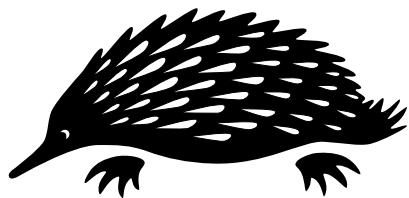


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'AUSTRALIAN WILDLIFE'

*is the official journal of the
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*Founded in 1909, the Society is dedicated
to the conservation of our unique
Australian Wildlife in all its forms.*

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REGIONAL COUNCILLORS

We would like to hear from our country members,
anywhere in Australia, who would like to become regional
councillors. The value to us is we would have a more
intimate relationship with women and men who have a
knowledge which could be valuable for conservation.

Such Regional Councillors would be sent the minutes of our
Council meetings so they would know more about what we
are doing. They could also submit motions for
consideration and so play a part in Society decisions. By
being listed in our newsletter State members could contact
them in emergencies.

*All articles are written by
Vincent Serventy, Patrick Medway and
Suzanne Medway unless stated otherwise.*

From the President's Desk...

Successful Strategic Planning Day

The Society held its annual Strategic Planning Day on 11 May. Councillors reviewed the 2003 year and planned and organised the direction of the Society's work over the coming year. Our immediate past year was one of outstanding growth and commitment to wildlife preservation with some real wins recorded – Barrier Reef protection extended to 33% in the new green zones; extensive research into reduction of roadkill of native animals; major submissions to Environment Australia and National Parks and Wildlife Service on wildlife habitat protection; and an increase in research grants to university research etc.

Planning outcomes

The Councillors planned ahead and focused on membership growth, new branch development, increased research funding for wildlife preservation and habitat protection, plans to increase bequest and investment funding, plans for a new national headquarters, increased efforts to promote environmental education and school programs, better quality publications, promotional material and modern technology equipment to promote the work of the Society. Over the next year Councillors will develop programs and activities to reach these new goals for the work of the Society.

Birds Australia partnerships

We have again sponsored two BA seminars for the protection and research into the long term preservation of our Australian bird life. The first seminar was at St Leonards and concentrated on parrots and cockatoos. The second was held at Newcastle University and focused on protecting migratory shorebirds in the Hunter wetland area.

Victoria branch proposal

I was recently in Melbourne, Victoria and held meetings with Parks Victoria and the Department of Sustainability and Conservation on the possibilities of forming a new Branch of the Society in Victoria. The Council feels that more local branches will assist in spreading the effectiveness of the conservation message across Australia into schools and families. Victoria has a strong conservation focus and is mainly administered through five major regions spread across the State. More inquiries and a review of our current membership in Victoria will guide us in the direction we should take to increase our effectiveness in wildlife preservation.

Saving Towra Lagoon

After a long period of research and inquiry work is finally ready to commence on the restoration of the Towra Beach area to protect the historic Towra Lagoon and the habitat for migratory wading birds which frequent the Botany Bay area. I congratulate all government agencies and local conservation groups for their support in finally bring this project to a logical conclusion and look forward to seeing completion of the work over the next few months.

Keeping in contact via email

Our office regularly receives updates on wildlife preservation and conservation matters and upcoming events via email. Many of these emails announce meetings and events occurring in the immediate future and cannot be included in our quarterly magazine. If you would like to be included on our email list to receive wildlife notices, please send an email to wildlifepreservation@optusnet.com.au

Patrick W Medway AM
NATIONAL PRESIDENT



Wildlife tour – an outstanding success

The eighteen Society members who went on the Central Western NSW Wildlife Tour in March 2004 voted it an unqualified success and eagerly await the next Society organised tour.

We hired a luxury coach for the four day trip, travelling to our destination of Wellington via Tarana and Orange.



Enthusiastic tour members and the tour bus

First port of call was the Tarana Hotel for a delicious counter lunch. This historic hotel features the original pressed metal ceilings and an open fireplace made from local granite. The Hotel dates from the 1880s with walls crammed with mementos of times past. Their “Tarana Tiger Burgers” are something else! There is rumour of a “Tarana Tiger” which many have reportedly seen, but no one has proved to be fact or fiction.

Nestled in the historic Tarana Valley, celebrated for its natural beauty, pristine rivers and streams and wonderfully clean air, Tarana is a very special place to escape from the rest of the world. Tarana Village is a scenic 25 minute drive from Lithgow (via Lake Lyell), just over the Great Dividing Range, two hours drive from Sydney. The village also has an interesting history which includes tales of bushrangers such as Henry Stratton and Richard Norris, who held up nearby Mutton Falls General Store in 1864. Of note, the exterior and interior walls, stairs and floors of the Sydney Opera House are faced with pink aggregate granite which was quarried at Tarana.



Lunch at the Tarana Hotel

After lunch we stopped at Ibis Wines, which is a small vineyard and winery located just north of Orange at an altitude of 906 metres. An orchard from 1920 to 1965, the vineyard was established in 1988/89. They specialise in high quality hand crafted cool climate wines. The wine tasting proved to be a hit with our members, and many purchased wines to take home.



Wine tasting at Ibis Wines

Wellington

Our final destination and base for the tour was just outside the town of Wellington, which is found on the Mitchell Highway between Orange and Dubbo around four hours west of Sydney. Our accommodation, arranged by one of our Councillors, Mike Augee, was at the Wellington Caves Caravan Park & Holiday Lodge, located 8km south of the town. We were housed in motel style units, located in parkland where there were a number of native birds and mammals. There were also picnic grounds, a swimming pool and a golf course. All in all, a delightful place to stay. In the grounds was a large aviary containing many colourful Australian birds.



Our very happy group at the entrance to Wellington Caves

Wellington-Osawano Japanese Gardens were just across the road. The Gardens were constructed in 1999 with funding for the project a gift donated by Osawano Town Council. There are 1,500 individual plant specimens within the Gardens and these comprise 126 different species. The selection of plants was influenced by the

aesthetics of a traditional Japanese garden, yet needed to attain the hardness of the Australian climate.

After a very enjoyable and friendly bus trip, the members of the tour were welcomed with a delicious BBQ and a tour of the Fossil Center.



Judith May, Barbara Goodsell, John Robertson, John Clarke and Suzanne Medway outside Wellington Caves Fossil Studies Center

Wellington Caves Fossil Center

In the evening we had a fascinating introduction to the fossils of Wellington Caves presented in the laboratory of the Fossil Studies Center. The lab includes study specimens of mammals present and extinct as well as the research collection currently being compiled and studied by Mike Augée and Christine Robinson. We were introduced to some of the extinct megafauna (mega=big, fauna = animals, in this case mostly marsupials) represented in the Quaternary deposits at Wellington Caves. The Wellington Caves Fossils Studies Center is a non-government organisation devoted to research and teaching. Special field projects are run for senior high school students and university groups. Members of the Wildlife Preservation Society are invited to drop into the center any time they are passing through Wellington.



Wellington Caves Fossil Studies Center

Caves tour

During our stay we toured Cathedral Cave, the main tourist cave which features an impressive formation 15m high and 32m around at the base, known as "The Altar". The cave also contains some excellent examples of geological features such as folded limestone beds that illustrate the tremendous forces that have been at work as a result of plate tectonics. At the bottom of the cave, fossil corals and other sea creatures give evidence of the origin of the limestone bedrock in a coral sea during the early Devonian.



Tour group enters the Wellington Caves

The first mention of Wellington Caves is by Hume in 1826, although there is considerable indirect evidence that they were known to people in the first Wellington settlement at least two years prior to Hume's visit. The study of the fossils from Wellington Caves began when bones were collected in 1830 by Major Thomas Mitchell, the colonial surveyor, and more than 1,000 specimens were sent back to European scientists. Some of the bones were of great size compared to the living marsupial inhabitants of Australia, and one was first mis-identified as that of an elephant, which Mitchell collected from a cave now known as "Mitchell's Cave" that is not accessible at present. However, we were able to visit part of the old phosphate mine system which is known as "Bone Cave". Tours pass by the section reserved for research purposes, but we were able to have a close look at the area being excavated by Mike Augée and Christine Robinson. In the walls are untold numbers of broken and fragments bones. Extinct forms such as the marsupial lion (Thylacoleo), diprotodon (the largest marsupial ever), giant kangaroos, giant wombats and even a giant goanna known as Megalania are represented here. Recent paleomagnetic dating has shown that the bones were washed into the caves between 750,000 and 970,000 years ago.

The caves are currently home to a few common bent-wing bats, *Miniopterus schreibersii*, and as far back as two million years ago were home to a now extinct relative of the ghost bat, *Macroderma koppa*. The latter was probably responsible for the accumulation of phosphate (from bat droppings) that lead to the working of a phosphate mine during World War I.



Members of the tour group inside Wellington Caves. L to R: John Robertson, Natasha Serventy, Mike Augee, Patrick Campbell, Beverley Williams, Suzanne Medway, Clive Williams and Wilfred Schlichting

The age of the bones ranges from approximately 30,000 years up to four million years. The extinct species found here are for example marsupial lions (*thylacoleo*), the diprotodon, giant kangaroos, huge seven metre-long carnivorous goanna, other reptiles, and birds. The diprotodon was a herbivorous marsupial and its teeth were well adapted for grazing. It roamed the area during the Pleistocene period. At the entrance of the cave is a sculpture which tries to show its original look. Looks a bit like the big rabbit from Walt Disney's Alice in Wonderland, just without watch and hat.



Suzanne Medway beside a statue of the Diprotodon

Wellington Caves are really dry caves as they are located west of the dividing range. A troglobiontic crab living in the caves is considered to be a living fossil.

Phosphate Mine

The phosphate mine was started in about 1912 and ceased operations at the end of the war in 1918. Australian agriculture depends on the addition of phosphate to the soil, in the soluble form "super" phosphate. However, Australia does not have any local source and South Pacific Islands have been the source since the last part of the 19th century. As World War I approached there was great interest in finding an Australian source of this essential mineral, and numerous prospecting syndicates were set up. Their stock was the "glamour" investment of the time and the NSW Phosphate Mining Company working at Wellington Caves took advantage of this. They certainly didn't make much money selling phosphate, as only 6,000 tons of untreated rock was removed during the entire life of the mine. The old workings were re-opened for tours in 1996. The tours go right through one of the world's most interesting Quaternary bone deposits as an added bonus.



Mike Augee points out a fossil

The gateway to Wellington

At the entrance to the Wellington Caves is a piece of contemporary sculpture which is intended to be symbolic of Wellington and the surrounding district. Our group was very impressed with the sculpture and took lots of photos of the various displays. The skeletal elements refer to the large numbers of fossils associated with Wellington Caves, the dome suggests the sunset, the wind chimes reflect the stalactites of the caves and the pool below them resembles the confluence of the Bell and Macquarie Rivers. The seed-pod shape evokes the valley's fertility and the potential of the district while the 'plants' which emerge from it refer to the area's growth and the particularity of its vegetation. The wall and totems reflect the Catombal Range behind the sculpture while the mosaic panels within each totem deal with various aspects of Wellington's history and culture. Both the main structure and the wall are made from the girders of the Wellington Bridge which collapsed in 1989 under the weight of a heavily-laden prime mover.



The gateway to Wellington sculpture

Western Plains Zoo

Our first outing was to the Western Plains Zoo, which is home to more than 1,100 animals from around the world, many of them endangered species. Situated at Dubbo, Western Plains Zoo is approximately 400 km from Sydney.

