pythons) account for 53% of all rescues (7773 rescues), followed by lizards with about a third of rescues and turtles and tortoises (13%). Very few frogs were rescued (211) across 6 species, mostly green tree frogs (116).

The top 10 species accounted for 63% of all reptile and amphibian rescues (Figure 17). Eastern blue-tongue lizards were again the most common animal rescued: 22% of all rescues. Carpet/diamond pythons are second on the list, with a 334% increase in rescues compared to the previous year. Lace monitors also had a notable 51% increase in rescues this year, with 301 animals rescued.

The age for the majority (67%) of rescued reptiles and amphibians is reported as unknown. Unlike birds, where rescues are equally distributed across age class, where age is reported, adults make up most rescues. It is often difficult to distinguish between sexes in the majority of reptile and amphibian species. Accordingly, sex is unknown for 88% of rescues. Where sex was identified and reported, equal numbers of male and female animals were rescued.

Species	Rescues
Eastern blue-tongue	3170
Carpet/diamond python	1541
Red-bellied black snake	1144
Eastern snake-necked turtle	976
Eastern water dragon	491
Eastern brown snake	475
Common tree snake	432
Lace monitor	355
Diamond python	300
Green turtle	248
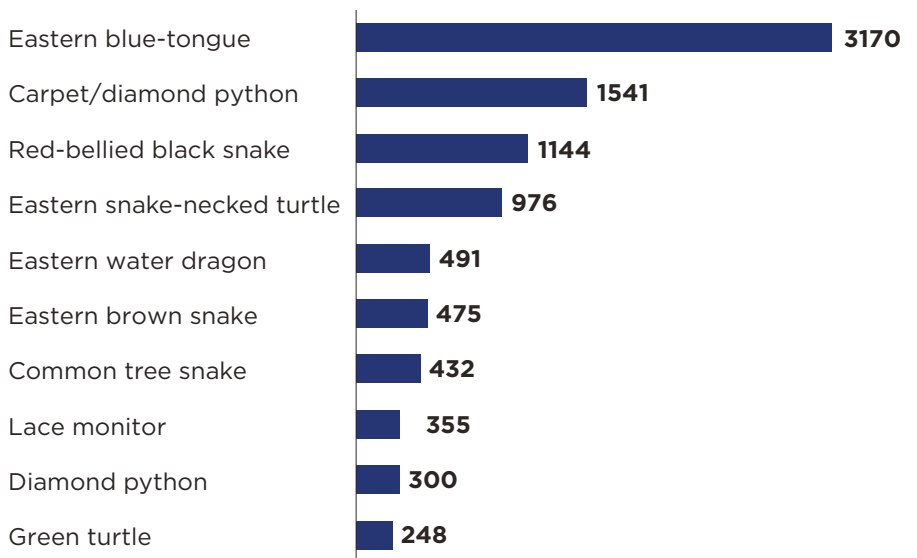
Figure 17 Top 10 reptile species rescued in 2019–20.

