AWC-Defence partnership to protect Kimberley jewel

As you will discover in the following pages, this is a particularly important edition because it highlights the increasing success of our innovative conservation model and its application by AWC both on our own land and in conjunction with partners such as national parks agencies and the Defence Department.

In the Kimberley, AWC has been contracted by the Defence Department to deliver land management and science across the country’s second-largest military training area. The Yampi Sound Military Training Area (Yampi) is one of Australia’s great natural areas, covering over 560,000 hectares of rugged sandstone ranges, rainforest patches, wetlands and stunning coastline. It is a vital refuge for some of Australia’s most threatened species. This ground-breaking partnership – the first of its kind between Defence and a conservation organisation – is set to establish a template for the conservation management of other Defence properties.

In western Queensland, AWC scientists have uncovered the largest known population of the endangered (and elusive) Night Parrot at Diamantina National Park. AWC is developing a novel partnership with the Queensland Government, which will deliver integrated conservation for a range of threatened species – including Kowari, Bilby, Plains Wanderer and, of course, the Night Parrot – at Diamantina and the nearby Astrebla Downs National Park.

Meanwhile, in the Pilliga forests of northern NSW, AWC has undertaken an extensive biological survey as part of another historic public-private partnership. Working with the NSW National Parks and Wildlife Service, AWC is set to reintroduce mammal species which are listed as extinct in NSW, such as the Brush-tailed Bettong. Our baseline survey – the first significant survey in the northern Pilliga – generated exciting records of Koalas, Barking Owls, Superb Parrots and Black-striped Wallabies.

Elsewhere across the AWC estate – the largest non-government conservation estate in Australia – our dedicated field staff continue to deliver effective land management (especially fire management and feral animal control), and world class science, often in remote and challenging conditions. It is a model that works, as evidenced by metrics which track the population of key indicator species and our ability to limit the impact of threats, such as wildfire.

Most importantly, AWC is delivering success – such as higher populations of threatened species, including Numbats, Bilbies and Bettongs – at lower cost. In 2015/16, only 16% of our total operating expenditure was incurred on fundraising and administration – much lower than any comparable organisation in our sector.

Thank you for your generous support of AWC: our achievements to date have been possible only with your support. As you read this edition of Wildlife Matters, you can be sure that your tax deductible donations are delivering a tangible dividend where it counts – in the field. I hope you will continue to invest in our practical and effective conservation model – we are delighted to have you as part of the AWC team, helping to protect and restore Australia’s threatened wildlife.

Yours sincerely

Atticus Fleming
Chief Executive
Bringing back the Bilby

The Greater Bilby is set to return to south-western Australia for the first time in several decades.

Working with our partners, including the WA Department of Parks and Wildlife and the Zoo and Aquarium Association, AWC is set to reintroduce Bilbies to Mt Gibson Wildlife Sanctuary within the next few months. The historic translocation is the next step in AWC’s program to restore wild Bilby populations across Australia.

The Bilby population has suffered a catastrophic decline in the last 150 years. Once found from the Great Dividing Range in eastern Australia to the edge of the Swan Coastal Plain and the Jarrah forests of the south-west, the Bilby is now extinct across 80% of its former range. It clings to survival in isolated, generally low density populations in arid Australia. The impact of feral predators – foxes and cats – has pushed the Bilby to the brink of extinction. Less than 10,000 mature individuals remain and this number continues to decline.

AWC is leading the way in the fight to restore Bilby populations. We currently protect around 15% of the remaining Bilby population, with almost 1,400 wild Bilbies occurring at Scotia Wildlife Sanctuary (western NSW) and Yookamurra (South Australia).

The return of Bilbies to Mt Gibson is the next step in a national program of reintroductions by AWC and our partners, which will dramatically increase the population of Bilbies and the number of secure wild populations. Existing AWC projects are set to increase the Bilby population by almost 7,000 animals (70%) over the next 5 – 10 years (see table). Together with our existing Bilby population of around 1,400 animals, AWC and our partners will then protect over 8,000 Bilbies.

If current trends continue for other Bilby populations, AWC projects will protect over half of the world’s Bilbies within the next decade.

