

australian



wildlife
conservancy

wildlife matters

Issue 36



Saving Australia's endangered wildlife

Contents

- 4 Bilbies set for historic return to NSW National Parks
- 8 Australia's ecosystem engineer: The Greater Bilby
- 10 Boosting the genetic diversity at Mt Gibson wildlife sanctuary
- 14 Using technology to monitor endangered Malleefowl in NSW
- 16 Bandicoots on the increase at Mornington
- 18 Scotia Mala heading to central Australia
- 20 AWC and DAC protecting threatened species
- 26 The Copley Circle - legacies for wildlife

Cover image:

A Woylie from Tone-Perup National Park finds a new home at Mt Gibson Wildlife Sanctuary
Brad Leue/AWC

Australian Wildlife Conservancy

PO Box 8070
Subiaco East WA 6008
Ph: +61 8 9380 9633
www.australianwildlife.org



The AWC mission

The mission of Australian Wildlife Conservancy (AWC) is the effective conservation of all Australian animal species and the habitats in which they live.

To achieve this mission our actions are focused on:

- Establishing a network of sanctuaries which protect threatened wildlife and ecosystems. AWC now manages 27 sanctuaries covering 4.65 million hectares (11.49 million acres).
- Implementing practical, on-ground conservation programs to protect the wildlife at our sanctuaries. These programs include feral animal control, fire management and the translocation of endangered species.
- Conducting (either alone or in collaboration with other organisations) scientific research that will help address the key threats to our native wildlife.
- Hosting visitor programs at our sanctuaries for the purposes of education and promoting awareness of the plight of Australia's wildlife.

About AWC

AWC is an independent, non-profit organisation based in Perth, Western Australia. Donations to AWC are tax deductible.

Over the last 10 years, around 87 per cent of AWC's total expenditure was incurred on conservation programs, including land acquisition, while only 13 per cent was allocated to development (fundraising) and administration.



2018 - an extraordinary year for Australian Wildlife Conservancy

As you read this edition of *Wildlife Matters*, AWC ecologists and land managers are in the field conducting biodiversity surveys, translocating threatened species into specially designed feral predator-proof areas and mustering feral herbivores, all with the aim of reversing the tide of extinctions.

Our mission is the effective conservation of Australia's native wildlife, and it is your support that allows the team in the field to achieve this.

As the largest private (non-profit) owner of land for conservation in the world, AWC is implementing programs at an unprecedented scale:

- Constructing a network of large, fenced areas – with six completed fenced areas and more planned, including Newhaven Stage 2 at approximately 100,000 hectares. Once completed, this will be the largest feral predator free area on the planet; and
- Delivering a world-class science program that informs conservation programs across more than 4.65 million hectares. AWC employs more than 50 fulltime scientists, 19 of whom have a PhD. The science team conducts research projects and eco-health monitoring programs to measure the ecological health of our sanctuaries and to inform our land management programs.

Critically, we are doing this in a cost-effective way. We have maintained our fundraising and administration costs at just 13 per cent of our total operating expenditure. This means that for every dollar you invest, 87 cents is invested where it counts – in the field, delivering outcomes. We are focused on measuring the outcomes of our work and we are implementing a suite of performance scorecards that allows us to measure the impact of the work we do.

Of course, 2018 has also been a year of change

for AWC, with the departure of our long-term Chief Executive, Atticus Fleming. As the inaugural CEO, Atticus oversaw much of the development of AWC and made a significant contribution to the conservation of Australia's threatened species, including influencing how conservation is delivered across Australia and worldwide. These achievements were recognised when he received the Australian Geographic Society's Lifetime of Conservation award. We congratulate him on his achievements and wish him well in his future endeavours.

Yet, the need for effective conservation continues. Feral cats continue to be the single biggest threat to Australia's unique wildlife. Feral cats, along with wild fire and feral herbivores, continue to impact the landscape and cause rapid declines in many of Australia's native species.

A business as usual approach cannot continue – and with your help, your investment, AWC's ecologists and land managers are successfully turning the tide of extinctions through our strategic investments in science, conservation fencing and potential long-term solutions such as gene drive technology (in partnership with the CSIRO).

It is only with your generous support that we can undertake this work. On behalf of our team across Australia, thank you for your support and I wish you and your families a safe and merry Christmas.

Tim Allard



Acting Chief Executive

PS: Please consider giving a special Christmas gift to Australia's wildlife by choosing one of our Christmas donation projects in the lift out in this edition of *Wildlife Matters*. If you complete your donation online at www.australianwildlife.org you can personalise one of our eCards. All donations over \$2 are tax deductible.



Bilbies set for historic return to NSW National Parks

*By Tim Allard, Acting CEO, and Dr Rod Kavanagh, Senior Ecologist
Photographer Wayne Lawler*



Images

1. Dr Laurence Berry checks a camera trap during the Pilliga fauna survey
Wayne Lawler/AWC

2. Woylie (Brush-tailed Bettong) Brad Leue/AWC

3. Western Quoll Lochman Transparencies/AWC

4. Bridled Nailtail Wallaby Kim Wormald

5. Western Barred bandicoot Wayne Lawler/AWC



IN PARTNERSHIP WITH
SAVING OUR SPECIES

The ambitious project to create a feral predator-free area in the Pilliga State Conservation Area and Pilliga National Park ('Pilliga') and to reintroduce one of Australia's most iconic threatened species into the area is on the verge of completion.

As this edition of *Wildlife Matters* goes to print, Australian Wildlife Conservancy (AWC) ecologists are in the final stages of preparing for the reintroduction of the first of six nationally threatened species – the Greater Bilby (*Macrotis lagotis*) – into a specially designed, feral predator-free area in the Pilliga. This will be the first time Bilbies have been seen in a NSW national park for more than a century.

As part of its *Saving our Species* program, the New South Wales government has engaged AWC to implement science and land management programs across 35,750 hectares of the Pilliga. This includes the construction of the feral predator-proof fence, creating an area into which AWC ecologists will reintroduce Bilbies, followed over time by Western Barred Bandicoots, Bridled Nail-tail Wallabies, Brush-tailed Bettongs, Plains Mice, and Western Quolls. It will also protect extant mammal species including the Eastern Pygmy Possum and Pilliga Mouse, and bird species including Bush Stone Curlew and Speckled Warbler.

