



In this issue

- New reserve – Ethabuka, Qld
- Chereninup revegetation
- New land at Tarcutta
- Goonderoo update



A desert wildlife haven – the next reserve

Bush Heritage Landscape Ecologist Phil Cullen describes our newest reserve

A major arid-zone property will be the next Bush Heritage reserve. It is a haven for desert wildlife, with river floodplains, dune systems, clay pans and ephemeral and semi-permanent wetlands. You can help us to protect this outstanding property now.

It was over two years ago that Bush Heritage was first alerted to Ethabuka, a 214 000-hectare pastoral lease on the northern edge of the Simpson Desert. Angus Emmott (Channel Country grazier and long-time campaigner for the Cooper Creek) told me an intriguing tale about a river that flowed only about once a decade and died as a series of waterholes in the sand dunes. He talked of ephemeral lakes that could support huge numbers of waterfowl, vast areas of habitat for a suite of desert mammals that were rapidly disappearing from the landscape, and pressed his point by commenting on the lack of reserves in

the Channel Country. This property, he said, was in very good condition and had seen little development as a cattle-grazing lease.

With its apparent lack of threats my initial reaction was to wonder why Bush Heritage would consider buying such a property. However, after talking to Dr Chris Dickman, a researcher at Sydney University whose work on the mammal fauna of the region and on this property spans more than a decade, I was convinced of the importance of protecting this outstanding place. His information was remarkable.

Clockwise from top: The Field River is usually dry, Ethabuka plains.

PHOTOS: PHIL CULLEN

Threatened mulgara will be protected on Ethabuka.

PHOTO: JIRI LOCHMAN/LOCHMAN TRANSPARENCIES





WILDLIFE

The desert wildlife on this western Queensland property is largely intact. With 198 species, the property has a significantly higher diversity of animals than the adjacent Simpson Desert National Park and higher densities than the more heavily stocked neighbouring properties.

Twenty-six native mammal species have so far been recorded on the property. The community of fourteen small to medium-sized mammal species is exceptionally rich and includes the small carnivorous mulgara that is listed as nationally vulnerable. Also found there are the desert short-tailed mouse, the spinifex hopping mouse, the desert mouse and the charming sandy inland mouse which is also present at Bush Heritage's Charles Darwin Reserve, WA.



The survival of these species on Ethabuka is largely explained by the near absence of rabbits. The country is probably just too hot and dry for them. Fewer rabbits have meant a healthier ecosystem, less competition for food and importantly fewer foxes and cats, which often establish along with their rabbit prey.

Chris went on to say that the property is also considered to have one of the richest reptile faunas in Australia. Fifty-four reptile species have been recorded, including the woma (a rare desert python) and a small desert-dwelling skink *Ctenotus ariadne*, both of conservation significance.

One hundred and twelve bird species have been recorded, including the Australian bustard, painted honeyeater, yellow chat, and chestnut quail-thrush, all of which are listed as 'threatened'. Six species of frogs have also been found.

VEGETATION AND WETLANDS

The vegetation on Ethabuka is diverse, with eighteen major plant communities and 200 species identified so far. Around 36 200 ha of the property is on or adjacent to the flood plains, the type of country that is prized for cattle production and thus unreserved or poorly reserved. Most importantly, the property extends along a major environmental gradient and incorporates country from the heart of the Simpson Desert to permanent or semi-permanent waterholes on the flood plain. This gradient is not represented in the Simpson Desert National Park.

The ephemeral wetlands and the semi-permanent Pulchera Waterhole on Ethabuka are part of a complex of features on the junction of the Mulligan



River and Wheeler Creek that have earned the area listing as a wetland system of national significance. The wetlands spring to life after big rains or with floods coming down from higher in the catchment. They provide habitat for large numbers of waterfowl. The Pulchera Waterhole dries up only during the most severe droughts, so remains a focus for cattle grazing.

Equally important is the Field River, a normally dry watercourse that on rare occasions flows down from higher country to the north-west and out into the heart of the Simpson Desert. It delivers life-giving water to a string of waterholes, stands of red gums and coolibahs and extensive grassy flats. This ecosystem extends many kilometres into the Simpson Desert dune field, creating an oasis for a suite of arid woodland species. Again, cattle concentrate here when water is available.



THREATS

Three factors have been identified as the primary causes of the loss and decline of mammal species and ground-nesting birds in arid and semi-arid Australia: the loss of variability in the vegetation from changes to the pattern and intensity of fires, degradation of habitats as a result of over-grazing by stock and feral animals and, particularly, the spread of rabbits and their predators, cats and foxes.

