AUSTRALIAN Wildlife

SPRING 4/2006
Journal of the Wildlife Preservation Society of Australia Inc. (Founded 1909)
$10.00 (for non-members)
Print Post Approval No. PP243459/00117

Notice of Extra-ordinary General Meeting

The plight of the Southern cassowary

Crocodiles in the Northern Territory

University Grants

Cover photo: Echidna photo taken by Eric Whiting on a Murrumbidgee Field Naturalists excursion to Stackpoole State Forest

Society members support National Tree Day

National Tree Day is a day when tens of thousands of Australians get together to plant trees and shrubs that are native to their local area. The aim is to grow a better future for Australia by helping wildlife with more habitats and improving our air quality.

As parents, we believe that it's vital to look after the planet for future generations and to teach our children the importance of looking after the environment. What better way to do this than to plant a tree with them! As they grow, so does their tree. In years to come they'll be able to say 'I planted this tree years ago, and look how it's grown!' That leaves an indelible memory for them.

With hundreds of communities involved in the event, National Tree Day on Sunday 30 July gave ordinary Australians the chance to get their hands dirty. It was a great way for people to give something back to the environment by encouraging communities across Australia to join together to plant trees as a way of caring for the health of our unique bush, wildlife and waterways. Australia loses up to five million native birds every year and one of the aims of holding National Tree Day each year is to reduce this by planting trees and shrubs that provide food and shelter to Australia's unique wildlife and are an integral part of our country's biodiversity. Trees help to filter water, combat salinity, clean the air and increase flows into water catchments.

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'AUSTRALIAN WILDLIFE'

is the official journal of the
Wildlife Preservation Society of Australia Inc.

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

Print Post Approval No. PP243459/00117

Price $10.00 (for non-members)

MEMBERSHIP

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Family:.....$45
Conservation and School Groups:.....$55
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Production/ Printing: StuDio DiseNo Budget Printing

COUNCILLORS 2006

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 Suzanne Medway unless stated otherwise.

From the President's Desk...

We mourn the death of Steve Irwin

We were all saddened to hear of the sudden and tragic death of a great Australian conservationist and 'wildlife warrior', Steve Irwin of Queensland. We extend to his family Terry and children Bindi and Bob our sincere condolences and join with others from around the world that love and appreciate our precious Australian wildlife in mourning his tragic and untimely death. We have all watched with awe as Steve wrestled and man-handled huge crocodiles and venomous snakes on his television shows. May his legacy be that we will all strive to do more to save and protect our Australian wildlife in all its forms for the next generation of young Australians. We featured a crocodile on the cover of the summer edition 1/2006 of this magazine and a lengthy article on reptile conservation.

Minor changes to constitution proposed

Following legal advice on registering the Society for Tax Concession Charity status and Deductibility Gift Recipient status (DGR) under the Federal Government's new rules, it is proposed to recommend to our members some minor changes to the Society's constitution to ensure we qualify for these benefits. Full details are published in this magazine.

Australian Mammal Society conference

The Australian Mammal Society held a national conference at the University of Melbourne recently with over 200 delegates attending to hear about these precious mammals. The amount of research being done to save, protect and study the wide variety of mammals is remarkable. Our Society is very appreciative of the work being done by all agencies and committed individuals to learn more about these unique mammals and their biology. This scientific research work makes the long term protection of the species much more viable and achievable for their preservation. Our Society was able to gain a number of new members from the keen student population attending this important mammal conference.

Hot summer expected

From all reports coming in we can expect a hot summer this year right across Australia.

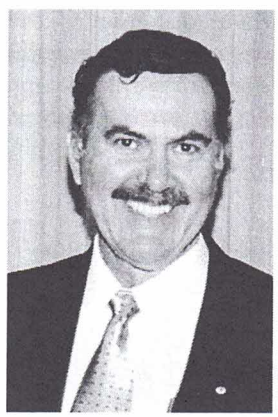
Unfortunately we can also expect an outbreak of bushfires which do so much damage to our wildlife and its habitat. Since the cessation or slowing down of the winter burn off, our bushland has become cluttered with dead leaves, twigs, branches and the low growing bushes that give feral fires the stepping stones to the tree tops. The immense heat then burns not just the native flora and fauna but the humus and with it the habitat is lost. I appeal to all our members to ensure that we do everything to prevent wildfires across Australia this summer.

Down on plastic bags

Plastic bags are continuing to cause a serious problem for Australia's wildlife. They contaminate landfills, litter our streets and landscapes, pollute waterways and seas and endanger our precious wildlife. It is estimated that plastic kills up to one million sea birds, 100,000 sea mammals and countless fish each year. More than four billion plastic bags were handed out last year. This is equivalent to about 13 million bags a day. Let us all do what we can to reduce the use of plastic bags, by using recyclable bags and appealing to the Government to legislate to reduce the use of these dangerous plastic bags around the world.

Progress on Ecoworld Gardens

We continue to make progress with the work to establish our Ecoworld Gardens project in the Rockdale Wetland Corridor in Sydney. At a recent meeting with Council we agreed on new fencing alignments and increased car parking adjacent to the local soccer club. The amount of details involved is considerable and all progress takes time.



Patrick W Medway AM
NATIONAL PRESIDENT

Wildlife Preservation Society of Australia Inc - Notice of Extra-ordinary General Meeting

Notice is hereby given that an Extra-ordinary General Meeting of the Wildlife Preservation Society of Australia Inc will be held in the Card Room on the 2nd floor of the NSW Masonic Club, 169 Castlereagh Street, Sydney, commencing at 10.00am on Wednesday 1 November 2006.

Preamble:

Following recent changes in taxation rules, and to enable the Society to qualify for certain benefits under these rules and to gain Tax Concession Charity and Deductible Gift Recipient status for the Society, the Council of the Society has convened an Extra-ordinary General Meeting of Members.

The benefits to the Society of gaining Tax Concession Charity and Deductible Gift Recipient status are substantial and will put us on equal footing with other major conservation groups who already have these facilities, and will also assist us to be more successful in our conservation work for native wildlife across Australia.

All members are cordially invited to attend.

Business:

1) Welcome and recording of those present.

2) The following motions will be put to this meeting for approval to amend our Constitution to include a new Centenary Fund in order to qualify for Tax Concession Charity and Deductible Gift Recipient status under the current federal government legislation:

MOTION 1 NON-PROFIT CLAUSE
To insert a new heading under Section D – Finance – 5. Non-Profit Clause:

5. Non-Profit Clause - The assets and income of the Society shall be applied solely in furtherance of its abovementioned objects and no portion shall be distributed directly or indirectly to the members of the Society except as bona fide compensation for services rendered or expenses incurred on behalf of the Society.

MOTION 2 DISSOLUTION CLAUSE
To delete section F (small L) and replace with the following wording:

F (small L) - In the event of the Society being dissolved, the amount that remains after such dissolution and the satisfaction of all debts and liabilities shall be transferred to another organisation with similar purposes, which is not carried on for the profit or gain of its individual members.

MOTION 3 ESTABLISHMENT OF A CENTENARY FUND
To create a new Section G of the Constitution and insert the following wording:

G – Centenary Fund - The Society forms a Centenary Fund to commemorate the Centenary of the Society.

NB - See Section E – Interpretation – Paragraph 2 - Amendment

The Constitution can be amended at any meeting of the Society at which notice of intention to amend shall be given provided that any resolution to amend be carried by a two-thirds majority of members present and voting.

3) Closure.

Convened by direction of the Council on 6 September 2006

Suzanne L Medway
EXECUTIVE DIRECTOR

The plight of the Southern cassowary (Casuarius casuarius johnsonii) after Tropical Cyclone Larry

On 20 March 2006 Tropical Cyclone "Larry" crossed the North Queensland coast at Flying Fish Point near Innisfail with winds reported at about 290 kilometres an hour. The effects were devastating on most of the forests in the Wet Tropics World Heritage Area between Babinda and Tully and west to the Atherton and Evelyn Tablelands.

Cassowaries in normal circumstances are seen stoically meandering though the urban, rural and wilds of the Wet Tropical Coast. With stout and powerful legs, three toes on each and long sharp claws, they have little problem negotiating the rain forest under normal conditions. The adults stand between 1.5 to 2 metres tall and are Australia's second largest bird. They are black with a distinct horn helmet, like some evolved prehistoric dinosaur. Pale blue head, dark blue neck with vivid red and purple wattles (long fleshy throat protrusions). Besides being a keystone species in the Wet Tropics rainforests, cassowaries are of great cultural significance to many Indigenous Rainforest people, and are an icon of tourism in Far North Queensland.

Being a keystone species means that they play an integral part in the maintenance of the forest ecosystem. Their most significant contribution to the ecology of the forest is as a disperser of rainforest fruits. Cassowaries eat up to 150 different fruit species; it is estimated that 70 to 100 plant species depend almost entirely on the cassowary for seed dispersal. Cassowaries are the only native animals large enough to eat many of the larger fleshy rainforest fruits with large seeds. The cassowary's digestive system is gentle on the seed allowing it to travel through the gut unharmed. The seed remains in the cassowary's gut for about ten hours, ensuring they are deposited some distance away from the parent tree. When they are excreted the seeds are embedded in the dung, their own mini compost pile, and this fertiliser helps keep the seed moist and feeds the germinating seedling. This is why if you walk in the forest you will often see seedlings grouped together along the paths.

Like most animals, cassowaries face a range of natural threats such as the predation of chicks and eggs by native predators, death from disease, loss of habitat and food due to cyclones and poor rainfall. However, these threats are minor when compared to those caused by human activities.

The Southern cassowary (Casuarius casuarius)

These include loss and fragmentation of habitat, predation by introduced animals, and death and injury from motor vehicles.

Whether it is land clearing for farming, urban development or logging, habitat loss and destruction is the major threat to the survival and well-being of cassowaries. Land clearing impacts on cassowaries in several ways, most birds that lose their habitat due to clearing are usually unsuccessful in establishing themselves elsewhere.

The birds are very territorial and will defend their territory aggressively, for example, clearing may destroy part of the territory of two neighbouring birds and both birds are then placed under stress from lack of food and also access to fresh water, (cassowaries drink up to 20 times a day), it is when birds are under stress that they succumb to avian diseases.

Clearing usually results in the creation of isolated and fragmented pockets of habitat and broken homes for the cassowary. As a result of fragmentation the cassowary is forced to cross hostile environments such as open fields and roads, exposing them to impacts from vehicles and dogs.

Hungry cassowaries foraging in suburbia

A great many roads have been put through cassowary habitat and many birds live with several roads passing through their territory. Displaced birds may have to cross numerous roads before finding a suitable home range. Each time a cassowary crosses a road it runs the risk of being hit by a motor vehicle.

By 1997, 80.7 percent of all natural vegetation in the wet tropical lowlands, core cassowary habitat, had been cleared, and up to 85 percent of cassowary habitat between the Russell and Murray River lowlands has been cleared.

Food shortages occur in most years, there is a general pattern of peaks and troughs with weather acting as the main environmental trigger for flowering and fruiting. However, events such as cyclones can disrupt this pattern. It is sad that our 'progress', over the last hundred years, has probably caused more changes to the cassowary and its habitat than over the last five thousand.

Post Cyclone Larry lots of the trees now have leaves and some palms and figs are fruiting, but it is difficult to know just how long before the forests can support the cassowaries again. There are many other fruit eating birds such as wompoo and topknot pigeons, currawongs, yellow orioles, catbirds and numerous honeyeaters all desperate for food.