<table>
<thead>
<tr>
<th>Project</th>
<th>Estimated Bilby pop</th>
<th>Increase in global pop</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mt Gibson</td>
<td>600</td>
<td>6%</td>
</tr>
<tr>
<td>Newhaven (stage 1)</td>
<td>700</td>
<td>7%</td>
</tr>
<tr>
<td>Newhaven (stage 2)</td>
<td>4,000</td>
<td>40%</td>
</tr>
<tr>
<td>Pilliga</td>
<td>660</td>
<td>6.6%</td>
</tr>
<tr>
<td>Mallee Cliffs</td>
<td>860</td>
<td>8.6%</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>6,820</strong></td>
<td><strong>68.2%</strong></td>
</tr>
</tbody>
</table>

At Mt Gibson, the first Bilbies are scheduled for release this summer. Twenty Bilbies will be airlifted from Scotia and Yookamurra, with 20-30 additional Bilbies sourced from WA Parks and Wildlife (Barna Mia) and the captive breeding program managed by the Zoo and Aquarium Association. A genetic analysis by the Australian Museum will help inform the selection of the founder population for Mt Gibson.

Please help return the Bilby to Mt Gibson

Please donate to help with the cost of airlifting Bilbies to Mt Gibson; purchasing transmitters; and supporting field ecologists who will oversee the historic return of Bilbies to south-western Australia. Visit www.australianwildlife.org or use the donation form with this edition of Wildlife Matters.
AWC-Defence partnership to protect Kimberley jewel

Yampi Sound Training Area (Yampi), which covers over 560,000 hectares along the Kimberley coast, is one of the most important sites for conservation in Australia. Yampi is also an important site for the Australian Defence Force and maintaining it in a sustainable manner is a priority for Defence.

The historic Yampi partnership will see Australian Defence Force use of the training area integrated with the enhanced protection of several of Australia’s most endangered species. This includes mammals, such as the Golden-backed Tree-rat, that have disappeared from large areas of mainland Australia and are now making a last stand along the north-west Kimberley coast.

Wildlife populations across most of northern Australia have crashed. Small mammals and many seed-eating birds are being driven toward extinction by a combination of feral cats, altered fire regimes and large feral herbivores (such as donkeys, buffalo and feral cattle). However, the declines have not occurred, or have been less severe, along the untouched north-west Kimberley coast.

Protecting one of Australia’s great natural areas

In the late 1970’s, the Commonwealth Government acquired two large pastoral leases (Kimbolton and Oobagooma), combining them to establish the vast Yampi Sound Training Area. In doing so, Defence secured an area of outstanding ecological significance, which today rivals any of our great national parks in its abundance and diversity of wildlife.

Yampli includes around 700 kilometres of stunning coastline

Australian Wildlife Conservancy (AWC) and the Department of Defence (Defence) have forged a ground-breaking partnership to deliver conservation and land management across Australia’s second-largest military training area.

AWC have combined to establish an innovative partnership, which will protect the environment on Yampi consistent with its use as a military training area. It is the first partnership of its kind between Defence and a non-government organisation in Australia and has the potential to be a model for wider application.

Central to the success of the partnership will be the involvement of Yampi’s traditional owners – the Dambimangari people. The initiative will deliver a significant increase in Dambimangari involvement at Yampi through employment as part of the AWC on-ground team, training and ongoing engagement in the design and delivery of fire management and other land management strategies.

Yampli includes around 700 kilometres of stunning coastline

A Hartshorne

AWC is home to the world’s smallest rock-wallaby, the Monjon

4 Wildlife Matters: Spring 2016
The extraordinary conservation values of Yampi

Yampi covers a massive 568,000 hectares (5,680 sq km) across three different bioregions: the Central Kimberley, the North Kimberley and Dampierland.

The landscape is spectacular, featuring rugged sandstone ranges and escarpments, tall mesas, a series of granite domes and inselbergs and scattered basalt intrusions. In the north and west of the property, an extensive coastline includes tidal mudflats and estuaries as well as rich mangrove forests. In places, steep-sided sandstone escarpments and ridges plunge into the ocean, creating one of Australia’s most visually stunning coastlines. In the centre and south-east, the property is dominated by extensive blacksoil plains, red sands (pindan) and rich red clay soils.

This complex geology and its position straddling three bioregions gives rise to an extraordinary floristic diversity. Yampi is expected to contain more than 1,000 plant species: over a third of all Kimberley plant species are found on this one property, including many rare and threatened plants, as well as endemic and undescribed species.

