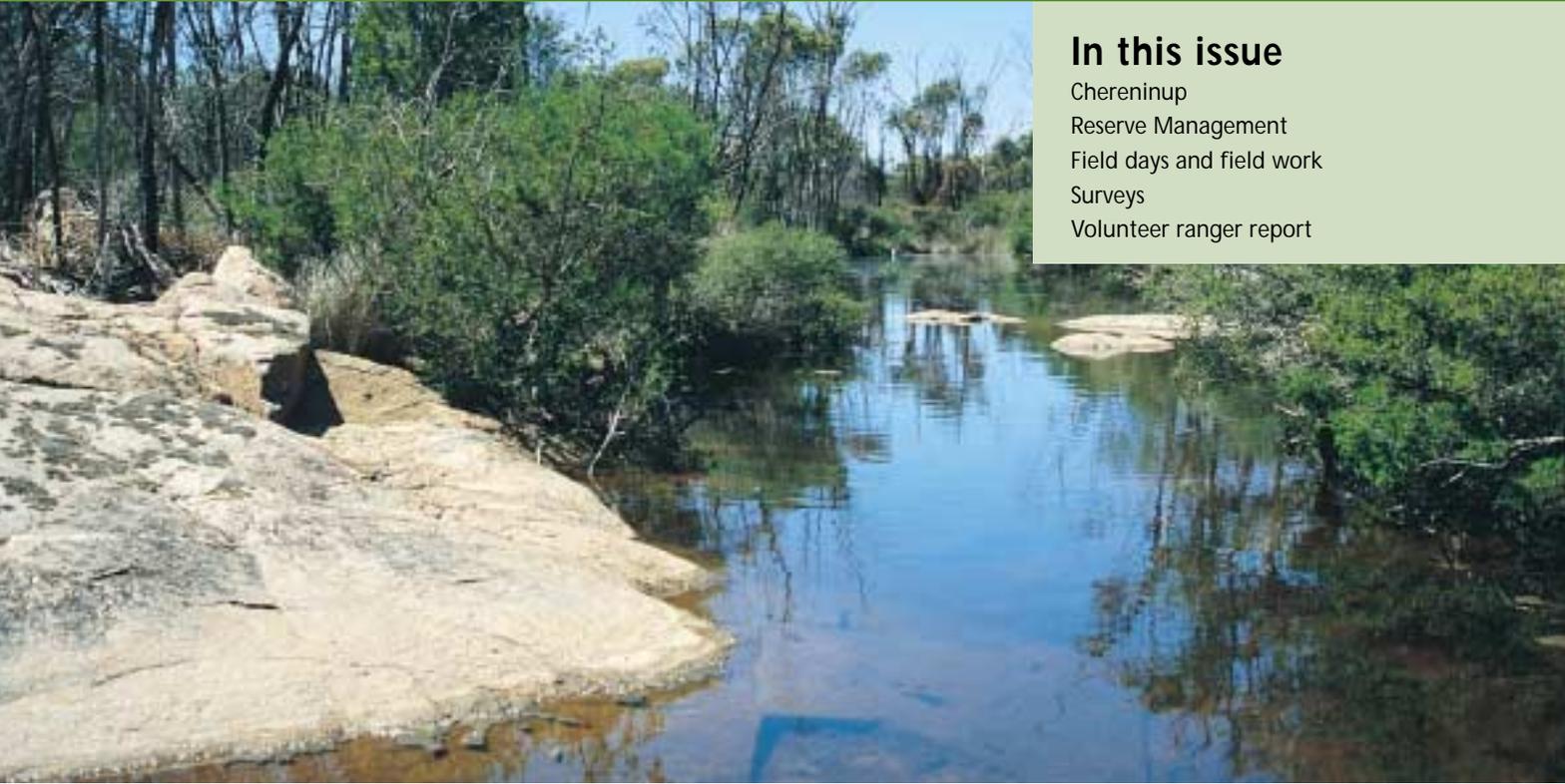




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Chereninup Creek Reserve

Bush Heritage is delighted to confirm the first step to final protection of the Bush Heritage Chereninup Creek Reserve, in the Ongerup district of south-west Western Australia. This wonderful landscape and wildflower treasury is now a secure home for the many small mammals and birds in the area. It has also begun the process of rebuilding a secure habitat corridor through the South-west - the first 'link' in the Gondwana Link chain.