The AWC team, led by Pilliga Operations Manager Wayne Sparrow, constructed the 32.2 kilometre fence using 6,500 steel pickets, 100 kilometres of netting, 290 kilometres of plain wire and over 100,000 clips that secured the netting to the fence to create a 5,800 hectare protected area.

The team has also constructed an additional 3.9 kilometre fence to establish a 680 hectare breeding zone within the main feral predator-proof area where reintroduced species from different locations can be temporarily placed to ensure improved genetic diversity among the populations before they are released into the larger feral predator-free area.

Following the completion of the fence, a comprehensive and intensive feral animal eradication campaign was launched targeting feral cats and foxes, as well as goats, feral pigs and rabbits. This has involved the deployment of an array of remote camera traps (totalling 11,370 camera trap nights). Throughout the campaign the team has successfully removed 975 goats, three cats and a number of foxes from the Pilliga.

In late November and early December, AWC ecologists will reintroduce Bilbies sourced from AWC's population at Scotia Wildlife Sanctuary, in far western NSW, and from Thistle Island, off the South Australian coast.

A core part of AWC's project is our long-term strategy to release mammals beyond the fence, once it is safe to do so. To do this successfully, feral predator levels must be known and controlled (or suppressed) to a low enough level to allow the native species to establish viable populations beyond the fence. AWC ecologist Dr Andrew Carter has been undertaking a ground-breaking research project into the ecology of cats and foxes at AWC's Scotia Wildlife Sanctuary to develop a framework for assessing the population density of these predators. This work will be repeated and tested in the Pilliga forest environment so that AWC can have confidence in its beyond-the-fence strategy.

AWC's Pilliga ecology team, led by Senior Ecologist Dr Rod Kavanagh, completed nearly three years of intensive baseline monitoring of the existing flora and fauna throughout the Pilliga prior to fence construction. In 2017-2018, the total annual survey effort was:

- 1,888 pitfall trap nights across 60 sites;
- 4,746 box trap nights across 60 sites;
- 2,877 funnel trap nights across 60 sites;
- 2,800 camera trap nights across 100 sites;
- 150 bird surveys across 50 sites;
- 144 bat survey nights across nine sites;
- 100 spotlight surveys across 50 sites;
- 100 nocturnal bird and arboreal mammal listening and call-playback surveys across 50 sites; and
- 30 vegetation surveys (15 inside fence, 15 outside fence).

AWC's Pilliga ecology team has also completed its four-week, spring 2018 bird survey. Despite the extremely dry conditions across the state, the team recorded each of the threatened bird species known from the area, apart from Glossy Black Cockatoos. Across the bird monitoring sites, the team confirmed Eastern Grey-crowned Babblers at four sites, South-eastern Brown Tree creepers at five sites, Flame Robins at one site, Speckled Warblers at six sites and Varied Sittellas at 10 sites. Honeyeater sightings were low in the absence of any significant flowering, but Painted Honeyeaters were recorded at two of the sites. The survey wrapped up with a rare sighting of two Yellow-tailed Black Cockatoos feeding in Belah trees. During nocturnal surveys in September, Barking Owls were recorded at 10 sites.

At the project's second site, Mallee Cliffs National Park in south-western NSW, AWC is finalising the assessment and approvals for construction of a 37.2 kilometre feral-proof fence, protecting 9,570 hectares within this 58,000 hectare reserve.



Some of the Greater Bilbies at Scotia Wildlife Sanctuary will be translocated to AWC's Pilliga project area before the end of 2018 Wayne Lawler/AWC

Australia's ecosystem engineer: The Greater Bilby

By Felicity L'Hotellier, Senior Field Ecologist

The Greater Bilby (*Macrotis lagotis*) once occurred across 70 per cent of the mainland of Australia; it is now found only within some 20 per cent of its former range, and continues to disappear from the Australian landscape. Remaining populations are mostly limited to the Tanami Desert (Northern Territory), western deserts, Pilbara and Kimberley regions (Western Australia) and the Diamantina region (Queensland). It is estimated that there are less than 10,000 individuals remaining. Its closest relative, the Lesser Bilby (*Macrotis leucura*), has been presumed extinct since the 1960s. The key cause of this decline is a sad and repeated story when it comes to Australian wildlife, with predation by feral cats and foxes ranking in top place.

AWC now protects about 10 per cent of the global Bilby population at Scotia, Yookamurra and Mt Gibson Wildlife Sanctuaries, and is working with the Queensland Government to protect populations at Astrebla and Diamantina National Parks. Before the end of 2018, Bilbies from Scotia will be taken to the feral predator-free area in the Pilliga (see pages 4-7).

While traditionally known by many names, the common name 'Bilby' was derived from the New South Wales Ularoi/Yuwaalayaay language name, 'Bilba'. The Bilby continues to hold deep significance to many Indigenous Australians. It is a totem animal and plays a part of the Dreamtime stories. Their song lines and stories reach out across the country. In some areas Bilbies were also hunted as food and their tails used as decoration.

Often compared to the introduced rabbit, the Bilby is a unique and charismatic Australian native, sparking awe and curiosity in the observer. Long-pointed ears, held erect; an elongated snout with a keen sense of smell; a bi-coloured tail which flicks from side to side as it runs; and claws, perfectly designed for ploughing soil. Soft,

downy fur across the body transforms into a coarse, crested 'Mohawk' along the tail. Active at night, the Bilby spends its days sheltering in a long, often spiral shaped burrow that it skilfully constructs.

It has a wide and varied diet and the dentition to match. Invertebrates, seeds, fruit, fungi and small vertebrates make up most of its diet. A flexible palette allows the Bilby to thrive in tough conditions.

One of over 150 marsupials in Australia, the Bilby gives birth to small, under-developed young, which make their way into their mothers' pouches to continue growing. The young (often twins) remain in the pouch for almost three months, after which they are deposited in a burrow and suckled by the mother until they are ready to make their way into the world. Given sufficient resources, breeding is continuous. The pouch is backward facing, and for good reason – the Bilby is a compulsive digger.

Through its digging efforts, a single Bilby, whose weight can reach up to 2.5 kilograms for males and 1.1 kilograms for females, can turn over several tonnes of soil per annum. The pits that they create while digging for food provide a huge environmental benefit and the reason that Bilbies are often referred to as 'ecosystem engineers'. Their digging helps water to infiltrate the soil profile, collect leaf litter and collect seeds. Through these efforts, fertile pockets are created providing the perfect germination conditions for plants. Their continual digging helps cycle organic material and nutrients back into the ground. Our Bilbies are skilled tillers, helping to maintain the health of our soils.