Yampi contains an exceptional diversity of ecosystems – several types of rainforest and vine thickets, a large variety of woodlands, pindan scrub, mangrove forests, marine swamps, freshwater wetlands and riparian communities, fire protected sandstone communities and blacksoil plains.
A hotspot for threatened and endemic wildlife

Large areas of Yampi remain biologically unexplored – only three fauna surveys have ever been undertaken on the property. However, even this limited survey effort, combined with our knowledge of adjacent areas, indicates that Yampi is home to a large number of species including an estimated 53 mammal species and 270 bird species. Yampi is particularly rich in reptiles, with 111 reptile species expected to occur.

A section of Yampi, along with AWC’s nearby Charnley River-Artesian Range Wildlife Sanctuary, falls within a narrow strip of the north-west Kimberley, which is the only part of mainland Australia to have suffered no faunal extinctions since European settlement. As a result, Yampi is a hotspot for threatened and endemic wildlife.

Yampi is home to a stunning list of nationally threatened animals including the Golden-backed Tree-rat, Northern Quoll, Golden Bandicoot, Gouldian Finch, Partridge Pigeon, Ghost Bat, Flatback Turtle, Red Goshawk and potentially the Brush-tailed Rabbit-rat and Greater Bilby.

Several species which are found on Yampi have disappeared from extensive areas of northern Australia, including protected areas such as Kakadu National Park. As an example, although the Golden-backed Tree-rat is extinct on the Northern Territory mainland, there is evidence of a strong population on Yampi – it still nests in the Kimbolton homestead!

Yampi and surrounds (including the Artesian Range) are also a last refuge for several rare and declining species, which are found nowhere else in Australia, including the Kimberley Rock-rat, Monjon, Rough-scaled Python and several other reptile species.
Delivering on ground conservation at Yampi

There is a sense of urgency about the AWC-Defence initiative at Yampi – decisive on-ground action is needed to prevent the wave of extinctions in northern Australia from reaching Yampi and the surrounding areas. Success at Yampi will secure a large area for biodiversity and could be a catalyst for action elsewhere.

AWC’s on-ground priorities at Yampi include:

- **Biological surveys and monitoring**: AWC ecologists will deliver an initial biological survey before the end of 2016, targeting key habitats (e.g., rainforest pockets, escarpment country) and key species (e.g., Golden-backed Tree-rats, Northern Quolls, Golden Bandicoots, Gouldian Finches). Most of the property is inaccessible, meaning the AWC team will be dropped in by helicopter to remote sites to deploy camera traps and undertake standard trapping. Our experience in the nearby Artesian Range will inform our initial survey design and the subsequent development of a property wide monitoring program.

- **Delivering land management including fire management, feral animal control and weed control**: AWC already delivers fire management across more than 3 million hectares in the Kimberley and has established the largest feral herbivore-free area in the region. Delivery of early dry season prescribed burns, and integrated feral animal control, will be critical to maintaining the ecological health of Yampi.

- **Establishing infrastructure to support our operations and science team**: Yampi is inaccessible for much of the year, so a high priority is to establish basic infrastructure to support a year-round AWC presence.

Defence leadership at Yampi – protecting nationally significant conservation values in a manner consistent with the property’s use as a military training area – is set to make a critical contribution to the conservation of Australia’s biodiversity. Watch out for updates as AWC and Defence implement this ground-breaking initiative.
AWC scientists uncover Night Parrot population on Diamantina National Park

Breaking news: AWC and Queensland Government join forces to secure largest known Night Parrot population

- AWC scientists, led by Senior Field Ecologist John Young, have discovered a Night Parrot population at Diamantina National Park.
- Night Parrots were confirmed at seven locations on Diamantina National Park including:
  - three nests (with birds observed in the vicinity of each nest);
  - one sighting of a pair drinking; and
  - three records of birds calling (heard by two observers).
- The discovery represents a major expansion of the known population and distribution for one of Australia’s rarest birds. The Night Parrot was not seen alive for more than a century until rediscovered by John Young in 2013 on land northeast of Diamantina National Park.
- Habitat analysis and modelling by AWC scientists indicates Diamantina National Park hosts the largest known population of the Night Parrot.
- AWC and the Queensland Government have joined forces to deliver an Intensive Response Plan including the declaration by Queensland Parks and Wildlife Service of a restricted access area and the deployment by AWC of specialist staff to help deliver immediate, dedicated conservation.

