



Summer 2008

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## ENDANGERED

Nearly 1600 species of plants and animals are listed as nationally threatened. You can help save them – see back page for details.

## Creating the herbarium at Cravens Peak

Volunteers **Max** and **Margaret Bourke** discuss their experiences volunteering at Cravens Peak Reserve, where they helped set up the herbarium

Cravens Peak in south-west Queensland is Bush Heritage's largest, most diverse and most remote reserve. It is in relatively healthy condition, despite the damage that had been caused by grazing. Recovery work

includes managing camel incursions from the Northern Territory, maintaining boundary fences and minimising the impact of bushfires, especially in the dunefields. Although the University of Sydney's Desert Ecology Group has revealed much about the dunefields through their long-term work in the area, Cravens Peak is so vast and remote that many areas have never been biologically surveyed.

The field herbarium project was established to complement work undertaken by the Royal Geographic Society of Queensland in 2007. The herbarium – a collection of preserved plant specimens – aims to fill these gaps and is an important part of the ongoing effort to understand this beautiful and biologically important region. Herbaria preserve a historical record of change in vegetation over



Clockwise from top: Flowering pink fringe myrtle (*Calytrix longiflora*) on a sand dune after winter rains, part of the biologically diverse desert ecosystem on Cravens Peak Reserve, Qld. PHOTO: WAYNE LAWLER/ECOPIX Parrot pea (*Crotalaria cunninghamii*). Max and Margaret Bourke with BHA ecologist Paul Foreman (right). Pituri bush (*Duboisia hopwoodii*). PHOTOS: MAX AND MARGARET BOURKE Flowering parakeelya (*Calandrinia balonensis*) PHOTO: WAYNE LAWLER/ECOPIX





time, and provide a vital reference for plant identification.

The Toko Range, which runs along the northern boundary of the property, can be thought of as the dividing line between the sand of the Simpson Desert and the heavy soils of the Channel Country. This is what makes the place so interesting aesthetically, as well as from a biodiversity point of view.

In our initial application as volunteers we indicated that we were prepared

to work on any of the Bush Heritage properties. Our major criterion was that we wanted to help on the scientific program. As Bush Heritage has purchased property of high ecological value, we believe that it is important that the scientific benchmarks for rehabilitation and preservation are in place for management.

When we were offered the opportunity to help set up a herbarium at Cravens Peak in August this year we were

delighted. This project meant we would be doing some of the baseline recording in an environment which Max knew and wanted to know better.

In 2007 the Royal Geographic Society of Queensland had collected botanical specimens on the property, however heavy rain had fallen before they arrived, which meant that while they could make good collections they were restricted in where they could go. Under the guidance of Paul Foreman,



Clockwise from top: Yellowtop daisy bush (*Calotis erinacea*) flowering on a desert dune near The Coolibah Hole, Cravens Peak Reserve, Qld. Hawk moth (*Sphingidae*) rests on a coolibah eucalyptus, Cravens Peak Reserve, Qld. PHOTOS: WAYNE LAWLER/ECOPIX Central netted dragon, Cravens Peak Reserve, Qld. PHOTO: PAUL FOREMAN



a Bush Heritage ecologist, we collected at sites which had not been previously surveyed. Although the conditions this time were very dry, we were able to collect approximately 120 flowering specimens, 20 of which had not been previously collected, and one, Paul believes, which had not been previously recorded in Queensland.

Max had previous professional experience in botanical collecting but not in this environment. On the other hand, Margaret, as a keen gardener, had some botanical knowledge, but was a novice in the field procedures of collecting, pressing and recording, which was made more difficult by the less-than-ideal conditions, with cold gale force winds blowing some days.

We did find that plant collecting brings out the hunter instincts, making the quest for a rare or unusual specimen very exciting. It also leads to close examination of the landscape, which is rewarding in itself.

The great red dunes of Cravens Peak are magnificent and many of the species in flower, including the Aboriginal favourite, pituri (*Duboisia hopwoodii*), occur on the dune ridges. But the variety of flora between the dune swales was the real surprise, and the ability of some of the more robust species to thrive and flower in the gibber plains areas is truly astonishing. Along the ephemeral water channels

of the Mulligan River, smaller streams and inter-dune systems (all dry) were also areas of rich floral diversity. While there are a few invasive species like Noogoora burr, for the most part the property is in very good shape. The camels are certainly a worry though.

Having returned from collecting specimens in the most remote parts of the property along the Northern Territory border, the next stage was to identify them, record the locations from GPS data, then mount and store them. This was all done according to a template developed by volunteers at Bush Heritage's Eurardy Reserve. The final stage was to scavenge, with reserve managers Nella and Mark Lithgow, through the homestead's outbuildings for a suitable storage cabinet to house the Cravens Peak Herbarium so it is protected from pest and environmental damage. Duplicates of the collection were sent to the Queensland and National herbaria to confirm identification.