Fire is a major threat. In recent times the regional fire regime has changed from one of small-scale, frequent and low-intensity fires, as practised by the Aborigines (resulting in an intricate mosaic of varying vegetation structure across the landscape), to one of infrequent, broad-scale, high-intensity fires that result in the loss of variability in the vegetation structure. This leaves large areas unsuitable for small mammals and other fauna. In recent years a number of high-intensity fires have burnt out hundreds of thousands of hectares across the Simpson Desert National Park and parts of Ethabuka. Foxes and cats moved in after the most recent fire to prey on the exposed small mammals. However, as the vegetation has begun to recover, the fox and cat numbers are again declining.



Over-grazing by cattle can have an effect similar to fire by removing the protective ground cover. It also prevents grasses from setting the seed that is an important food for many small mammals and birds. The gradual expansion of grazing into areas previously considered marginal for cattle is a concern for the long-term viability of small-mammal populations in these arid areas. The station neighbouring Ethabuka is now developing new water points throughout most of the areas that currently support little or no stock. Regular grazing and the provision of the drinking water needed by predators mean that the quality of these habitats, which have probably been refuges for small-mammal populations up until now, is likely to decline.

The long-term impacts of grazing in these remote regions are only now beginning to be reported in the conservation literature. Regions such as the Kimberley, Cape York, the Top End and the Gulf Country, which we once considered to be in a more or less natural condition, are now showing signs of species loss and land degradation. When I visited Ethabuka in August 2002 western Queensland was in the grip of the severest drought in living memory. Throughout the region much of the sheltering ground cover had gone. The need for a refuge area for the wildlife was startlingly obvious.

Despite a long pastoral history on the eastern side of the property, Ethabuka has largely survived any major degradation of habitat. Grazing has concentrated around the ten or so bores in the east while the western half has been grazed only in years when good rains have filled surface pools. Some areas have never held stock. With its exceptional small-mammal populations, Ethabuka needs active control of predators and sensitive fire management to provide a long-term wildlife refuge for the Channel Country. Allowing it to develop as a fully productive pastoral lease will not guarantee its future for conservation.

This new property represents just one of the many opportunities we must seize if we are to secure a future for our unique wildlife and landscapes and avert the fate that has befallen much of the south and east of the continent. You have the opportunity now to help us purchase this wonderful place, and I ask that you give generously. It is a chance we must grasp with both hands.

Opposite page from top: Black-breasted buzzard, found on Ethabuka, uses a rock to break into emu eggs. PHOTO: DAVE WATTS

Yellow chat. PHOTO: LYNN PEDLER/NATURE FOCUS

Desert mouse. PHOTO: JIRI LOCHMAN/LOCHMAN TRANSPARENCIES

Woma. PHOTO: DAVID KNOWLES/LOCHMAN TRANSPARENCIES

Above: Sand dune vegetation. PHOTO: PHIL CULLEN

Left: Chestnut quail-thrush. PHOTO: ROB DRUMMOND/COURTESY BIRDS AUSTRALIA

Below: Panorama of Ethabuka. PHOTO: PHIL CULLEN





Chereninup revegetation – a national first

Bush Heritage landscape ecologist Phil Cullen reports on the revegetation work at Chereninup Creek Reserve in Western Australia

One of the largest biodiversity revegetation projects in Australia has just been completed on the Bush Heritage Chereninup Creek Reserve in Western Australia. National Tree Day on Sunday 27 July saw 24 people, including Bush Heritage supporters and Green Corps volunteers, plant the last of the 50 000

seedlings into ground already seeded with indigenous species. This was the culmination of a tremendous amount of work by Jack Mercer of Greening Australia with help from Amanda Keesing from the Gondwana Link project.

The revegetation work at Chereninup Creek is significant for many reasons. It is the first time that Bush Heritage has replanted an area of this size (60 ha) and with such a diversity of species. The revegetated area will also significantly strengthen the effective habitat corridor between Chereninup Creek Reserve and the adjacent Peniup Nature Reserve, a development that will enhance the conservation value of both reserves.

The planting is equally exciting for the Gondwana Link project. It is the first of many such plantings that will gradually reconnect the Stirling Range and



Fitzgerald River National Parks via a string of existing bush blocks and revegetated corridors.