The 300 hectare open range Zoo is divided into five geographical areas, these being Africa, Eurasia, North America, South America and Australia. The animals live in large open displays which reflect their natural habitat. A system of cleverly concealed wet and dry moats separate animals from visitors while allowing visitors to get as close as possible to view the animals and is the closest most of us will come to observing animals in the wild. The purpose of our visit was to inspect their endangered Australian wildlife breeding programmes for the Malleefowl and bilby.



The Fauna Captive Breeding Complex at Western Plains Zoo

Malleefowl (Leipoa ocellate)

The Zoo supports the captive breeding component of the NSW National Parks and Wildlife Service Malleefowl Conservation Program, by assisting with the captive breeding and rearing of Malleefowl for release in New South Wales. Together with teams from Victoria, South Australia and Western Australia, this group has contributed to the National Recovery Plan for Malleefowl in Australia.



Malleefowl on nest at Western Plains Zoo

The Zoo became an active participant in the Malleefowl program in 1990, when it assisted with incubation and rearing of eggs from wild Malleefowl mounds, to produce chicks for release to Yathong Nature Reserve in western New South Wales. After this initial release, some birds were retained at WPZ to form the first breeding pairs, which would in turn produce chicks for future releases. Chicks hatched and reared at WPZ are released yearly, the most recent release (November 2001) comprised 94 birds.



Our group listens to a talk on the Malleefowl mounds in the breeding aviary

Queensland Bilby (Macrotis lagotis)

The Zoo also participates in the Australian National Recovery Team for bilbies. Bilbies are maintained in Australia as two separate groups; one group the 'Northern Territory' bilbies are held at a number of zoos across Australia and bred co-operatively to produce bilbies for reintroductions in South Australia and Western Australia. Western Plains Zoo manages the second group of bilbies ('Queensland' bilbies); which are on loan from the old Parks and Wildlife Service. These animals are being bred at WPZ to provide bilbies for release at Currawinya National Park in Queensland.



Our group meets one of the bilby mothers

Nangara Gallery

On the way “home” we visited the Nangara Gallery which has a unique collection of Australian tribal artifacts. This collection was gathered over a period of 100 years with genuine implements from all over Australia dating to over 20,000 years plus.



Inside the Nangara Gallery

Burrendong Arboretum

Our tour next day was to the Burrendong Arboretum, which is located on the shores of Lake Burrendong, about 25km from Wellington. The Arboretum has one of the largest collections of Australian plants in cultivation. Over 50,000 flowering plants from more than 2,000 species are growing on the 167 hectare site.



John Robertson, Suzanne Medway, Clive Williams, our tour guide from Burrendong Arboretum, Mike Augee and John Clarke

Development of the Arboretum was commenced in 1964 primarily with voluntary labour and this remains an important component of its continued maintenance. The Arboretum has been particularly successful in growing plants from Western Australia and from areas of low rainfall. There are plants in flower at all times of the year but late winter to early summer sees a spectacular display as species of Hakea, Grevillea and Acacia come into bloom. The great variety of plants attracts many birds - 158 species have been recorded, many of them nesting.



Our group at the Burrendong Arboretum

One of the main features is the Fern Gully, a cool oasis created under an enormous brush canopy covering 5,500 sq metres. The gully is lined with palms, tree ferns and rainforest species and one of the largest collections of Australian ferns in cultivation covers the floor.



Fern Gully

Lake Burrendong

Lunch after our visit to the Arboretum was at Lake Burrendong, 32km away on the Macquarie River. The lake is 3.5 times larger than Sydney Harbour and was constructed to control the flow of the river. It now creates an ideal environment for water sports and activities including sailing, fishing, swimming, water-skiing and wind-surfing. Lake Burrendong offers a year-round feast for the senses for nature lovers, bushwalkers, fishing enthusiasts, campers and picnickers.



Lake Burrendong

Stuart Town

Before heading "home" we visited Stuart Town. Banjo Paterson, created the legend of "The Man from Ironbark" and the village of Ironbark, is now known as Stuart Town. We found this a very charming village and our tour leader Ruth Pope was one of Stuart Town's more interesting residents. The gold deposits around Stuart Town occur in quartz reefs, in deep leads beneath basalt flows, and as alluvial deposits along many of the streams. The gold deposits were found in 1851 at Mookerawa Creek.



John Robertson, Clive Williams, Wilfred Schlichting, Margaret Fryer, Elizabeth Nightingale and Suzanne Medway

Gould League Tree



Patrick Medway, Clive Williams, the Principal of Wellington Public School, John Robertson, Carol Nolder, Margaret Fryer and Judith May

A highlight of our tour for the bird lovers in the group was a visit to the Gould League Tree in the grounds of Wellington Public School. The NSW Gould League was formed in Wellington in 1910 after it was established in Victoria.



The plaque on the Wellington Tree

The League was named for John Gould, a naturalist and bird lover from England who came to Australia, travelling widely all over the country studying birds. Mr Walter Finnigan, a teacher at Wellington School formed the NSW Branch together with Principal Edward Webster. The first discussion about formation of a league to protect and appreciate Australian birds took place under an elm tree in the playground. In 1935 an inscribed plaque commemorating the foundation of the League by Mr E Wester and Mr W Finnigan was placed on the elm tree and it became known as The Gould League Tree.



Underneath the Wellington Tree

Western Woodlands Alliance

On our last night of the tour we had a BBQ and Bev Smiles, coordinator of the Western Woodlands Alliance, joined us to enlist our Society's help in trying to protect this valuable remnant of wildlife habitat.

Our group was very impressed with Bev's passionate zeal in endeavouring to protect the woodlands and resolved to assist in any way possible.

Western Woodlands, such as the magnificent ironbark and the box woodlands, once covered

extensive areas of the western slopes and plains from Queensland down to the Riverina. They were an amazing sight, carpeted in wildflowers and dominated by old gnarled trees.

Only 8% of NSW's Western Woodlands remains. Their protection is critical for many species at risk of extinction such as the black-striped wallaby and the glossy black cockatoo, the barking owl and the Malleefowl.

National Parks Association of NSW (NPA) is working to ensure comprehensive, adequate and representative protection for the remaining Western Woodlands of NSW. The current focus of the project is on north-western NSW, the Brigalow Belt South region. The remaining woodlands of the Brigalow Belt South, including the Pilliga, Goonoo, Bebo, Terry Hie Hie and other critical woodlands are still under threat because of logging and mining.

The fate of these wild and unique places hangs in the balance - with the NSW Government about to make a decision regarding the future of the Brigalow Belt South region any day now.

Only 10% of Australia's temperate woodlands remain. What's left needs urgent protection. Pilliga and Goonoo, north of Dubbo in north-west NSW, are two of the largest temperate woodlands left in Australia.



Bush stone-curlew

Protecting and maintaining these vital woodlands will ensure that the wildlife, farmland and rivers of western NSW are healthy and productive in the long term. The survival of our beautiful native species and the health of the landscape depend on it.

The western woodlands in question are on public land – belonging to the people of NSW and managed by Government. Whilst private landholders are making an effort to protect bushland, the Government has so far failed to

protect public woodlands. The future of the western woodlands in the BBS region is important for the whole community of NSW.

Western Woodland wildlife

The Western Woodlands of NSW are the 'green lungs' of Western NSW. Their protection is critical for many animal and plant species at risk with extinction. The following animals are just examples of the species at risk: koala, Malleefowl, black-striped wallaby, glossy black cockatoo, squirrel glider, diamond firetail, barking owl, turquoise parrot, regent honeyeater, pilliga mouse, and bush stone-curlew.

For example animals of the Brigalow Belt South Bioregion (BBS) in the north west of NSW are facing dramatic declines. It is stated that the extinction rate of grassy woodland and grassland species in this region is the highest in Australia. In this region 11 endangered animal species and 41 vulnerable animal species listed on the Threatened Species Conservation Act occur; 17 mammals are believed to be extinct and more than 35% of all vertebrate fauna (birds) are recognised as being at risk.

The koala

The Koala is one of the most endangered species as their habitat, the eucalypt forest and woodland, are rapidly destroyed by agriculture and urban development. In NSW, koala is declared as a vulnerable species. The Pilliga is the most significant habitat for koala in NSW as it has the largest koala population in NSW. The population of koala is also significant in many other sites of the Brigalow Belt South, such as the Black Jack Group, Kerringale Group and Killarney Group.

The koala is endemic to Australia and is one of the most interesting animals of the world. For many years, koala has been thought of as a "bear" species for their appearance; however they are marsupials as the wombat, wallaby or kangaroo, which raise their baby in their pouch. Koala is particular for their diet and slow metabolic rate. They feed on only a few species of Eucalypt. The leaves of the Eucalypt need a long time to be digested as they are highly lignified, toxic and low in nutrients. As the result, the koala spends most of their time for resting as a mechanism for energy conservation. They are only active for a few hours after sunset and thus, they are very impressive for their 'lazy' look.

Malleefowl

Malleefowl is listed as an endangered species in NSW. This is mainly due to the loss of their habitat, hunting and egg collecting as well as predation by foxes. The conservation of the Brigalow Belt South is very crucial in maintaining the habitat for the Malleefowl as Pilliga, Terry Hie Hie, Tuckland and Warialda are very significant habitats in NSW of this species.

The Malleefowl is a distinctive bird in mallee woodland for its large size and ground dwelling habit. Malleefowl is also special for its ability to monitor the temperature in its egg-chamber. Unlike other birds, Malleefowls do not sit on their eggs but let the temperature of the mound incubate their eggs. The male builds a large mound and keeps the temperature of the mound at around 30° in order for the eggs to hatch while the female lays eggs. It is believed that the male Malleefowl tests the temperature of the mound with his tongue.



Endangered Malleefowl of Goonoo. Photo by Sky Kidd

Black-striped wallaby

The black-striped wallaby is one of the endangered animals in NSW. This macropod species has a distinguishing mid-dorsal dark stripe from neck to rump. They mostly inhabit open forest of thick brigalow regrowth and other shrub under storey of woodlands that are a faunal composition of the northern tropical region. The BBS is therefore of crucial importance in the conservation of this species.



Black-striped wallaby - threatened with extinction

Glossy black cockatoo

The glossy black cockatoo is a significant bird species in the BBS. Glossy black cockatoo is listed as vulnerable in NSW under the TSCA 1995. The inland distribution of this bird species is dependent on the occurrence of various casuarina species as they feed exclusively on seeds extracted from the wooden cones of the casuarina. Glossy black cockatoo are facing a severe decline in population as logging and clearing have fragmented their habitat and destroyed their nesting sites and feeding resources.



*Glossy black cockatoo (*Calyptorhynchus lathami*)*

Squirrel glider

Squirrel gliders can be found at many areas in the BBS, for example, the Beni Group, The Pilliga Group or the Killarney Group. This beautiful species is a vulnerable species in NSW. This species requires an abundance of hollow bearing trees as nestings site and a mix of acacia, banksia and eucalypts as food source. However, the fragmentation of their habitat through clearing, inappropriate fire regime and the predation of foxes and cats have tremendously affected their population. For this reason, woodlands at the BBS are very valuable habitat for Squirrel Glider.