The Bilby is part of our unique Australian fauna. It serves an important role in the ongoing health and function of our ecosystems, and holds deep cultural significance. It is important that we see Bilbies thrive once again across the Australian landscape.



Woylie Brad Leue/AWC

Boosting the genetic diversity at Mt Gibson wildlife sanctuary

By Carly Moir, Field Ecologist, and Brad Leue, Correspondent

Australian Wildlife Conservancy is continuing its major program of mammal reintroductions to Mt Gibson Wildlife Sanctuary. To date, eight species of threatened mammals have been reintroduced to the 7,832 hectare feral predator-free area at Mt Gibson, setting a new record for re-wilding projects in Australia. Each reintroduction is conducted in stages, drawing founders from a range of source populations, to help establish a genetically diverse population of each species.

Woylie translocation on track

Marking the end of a four-year translocation program, AWC ecologists have translocated the last tranche of one of Australia's most threatened mammals, the Woylie (*Bettongia penicillata*), to Mt Gibson Wildlife Sanctuary.

Woylies were once widespread throughout southern and central Australia but are now found only in small, fragmented populations in southern Western Australia and within predator-free fenced areas including Scotia. These remnant populations have declined by up to 90 per cent in the last 20 years, mainly due to predation by feral cats.

To conduct the translocation, AWC ecologists and staff from the Department of Biodiversity, Conservation and Attractions spent

a week at Tone-Perup National Park trapping the animals, both within and outside the fenced area. At 4am each day the traps were checked and cleared. Health checks were performed on all Woylies and data was collected on breeding status, weight and pes (the length of the hind foot). This information was used to decide whether individuals were suitable for translocation. Animals selected for translocation were driven to Manjimup airstrip to board the plane that took them to their final destination.

The release team met the plane at the Mt Gibson airstrip and the animals were transferred to a special purpose holding room at the Neville Tichbon Field Research Station. Just before the release at sunset, Traditional Owner, Badimaya Elder Ashley Bell performed a *Welcome to Country* in which he highlighted the significance of local wildlife to Badimaya culture and the importance of the return of this species, and others, to the region.

A total of 56 Woylies were translocated to Mt Gibson in 2018, adding to the 106 individuals translocated to establish the population since 2015. The main purpose of the final translocation was to increase the genetic diversity of Mt Gibson's Woylie population. Interbreeding with resident animals was promoted by releasing males



and females at opposite ends of the designated release area. All Woylies were successfully released; most promptly hopping off into the night, while others took a little longer to take in their new surroundings.

Following this final translocation, the Mt Gibson population is estimated at over 350 individuals. AWC now protects 10 per cent of Australia's remaining Woylie population at our Karakamia, Scotia, Yookamurra and Mt Gibson Wildlife Sanctuaries.

Greater Stick-nest Rats journey over land and sea

The first species reintroduced to Mt Gibson Wildlife Sanctuary in 2011 was the Greater Stick-nest Rat (*Leporillus conditor*). This guinea pig-sized native rodent has the amazing habit of building a communal home out of sticks and stones. Two species of Stick-nest Rat – the Greater and the Lesser – historically occurred across southern and central Australia, but were eliminated from the mainland by feral cats and foxes, along with competition from

introduced herbivores. The Lesser Stick-nest Rat is extinct, while the Greater Stick-nest Rat survived only as a population of about 1,000 animals on the Franklin Islands, South Australia.

The population being established at Mt Gibson is important for the conservation of the species as it is one of only six populations that remain. As with many of Australia's small to medium-sized native mammals, Greater Stick-nest Rats cannot survive in environments where feral cats and foxes are present.

AWC ecologists, in partnership with the South Australian Department of Environment and Water (SA DEW), recently undertook a challenging translocation of Greater Stick-nest Rats from St Peter Island, South Australia, to Mt Gibson. St Peter Island sits off the west coast of the Eyre Peninsula, approximately 25 kilometres south of Ceduna. Greater Stick-nest Rats were taken to the island by the South Australian



Government in 1993 to establish an 'insurance population'.

Over 11 nights in September 2018, a team of eight AWC staff and two staff from SA DEW undertook a complex logistical operation to capture and translocate 13 Greater Stick-nest Rats (seven males and six females) to Mt Gibson. AWC ecologists used both trapping and spotlighting to capture animals on St Peter Island. Traps were checked before sunrise and spotlighting was conducted throughout the night when the animals were most active.

During health checks, two of the seven males showed signs of trauma. A specialist wildlife vet was flown in to check the animals for any evidence of disease or pathogens. The results of blood tests and further examination concluded that the trauma was likely caused by aggressive interactions between males. With the health of the animals cleared, the translocation continued, although the males showing injuries were deemed not suitable for

translocation and were released.

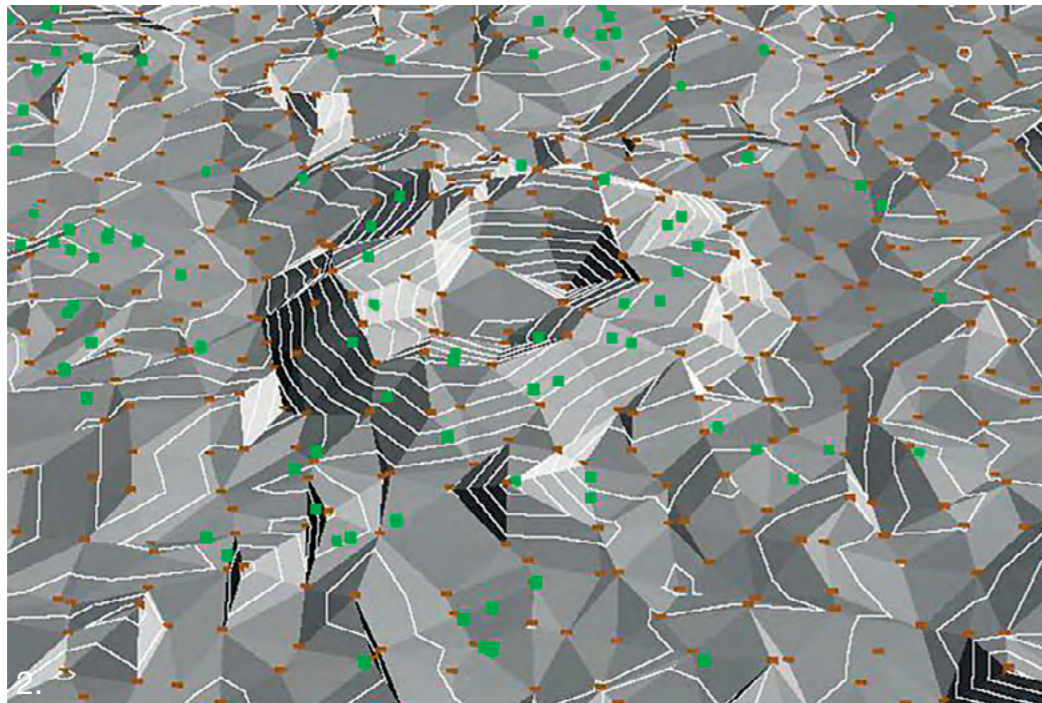
After arriving at Mt Gibson, 10 of the 13 animals to be released were fitted with small radio transmitters, allowing AWC ecologists to track and monitor the dispersal of the animals upon release. While animals groomed off their transmitters within days, the data showed some individuals travelled over three kilometres on their first night in the sanctuary.