Cyclones are a natural phenomena, but people have taken over so much of the cassowary's natural range and cleared so much rainforest that the impact of cyclones are greater than ever.

Queensland Parks and Wildlife Service (QPWS) has established about 40 cassowary feeding stations through the cyclone affected areas of the Wet Tropics, but what is needed is the protection and rehabilitation of cleared areas to create more cassowary habitat and adequate wildlife corridors.

Our Society was extremely concerned to learn of the plight of the endangered population of cassowaries around the Innisfail area.

QPWS appealed to residents and tourists in the area affected by Larry to stop feeding cassowaries close to homes. The normally shy and reclusive cassowaries had been forced out of the surrounding rainforest with food sources drained by the cyclone's effect. Trees were not fruiting so there was no native food for the cassowaries.

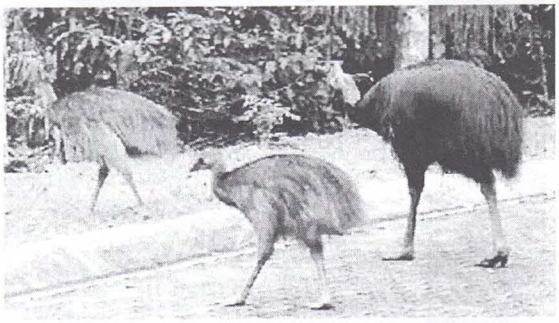
We were informed by a local wildlife rescue organisation called C4 that QPWS stated they don't want to set up feeding stations in the forests to sustain an artificial population. Many trees came down during the cyclone and there was a lot of debris, both these were covering the established tracks that the cassowaries use and close to the urban areas they have been using road edges to get about. This led to a number of birds being killed in road accidents.

Our Society was also informed that QPWS was giving a minimal amount of food via feeding stations because they didn't want to create a false population in or around populated areas, this despite not knowing just how many birds have starved to death in the inaccessible areas of the forests.

There have been reports of abandoned chicks - one was examined by a local vet who reported that the chick was older than it looked as it was stunted through lack of food. It has also been reported that the adult birds have no fat on them and they are all thin.

Our Society urged QPWS to establish feeding stations in the forest and also the cassowaries be fed larger amounts of food at least three times a week.

Our Councillors allocated funds to C4 to contribute towards the establishment and stocking of feeding stations and these funds have been passed on to National Parks to assist in the feeding of the cassowaries.



Cassowaries in the township

What is C4?

In 1994 two key environmental groups, The Movement for Responsible Coastal Development and the Consultative Committee for Cassowary Conservation amalgamated to become the incorporated body 'The Community for Coastal and Cassowary Conservation Inc.' (C4). C4 is a not for profit organisation run entirely by volunteers with a current membership of 212 people.

C4 aims to support World Heritage Values; implement the Cassowary Conservation Plan; retain Environmentally Significant areas; influence planning and development impacting on social, economic and environmental issues and to provide public education and information on environmental issues.

What is a cassowary?

The Southern cassowary (*Casuarius casuarius*), the most famous bird in the Wet Tropics has become a rare sight since it was listed as endangered Federally in April 1999. It is the largest and most spectacular flightless bird in the Australian rainforest, which flourished in Gondwanaland around 100 million years ago. Cassowaries are amongst the most ancient birds on earth. They belong to the Ratite family like the emu, ostrich, rhea and kiwi. They are fruit-eating (frugivore) animals that disperse over a hundred species of rainforest trees and vines. Therefore, this "rainforest gardener" plays an important role in rainforest regeneration and diversity.

There are three cassowary species in the world: the Southern cassowary in Australia, New Guinea and Ceram; the single wattled cassowary (*cassowary unappendiculatus*) in Northern New Guinea; and the dwarf cassowary (*Casuarius bennetti*) in Montane New Guinea. The name cassowary is of Papuan origin. It comes from 'kasu' meaning horned and 'weri' meaning head, in reference to the casqued or helmeted head

The cassowary is a threatened species. No one knows how many birds are exactly left in the World Heritage Tropical Rainforest of Northern Australia. The cassowary is not only a local icon, it is extremely important for the regeneration of the rainforest.

There are a lot of reasons for thinking that cassowaries may be in a lot of trouble, they are big birds, there are never many of them in one place, they need rainforest and there is not a lot of rainforest left in Australia.

Male cassowary with eggs

The black wallaroo

by Dr Dick Mason, Councillor, Wildlife Preservation Society of Australia

In July this year, during a family holiday in the Northern Territory, we paid a visit to Kakadu National Park and took the walk out to Nourlangie Rock. We followed the boardwalk that gives access to aboriginal rock art sites and caught up with a group of visitors on a guided inspection of the rock art with a park ranger. When this was finished we followed the track out towards the lookout. We had not gone far when people ahead of us signaled those behind to keep quiet. The reason was that only a couple of metres from the track was a small black kangaroo-like animal browsing on a shrub and seemingly not bothered by the stream of people along the track. I went back to where the ranger was still at the art site and asked her what the animal was. "A black wallaroo" she replied.

The black wallaroo is found in a small area of Kakadu and Western Arnhem Land, inhabiting rocky plateaus - Nourlangie Rock is a well known site. They are said to be shy and mainly nocturnal in habit, only venturing out on overcast days in the wet season, but the animal we saw was out in broad daylight in the dry season. It must have been a male as only the males are black, the females being paler grey in colour.

The black wallaroo is a medium-sized macropod (male weight around 20 kg). Its fur is notably coarse, long and "shaggy". Its build is distinctively thickset, with particularly muscular forearms and chest. The male is almost uniformly dark chocolate-brown to black; females are grey-brown with dark paws, feet and tail tip. It is typically solitary or, less often, occurs in pairs.

There are three members of the kangaroo family known as wallaroos. They are members of the genus Macropus, which includes the large kangaroo (though the red kangaroo is sometimes placed in a separate genus) and the typical wallaby. They are distinguished by having a black bar (the skin above and about the nostrils). (The koala has a large black rhinarium.) The other wallaroos are the common wallaroo (a large, stocky animal inhabiting rocky hillsides and distributed widely over most of Australia), and the antelopine wallaroo, slightly taller and more lightly built than the common wallaroo, which ranges across Northern Australia from Cape York Peninsula, through the top end to the Kimberley, where it occupies a similar ecological niche to the grey kangaroo in the South.

The black wallaroo sometimes rests in Triodia hummock grass or in the rainforest patches. The bigger species (black wallaroo and common wallaroo) will sometimes come down from the rocks at night to drink from creeks, rivers and billabongs.

The black wallaroo (Macropus bernardus)

Editor's note:
Wallaroos eat grass, leaves, fruit and yams. The main food item is the grass Triodia microstachya, though they eat lots of other plant species as well. The spiky shrub Solanum echinatum is one of the favourite foods of the black wallaroo. When it eats the Solanum echinatum plant it closes its eyes, not eating with open eyes otherwise the sharp spikes of the plant would pierce its eyes.

The largest threat to the survival of the species is the change of fire patterns in their home range, which has altered the flora composition in the area where they live. Little is known about the abundance or population of this species, however, which makes it hard to determine if they are threatened by this change of fire patterns.

This picture of the black wallaroo was taken by Val Marchant, a member of our Society

Urgent need for more sanctuary zones for Bateman's Marine Park

Bateman's Marine Park was declared in April 2006. The 85,000 hectare park stretches from just north of Brush Island, north of Bateman's Bay, to Wallaga Lake, south of Narooma.

It has many special areas including key habitat areas for the grey nurse shark at Montague and Tollgate Islands, seabird breeding areas along the Murramarang Coast, intermittently open coastal lakes and the Clyde River and its estuary. The Clyde River may be the only river left on the NSW coast that flows uninterrupted from source to sea.

Marine sanctuaries are areas where swimming, snorkelling, boating and diving can still occur but extractive activities such as mining and fishing are prohibited. They are vital for protecting the unique plants and animals found in NSW waters.

Only three percent of NSW waters are currently protected in marine sanctuaries. Scientists recommend that a minimum of 20-50 percent of all marine waters should have this level of protection.

Marine sanctuaries have the following benefits:

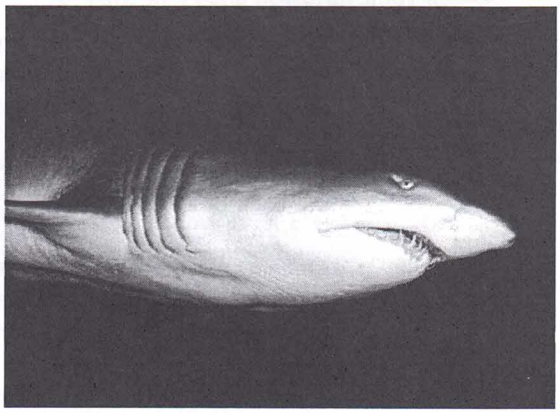
- They protect plants and animals and ecosystem function
- They increase the size and number of fish populations
- They help to protect wetlands, seagrasses and other coastal habitats from coastal development
- They help educate the community about how important it is to maintain natural ecological processes in the marine environment
- They provide a buffer for the impacts of climate change
- They help to stop the spread of introduced marine pests
- They help prevent pollution by prohibiting oil and gas developments
- They boost regional economies
- They encourage more research of our marine environment.

The Wildlife Preservation Society of Australia and other conservation groups are disappointed that over eighty percent of the Bateman's Marine Park will remain open to exploitation under the draft plan released by the NSW Government. The draft zoning plan for the Bateman's Marine Park fails to adequately protect many important areas

including grey nurse shark habitat, seagrass beds and islands. With fish stocks in decline and many marine species facing an uncertain future, it is vital that adequate areas of our marine environment are set aside in fully protected Sanctuary Zones. Our Society believes the draft plan will not fulfill this need.

Due to a small but noisy fishing lobby, important marine habitats like those around Montague Island have been ignored for proper Sanctuary protection. The opportunity for increased nature-based tourism on the South Coast is therefore being lessened by the Government's half-hearted approach. South Coast communities depend on healthy oceans and estuaries for their livelihood. Unless the area of Sanctuary Zone is increased in key areas, fishing and fishing industries cannot be assured of a sustainable future.

We are pleased that the NSW Government has shown commitment to marine conservation with the establishment of these Marine Parks along our coast line, but it is imperative that the whole community get behind these new Marine Parks and to work collaboratively towards protecting the long term future of our unique marine wildlife in all its exciting forms.



Grey nurse shark

Crocodiles in the Northern Territory

by Mark Richmond

In a recent edition of the Northern Territory News it was revealed that the Northern Territory government is to allow the "safari style hunting" of up to 25 estuarine crocodiles (*Crocodylus porosus*) by wealthy Australian hunters.

This new scenario has been raised because the Federal Government effectively blocked a previous proposal for the hunting of crocodiles by overseas hunters, by banning the export of any "trophies" such as the head or skin. The logic being that wealthy overseas hunters are unlikely to pay large sums of money to hunt a crocodile, if they have no "trophy" to hang in their home.

Further examination of the article reveals that there are interested parties in the Northern Territory wishing to use this new proposal as a trial to convince the Federal Government to overturn its ban. It is our view, that the re-introduction of commercial hunting in any form is the thin end of the wedge.

We understand that some crocodiles each year are "culled" by the appropriate authorities, and it is these animals that the so called safari hunters are supposedly interested in. However it is, in our view, unlikely that hunters will be willing to pay large sums of money to shoot relatively small animals that may be of nuisance value to some in Darwin Harbour, and is most likely that large, dominant males will be targeted in areas where they may not be posing a hazard to anybody. This targeting of large males is likely to cause destabilisation within local crocodile populations and may introduce a higher risk to humans as smaller animals compete for the vacant territory. It may also lead to unscrupulous persons attempting to have any large crocodile seen, declared a "problem" crocodile in order to make money.