*Squirrel glider (*Petaurus norfolcensis*)*

Diamond firetail

The diamond firetail is listed as a vulnerable species in NSW. This species has disappeared from many parts of its former range and has greatly declined in numbers due to clearance and fragmentation of habitat. Diamond firetails occupy eucalypt woodlands, forests and mallee which have a grassy under storey as their habitat. However, the population of this bird species requires areas with remnants of native vegetation larger than 200 ha to persist. Leard Group, Pilliga Group and Yallaroi Group are known habitats for Diamond Firetail in BBS.



Diamond firetail. Photo by Sky Kidd

Barking owl

Barking owls are among the vulnerable species in NSW. Recent surveys of NPWS have verified that Pilliga woodlands support the highest density population of barking owl in NSW. There are about 30 pairs of barking owl present at Pilliga forests. It is thought that this population persists because of high food availability as the forest habitats at Pilliga have not been cleared and the soils are relatively fertile. Barking owl can also be found at other areas in BBS, such as the Kelvin Group, Kerringale Group, Killarney Group and Warialda Group.



Barking owl

Turquoise parrot

The turquoise parrot or the beautiful grass parakeet is an amazing bird, which is endemic to Australia. Turquoise parrot is listed as a vulnerable species in NSW and was once thought to be extinct in Sydney. This parrot is dependent on the eucalyptus woodlands and open forests, which have a ground cover of grasses and low under storey shrubs. Therefore, protecting the BBS is very important in providing the shelters and food for this bird species.



Turquoise parrot

Regent honeyeater

Regent honeyeater was once very common in woodlands of Eastern Australia. However, the loss and fragmentation of their habitat has greatly reduced the population of this species to less than 1,500 birds and made them disappear in some parts of their previous habitat. The regent honeyeater is now listed as one of the endangered species in NSW. There are only a small number of known breeding sites of this species in NSW, including the Pilliga forests.



Regent honeyeater

Pilliga mouse

This tiny mouse species, which only weighs 10 grams, is a particular species for it is endemic in NSW and can only be found in Pilliga; however this species is facing dramatic decline in abundance and is listed as a vulnerable species in NSW. The creature's life is shaped by seasonal ebbs and flows. In the Pilliga state forests, it seeks the shrubby habitats dominated by Melaleuca and other healthy plants. Pilliga mice live communally in simple burrow systems, comprised of two entrances and nest chamber, lined with leaves, some 20-30 cm below the surface. They may stay in these same burrows for up to six months of the year, particularly during the cooler months. Habitat fragmentation by mining exploration and the removal of understorey plants have a detrimental effect on the survival of this species.



Pilliga mouse. Photo by David Paull

Bush stone-curlew

The bush stone-curlew is one of the most notable woodland bird species of NSW for its gangly legs and distinctive vocal calls. This species is one of the endangered species in NSW and experts worry that in 10 or 20 years, it would be too late to prevent them from being extinct. As the species is dependent on woodlands for their habitat, clearing, logging and firewood collection have extensively threatened their survival.



Bush stone-curlew

Common ringtail possum

The common ringtail possum is the smallest of the eight ringtail possum species in Australia. This is a very common species in the woodlands. Ringtail possums are nocturnal and feed primarily on leaves. They also eat a variety of flowers and fruits. They require dense under storey of banksias, wattles and tea-trees for habitat. Common ringtail possums are thought to be in decline or threatened with extinction in the Pilliga due to increased human activity in their natural habitats.



Common ringtail possum

Goonoo and the Pilliga

Pilliga and Goonoo in the central west of NSW are the largest woodlands left of their kind. The Pilliga State Forests form the largest patch of temperate woodland in the whole of Australia. Both State Forests lie in a sea of pasture.



Box and Ironbark woodlands are rarer than rainforest! The Pilliga. Photo by Andrew Cox, National Parks Association of NSW

Why Protect Goonoo?

Goonoo contains the largest area of Blue-leaf Ironbark found anywhere, a type of tree not currently protected in any reserve. It also contains many other plant communities that have largely been cleared out their former ranges. Goonoo is a rich ecosystem, it contains over 350 known plant species; at least 12 rare and threatened plants; over 160 native animal species (not counting invertebrates); 8 Frogs; 110 bird species; 21 mammals (including 10 bats); over 30 reptiles and 13 threatened animal species: glossy black cockatoo, regent honeyeater, Gilbert's whistler, painted honeyeater, turquoise parrot, barking owl, masked owl, Malleefowl, square-tailed kite, Eastern pygmy-possum, squirrel glider, koala, greater long-eared bat.

Goonoo also contains many sites of cultural significance to the aboriginal community. A National park for Goonoo will promote regional and local eco-tourism and provide significant economic return for the region. A national park for Goonoo will also promote conservation programs for rare or sensitive species of plants and animals. A national park for Goonoo will also prevent further damage to one of the last remnants of temperate woodland in NSW.



Old man ironbark, Photo by Andrew Cox, National Parks Association of NSW


Why protect the Pilliga?

The Pilliga contains the largest area of Narrow-leaf Ironbark, Broad-leaf Ironbark, Pilliga Box and Bimble Box (eastern form) found anywhere in NSW. Currently, these woodland types are not well presented in any reserve. The Pilliga also contains many other plant communities that have been cleared out their former ranges, for example, Silver-leaf Ironbark, Brigalow, green Mallee and Broombush. The Pilliga is a rich and biodiverse ecosystem, it contains over 900 known plants species; at least 12 rare and threatened plants; about 300 native animal species (not counting invertebrates); 14 frogs; over 200 birds; 32 mammals (including 12 bats); about 50 reptiles; 22 threatened animal species: glossy black cockatoo, regent honeyeater, Gilbert's whistler, painted honeyeater, turquoise parrot, barking owl, masked owl, mallee fowl, square-tailed kite, black-breasted buzzard, bush stone curlew, eastern pygmy-possum squirrel glider, koala, black-striped wallaby, rufous bettong, pilliga mouse, greater long-eared bat, yellow-bellied sheath tail bat, little pied bat, large-eared pied bat, eastern cave bat.

The Pilliga also contains many sites of cultural significance to the Aboriginal community. An addition to the Pilliga Nature Reserve in a national park could link vital national parks with each other, with a few additions from the wildlife corridor between Mt. Kaputar and the Warrumbungle's National Parks. A national park for the Pilliga will promote regional and local eco-tourism and provide significant economic return for the region. It will promote conservation programs for particularly rare or sensitive species, such as the black-striped wallaby. A national park will protect this ecosystem from further damage, by logging, firewood collection and mining.

Land clearing – a threat to the whole of Australia's wildlife

Thousands of Australia's native animals, birds and plants are facing extinction this century, according to a landmark report. The most comprehensive stocktake of the state of Australia's wildlife ever produced, the report says nearly 3,000 unique natural habitats are disappearing, taking more than 1,500 species with them. Land clearing involves the destruction of native vegetation and habitats, including the bulldozing of native bushlands, forests, savannah woodlands and native grasslands and the draining of natural wetlands. While the Federal Government has spent over one billion dollars on repairing the environment under the Natural Heritage Trust, for every tree planted with



this money by community volunteers, around 100 more are bulldozed. We need stronger laws to control land clearing and protect our bushlands for future generations to enjoy and financial assistance to help farmers look after the bush.

The problem

Entire bushland ecosystems are being damaged or disappearing outright, taking Australia's native plants and animals with them. National icons like some of our gum trees and marsupials are at risk from land clearing and other threatening processes.

The new evidence

The Australian Terrestrial Biodiversity Assessment, the biggest audit of our wildlife and bushlands ever undertaken, reveals that:

- New technology has allowed scientists to map the natural groupings of plants and animals, and assess their well-being. For the first time we are able to get a comprehensive scientific assessment of the health of our wildlife and their habitats. The report finds nearly 3,000 whole bushland ecosystems are at risk, from the Coolibah woodlands of Queensland to Western Australia's heath lands.
- The endangered eco-systems provide homes for species such as bilbies, spectacled hare-wallabies, Gouldian finches and hundreds more. At least 1,595 native plant and animal species are threatened with extinction, including some types of gum trees and wattles. The report proves that in general the more land clearing there is in a region, the more threatened species and ecosystems occur there.
- New information points to crashing mammal populations and declining bird species in areas previously thought to be untouched, such as Northern Australia. Over-grazing, changed fire practices, pests and weeds and increased land clearing, all threaten areas such as Kakadu, the Kimberley and Cape York.

The solution

Our federal, state and territory governments must renew their efforts to protect Australia's wildlife and bushlands for future generations. Nature conservation must be placed high on the agenda of federal, state and territory governments and significant funding put towards protecting intact bush lands and whole eco-systems.

Key goals

- End the destruction of Australia's bushlands and wildlife habitat by controlling land clearing
- Complete a comprehensive, well managed system of nature conservation parks and reserves to include all of Australia's species and bushland types
- Avoiding the mistakes made in southern Australia by developing a new, ecologically and culturally appropriate approach to land use and regional development across Northern Australia, in partnership with local people and Traditional Owners.

Land clearing remains the biggest single threat to biodiversity

Australia is the biggest clearer of woodlands and forests of any developed country on Earth. At present, evidence indicates that an average of about 500,000 hectares of native bush is being cleared every year - or more than 100 football fields destroyed every hour in Australia. Most land clearing is occurring in Queensland, which lost an average 425,000 ha/year between 1997-99.

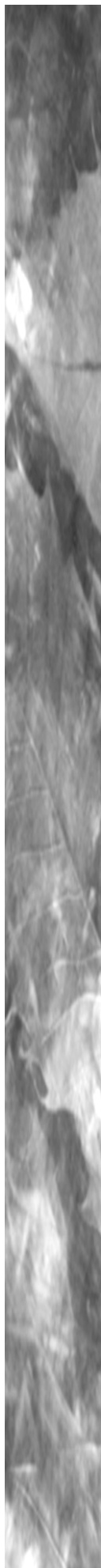
This continued high level of clearing builds on the enormous amount of native bush cleared over the past 200 years. For example, to date about 15 billion trees have been cleared in the Murray Darling Basin alone.

Despite increased recognition of the long term problems that result from unsustainable land clearing (such as dry land salinity), the rate of land clearing in Queensland jumped 25% between 1995 and 1999. Over half of this land clearing occurred in the Brigalow Belt bioregion.

Land clearing is having a devastating effect on millions of birds, reptiles and other animals, who are killed immediately or die from starvation or injury soon after their habitats are destroyed. According to Dr Garnett, author of the new Action Plan for Australian Birds, 7.5 million birds are killed every year as a result of land clearing. There are now 24 bird species of woodland birds listed as threatened in the Southern Brigalow Belt.

Land clearing is also believed to be responsible for disappearance of a small dragon and a species of legless lizard as well as the decline of nine other reptile species from the agricultural areas of central New South Wales.

The fragmentation of native vegetation into patches of remnant bush also makes survival unviable for many species. Over time these



unviable species (sometimes called the 'living dead') gradually die out in the cleared area. This long time lag (or extinction debt) means it takes decades or even centuries before the full impacts of current clearing becomes apparent.

Many of the states have sound native vegetation planning systems in place, particularly South Australia, Victoria and the Australian Capital Territory. Western Australia also recently strengthened its land clearing controls. Government, farmer groups, industry and the community are increasingly putting in place and experimenting with a range of incentives to encourage land holders to conserve native bush.

Conserving native bush is a far better and cheaper way of conserving biodiversity than tree planting and revegetation projects. Healthy, complex native bush communities are difficult, if not impossible to reconstruct once destroyed.