Through the construction of feral-predator free areas, AWC is working to save Australia's wildlife from extinction. Please visit australianwildlife.org to view a short film documenting the Greater Stick-nest Rat translocation from St Peter Island to their new home at Mt Gibson Wildlife Sanctuary.

AWC acknowledges the major supporters of the Mt Gibson project: Michael Tichbon, Perth Zoo, Lotterywest, the Northern Agricultural Catchments Council NRM and Department of Biodiversity, Conservation and Attractions.

Images

1. AWC intern Rebecca O'Rourke releases a Woylie from Tone-Perup National Park in to Mt Gibson Wildlife Sanctuary under the supervision of AWC field ecologist Noel Riessen (far right), and watched by Drew Bell, and Badimaya elder Ashley Bell, who is holding his grandson, Clayton. Brad Leue/AWC
2. The endangered Greater Stick-nest Rat was the first species to be translocated to Mt Gibson Wildlife Sanctuary Brad Leue/AWC



Images

1. Malleefowl Kim Wormald/AWC
2. LiDAR technology is used to produce a model of the ground surface, enabling AWC ecologists to easily detect Malleefowl mounds across large areas
Image supplied by Anditi Pty Ltd.

Using technology to monitor endangered Malleefowl in NSW

By Joey Clarke, Communications Officer

AWC is harnessing technology to enhance monitoring of endangered Malleefowl (*Leipoa ocellata*) at Scotia Wildlife Sanctuary and Mallee Cliffs National Park in western New South Wales. With funding from the New South Wales Government's *Saving our Species* program, the new technique, which uses LiDAR modelling, will enable us to better track populations of the rare bird across large areas.

The Malleefowl is a large, ground-dwelling bird that was once widespread throughout the arid zone of southern Australia. Across much of its range, the species has declined due to loss of habitat, altered fire regimes, and predation by introduced predators, especially foxes. In NSW the Malleefowl is listed as Endangered.

Like their more familiar relative, the Brush Turkey, Malleefowl incubate their eggs in a large mound, constructed by the breeding pair, out of sand and leaf litter. As the leaf litter breaks down it generates heat, and the pair carefully regulates the temperature of the nest by adding or removing sand and debris as required. AWC currently protects Malleefowl populations at four locations, Mt Gibson, Yookamurra

and Scotia Wildlife Sanctuaries, as well as Mallee Cliffs National Park. Preliminary data from our sanctuaries suggest that Malleefowl breeding activity is greater within feral predator-free areas.

The conventional method for monitoring Malleefowl involves counting the number of mounds in a given area, and checking which sites have evidence of breeding activity over the course of the year. This approach has several limitations, foremost of which is the problem of detecting mounds across a large scale in the first place. Until now, this has meant long, labour-intensive ground surveys. Malleefowl frequently reuse mound nests over several years, but mounds can be abandoned or moved, and new mounds constructed. To get an accurate picture of overall populations, ecologists needed a more efficient way to detect new and existing mound sites.

The new approach uses a type of aerial mapping technology called LiDAR (light detection and ranging) to model the topography of the surface of the ground at a fine scale. LiDAR data is captured using a special scanning unit fitted to a light aircraft. Potential Malleefowl mounds

can be identified in the digital model by size and shape, and ecologists are then deployed to ground-truth each location and confirm the status of the mounds.

Through a new arrangement with the NSW Office of Environment and Heritage (OEH) as part of the *Saving our Species* program, AWC will be managing the capture of LiDAR data over an area of approximately 200,000 hectares of nationally significant Malleefowl habitat. The area to be mapped includes Mallee Cliffs National Park, which AWC now manages in partnership with NSW National Parks, and Scotia Wildlife Sanctuary. LiDAR capture is planned for the final months of 2018, followed by on-the-ground surveys in early 2019 to verify the presence of the mounds identified from the air.

The Scotia Mallee region is nationally significant for Malleefowl conservation, having avoided the large-scale, high-intensity fires which have impacted remaining Mallee patches in Victoria and South Australia. Using this technology to detect Malleefowl mounds, this project has the potential to re-write our current understanding of Malleefowl densities and breeding activity in the region.



Bandicoots on the increase at Mornington

By Dr Alexandra James, Senior Wildlife Ecologist

The decline of the Northern Brown Bandicoot is being reversed at AWC's Mornington Wildlife Sanctuary in central Kimberley. Numbers have increased from no sightings in the 10 years leading up to 2012 to sightings at more than seven known sites in 2018.

This increase has occurred against a recent backdrop of declines in areas of northern Australia that were considered strongholds for this ground-dwelling marsupial. For example, Bandicoots have suffered a 90 per cent decrease in trap success on Melville Island from 2000-2015, and similar declines in Kakadu over the same period.

Data suggests that AWC's 14 years of active land management (destocking and fire management) at Mornington contributed to this steady increase. Studies have shown that infrequent low-intensity fires, similar to what AWC achieves through the Ecofire program, provide optimal habitat for Bandicoots.

AWC's Ecofire program (Australia's largest non-government fire program) is an annual prescribed burning program across three million hectares of the Kimberley, during which a series of fires are lit early in the dry season when there is an abundance of moisture in the vegetation, minimising the intensity of the fire. This creates a mosaic of burnt and unburnt areas across the landscape, and reduces the risk of late-season, high-intensity wildfires, which have been linked to declines in

Bandicoot populations.

