australian wildlife conservancy

wildlife matters

Winter 2018

Homecoming for the Red-tailed Phascogale

SAVING OUR WILDLIFE

The first half of 2018 has been an extraordinary period for Australian Wildlife Conservancy and the wildlife that we protect.

As you read this edition of *Wildlife Matters*, I hope you feel a sense of pride and ownership in the strong results being achieved across the AWC estate. Our achievements are a direct result of your support, combined with the hard work and skill of the dedicated AWC staff team.

AWC now manages 4.65 million hectares around Australia. We are ***the largest private (non-profit) owner of land for conservation in the world***.

- The AWC estate is home to over 1,400 native mammal, bird, reptile and amphibian species.
- We protect some of the largest remaining populations of many iconic threatened species including the Numbat, the Bilby and the Gouldian Finch as well as lesser known species such as the Buff-breasted Button-quail and Sharman's Rock-wallaby.
- To protect and restore populations of these species, AWC implements the largest non-government fire management and feral animal control programs in the country.
- We have now carried out well over 100 translocations of threatened mammals.
- The scale of our science program is unique, involving more than 150,000 trap nights every year. In addition, over 140 research projects are being implemented on AWC land involving partnerships with 29 universities plus the CSIRO, government agencies and museums and other conservation organisations.

With your support, we are developing and operationalising an exciting new model for conservation – a model that delivers an exceptional return on investment and is capable of reversing the sharp decline in our natural capital. Our mission is to deliver effective conservation – giving you, as an investor in AWC, the biggest conservation bang for your buck and maximising the returns for our wildlife.

One defining element of the AWC model is the extent to which we deploy resources in the field. In our 2017/18 financial year, ***AWC spent just 13% of our total operating expenditure on fundraising and administration combined***. In this respect, AWC is setting a new benchmark for efficiency – in our sector, the average spend on fundraising and administration is over 40%.

There is one statistic that, perhaps more than any other, conveys the urgency and critical importance of our work. Across Australia, ***feral cats are killing more than 2,000 native animals every minute***. AWC is leading the way in addressing this challenge, creating a network of massive cat-free areas and investing in science, such as gene drive technology, in the quest for a 'beyond the fence' solution.

As the end of the financial year approaches, I hope you will consider **a tax deductible gift to AWC**. This is a critical time in our battle to save Australia's wildlife. Your support will be vitally important and will make a difference where it counts – in the field.

Thank you

Atticus Fleming

Chief Executive

PS: All donations over $2 are tax deductible – please see the donation form included in this issue for details on what your tax deductible gift can help achieve.

australian wildlife conservancy

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% of AWC's total expenditure was incurred on conservation programs, including land acquisition, while only 13% was allocated to development (fundraising) and administration.

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Cover image: A Red-tailed Phascogale finds a new home at the Mt Gibson Wildlife Sanctuary
B Leue

A LONG JOURNEY HOME FOR 100 PHASCOGALES

The largest Red-tailed Phascogale translocation ever undertaken marks another important milestone in the return of regionally extinct mammals to Mt Gibson. Eight nationally threatened mammals have been reintroduced, establishing a new benchmark for rewilding in Australia.

AWC Senior Field Ecologist Chantelle Jackson puts a Red-tailed Phascogale into a York Gum hollow at the Mt Gibson Sanctuary *B Leue*

One hundred Red-tailed Phascogales were successfully translocated from Sydney to the Mt Gibson Wildlife Sanctuary in April. The complex logistical operation, completed over two days, involved 50 animals a day being prepared for a 14-hour journey, including the five-hour flight from Sydney to Perth.

On arrival in Perth, the phascogales were met by a team of AWC ecologists who took them on the five-hour journey to their new home at Mt Gibson, 300 kilometres north of Perth.

On each night, the phascogales were divided into four groups, ensuring that the male to female ratio was even, before being taken to tree hollows and nest boxes in previously-identified release sites in the northern section of the feral predator-free area. This area is characterised by ancient hollow-bearing York Gums – perfect habitat for phascogales.

This tiny, carnivorous marsupial, weighing about 50 grams (half that of a smartphone), lives in hollows in trees and feeds predominantly on insects and spiders. Once abundant throughout southern and central Australia, Red-tailed Phascogale populations are now only found in pockets in south-western Australia and at Mt Gibson. It is estimated that there are less than 10,000 left in the wild and the population continues to decline.