Much lies to be discovered there and we will wait in anticipation for the detailed mammal, bird and plant surveys and what they reveal.

The contracts to purchase this valuable conservation area are soon to be exchanged. As a matter of course the legal protections are in place to ensure the land remains in its current state

until Bush Heritage takes ownership. By agreement, the current owners wish to keep a small area - land which has been long cleared. This will be separated and fenced from the conservation land which Bush Heritage is acquiring, a process taking some months. The revegetation of this area was considered but the extra cost would be significant, and the contribution to biodiversity or wildlife corridors only modest. Final settlement is likely before the end of 2002.

Bush Heritage has received the major portion of the promised matching donation, and will receive the balance once the purchase is completed and the ongoing land protection program started. We extend our sincere thanks to this generous benefactor.

Through the wonderful generosity of our many supporters, and our matching

gift, we are well placed to buy the land, invest funds ethically to provide income for its future care, and also consider options for a further conservation reserve in the region. As usual, we don't publicise the purchase price, in order to protect the seller's, and our own, interests.

Securing Chereninup Creek Reserve has been a process involving many people who have given freely of their time and expertise and we extend our gratitude to them all.

Above: Chereninup Creek
Below, from left: *Waitzia acuminata*, Lilac hibiscus *Alyogyne heugelii*, *Dryandra* thicket.

PHOTOS: BARBARA MADDEN

Western Quoll

PHOTO: JIRI LOCHMAN / LOCHMAN TRANSPARENCIES





Reserve management - a long term commitment

Stuart Cowell, is responsible for the work of the Conservation Programs Unit

Acquiring the 14 properties that are now Bush Heritage reserves has been an extremely rewarding and exciting task. For each of these properties, the thrill of acquisition is followed by the challenge of fulfilling our commitment to 'manage for the long-term'.

While acquisition itself is one of the most important management actions we take for biodiversity conservation, the work to maintain each reserve's ecological values is ongoing. Our management must be resilient enough over time to protect the landscape and its wildlife and allow the ecological and evolutionary processes to operate.

CARNARVON STATION RESERVE

It has now been 15 months since Bush Heritage acquired Carnarvon Station Reserve, and 12 months since two reserve managers were appointed. Looking back over that period, and at some of the work currently underway, provides a valuable insight into the effort that continues beyond the purchase.

FERAL ANIMALS

With Carnarvon came horses, pigs, dogs, and some wild cattle, rabbits and cats. The removal of cattle has reduced the grazing pressure on the grasslands and the competition for water, but allowed the populations of horses and pigs in particular, to grow.

Each of these species is having a significant, but different, impact. The horses graze heavily in some parts of the property degrading the grasslands and competing with native animals for feed. Extensive 'pads', created by herds moving through the woodlands, allow erosion to take hold on the steep slopes.

The impact of pigs is greatest around the 12 springs and many semi-permanent waterholes. The land looks mechanically ploughed after the pigs have paid a visit. Pig damage to these important waters impacts on the native animals and destroys native plants. Both pigs and horses exacerbate the spread of weeds.

The removal of feral animals, particularly horses, can be a difficult and emotive issue to address. Bush Heritage would prefer to muster and truck out the horses



From top: The grasslands stripped by grazing horses to the left of the fence, a pig 'ploughed' spring, a successful trapping session.

PHOTOS: STEVE HEGGIE AND MEL SHEPPARD

and has established stringent guidelines to ensure that feral animal control is carried out according to the strictest animal welfare requirements.