Large increase in known population of Night Parrots

The discovery of Night Parrots at Diamantina National Park was made as part of a joint initiative by AWC and the Queensland Parks and Wildlife Service (QPWS). As part of this AWC-QPWS collaboration, AWC ecologists have carried out surveys for Night Parrots, Bilbies and other threatened species on Diamantina National Park.

Potential Night Parrot habitat was initially identified by aerial surveys, targeting areas of old growth spinifex located near the base of escarpments. The aerial surveys were followed up with extensive ground traverses to locate additional habitat and to assess the quality of identified habitat. Dedicated searches for Night Parrots were then carried out by AWC Senior Field Ecologist John Young – the man who first rediscovered the Night Parrot in 2013 – supported by other AWC ecologists and skilled volunteers.

Our first record of a Night Parrot on Diamantina was obtained when John Young and AWC Senior Ecologist, Dr Rod Kavanagh, were camped for the night near prospective habitat. Shortly after dusk, they heard the distinctive “ding ding” call of the male bird. Across 25 days of field work, often in difficult conditions, John Young and team located three nests (and observed birds at these three nests), recorded birds at three locations by their distinctive call and, finally, observed two birds coming into drink. Almost every record – such as the discovery of a nest with four eggs – has added important new information about the Night Parrot.
AWC scientists have also developed a habitat model, which indicates a large area of Diamantina National Park is preferred roosting habitat for Night Parrots. It is hoped the model will help identify and protect additional populations of the Night Parrot across the region and potentially in other parts of Australia.

**Intensive Response Plan in place at Diamantina**

QPWS and AWC have responded rapidly to the discovery by putting in place an Intensive Response Plan for the Night Parrot at Diamantina National Park:

- A Restricted Access Area has been declared by QPWS, which prohibits unauthorised access east of the main road in Diamantina National Park (see map).
- AWC and QPWS have mobilised additional resources to jointly deliver dedicated on-ground management at Diamantina National Park including:
  - feral cat control; and
  - removal of old cattle fences.
- A program of further surveys and research, led in the field by AWC ecologists including John Young, will generate additional information on the size and distribution of the Night Parrot population.

In addition to Night Parrots, Diamantina National Park is home to a range of other threatened species including the Bilby, Kowari and Plains Wanderer. An effective, integrated strategy is required to protect all of these species from key threats, notably feral cats. A proposed feral cat-free (fenced) area, which could form part of an integrated strategy, will continue to be assessed by AWC over the next couple of years while additional surveys are undertaken for priority species.

Donate now to put Senior Field Ecologist John Young in the field for a day ($750)

We need to know more about Night Parrots, Bilbies and other threatened species at Diamantina.

Please help support AWC’s field work at Diamantina, led by Senior Field Ecologist John Young.

It costs approximately $750 to put an ecologist, such as John Young, in the field for one day including travel, equipment, volunteer support and other costs.

Fill in the donation form with this edition of Wildlife Matters or donate online at www.australianwildlife.org

Each donation of $750 or more will receive a short illustrated report (minus location data) at the end of our 2016/17 Diamantina survey.
Kalamurina: Located adjacent to Kati Thanda-Lake Eyre in one of the world’s driest regions, Kalamurina has this year enjoyed exceptional rainfall. Around 400 mm (more than twice the average annual rainfall) has fallen on the property, flooding the Simpson and Tirari Deserts and causing the Warburton Creek to flow almost all year. Taking advantage of these exceptional conditions, our team of arid zone specialists were dropped by helicopter into unexplored country north of Lake Eyre to sample habitats that have previously never been surveyed. The results confirmed a boom in small mammals following the good conditions, with high capture rates of Desert Mice (a species which has only been caught once before on Kalamurina) and the property’s first ever record of a Giles Planigale.

Brooklyn: Brooklyn is a sanctuary of extraordinary diversity, ranging from highland rainforest to the savanna woodlands of the Mitchell River valley. Tracking its health is therefore a complex exercise, requiring a survey design which will measure a diverse range of indicators from rainforest frogs to the reptiles of the dry tropics. In September, our science team undertook live and camera trapping across 22 sites, recording a vast array of important species including Northern Quolls, Yakka Skinks, Rock-wallabies (a hybrid of Mareeba and Godman’s Rock-wallabies), Giant White-tailed Rats, Black-footed Tree-rats and small mammals, such as Northern Brown Bandicoots and the Northern Short-tailed Mouse.