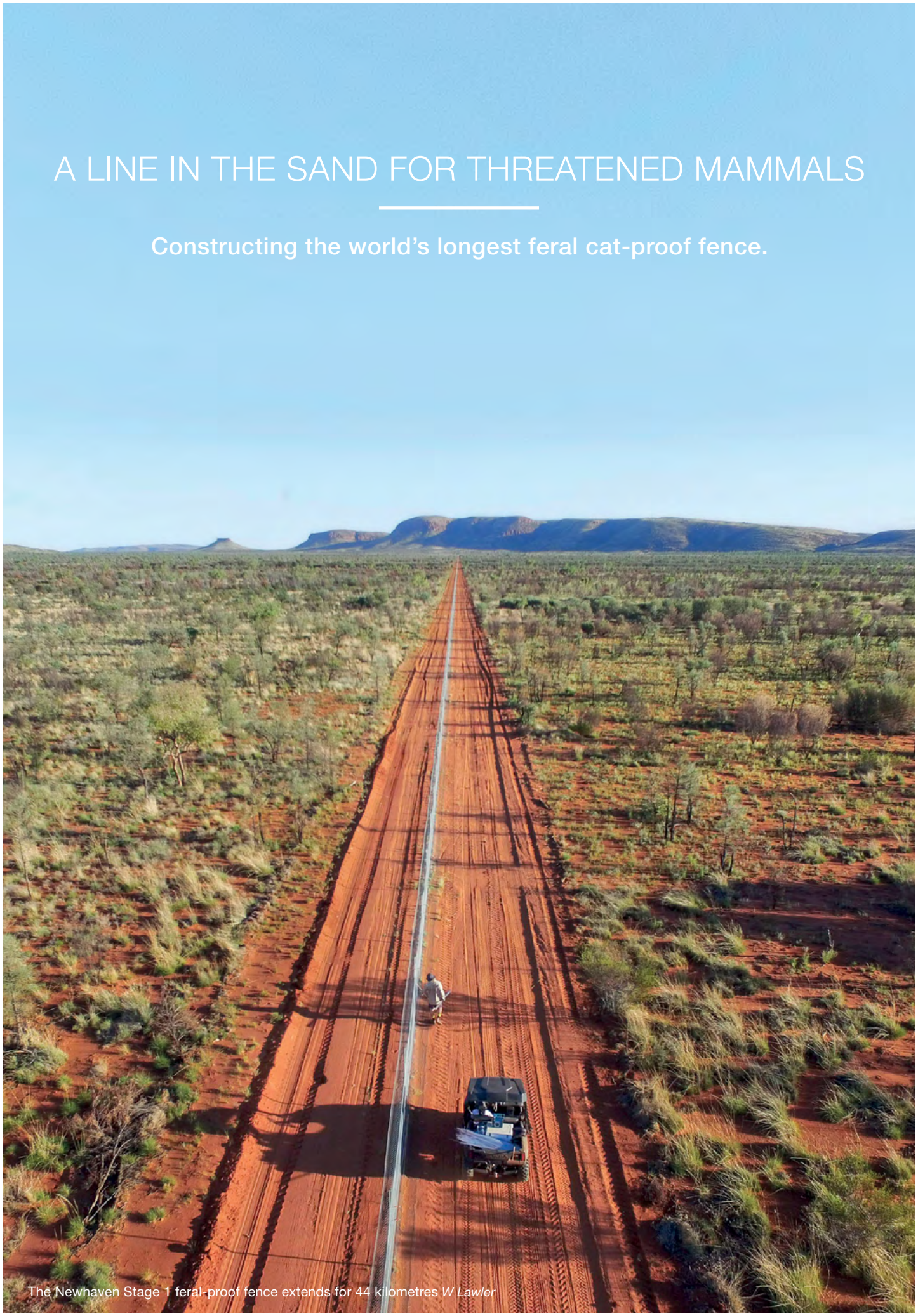
During their first night at Mt Gibson, the phascogales were caught on infrared cameras exploring their new home, bustling in and out of tree hollows and scampering across branches. They will now be able to thrive and breed without the threat of predation, particularly from feral cats, inside mainland Western Australia's largest feral predator-free area. A 43 kilometre fence protects 7,800 hectares of diverse woodlands and shrublands on Mt Gibson.

The phascogales have arrived in time for the June breeding season. Male Red-tailed Phascogales tend to die off within a month of mating, while females live up to three years.

Eight threatened mammal species have been reintroduced at Mt Gibson. This is a new benchmark for reintroduction projects in Australia; no other project has involved the return of so many regionally extinct species. In the next few years, we are aiming to reintroduce a ninth threatened mammal – the Western Quoll (Chuditch).

A LINE IN THE SAND FOR THREATENED MAMMALS

Constructing the world's longest feral cat-proof fence.



The Newhaven Stage 1 feral-proof fence extends for 44 kilometres *W Lawler*

Stage 1 of the world's longest feral cat-proof fence has been completed at Newhaven Wildlife Sanctuary in central Australia. Extending 44 kilometres, this special conservation fence will enable AWC to establish, initially, a 9,390 hectare area which is permanently free of feral predators. The ecological benefits will be stunning, including significant increases in the populations of 11 nationally threatened mammals.

Completing the Stage 1 feral-proof fence

The Stage 1 feral-proof fence was completed in April 2018. Construction of this 44 kilometre, specially designed fence was a massive undertaking. It involved the installation of over 8,500 fence pickets, rolling out 400 kilometres of plain wire and 130 kilometres of mesh netting, and the application of more than one million fence clips. Subject to approvals and further analysis (and funding), Stage 2 is expected to involve extending the fence by at least 135 kilometres, increasing the feral-free area to a staggering 70,000 to 100,000+ hectares.

The next step: Removing feral cats, foxes and rabbits

The next step is to remove all feral cats and foxes from within the area surrounded by the Stage 1 fence, which includes a diversity of habitats ranging from spectacular quartzite ranges through to rich spinifex sand plains. Our aim is to remove all feral predators, and reduce rabbit numbers to insignificant levels, before the end of 2018.

AWC's Newhaven Warlpiri Rangers bring a unique set of skills to the challenge of removing feral predators from such a large area – they are among the best cat trackers in Australia. In combination with the specialist skills of the Warlpiri Rangers, conventional measures, such as cage traps and soft-jaw traps, are also being deployed.

Already, 32 feral cats have been removed from within the Stage 1 area in the last 12 months. While difficult to predict, we estimate another 20 to 30 feral cats remain in Stage 1.