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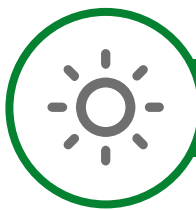
Nearly 67% of rescues were reported during the warmer months of spring and summer, with only 8% of animals rescued in winter. The two spikes in rescues are similar to the pattern of rescues observed in 2018–19. This year, however, the second spike was later in the year in February compared to a spike in January in the previous year (Figure 18). This year, most rescues occurred in February (1916), and the fewest rescues were in July (319).
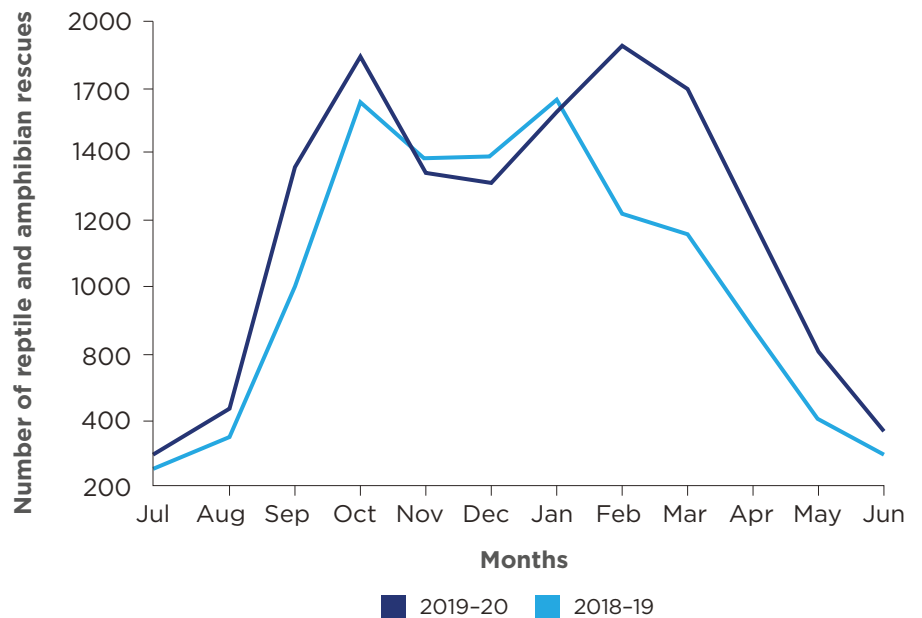

Figure 18 Reptile and amphibian rescues each month in 2018–19 and 2019–20.

Reptiles are often captured from unsuitable locations, such as people's homes and public spaces, and relocated nearby. It is by far, and consistently has been, the most frequent reason for rescue (Figure 19). Species often found in an 'unsuitable environment' this year were the carpet and diamond pythons (660 rescues), followed by 'unidentified snake' (402 rescues) and red-bellied black snake (243 rescues).

Hundreds of reptiles are also impacted by collisions with motor vehicles or are attacked by dogs and cats, especially during the warmer months of summer and spring. About 58% of rescues due to motor vehicle collisions occur in summer and spring. About 232 eastern snake-necked turtles are rescued each year due to incidents with motor vehicles. Eastern blue-tongues are the most frequently rescued reptiles, and 11% of these rescues are due to dog attacks.

Reason	Count
Unsuitable environment	2319
Collision–motor vehicle	649
Attacked by dog	526
Negative interaction	264
Entanglement – other	151
Attacked by cat	147
Attack–suspected/other	102
Stranded/haul out	98
Collision–other	59
Disease–external parasite	47
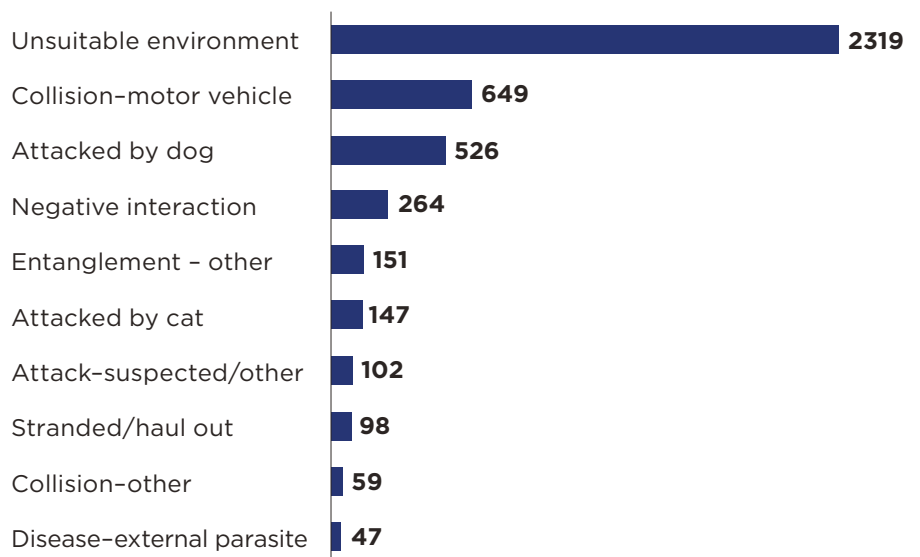
Figure 19   10 most common reasons for reptile and amphibian rescues in 2019–20.