Mornington: A dedicated team of AWC ecologists and highly skilled (and enthusiastic) volunteers carried out our annual waterhole-based bird survey – also known as the Finch Census. This survey involves 10 days of counting and recording the number and variety of birds coming to drink at over 80 km of central Kimberley waterways, generating data to help track populations of seed-eating birds. This year large numbers of Painted Finches were recorded along with a promising number of juvenile Gouldian Finches. Approximately 800 Pictorella Mannikins were recorded in one morning.

Other recent surveys have been carried out at Wongalara (featuring records of Hooded Parrots, Northern Nailtail Wallabies and a host of Top End reptiles), Paruna (our annual census of the threatened Black-flanked Rock-wallaby), Mt Gibson (where our reintroduced Woylie and Numbat populations continue to grow) and Karakamia (featuring a Brush-tailed Phascogale). As this edition of Wildlife Matters goes to print, AWC ecologists are also undertaking a survey across Piccaninny Plains on Cape York.
First major biological survey in the Pilliga

AWC ecologists have commenced the first major biological survey of the Pilliga National Park and Pilliga State Conservation Area (Pilliga project area), as part of an innovative partnership with the NSW Government. It is a critical first step in an exciting project that will see the return to the Pilliga of species like the Bilby, which has been extinct in the region for almost a century.

After a couple of months of planning (and waiting for the rain to stop!), AWC ecologists are now in the field delivering an intensive biological survey across the 35,000 hectare Pilliga project area. The survey represents the first detailed inventory of the plants and animals of this location. As such, it will help fill some important gaps in our knowledge of the Pilliga. More broadly, the survey is designed to provide a baseline against which future changes in the ecological health of the property can be measured.

We will be seeking to track the changes in ecological health – including populations of key indicator species – which occur as a result of the removal of feral animals and the reintroduction of ecosystem engineers (small mammals such as the Brush-tailed Bettong and the Bilby, which turn over soil and assist in nutrient and water cycling).

Across the Pilliga project area, our team has established 60 permanent monitoring sites. These sites will be surveyed twice a year – in spring and autumn. This regime will enable us to measure any changes in ecological health across the entire project area and will identify any differences in health between the feral predator-free area (~5,000 ha), when established, and the balance of the project area.

Across the Pilliga project area:

- 120 camera traps have been deployed (two per site). These camera traps will help measure the density of native fauna as well as tracking the density of feral animals, such as cats and goats.
- At each site, three bird surveys were conducted during spring, to be repeated in the autumn survey
- Three nocturnal surveys were conducted at each site including spotlighting transects and call playback/active listening for species like owls and Koalas.
- In the autumn survey, small mammals and reptiles will be monitored using cage traps, Elliott traps, pitfall traps and funnel traps. Vegetation surveys will also be conducted across all sites.

This reflects a very significant investment in science: more than 10,000 trap nights per annum (increasing further when mammal reintroductions begin).

Highlights of the Pilliga survey to date include:

- A suite of threatened birds including Speckled Warblers, Grey-crowned Babblers, Superb Parrots, Turquoise Parrots and Brown Treecreepers.
- Koalas have been detected during our nocturnal surveys – important records for a species that has declined sharply in the Pilliga.
- Several Barking Owl territories have been identified.
- The Black-striped Wallaby, threatened in NSW, was detected during a nocturnal survey. Sugar gliders have also been recorded.

Our initial fauna survey at Mallee Cliffs National Park (also part of our partnership with the NSW Government) will commence in November.
AWC is leading the way in establishing a national network of feral predator-free areas ranging from south-west Australia (Karakamia, Mt Gibson) through central Australia (Newhaven), South Australia (Yookamurra) and into NSW (the Pilliga, Mallee Cliffs and Scotia).

These projects will deliver a substantial increase in the global populations of at least 16 nationally threatened mammal species. The establishment of feral-free areas is also supporting a major program of scientific research addressing issues critical to the conservation of Australia’s wildlife.

**Measuring success: feral-free areas are the best conservation strategy for many endangered mammals**

The feral-free areas established by AWC make possible the restoration (rewilding) of threatened mammals into parts of their former range – in some cases, we are reintroducing mammals into areas where they have been extinct for over a century. Once reintroduced, a key scientific challenge is to measure (census) the new population at regular intervals.