In order to help remove the remaining cats and foxes, 108 cameras have been set out across Stage 1 (see map on page 6). Some of these cameras are placed along roads, which typically have higher detection rates for feral predators. In addition, an off-road camera array is arranged on a 1.5 by 1.5 kilometre grid, ensuring there is more than one camera in the home range of every cat and fox. Transects (113 kilometres) will also be monitored regularly for evidence of cat and fox tracks.

The Stage 1 fence will save about 73,000 native animals every year

The Stage 1 area is currently home to a diversity of native wildlife that has survived despite the presence of feral cats and foxes, albeit in reduced numbers. These species include the Black-footed Rock-wallaby and the Great Desert Skink (both nationally threatened), small mammals such as the Brush-tailed Mulgara, and native rodents like the Desert Mouse and Mitchell's Hopping-mouse, as well as iconic birds such as the Rufous-crowned Emu-wren. Many of these species have been detected in the stomach contents of feral cats at Newhaven.

Using conservative estimates of 50 feral cats in Stage 1, each killing four* native animals per night, **feral cats are currently likely killing around 73,000 native animals per year** across the 9,390 hectare area. (**AWC research has demonstrated that each feral cat in the Kimberley is killing an average of seven native animals per night.*)

Accordingly, in addition to enabling the reintroduction of regionally extinct mammals, AWC expects the permanent removal of feral cats and foxes in Stage 1 to generate an increase in the population of several species of small mammals and ground-dwelling birds as well as some reptiles. We have established a major biological research project that will detect changes in these species by measuring populations inside and outside the fence in matched habitat types. The 2018 survey, which involved over 6,000 trap nights, will provide the final year of baseline data (i.e., data on the populations in the presence of cats and foxes).

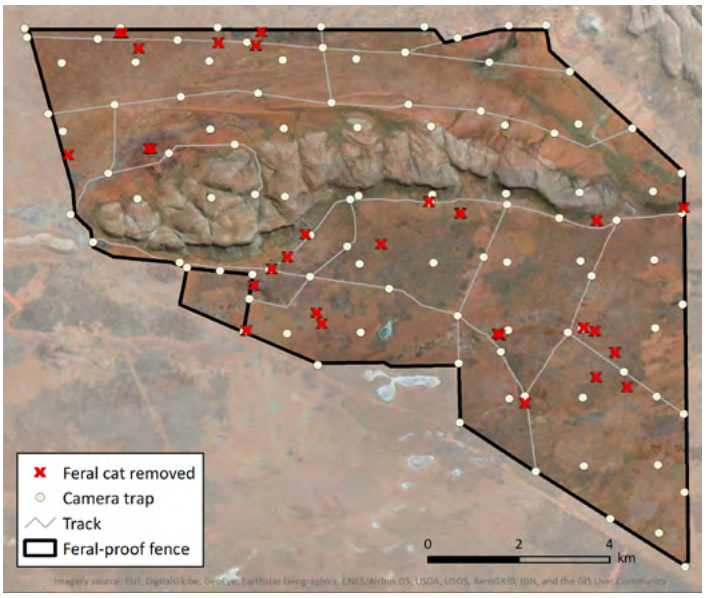
AWC Newhaven Warlpiri Rangers Christine Ellis (left) and Benedict Mosquito check a feral cat caught at Newhaven *W Lawler*

Mala were released at Newhaven as part of an emergency translocation *W Lawler*

The return of threatened mammals to central Australia

In addition to boosting the population of a range of species which currently survive at Newhaven, the establishment of the Stage 1 feral-free area will enable the reintroduction of at least 10 threatened mammals which have become regionally or locally extinct. This will set a new benchmark for Australia – no other project has ever re-established wild populations of 10 nationally threatened species.

- A small population of Mala (Rufous Hare-wallaby) has already been reintroduced to a special purpose 143 hectare area within Stage 1. This population will be supplemented with an additional translocation of 30 Mala from Scotia Wildlife Sanctuary in June. There are currently only 400 Mala on mainland Australia (surviving only in feral-free areas). At Newhaven, the Stage 1 Mala population is expected to grow to 2,400 animals.
- Priority translocations in 2019 include the Central Rock Rat (if animals are available), Bilby, and Golden Bandicoot.



Thank you

Thank you to all of our supporters who have helped to fund the Newhaven project to date – the project is on time and within budget. As the end of the 2017/18 financial year approaches, we hope you will consider a **tax deductible gift** in support of the next steps including the removal of all feral animals and the additional translocations of Mala.

- **$100** will purchase a cage trap.
- **$300** will support the AWC team, including Newhaven Warlpiri Rangers, to clear more than 10 hectares of feral cats, foxes and rabbits.
- **$500** will purchase two radio-tracking tags to help monitor reintroduced wildlife.
- **$1,000** will cover the cost of one Mala being airlifted to Newhaven.

Greater Bilbies will be calling the Pilliga home after an absence of more than a century *W Lawler*

BILBIES SET TO RETURN TO NSW NATIONAL PARKS

The Greater Bilby – one of Australia's most iconic threatened mammals – is set to return to New South Wales National Parks after becoming extinct in the state more than 100 years ago.

Australian Wildlife Conservancy and the NSW Government are aiming to reintroduce Bilbies to the magnificent Pilliga forests of northern NSW before the end 2018. It is a historic step for Bilby conservation; apart from AWC's Scotia Wildlife Sanctuary on the NSW/SA border, the last record of a Bilby in NSW was near Wagga Wagga in 1912.