Also, despite a high reproductive rate, Bandicoot populations can take many years to recover from late dry season wildfires. This is due to a need for understorey vegetation for nesting and daytime refuges, as well as for protection from predators.

More than half of Australia's Bandicoot species have become extinct or threatened since European colonisation, making them a key indicator species that are monitored as part of AWC's ecological health program.

The Northern Brown Bandicoot (*Isoodon macrourus*) is common on the east coast of Australia, north from the Hawkesbury River up to the tip of Cape York, and extending west in the higher rainfall zones into the Kimberley.

Nocturnal and solitary creatures, they are Australia's largest Bandicoots. During the day they remain hidden in nests within the ground litter, emerging after dark in search of food including insects, fruits and other plant materials which they obtain by digging small conical holes. Northern Brown Bandicoots were detected in the isolated Phillips Range during the first survey at AWC's Marion Downs Wildlife Sanctuary in 2009, and have since been found in Phillips Range during every annual fauna survey.

Northern Brown Bandicoots were not detected on Mornington until 2012, when they showed up on a camera trap near Annie Creek, close

to the Wilderness Camp. Other small mammals, such as the Pale Field Rat, showed a much quicker positive response once cattle were removed in 2004 and early season burning began in 2007.

Bandicoots were then detected at two of our annual fauna survey sites in the same year, and at different sites each year from 2015 to 2018, bringing the total number of sites to seven. Some of these fauna sites had been trapped for more than a decade, totalling more than 6,400 cage trap nights before trapping our first Bandicoot.

The Bandicoots have now been detected on Tableland Wildlife Sanctuary, and at new sites on Marion Downs (Figure 1). Furthermore, the annual fauna survey sites in Phillips Range, where we first detected Bandicoots in 2009, this year showed a record number of 17 Bandicoots trapped. While some of the detections further afield point to our increased ability to detect Bandicoots using camera trapping, taken together these results point to a measurable recovery in our Northern Brown Bandicoot populations on our southern Kimberley sanctuaries. After 10 years of burning and feral herbivore removal, this recent increase in Northern Brown Bandicoots demonstrates improvements in ecological health that have allowed for a comeback of one of our largest ground dwelling mammals.

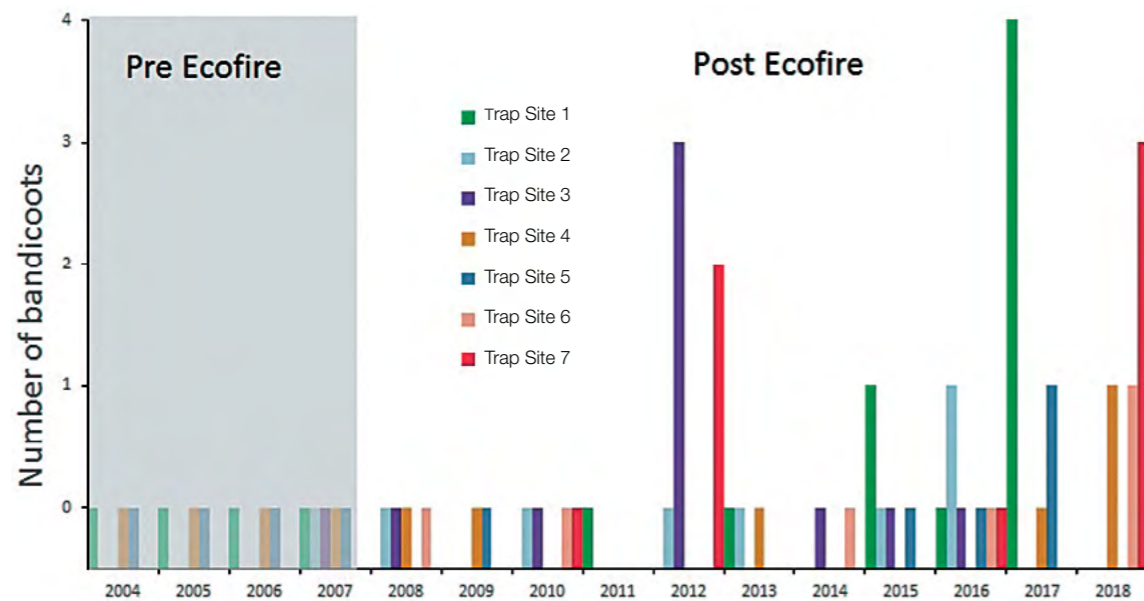


Fig. 1. Number of Northern Brown Bandicoots caught at Annual Fauna Survey Sites 2004 – 2018.

Scotia Mala Heading To Central Australia

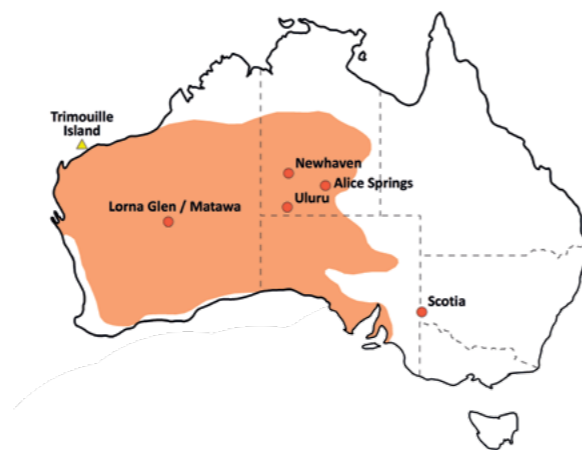
By Dympna Cullen, Field Ecologist, and Dr Leah Kemp, Senior Wildlife Ecologist



Mala that were translocated to Newhaven Wildlife Sanctuary in 2017 were recently re-trapped for health checks Wayne Lawler/AWC

Legend

- Current distribution of Mala
 - ▲ Island population of Mala
 - Former distribution of Rufous Hare-wallaby
- Note: Mala is the only surviving mainland subspecies of Rufous Hare-wallaby



The return of the Mala (also known as the Rufous Hare-wallaby) to Newhaven Wildlife Sanctuary launched a globally significant program to reintroduce 10 threatened mammal species to central Australia. Now, more of the endangered marsupials are bound for the Northern Territory.