Woodlands and land clearing

Every year more than half a million hectares of Australian bushland are bulldozed, chained or poisoned to 'improve' land for agriculture. This is the greatest single threat to biodiversity in the nation. Several million birds are killed by land clearing and innumerable other native animals perish after their habitats are destroyed.

Excessive land clearing also causes salty ground water to rise, ruining farmlands and poisoning streams and drinking water supplies. Dead and rotting trees give off greenhouse gases, accelerating climate change. (About 15 percent of Australia's greenhouse gas emissions are created by land clearing.)

Australia destroys more native vegetation than any other developed nation, and our Society has joined with other conservation groups in actively campaigning to protect woodlands from broad scale clearing and other significant threats, such as logging and overgrazing.

RSPCA Wildlife

The Wildlife Office of the RSPCA handles hundreds of rescued native animals each year and after rehabilitation they are released back into the wild.

Many animals and birds are injured or killed on local roadways around Canberra while others are attacked by domestic dogs and cats.

Pet owners are urged to keep their animals inside at night time to prevent them from attacking native animals and birds.

Our Society has made a donation to the rebuilding of the rehabilitation shelter following the January 2003 Canberra bushfires, which were very traumatic for the RSPCA in Canberra as they lost three buildings and had the frightening experience of having to evacuate their shelter with only fifteen minutes warning. However, the staff responded magnificently and operated under difficult circumstances within the buildings left. Luckily they did not lose many animals in the fire - only about ten. Of course it was a very different story for the wildlife in the countryside around Canberra. After the bushfires the Wildlife section operated from the Wildlife Officer's home for nearly three months. RSPCA Wildlife finally moved into temporary accommodation back at the shelter at the end of March.



National President Patrick W Medway AM and RSPCA Wildlife Officer Marg Peachey with a rescued sugar glider recovered from a local home in Canberra. After recovering the little glider will be released back into the forested area around Canberra

Koala news

Plummeting numbers sparks vulnerable listing

The Queensland Government has afforded south east Queensland's koalas 'vulnerable' status under the Nature Conservation Act 1992. The decision follows a recent joint submission from the Australian Koala Foundation and Koala Working Group citing habitat loss, predicted population declines and probabilities of extinction developed by Australian Koala Foundation and University of Queensland scientists. The models suggest south east Queensland's population may have plummeted by 57% over three koala generations and that koalas could be wiped out in the region in as few as 15 years. Increased traffic, dog attacks and the heavy clearing of native vegetation that supports the species' main food sources - Queensland Blue Gum and Poplar Box - were of particular concern. South east Queensland is recognised as the most rapidly growing metropolitan region in Australia. 6,045 actual koala deaths were recorded at Brisbane's busiest koala hospital between 1995 and 2001.



Do koala relocations point to bigger Victorian trends?

Based on data supplied by the Victorian Government, the Australian Koala Foundation (AKF) calculates that as many as 12,000 individual koalas have been shifted around Victoria in the last ten years. Ten thousand were moved between 1942 and 1992. AKF Scientists say the data, which were supplied in raw format, reflect broader environmental degradation issues now facing much of the Australian continent. As part of its recent comment to the Victorian Government's draft Koala Management Strategy - a first for the state - the foundation asked that the strategy address major issues of habitat depletion and fragmentation rather than promote ad-hoc management efforts that infer koalas are to blame. In its detailed response, the AKF suggested that the challenges of conserving and restoring healthy koala populations cannot be considered independently of the already-apparent and emerging broader issues associated with the enormous challenge of restoring ecological health to the Victorian landscape, "...just as it would be inappropriate to blame salt crystals for the surface degradation of salinity-affected land and focus management on the removal of salt from the surface, without addressing the underpinning causes of salinity. The koala is no different; if the underpinning causes of habitat degradation are not addressed, the 'surface problem' of overbrowsing will continue to reappear."

Hunt for truth in numbers debate

Two hundred years of koala controversy will go under the spotlight, thanks to a call from the Australian Koala Foundation for the first detailed historical research into the traditional relationship between koalas and Aborigines. The new landmark study will reveal whether there is any truth behind the assertions of a small number of influential Australian scientists who claim that Aborigines kept koala numbers low before European settlers arrived. As more and more Aboriginal people were decimated and displaced, they say hunting pressure lifted, allowing koala numbers to dramatically rise. The same argument was used to justify last century's fur trade as well as recent proposals to cull and the decision to not afford greater protection to koalas.

Commissioned by the Australian Koala Foundation, the university study will explore the scope of Aborigine - koala associations, revealing whether there is any substance to the 'low numbers' assertion. Australians, particularly Indigenous Australians, who believe they have

something to contribute to the study, are encouraged to get in touch with Rolf Schlagloth at the Australian Koala Foundation by phoning (03) 5320 7406.

Kangaroo Island debate reignites

The Australian Koala Foundation and the Wildlife Preservation Society are standing firm in their stance against the culling of thousands of koalas on Kangaroo Island in South Australia. Instead, we point to broad-scale tree clearing and the island's 200 year track record of poor land management as the real issue. Recent portrayals of koalas as 'environmentally-destructive', perpetuate the simplistic notion that it is culturally-permissible to blame one species for complex ecological breakdowns and imbalances resulting from centuries of unsustainable land use. Habitat fragmentation, poor fire management, salinity, grazing, logging, farming and edge effects are potential contributors to the deaths of trees on Kangaroo Island. In addition, the tree-killing fungus, *Phytophthora*, was first identified on the Island in 1994 and is known to have destroyed patches of forest in parts of the United States. The killing of wild koalas represents a bandaid approach at best. At worst, it may claim the lives of animals not at all responsible for tree deaths on Kangaroo Island. Calls to cull koalas detract from the urgent need for habitat protection and large-scale restoration. The debate needs to be elevated beyond killing native wildlife to managing the land properly.

Birds Australia



Birds Australia Executive with Dr Dick Mason on far right

Our Society proudly sponsored Birds Australia's annual general meeting at Newcastle University on 29 May 2004, which was held in conjunction with a Scientific Members day seminar to assist in preserving the migratory wading birds in the Hunter Region.

Some 80 BA members gathered to hear a wide range of talented speakers discuss the important issues and threats to migratory wading birds or shorebirds such as the Eastern curlew, bar-tailed godwits, common greenshank (*Tringa nebularia*), marsh sandpiper (*Tringa stagnatilis*), curlew sandpiper (*Calidris ferrunginea*), red-necked stint (*Calidris ruficollis*) and sharp-tailed sandpiper (*Calidris acuminata*).

One of the major issues discussed was to identify the ongoing threats to the habitat of the migratory birds which gather annually in the wetland area of Kooragang Island and other wetland areas around the delta of the Hunter River at Newcastle, New South Wales.

Two of our Society's Councillors attended this special wildlife conservation conference - Dr Dick Mason and Regional Councillor Max Blanche - and we are grateful for their continuing support and commitment to the work of the Society.



Professor Henry Nix, National President, Birds Australia, speaking at the Seminar

Keynote Address by Peggy Svoboda

Project Manager, Kooragang Wetland Rehabilitation Project (sub-committee of the Hunter-Central Rivers Catchment Management Authority)

Achievements and challenges in managing Migratory shorebirds in the Lower Hunter

Concern over dwindling migratory shorebird habitat has been a driving force behind environmental conservation in the Hunter River Estuary for over half a century. Early achievements in management of migratory shorebirds in the Hunter Estuary included documentation of shorebird populations and gaining official recognition of the importance of the estuary to migratory shorebirds. In 1973, the first New South Wales inquiry into pollution identified minimum and ideal ecological units in the estuary which should be preserved to help support migratory shorebirds. Subsequently, the Kooragang Nature Reserve was formed and listed as a Ramsar Site and international treaties were signed with Japan and China to protect migratory bird habitat.

However, over the ensuing decades a dismal picture had emerged in the Hunter Estuary. By the mid-1990's, numbers of migratory shorebirds had declined by 50-75%, number of deltaic islands had decreased from 20 to 4, length of shoreline had been halved, total salt-marsh and open water had decreased by 1700ha and mangroves had encroached onto shorebird roosts and feeding sites. Approximately 900ha of industrial land had been created; in addition, 77km of drains and levees and 111 structures affecting hydrology had been constructed. In response to this situation, recent achievements have been an increased awareness of threats to shorebird habitat and subsequent initiation of shorebird habitat enhancement. Works have been initiated through the Kooragang Wetland Rehabilitation Project and the Lower Hunter Estuary Rehabilitation Program in collaboration with the Hunter Bird Observers Club and Birds Australia at key shorebird sites including Stockton Sandspit, Tomago Wetlands and Ash Island.

Numerous challenges to managing shorebird habitat have emerged over the years and many remain. One set of on-going challenges relates to proposed expansion of industrial development onto green field sites which would result in loss and fragmentation of habitat and restriction of opportunities for habitat compensation. These proposals have already caused delays in scheduled habitat works. Another set of challenges relates to balancing a variety of biological and conservation objectives within natural areas and instituting long-term maintenance strategies.

***Status of Hunter Estuary Waders - Past and Present by Liz Crawford,
Hunter Bird Observers Club***

The Hunter Estuary is essentially a shallow estuarine delta, part of which has been dredged to create a deep-water port for Newcastle. Dredging commenced in the 1800s to facilitate trade and provide safe entry for sailing ships. Ongoing industrial development led to the amalgamation of numerous islands between the North and South Arms of the Hunter River, by infilling tidal creeks and channels with dredge spoil. These activities reduced the shoreline length and removed substantial areas of intertidal mudflats prime foraging habitat for shorebirds. Kooragang Nature Reserve was proclaimed in 1983 following a Commission of Inquiry into the Natural Areas of Kooragang Island. The reserve includes part of the northern side of Kooragang Island, part of the North Arm of the Hunter River, and a large area of intertidal mudflats in Fullerton Cove. Because of its importance to migratory waders Kooragang Nature Reserve was listed as a Wetland of International Importance under the Ramsar Convention in 1984. At this time, 10 species of migratory waders had been recorded in the Hunter Estuary with populations in excess of 1% of the estimated International Population.

Ongoing industrial development continues to threaten the viability of the Hunter Estuary for waders. Recent proposals have included a major airport and a large steel mill with associated port facilities. There is an obvious need for continued monitoring of waders in the Hunter Estuary to confirm the importance of this area and to monitor changes.



Red-necked stint (Calidris ruficollis)

Anecdotal evidence suggested that more than 10,000 migratory waders used the estuary during the 1970s. Documented maximum counts for various species indicated at least 8,600 waders were present in 1972 (D. Gosper pers. comm.). Around 6,500 migratory waders were present in the estuary during the 1980s. Counts in the

1990s showed about 5,200 migratory waders. Regular monthly surveys of known roost sites carried out by the Hunter Bird Observers Club in the Hunter Estuary since April 1999 have indicated about 3,500 migratory waders currently using the estuary on a daily basis. There appears to have been a substantial decline in migratory wader numbers over the past three decades.

Possible causes include factors along the East Asian Australasian Flyway, factors on the northern hemisphere breeding grounds, and factors on the southern hemisphere foraging and roosting areas. By the mid-1970s, more than 50% of the shoreline in the Hunter Estuary had been lost, contracting foraging areas mainly to the North Arm and Fullerton Cove. This may be a major contributing factor to the recorded decline in waders since the 1970s. In addition, many roost sites have been lost through development or have become degraded by growth of weeds and mangroves. Current efforts are focused on rehabilitating roost sites and maintaining foraging areas so that migratory waders will maintain a significant presence in the Hunter Estuary for generations to come.