The reintroduction will occur as part of the NSW Government's *Saving our Species* program, under which AWC has been engaged to manage a 35,600 hectare area of the Pilliga State Conservation Area and National Park (the Pilliga project area).

In NSW, the Bilby was originally found across much of the State, west of the Great Dividing Range. However, like many other native mammal species, Bilbies were wiped out by introduced predators, particularly feral cats and foxes.

In preparation for their return to the Pilliga, AWC is constructing a specially designed, 32 kilometre, feral cat and fox-proof fence which will create a secure 5,800 hectare, feral predator-free area into which wild Bilbies will be reintroduced. Working with local suppliers and contractors, the AWC team will:

- install around 6,500 fence pickets;
- roll-out 300 kilometres of plain wire;
- put in place 96 kilometres of netting; and
- attach 750,000 clips (to hold netting in place).

Construction of the feral predator-free area in the Pilliga will enable the return of at least six regionally extinct mammals *W Lawler*

When the fence is complete, all feral cats and foxes will be removed from across the 5,800 hectares of forest. Our objective is to have the area feral predator-free by the end of August, in time for the first Bilbies to be released in November 2018. The Bilby population in the Pilliga is projected to grow to an estimated 850 animals – equivalent to almost 10% of the current Australian population.

At least five other regionally extinct mammals will be reintroduced to the Pilliga in the next two to three years, making it one of the nation's most important endangered species projects. The five animals are the Bridled Nailtail Wallaby, the Brush-tailed Bettong, the Western Barred Bandicoot, the Plains Mouse and the Western Quoll.

AWC already protects approximately 10% of Australia's Bilby population at Scotia, Yookamurra (South Australia) and Mt Gibson (Western Australia), and is working with the Queensland Government to protect Bilbies at Astrebla and Diamantina National Parks.

A Yellow-footed Antechinus captured in a biological survey in the Pilliga *B Leue*

NSW GOVERNMENT

IN PARTNERSHIP WITH
SAVING OUR SPECIES

A Performance Scorecard for the Pilliga

In addition to reintroducing mammals such as the Bilby, AWC's partnership with the NSW Government is designed to deliver an increase in the overall ecological health of the Pilliga project area. To measure our progress in meeting this overarching objective, AWC is implementing an extensive program of biological surveys which will track changes in the level of selected indicator species and ecological processes and the extent of threatening processes.

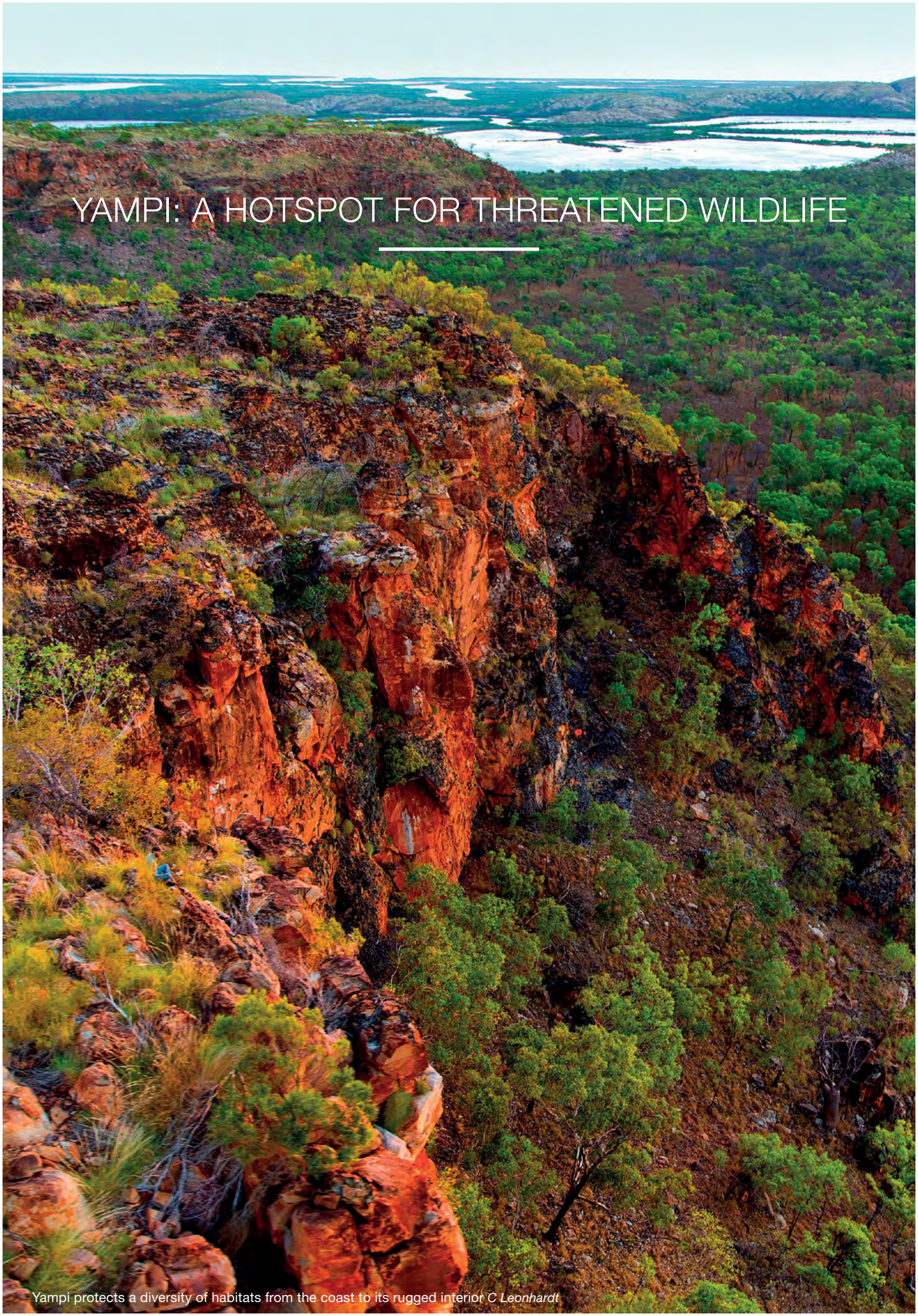
The table below shows a snapshot of some early results.