In addition as we have yet to fully understand the full effect on the crocodile population of the cane toad (*Bufo marinus*) in the Northern Territory, opening up of commercial hunting, however limited, is therefore at best short sighted.

We are calling on the Northern Territory Government to re-think its policy, and the Federal Government to intervene once again to maintain the ban on crocodile hunting.

We call upon all interested parties to make representations to their Federal MP and sign this petition, so that we can lobby the Federal Government to use whatever Commonwealth powers are available to it, so that the ban on hunting is maintained.

The petition can be signed via the internet at - http://www.ipetitions.com/petition/Crochunting/

Mark Richmond is a professional herpetologist with a particular interest in crocodilians and monitor lizards. He can be heard on the internationally syndicated radio show "Pet Talk Radio" (www.pettalkradio.com). His company Crocodile Encounters, provides educational talks on reptiles and their conservation throughout Australia.

A large jumping crocodile leaps out of the murky depths of the Adelaide River

Did you know . . . .

- Saltwater crocodiles can live for more than 70 years, and freshwater crocodiles are thought to live for at least 50 years

- Although ungainly, crocodiles can walk on land at a speed of about one to two kilometres per hour. Short bursts of speed on land rarely exceed ten kilometres per hour, and tire the animal quickly. Freshwater crocodiles can reach speeds of up to eighteen kilometres per hour

- Large crocodiles can stay underwater for at least an hour by dropping their heart rate to two to three beats per minute to conserve energy

- Although commonly referred to as 'cold-blooded', crocodiles need heat to function and prefer a body temperature of 30-33° C. Unlike mammals which generate their own heat, crocodiles rely on the sun to warm them

- As much as fifty percent, even seventy percent, of the food that a crocodile eats is converted to flesh and energy. In humans it is about three to four percent because so much (eighty percent) is used to produce heat. This means that crocodiles can survive for months without eating

- A female saltwater crocodile lays her eggs in a nest of vegetation. The sex of her offspring is determined by the temperature at which the eggs are incubated. If the nest is below 30° C exclusively females are produced, at 31° C a mix results, and 32-33° C gives mostly males

- The skin on crocodiles is composed of a network of interconnected scales or scutes of various types and sizes. On the belly surfaces, these scales tend to be square and flat; it is the skin of this region that is most commonly used in the leather industry.

- The scales on the flanks and the neck tend to be round with a raised centre, while along the back and upper surfaces of the tail, the scales are raised in a very pronounced way. These raised scales (osteoderms) are provided with a rich blood supply that transports heat back into the body when crocodiles bask

- A crocodile can float with only eyes and nostrils exposed, enabling it to approach prey without being detected

- Underwater, a special transparent eyelid crosses the eye for protection. Their eyes function best in low light. The pupils of the eye which are reduced to a slit in daylight, open wide and a special layer of light reflecting crystals behind the retina, common in nocturnal animals, enhances night vision. These crystals cause the eyes to shine red when caught in torch or spotlight

- The tail of a crocodile is solid muscle and a major source of power, making it a strong swimmer and enabling it to make sudden lunges out of the water to capture prey

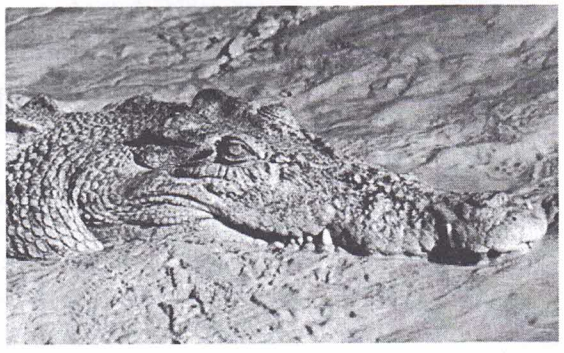
- Some crocodiles swallow hard items such as stones to assist in digestion and possibly also to help balance the animal in the water

- When opening its mouth, a crocodile can seal the back of its throat to avoid gulping water

- Opening its mouth while basking in the sun prevents a crocodile's brain overheating while its body continues to absorb heat

- The jaws are extremely powerful and a large crocodile can crush the head of a pig with a single bite

- Crocodiles have no vocal chords. Growls are made by snorting air through the back of the throat or nostrils.



Crocodile (Crocodylus porosus)

Echidna

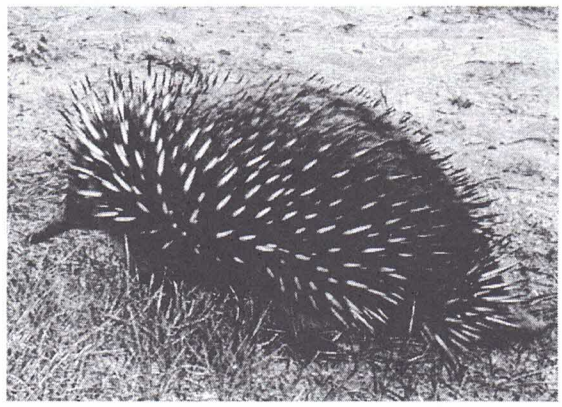
Echidnas are widely distributed throughout the Australian continent and Tasmania. Although not commonly seen, they are not considered threatened.

The echidna is best known for its amazing biology. This unusual mammal lays eggs and suckles its young. The echidna and platypus are the only members of a primitive group of mammals known as monotremes. Echidnas are toothless and feed almost exclusively on ants and termites. They expose termite galleries by breaking open nests with their strong forepaws or snout or by digging into soil. They then extract the termites, which adhere to their long, sticky tongues. They are also known to feed on beetles, earthworms, moth larvae, cockroaches and centipedes. Echidnas are solitary animals and difficult to see. When disturbed, the echidna either curls into a spiny ball to protect its soft underside, or digs its belly into the soil, so that only the spines are exposed.

Echidnas vary between different habitats and subspecies but they are easily recognised by the fact that long spines, with fur between them, cover their dorsal surface and rudimentary tail. They have short and powerful limbs with five toes and strong spatulate claws, and a long tubular snout with a long tongue, which may be up to 17cm long when fully extended. The male has a non-venomous spur on the ankle of its hind leg. Echidnas vary in size from 2-7 kg and 30-45cm in length. When inactive they will shelter under thick bushes, in hollow logs, crevices and occasionally in rabbit and wombat burrows. They have been seen climbing rock crevices, using their spines to brace themselves against the rock; they can climb fences by using their beaks, feet or spines; and they can use their beaks as snorkels when swimming in creeks. They are also much more intelligent than is generally believed. The echidna's brain has more frontal cortex, relatively speaking, than any other mammal, including humans. They are generally active during the day though this can change in response to environmental conditions with a move to dawn/dusk or nocturnal activity during hot periods. A body temperature of greater than 35°C is lethal, thus their activities are based around avoiding hot weather. In some parts of their range echidnas also utilise hibernation to avoid extreme cold or torpor to conserve energy in hot weather.

Mating occurs in July and August and during this time long 'trains' of echidnas can be seen with males following a female until she is receptive to mating. The males will push and shove each other to assert their dominance, and the winner, having dug a trench around the female, settles down to a mating session that may last three hours. Afterwards they resume their solitary existence. They reach sexual maturity at 5-7 years old, and only produce young once every 3-5 years. When they do reproduce the females construct burrows to be used while incubating and suckling the young. About two weeks after copulation, a single soft-shelled egg is laid directly into the pouch formed by muscular folds on the belly of the female. It hatches after about ten days and sucks up milk exuded from the numerous pores of the paired mammary glands (milk patch). Spines appear at about three months of age but young may be left in the burrow prior to this time while the female forages outside. Juveniles tend to be first seen from September to November when about one year old and weighing 1-2 kg. While the adults have no major predators, goannas, cats and dingoes do kill them, as, of course, do humans in their cars.

Large overlapping home ranges, approximately fifty hectares in size, are utilised by the echidna for food and shelter. They have been found in a wide range of habitats all over Australia including desert, rainforest, bush and snow. Signs that indicate the presence of an echidna are: ant nests and termite mounds broken apart; half-moon shaped hollows at the base of plants where echidnas have been searching for grubs; and droppings which are elongated, partially broken and containing soil or sand. The only known habitat requirement is a supply of food. While echidnas are considered common, hard facts about their distribution are scarce, although it is believed that they are becoming sparse in arid regions.



On a recent visit to Tasmania, Patrick Medway was delighted to photograph this echidna in the wild

Further recognition for our Community Conservation award winner

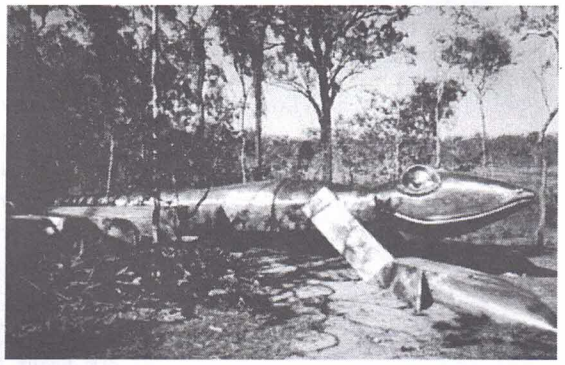
by Dr Clive Williams, Vice President, Wildlife Preservation Society of Australia

In a country which consumes so much rice, it is not surprising that in Japan there is a Wild Rice Conservation Society. This Society has been concerned to preserve locations where wild rice occurs around the world, chiefly in tropical countries including Australia. Cultivated rice originates from wild rice and the Society is concerned to maintain its genetic purity as it is likely to be able to resist diseases better than the cultivated varieties. Thus, the preservation of the original strain is an insurance against potential losses through disease to commercial rice growing.

A prominent Japanese sculptor, Mr Mitsuaki Tanabe, has been involved in the campaign for in situ preservation of wild rice. In order to raise public awareness for the need to maintain biological diversity, he has set out to place one of his sculptures in countries where wild rice occurs, including The Philippines, Thailand and India as well as Japan. He sought suitable locations in Australia and, after examining various possibilities, decided he would like to place one of his sculptures in the Mareeba Wetlands, the winner of the Wildlife Preservation Society's Community Conservation Award for 2005. He chose the Mareeba Wetlands, even though it does not possess a large quantity of wild rice, because he was impressed with its strong culture of conservation. He was particularly impressed with the program to preserve wild populations of the Gouldian finch.

The placement of Mr Tanabe's sculpture is a story in itself. The Board of the Mareeba Wetlands made it clear that they would be delighted to accept the sculpture but they had no funds to ship it or install it. However, the Wild Rice Conservation Society of Japan, International Rotary and Mr Tanabe's patrons funded the project and the statue duly arrived. The statue itself is huge. It is made entirely out of stainless steel, is 19 metres in length and weighs 11 tonnes. It arrived in parts and had to be welded together on site. Community support from Mareeba residents provided cranes and labour before the completed project saw the statue, which Mr Tanabe labelled Reptile, placed next to a walking track by the side of a lagoon, not far from the Visitor Centre. On the body of the reptile are the words "In situ Conservation of Wild Rice".