Before the last wild population of Mala (*Lagorchestes hirsutus*) was wiped out in 1991 by feral predators and wildfire, a few individuals from the Tanami Desert were saved and put into a captive breeding program. From there, a number of 'insurance populations' of Mala were established in feral predator-free areas, including at AWC's Scotia Wildlife Sanctuary, in New South Wales. There are now an estimated 400 Mala on the mainland, plus an introduced population to Trimouille Island, Western Australia, of about 900 animals. These populations are all that remain of this marsupial, which was once abundant across much of central and western Australia (see map on opposite page).

One of the insurance populations of Mala was established at Watarrka National Park in the Northern Territory, but after wildfires cleared their habitat, the Mala became easy prey for aerial predators. In August 2017, the NT Government requested an emergency translocation of the surviving Mala to Newhaven Wildlife Sanctuary in response to a marked decline in the population.

AWC sprang in to action, successfully translocating 27 Mala from Watarrka to Newhaven in November and December 2017. The Mala were relocated to the safety of a specially built, feral predator-free area.

The return of Mala to Newhaven Wildlife Sanctuary holds special significance for the Ngalia Warlpiri and Luritja Traditional Owners. An important Dreaming site of the Mala lies on the southern boundary of the property.

The Mala were given a few months to settle in and, in May 2018, AWC ecologists conducted health checks and surveyed the population. Nearly all the original 27 animals from Watarrka were re-trapped as well as an unmarked Mala that was likely to have been in the pouch at the time of translocation. This was a fantastic outcome confirming the successful transition of the translocated Mala to their new home.

To help maintain the genetic diversity of the Mala population at Newhaven, 15 males and 15 females from Scotia Wildlife Sanctuary were translocated in June 2018. Under the cover of night and to encourage mixing of Scotia and Watarrka animals, Scotia males were released in one area of the Mala-kurlangu (Warlpiri for "home of the Mala") and females in another. As Mala are nocturnal, releasing them at night gives them an opportunity to familiarise themselves with their new surroundings, assess the available habitat and find a suitable spinifex hummock before dawn.


The Newhaven Stage 1 feral predator eradication is nearing completion. So far, 44 cats and two foxes have been removed from the area and the AWC Land Management team alongside Newhaven Warlpiri Rangers have been intensively tracking the last few individual feral predators. The 9,390 hectare area, surrounded by a 44 kilometre fence, will only be declared predator-free following several months of post-eradication monitoring.

The translocation of the final cohort of Scotia Mala to Newhaven Wildlife Sanctuary is scheduled for mid-2019. In time, we expect the population will increase to more than 2,000 individuals representing an increase of at least 60 per cent of the total global Mala population.

Over the next few years, 11 nationally threatened mammals that once occupied the spinifex plains and rocky escarpments of central Australia will be returned to Newhaven. In addition to Mala, among the first species to be reintroduced to Newhaven will be the Greater Bilby, Golden Bandicoot and the Central Rock Rat, if we can obtain sufficient founders. The return of these species will not only significantly increase the numbers of some of Australia's most threatened mammals but will also help restore ecosystem processes on Newhaven.

Help return Mala to Newhaven Wildlife Sanctuary

\$3,000 will pay for the return of three Mala to Newhaven and help establish the first wild population of Mala on Mainland Australia in 25 years.



AWC and Dambimangari working together to protect threatened species

*By Dr Melissa Bruton, Wildlife Ecologist
Photographer Colin Leonhardt/AWC*



Golden-backed tree-rat *Melissa Bruton/AWC*

As part of their ground-breaking partnership, Australian Wildlife Conservancy (AWC) and Dambimangari Aboriginal Corporation (DAC) are undertaking the biggest wildlife survey ever conducted on mainland Dambimangari country.

Since it began in November 2016, AWC ecologists and Dambimangari rangers have set and collected data from more than 24,000 remote camera trap-nights, providing real data about the distribution of threatened species, and the extent and impacts of potential threats.

Dambimangari country is diverse. It has rugged coastlines, coastal and offshore islands, extensive ranges and isolated valleys, rivers and life-giving springs. There are rainforests, woodlands, savannahs and grasslands. Sandstone escarpments meet granite hills, interspersed with volcanic boulder fields. The lowlands have extensive rocky, sandy and clay plains. Many of these remote areas have never been surveyed.

Dambimangari country encompasses 1.6 million hectares of land along the Kimberley coast in north-western Australia, together with the adjacent coastal waters and islands. It includes some of the highest-priority land for conservation in Australia, particularly a large proportion of the only area on the mainland not to have suffered any animal extinctions since European settlement.

The AWC-DAC partnership is crucial for effective threatened species monitoring and management. As Dambimangari country is so remote and rugged, access is mostly by helicopter and boat, with each partner providing critical logistical support and expert knowledge.

To find out where threatened species occur on Dambimangari country, AWC and DAC work together to deploy remote-sensing cameras in refugial habitats such as islands, rainforest springs, isolated hills, and rugged ranges. This is the first time that many areas have been surveyed.

The remote cameras are proving effective for detecting threatened species on Dambimangari country, including:

- Northern Quolls at 67 sites
- Golden-backed Tree-rats at 47 sites
- Kimberley Brush-tailed Phascogales at nine sites
- Western Partridge Pigeons at six sites

A recent detection of the endangered Black-footed Tree-rat, the first in the Kimberley for over 30 years, has the joint team excited about the prospect of detecting this threatened mammal on Dambimangari country. Other target threatened species for future inventory surveys include the Nabarlek and Brush-tailed Rabbit-rat.