Now the collection has a starting point. The next addition will be the material from the Royal Geographic Society's collection. We hope it will be there in hundreds of years' time like the very first herbarium collection of Andrea Caesalpini in Padua (1594), which is still in use. (Knowing of this monk's work in Italy 500 years ago made collecting several members of the family *Caesalpinaceae* particularly rewarding.)

Our time at Cravens Peak gave us a chance to experience life in the truly remote outback, as well as the companionship of the lovely reserve managers. At Cravens Peak if something breaks or you need urgent supplies, you know Boulia, a very small town, is two and a half hours away and Mt Isa is five hours away!

We finished up the herbarium work with a week to spare so we spent our last week moving junk to the tip, also a rewarding experience because each day you could see what had been done!

Life in the desert can be tough with either cold or hot winds blowing. The hot days make driving over the dunes particularly difficult, but boy does the washing dry quickly! Seeing only eight people in three weeks and lights out at 9.30 each night because of the generator meant that it was a novel experience, enhanced by no television or newspapers ... something we did not really notice.

With the sunsets that we had most nights as we sipped a beer with Mark and Nella, we really missed nothing of the so-called amenities of the city!

Thanks to Max and Margaret Bourke and the Brisbane and Canberra herbaria for their work, time and in-kind support on this project.



Pictured from left: Spectacular flowering of a field of mulla mulla (*Ptilotus macrocephalus*) in grassy woodland of Georgina gidyea, Cravens Peak, Qld. Georgina gidyea (*Acacia georginae*) tree on a pediplain, Cravens Peak Reserve, Qld. PHOTOS: WAYNE LAWLER/ECOPIX





## The Kosciuszko to Coast landscape partnership

Regional Strategies Team Leader **Ben Carr** explains how Bush Heritage and partners are working on restoring fragmented landscapes in the Kosciuszko to Coast project

Bush Heritage plays a leadership role in a number of visionary projects that aim to rebuild fragmented landscapes and restore them to health. The idea behind this is that rebuilding habitats across large swathes of country will allow plants and animals to adapt to the changes that climate change is predicted to cause, such as alterations in rainfall and temperature and the associated impact of increased bushfires.

One such landscape project is Kosciuszko to Coast (K2C), which

began in 2004, and is coordinated by a network of community groups, conservation organisations and government agencies.

Bush Heritage owns two properties within the current K2C focus area – Scottsdale and Burrin Burrin reserves.

K2C aims to reconnect isolated woodlands and grasslands between Kosciuszko and Namadgi national parks and the coastal forests of southern New South Wales in a series of 'biodiversity stepping stones'. Areas of high conservation value in this region are under threat from weeds, overgrazing, intensification of land use, and fragmentation by expanding rural subdivisions.

K2C has a number of major goals. As well as reconnecting fragmented landscapes and protecting land of high conservation value, the project also aims to improve the health of the land and waterways and to work with traditional owners of the land to glean insights into the seasonal importance of land systems and the movement of species. By working in partnership with local farmers and landowners, the project is not only growing in scale but also building awareness of, and skills in, conservation management among the existing landholders.

A major part of Project Facilitator Lauren Van Dyke's job is encouraging landholders to come onboard. A series of public workshops about K2C were held at Bush Heritage's Scottsdale Reserve in late spring 2007 and summer 2008, and an open day was held at Scottsdale in October 2008. A presentation for the public and landholders interested in the K2C project highlighted how Bush Heritage is working to restore and rehabilitate the ecological values at Scottsdale.

'Landholders and managers are critical to the success of [K2C], and the open day was an opportunity to explain how they could get involved and contribute towards maintaining, sustaining and reconnecting the landscape,' explains Lauren.

The K2C partner organisations offer many incentives for landholders to take part in the scheme. These include Greening Australia's restoration



Clockwise from top: Woodland areas on Scottsdale Reserve, NSW. PHOTO: JIRI LOCHMAN/LOCHMAN TRANSPARENCIES Wildflowers on Scottsdale Reserve, NSW. PHOTO: WYBE REYENGA Sugar glider (*Petaurus breviceps*) at Scottsdale Reserve, NSW. PHOTO: JIRI LOCHMAN/LOCHMAN TRANSPARENCIES Lauren Van Dyke, Project Facilitator, Kosciuszko to Coast partnership. PHOTO: EDDIE MISIC



programs, voluntary conservation agreements managed by the NSW Department of Environment and Climate Change, support and resources from the Molonglo and Upper Murrumbidgee Landcare networks, and help in vegetation identification and field days offered by Friends of Grasslands. Bio-banking schemes, whereby rural landowners can generate income by managing land for conservation, are available. Financial incentives are also available for activities such as fencing and revegetation through catchment management authorities.