27%

of rescued reptiles were **released**

Across all species, about 27% of rescued reptiles were released back into the wild, a 13% decrease compared to the previous year. Of the top 10 rescued species, only eastern blue-tongues and eastern water dragons had fewer animals released than died (Figure 20). Only 23% of eastern water dragons and eastern blue-tongues were released, likely owing to the reasons for rescue. For these two species, most rescues were recorded as having an 'unknown' reason. Second to this, 11% of eastern blue-tongues were rescued due to dog attacks, and the majority of these animals (65%) either died or were euthanased. About 9% of eastern water dragons were rescued due to motor vehicle collisions.

'Left and observed' is a frequently reported outcome in reptile and amphibian rescues, making up 16% of all rescues. Of these animals, a reason for rescue is unknown in 67% of cases. The second most common reason for rescue was animals found in unsuitable environments (30%), and these animals were left and observed.

Eastern blue-tongue — 742 released, 1215 died
Carpet/diamond python — 517 released, 136 died
Red-bellied black snake — 355 released, 100 died
Eastern snake-necked turtle — 485 released, 282 died
Eastern water dragon — 113 released, 163 died
Eastern brown snake — 123 released, 120 died
Common tree snake — 209 released, 53 died
Lace monitor — 70 released, 60 died
Diamond python — 159 released, 39 died
Green turtle — 91 released, 74 died

Figure 20 Fate of commonly rescued reptiles in 2019–20.

Mammals

12,571

grey-headed flying-fox rescues, a

527%

increase from the previous year

There were 52,581 mammal rescues this year across 90 different species, including 26 threatened species, a 60% increase on the previous year. Advice was provided for an additional 1336 animals.

The top 10 mammal species rescued are shown in Figure 21. These species comprise 78% of all mammal rescues in 2019–20. The top 10 species remain largely unchanged, except for swamp wallabies replacing sugar gliders. All species in the top 10 had an increase in rescue number, most notably the grey-headed flying-fox (527% increase).

Grey-headed flying-foxes form 24% of all mammal rescues, the predominant mammal species rescued in 2019–20 (see case study below). An additional 2% of rescues were attributed to the black flying-fox. Koala rescues increased 35% from the previous year and 84% when compared to 2017–18. Other notable changes include a 37% increase in common brushtail and common ringtail possum rescues. Together these species represent at least 24% of all mammal rescues. There were also 1548 short-beaked echidna rescues, again an increase of 34% from 2018–19. The 5-year average for this species is 1073.