WEEDS

Control of pasture species such as buffel and silky sorghum is a major issue on the alluvial flats. Buffel grass in particular, is a significant threat to grassy ecosystems wherever it occurs, and its control will be required for many years. Other weeds such as tree pear, noogoora, bathurst burr, thistle, Mexican poppy,

From top left: Myall Springs

PHOTO: CHRIS DARWIN

Below: Cleaning up the homestead and repair of essential services is often the first major task at a new reserve. Volunteer rangers, John and Irene Story clearing up the farm debris, reserve manager Steve Heggie repairing the water supply, volunteer rangers Feroze and Judith Irani painting the second house.

PHOTOS: STEVE HEGGIE AND MEL SHEPPARD



as well as weeds associated with the homestead, are all being controlled with the use of sprays and some burning. Volunteer rangers have played a major role in this work including through the generous donation of equipment.

VISITORS

The number of visitors at Carnarvon is increasing and later this year campers will be welcomed for the first time. To manage the likely impacts of camping and to provide a richer experience, access will be limited with priority given to supporters and volunteers. Initially, there will be only one camping party at a time with no more than two vehicles. The maximum stay will be one week. Campers will need to book through the Hobart office and bookings can be made from Monday 29th July 2002. We want people to see the Reserve that they have helped to establish, but we need to make sure that it is not loved to death.

FIRE

Fire is a natural part of the Australian landscape, and essential for the effective management of our reserves. However, wildfire is a continual threat to fire-sensitive ecosystems. The fire plan developed for Carnarvon will help protect significant ecosystems and also the cultural and operational assets on the Reserve. So far we have carried out seven planned fires in the grasslands, woodlands and around the homestead, and all were successful.

PARTNERSHIPS

The management of Carnarvon is a big task, and a new challenge for Bush Heritage. We have been working with local pastoralists and the Queensland National Parks and Wildlife Service to learn from them and to enable us to work together in effectively managing the Reserve.

Other partnerships are needed for the many additional, and particularly strategic,



From top: Stands of Mexican poppy, the weed-spraying rig.
PHOTOS: STEVE HEGGIE AND MEL SHEPPARD

tasks. State and national resource management agencies, university researchers, and the Reserve's Aboriginal traditional owners will all become part of the network of expertise which will guide the future of the Reserve.

THE MANAGEMENT PLAN AND BUILDING OUR KNOWLEDGE

We use management plans at all reserves to establish our immediate and strategic work programs, budgets and staffing needs.

The information we have when we first acquire a property forms the basis of this plan but a great deal more is needed to complete it.

Through the reserve managers' growing understanding of Carnarvon's seasonal rhythms and their impacts, and the completion of the first of many flora and fauna surveys (see Surveys build knowledge) we are set to complete an effective first management plan.

This plan sets out the ecological baseline for the property. From this we can develop a monitoring program for the plant and animal communities and thus track the results of our management in protecting the landscape and its wildlife. We now need more extensive surveys for birds, mammals, reptiles, insects and smaller plants and are calling for



From top: A successful 'cool' burn, reserve manager, Mel Sheppard, lighting a 'cool' burn.
PHOTOS: STEVE HEGGIE AND MEL SHEPPARD

volunteers with this specific expertise to assist. If you can, call Nathan Males on 03 6223 2670 or email nmales@bushheritage.asn.au.

As with all our reserves, our management activities began the day we first discovered Carnarvon, even before we decided to acquire it. The knowledge we gathered during assessment was an essential start, a start we are now building on. That knowledge has also become part of our broader understanding of the Australian environment, and will contribute to our ability to identify, acquire and manage other reserves.

There is inherent excitement in buying a property, and people contribute willingly and very generously to that. But our responsibility for managing what we have bought only increases the need for their involvement and continued support. For Carnarvon we now need highly skilled people for surveys and land management work. For the management of our other reserves we still need your generous and enthusiastic support.