Bush Heritage is actively assessing properties in the region in order to negotiate partnerships with owners of land with high conservation value. Lauren Van Dyke has visited over 30 landowners over the last eighteen months, and Bush Heritage's ecologists have carried out ecological assessments of properties for consideration for both purchase and partnership agreements.

At present Bush Heritage is building relationships with several private landholders with a view to developing conservation agreements for their properties. These ensure that agricultural practices on the property are sustainable and compatible with the property's conservation values. Typically, a covenant will include a management plan that offers a guide to managing weeds, pest control and controlled burning.

In total, a network of over 40 conservation properties now exists in the region.



K2C is located between the coast and the Great Dividing Range in southern NSW, just south-east of Canberra.

Bush Heritage concentrates on the inland region, which is within our South-East Grassy Box Woodlands priority region.

Through collaboration, we are achieving our goal of a landscape that is recovering its key conservation values.

'The long-term benefits of Kosciuszko to Coast are the protection of water catchments and the overall health of the landscape so that its environmental and agricultural capacities can be restored and maintained,' says Lauren.

K2C has already been a catalyst, and the first active project area, for the development of a continental-scale program, the Great Eastern Ranges Initiative. This initiative, run by the NSW Department of Environment and Climate Change, aims to extend landscape connectivity all the way from the Victorian Alps to Queensland's Atherton Tablelands.

For further information about K2C, or to see the full list of partner organisations, see [www.k2c.org.au](http://www.k2c.org.au).

We would like to acknowledge the George Alexander Foundation for their generous support of this work.



This project has been assisted by the NSW Government through its Environmental Trust.



Pictured from left: Gang-gang cockatoo on Scottsdale Reserve, NSW. PHOTO: GRAEME CHAPMAN Termite mound on Berrin Berrin Reserve, NSW. PHOTO: BELINDA COUTTS Bright coloured eucalypt bark at Scottsdale Reserve, NSW. PHOTO: JIRI LOCHMAN/LOCHMAN TRANSPARENCIES





## Wildflower season at Eurardy Reserve

**Charlotte Francis** reports on floral happenings at Eurardy Reserve in Western Australia

Autumn and winter rains ushered in a bumper wildflower season at Eurardy Reserve this spring. 'The 2008 season has been the best for years,' say Paul and Leanne Hales, who arrived as Eurardy's first reserve managers in September 2005.

Visitors taking part in guided tours or doing the self-guided walking tour have been treated to spectacular displays of some of Eurardy's 499 plant species. The area around the homestead has been swathed in carpets of crimson pink parakeelya, and other species in bloom include grevilleas, banksias, lechenaultias (wreath flowers), blue and white cornflowers, Mangles' kangaroo paw, boronia, thryoptomene, native foxglove, dampiera, smokebush, fringe lilies, starflowers (*Calytrix*), Mulla Mulla and Eurardy wax plant.

Located within the South-West Botanical Province, one of Bush Heritage's priority conservation regions, Eurardy lies within Australia's only 'global biodiversity hotspot', one of 34 areas rated by Conservation International as the most biologically rich in the world. Although the province accounts for only 0.23 per cent of the Earth's land surface, it supports 12.6 per cent of the world's rare and threatened flora.

Prior to Bush Heritage ownership, Eurardy was a working sheep station and already well known for its extraordinary floral diversity. During the wildflower season, an average of 300 tourists – from campers to birdwatchers – visit the reserve, which is located just off the north-west coastal highway, 150 km north of Geraldton.

On arrival at Eurardy, Paul and Leanne inherited a wealth of information from the Wildflower Society of Western Australia (WSWA). The Wildflower

Society had carried out a bushland survey at Eurardy in 2003 and identified 481 native plant species (and 34 weeds!). Members of the Society compiled comprehensive species lists, and pressed and mounted each specimen to be stored in a field herbarium at the reserve.

A WSWA survey at Eurardy in 2006 revealed a further eighteen native plant species (and two more weeds).

'The field herbarium is constantly being updated as new species are found. It contains much more detailed information than a standard field guide,' explains Leanne. 'We are so grateful to the WSWA for all their hard work and dedication in helping to catalogue Eurardy's flora.'

The WSWA's 2003 botanical survey was mainly carried out in the reserve's heathland areas. In 2006, the Hales invited WSWA members back to survey other areas of the reserve including the salt pans and areas that had been cultivated in the past.