Species	Rescues
Grey-headed flying-fox	12,571
Common ringtail possum	7475
Eastern grey kangaroo	7174
Common brushtail possum	5273
Bare-nosed wombat	1916
Koala	1681
Short-beaked echidna	1548
Black flying-fox	1151
Red-necked wallaby	1106
Swamp wallaby	893
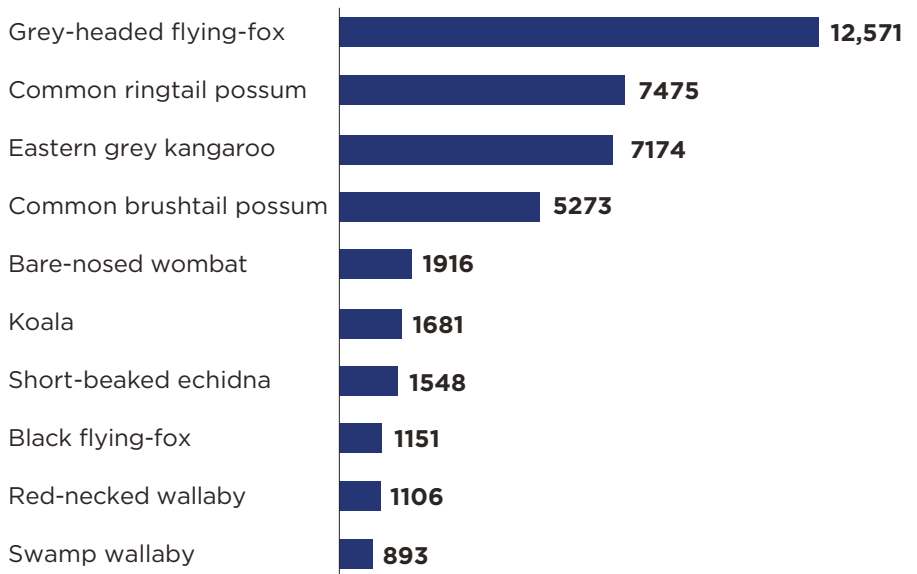
Figure 21   Top 10 mammal species rescued 2019–20.

Males and females each comprised 20% of rescues. Juvenile and young accounted for 32% of rescues, and adults accounted for 25%.

The monthly trend in mammal rescues this year was notably different to the past two years. This year, the highest percentage of rescues was in summer (40%). There was a prominent peak in rescues in December (11,707 rescues), the opposite to the previous year where the lowest number of

rescues were recorded in December (2140 rescues) (Figure 22). Grey-headed flying-foxes and eastern grey kangaroos were the top two species rescued in December, and 'Event–drought' was the most common reason for rescue during this month, followed by 'unknown' and 'Event–fire'.
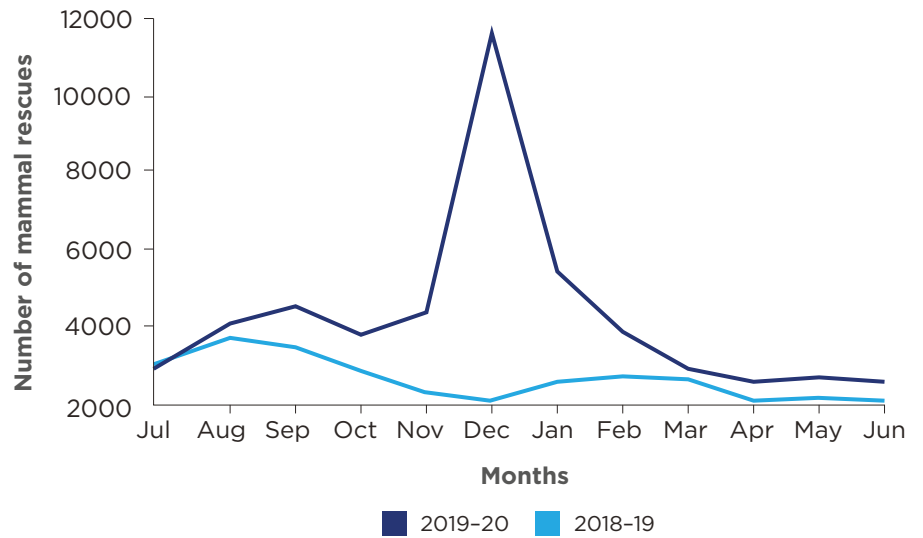
Figure 22   Mammal rescues each month 2019–20.