A full report on this BA Conference can be obtained from the BA website.



Eastern curlew

Donation to help the endangered brush-tailed rock-wallaby

Our Society recently donated \$1,000 towards the purchase of Green Gully in the Macleay Gorges area for the endangered brush-tailed rock-wallaby.

The Macleay Gorges area, half of which is National Park, harbours 85% of the brush-tailed rock-wallaby population in New South Wales. It is the largest remaining stronghold of this threatened species in the state.



Dr Dick Mason (Vice President) handing over adonation to Gillis Broinowski (President of Foundation for National Parks & Wildlife), and Patrick Medway AM (National President)

The medium-sized, often colourful and extremely agile rock-wallabies live where rocky, rugged and steep terrain can provide daytime refuge. Suitable habitat is limited and patchy and has led to varying degrees of isolation of colonies and a genetic differentiation with 23 forms of rock-wallabies.

The brush-tailed rock-wallaby (*Petrogale penicillata*) is the only rock-wallaby present in eastern NSW. Their total numbers and range have been drastically reduced since European colonisation and the species is expected to be upgraded from vulnerable to endangered status.

Threats to the brush-tailed rock-wallaby

The ongoing extinction of colonies in recent times is of particular concern. In 1988, at Jenolan Caves for example, a caged population of 80 rock-wallabies was released to boost what was thought to be an abundant local wild population. By 1992 the total population was down to about seven. The survivors were caught and enclosed in a fox and cat-proof enclosure, and the numbers have since begun to increase.

Today scientists consider foxes the major reason for the recent extinctions, since their numbers have risen dramatically since the collapse of the fur trade in the early 1980s.

Other factors that reinforce the process of decline and extinction of local wallaby populations are competing herbivores, especially goats, sheep and rabbits, diseases such as toxoplasmosis and hydatidosis, alteration, fragmentation and destruction of habitat and a lower genetic health due to the increasing isolation of colonies.

Goats compete with the brush-tailed rock-wallaby not only for food but also for shelter. Where goats evict wallabies from their caves they are easily driven into the "territories" of neighbouring wallabies and get attacked. The brush-tailed rock-

wallaby is also expected to be susceptible to the introduced diseases toxoplasmosis, carried by cats, and hydatidosis, carried by sheep. Changes in the local vegetation through weed invasion and land degradation have presumably further affected the remaining wallaby populations.

Many of the factors listed above have unknown consequences on the survival of the brush-tailed rock-wallaby in NSW but it is notable that the most important stronghold remains in Green Gully, an area of almost "untouched" prime habitat.



Brush-tailed rock wallaby

Behaviour

Rock-wallabies are nocturnal and live a fortress existence spending their days in steep, rocky, complex terrain in some kind of shelter (cave, overhang or vegetation) and ranging out into surrounding terrain at night for feed. The greatest activity occurs three hours before and after sunrise and sunset.

Their reliance on refuges leads to the rock-wallabies living in small groups or colonies, with individuals having overlapping home ranges of about 15 hectares each. Within their colonies they seem to be highly territorial with a male's territory overlapping one or a number of female territories. Even at night the wallabies do not move further than two kilometres from their home refuges.

Generally, there are three categories of habitat that the different species of rock-wallaby seem to prefer:

- Loose piles of large boulders containing a maze of subterranean holes and passageways

- Cliffs with many mid-level ledges and caves
- Isolated rock stacks, usually sheer sided and often girdled with fallen boulders

In the Macleay Gorges, however, a large number of colonies have no cliffs or rock outcrop features whatsoever. The approximately 610 hectares of dry rainforest in Green Gully are in itself a rare ecosystem with World Heritage status.

Scientists assume that there is a link between the presence of feral pest species and the wallabies' use of habitat: The greater the threat from foxes and cats, the higher the threshold for suitable habitat ie: the less accessible the refuges.

At Green Gully in the Macleay Gorges area, fox culling programs have kept predator numbers low, and it is in this area where rock-wallabies have even chosen scrubs and hollow logs for shelter. It is the wallabies' use of the terrain that proves Green Gully's prime habitat qualities.

Green Gully is 13,000 hectares of diverse rugged wilderness, home to great variety of threatened wildlife communities. It includes important wildlife corridors between isolated sections of neighbouring Oxley Wild Rivers National Park.



Green Gully

Green Gully contains some of the world's rarest natural communities and harbours an amazing variety of threatened flora and fauna.

Three large wild river systems, the Apsley, Yarrowitch and Green Gully, and the varied aspects of valleys and hills create large climatic variations resulting in mega-diverse vegetation. Over 600 hectares of the area are World Heritage listed dry rainforest and there are several old growth forest eco-systems on the property.



Location map of Green Gully

Deep rugged gorges, rock outcrops and the variety of eco-systems provide refuges for many threatened animal species. Other threatened fauna of Green Gully includes the glossy black cockatoo, the regent honeyeater, the spotted-tailed quoll, the masked owl, the speckled warbler and the bent-wing bat.

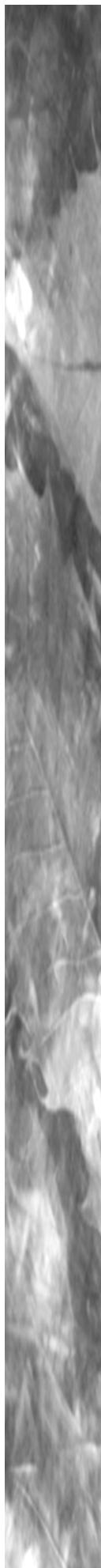
Amongst the threatened flora of the area are *Hibbertia (hermanniifolia)*, *Grevillea (beadleana)*, *Hakea (fraseri)* and *Eucalyptus (michaeliana)*.

Green Gully is also of significant cultural value with sites of European and Aboriginal historical heritage and three boundaries of Aboriginal land councils within the property.

Green Gully is currently the property of the O'Keefe family. Almost all of the 13,000 hectares are identified wilderness, which has been maintained through ongoing pest eradication by the owner. Appropriate fire management has also helped to keep the natural state of the land. Recognising the wilderness qualities and value of his land for conservation, Mr O'Keefe offered his property to the NSW National Parks and Wildlife Service for purchase. However, the Service has very little hope of purchasing due to the high cost of \$1.3m. As the fundraising body behind the Dunphy Wilderness Fund, the Foundation for National Parks & Wildlife initiated a campaign to raise the funds needed and to purchase the identified wilderness for the Dunphy Wilderness Fund. Property acquired through donations to the Fund such as the \$1,000 from our Society will become wilderness in the national parks estate.

Wilderness

Wilderness protects land-scapes, rare and threatened plants and animals and allows the natural processes of evolution to continue with minimal interference. This means that the biodiversity, or the total variety of life, of these different environments is conserved as a single functioning natural system.



Biodiversity is important to the health of natural systems because the plants, animals and other life forms in any given ecosystem have adapted to living together over thousands of years. Each species plays a role in its ecosystem, and the loss of a seemingly unimportant creature could affect the entire system in ways that people cannot predict.

Biodiversity is also important because it works like nature's insurance policy. Ecosystems that contain a variety of life forms tend to recover from stresses like natural disasters, human disturbance, or invasive species more easily than less diverse ecosystems.

People benefit from protecting biodiversity because healthy, diverse ecosystems provide essential services. They hold plants that produce the oxygen we breathe, insects that pollinate our food crops, and species that could hold clues for medicine. In fact, almost half of our prescription drugs are based on natural products.

People also value healthy natural places for their beauty and their ability to inspire us. Nature can offer respite from the stress of urban life. Wilderness is part of our national identity, even towards the end of the twentieth century the "bush" and the "outback" - landscapes so typified by wilderness - retains a central place in Australian culture. They can also provide a reminder of the Aboriginal landscape of Australia that retains immense cultural significance to the present day. Importantly, and unlike many other land uses, wilderness areas do not close off any land use options for future generations.

Wilderness declaration and management

Wilderness is a large area of land which, together with its native plant and animal communities and the ecosystems of which they are a part, is in an essentially natural state. Wilderness areas are those lands that have been least modified by modern technological society, they represent the most intact and undisturbed expanses of our remaining natural landscapes.

Wilderness areas include vast red deserts and dry sandy riverbeds, extensive inland plains, river valleys and flood-out country, rugged mountains cloaked in tall gum forests, misty rainforest gullies, jagged coastlines, and snow-covered alpine areas.

Only 4 or 5 per cent of land in NSW could still be called wilderness, but less than a half of this has been legally declared as wilderness. Nearly all declared wilderness is within national parks and nature reserves.

Declared wilderness is managed so that native plant and animal communities are disturbed as little as possible. Pest animal control, weed control, and bushfire management are important parts of this management.

Wilderness cannot be declared over freehold or Crown leasehold land, even if it is identified as having wilderness qualities, without the formal written consent of the occupiers. Nor can the NSW National Parks and Wildlife Service compulsorily acquire land for wilderness or any other purpose.

Enjoying wilderness

Wilderness areas are places where people can take in the perfect solitude of the wild at its untouched best. Bushwalking, hiking, canoeing, rock climbing and camping are only some of the endless opportunities to experience wilderness.

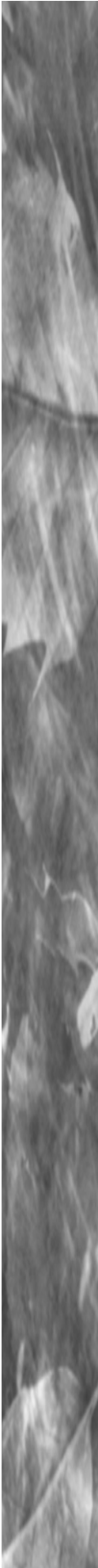
Even without experience or equipment people can enjoy wilderness with stunning views or short walks from the edges of many wilderness areas. These can be reached by car and are readily accessible to people of all ages and fitness levels.

Wildside

by Lance Ferris, Australian Seabird Rescue

Tiny Tim turtle misses the migration

Summer in Queensland is the time for sea turtles to emerge from their sandy nests. Crawling up from a depth of 60 centimetres, these tiny hatchlings literally burst from the sand and make a desperate dash for the open sea. Assisted by southerly currents, they swim down the coast of Australia and, for the next few years, they disappear to places unknown. It is only when they reach around ten years of age that they return again to the east coast. On the journey south, heavy seas occasionally toss these little creatures onto the beach, where they often become prey for seabirds. Recently, a post-hatchling loggerhead, measuring only 90 millimetres, was found on a local Ballina beach. The palm-sized turtle was near death with a severe injury to its front flipper. Now at 100 millimetres, the turtle is slowly regaining its ability to swim, but some logistical problems face the volunteers. The water is now too cold for migration and the turtle may have to remain in care until the warmer currents flow again, next year. Meanwhile, Tiny Tim, is growing at an amazing rate, feeding on a smorgasbord of prawns, squid and tiny fish.