Research carried out by groups such as WSWA is invaluable for Bush Heritage, as we are able to use data gathered by research partners to help inform our management and monitoring activities at each reserve. For example, one of the ongoing management priorities at Eurardy is to control populations of feral rabbits and goats, which cause damage to the native vegetation. Orchids, in particular, are vulnerable to damage by rabbits. With a vigilant feral animal control program in operation, the health of the landscape at Eurardy is improving; the soil is less compacted, groundcover is re-emerging and species favoured by



Clockwise from top: Wreath leschenaultia (*Leschenaultia macrantha*). Kangaroo-paws (*Anigozanthos*). Common lamb ears (*Isotropis cuneifolia*). The critically endangered short-petalled beyeria (*Beyeria lepidopetala*). PHOTOS: JIRI LOCHMAN/LOCHMAN TRANSPARENCIES *Verticordia x euradyensis*, a natural hybrid of two verticordias named after Eurardy. PHOTO: MATT WARNOCK Myrtaceae (*Verticordia monadelph*). PHOTO: JULIAN FENESSY



grazing goats, such as labichea, are once again thriving.

Populations of Eurardy's five Declared Rare Flora – the short-petalled beyeria, Beard's mallee, the Kalbarri spider orchid, the dragon orchid, and the northern dwarf spider orchid – are monitored annually. Photo monitoring is also carried out at key tourist sites to evaluate the impact of cars and visitors and to guard against new species of weed being introduced.

Visitors to Eurardy this spring have also enjoyed the fabulous diversity of birdlife. Regular sightings of raptors such as the spotted harrier, the square-tailed kite, the black-breasted buzzard and little eagles indicate that the reserve is supporting healthy populations of small mammals. Large flocks of red-tailed black cockatoos and hundreds of tree martins have also been seen, while a recent survey of the ground-dwelling malleefowl undertaken by eighteen volunteers turned up several previously unmapped mallee fowl mounds as well as fresh tracks. These mounds, along with those previously mapped, will be monitored over the coming months to see if the malleefowl are actively breeding on Eurardy.

All in all, it has been a bountiful spring for plants and animals at Eurardy.



## Changing reserves

Paul and Leanne Hales and their two young daughters recently moved to north-east Queensland to take over the management of Bush Heritage's Yourka Reserve. Yourka is a property of 43 500 hectares located 130 kilometres south of Cairns on the western edge of the Wet Tropics World Heritage Area. The Hales are excited to be living and working on their second Bush Heritage reserve.

The new staff at Eurardy, Matt Warnock and Elizabeth Lescheid, are also seasoned Bush Heritage people. Matt (the new Reserve Manager) and Elizabeth (Eurardy's Tourism and Visitation Officer) have spent the last two years based at Queensland's Carnarvon Station Reserve, where Matt was a Field Officer Trainee and Elizabeth a dedicated volunteer.

Homestead-style accommodation, caravan/camping sites and wildflower tours are available at Eurardy Reserve. Access is 2WD. Bookings and enquiries can be made directly with the reserve managers on (08) 9936 1038, or via email: [eurardy@bushheritage.org.au](mailto:eurardy@bushheritage.org.au).



Clockwise from top: Paul and Leanne Hales pictured here with Beth (centre) and Macey. PHOTO: BUSH HERITAGE Matt Warnock and Elizabeth Lescheid are pictured wearing shirts from Gondwana, a Bush Heritage partner. PHOTO: COURTESY OF MATT WARNOCK AND ELIZABETH LESCHIED A sample from Eurardy's field herbarium. PHOTO: LEANNE AND PAUL HALES Kalbarri spider orchid (*Caladenia wanosa*) is listed as Declared Rare Flora, Eurardy Reserve, WA. PHOTO: JIRI LOCHMAN/LOCHMAN TRANSPARENCIES





## Release of the 2008 IUCN Red List of Threatened Species

This October, the International Union for Conservation of Nature (IUCN) released its annual Red List, the most comprehensive global assessment of the world's endangered species

This year's Red List shows that at least 1141 of the world's 5487 mammals – about 20 per cent – are threatened with extinction. This isn't the full story, though. A further 836 mammals are listed as 'data deficient', which means that not enough information could be gathered about them; the strong possibility is that at least some of these animals are also under threat. Mammalogist Jan Schipper of Conservation International estimates the real number of threatened mammals could be as high as 36 per cent.

On a scale from Extinct to Least Concern, the IUCN counts species in the Critically Endangered, Endangered and Vulnerable categories as 'threatened'.

In Australia, a total of 788 animals and plants are listed as threatened on the Red List. The Australian Government's own list, which is more comprehensive, includes 1600 threatened species. Among those listed as Critically Endangered are the redfin blue-eye and the Edgbaston goby, two fish which only exist at Edgbaston Reserve. Bush Heritage's purchase of Edgbaston Reserve last year means that these fish now live in a protected environment, and their odds of survival are much higher.