The work at Chereninup Creek represents a major development in the practice of planting for biodiversity, being probably one of the largest multi-species plantings in the nation to date. As Jack points out, the revegetation work will not just provide a paddock full of trees, as is





To replant the block Jack Mercer oversaw the collection of about 42 kg of seed (approximately 42 million seeds) from about 50 species in the adjacent bushland. The seeds were then sorted into three different seed mixes of species appropriate for low-, middle- and high-elevation areas on the block.

Some of the seed was used to produce 50 000 seedlings for planting but the bulk of it was sown by Jack into 280 km of rows (about 5 km of rows per ha) that follow the contours of the land. The contoured rows reduce soil erosion and help to gather water to nourish the seedlings. Before planting, the site was sprayed with non-residual herbicides to further enhance the chances of seedling survival.

The hard work was completed on National Tree Day when the last of the seedlings was placed into the ground. We now need regular rainfall and kind seasons to get the seeds and small plants off to a good start. Over time it is expected that many more species will establish naturally on the site from adjacent areas of bush.

We will follow the progress of the young plants in *Bush Heritage News*.

Opposite page clockwise from top: The volunteer team on National Tree Day. PHOTO: CRAIG KEESING **Bush Heritage supporters Ted and Stella Stewart-Wynne prepare to plant trees. Aerial view of the revegetation site. John Cooper and Gary McGlade, Albany District Skills Training Green Corps team members, planting seedlings.** PHOTOS: AMANDA KEESING

This page clockwise from above: Seedlings ready to be planted. Aerial view of the revegetation site. Callistemon phoeniceus. Dibbler. Melaleuca elliptica (Granite honey myrtle). PHOTOS: AMANDA KEESING PHOTO: BARBARA MADDEN PHOTO: JIRI LOCHMAN/LOCHMAN TRANSPARENCIES PHOTO: BARBARA MADDEN

usually the case, but will create a diverse and effective habitat with ground cover, shrubs and trees. In time it should more or less take on the characteristics of a natural piece of bush that will become progressively more attractive to a host of native mammals, birds, reptiles and insects.

The 60 ha revegetation site was cleared for cropping in the late 1980s, but retained a few stands of remnant bush and some small areas of natural regeneration where species with resilient seeds managed to struggle on through the multitude of crop weeds.

This project was supported by Bush Heritage, Greening Australia, Gondwana Link Inc. and the Commonwealth's Natural Heritage Trust Envirofund. Our thanks to all the volunteers who helped. Special thanks to our neighbours Brian and Janette Penna for undertaking the spraying, looking after the seedlings on site and providing infrastructure and assistance. Thanks also to Murray Housan for providing planting equipment.



Working beyond the fence

Conservation Partnerships Program Coordinator **Nathan Males** has been working closely with a reserve neighbour in New South Wales

Bush Heritage has had more land placed under its care as a result of cooperation with Tarcutta Hills Reserve (NSW) neighbour Anton Hutchinson. This new area, a travelling stock reserve, was leased to Anton to use as part of his farm. However, after being alerted to the area's importance for conservation, Anton approached Bush Heritage to take over its management.

The beautiful 20 ha remnant is on deep fertile soils along a creek, and supports a community of old-growth yellow box and Blakeley's red gum, listed as endangered in New South Wales. The understorey currently resembles pasture and will need restoration. The trees produce abundant



nectar and provide food for the nationally endangered swift parrot, which migrates to the region and is often seen feeding in the area. Nationally vulnerable squirrel gliders are also likely to be found on the site.

Although this new area is small compared to reserves like Carnarvon Station Reserve and Charles Darwin Reserve, I believe this is an exciting and important step for Bush Heritage. If we are serious about saving Australia's biodiversity we must be ready to work in these fragmented agricultural landscapes.

encourage the invasion of weeds and feral animals. Many native species become restricted to their 'habitat islands' because they cannot cross the open land around them. Their populations then become isolated and increasingly susceptible to decline and local extinction.

By buying or just taking on the management of some of these remnants, and controlling the weeds and feral animals, we can help to relieve the pressure on dwindling populations of native species in some of these depleted landscapes. In addition, restoring habitat corridors between remnants, as we have set in train at Chereninup Creek Reserve in Western Australia (see Page 4), is critical.

Undertaking such a mission will increasingly involve working in partnership with landowners like Anton Hutchinson. Together, using Bush Heritage reserves as core areas, we can work to build resilient landscapes that provide habitats for native species as well as allowing continued agricultural production. The addition of this important new area at Tarcutta Hills is another small step towards achieving this goal.