The management of Mareeba Wetlands decided to give an Aboriginal name to the artwork. They chose Kadimakara, which is a word describing the giant animals of the Dreamtime, particularly the giant goanna, the largest of the prehistoric reptile predators. It is astounding that Mr Tanabe should have decided to place his sculpture in a relatively remote place, for it must be one of the most significant artworks in North Queensland. However, it is a clear recognition of the valuable conservation work being carried out at Mareeba Wetlands. Both the Wetlands and the sculpture are worthy attractions for those concerned with conservation.



The statue called Kadimakara

Richmond birdwing butterfly

by Entomological Society of New South Wales

One of the largest and most spectacular insects in Australia is the Richmond (River) birdwing butterfly, (*Ornithoptera richmondia*), occurring in northeast NSW and southeast Queensland. It is the southernmost of three species of gorgeous birdwing butterflies, extending as far south as the Clarence River, once said to emerge in millions and now endangered.

The birdwing butterflies belongs to the family Papilionidae. They are brightly coloured with a wingspan of more than 17cm, the males being iridescent green, black and gold, while the much larger females exhibit black, white and yellow.

The plight of the Richmond birdwing stems from land clearing and loss of larval food plants. This butterfly inhabited the "Big Scrub" a 75,000-hectare area of rainforest of which only 100 hectares remains. The caterpillars feed on a rainforest vine called Pararistolochia praevenosa, which has become relatively rare, with the disappearance of the forest. Meanwhile a similar exotic vine called Dutchman's pipe, fairly common in gardens, attracts the egg-laying female butterflies. Larvae feeding on these introduced vines are unable to complete their development, due to toxins in the leaves, and die before adulthood.

Drought conditions recently have also caused further extinctions in isolated outlying populations. The result is the Richmond birdwing is extinct from two thirds of its former range.

Since the mid-1980s it has been a flagship species for raising public awareness of the drastic consequences of habitat loss for the many plants and animals of our coastal subtropical rainforest. Even school children have been involved in planting as many as possible of the Richmond birdwing vines, while aiming at removal of Dutchman's pipe from the area. Nurseries have been asked to cease selling the offending plant and propagate the real Richmond birdwing vine.

In 1996, NSW introduced threatened species legislation to include insects for the first time, and the Richmond birdwing was the first invertebrate so protected.

In 2002, Tim New and Don Sands developed the Butterfly Action Plan on behalf of Environment Australia, to clarify some of the requirements for insect conservation, which often differ from expectations for vertebrates.

In 2005 a new phase of the Richmond Birdwing Conservation Project was launched in Brisbane, as a Recovery Network with the specific aims of:

(a) Planning and re-establishing corridors to return the birdwing to its former range

(b) Propagating, planting out and caring for Richmond birdwing vines

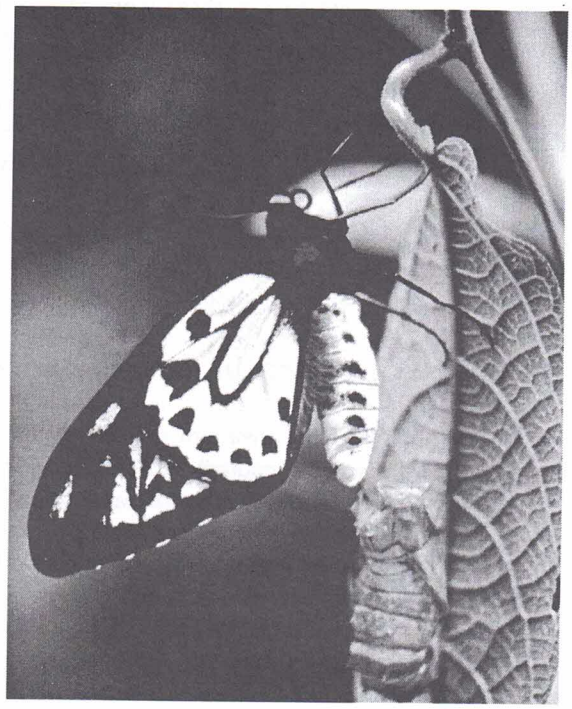
(c) Strengthening outlying populations and re-establishing corridors at the northern and southern parts of the birdwing's range

(d) Continuing information sessions, workshops and newsletters to raise public awareness of the problems the birdwing and other sub-tropical fauna and flora are facing.

Enquiries about the Richmond Birdwing Recovery Network can be made to Sue Scott 07 3200 7432, fax. 07 3805 3589, e-mail Susanne.Scott@bigpond.com

Sources:

CSIRO The Insects of Australia Vol II
SMH 1st Jan 1996
Qld. Ent. Soc. News Bull Vol 33, no.1, Mar. 2005
Qld. Ent. Soc. News Bull Vol 33, no.6, Sept. 2005



Richmond birdwing butterfly

LAOKO

(Looking After Our Kosciuszko Orphans)

LAOKO is a wildlife rescue group of trained volunteer carers based in the Snowy Mountains region of NSW who assist in the rescue and care of native wildlife in the local area.

Each year hundreds of native animals are injured or killed as a result of car accidents, dog attacks and human intervention in the form of unauthorised culling. Many young animals as a result are left orphaned and LAOKO assists in the raising of these orphans and rehabilitating for release back into the wild.

LAOKO asked our Society to lobby the Snow Safety Committee to include the protection and care of wildlife in their instructions to motorists driving in the Snowy Mountains. We were surprised to discover that both on their website and in their booklet, which is handed out free to drivers advising them of safe driving in the snow, nothing is mentioned about wildlife.

To quote the Snow Safety Committee's own research figures, "over 50 percent of accidents are caused by or involve wildlife" and between 800 to 1,000 animals are killed between the ACT and the snowfields each year.

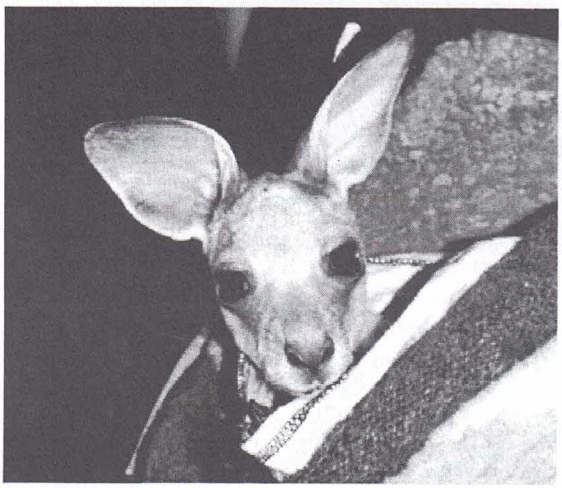
We have also been reliably informed that each night two to three wombats are killed within the Park. Inside the Park the roads are cleared of snow, then salt water is sprayed at the edges and the wombats come along and lick the salt. Our Society strongly urges National Parks to put out salt licks in the National Park away from roads.

Our Society requested that they consider adding a chapter on defensive driving and prevention of roadkill of native wildlife.

Advice on driving and wildlife

Whilst driving in the Snowy Mountains of NSW you'll encounter lots of the regions' unique wildlife. Take extra care at dawn and dusk as these are the times when animals are most active. Reduce your speed when driving through wooded areas, around bends and over crests of hills. Salt is used in the area to reduce ice build up, and this is an attraction for many animals.

If you injure or find an injured animal, please stop and call LAOKO on their 24 hour rescue line - 6456 1313 - for assistance and advice on what to do.



Miss Molly - Eastern grey joey - came in at 700gms, weight in photo 1.5kg

Ralph - Eastern grey juvenile - came into care at 800gms in 2005 - released 2 September 2006

Advice on animal rescue

- Rescue can pose a number of dangerous situations. BEWARE. Do not compound the problem by exposing yourself or others to possible injury

- Do not park your car to create a traffic hazard, get well off the road. You may have to walk back a few hundred metres to the animal but you'll be safe

- Now, to the animal..... You should have an old blanket, heavy leather gloves and a good torch. Be aware, the animal is injured, frightened and in shock. Most animals can and will bite, kick or scratch. A possum, wombat, or kangaroo can bite a finger off very easily

- If the animal is on the roadway, move it off quickly. Approach the animal from behind and cover its head with an old blanket to restrict its view. Most animals will quieten almost immediately once they are in the dark and cannot see you. BEWARE. All wild animals will attempt to bite, kick and scratch when handled. A kangaroo or possums tail can act as a "handle" to drag the animal off the road. A wombat's hind leg can be utilised in the same way

- Ascertain the location where the animal was found. Some animals are territorial and will need to be released in the same location

- Conduct a quick assessment of the animal
- If the animal is dead, check the sex of the animal and if female check the pouch for any young. Marsupial orphans should be put in a woollen pouch or jumper and cuddled in order to keep the animal warm and secure
- If the injuries are too bad to be treated, for example badly broken bones, severe wounds and excessive bleeding, call LAOKO's number for euthanasia. Local police will also assist in putting an animal down
- If there appears to be no serious injuries and the animal needs to be transported to a vet or held until LAOKO can attend, extra care is required
- Unconscious or semi-conscious animals may revive as shock wears off. Do not have the animal inside your house or car unrestrained. Put the animal, wrapped in a blanket, in a secure box or cage, or in the boot of the car.

Gerdy - red necked wallaby - came into care at 500gms in 2005 with a slipped tendon. Leg splinted and strapped for 2 months

Velvet - common wallaroo - came into care 2005 at 1kg with a dislocated heel and fractured tail. Her leg was splinted and healed well. Velvet has now been released as of 2 September, 2006

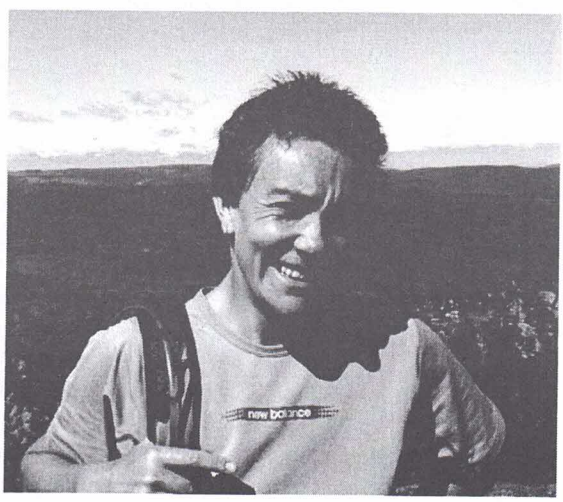
University Grants

Hydatid disease in macropods: The consequences of an introduced parasite

by Tamsin Barnes, PhD candidate, School of Veterinary Science, University of Queensland

Hydatid disease is caused by a tapeworm, Echinococcus granulosus. The parasite has a larval stage in herbivores, usually sheep, and adult stage in carnivores, usually dogs. It was introduced to Australia at the time of European settlement and is now widespread in our native wildlife. Macropods appear to be more susceptible to the larval stage than domestic animals, perhaps because there has been little time for them to adapt to the parasite. If infected they develop cysts, usually in the lungs. Deaths have been recorded in some of the smaller endangered wallabies, as a result of relatively large cysts reducing their lung capacity.

As part of my project I have studied selected colonies of brush-tailed rock wallabies. I have x-rayed their chests to determine if they are infected with hydatid disease, and if so how large the cysts are. In three small colonies, 11-33 percent of animals are infected, and another died of the disease before I began my study. I am also looking at the disease in commercially harvested kangaroos to get a better understanding of the variation in extent of infection. I have found that the distribution of the disease is patchy; in some areas far more animals are infected than in others. Now I am trying to look for risk factors that may explain this. I have also investigated the rate at which the disease develops and how rapidly it becomes a problem in a group of captive tammar wallabies. It seems that many animals that get infected will be severely compromised in less than a year, so in areas where many animals are diseased its effect on populations could be severe.