According to Nicola Markus, Bush Heritage's Chief Conservation Officer, 'Australia's track record of mammal losses is awful but hardly surprising. The majority of species on this list are small mammals that are falling victim to the damage caused by feral cats and foxes and uncontrolled pastoralism over more than two-thirds of the continent'

Populations of small mammals on Bush Heritage reserves – such as the numbat, bilby, burrowing bettong and western barred bandicoot, found at Charles Darwin Reserve, and the kowari, found at Cravens Peak Reserve, all listed as Threatened on the Red List – are benefiting from the conservation measures we put in place. Almost inevitably, removal of stock is one of the first activities we undertake, and fencing and other measures to keep feral animals at bay are also a priority.

Happily, the Red List does show that 'conservation can hold species back from the brink of extinction, with 5 per cent of currently threatened mammals showing signs of recovery in the wild', according to the report.

So what does conservation mean in this context? It's about preserving the integrity of ecosystems, and ensuring that the plants and animals that exist within them are able to thrive without threat from development, pests or invasive weeds, and uncontrolled bushfires.

According to the IUCN's Penelope Figgis, a former Bush Heritage director, 'The single biggest contribution that Australia can make to global conservation efforts, including meeting the [UN's] Convention on Biodiversity targets, is to maximise protection of our unique diversity of plants, animals and ecosystems.'

It's clear that Bush Heritage's mission to protect land and waterways of high conservation value can and does work to save threatened species – and it's more imperative than ever that we act now.

**See the back page for how you can help.**



Clockwise from top: Striped-faced dunnart (*Sminthopsis macroura*) is also under threat. The kowari (*Dasyuroides byrnei*) is one of the small marsupials protected at Cravens Peak Reserve, Qld. PHOTOS: JIRI LOCHMAN/LOCHMAN TRANSPARENCIES Good quality fencing kept in good order is an important part of managing feral animals that destroy habitat, Boolcoomatta Reserve, SA. PHOTO: BUSH HERITAGE Edgbaston goby (*Chlamydogobius squamigenus*) is Critically Endangered, Edgbaston Reserve, Qld. PHOTO: GUNTHA SCHMIDA/LOCHMAN TRANSPARENCIES





## Driving conservation in Western Australia

**Paul Evans**, Bush Heritage's Corporate Engagement Officer, is delighted to announce the formation of a key partnership with the Royal Automobile Club of Western Australia (RAC)

Each year for the next three years the RAC will make a significant donation to Bush Heritage, contributing to the conservation of WA's unique and abundant diversity of life.

The RAC was originally formed by a small group of enthusiastic car owners in 1905 but has come a long way since then. With more than 650 000 members they are now a vital part of Western Australian life, and are committed to the long-term sustainability of the environment, hence the decision to support Bush Heritage's vital conservation work in WA. A key focus

for the sponsorship will be the Charles Darwin Reserve in Western Australia.

This spectacular 68 600 hectare property is situated on the northern edge of the wheatbelt area and boasts a unique mix of ancient woodlands and an abundance of wildlife, together with wildflower-studded sand plains and natural salt lakes. The reserve protects precious remnant vegetation communities in a region that once supported impressive expanses of eucalyptus woodlands, shrubland and heath vegetation that covered thousands of square kilometres. Of these, some of the most significant are the York gum and mixed salmon gum-gimlet woodlands, which provide important refuge for the area's dynamic bird life. With only 6 per cent of these vegetation types

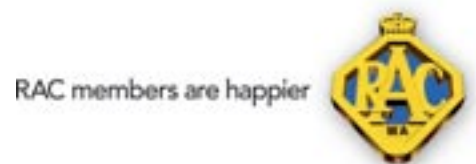
remaining, and less than 3 per cent in conservation reserves, their continued protection is an important aspect of the partnership.

The partnership, which forms an integral part of the RAC sponsorship strategy towards sustainable environments, was launched in September at the reserve. The visit gave RAC representatives the opportunity to explore the area and to see firsthand the important land management work that Bush Heritage undertakes to protect and enhance the unique plant and animal life on the property.

Thanks to the assistance of the RAC, its staff and members, Bush Heritage will be able to implement and complete a range of conservation initiatives on Charles Darwin Reserve that will help protect the property's significant vegetation habitats and the animals that live there.

The RAC's Sponsorship Manager Cath Kelsall said the partnership with Bush Heritage demonstrated the RAC's commitment to environmental issues and the pursuit of a sustainable future. 'It was an opportunity for the RAC to make a practical contribution to this important work to make sure we protect some of Western Australia's unique beauty.'

Bush Heritage welcomes the association with the RAC and believes that linking with the RAC on this project is a marvellous result for both organisations.