From left: Exploring and admiring the view. PHOTO: STUART COWELL
Mel Sheppard (left) and Joss Bentley collecting plant survey data. PHOTO: STEVE HEGGIE
Steve Heggie, Joss Bentley, Mel Sheppard and Stuart Cowell, writing up the results. PHOTO: CHRIS DARWIN





Common name: Zamia Palm

Scientific name: *Macrozamia moorei*

Conservation status: Not threatened

Zamia palms grow mostly in eastern Queensland and inland to the central highlands. They are a spectacular part of the Carnarvon Station Reserve landscape occurring on rocky soils on the tops and sides of the basalt mesas (rocky flat-topped hills). They often occur with mountain coolbahs, silver-leafed ironbarks and bloodwoods.

Zamia palms grow very slowly (about 3mm per year) and resprout readily after fire. The size of the plants on Carnarvon suggests that some are truly ancient, perhaps thousands of years old.

Renown for their toxicity to stock, their destruction is a condition of the pastoral leases on the properties where they occur; a condition that Bush Heritage has had removed from the Carnarvon lease. Interestingly, zamias were required to be destroyed by the year 1969 under the property's original lease. The current State government recommendations are to fence off zamia country rather than to poison the plants.

Surveys build knowledge

Bush Heritage staff members **Phil Cullen** (landscape ecologist), **Joss Bentley** (ecologist) and **Matt Dell** (geomorphologist and GIS) and volunteer assistant and photographer **Chris Darwin** recently surveyed Carnarvon's vegetation and landforms.

When we acquire a property, we know only the basic information that is important for the reserve's management. There is much to learn about what plants and animals are present and their management needs. Surveys provide this information and thus determine what management and monitoring regimes are established to protect the species or communities under our care.

Recent surveys at Carnarvon turned up at least twenty species of *Eucalyptus* as well as *Angophora* (the apples) and *Corymbia* (the bloodwoods). The striking *Macrozamia*s were often a part of the bloodwood and ironbark communities (see Species update). We mapped extensive tracts of grassy box and ironbark woodlands similar to the grassy woodlands of south-eastern Australia which have largely been cleared. Traps were also set to survey reptiles and small mammals. The very dry conditions and the limited time, a total of only eight nights, probably explain the catch – just one yellow-footed antechinus, a small nocturnal marsupial, and two house mice. More surveys are planned.

The plant and geomorphological data collected at over 76 sites were easier to get and will help show what controls the distribution of different habitats on the Reserve. We now have a more comprehensive record of the plants and

a better inventory of weed occurrences and impacts of feral animals. The vegetation communities will now be mapped using survey results, aerial photographs and satellite images – all vital background material for the developing Reserve management plan.

Volunteer ranger's report

The volunteer rangers at Carnarvon provide the skilled human resources needed for many of the management activities. Here are excerpts from a letter from **Don Royal**, volunteer ranger February - March 2002.

The Station is one of the most beautiful places in the world that I have seen. I count myself lucky to have been able to spend such a long period there and, as if to add zest, to have been able to work towards regaining and sustaining the land. It has been a most rewarding experience for me and I would gladly do the same again...

...The remoteness makes many things difficult for Bush Heritage and the volunteer, yet the working conditions, I felt, were superior to others I have experienced in the green/environmental care industry. ... The "project" manner of work allocation was a major positive initiative. I enjoyed being responsible for, and getting on with my own jobs/projects. It allowed for an important sense of involvement and feeling of accomplishment as each task was completed... I strongly recommend work at Carnarvon to others who enjoy the outdoors and nature.

You too could be a volunteer ranger. Contact Nathan Males on 03 6223 2670 or email nmales@bushheritage.asn.au

Left: Matt Dell chest deep in grass beneath a bottle tree.

PHOTO: CHRIS DARWIN

Below: Don Royal pulling weeds.