AWC is consistently tracking the populations of a range of species including Numbats, Bilbies, Burrowing Bettongs, Brush-tailed Bettongs, Bridled Nailtail Wallabies and Tammar Wallabies. We generate annual population estimates for all of these species and more. As a result, the AWC science team has accrued a level of experience and expertise in monitoring threatened mammals that is unique within the non-government conservation sector.

The data at AWC properties tells a spectacular story. Our feral predator-free areas protect a high proportion of the global population of many threatened mammals – for example, around 85% of the Bridled Nailtail Wallaby population, around 25% of the Numbat population and around 15% of the Bilby population.

Collectively, the data also highlights the impact of feral cats and foxes: when such predators are excluded, populations of threatened, small to medium-sized mammals increase rapidly. At Scotia, for example, the reintroduced Bilby population has increased from 400 in 2010 to 1,170 in 2015 (see graph). This stands in stark contrast to the ongoing decline of most small to medium-sized mammal species in areas where feral cats and foxes occur.
There are large gaps in our knowledge of the ecology of many of Australia’s endangered mammal species. AWC ecologists are generating important new information about several species, undertaking intensive research in relation to population dynamics, movement and habitat preferences for reintroduced mammals.

At Mt Gibson, Woylies were fitted with radio-tracking collars before being released, enabling AWC ecologists to obtain ‘fixes’ of day and night-time locations; these data are being evaluated to assess dispersal, home range and movement patterns. Movement data are being combined with a detailed vegetation map to determine habitat preferences. Such information will be invaluable in refining optimal release sites and strategies for future reintroductions.

**Feral-proof fences are also the best conservation strategy for many extant species**

AWC research involving surveys of matched habitats inside and outside our feral-free areas is also generating important information about the broader ecological benefits of removing feral cats and foxes. At Scotia, for example, a number of species of small mammals, including Bolam’s Mouse and Southern Ningaui, have persisted across the landscape despite the impacts of feral predators. These species did not need to be reintroduced – however, our surveys have demonstrated that both species are now more abundant in the feral-free areas. For example, in 2015:

- 35 Southern Ningaui were captured in small mammal surveys inside the feral predator-free area, while only three individuals were captured from an equivalent trapping effort outside the fence.
- Seven individuals of Bolam’s Mouse were caught inside the feral predator-free area, but only one individual was recorded beyond the fence.

The positive effect of removing feral cats and foxes also extends to some small ground-dwelling birds, with the Striated Grasswren more commonly recorded inside the feral predator-free area than outside.

**Assessing the ecological role of threatened mammals**

The loss of small to medium-sized mammals across Australia in the last 200 years has been catastrophic and unprecedented on a global scale. These mammals had several important ecological roles, including seed dispersal, seed predation and disturbance of the soil and litter layer.

The disappearance of these mammals (the combined population across Australia would have been in the billions) is likely to have had severe consequences for the way our landscapes function.

When AWC reintroduces a mammal like the Bilby or the Brush-tailed Bettong into a landscape, we are restoring ecological processes that had come to an abrupt halt with the spread of feral cats and foxes. Returning these ecological engineers can be expected to have significant effects on the structure, composition and dynamics of vegetation as well as on processes, such as nutrient and water retention.

AWC ecologists are now implementing a research project which will provide Australia’s first systematic, continent-wide assessment of the ecological role of threatened mammals. The results will provide valuable information on the functioning of Australian ecosystems in the presence of critical weight range mammals – i.e., it will help us understand how our ecosystems should function under the conditions in which they evolved.

The research involves establishing, at each sanctuary where mammals will be reintroduced, replicate 1 ha plots in major vegetation types, matched inside and outside the feral predator-free fenced area. At each plot, the structure and composition of the vegetation is surveyed in a standardised, systematic and repeatable way. Ground stratum plants are counted on 120, 1 x 1 m quadrats; ground cover, shrub cover and canopy cover are measured at a total of 505 points, and trees are assessed in a series of nested quadrats, depending on size-class, with large diameter trees measured over the entire 1 ha plot.

The results will shed new light on the role of our small to medium-sized mammals including their effect on vegetation dynamics. Such information is critical to saving our endangered mammals and restoring our depleted landscapes.
The importance of fighting wildfires was demonstrated in August this year when a major fire threatened the Charnley River-Artesian Range Wildlife Sanctuary (Charnley River). Here is how the event unfolded:

• On 20 July, a fire started at the community dump on Mt Barnett station. The ignition point was located approximately 32 kilometres east of the Charnley River boundary (refer ignition point on map).