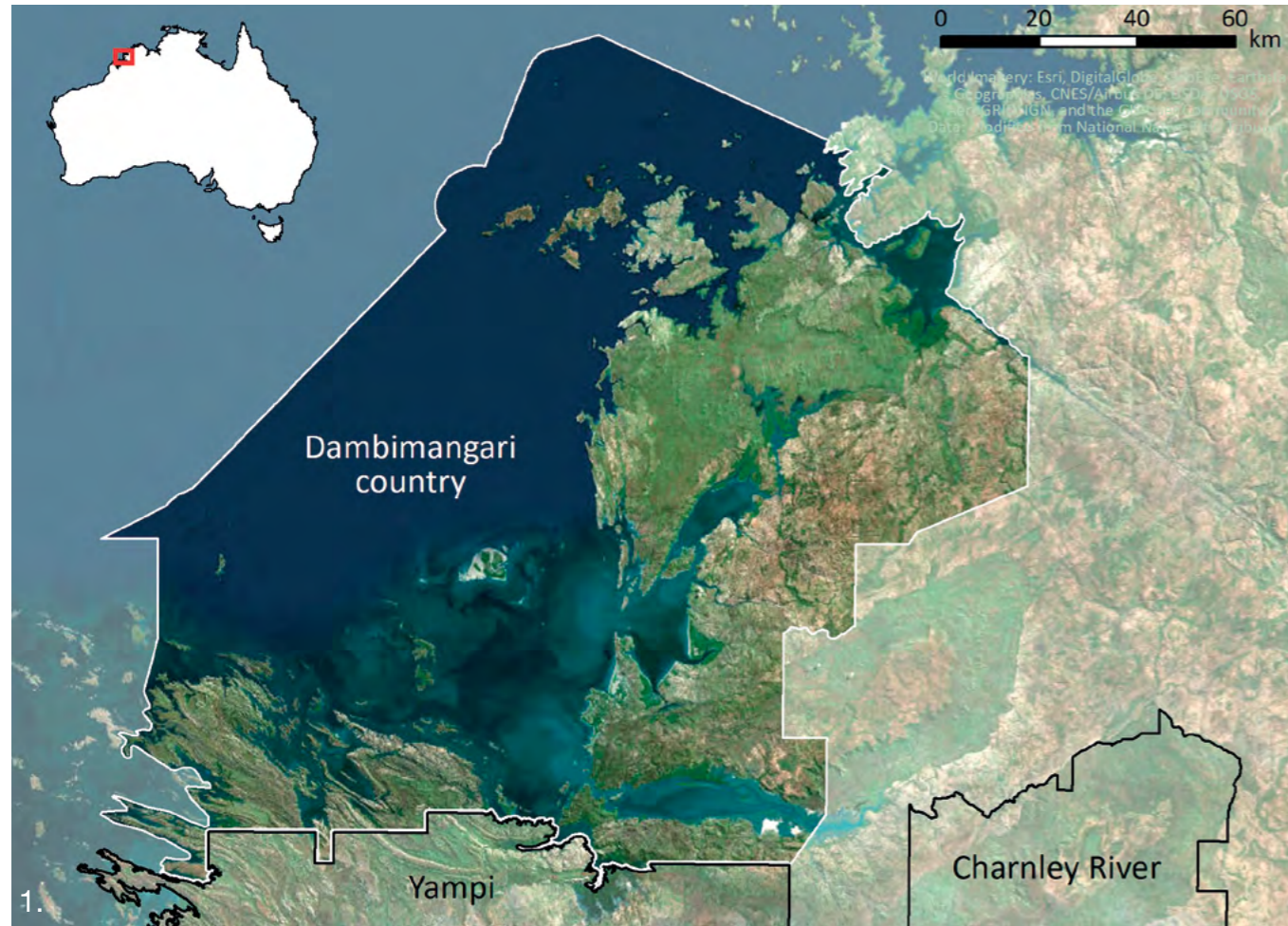
The Golden Bandicoot

One of the key species for monitoring and management on Dambimangari country is the Golden Bandicoot. This species is one of 20 threatened mammals targeted in the Commonwealth Government's 'Threatened Species Strategy'. Golden Bandicoots look like the more common Northern Brown Bandicoots in the western Kimberley. Only through genetic testing are we able to differentiate the two species. So far, we have confirmed eight Golden Bandicoots populations across Dambimangari country. Establishing the range of the locations of these populations will inform land management strategies, including fire management and feral cat control.

Monitoring and managing potential threats

AWC and DAC are working together to assess risks to threatened fauna and their habitats on Dambimangari country. We have completed cattle, donkey, weed and feral cat surveys in targeted lowland areas to inform our threat management programs. The level of these threats in the rugged highland refuge areas of Dambimangari country is considered to be low.

Effective fire management across Dambimangari country has already had a big impact, reducing the risk of high-intensity, late season wildfires.



Images

1. Dambimangari country stretches across 1.6 million hectares. The partnership between AWC and DAC covers 800,000 hectares of Kimberley wilderness
2. Brush-tailed Phascogale *Andrew Morton/AWC*
3. A Northern Brown Bandicoot trapped and released during a survey *Brad Leue/AWC*



Images

1. Sisters Cherylyn and Dominika Ozies set up a camera trap *Melissa Bruton/AWC*
2. The survey team take a break. Front row (l-r): James Mansfield, Wayne Oobagooma, Amon Jungine, Ellie Boyle, Josh Maher, James Smith. Back row (l-r): Cherylyn Ozies, Annika Spiridis, Sherisha Ozies, Azarnia Malay and Dominika Ozies
3. AWC and DAC Rangers (l-r) Stella Shipway, Melissa Bruton, Issie Connell, Dominika Ozies, Azarnia Malay and Cherylyn Ozies

Augustus Island survey

In June this year, a team of six Dambimangari Rangers and two AWC ecologists travelled by boat and helicopter to Augustus Island in Dambimangari country to complete the first joint surveys on one of the key refugial habitats on Dambimangari country - offshore islands. Over five days the team:

- Set out remote cameras at 22 sites across Augustus, Jungulu and Heywood Islands to search for threatened mammals;
- Trapped bandicoots at two sites on Augustus Island to identify Golden Bandicoot populations;
- Searched for Narbarleks by collecting small wallaby scats for genetic testing.

The team was rewarded for their efforts with two Golden Bandicoot populations confirmed on Augustus Island.

They also detected Northern Quolls, Scaly-tailed Possums, Kimberley Rock-rats, Water Rats and Small Rock Wallabies on remote cameras. The hunt for Narbarleks continues.

The Augustus Island project is supported by the Kimberley Ranger CWR mammal project through funding from the Australian Government's National Landcare Program, WWF-Aus and Lotterywest.

Please support this innovative partnership

By supporting the AWC-Dambimangari partnership you will help protect more than 800,000 hectares of Dambimangari country in one of Australia's most significant areas for conservation.

\$1 will protect one hectare of this precious refugial habitat.



“Our children and grandchildren should inherit the same diverse ecology that we enjoyed ourselves and I’d like to make sure that we can pass it on to them as intact as possible.”

Martin Copley AM (1940-2014) | AWC Founder and Chairman

The Copley Circle - legacies for wildlife

By Shauna Chadlowe, Chief Development Officer

In recognition of our generous supporters who are leaving a lasting legacy for the benefit of Australia’s wildlife by including AWC in their wills, we are pleased to announce the establishment of The Copley Circle. The name attributed to AWC’s bequest program also honours the remarkable legacy of Martin Copley, AM, AWC’s Founder and Chairman for nearly 15 years.