		2017	2018	Comments
Yellow-footed Antechinus	Abundance (captures/100 trap nights)	0.91	1.27	84 individuals caught in 2018 (6,634 trap nights), compared to 59 in 2017 (6,464 trap nights)
Pilliga Mouse	Abundance (captures/100 trap nights)	0.05	0.18	12 individuals caught in 2018 (6,634 trap nights), compared to 3 in 2017 (6,464 trap nights)
Black-striped Wallaby	Activity (images/100 trap nights)	1.5	1.36	38 images in 2,800 camera trap nights in 2018, compared to 42 in 2017.
Koala	Abundance (records/100 survey nights)	6	0	No Koalas located in 2018 (100 survey nights), compared to 6 koalas (100 survey nights) in 2017.
Small - medium reptiles	Abundance (captures/100 trap nights)	1.49	4.39	206 reptiles captures in 2018 (4,765 trap nights), compared to 70 in 2017 (4,671 trap nights)
Feral - fox	Activity (images/100 trap nights)	33.43	5.25	147 images in 2,800 camera trap nights in 2018, compared to 936 images in 2017.

While the data from our second annual survey is still being analysed, some high level observations include:

- Baseline feral animal activity is high; our camera trap array is revealing a high level of baseline feral animal activity, especially foxes, cats and goats. In 2018, the number of foxes appearing on camera traps was significantly lower, which coincides with AWC implementing an increase in the level of fox control.
- The Yellow-footed Antechinus is the most abundant small native mammal in the Pilliga; species such as the Feathertail Glider and the Eastern Pygmy Possum have low capture rates reflecting lower detectability as well as possibly lower abundance.
- The endemic Pilliga Mouse, which is a nationally threatened species, occurs in low densities but is expected to benefit from the establishment of the feral predator-free area.
- The activity index for the Black-striped Wallaby, listed as threatened in NSW, is similar to the activity index for the more widespread Swamp Wallaby.
- Koalas are very rare, with the Pilliga population crashing during the Millennium Drought.
- The increase in reptile numbers in 2018 reflects in part warmer survey conditions. The removal of feral predators will benefit some reptile species, although this will be offset for some species by the reintroduction of omnivorous mammals (e.g., the Bilby).

YAMPI: A HOTSPOT FOR THREATENED WILDLIFE



Yampi protects a diversity of habitats from the coast to its rugged interior *C Leonhardt*

Australian Wildlife Conservancy (AWC) is contracted to deliver land management and science activities at the 568,000 hectare Yampi Sound Training Area (Yampi) on the north-west Kimberley coast as part of a ground-breaking partnership with the Department of Defence. Working closely with Dambimangari traditional owners, we have delivered impressive results over the first full year (2017) of this partnership.

A roll call of threatened species

An initial focus of AWC's work at Yampi has been conducting surveys for threatened species and measuring the extent of the threats affecting those species. This has involved a significant investment in the level of science at Yampi – over 8,000 trap nights were undertaken in 2017, which represents a higher level of biological survey activity than the combined total of all surveys undertaken during the previous 40 years (i.e., since the property was acquired by the Commonwealth).

Our survey program has confirmed the extraordinary value of Yampi for some of the country's most endangered mammals including the Northern Quoll and the Golden-backed Tree-rat. The Golden-backed Tree-rat has disappeared from most of its range including places like Kakadu National Park. Populations of the endangered Northern Quoll are also disappearing, or declining severely, across much of its range. However, on Yampi, both species are common.

- Quolls and Tree-rats were detected on camera traps in a range of Yampi habitats including rainforest, rugged sandstone highlands and gorges, granite and quartzite hills, and lowland woodland and riparian vegetation.
- The Northern Quoll was regularly detected in the lowland plains. This is significant because the species is now restricted to rocky areas across much of its range.

The Kimberley Brush-tailed Phascogale is another threatened mammal for which Yampi is vitally important. The Phascogale, a small, tree-dwelling carnivorous marsupial, has been recorded at nine different sites on Yampi. In the last 25 years, it has been recorded at only three other locations. Yampi appears to contain the largest and most readily detected population. Interestingly, it survives in the lowland areas of Yampi where the potential impacts of fire and feral cats are most pronounced. Providing a secure future for the Kimberley Brush-tailed Phascogale at Yampi could be the key to preventing its extinction.

Several other nationally threatened species have been recorded by AWC and Dambimangari Rangers, including the Gouldian Finch, the Ghost Bat, the Western Partridge Pigeon and the Golden Bandicoot.