This year 'Event-dought' overtook 'Collision-motor vehicle' as the most common reason for rescue, with 5913 rescues (22% when unknowns are removed from the analysis) (Figure 23). 'Collision–motor vehicle' was a close second, with 5642 rescues, an 18% decrease on the previous year. Nearly 95% of all drought-related rescues involved grey-headed flying-foxes, and this increases to 99% when including black flying-foxes. Grey-headed flying-foxes also topped the list and were the most-rescued species in 'Event–fire' and 'Abandoned/orphaned' rescue categories.
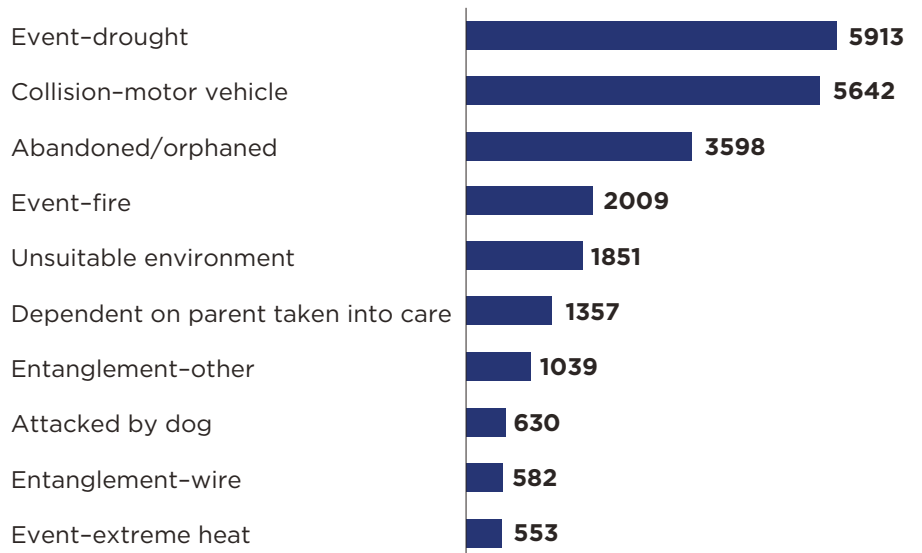
Figure 23   10 most common reasons for mammal rescues 2019–20.

14%

of rescued mammals were **rehabilitated** and **released**

Overall, 14% of rescued mammals were able to be rehabilitated and released, a decrease on 19% from the previous year. Just over half died (53%) or required euthanasia. Short-beaked echidnas were the only commonly rescued species that had more individuals released than died (or euthanased) (Figure 24). Eastern grey kangaroos had the lowest release rate (only 6% of animals were released), followed by bare-nosed wombats (8%). About 30% of rescued koalas were successfully released.

Grey-headed flying-fox
1355 released
9880 died

Common ringtail possum
1582 released
3046 died

Eastern grey kangaroo
422 released
5232 died

Common brushtail possum
1210 released
2055 died

Bare-nosed wombat
146 released
750 died

Koala
502 released
645 died

Short-beaked echidna
360 released
280 died

Black flying-fox
224 released
812 died

Red-necked wallaby
145 released
748 died

Swamp wallaby
104 released
584 died

Figure 24 Fate of commonly rescued mammals 2019–20.

Case study: A tough year for grey-headed flying-foxes

This year, a total of 12,571 grey-headed flying-foxes were rescued, a significant 527% increase from the previous year. Grey-headed flying-foxes (GHFF) represent 82% of all threatened animals rescued in 2019–20.

The Bureau of Meteorology's 2019 Annual Climate Statement shows that 2019 was Australia's warmest and driest year on record. Drought was reported as the predominant reason for rescue of GHFF (5596 rescues). Where the reason for rescue was known, drought together with abandonment of pups (1919 rescues) and fire (1109 rescues) accounted for 81% of GHFF rescues (Figure 25).

GHFF rescues were concentrated in the Maitland and Shoalhaven local government areas, together accounting for 66% of rescues. November, December and January were the busiest months, with 80% of rescues occurring during this period. The concentrated time and location of GHFF rescues are likely linked to mass casualty events, for example, heat stress events, pup abandonment or hailstorms.