PHOTO: DON ROYAL



From the CEO

Our exciting news is that at the time of printing we are anticipating the exchange of contracts for the proposed Chereninup Creek Reserve and have received the promised funds, for both acquisition and management, to match supporters' donations. By protecting this property we will increase by around 20% the number of important vegetation associations which Bush Heritage protects around Australia.

Happily, several Earth Sanctuaries Ltd properties are to be sold to the Australian Wildlife Conservancy. Threatened animal breeding will continue, making a valuable contribution to conservation. Bush Heritage considered the properties, but decided that none met our criteria for immediate threat or rarity of the ecosystems.

Over the next five years, we hope to purchase seven more reserves in threatened ecosystems. We are searching in semi-arid Queensland, Northern Territory and Western Australia and selectively in tropical Queensland. We also expect to receive some reserves as bequests or gifts in southern Australia and will respond to other strategic acquisition opportunities as they arise.

As always, our priorities are in areas of greatest threat, highest biodiversity, and where there is poorest protection in public parks.

We continue to increase our ethically invested funds to guarantee protection of all reserves. The experience of other organisations shows that this, rather than reliance on less dependable income streams, is a sound strategy. With time we hope to cover most on-reserve costs including salaries. Every time you give, you bring us closer to achieving this.

I am delighted to be announcing the opportunity for self-reliant, low impact camping at Carnarvon (details on page 3). I also want to thank all our generous supporters, particularly those who have made the commitment of a regular monthly donation. Since the start of this year, we now have around 35% more people doing so. Regular donations don't suit everyone, and we're equally grateful however you give. Thank you also to the many people who have inquired about leaving a gift in their wills. We were saddened to learn of the recent passing of two long-term supporters, Marjorie West and Pixie Cope. Their love of the Australian bush will live on through their gifts.



Field days and field work

Nathan Males manages the work programs for the reserves in New South Wales and Tasmania

Field days at Bush Heritage reserves give supporters, staff and board members a chance to see, and work on, the wonderful places which they help to protect. Knowledge of the reserve, generously imparted by staff, reserve neighbours, or local and national experts, helps the visitors understand the ecosystems, their significance and threats. Participating in on-ground works on the day is an

enjoyable and satisfying way to understand the management issues faced at the reserves.

The three New South Wales reserves hosted field days in February and March, with time allocated afterwards for fieldwork by staff and volunteers. Fencing and tree planting (Burrin Burrin), feral animal surveys and cabin painting (Tarcutta Hills) and weed eradication and establishing monitoring points for bell miners (Brogo River) were undertaken with the help of supporters, staff or teams from Conservation Volunteers Australia.

On Brogo River Reserve, our working bee to search for and spray prickly pear



found an 80% reduction in the numbers of the invasive cactus from 2001 levels. Our control program from the previous year had been a success. Regular follow-up is essential and we now hope, after the recent trip, to have reduced the prickly pear to 10% of its 1999 extent. Another search in 2003 should find and treat remaining plants.

Joss Bentley (Bush Heritage's senior ecologist) and I set up monitoring sites for bell miners across the Brogo Reserve. Previous informal surveys have suggested that bell miners are damaging the forest. The small aggressive birds live in dense colonies chasing out all other woodland birds from their territory. Then, with few predators left, leaf-eating insects increase in numbers. In some bell miner colonies the trees are suffering severe insect attack (dieback) and even death. Our monitoring will determine whether there is a correlation between bell miners and tree health on the Reserve and will guide our future management of this issue.

Our special thanks to those who gave freely of their knowledge and time at the field days and on management issues– Julian Davies, Dr Kevin Thiele, Suzanne Prober, James Smith, Derek and Jason Hanlon, Chris Darwin, Alan and Susan Robertson, Jackie Miles and the Conservation Volunteers.

Above and below: Tree planting at Burrin Burrin .

PHOTOS: NATHAN MALES