ASR volunteers Rod and Kris delight in the progress of Tiny Tim. If the tiny turtle survives to maturity, it will reach 100 years of age, 150 kilograms in weight, and be as large as a kitchen table

Food sources diminish for wildlife

Imagine you made a trip to the supermarket, and it wasn't there. Such is the case with wildlife as humans encroach on their habitat. Many species are territorial, and have distinct foraging boundaries. If they cross the line, they incur the wrath of another of their kind. Snakes are included in this arrangement and often, a house, road, or park can envelop their known supermarket. Left with little choice, and driven by hunger, they seek the next best opportunity for a meal. Caged birds present a smorgasbord, if there is the slimmest chance of entry to the aviary. Love them, or hate them, these slithery creatures do a great job in keeping down mice and rat populations. Carpet pythons are not venomous, but can give you a nip if you're not careful. If you find one in your garden, give it some space, or call your local wildlife group for advice.



An errant python is relocated from a bird aviary to the garden

Dragons and damselfs

Dragonflies and damselflies have existed since the carboniferous age, about 300 million years ago, and at that time were represented by the enormous *Meganeura*, which had a wingspan of 65 centimetres. They come in a myriad of almost iridescent colours ranging from blues, greens, purples and reds. The species is regarded as one of the most successful insects, surviving from 100 million years before the advent of dinosaurs, to the present day. Having the best vision of all insects, they are well-equipped as carnivores. There are several hundred species worldwide and although their title conjures up thoughts of fire-breathing monsters, they are totally harmless.

Damselfs are slightly different from their cousins, the dragons. While dragonflies rest with their wings outstretched, the damselflies lay their wings back on their bodies. As the name might suggest, damselflies fly with a light, fluttering movement, as opposed to the dragonflies, strong flight strokes. The adult lays eggs in creeks and ponds, either attaching or embedding them into the stalks of water plants. When hatched, the larvae are equipped with gills and depending on species, remain underwater from three months to four years. The life span of some can be up to a year in the tropics, whereas on the North Coast, they are more likely to survive only a few weeks. Installing a small pond in your backyard or school ground will help these delightful little helicopters, survive into the future.



Fossil records indicate that this dragonfly represents one of the longest surviving species on the planet

Mini monsters

It doesn't take much imagination to see where Steven Spielberg gains inspiration for many of his movie monsters. In the mini-world of nature, there is any amount of grotesque greeblies, lurking

in the forest and creeks. The freshwater crayfish, known as the yabby,, frequents many North Coast streams. Close-up with the camera, this critter rivals one of Spielberg's worst nightmares. These crustaceans are extremely hardy and can survive in severe drought conditions by burrowing deep into the mud. They can also last for long periods out of water, enabling them to travel across land to other waterholes. There are several species, varying markedly in colour and size, and ranging in size from 2.5 cm to 40 cm long.



Yabbies are not fast movers across the grass, and prefer to stand their ground to defend themselves

Bay dolphin beaches at Lennox Head

The ASR team was called to a beached dolphin at Lennox Head. The dolphin still had the umbilical attached and was no doubt very new to the world. ASR's volunteers searched the sea in vain for the parents, or any sign of a pod of dolphins. Sadly, the tiny, one-metre baby died in transit. This is the second case of newborn dolphin strandings in as many years, and while many theories have been put forward, no causes have been established.



The baby dolphin is gently carried from the water by ASR's Ryan Dunn. Sadly, the tiny sea mammal died en route

Rumbles in the roof

As humans continue to encroach on natural wildlife habitat, the creatures sometimes choose the next-best thing. Rooves of houses make ideal homes for possums, but their scurrying and bumping through the night, can often be major nuisance value. Here are a few tips to deter the unwanted visitors.

- Find out where the possum is entering the roof and make some repairs to prevent entry.
- Splash the old entry areas liberally with a strong smelling substance such as disinfectant. The possum's scent glands will have marked the entries to its den. If you don't destroy the scent, the possum will try to re-enter.
- The National Parks and Wildlife Service can offer advice on nesting boxes, or placement of hollow logs to give the possums some new homes.



Mum and bub possum visiting a house in the heart of a Sydney suburb

100 kilometre struggle for tangled turtle

As a seaturtle forages in the waters surrounding Stradbroke Island, its flipper becomes snagged in a crab-trap rope. All efforts to free itself, only serve to entangle it further. The beleaguered creature decides to head southwards, towing the trap, ropes and buoys. Over 50 kilometres of indescribable struggle, spin the ropes around its neck. In a few short minutes, the turtle's trials are over. The turtle and its trappings are dragged by the current for another 50 kilometres, and during huge seas, it's hurled onto rocks at Ballina.

Such was the likely scenario prior to an ASR volunteer retrieving the ancient mariner. Of most concern was that it was an adult female Loggerhead turtle of breeding age. The species is considered critically endangered in Australian waters.



Stradbroke Island to Ballina – the last journey for this huge turtle

Photos courtesy of Kodak Express, River Street, Ballina

Wildlife Walkabout

*by Dr Vincent Serventy AM
President of Honour*

International

Global warming

The recent summer in Europe shows the impacts of global warming - thousands of deaths of older people in Europe, savage bush fires in Portugal and France. Also, the Sydney Morning Herald reported three United Nations organisations warning of 150,000 people dying each year. Australia still refuses to sign the Kyoto Protocol even though we are falling well behind the modest demands on emission control. The Inuits of Alaska and Canada are taking legal action against the United States for allowing global warming to continue. Their hunting is in danger because of melting ice.

We know of the dangers facing island people in the Pacific and Indian oceans because of rising sea levels. When we were in the Maldives some years ago we saw how that country was taking steps to raise their own levees to counter a rising sea.

Another UN report predicts forty percent of all animal and plant species may die through global warming. This report was from thousands of experts including two Australians. These are warnings which we ignore at our peril.



Low-lying islands in the Indian and Pacific oceans in danger

National

Bringing back the bush

Two of our most famous modern members were Eileen and Joan Bradley, sisters who worked together with the help of many friends to solve one of the major conservation problems; the invasion of native bush by invasive exotics. The whole of the scientific story is told in a new book by Joan, the scientist of the partnership, brilliantly edited after the death of both sisters by Joan Larking, Andrew Lenning and Jean Walker. We first knew of them when as editor of *Wild Australia* in the late eighties we reviewed a new book on bush regeneration. We realised this was a remarkable work, giving it a glowing review. It was the NSW National Trust which made the Bradley sisters famous. In this new book Elizabeth Elenius tells the story in her introduction when after Eileen's death the Trust commissioned the team in 1975 to prove their techniques worked in Blackwood Reserve, Beecroft. Since then the Bradley Method has triumphed over the whole of Australia. Here it is in three basic principles:

1. Work outwards from good bush areas to areas of weed
2. Make minimal disturbance to the environment
3. Do not overclear

Our Society honours them with their fellow workers in the cause of conservation.

What is the State of Australia's Birds?

The Atlas of Australian Birds

For four years between 1998 and 2002, Birds Australia coordinated the largest continent-wide survey of birds in the world. Over 7,000 atlasers, equipped with binoculars, field guides, GPS units and notebooks, produced 270,000 bird lists and nearly five million bird records.



Bush curlew

The New Atlas of Australian Birds marks the culmination of these efforts, presenting 4,000 distribution maps for over 650 bird species, including seasonal changes and breeding range. Change maps are also presented for 250 species that are more or less common since the first Atlas of Australian Birds was completed 20 years ago.

Only surveys like the Atlas can give a true picture of what is happening to birds at the continental scale.

- Of 422 birds tested, 201 (48%) showed no change, 157 (37%) were recorded more frequently during the second atlas, and 64 (15%) were recorded less frequently during the second atlas. Rainfall was better in the second Atlas, accounting for some of the differences.
- For 247 species (59%), the detected changes varied between regions ie the changes were not the same in all regions.

Which species are increasing and why?

- A number of native species increased (eg lorikeets and honeyeaters); partly as a result of their ability to use urban and rural tree plantings. Plantings in parks, gardens, streetscapes and farms have favoured these species
- Wet forest species (rainforest) - eg orange-footed scrub fowl, noisy pitta, Tasmanian scrub wren. This is partly because of increased rainfall in the second Atlas period, resulting in greater production of nectar, fruit and seeds
- The climate during the second Atlas may also have favoured opportunistic breeders (eg, finches, and honeyeaters) allowing them to breed successfully and increase in number
- Is an increasing species a good thing? Not always - some introduced species increased (eg, common myna) and some native species that exploit modified habitats also increased (eg crested pigeon) suggesting that habitat change (eg urbanisation) has driven the increase.

Which species are declining and why?

- Declining species tend to be ground-dwelling species such as bustard or brolga. This means that grazing and fire regimes need more management attention, as do the effects of introduced predators
- There are also many woodland species that have declined (eg hooded robin, diamond firetail, and dusky wood swallow). Birds that breed in temperate woodlands are declining. Thus we need to manage woodland habitats, and in particular prevent further major degradation and clearing of these habitats
- Some waterbirds and migratory shorebirds declined, probably because of wetland destruction and degradation, both inside and outside of Australia.

Surprising results

- Honeyeaters and pigeons increased because of higher rainfall and better conditions over much of Australia
- Wet forest species have moved south into NSW and Victoria as a result of the higher rainfall and better conditions compared with 20 years ago
- Fruit-eaters (eg rosellas, pied currawong, satin bowerbird and white-headed pigeon) have increased, partly as a result of horticultural expansion, and partly as a result of greater rainfall and fruit availability
- Many waterfowl have increased (eg magpie goose and Australian shell duck)
- Declining species tend to be ground-dwelling species
- Emus declined extensively.

I believe that one reason for the decline of some species is obvious - too much clearing of bushland. The second is more subtle - too much fire control causing dense herbage growing, making the land unsuited for many species. The last was one in which our Society was deeply involved. The noisy scrub-bird had been almost made extinct by wildfires, destroying colony after colony in the south west. Also our suggestion of the use of trittering rather than control burning in urban areas could help.



Noisy scrub-bird, Harley Webster, the man who re-found it, attracted by its call



The trapped bird. Captive breeding and translocation has saved the species from extinction

Barking owl and bush stone curlew - These are in decline throughout south-eastern Australia. Both are now the subject of State Recovery Plans.

Bustard - In decline because of introduced predators like the fox, and human hunting. The bird is also remarkable for its ability to track bushfires in the same desert which provides them with food. This is an ability they share with the Bushmen of South Africa who know food grows after such fires.



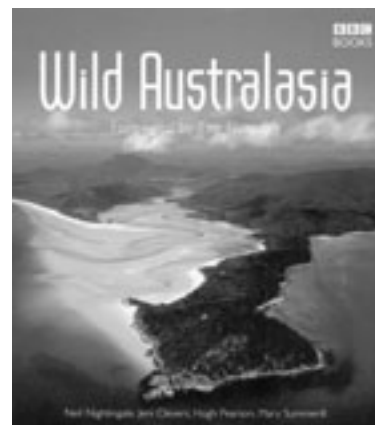
Bustard

A fish brought in as a friend, now an enemy

Aquarists not conservationists encouraged the introduction of the gambusia to eat mosquito larvae. Wiser folk pointed out we have many native fish which eat these insects. The foreign fish came, the native fish went. Now there is a demand for this species to be declared a pest so the natives can recover.

Wild Australasia

I trust all our members enjoyed this excellent programme, televised by the ABC. This has been a brilliant presentation on Australia and its fascinating flora and fauna. For those of you who loved the visual splendour of the programme, you can now purchase the book *Wild Australasia*. This beautiful book is worth adding to your collection.



New South Wales

Wildlife in the garden

Recently the media has featured gardening items showing how humans can benefit wildlife. Also some NSW Central Coast Councils are encouraging wildlife interest by sending questionnaires to all residents on their attitudes to environmental questions.