Tamsin Barnes

I am now undertaking a study to determine whether a vaccine, developed for use in sheep against the disease, will work in macropods. If so, this could be very useful to protect animals that are being re-introduced to areas as part of captive breeding programmes.

I'd like to thank the Wildlife Preservation Society of Australia for awarding me a Student Research Grant. This will allow me to attend an international conference in Glasgow where I will be able to present my findings to parasitologists from all over the world.

Latitudinal investigation of coral survival and growth on the Great Barrier Reef (GBR)

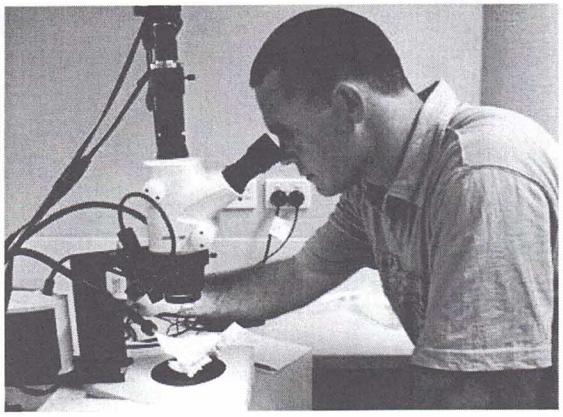
by Steven Dalton, PhD candidate, National Marine Science Centre, Coffs Harbour, the University of New England.

Hard coral stress (disease, bleaching and predation from the crown-of-thorns starfish) has increased in recent times, with the combined effects resulting in the loss of coral reef building organisms throughout the world. Reports regarding coral stress impacts have been limited to tropical reefs; however, recent investigations at Eastern Australian subtropical reefs indicate that coral stress is impacting on the coral community due to an increase of disease and bleaching episodes.

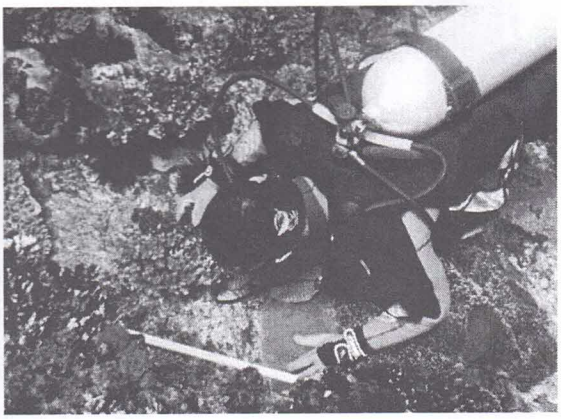
With support from the Wildlife Preservation Society of Australia and other conservation societies, funding from the NSW Marine Parks Authority and the University of New England (UNE), Armidale NSW, a team of marine researchers from UNE are investigating the affects of coral disease and other coral stress state on dominant hard corals along the east coast of Australia. In addition to determining the prevalence of disease within the coral community we are attempting to isolate the cause of the outbreak, determine the mode of transmission between corals, and developing remediation techniques in an attempt to limit the spread of disease through the coral community. Data and information gathered as a part of this research will provide managing authorities with the tools to monitor and limit future disease outbreaks and add to the knowledge of diseases affecting coral populations throughout the world.

Over the next 20 – 50 years it is speculated that climate change will have a devastating impact on the state of the world's coral reefs. The degree of impact is largely dependant on the systems capacity to recovery following any given disturbance. But before we can quantify the effect of climate change on our reefs we need to get a grasp of the basics. How does coral recovery vary within population and between communities? Generally, the maintenance and recovery of a coral reef relies on the establishment of new individuals, in addition to the growth and survival of existing individuals. Previous studies have established a recruitment peak in the central GBR. However, geographic variation in coral growth and mortality is largely unknown. Hence, the bigger picture of where and why recovery will be fast or slow on the GBR is unknown.

This study aims to investigate large scale geographic variation in the survival, growth and mortality of corals on the Great Barrier Reef. Additionally, assemblage data will be compiled at the study site to compare the shift from a juvenile community structure to an adult community structure. Combined, this will provide the crucial demographic information necessary to calculate minimum and maximum reef recovery times from the present environmental dynamics, with a view to modeling recovery trajectories for the predicted climatic future.



Steven Dalton



Diving on the Barrier Reef

Fight or Flight: Mammal responses to broadscale wildfire in the Australian arid zone

by Louise Pastro, PhD Candidate, Institute of Wildlife Research, School of Biological Sciences, University of Sydney

The Australian arid and semi-arid zones comprise over 70 percent of the Australian continental land area and support a stunningly rich array of native vertebrates. The Simpson Desert, for example, houses more than 30 mammal species, over 120 bird species and more than 65 reptile species; the richest known reptile assemblage of any desert worldwide. However the central deserts have suffered a severe reduction in species diversity in the past fifty years with more than one third of mammal species having become extinct. Changes in fire regimes are thought to be a key factor causing this sudden and massive decline.

Post-fire species distributions and the effects of fire on threatened mammal species cannot currently be predicted and so effective management strategies cannot yet be formulated. The primary aim of my research therefore is to experimentally clarify the factors driving the observed responses of small mammals to broadscale wildfire in the arid zone. A number of factors such as increased predation and a lack of food and shelter are already known to influence the post-fire distribution of species. However any interactions between these factors and their effects on different species and on community recovery are not well understood. Given the pivotal role that changes in fire regimes are thought to have played in the extinction of arid zone faunas so far, a sound knowledge of these factors and of their effects of different species and on community recovery is essential for the future conservation of Australia's desert species.

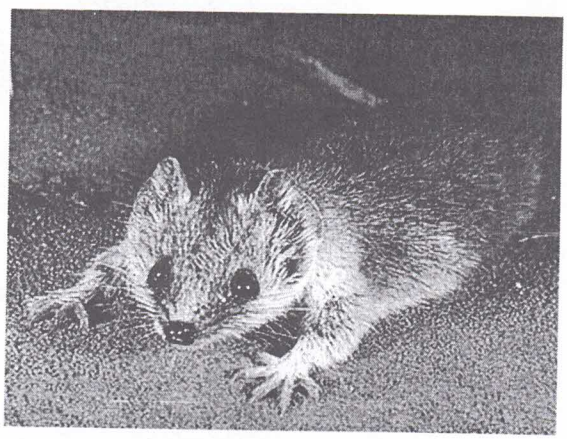
Louise Pastro

Thermal biology and energetics in Dasyurids

by Lisa Warnecke, PhD Candidate, Centre for Behavioural and Physiological Ecology Zoology, University of New England, Armidale

The aim of my PhD project entitled "Thermal biology and energetics in Dasyurids" is to improve knowledge about the ecology and environmental physiology of Australia's small carnivorous marsupials. My focus is on Planigale spp., which are the world's smallest marsupials (4-15g), as well as on members of the genus Sminthopsis. I am interested in their physiological and behavioural strategies to cope with harsh conditions of extreme habitats like arid zones, coastal regions or subtropical areas of Australia. Very little is known about their general biology, ecology and physiology and most information is based on captive animals. Therefore, my PhD project aims for a comparative study of captive and free-ranging animals in order to provide new information that will be useful for the understanding of survival strategies of small marsupials in general and thus can help in improving conservation strategies.

Lisa Warnecke



Narrow-nosed planigale (Planigale tenuirostris). Insectivore with compressed skull that uses its narrow head to squeeze into cracks and act as a shovel, lifting up leaves to find insects

Latitudinal investigation of coral survival and growth on the Great Barrier Reef (GBR)

by Abbi McDonald, PhD candidate, James Cook University, ARC Centre of Excellence for Coral Reef Studies

Over the next 20 – 50 years it is speculated that climate change will have a devastating impact on the state of the world's coral reefs. The degree of impact is largely dependant on the systems capacity to recovery following any given disturbance. But before we can quantify the effect of climate change on our reefs we need to get a grasp of the basics. How does coral recovery vary within population and between communities? Generally, the maintenance and recovery of a coral reef relies on the establishment of new individuals, in addition to the growth and survival of existing individuals. Previous studies have established a recruitment peak in the central GBR. However, geographic variation in coral growth and mortality is largely unknown. Hence, the bigger picture of where and why recovery will be fast or slow on the GBR is unknown.

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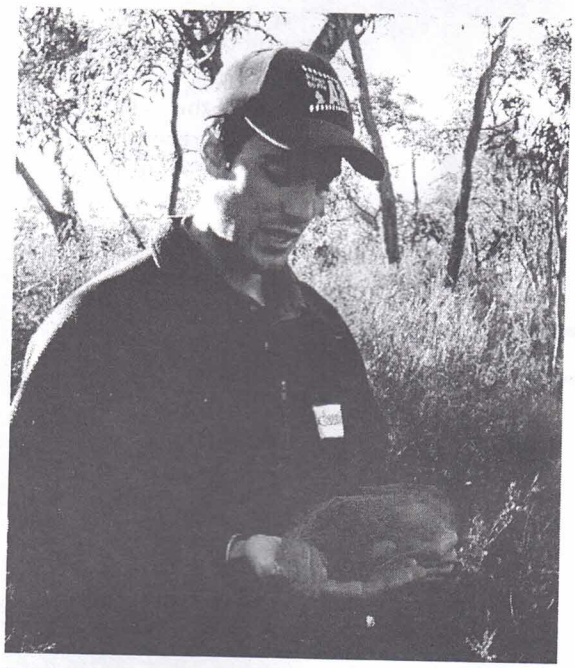
Abbi McDonald

The ecology and life history of the swamp antechinus and the effects of ecosystem productivity

by Michael Sale, School of Life and Environmental Sciences, Deakin University

The swamp antechinus (*Antechinus minimus*) is an insectivorous marsupial weighing less than 100 grams. The species is rare on the mainland of Australia with a restricted habitat range in coastal heaths of southern Australia. However, large populations of the swamp antechinus have been recorded on a number of offshore islands. One factor thought to play a role in sustaining these large populations is the large colonies of sea birds, which nest on these islands each summer and possibly provide greater productivity through the input of soil nutrients.

The main aims and objectives of the project are to investigate differences between island and mainland populations of the swamp antechinus, particularly the population dynamics and reproduction, as well as the home range and habitat use of individuals. In addition, I plan to investigate the impact of marine nutrients from sea-birds on the ecology and life history of the swamp antechinus and their available food resources. To investigate these questions small mammal trapping will be undertaken in island and mainland habitats, radio tracking will be used to record animal movements and stable isotope analysis will be utilised to investigate marine inputs.



Michael Sale

Hopefully these results will provide information to fill knowledge gaps about this poorly understood species and assist in the development of guidelines to manage the crucial habitat of the swamp antechinus. In addition, this study will provide new knowledge regarding the ecological adaptations of small mammals on offshore islands.

Swamp antechinus (Antechinus minimus)

Avian site occupancy in fragmented subtropical rainforests of South East Queensland

by David Pavlacky, The University of Queensland, School of Integrative Biology

Rainforests cover less than one percent of the Australian land mass, yet these forests contain a disproportionate amount of the continent's terrestrial biota. More than one half of Australia's subtropical rainforest has been cleared since the time of European settlement. South East Queensland has the fastest growing human population in Australia and is expected to increase by one million over the next 20 years. Development and urbanisation has been shown to drastically alter bird community composition in this region. The World Heritage, Central Eastern Rainforest Reserves were set aside in part to protect species with high conservation value, yet little is known about the distribution and population status of rainforest birds on smaller remnants in the region.