Flying-fox pups are born in October and November and are dependent on their mothers for approximately three to four months. Pups may be abandoned due to the death of the mother or by mothers under nutritional stress. This year, a higher proportion of juvenile and young flying-foxes (42%) were rescued compared to adults (14%). Rescued abandoned pups are generally in poor condition may be dehydrated and have concurrent health issues. In 2019-20, 1919 GHFF were rescued due to abandonment and 77% of these animals died or were euthanased.

Mass casualty events can be incredibly challenging for wildlife rehabilitators given the number of animals involved. Wildlife rehabilitation organisations work closely together, transporting animals to available facilities and sharing resources to successfully rehabilitate flying-foxes. The data from these events will provide important information to specialists managing this species.

Reason	Count
Event–drought	5596
Abandoned/orphaned	1919
Event–fire	1109
Entanglement–other	460
Event–extreme heat	356
Entanglement–wire	229
Electrocution	214
Unsuitable environment	132
Collision–other	128
Dependent on parent taken into care	112
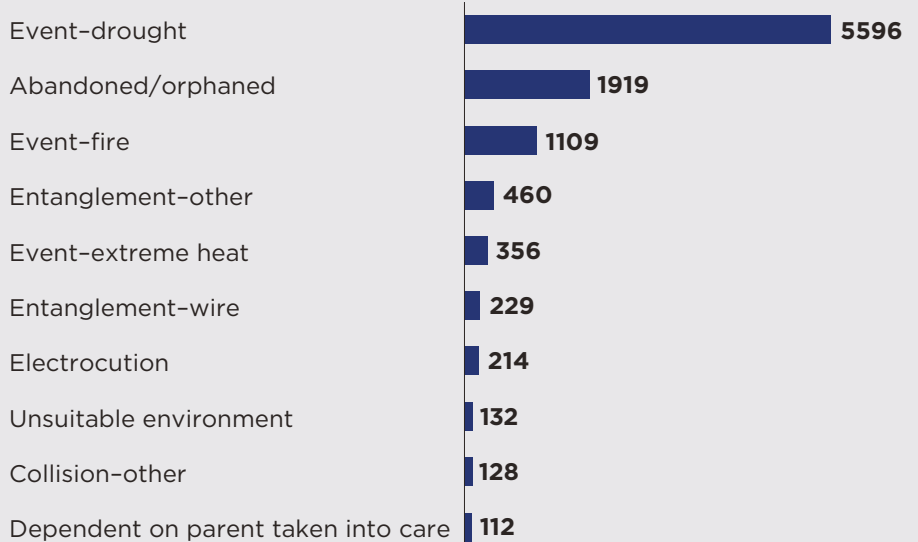
Figure 25 The most common reasons for grey-headed flying-fox rescues in 2019–20.

Marine mammals

159

marine mammal incidents in 2019-20

In 2019-20 there were 159 marine mammal incidents. These incidents involved 9 cetacean species, including 2 threatened species: the humpback whale and the southern right whale. Humpback whales accounted for 40% of all interactions (Figure 26). Sightings are not included in this analysis.

There were also at least 4 species of seal reported. New Zealand fur-seals (21 reports) and Australian fur-seals (13 reports) were most frequently reported; both are threatened in New South Wales. Eleven leopard seals and 3 subantarctic fur-seals were also reported; the latter species is listed nationally as 'endangered'. In addition, there were at least 6 other 'unknown' seals reported by responding organisations. Although NPWS is the lead responder for marine mammal incidents, volunteers play an important role in monitoring and evaluating the health of hauled out seals and engaging with the local community, particularly when the same seal hauls out over an extended time and in several locations.