Bandicoots are common at Yampi, however, genetic testing is required to differentiate Golden Bandicoots from Northern Brown Bandicoots. To date, two individual Golden Bandicoots have been confirmed, and additional testing is currently underway to quantify the species' abundance and distribution on Yampi. The species has disappeared from over 95% of its former mainland range, meaning Yampi is likely to be an important refuge for the Golden Bandicoot.

A Northern Quoll captured on a camera trap on Yampi

Three juvenile Golden-backed Tree-rats were caught on camera while foraging for food

Dambimangari Rangers, Edmund Jungine and Kieren Bangmorra, undertaking prescribed burning *J Klein*

Delivering effective fire management

Late season wildfires represent a major risk to threatened wildlife and fire-sensitive vegetation (such as rainforest patches) at Yampi. Wildfires also damage cultural sites. The only way to prevent or limit wildfires is to undertake effective prescribed burning.

AWC's fire management strategy at Yampi is based on a detailed analysis of fire history, prepared by AWC scientists using satellite imagery. This analysis confirmed that the fire regime on Yampi has been dominated by extensive, late dry season wildfires. Between 2000 and 2016, an average of 30% of the property was burnt each year by late season wildfires. In the worst year, 62% of Yampi burnt in wildfires.

During 2017, we started the process of shifting fire patterns on Yampi. AWC field staff and Dambimangari Rangers flew a total of 4,455 kilometres to deliver over 16,000 incendiaries by helicopter. The resulting cool, prescribed (patchy) burns covered 32% of the property and were largely successful in limiting the spread of late season wildfires:

- By the end of 2017, only 13% of Yampi had been affected by wildfire. We had reduced the extent of wildfire by more than 50% compared to the long-term average.
- We also reduced the mean distance from points within fire scars to unburnt vegetation (a measure of the dispersion of unburnt vegetation) by 40% from 1.5 kilometres to 0.9 kilometres. In practical terms, this means that species like the Golden Bandicoot and the Golden-backed Tree-rat now have easier access to unburnt vegetation.

As this edition of *Wildlife Matters* goes to press, AWC staff and Dambimangari Rangers are in the final stages of the 2018 prescribed burning program, aiming to build on our results in 2017.

A feral cat at Yampi

Feral cats

In 2017, AWC completed the first intensive feral cat surveys at Yampi, using passive remote cameras. Feral cats were regularly detected on the cameras set in lowland habitats, with 78 of 214 (36%) cameras in the lowlands detecting at least one cat. However, the distribution of feral cats in the lowlands appears to be patchy, with cats detected on all the cameras set in some areas, and absent or rarely detected in other areas. We have identified individual cats in the images, and are currently using complex spatial analyses to develop feral cat density estimates across the Yampi lowlands.

In the rocky highlands of Yampi, feral cats are extremely rare (detected at none of 100 cameras), which is consistent with outcomes of research by AWC in the nearby Artesian Range.

In 2018 and beyond, our challenge is to limit the impact of feral cats by maintaining healthy ground cover (which makes it harder for cats to hunt) through feral herbivore control and effective fire management while undertaking targeted, direct cat control where feasible.

The David Attenborough Field Station provides a remote base for AWC field ecologists *B Moloney*

THE SIGNIFICANCE OF MEASURING ECOLOGICAL HEALTH

This article is being written on the balcony of the David Attenborough Field Station in the Artesian Range, a part of Charnley River Wildlife Sanctuary.

It seems an appropriate place to write about measuring ecological health because the Artesian Range is located within a small strip of the Kimberley coast that is probably the healthiest landscape on mainland Australia – the only place to have suffered no animal extinctions since European settlement.

AWC measures ecological health by seeking to quantify: (a) the population (or a surrogate for population) of key indicator species; and (b) the level/extent of key threats.

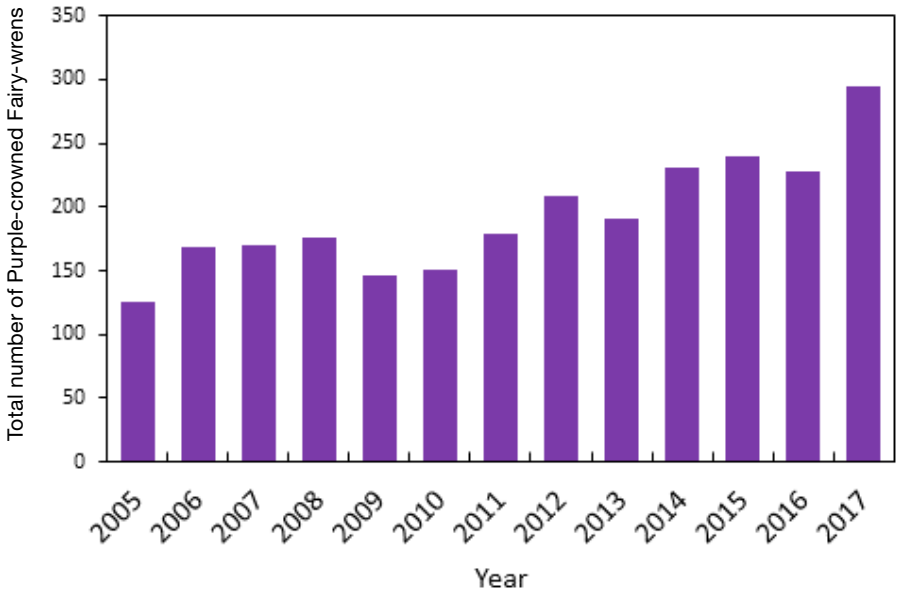
In the Artesian Range, the key threatening processes are all very low:

- *The density of feral herbivores is zero* – there are no feral cattle, no horses, no donkeys and no feral pigs. Remarkably, the soil has not been touched by cloven-hoofed animals.
- *There are no foxes and the density of feral cats is functionally zero.* Over the last five years, our field ecologists have observed one feral cat and the occasional cat track. Our camera trap arrays have never detected a feral cat.
- *There are no ecologically significant weeds.* Our botanists have conducted several surveys, revealing an exceptional diversity of plant species. The ground cover layer is rich and intact, as you would expect from a landscape which has not felt the impact of hoofed intruders.
- AWC's fire management has been successful in reducing the impact of hot, late season fires in the Artesian Range. Elsewhere across northern Australia, such wildfires have been a critical factor driving the loss of biodiversity (ecological health) because, in simple terms, they remove food and shelter for animals. However, *AWC has more than halved the level of wildfire in the Artesian Range.*

The Wyulda, endemic to the Kimberley, is common in the Artesian Range *B Moloney*

Quantifying the population of key indicator species is a greater challenge, although for many species we have sufficient evidence to conclude that populations are currently healthy. This morning we set nine cage traps near the David Attenborough Field Station – the result was six Northern Quolls and two Wyuldas. Compared to the rest of northern Australia, this is an extraordinary result. By way of comparison, catching eight small mammals in a place like Kakadu would require more than 1,600 traps. Some animals, like the Golden-backed Tree-rat, have disappeared entirely from the rest of northern Australian mainland and can only be caught in this part of the Kimberley coast and offshore islands.

The contrast between the Artesian Range and the rest of northern Australia means that visiting this part of the Kimberley is like stepping back in time – the abundance and diversity of wildlife in the Artesian Range in 2018 is similar to what might have been encountered in other parts of northern Australia a century ago. We know this from the accounts of early explorers such as Knut Dahl who, in the late 19th century, wrote about the abundance of Pale Field Rats in Arnhem Land, a location from which they have now largely disappeared. The dramatic decline in ecological health across northern Australia means that places like the Artesian Range, Yampi and Dambimangari country are where many native mammals are now making a last stand.

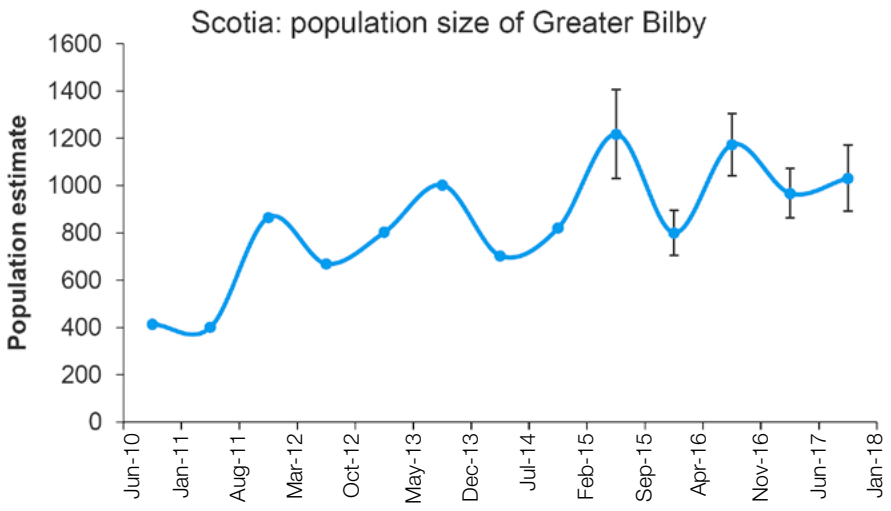


In healthy places like the Artesian Range, regularly measuring populations of species, like the Northern Quoll, is important because we need to pick up any evidence of a decline as early as possible. In regions where populations have already crashed, tracking the health of indicator species is important because we need to know whether, and to what extent, our management interventions have been effective in halting and reversing declines.

AWC Kimberley Regional Ecologist, Dr James Smith, releasing an endangered Northern Quoll *B Moloney*

Here are some selected examples:

- The Bilby has disappeared from 90% of its range and occurs now in severely depleted populations. However, at Scotia, our ecological health surveys have generated a 2018 population estimate of 1,031 Bilbies, a good example of our management strategy at Scotia (a feral cat-free area) delivering an exceptional ecological return.
- The Purple-crowned Fairy-wren is a nationally threatened bird species which has declined across its range as a result of damage to its riparian habitat. At Mornington Wildlife Sanctuary, our fire management and feral herbivore control has increased the quality and quantity of riparian habitat, generating an increase in the population of Purple-crowned Fairy-wrens (see graph on page 16). The core population – along Annie Creek – has increased from 125 birds to 294 birds in the last 12 years.



- At Wongalara, adjacent to Arnhem Land, AWC has established the largest feral herbivore-free area on mainland Australia. However, despite this investment, populations of small mammals remain depressed. Our capture rates appear to be slowly increasing (now 0.7 animals/100 traps), but it is likely our strategy will need refining in order to increase the rate of recovery for native mammals.

AWC's commitment to measuring ecological health is part of an approach to conservation that strives to integrate world class science with the delivery of practical and cost-effective land management. It is a formula that helps deliver a strong ecological return on investment – giving our generous supporters (investors) a bigger bang for their buck.