• Pushed by prevailing winds, the fire burnt steadily in a north-westerly direction. Within days, it had crossed the boundary of Mt Barnett Station and entered crown land. The fire burnt through the crown land where no management intervention occurred.

• By 2 August, the fire was approaching the Charnley River boundary. At this stage, the fire had burnt over 68,000 hectares, most of it on crown land. The fire was intense – burning and consuming most of the vegetation in its path. The adverse impact of a fire like this on biodiversity is significant.

• AWC’s Kimberley team was mobilised. Nine field staff (land managers and scientists) plus a helicopter and vehicles carrying water units were deployed for nearly a week to protect Charnley River Wildlife Sanctuary. Conditions were extreme – over 35 degrees with strong winds.

• After assessing the fire front by helicopter, our initial response was to stop the fire at a fenceline just inside the Charnley River boundary (refer point A on map).

The AWC team cleared the fenceline of debris and extinguished any spot fires that jumped the fence. We back burn off some sections of the fence.

• A significant stretch of the front jumped the fence in one section (refer point B), requiring sustained suppression by staff using fire units (water) and leaf blowers. Our team then headed north, arriving just as the fire jumped Maurice Creek (refer point C). Despite ferrying staff by helicopter ahead of the front, the fire could not be stopped. The AWC team fell back, waiting until nightfall and the opportunity to back burn again off creeks and roads (refer point D).

• The back burns were executed with success, helping to extinguish any spot fires. However, as staff began the long journey home, chopper surveillance picked up a new outbreak where the fire on its southern flank had jumped the fence again (refer point E). The AWC team spent hours seeking to contain this new front. Ultimately, it petered out at night when it reached an area that had been burned in our 2015 prescribed fires. This highlights the value of prescribed burning in limiting the effects of late season wildfires.

• However, this was not the end of it. A week later, a section of fire had crept along the crown land and re-entered Charnley River further north (refer point F). AWC staff were dropped in by helicopter and, as night fell, back burnt along Slaty Creek. Some of this front was pulled up by a 2016 fire scar (refer point G).
Ultimately, AWC’s efforts to extinguish this fire prevented tens of thousands of hectares – possibly more – from being consumed in a hot, extensive wildfire. Such fires are a disaster for our wildlife. They remove cover and make it easier for feral cats to hunt small mammals, such as the Pale Field Rat; they reduce the availability of food at critical times of the year for seed-eating birds like the Gouldian Finch and fruit-eating mammals like the Golden-backed Tree-rat; and they reduce the quality of habitat for species like bandicoots, which need a mix of burnt and long unburnt country.

AWC has a strong team of fire managers across northern Australia, delivering the only fire management program which extends from the Kimberley to Cape York. Through a combination of ecologically-based prescribed burning and active fire suppression, AWC leads the way in fire management to protect habitat for the wildlife of northern Australia.
Yes, I want to help save Australia’s threatened wildlife

Return of the Bilby
☐ Please direct my donation to help return the Bilby to Mt Gibson Wildlife Sanctuary

Night Parrot
☐ Please direct my donation to supporting AWC’s Night Parrot field work, led by John Young

AWC operations generally
☐ Please direct my donation to AWC operations generally

To donate online at our website please visit www.australianwildlife.org

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I would like to make a single tax deductible donation of: $100 $300 $750 $1000 $5000 $ Other (minimum $10)
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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.

Credit Card Details
☐ MasterCard ☐ Visa ☐ AMEX ☐ Diners
Card Number Expiry Date
Cardholder name:
Signature:

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: BS: 
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:

Our Commitment to You, Drawing Arrangements:
1. We will advise you, in writing, the details of your monthly donation to Australian Wildlife Conservancy Fund (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 on the day 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 Fund if one 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 Fund 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 to Australian Wildlife Conservancy Fund (amount, frequency, commencement date) at least 3 calendar 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 Fund arrangements) you may take the matter up directly with us (PO Box 8070 Subiaco East WA 6008) 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.

Please post this form to: Australian Wildlife Conservancy, Reply Paid 8070 Subiaco East WA 6008 Phone: (08) 9380 9633 Website: www.australianwildlife.org