This is an idea our members could encourage over the whole of Australia. The response, 9,000, was encouraging, indicating most folk are deeply interested in native wildlife. The same councils employ environment officers, a new departure, with also a person employed in developing wildlife corridors. It is recommended that folk should not feed birds regularly in their gardens so they become dependent. Water in the summer is more important.

White ibis and fruit bats

The Fairfield Council in Sydney had to make a conservation decision - follow the instructions of Calm NSW and humanely cull white ibis at the Cabramatta fruit bat colony, or find their own solution. The reason - the nesting ibis were destroying the bat habitat by breaking branches while their faeces were also killing the shrubbery. Because of the lack of shelter 3,000 bats died last year during a heat wave. The ibis had increased from six in 1901 to 300 this year. The Council decided not to cull but to install mist sprinklers to keep the bats cool in high summer using water from the creek, while reducing ibis numbers by destroying their eggs. A wise conservation decision.



Fruit bats hanging from tree tops

Moree RAMSAR wetland

The Gwydir Wetlands near Moree in north-west NSW represents the first RAMSAR site on privately owned land in Australia. A hundred hectares of wetlands is under legal action because of illegal land clearing. The media reported a lawyer in defence stating 'it would be ridiculous to allow good land to go to waste'. This was the same kind of defence a Minister gave to us when we complained of the stupidity of cutting mulga trees to feed starving sheep. RAMSAR wetlands are not good land going to waste, while mulga trees ensure the survival of arid country.

The international secretariat of the Convention on Wetlands (known commonly as the RAMSAR Convention) congratulated Australia on a precedent-setting move in wetlands conservation and sustainable use. Working in partnership, four farming families, two conservation groups, the New South Wales State Government, and the Commonwealth Government of Australia have developed an historic Memorandum of Understanding that will maintain conservation management of the unique Gwydir wetlands, 500 kilometres northwest of Sydney in Australia's semi-arid regions. Under the MoU the parties have also agreed to take the significant step of agreeing to designate parts of the farming properties as a Wetland of International Importance under the RAMSAR Convention.

Central Murray wetlands

Eighty-four thousand hectares of state forests in the central Murray region of NSW are to be nominated as Wetlands of International Importance under the RAMSAR Convention. In a first for NSW, the nomination will recognise that these red gum forests and wetlands need to be actively managed in order for the ecosystems to survive and be enhanced.

The RAMSAR Convention promotes 'wise-use' of wetlands in recognition that wetland ecosystems are important for biodiversity conservation and for the well-being of human communities.

The proposal for RAMSAR listing of the Millewa, Koondrook and Werrai State forests is of special significance because these wetland sites are also 'working forests', managed for water flows, timber production, recreation and conservation. Much of what we see of these wetlands today is the result of human intervention, particularly altered water flows, weeds and feral animals. Now we need to actively manage the area to achieve the best conservation outcomes for this ecosystem. These new methods of conservation are enhancing and repairing this wetland environment and could be described as revolutionary in the field of conservation. For example, the flooding regimes (environmental water flows) that keep these wetlands healthy need to be managed by people because the process no longer occurs naturally. Other good examples include the use of grazing to reduce weeds and commercial fishing of European carp to help bring back native fish species. Sustainable timber production pays for many of these activities. State Forests consulted with the NSW National Parks and Wildlife Service and Environment Australia in developing the listing proposal.

Australia was one of the first signatories to the RAMSAR Convention on Wetlands, named after the town in Iran where it was signed in 1971. Australia currently has 56 RAMSAR sites covering a total area of approximately 5.3 million hectares.

Under the RAMSAR Convention, wetlands are considered worthy of listing if they represent rare or unique examples of a natural or near natural wetland type, or support vulnerable or endangered species of plants or animals. The listing of the Millewa, Koondrook and Werrai State forests will also complement the Barmah and Gunbower forests along the Murray in Victoria that have been RAMSAR listed for more than 15 years.

The nomination will be compiled by the State Government in conjunction with the Commonwealth during the 2004 before formal announcement at the next RAMSAR Conference to be held in November 2004 at Valencia Spain.

During this time, State Forests and Environment Australia will talk to representative community groups to explain the nomination process and outcomes.

Water dragon lizards

These fascinating reptiles are being encouraged by the staff of the Royal Botanic Gardens. As insect destroyers they are environmentally sounder than spraying pesticides. One stronghold of the dragons is at Darling Harbour's Chinese garden where a few were dumped. These have increased to a hundred individuals with ample insect food. There are plans to move some dragons to places safe from feral cats and dogs.



Water dragon lying in its favourite place, shallow water

Northern Territory

Northern Australia burning

ECOS reports a long study by CSIRO has shown that biodiversity is best served by control burning once every three to five years. Fire is frequent and extensive in northern Australia. Its management in the region is complex, as land use goals are often competing; the knowledge base, at least until recently, scarce; the landscapes vast and the population sparse.

Cane toads

New Scientist recently published a study which showed 49 snake species could be at risk by 2030 through eating cane toads. In northern Australia thirty percent of all species could be at risk



It is the poison glands on the shoulders which do the killing

Tasmania

The National Parks Association of Australia is approaching its fiftieth birthday while the Tasmanian group did not begin till 2001. Tasmania also still has no State Conservation Council. Yet Tasmania has more land reserved as national parks or similar secure regions, twenty percent, higher than any mainland State. The new association will try to make care of the present parks the primary role of the State Parks and Wildlife Service, while also guarding the natural and cultural values of such parks. We wish them well.

Shearwaters, not mutton birds

Even Dr Skira the scientist who took over from Dom Serventy still uses that stupid name given by an early settler who claimed the chicks when cooked 'tasted like to mutton' So the birds stayed a poor man's food.

The proper name is shearwater since those petrels are wonderful fliers, skimming over the sea. Dr Skira in a recent media article claimed three quarters of the chicks are only being hatched by a quarter of the birds. That would imply many adults cannot find places to breed. Since these shearwaters are steadily increasing their range, from the Recherche in the west, north to islands well past Sydney, this is puzzling. Most of the nesting islands are free of competing cattle, also safe from mainland foxes, dogs and rabbits.

This species was a 'bird saved by slaughter' having been conserved more than a hundred years ago by the farsighted Bishop Montgomery, even more famous to our mind than his son, the Field Marshal of World War 2. The Bishop pointed out the sale of the chicks brought better returns than cattle.

Also the trade was important to the first Australians whose genocide in Tasmania worried caring settlers. These people deserved their main cash crop to be conserved. His advice convinced the State government of the time. Dom Serventy and Iryne Skira, both scientists spending decades of research on Fisher Island, deserve high praise as practical conservationists. Sadly Dom died in 1988.



An adult shearwater feeding her chick

Queensland

Great Barrier Reef

In a recent issue of New Scientist there was a warning of dangers to coral reefs from the land. For decades our Society has pointed out the dangers to our 'eighth wonder of the world', due to silt from inland farms and fertilisers from coastal farms.

Our conservation medal winners Valerie and Ron Taylor told us of diminishing clarity of sea water in the region. We also saw the encroaching mangroves on Low Isles.

The spring issue of Wildlife has a great article on the value of wilderness by Steve Wilson and Angus Emott. Here is one paragraph which epitomises the wilderness experience. 'I think that beauty is quite intangible, complex and emotional. Wilderness reflects the wildness in us. That's why people get so passionate about it. If we destroy wilderness we destroy part of ourselves.' That is why our Society chose Thoreau's famous words as our motto 'In wildness is the preservation of the world.'

Western Australia

The Bibbulmun Track

This trail, named in honour of the first Australians of the southwest, runs for 963 km from Kalamunda to Albany. A Friends group has been formed whose task, apart from enjoying the track, is to conserve its interest.

It is well signposted, but unless you are among the hardy you do not need to walk the whole journey, only a convenient small section.




Grey kangaroos are common in the southwest

Threatened mammals thrive in Dryandra

Two threatened mammal species, the bilby and the boodie, are thriving in the fox-controlled Dryandra Woodlands near Narrogin after being reintroduced there three months ago.

Environment Minister Judy Edwards said the Department of Conservation and Land Management had reintroduced 30 bilbies (*Macrotis lagotis*) and 21 boodies (*Bettongia lesueur*) into the area last September as part of its Return to Dryandra captive breeding program. Under this project, CALM aims to establish populations of



threatened mammal species into fox-baited reserves in the Wheat Belt region. Recent monitoring of the reintroduced animals by CALM staff has shown that some of the released animals have died through natural incidents such as predation by birds of prey and pythons. A boodie was also shot and another one was killed by a motor vehicle. Despite these early setbacks, all the signs are positive and encouraging with monitoring showing the surviving animals are in good health and have bred since being released.

Dr Edwards said additional trapping would be undertaken by CALM in the new year to determine if the young produced this year have survived.

"If animals continue to survive and breed at Dryandra, recovery will be well on its way."

Dr Edwards said the Return to Dryandra project was part of CALM's wildlife recovery program 'Western Shield', which aimed to bring native animals back from the brink of extinction by controlling introduced predators, the European fox and feral cat.

\$1.5 million beach rescue begins at Towra Point, Sydney

A \$1.5 million project to rescue an internationally significant wetland on the southern shores of Botany Bay, Sydney is now underway. The beach renourishment project aims to protect the Towra Point Nature Reserve from the encroaching waters of Botany Bay by returning sand to the Towra beach area and to protect the adjacent historic Towra Lagoon. During the past 30 years major development around the shores of Botany Bay has altered the natural flux and movements of sand around the Bay.

This project aims to restore the beach alignment and essentially turn back time, by pumping sand from around the Towra Spit Island area back to the front of Towra Beach. Beach re-nourishment will rebuild a protective dune in front of the historic freshwater Towra lagoon and help to restore sand levels along the beach. At the moment a 650 tonne sandbag wall installed in 2001 by the National Parks and Wildlife Service and the local conservation community volunteers is all that is protecting the RAMSAR listed Towra Lagoon from a devastating flood of salt water from the bay. As a further benefit, the work will also protect the Bay's famous colony of endangered little terns from foxes by reopening the channel between Towra Spit and the mainland.

The Steering Committee chaired by Patrick W Medway AM, National President of the Wildlife Preservation Society of Australia, and composed of some eight government agencies and both local and national wildlife conservation groups, recommended beach renourishment as the best and safest solution to the problem of beach erosion and to provide protection to the historic Towra Lagoon.

The project is being managed by the Waterways Authority and funded largely through the State Government's Environmental Trust.

It's a monumental venture to stop Towra Point Nature Reserve and the historic Towra Lagoon from vanishing under the encroaching waters of Botany Bay. The project will be completed by September - in time for the next breeding season for the Bay's endangered little terns. The project followed an exhaustive Environmental Impact Statement review. The contractor will be working 12 hours a day, seven days a week while the beach renourishment is underway.

During this project, 60,000 cubic metres of sand will be moved up to 2.5 kilometres from Towra Spit back to Towra Beach. The project involves extensive environmental monitoring during the process as would be expected in such a unique and sensitive site.