Species	Count
Humpback whale	64
Southern right whale	19
Indo-Pacific bottlenose dolphin	9
Unknown cetacean species	4
Unknown bottlenose dolphin species	2
Pygmy sperm whale	2
Bryde's whale	1
Common bottlenose dolphin	1
Gingko-toothed beaked whale	1
Dwarf sperm whale	1
Rough-toothed dolphin	1
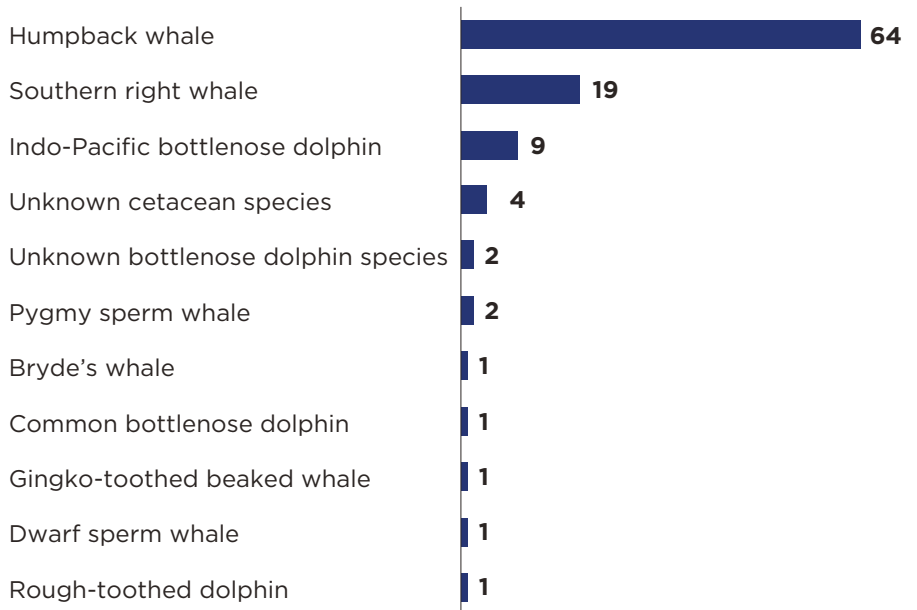
Figure 26 Cetacean species rescued in 2019–20.

Cetaceans can require assistance for a variety of reasons. There were 81 events at sea, one entrapment, 8 strandings and 15 carcasses. Seals are often reported as haul-outs (40 reports), or as thermoregulating seals assessed for possible entanglement or other injury.

Under the NSW Marine Estate Management Strategy, Initiative 5 sets out how the NSW Government is working to reduce threats to threatened and protected marine species. Integral to this is working with wildlife rescue and rehabilitation groups to better understand key threats to marine species, working together to report real-time events and collaborating on research to maximise wildlife survival.

Department of Planning, Industry and Environment

Appendix 1: Data providers 2019–20

The department is grateful to the following organisations (groups) and independent licence holders who provided their records for 2019–20:

Wildlife rehabilitation organisations including facilities
Australian Seabird Rescue (ASR)
Dolphin Marine Conservation Park
For Australian Wildlife Needing Aid (FAWNA)
Friends of the Koala (FoK)
John Moroney Correctional Centre
Kangaroo Protection Co-operative
Koala Conservation Australia
Koalas In Care
Ku-ring-gai Bat Conservation Society (KBCS)
Looking After Our Kosciuszko Orphans (LAOKO)
Native Animal Rescue Group (NARG)
Native Animal Trust Fund (NATF)
Northern Rivers Wildlife Carers (NRWC)
Northern Tablelands Wildlife Carers (NTWC)
NSW Wildlife Information, Rescue and Education Service (WIRES)*
Organisation for the Rescue and Research of Cetaceans in Australia (ORRCA)
Port Stephens Koalas (PSK)
Rescue and Rehabilitation of Australian Native Animals (RRANA)
Saving Our Native Animals (SONA)
Sydney Metropolitan Wildlife Services (SMWS)
Taronga Conservation Society
Tweed Valley Wildlife Carers (TVWC)
Wildcare Queanbeyan
Wildlife Aid
Wildlife Animal Rescue and Care Society (Wildlife ARC)
Wildlife in Need of Care (WINC)
Wildlife Rescue South Coast (WRSC)

Independent licence holders
D Johnston
E Latham
H Morrisey
I Kopievsky
J McConnell
J Nunn
M Holdsworth
L Hayes
P Hughes
R Molony
S Brookhouse
S Rowe
Y Mack

* WIRES contributed about 67% of the wildlife rescue data for 2019–20.