When landscapes become fragmented there are negative effects on the resident species. Increased wind and sun exposure and changes to the water table have an impact. Surrounding land uses tend to

Clockwise from top: The fragmented landscape around Tarcutta Hills Reserve, NSW. PHOTO: WAYNE LAWLER/ECOPIX

The travelling stock reserve now under Bush Heritage management. PHOTO: OWEN WHITTAKER

Natural understorey at Tarcutta Hills Reserve. PHOTO: WAYNE LAWLER/ECOPIX

Squirrel glider. PHOTO: WAYNE LAWLER/ECOPIX



From the President

At its meeting in July the Bush Heritage Board of Directors finalised a decision to move the national office. It will be relocated to Melbourne by early 2005.

This has been the toughest decision we have faced as a Board during my period as President. The decision was taken after hearing from members and staff, most of whom were passionately of the opinion that the organisation should remain in Hobart.

While we value tremendously what Tasmania and Tasmanians have given Bush Heritage, including its underlying values and ethos, the Board has keenly watched the balance of effort in land acquisition, land management and fundraising shift dramatically towards the mainland states. This is to be expected of a national organisation that is growing at a steady rate, with plans for at least seven new reserve acquisitions over the next five years.

An office in Melbourne will bring us closer to more of our existing supporters, and to a larger number of prospective supporters, trusts and foundations, and give us easier access to our increasing number of reserves. The Board also took the long-term view that if the move were not made now, it would be harder for and more disruptive to a bigger staff in the future. We are convinced that the move will maximise our opportunities to achieve national biodiversity conservation.

I am delighted that our CEO Doug Humann will lead the move to the mainland and we hope that we can support as many of the staff as possible to join him. We already have an offer of appropriate office space at very reasonable rates.

We have no intention of abandoning our long-standing interests in Tasmania. We will continue with a land-management presence there and will put great effort into providing for the needs of our Tasmanian members and supporters.

On another matter, I am delighted to welcome to the Board Dr Steve Morton, Group Chair of Environment and Natural Resources at CSIRO and one of Australia's most respected ecologists. He will add great expertise to our deliberations. Penny Figgis announced her resignation from the Board at the July meeting after seven years of dedicated service. Senator Bob Brown, who was present, commented on Penny's 'phenomenal contribution'. We thank Penny for her unfailing service and commitment to the organisation's activities through a period of sustained growth.

I look forward to sharing with you in the future great gains for conservation, and thank you for your commitment to Bush Heritage.

Yours sincerely,



Phillip Toyne
President

Goonderoo Reserve covenant

Conservation Agreements Officer **Jim Mulcahy** reports on Goonderoo

When Bush Heritage acquires a property we can all feel confident that its natural values will be protected and managed for conservation. But what would happen to Bush Heritage reserves in future in the unlikely event that it ceased to exist? One way to provide some insurance against such an eventuality would be to attach a conservation covenant to each property. A conservation covenant attached to the title of the land travels with that title and is binding on all future owners. Bush Heritage aims to provide this legal safety net in the case of all of its reserves.

A 'Nature Refuge Agreement' has recently been declared over the Bush Heritage Goonderoo Reserve through the Queensland Government's scheme for covenanting private land. This conservation covenant requires Bush Heritage and any future owners to protect the natural values of the property. It makes provision for activities such as feral animal control and prescribed burning to allow Bush Heritage to manage and enhance the reserve effectively.

Have you thought about covenanting any remnant bushland that you may own? Contact your State wildlife agency for further information.

Goonderoo Reserve, Qld.

PHOTO: WAYNE LAWLER/ECOPIX

Thanks

Bush Heritage wishes to thank Chris and Jacqui Darwin and the following Government program, public companies and foundations for grants or donations towards the establishment and ongoing protection of the Charles Darwin Reserve:

- The Commonwealth's Natural Heritage Trust's National Reserve System Program
- Australian Ethical Investments
- Australian Geographic Society
- Flight Centre
- Macquarie Bank Foundation
- Morgan Stanley
- The Myer Foundation

- The Perpetual Foundation
- The Raymond E Purves Foundation
- The Thomas Foundation

We are also grateful to Flight Centre and Managing Director Graham Turner for the company's ongoing support of our travel needs.

Bush Heritage acknowledges the generous gift from Protect Australian Wildlife (PAW), a West Australian association. The donation will be held in perpetuity and the income used for wildlife protection, such as fencing the natural springs at Carnarvon Station Reserve. We thank Mr John Hutchinson and the PAW committee for this gift.