The research project is investigating which life history attributes determines avian vulnerability to forest fragmentation and which spatial scale of disturbance is most detrimental to the bird community. To answer this question, I randomly surveyed 46 rainforest sites in South East Queensland. At each site I recorded avian occupancy for 29 species and measured forest structure at the stand, patch and landscape scales. The statistical analyses accounted for differences in avian detection probabilities to determine the proportion of sites occupied for each bird species.

Vulnerability to forest fragmentation was best explained by taxonomic family, body mass, migratory strategy and feeding habitat. These results suggest large, dispersive species that feed on the ground or in the canopy are most vulnerable to forest fragmentation. Variation in local stand structure had the largest impact on the occurrence of rainforest birds. Site occupancy was best predicted by increasing stand basal area in forests infested by lantana (*Lantana camara*).

After accounting for differences in detectability, several species occurred in less than 50 percent of the patches. Stand structure and site specific factors such as elevation limited the occurrence of fig birds (*Sphecotheres viridis*), paradise riflebirds (*Ptiloris paradiseus*) and white-headed pigeons (*Columba leucomela*). The distribution of several species was limited by forest fragmentation and landscape structure within a two km radius, including Albert's lyrebird (*Menura alberti*), green catbird (*Ailuroedus crassirostris*), scarlet honeyeater (*Myzomela sanguinolenta*), spangled drongo (*Dicrurus bracteatus*) and white-eared monarch (*Monarcha leucotis*). Other species with low occupancy rates such as Australian brush-turkey (*Alectura lathami*) and shining bronze-cuckoo (*Chrysococcyx lucidus*) were limited by large-scale patch structure described by the area and isolation of rainforest patches.

The research used sampling and statistical inference to identify rainforest birds vulnerable to forest fragmentation in South East Queensland. In many cases the probable cause for declining occupancy was determined by trends in the data. However, declining occupancy of wide-spread species may not be observable until sufficient time has past. In this case, an extinction debt may exist for abundant species showing initial declines in the probability of occupancy. Unfortunately, the probability of occupancy for several wide-spread species show negative effects of landscape and patch structure consistent with an extinction debt. The results from this study may be useful for managing the impacts of future development on rainforest bird communities in South East Queensland.

David Pavlacky with male logrunner banded in Lamington National Park during 2006

Amphibian declines and chytridiomycosis

by Kris Murray, School of Integrative Biology, University of Queensland

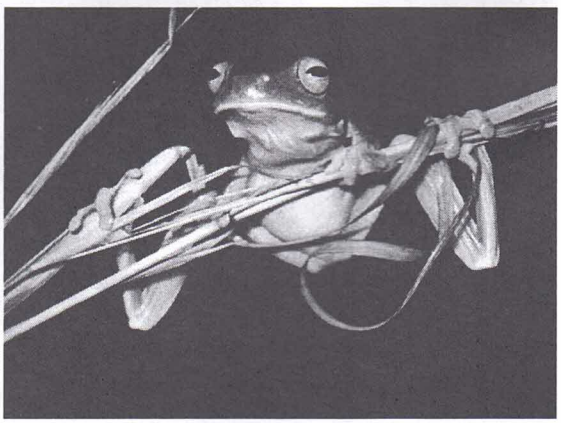
Amphibians have declined globally. In a recent global amphibian assessment, at least 43 percent of amphibian species with sufficient data were found to have declined in recent decades, 32.5 percent are globally threatened (compared to 20 percent of mammals and 12 percent of birds), 34 species have become extinct and a further 88 are possibly extinct. These figures are disproportionately high with respect to other vertebrates; 73 percent of the 2,310 vertebrate additions to the IUCN Red List from 1996/98 to 2006 were amphibians, showing that while other groups have been relatively well documented (and recently well protected?), the majority of amphibian conservation research has occurred only very recently.

Among a range of threatening processes such as habitat destruction and introduced predators, in 1996 Australian researchers proposed the 'epidemic disease hypothesis' to account for some Australian frog declines. Shortly after, an unknown chytrid fungus was isolated by Lee Berger and colleagues from the skin of sick and dying frogs collected in Queensland and Panama during mass mortality events associated with significant population declines. The fungus was subsequently found to be pathogenic to amphibians in captive animals and laboratory trials by inducing development of cutaneous chytridiomycosis and described as a new species, Batrachochytrium dendrobatidis (Bd).

Chytridiomycosis has since been associated with many enigmatic amphibian declines and extinctions, particularly in stream dwelling species in high altitude, often pristine rainforests in South America and Australia. The fungus has now been found infecting at least 200 species in two amphibian orders (Anura and Caudata) from five continents (Africa, the Americas, Europe, Australasia). Forty-eight (22 percent) of Australia's 218 amphibian species are now known to be susceptible in the wild. In Queensland, declines observed over the past two decades have culminated in the extinction of up to seven frog species, all of which have occurred in areas where the chytrid fungus is now known to occur. The frog-chytrid interaction is thus a problem of considerable importance in applied conservation biology, and as a host-pathogen system it also has much to contribute to wildlife disease research.

Unlike most wildlife pathogens, amphibian chytrid fungus appears capable of driving populations to extinction because it has a broad host range and can therefore exist in the environment independent of a particular species undergoing declines. Management of the disease appears limited to restricting spread, and active control strategies are unlikely to be effective. Fortunately, some frog populations and species have persisted and begun to recover post-decline, despite the continued presence of infections. This indicates that a shift in the host-pathogen relationship favouring host survival may be occurring. Studies on chytridiomycosis in the wild have so far been largely restricted to detection and prevalence surveys in areas where die-offs have occurred, and few studies have addressed the effects of infection on individuals outside the laboratory, particularly in populations that show recovery. During my PhD, I aim to approach the study of chytridiomycosis in south-east Queensland at a number of scales in the wild, ranging from the individual to populations, to investigate whether, how and under what conditions frog populations persist despite endemic chytrid infections.

Kris Murray



Orange eyed or red-eyed tree frog (Litoria chloris)

Conservation genetics of Australian quolls (Dasyuridae)

by Maria Cardoso, School of Biological, Earth and Environmental Science, University of NSW, Sydney

There are four species of quolls (*Dasyuridae*) described in Australia and two in New Guinea. They are the second largest living marsupial carnivores which occupy important ecological niches as top or meso predators in the ecosystems they inhabit. Yet, little is known about them due to their elusive nature and nocturnal and solitary behaviour.

All the Australian quoll species were once relatively common, but have suffered major population declines, particularly since European settlement. Different species are threatened by different factors, such as habitat destruction, human persecution, altered fire regimes, disease, and predation and competition with introduced species such as foxes and cane toads. They are all currently listed in the IUCN Red List of Threatened Species. Northern quolls (*Dasyurus hallucatus*) are endangered due to risks posed by cane toads, while Western (*Dasyurus geoffroii*) and spotted-tailed quolls (*Dasyurus maculatus*) are listed as vulnerable. Although Eastern quolls (*Dasyurus viverrinus*) are currently only listed as lower risk – near threatened, this may soon change due to the recent introduction and anticipated establishment of foxes in Tasmania, as well as the perceived risk of emerging wildlife disease, such as that which is currently occurring in a related species, the Tasmanian devil.

Wildlife managers recognize that the successful management of vulnerable populations requires knowledge of species' biology, life history, population ecology and genetics. This project is part of a larger linkage program which brings together a variety of expertise in ecology, biology and genetics and aims to increase our knowledge about quoll species. My role is to look at the population genetics of Australian quolls in order to make recommendations to wildlife managers as to how to improve current and future on-ground conservation strategies. This involves the use of molecular genetic markers (microsatellites and mitochondrial DNA) to make inferences about the genetic diversity, population structure and divergence among quoll populations. The three broad aims of my project are:

1. To identify genetic effects, such as loss of genetic diversity, that may be affecting the success of current translocation programs in Western Australia (Western quoll) and the Northern Territory (Northern quoll)
2. To analyse aspects of the population genetics of wild Tasmanian Eastern quoll populations as background data to be used in future conservation strategies
3. To provide new data on the genetic structure and parentage of New South Wales spotted-tailed quoll populations

It is hoped that this study will motivate further multidisciplinary research into the integrative conservation management of endangered species.

Maria Cardoso holding a baby Eastern quoll captured at Cradle Mountain in Tasmania

Conservation Genetics, Comparative Phylogeograpy and Bioregionalisation of Australia's Biodiversity Hotspot

by Enzo Guarino, School of Botany & Zoology, The Australian National University

Southwestern Australia (hereafter "SWA") is the only Australian region identified as a biodiversity hotspot. However, only ten percent of the primary native vegetation remains, so identification of key regions within SWA for conservation efforts is critical. Considerable research attention has focused on SWA plant endemism and assessment of conservation priorities there have already begun based solely on plant genetic diversity. Despite this, we know virtually nothing about the phylogeographic patterns in the highly endemic southwestern Australian animals. This project will generate detailed phylogeographic hypotheses for at least ten species of vertebrates. This project will provide important first steps to identifying important conservation regions within SWA and in doing so develop a defensible bioregionalisation policy for SWA.

Enzo Guarino

Further protection for Tasmanian devils

The Tasmanian devil, under threat from the devastating Devil Facial Tumour Disease, has been listed as vulnerable under the Environment Protection and Biodiversity Conservation Act 1999.

The listing follows the Australian Government's earlier commitment of $2 million over two years to accelerate diagnostic research into the cause of the disease and to advance field research and management actions to limit the spread of the disease.

Most members are aware of the threat to the Tasmanian devil posed by Devil Facial Tumour Disease which has already caused a substantial decline in the species' numbers. Listing the Tasmanian devil under the EPBC Act offers the species additional protection and means that any new activity likely to have a significant impact on the species will need to be referred to the Australian Government for assessment and approval.

The work already being done to fight Devil Facial Tumour Disease is now supported by national listing. Both are important for the long-term survival of the world's largest carnivorous marsupial.

Tasmanian Devil Facial Tumour Disease was first detected in the mid-1990s and has since spread to populations throughout Tasmania – though there is no evidence of it in the far north-west and west coast populations.

To date the cancer is estimated to have resulted in the loss of between 30 and 50 percent of the wild population and, while a recent breakthrough has revealed that the cancer is spread by biting, the cause of the disease is still not known.

Knowledge of the disease is improving as a result of monitoring of the wild population and diagnostic research – both of which are vital if we are to find a cure.

Commercial use of red fox pelts

Australian red fox

Foxes in Australia are vermin and are presently in plague proportions, causing havoc among native marsupials and considerable damage to the sheep industry at lambing time. The release last year of the calicivirus and drop in rabbit numbers in Australia has increased this pressure, so the return of the fur trade comes at a very opportune time. In the 1970's, Australia had been a significant exporter of fox pelts, which helped keep animal numbers in the wild in check. But the collapse of the Eastern European market and a fashion swing against fur meant the price for skins collapsed and fox shooting stopped.

South Australia

An Adelaide company has won a contract to export 10,000 fox pelts to Eastern Europe, reviving a fur trade that was almost destroyed by financial problems in the break-up of the Soviet Union in the early 1990's.

The export contract has again put a value on Australia's foxes because professional shooters get up to $20 for each top quality dried pelt and lesser amounts for lower quality skins.

The Adelaide Wool Company at Gilman will supply red fox furs to Poland and the Czech Republic. The first shipment is the first significant order since the Eastern European fur trade collapsed in the early 1990's.