Clockwise from top: Rock forms on Charles Darwin Reserve, WA. PHOTO: JANICE CARPENTER From left, Cath Kelsall (RAC), Paul Evans, reserve managers Andrea and Kurt Tschirner, Claire Bolto (RAC) at Charles Darwin Reserve, WA. PHOTO: COURTESY OF RAC Thorny devil running across the semi-arid desert at Charles Darwin Reserve, WA. PHOTO: KURT TSCHIRNER Chestnut quail-thrush nest with eggs at Charles Darwin Reserve, WA. PHOTO: MARIE AND JIRI LOCHMAN/LOCHMAN TRANSPARENCIES



## From the CEO

I wouldn't normally start a column with reference to global financial markets but it's unlikely that anyone reading this newsletter will be unaffected by these developments. The impact in Australia is likely to reach into most of our homes.

History tells us that the financial and economic cycle is, if not boom and bust, then up and down. For the species we are seeking to protect though, it's pretty much all down at the moment – hence the need for Bush Heritage's work to continue apace.

We face an environmental crisis in Australia but a lot of people are still burying their heads in the sand. This crisis goes beyond the creeping and insidious effects of climate change. There is continued loss of habitat through land clearance and other activity, a proliferation of introduced plants and animals, and inadequate and

inappropriate fire regimes. All these things affect the ability of our unique wildlife to thrive in the wild, as they are able to do on Bush Heritage reserves.

In the same week in October that the G20 met in America and financial stocks plummeted, the IUCN released its Red List of Threatened Species at its Barcelona conference of over 8000 conservation delegates. In Barcelona the future of the planet really was at centre stage and the most comprehensive assessment of the world's mammals has confirmed an extinction crisis, with almost one in four at risk of disappearing forever. And it's more than just the mammals. Australia already has the worst rate of mammal extinctions of any developed country – and all in the short timeframe of European occupation. At Bush Heritage we are concerned about the full diversity of life on Earth.

Bush Heritage has a plan to protect those species in our care now and a

long-term plan to protect 1 per cent of Australia by 2025.

As you consider your gifts, social investments or philanthropic intent at year's end, I want to encourage your continued support for Bush Heritage. We need it more than ever as we build our conservation management over 31 properties and extend our conservation partnerships with Indigenous people and other neighbours. With our volunteers, research partners and staff we are developing important programs that must be maintained to safeguard the health of our land, our waterways and the native plants and animals that depend on them.



Doug Humann

## In memory

Stella Wiggins donated in memory of **Maxwell John Lee**; Ross and Greta Clare gave in memory of **Prudence Neal**; Joss Haiblen donated in memory of **Carmen Blomfield**; and Carl Martens honoured the life of **Jason Roth**.

Pam Winfield made a gift in memory of **Jamee Winfield**; and **Roy Grant**, 'a great friend and bushman' was remembered by Thalia Bremner. Davydd Shaw gave in memory of **Dr Leslie Williams** and her sister **Ruth Lloyd**. Leslie was an active worker on bush rehabilitation projects for over 20 years, particularly at Trig Point, and both were great lovers of the bush.

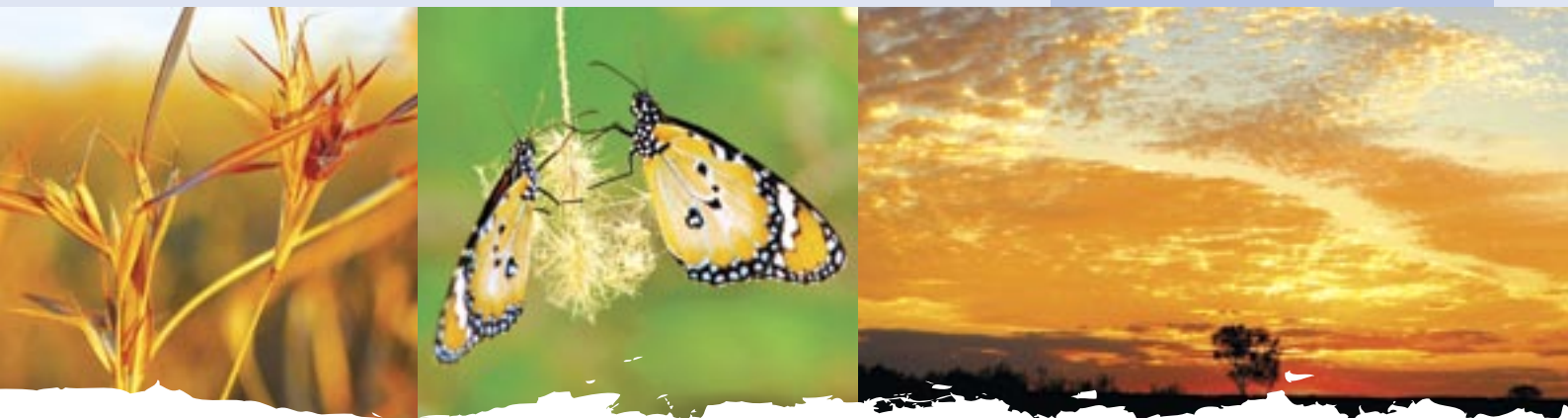
Friends and family of **Sue Rosta** gave in her memory, and friends and family of **Iris Nicolades** donated in her honour. 'Iris was a wonderful person. It was so typical of her that one of her many irons in the fire would be support for Bush Heritage.'