FLOODWATERS ARRIVE AT KALAMURINA WILDLIFE SANCTUARY

As this edition of *Wildlife Matters* goes to print, one of Australia's most spectacular natural events is unfolding at Kalamurina Wildlife Sanctuary.

Floodwater enters Kati Thanda-Lake Eyre through Lake Kalaweerina on Kalamurina *B Leue*

In late May, floodwaters from north-west Queensland arrived in the Warburton Creek on Kalamurina. The water had been flowing down the Diamantina-Warburton catchment for two months, travelling more than 1,000 kilometres. In a matter of hours, the dry bed of the Warburton Creek filled with water, promising new life for the precious ecosystems on Kalamurina which have received virtually no rain for six months. Within days, the water had reached the shore of Kati Thanda-Lake Eyre and was slowly spreading across the bed of Australia's largest lake.

It is a spectacular site, witnessed by very few people.Our field staff, deployed by helicopter on the lake's edge to set acoustic monitors for the Night Parrot, were able to capture a series of unforgettable images: **visit www.australianwildlife.org to see a gallery of photographs and rare video footage.**

Kalamurina covers 660,000 hectares including the north shore of Lake Eyre and the last 200 kilometres of the Warburton Creek – 65% of all water entering Lake Eyre flows through this system, which lies at the intersection of three deserts (the Simpson, the Tirari and Sturt's Stony Deserts). The property makes an immense contribution to the conservation of the region, protecting a range of ecosystems concentrated in the lower reaches of the basin. The arrival of the floodwater will deliver a boost to the productivity of these ecosystems by driving a new flush of vegetation growth and supporting a burst of aquatic life which, in turn, will attract an influx of water birds.

The section of the Warburton Creek on Kalamurina is the only stretch of this iconic river that is managed for conservation. The absence of cattle grazing, and our intensive feral animal control, means that the lignum thickets and floodplain vegetation is in exceptional condition. However, feral animals, such as feral cattle, pigs and cats, will also look to take advantage of these boom conditions – the challenge for AWC is to step up our feral animal control along the Warburton Creek to preserve the ecological benefits of this precious flood event.

AWC is taking practical, on-ground action to reduce the impact of feral cats *W Lawler*

FERAL CATS KILL OVER 2,000 NATIVE ANIMALS EVERY MINUTE

Feral cats kill more than one million birds, more than one million reptiles, and more than one million mammals in Australia every day. AWC is taking effective, on-ground action to address the impact of feral cats.*

1. Establishing a national network of feral cat-free areas

AWC manages more cat-free land than any other organisation on mainland Australia. Within 12 months, there will be six feral cat-free areas of greater than 5,000 hectares on mainland Australia – five of these will be managed by AWC.

2. Develop and implement best practice feral cat control ("beyond the fence")

AWC implements direct feral cat control (e.g., trapping, shooting and indigenous tracking) and indirect control (management of ground cover and dingoes), as well as undertaking ground-breaking scientific research on feral cat ecology in order to improve the effectiveness of control strategies.

3. Invest in gene drive technology

AWC has signed an agreement with CSIRO to explore whether gene drive technology can be utilised to effectively remove feral cats from the landscape – for example, by causing feral cats to become sterile or to have only male kittens. Initial priorities include: (a) completing a genome for feral cats and, in particular, having sex chromosomes mapped and sequenced; and (b) undertaking the extensive research required to better understand the population ecology and mating behaviour of feral cats (critical information to ensure the spread of any genetic control). This is a long-term project but it is potentially our best hope in finding an effective continent-wide solution.

*For references, see www.australianwildlife.org

Please help protect Australia's wildlife from feral cats.

$100 will purchase a cage trap for catching feral cats.

$300 will fund a trained AWC land manager to spend one night shooting feral cats.

$500 will fund the AWC team, including Newhaven Warlpiri Rangers, to clear almost 20 hectares of feral cats.

$1,000 will fund a scientist delivering research in the field for two days.

$2,000 will help purchase a GPS collar for essential scientific research.

$5,000 will support research informing the development of gene drive technology solution (e.g., causing feral cats to become sterile).

PLEASE HELP SAVE AUSTRALIA'S ENDANGERED WILDLIFE

australian wildlife conservancy

Please direct my donation to:

- ☐ Reducing the impact of feral cats
- ☐ Sponsoring management of the Kimberley or Warburton Creek (Kati Thanda-Lake Eyre)
- ☐ Supporting AWC's field science program
- ☐ Investing in an endangered species
- ☐ 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:

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:
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Please fill in Direct Debit Request (see opposite).
☐ **Credit card** - Please fill in details or call (08) 9380 9633

DONATION

I would like to make a **single tax deductible donation** of:
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☐ **Credit card** - Please fill in details or call (08) 9380 9633
☐ **Cheque/Money Order** - (enclosed)
Payable to the **Australian Wildlife Conservancy Fund**.

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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:

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:

1. 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).
2. Where the due date falls on a non-business day, the drawing will be made on the next working day.
3. We will not change the amount or frequency of drawings arrangements without your prior approval.
4. 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.
5. We will keep all information pertaining to your nominated account at the Financial Institution, private and confidential.
6. We will promptly respond to any concerns you may have about amounts debited to your account.
7. 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:

1. 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.
2. 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.
3. 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.
4. 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:

1. 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.)
2. 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.
3. It is your responsibility to advise us if the account nominated for transactions with the Australian Wildlife Conservancy Fund is transferred or closed.
4. 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.
5. 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.)

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