Five to ten years ago this company was exporting up to 100,000 fox furs a year, but financial problems in Eastern Europe after the break-up of the Soviet Union meant the industry collapsed almost overnight. In recent years conditions in the Eastern Europe have improved and furriers are again looking overseas to help keep up with demand. People in Australia don't realise that fur coats are essential to survive winters in Eastern Europe and many Europeans replace their fur coats on an annual basis. The Australian red fox produces a commercial quality fur generally used for trimmings.

For the first time in three years the Adelaide Wool Company has had to advertise to buy fox pelts to supply overseas customers, and it's blaming a bounty paid by the Victorian Government of $10 on each fox tail on the shortage as people just take the bounty and don't worry about the fur.

The return of the Eastern Europe market could not have come at a better time for Australian farmers, who were facing mounting problems after an explosion in fox numbers in recent years.

The problem with bounties paid by governments is that they are not really the answer, and somebody at the end of the day has to pay for the bounty – mainly the taxpayer. Our Society believes it is far better to have a commercial answer to the eradication of this feral animal. No bonus system on a pest species has worked anywhere in the world. These systems are an inefficient use of resources as they target areas where animals are abundant and not necessarily where the damage is greatest; and encourage inefficient control methods. Funding can be more effectively used to find more effective methods to reduce damage by foxes.

Victoria

A Commonwealth report published in 1998 by the Bureau of Resource Sciences officially put bounties to the test. It found none in the nation's history had successfully reduced animal pests such as rabbits and foxes.

This opinion has been shared by Australia's pest control experts for some time, and it was this opinion - in the form of advice from the Department of Sustainability and Environment - that was given to the Victorian State Government when it was considering a fox bounty in Victoria.

Tasmania

The confirmed presence of the European Red Fox in Tasmania has raised fears for the fate of Tasmania's native mammal population. Foxes pose a serious threat to terrestrial mammals. Foxes are widespread on the mainland and have been implicated in the extinction of many smaller species of ground-dwelling mammals. Most terrestrial mammals in the critical weight range of 35 grams to 5.5 kilos have been wiped out of mainland Australia. Tasmania is a critical refuge for some of these species and close relatives including previously widespread mammals such as bettongs and Eastern quolls.

The Tasmanian Government is to hold talks with a reference panel to discuss the best methods of eradicating foxes from the state. Given that Australia has the worst record of mammal extinctions in the world, the threat posed by foxes to Tasmania's almost-intact mammal fauna cannot be understated.

Foxes have been implicated in the decline and extinction of many species of ground dwelling mammals in inland, mainland Australia. Unlike most of mainland Australia, which has the worst record of mammal extinction of any continent, the mammal fauna of Tasmania is intact apart from the Thylacine. However, foxes could rapidly alter this.

Wildside

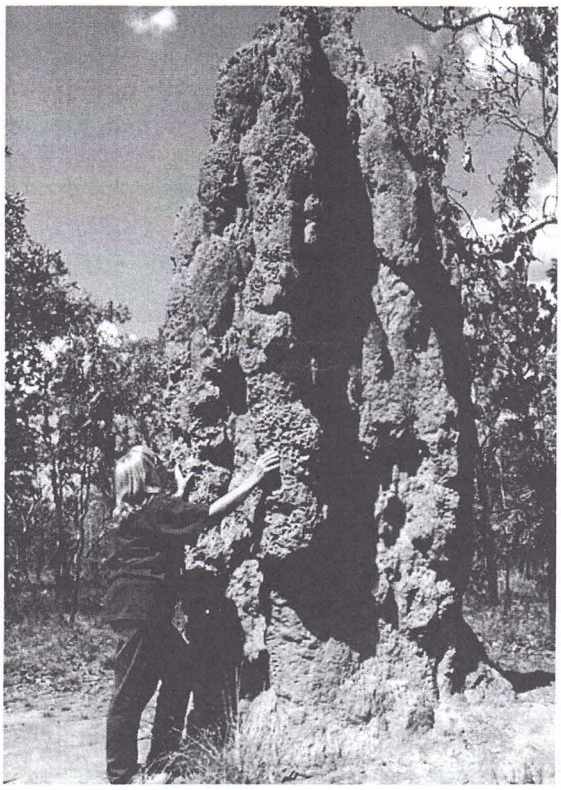
by Lance Ferris, Australian Seabird Rescue

Darwin

From across Australia, wildlife rescuers converged on Darwin for the annual Wildlife Rehabilitators Conference. A pot pourri of subjects were presented, including education strategies, turtle rehabilitation, diseases in reptiles and a host of other valuable information sessions. Just making contact with the many other lecturers was, in itself, possibly the most important facet of our northern WildlifeLink tour. The exchange of ideas and updates on procedures will no doubt enhance our success with injured animals back home.

Cathedrals, tombstones and termites

The birds sing different songs, some frogs laugh instead of croak, the trees are smaller, and the place is as dry as a biscuit. To leap on an injured pelican in the Northern Territory would likely place the rescuer in the jaws of a crocodile. Darwin is indeed a very different place than the North Coast of NSW.

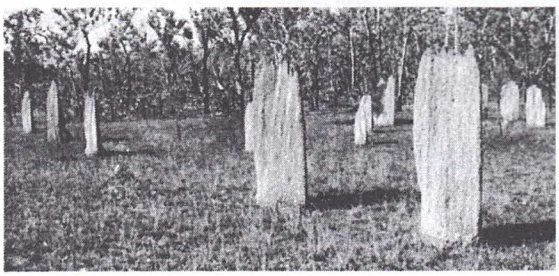


ASR's Marny Bonner inspects a cathedral termite mound

Not far from the city, one can witness the tallest and weirdest termite mounds in the world. Rising from the parched earth, cathedral termites build fluted towers up to six metres in height, and by stark comparison, the magnetic termites' mounds resemble groves of eerie tombstones. Research indicates that the magnetic termites orient their headstone-like structures in a north-south direction to ensure the mound gains the most sunlight throughout the day.

To test the theory that these tiny creatures are 'geared' to the Earth's magnetic field, scientists placed magnets within the mounds to assess the reaction. In each case, under the influence of the artificial magnetic fields, the termites began building the structures in a different direction.

Given that termites are only a few millimetres long, if humans were to attempt a similar project, one million blind labourers would need to erect a building two kilometres in height.



Magnetic termite 'tombstones' present an eerie sight in areas around Darwin

Big Fred goes overboard

A huge green turtle spent a week at our WildlifeLink Centre after being presumed dead when found. Volunteers gave the one metre long animal an overhaul at the hospital, cleaning the algae from its shell and removing any offending barnacles. The week's observation whilst in care could find nothing wrong, and it is still a mystery why it beached itself. When the 80 kilogram turtle was heaved over the side of our rescue vessel, it turned east and at a cracking pace headed straight for the deep. The turtle had the honour of being tagged with the number 300 and hopefully will provide research information in years to come.

Turtle overboard. Volunteers give 'Big Fred' the green turtle a helping hand to freedom

Birds ain't just birds

Within animal species, each individual appears to be identical. Magpies are black and white, crows have a wailing cry, and owls eat mice, and so on.

It is difficult to imagine that many of them have different attitudes and behaviours. Within the pelicans there are those that are quite aggressive to other birds, whilst others are totally placid. Cormorants and darters are usually very shy and will keep their distance from humans. However, we often find some that are incredibly quiet. So quiet in fact that they appear to have no fear whatsoever. These 'odd-bod-birds' and several other types of birds with similar characteristics often become the victim of fishing line entanglement.

From our fourteen years of work with over seventy different species of seabirds and waterbirds, we are convinced that each bird has its own distinct personality, often leading it into hazardous situations.

Technology and turtles

Massive chimneys tower over the landscape south of Newcastle at the Eraring Power Station. Anyone would be in awe of the size of the buildings and infrastructure required to power-up a city.

As with all major facilities such as this, there will always be inherent problems for the local animals, but amidst all the hustle and bustle of workers and machinery environmental experts are constantly examining ways of improving the wildlife habitat surrounding the Station.

Following an invitation from the Environment Officer, we discussed the issue of sea turtles being trapped in the Station's water inlets, with the hope of developing methods of capturing the turtles, for release at sea. Members of the Native Animal Trust were also invited to attend, and we took the opportunity to conduct a mini workshop on waterbirds and sea turtle rescue and release strategies.

These massive industrial complexes always attract criticism from environmental lobbyists, but a behind-the-scenes tour can often dispel many misconceptions. Yes, they burn coal, and yes, there are alternate forms of energy, but for now all is being done to make existing technology more wildlife-friendly.

Sea turtle rehabilitation

Across the world, sea turtle rehabilitation groups are working together to save many of the endangered species. From America to Greece and Hawaii to Australia, information is being passed daily, from one turtle hospital to another. Even in the Maldives, a small group of Islands in the Pacific, south-west of India, turtle experts work around the clock developing better treatment techniques.

The side benefits of being part of the world network are a golden source of up-to-the-minute information. Within seconds of a request for help from the Maldives, the Ballina WildlifeLink's turtle hospital team was sending emails of advice across the planet.

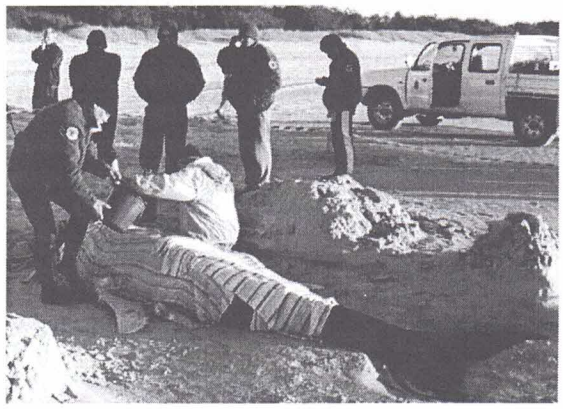
Whale stranding

As much as it is a wonderful sight to observe the whales passing by the North Coast, it always generates a degree of tension amongst ASR volunteers. Murphy's Law states that at least one will beach itself, sooner or later, and we prepare accordingly.

Alarm bells rang as report of a newborn humpback whale stranded at Cabarita Beach was received. Seven ASR volunteers and National Parks staff spent a bitterly cold night on the beach, bucketing water onto the stricken animal. At first light, SeaWorld's Dr David Blyde was at the baby's side, taking blood samples for analysis.

A helicopter search failed to locate any parent whales, and without hundreds of litres of whale milk per day, the young animal stood no chance of survival.

An autopsy found that the baby humpback whale had inflammation of the brain. The whale's condition, known as encephalitis, was likely to be the reason behind it stranding. This situation highlights the importance of thoroughly investigating the death of marine animals in order to continue learning and understanding more about them. The findings indicated that the animal had never suckled, and that the decision to euthanase was the only available option.



Whale rescue teams on Cabarita beach with the baby humpback whale

Beach thick-knee with a thick knee

When a species' population reduces to a thousand birds, concerns run high. Elusive, and rarely seen, the beach thick-knee has taken a battering since European settlement. A pair of these birds forages on the banks of the river at Evans Head, but their habitat is a minefield of hazards. Their scavenging for yabbies and other crustaceans along the sand flats makes them prime candidates for entanglement in discarded fishing line. To capture birds, which can still fly, the ability to lure them close enough with food is often the only method.