## In celebration

Jenny Whyte celebrated the births of **Liam Whyte** and **Maddison Pech** with a donation; Dana Fitzsimmons celebrated the wedding of **Laura Giannasca** and **Ryan Ayres**; and Lachlan Garland celebrated his partner **Karen Hising**'s birthday with a donation.

The Plowman and Hager families donated in celebration of **Cathie Plowman**'s birthday – they are very proud of her and her achievements. Stephen and Jane Gye donated in honour of **Kirsty Davies**' birthday; Margaret Mayo made a gift to her daughter **Susan Mayo**; and Rachel and Josh Thomson celebrated the first birthday of their twins **Finlay** and **Kai** with a donation.

If you would like to make a gift to Bush Heritage in memory of a friend or to celebrate a special occasion, visit [www.bushheritage.org.au](http://www.bushheritage.org.au) or call 1300 628 873.



Pictured from left: Colourful Flinders grass on Edgbaston Reserve, Qld. Butterflies at the artesian spring on Edgbaston Reserve, Qld. Western bloodwood (*Corymbia terminalis*) on a desert dunefield on Cravens Peak Reserve, Qld. PHOTOS: WAYNE LAWLER/ECOPIX



## Getting involved

Following are some current opportunities for getting involved with Bush Heritage, either as a visitor or a volunteer.

### GUIDED TOURS

We offer guided visits to some of our reserves – although places are limited, so please book early to avoid disappointment. To ensure your donations are used for conservation work on reserves rather than on arranging guided tours, we charge an amount based on cost recovery. This fee enables us to maintain the visitor program.

**March:** Scottsdale Reserve, NSW. Day trip. Saturday 28, 10 am to 4 pm. 2WD access. Details to be confirmed; the day may involve a mixture of walking and driving on unsealed roads and tracks. Medium level of fitness required. Nearest town: Bredbo, 4 km. Morning tea provided; BYO picnic lunch. Cost: \$30 per person for supporters/\$40 per person for non-supporters.

**April:** Friendly Beaches reserves, Tas. Day trip. Saturday 25, 10 am to 4 pm. 2WD access. The day will involve 8 to 10 km of walking on the beach and on tracks, medium level of fitness required. Nearest town: Bicheno (19 km north). Morning tea provided; BYO picnic lunch. Guests are required to carry lunch with them. Cost: \$30 per person for supporters/\$40 per person for non-supporters.

**May:** Reedy Creek Reserve, Qld. Day trip. Saturday 30, 9.30 am to 1 pm. Morning wander with reserve manager. 2WD access. Nearest town: Agnes Water, 4 km. Cost: \$10 per person for supporters/\$15 per person for non-supporters.

### SELF-GUIDED CAMPING

Camping is available from April to October at both Carnarvon Station Reserve, Qld and Charles Darwin Reserve, WA. Bookings are essential.

Campers need to be totally self-sufficient due to the remoteness of the reserves. Cost: \$40 per vehicle for supporters/\$100 per vehicle for non-supporters. High-clearance 4WD required.

### SELF-GUIDED DAY TRIPS

You can visit some of our smaller and less remote reserves as a self-guided day trip, although camping is not available. Bookings are essential.

The following reserves can be visited all year round: Currumbin Valley Reserve, Qld; Liffey River Reserve, Tas; Chereninup Creek and Kojonup reserves, WA.

### ACCOMMODATION, CARAVAN AND CAMPING SITES

Eurardy Reserve, WA. Tours are available. Book direct on 08 9936 1038, fax 08 9936 1054 or email [eurardy@bushheritage.org.au](mailto:eurardy@bushheritage.org.au). Discount for Bush Heritage supporters.

**Please note that bookings are essential for all activities. For more information or to book your place, please contact us on 1300 NATURE (1300 628 873) or email us at [info@bushheritage.org.au](mailto:info@bushheritage.org.au).**



Pictured from left: Replacing old fences, Carnarvon Station Reserve, Qld. Chemical weed control, Carnarvon Station Reserve, Qld. Volunteer Sally Jarvis stabbing wheel cactus, Nardoo Hills, NSW.

PHOTOS: BUSH HERITAGE

## VOLUNTEERING OPPORTUNITIES

### December–January

**Where:** Charles Darwin Reserve, WA  
**Project:** Locum Reserve Manager over Christmas  
**Who:** Two people  
**When:** Mon 22 Dec–Sun 4 Jan.  
**Skills required:** Bush Heritage volunteering experience essential, 4WD experience essential, first aid preferred  
**Warning:** It will be hot; air-conditioned sleeping quarters available.