Martin made an exceptional contribution to slowing and reversing the extinction crisis in Australia. Few people, if any, have made such an immense contribution to the conservation of Australia’s native wildlife. Across the AWC estate, from Gouldian Finches to Woylies, and Golden Bandicoots to Numbats, Martin’s legacy continues to grow.

As with our supporters who are inspiring others to leave legacies for Australia’s wildlife by generously including AWC in their wills, Martin led by example. In so doing, Martin pioneered many key conservation strategies and helped inspire the growth of environmental philanthropy in Australia.

Leaving a gift in your will is a wonderful way to help secure the future of Australia’s native wildlife and protect

the values that are important to you well beyond your lifetime.

We welcome your involvement. By notifying AWC of your intentions and providing a brief extract of your will, you will be eligible to join The Copley Circle and enjoy the benefits that membership of this select group entails, including:

- Invitations to some very special events at AWC’s remote sanctuaries;
- The chance to meet AWC’s dedicated team of field ecologists and land managers;
- Invitations to AWC city-based events; and
- The opportunity to receive special reports and updates from the field.

Joining The Copley Circle not only provides greater opportunities for you to engage with AWC on a more personal level during your lifetime, it will also help AWC to continue to deploy an effective strategy – practical land management and world-class science – to protect and restore Australia’s precious threatened wildlife and their habitats for future generations.

Leaving a gift in your will is an important decision but it need not be complicated.

Please contact us for further information.

Website: www.australianwildlife.org/support-awc/bequests.aspx

Telephone: Beth Reid, Development Officer, on 08 9380 9633

Email: CopleyCircle@australianwildlife.org

PLEASE HELP SAVE AUSTRALIA'S ENDANGERED WILDLIFE



Please direct my donation to:

- Reducing the impact of feral cats
- Sponsoring conservation of Dambimangari country
- Supporting AWC's field science program
- Help return Mala to Newhaven Wildlife Sanctuary
- AWC operations generally



Please post this donation form/cheque/money order to:

Australian Wildlife Conservancy, Reply Paid 8070 Subiaco East WA 6008 | Phone: (08) 9380 9633 | Donate online: www.australianwildlife.org

Name: Dr/Mr/Mrs/Ms _____

Address: _____

Suburb: _____ State: _____ Postcode: _____

Telephone: W) _____ H) _____

Email: _____

CREDIT CARD DETAILS

MasterCard Visa AMEX Diners

/

Card Number Expiry Date

Cardholder name: _____

Signature: _____

MONTHLY PLEDGE

I wish to become a regular supporter and give a **tax deductible donation**

each month of: \$25 \$50 \$100 \$
Other (minimum \$10)

I wish to pay by: **Direct debit from my bank account**

Please fill in Direct Debit Request (see opposite).

Credit card - Please fill in details or call (08) 9380 9633

DIRECT DEBIT REQUEST

I / We request that you draw by way of the Direct Debit System, \$ per month, for the payment of a monthly donation to Australian Wildlife Conservancy Fund.

My / Our Account details are:

Institution: _____

Account Holder Name: _____

Account Number: _____ BSB:

I / We acknowledge that this Direct Debit Request is governed by the terms of the "Direct Debit Client Service Agreement" (set out below).

Signature: _____ Date: _____

Print Name: _____

DONATION

I would like to make a **single tax deductible donation** of:

\$100 \$300 \$500 \$1000 \$5000 \$
Other (minimum \$10)

I wish to pay by: **Credit card** - Please fill in details or call (08) 9380 9633

Cheque/Money Order - (enclosed)

Payable to the **Australian Wildlife Conservancy Fund**.

BEQUESTS

I am interested in making a bequest in my Will.
Please send me some information.

INFORMATION

Please tick this box if you do NOT wish to receive news and information on our latest initiatives and progress.

Please send any news or information by email only.

Our Commitment to You, Drawing Arrangements:

- We will advise you, in writing, the details of your monthly donation to Australian Wildlife Conservancy (amount, frequency, commencement date) at least 3 calendar days prior to the first drawing. Thereafter each drawing will be made on the 15th day of each month (or part thereof as specified).
- Where the due date falls on a non-business day, the drawing will be made on the next working day.
- We will not change the amount or frequency of drawings arrangements without your prior approval.
- We reserve the right to cancel your monthly donation to Australian Wildlife Conservancy if three or more drawings are returned unpaid by your nominated Financial Institution and to arrange with you an alternative payment method.
- We will keep all information pertaining to your nominated account at the Financial Institution, private and confidential.
- We will promptly respond to any concerns you may have about amounts debited to your account.
- We will send a receipt within 45 days of the conclusion of the financial year summarising your entire year's gifts for tax purposes.

Your Rights:

- You may terminate your monthly donation to Australian Wildlife Conservancy at any time by giving written notice directly to us (PO Box 8070 Subiaco East WA 6008), or through your nominated Financial Institution. Notice given to us should be received by us at least 5 business days prior to the due date.
- You may stop payment of a monthly donation by giving written notice directly to us (PO Box 8070 Subiaco East WA 6008), or through your nominated Financial Institution. Notice given to us should be received by us at least 5 business days prior to the due date.
- You may request a change to the donation amount and/or frequency of the monthly donations by contacting us on (08) 9380 9633 and advising your requirements no less than 5 business days prior to the due date.
- Where you consider that a drawing has been initiated incorrectly (outside the monthly donation to Australian Wildlife Conservancy arrangements) you may take the matter up directly with us on (08) 9380 9633, or lodge a Direct Debit Claim through your nominated Financial Institution.

Your commitment to us, Your responsibilities:

- It is your responsibility to ensure that sufficient funds are available in the nominated account to meet a drawing on its due date. (You may be charged a fee by your Financial Institution if the account details are incorrect or there are insufficient funds in the nominated account when we attempt to deduct donations.)
- It is your responsibility to ensure that the authorisation given to draw on the nominated account, is identical to the account signing instruction held by the Financial Institution where your account is based.
- It is your responsibility to advise us if the account nominated for transactions with the Australian Wildlife Conservancy Fund is transferred or closed.
- It is your responsibility to arrange a suitable alternative payment method with us if the Australian Wildlife Conservancy Fund drawing arrangements are cancelled either by yourselves or by your nominated Financial Institution.
- Please enquire with your Financial Institution if you are uncertain whether direct debit functions are available on your account. (You may be charged a fee by your Financial Institution if the direct debit facility is not available on your account.)