Appendix 2: Definition of anthropogenic and natural causes

Encounter types used to report on anthropogenic and natural causes of rescue:

Anthropogenic
Attack–fox
Attack–dog
Attack–cat
Collision–motor vehicle
Collision–vessel strike
Collision–building
Domestic pet–seized
Domestic pet–surrendered
Domestic pet–escaped
Electrocution
Entanglement–wire
Entanglement–marine debris
Entanglement–netting
Human impact–habitat alteration/tree felling
Human impact–intentional harm
Human impact–interference
Negative interaction
Poisoned

Cannot be determined
Attack–bird
Attack–same species
Disease–PBFD
Disease–chlamydia
Disease–external parasite
Disease–mange
Disease–internal parasite
Disease–botulism
Disease–other
Fallen from nest or tree
Stranded/haul out

Natural
Abandoned/orphaned
Attack–suspected/other
Collision–other
Dependent on parent taken into care
Event–drought
Event–fire
Event–extreme heat
Event–storm
Event–flood
Entanglement–other
Entrapment
Fouled by substance
Ingestion of a foreign object
Unsuitable environment

Department of Planning, Industry and Environment

More information

Name	Web link
NSW BioNet	http://www.bionet.nsw.gov.au/
SEED (NSW Government Central Resource for Sharing and Enabling Environmental Data)	https://www.seed.nsw.gov.au/
NSW Wildlife Rehabilitation dashboard	https://www.environment.nsw.gov.au/topics/animals-and-plants/native-animals/rehabilitating-native-animals/wildlife-rehabilitation-reporting/wildlife-rehabilitation-data
Getting involved in wildlife rehabilitation	https://www.environment.nsw.gov.au/topics/animals-and-plants/native-animals/rehabilitating-native-animals/getting-involved-in-wildlife-rehabilitation
One Animal at a Time: Animal Analysis - exploring how wildlife rehabilitation volunteers contribute to conservation	https://omny.fm/shows/wildlife-heroes-caring-for-carers/one-animal-at-a-time-animal-analysis-how-data-reve
IFAW Wildlife Rescue App	https://www.ifaw.org/au/resources/wildlife-rescue-app
Backyard Buddies	https://backyardbuddies.org.au/

Acknowledgements

Volunteers' acknowledgements

We would like to acknowledge Lorraine Vass, who has been made a Member of the Order of Australia for significant service to wildlife conservation, and Peggy McDonald, who was awarded the Medal of the Order of Australia for service to conservation and the environment.

And finally, Yvonne Mack, who retired her independent wildlife rehabilitation licence. Thank you for your many years of volunteering Yvonne.

Memorial

FAWNA is celebrating the life of Wildlife Warrior, Gwen Pridmore, who 'died in harness' (4 June 2021) aged 86. Gwen spent nearly 30 years rehabilitating possums, gliders, macropods and birds from her Wingham base. As well as being a carer and mentor for new volunteers, Gwen and her late husband, Hilton, spent many years cutting the fruit for orphaned flying-foxes in release, thus greatly helping the feeding team of volunteers at Wingham.

Greatly honoured and sadly missed — vale Gwen.

Find out more

If you would like to learn about becoming a wildlife rehabilitation volunteer and want to contact your local wildlife rehabilitation organisation, see Getting involved in wildlife rehabilitation or use the IFAW app.

To learn more about Australia's unique wildlife, and things you can do to live in harmony with wildlife, go to the Foundation for National Parks and Wildlife Backyard Buddies website.