Bernie Clarke and Patrick Medway amongst the eroded devastation of Towra Beach, Botany Bay, Sydney - 12 March 2004. Photo by John Verge

Society-sponsored research documents a quoll 'hotspot'

by Al Glen

Research conducted by the University of Sydney and sponsored by the Wildlife Preservation Society has confirmed that the spotted-tailed quoll is locally abundant in Marengo State Forest in northern New South Wales. *Dasyurus maculatus*, also known as the tiger quoll or tiger cat, is listed at Federal and State levels as a threatened species. Habitat clearance, human persecution and the effects of introduced predators are all thought to have taken their toll on this native marsupial carnivore. Thankfully, some local populations still appear to be doing well. At Marengo, around 50 km north-west of the town of Dorrigo, over 270 quoll captures have been recorded since January 2003.

The quoll trapping programme will provide valuable information on the ecology and life history of the species. As well as mapping their distribution and abundance, the project will record the breeding habits of quolls, their diets, their use of different habitat types, and their interactions with introduced predators. Quolls, foxes and feral cats are being monitored by radio-tracking. This will help to determine whether quolls are excluded from areas of preferred habitat by their introduced rivals. The diets of all three species, and of dingoes in the area, are being studied to look for evidence that the animals compete with each other for prey. Preliminary results show that small to medium-sized mammals such as rodents, bandicoots, rabbits and wallabies are important prey for all four species.

DNA samples collected from each captured quoll will also allow the level of genetic diversity within the population to be measured; an indication of the 'health' of the population. Trapping and radio-tracking are scheduled to continue until October 2004, when the analysis of results begins in earnest. For further detail, watch this space...



This female quoll was captured regularly during the 2003 breeding season, and gave birth to six young. Photo: Aaron Greenville



A radio-collared quoll about to be released

New zoning for the Great Barrier Reef Marine Park

The Great Barrier Reef is undisputed as one of the world's most important natural assets. It is the largest natural feature on earth stretching more than 2,300km along the northeast coast of Australia from the northern tip of Queensland to just north of Bundaberg.

Our Society, along with many other conservation groups, has successfully lobbied to protect this valuable natural environment.


On Thursday 1 July 2004 all zoning in the Great Barrier Reef Marine Park will change. The new zoning better protects the entire range of plants and animals; this may affect what you can do, and in some limited cases, where you can go.

The Great Barrier Reef Marine Park was rezoned as a result of implementing the Representative Areas Programme. Through this programme it was recognised that the previous zoning did not adequately protect the entire range of plants and animals and should be revised.

Voluntary Code of Practice for retail firewood merchants

We all love wood fires but burning firewood may be burning habitat.

Firewood is a valuable source of renewable energy, especially in regional Australia where it is often the dominant source of heating. Burning wood to warm homes and fuel industry has been part of Australian culture for centuries. Each year in Australia, it is estimated 4.5-5.5 million tonnes of timber are harvested for domestic firewood use. When industrial firewood is included the total jumps to between 6-7 million tonnes. This is roughly double the amount of hardwood woodchips now exported annually from Australia.



However, while the mere mention of the word 'woodchip' can guarantee a headline, the environmental problems created by firewood harvest receive very little public attention. This is beginning to change with recognition that firewood harvest is contributing to the loss of wildlife.

Dead trees and fallen timber are vital habitat for a diverse range of fauna including a number of threatened species. Firewood harvesters target dead trees (often with hollows) and fallen timber as these are immediately able to burn well and produce less smoke. However, not only does standing and fallen dead wood provide habitat for fauna but it also plays an essential role in maintaining forest and woodland nutrient cycles. In fact, the deadwood component is at least as important as the living overstorey, leaf litter and soil components for the maintenance of ecological processes that sustain biodiversity.

Through no fault of their own, most firewood users and suppliers are unaware of the ecological consequences of firewood collection. It is often mistakenly seen as just 'cleaning up' the forest or keeping the farm tidy, and a part of good land management. There is a general perception that deadwood is a resource in unlimited supply that can be harvested without any environmental consequences.

Collecting firewood doesn't have to cause environmental damage.

Collect thoughtfully

If you are collecting firewood leave hollow logs alone whether they are standing or lying. Although, they may burn well, they are the dwindling homes to some of Australia's most beloved animals. So, try and take small diameter solid pieces of wood instead of large diameter hollows.

Do not collect from endangered woodland communities

These communities are declining and are protected by state and federal legislation so penalties apply to firewood collecting.

When you take firewood leave some behind and move on. If there is very little around leave it and search somewhere else. It is often the cumulative impact of lots of people taking a little firewood that causes depletion. As with recreational fishing, over harvesting will destroy the resource for everyone.

Buying responsibly

Encourage your wood seller to stock plantation wood or the less threatened species of hardwood such as stringbark. If there is enough consumer demand for alternative products then merchants will progressively turn away from the threatened woodland species.

My Beautiful Elephant

by our Antarctic correspondent Bruce Alden



Road to wharf

There's an Elephant down at the Wharf, how many times had I heard that! Ever since I had arrived at Casey, I have been trying to get some shots of Elephant Seals, (*Mirounga leonina*). They had all ended unsuccessfully. I had actually seen some not long after I had arrived down at Browning Peninsular. They seem to like one particular patch down there but seldom seem to visit the area near our Station. It was in mid summer when I saw the first one at Browning and at the time I was busy with field training and I had not even bothered to get the digital out of the bag. I thought that there will be plenty more opportunities later on and the camera was not readily accessible, so I had shot a couple of shots using the film camera. That was a mistake. Since then, despite being told that there were elephants down at the wharf, whenever I trooped down there, no elusive Elephant Seal was to be seen. How I regretted not taking some digital shots at Browning.

Still, the talk at the mess at lunch was that there were two seals at the wharf and a group of people were going to go straight down after lunch for photos. Would the seals be there? Some of the blokes were going to drive the 1.5kms down to the wharf in the Hagglund tracked snow vehicle. Being more intrepid and needing the exercise, which after all was only going to be exercise, my

fellow Met Man, Cliff, and I decided we would walk. Getting there ahead of the others, we might just negate the small chance of the vehicle noise frightening them off.

So, we bolted some food down, raced to our dongas and got some warm gear on, grabbed our cameras and headed off down the road towards the wharf. The road to the wharf which used to be clear of snow, was now unusable to vehicles, the Hagglund would have to take another route. The lack of relief caused by the super white snow and low cloud caused semi whiteout and we stumbled and fell a few times over the lumps and bumps in the snow.

We were puffing when we got close to where the seals were supposed to be. Slowly and carefully we approached the spot. Yep, knew it, no seals, typical! Cursing our bad luck, we moved on a bit closer to the wharf, no need to be quiet and slow now. Then, right on the edge of the new boat ramp was my beautiful Elephant Seal. The other had obviously left. The lovely lady lay with her head resting on a piece of ice asleep. Every now and then her nostrils would open and she would exhale loudly, suck in another breath and in a minute or two repeat the exercise. We had to keep our five metres distance according to the protocols of approaching seals, but even being very quiet now, we must have woken her from her afternoon siesta and she regarded us with big beautiful liquid brown eyes. I am not a seal expert, so I hope I am right in saying she was a female. She had no trunk to speak of. The immature male Elephant Seals that I had seen at Davis Station, during a previous winter in 1976, had not had prominent trunks when they first arrived at the end of winter.

They were fat from a winter of feeding up North, and it wasn't till the end of summer when they had consumed some of their blubber that their nose began to be prominent. So, for the trunk not to be prominent at all, at the end of summer, chances are it was a female.

The female has a much smaller trunk than the male anyway.



Sunbaking



Me and my pillow

Letter to the Editor

What a wonderful surprise to see so many beautiful photos in "Australian Wildlife", and so much of Lance's Wildside column included. It really lifted our spirits and we feel very chuffed that you think so much of the column.

Thanks so much for the extra copies which we use to remind our sponsors of our achievements; this was very thoughtful. However, I'm writing to ask if we can purchase four more copies to share with ASR team members whose photos have appeared. They love to put it in their resume scrapbook, and even though they get copies of the column, there's something special about also appearing in "Australian Wildlife".

With thanks again for your support and all the wonderful work you are doing.

Marny Bonner
Secretary
Australian Seabird Rescue
Ballina NSW

W P S M E R C H A N D I S E

Many of our members have expressed interest in purchasing gift merchandise for friends and family (or even themselves)! This is a great way to support WPS, so we have responded below with a mail order system. Simply send your cheque or credit card details (with expiry date) and we will post your order out to you. All prices include GST and 20% member's discount. All proceeds go towards our conservation projects.



Polo shirts: \$35.00
(navy with white logo/ white with navy logo)



Cap: \$13.00
(navy with white logo)



WPS ceramic mug: \$6.00
(white with blue logo)



Kids T-shirts: \$15.00
(navy with white logo/ white with navy logo)



Drink bottle bag: \$15.00
(navy with white logo, bottle not included)

Product	Quantity	Size	Cost per item	Total
Polo shirts	_____	S, M, L, XL, XXL	\$35.00	_____
Children's T shirts	_____	4-6, 8, 10	\$15.00	_____
Caps	_____	n/a	\$13.00	_____
Mugs	_____	n/a	\$ 6.00	_____
Drink bottle bag	_____	n/a	\$15.00	_____

Add 10% Postage & Handling (min \$5): _____

Please allow 14 days for delivery

TOTAL: _____

Delivery Details

Name: _____

Phone: _____ Email: _____

Address: _____

Payment Details (please tick) ☐ Cheque ☐ Money order ☐ Mastercard ☐ Visa ☐ Bankcard

Card Number: _____

Name on Card: _____ Expiry: _____

Signature: _____

Send this order by MAIL:

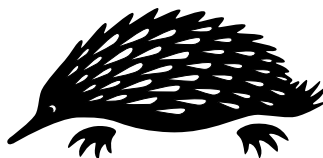
PO Box 42,

Brighton Le Sands NSW 2216

or for CREDIT CARD payments

by fax to: 02 9599 0000

Membership Form...



WILDLIFE PRESERVATION SOCIETY OF AUSTRALIA, INC.

Wildlife Preservation Society of Australia, Inc. (Founded 1909)
PO Box 42 Brighton Le Sands NSW 2216

Membership

Why not become a member of the Wildlife Preservation Society of Australia Inc?
Simply fill out this form.

Name:

Address:

City/ Suburb: Postcode:

Telephone: Fax:

Membership category (please circle)

Ordinary: \$30 Pensioner & Students: \$15 Family: \$45
Conservation & School Groups: \$50 Institutions/Overseas Subscriptions: \$150

Payment Details (please tick) ☐ Cheque ☐ Money order ☐ Mastercard ☐ Visa ☐ Bankcard

Card Number: Amount \$

Name on Card: Expiry: Donation \$

Signature: **Total** \$

Mail to the: Wildlife Preservation Society of Australia Inc.,
PO Box 42, Brighton Le Sands NSW 2216.

Consider - A Bequest

Another way which you can support the work of the Wildlife Preservation Society of Australia Inc. is to remember us in your will.

If you would like to make a bequest to the Wildlife Preservation Society of Australia Inc., add the following codicil to your Will:

I bequeath the sum of \$ to the Wildlife Preservation Society of Australia Inc. for its general purposes and declare that the receipt of the Treasurer for the time being of the Wildlife Preservation Society of Australia Inc. shall be complete discharge to my Executors in respect of any sum paid to the Wildlife Preservation Society of Australia Inc.

"The challenge to the present adult generation is to reduce the increasing pressures on the Earth and its resources - and to provide youth with an education that will prepare them emotionally and intellectually for the task ahead."

VINCENT SERVENTY AM
President of Honour

PATRICK MEDWAY AM
National President