### January, February, March

**Where:** Carnarvon Station Reserve, Qld  
**Project:** Weed control, native seed harvesting & other general work  
**When:** Mon 5–Fri 30 January; Mon 2–Fri 27 February; Mon 2–Fri 27 March  
**Who:** Two people per month  
**Skills required:** 4WD experience essential, first aid preferred, chemical certificate preferred  
**Warning:** High clearance 4WD essential. Expect heat and humidity.

### February

**Where:** Cravens Peak Reserve, Qld  
**Project:** Locum Reserve Manager  
**Who:** Two people  
**When:** Fri 20 February–Fri 20 March  
**Skills required:** Bush Heritage volunteering experience essential, 4WD experience essential, basic computer skills essential, first aid preferred  
**Warning:** It will be hot; air-conditioned sleeping quarters available.

### April–June

**Where:** Cravens Peak Reserve, Qld  
**Project:** Internal fence removal  
**Who:** Five people  
**When:** Minimum two weeks, flexible April–June  
**Skills required:** 4WD experience essential, first aid preferred; moderate fitness essential as manual handling is required.

### April

**Where:** Carnarvon Station Reserve, Qld  
**Assignment:** Weed survey of upper Warrago catchment  
**When:** Mon 6–Fri 17 April  
**Who:** Two people  
**Skills required:** 4WD experience preferred, first aid essential, excellent fitness preferred, basic ArcView & GPS skills essential, strong flora identification skills essential  
**Warning:** High clearance 4WD required to access this reserve.

**Please see [www.bushheritage.org.au/getting\\_involved](http://www.bushheritage.org.au/getting_involved) or contact us on 1300 NATURE (1300 628 873) to find out how to apply for these opportunities. The website is updated to reflect the availability of places for volunteers.**



# TIME IS RUNNING OUT FOR OUR NATIVE WILDLIFE

As the 2008 IUCN Red List demonstrates, many of our unique plants and animals are threatened with extinction or are restricted to small areas of suitable habitat. With climate change adding to the existing pressures on the land, we have no time to lose.

Nearly 1600 species of plants and animals are listed as nationally threatened.

**Make a special donation to Bush Heritage this Christmas and you can help us to restore land and protect habitat for our native wildlife and plants.**

*'There are so many projects urgently needing our attention ...'*  
Dr Nicola Markus, Chief Conservation Officer

Donate today and help us to protect tomorrow's natural world.

Your donation will assist us to restore landscapes and rebuild ecosystems that support a rich diversity of plants and animals **for the benefit of all Australians, for all time.**

## ACT NOW TO HELP OUR THREATENED WILDLIFE AND PLANTS

- Your gift of **\$50** could support native grassland restoration work and provide a safe haven for small mammals and birds by controlling invasive weeds
- Your gift of **\$100** could help to protect rare plants and orchids by paying for one year's rabbit control on one of our smaller reserves
- Your special gift of **\$250** could safeguard habitat for a range of aquatic plants and animals by purchasing approximately 250 metres of fencing to protect natural creeks and springs in Queensland

**Please donate today and be part of the solution. To make a donation, simply fill out the coupon below or visit our website: [www.bushheritage.org.au](http://www.bushheritage.org.au). If it's more convenient for you, call us on 1300 NATURE (1300 628 873).**

Your donation will support our essential land management work on reserves and help to give our wildlife and plants a better chance of survival.

All donations of \$2 or more are tax deductible.



# ENDANGERED

The northern quoll (*Dasyurus hallucatus*), Yourka Reserve, Qld. PHOTO: JIRI LOCHMAN/ LOCHMAN TRANSPARENCIES

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**Yes, I want to help Bush Heritage to protect our threatened animals and ecosystems**

Title \_\_\_\_\_ Name \_\_\_\_\_ Date of birth    /    / \_\_\_\_\_  
 Address \_\_\_\_\_ State \_\_\_\_\_ Postcode \_\_\_\_\_  
 Email \_\_\_\_\_ Phone \_\_\_\_\_ Mobile \_\_\_\_\_

**I want to join the Friends of the Bush and give \$ \_\_\_\_\_ each month by automatic deduction**  
 I will give via:  the credit card below until further notice  bank debit (Bush Heritage will send an authority form)  
**I would rather give a single gift of \$ \_\_\_\_\_** I am paying by:  Cheque/Money order  Visa  MasterCard  
 Card No. \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_ Expiry date \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_  
 Cardholder's name \_\_\_\_\_ Signature \_\_\_\_\_  
All donations of \$2 or more are tax deductible

**Please send me information on leaving a bequest to Bush Heritage Australia in my will**

Please return to: Bush Heritage Australia, Reply Paid 329, FLINDERS LANE VIC 8009 AUSTRALIA

Office use

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