An ASR volunteer took up the challenge when one of the birds became crippled with line around its leg. As skeptical as I was in relation to a successful outcome, we persevered day after day, carefully

placing yabbies in strategic locations to entice the bird into a noose. Our valiant efforts paid off, when the bird was unable to resist the feast of yabbies waiting for it on the beach. The five loops of line were removed from its swollen leg, and it was last seen dashing around the shoreline with its mate.

A beach thick-knee makes the break for freedom after treatment for fishing line entanglement

WILDLIFE WALKABOUT

by Dr Vincent Serventy AM, President of Honour

International

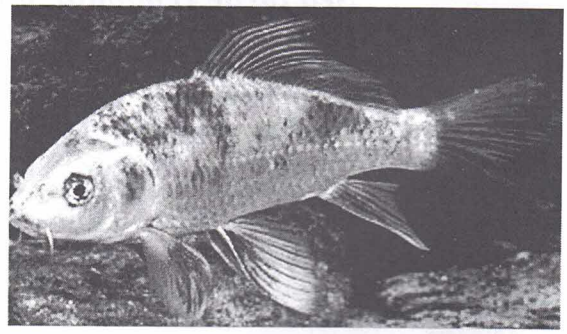
Carp

This feral fish is a pest in our freshwater rivers. It may come as a surprise that an English fishing operator has imported a $600,000 shipment from Australia.

For Europeans, carp properly cooked makes good eating. There is one restaurant in Victoria which sells only carp. In Europe in the old days the monasteries had a carp pond for growing fish for the table.

Editor's note: Carp were released into the wild in Australia on a number of occasions in the 1800s and 1900s but did not become widespread until a release of 'Boolara' strain carp from a fish farm into the Murray River near Mildura in 1964. The spread of carp throughout the Murray-Darling Basin coincided with widespread flooding in the early 1970s, but carp were also introduced to new localities, possibly through their use as bait. Carp are now the most abundant large freshwater fish in the Murray-Darling Basin and are the dominant species in many fish communities in south-eastern Australia. A recent NSW Rivers Survey found that carp represent more than ninety percent of fish biomass in some rivers and have reached densities of up to one fish per square metre of water surface. There is clear evidence that carp can increase water turbidity and damage aquatic plants. There is also some evidence that carp increase water nutrient levels. These impacts can alter ecological functions and affect tourism and recreational values of otherwise scenic wetlands. It is less clear what the impacts of carp are on native fish populations - many of which were in decline before carp became widespread. Carp may make aquatic habitat less suitable for native fish breeding and survival, but there is little evidence of carp feeding directly on native fish whereas small carp provide a food source for a number of fish and bird species.

There is no clear evidence that carp cause bank erosion and in any case it would be difficult to isolate the effects of carp from other influences such as high flows, excessive water extraction, lack of riparian vegetation and livestock access.



Carp (Cyprinus carpio)

Bird Extinction

New Scientist reports that the figure for bird extinction is expected to climb to ten species per year, leading to a final loss of twelve percent of the 10,000 known bird species.

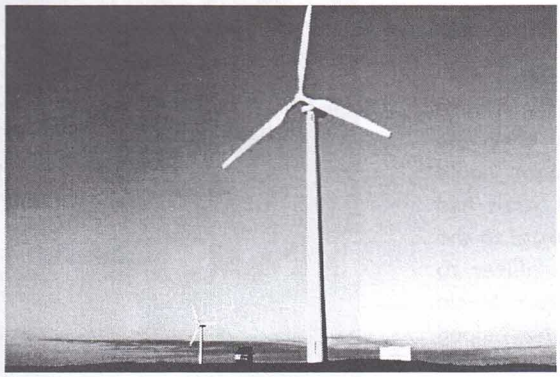
National

Wind farms in Victoria

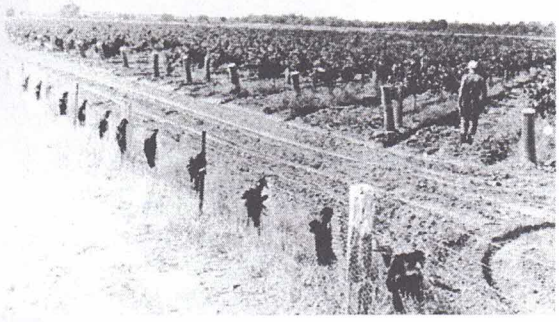
There have been some media claims that Ian Campbell, the Federal Minister for the Environment, made a decision to ban some wind farms for political rather than for environmental reasons. However, the Minister, who has since reversed his decision, stated in a long letter to me that the recent death of a rare Tasmanian wedgetail eagle on a wind farm contributed to his decision.

In the bad old days every farmer shot any bird of prey; not realising the birds were farmers' friends in controlling pests. The wedgetail is mainly a carrion feeder eating road kills, and in paddocks eating dead lambs killed through climatic causes.

The following is an extract from Ian Campbell's letter: 'The Australian Government is a strong ally of the wind energy industry. With the support of the government the renewable energy industry has expanded by about $3 billion in the last three years....Today there are close to 450 wind turbines across the nation with a further 130 turbines under construction representing a 2120 percent increase since 1990.'



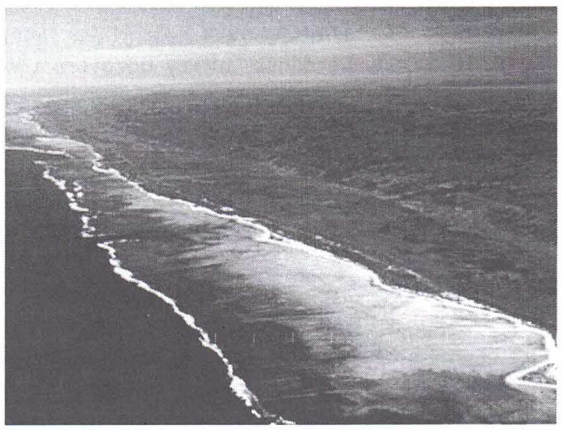
Wind farm



Dead eagles on a fence showing a farmer's stupidity

Western Australia

Ningaloo Reef



Ningaloo Reef, the second largest coral reef in Australia, extends along the coast southward from North West Cape

Landscape had a marvellous article on the Reef. In its introduction it states:

'What is known about the marine life of the Ningaloo Marine Park might only be the tip of the iceberg. Knowledge gained from future research can be passed on to visitors and tourism operators to help them conserve the Reef, which is one of the world's most biologically diverse coral reef systems.'

Many years ago our Society arranged for ecologist Norman Myers to give a lecture to us and other conservationists. The main thrust of his belief was the need to conserve the greatest 'biologically hot spots' of the land.

Our Society and Landscape believe Ningaloo Reef, like the Great Barrier Reef, is one of the 'biologically significant 'hot spots.' We also believe it is important to conserve them from the damaging effects of tourism. We can learn the lesson from Lake Geneva in Switzerland where no power-boats are allowed. Only sailing or human-powered boats are permitted, thus avoiding damaging oil spills.

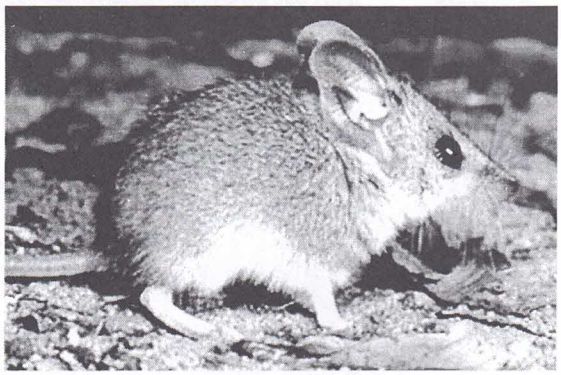
Northern Territory

New Scientist in July had an interesting article on crocodiles by expert Graeme Webb. He has spent a lifetime both studying and conserving them. By the 1960s commercial harvesting had reduced the numbers to around 500. Now with a population of about 70,000 there are greater chances of a crocodile attack.

New South Wales

Dunnarts

The Central Coast News recently ran an article headlined 'Survey uncovers a world of dunnarts.' It went on to describe how the survey found the marsupials for the first time in a reserve in a residential area.



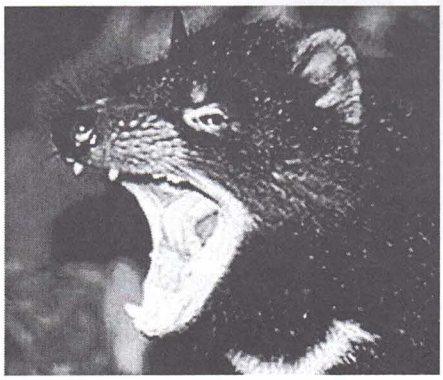
The common dunnart

It was a good news story and most encouraging. Most people call dunnarts marsupial mice, since they are small native pouched mammals that feed on insects and spiders.

Tasmania

The terrible disease killing Tasmanian Devils now covers fifty three percent of Tasmania. Wildlife biologist Dr Chris Hawkins warns that the introduction of the fox into the state could threaten the Devil even more. Bass Strait had until recently kept this feral out. We wrote to the Premier suggesting he should send an officer to Western Australia to study their Western Shield program to deal with ferals. The work has helped to make many once endangered native animals safe.

Our long experience has shown us there is nothing State leaders hate more than to ask for conservation advice from another State!



The world's largest surviving carnivorous marsupial, the Tasmanian devil

Stop press:

Age-old tree honours Serventy duo

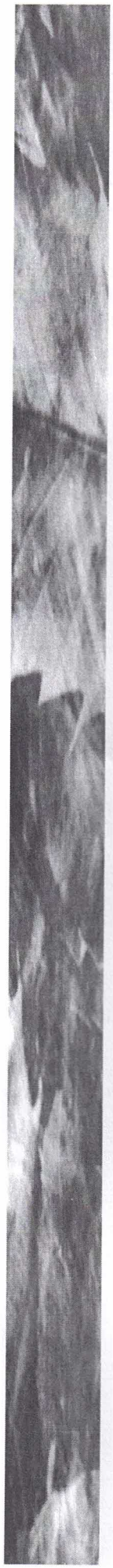
One of the world's ancient wonders, the Wollemi Pine, was planted in Darling Harbour on Saturday 17 June in honour of conservation couple Dr Vincent Serventy AM and Carol Serventy OAM.

Previously thought to be extinct, around 100 Wollemi Pines were discovered in 1994 by a bushwalker in the Blue Mountains. Dating back millions of years to the Jurassic period, the Wollemi Pine is now considered one of the world's rarest and oldest plants.

Chairman of Sydney Harbour Foreshore Authority, John Isaacs, said the Wollemi Pine would stand as a fitting tribute to the tireless efforts of Dr and Mrs Serventy, two of Australia's hardest working conservationists.

The three-metre tall Wollemi Pine stands near the stream walk between Tumbalong Park and Palm Grove, adjacent to the Sydney Convention and Exhibition Centre.

Dr Vincent Serventy AM and Carol Serventy OAM planting The Wollemi Pine in Darling Harbour



Wildlife Preservation Society of Australia

Serventy Conservation Medal

Nomination Form

The Serventy Conservation Medal is named in honour of our President of Honour, Dr Vincent Serventy AM, his brother, the late Dr Dominic Serventy, an international ornithologist, and his older sister Lucy Serventy, who was our oldest Life Member.

This Award is intended to honour conservation work that has not been done as part of a professional career for which the person will have been well paid and honoured. It is given to those who labour in the conservation field for a love of nature and a determination that it should be conserved. Often these have been non-scientists who have earned their conservation skills through sheer hard work. Our Society will present a plaque and cash award of $1,000 to the winning person that is helping to save our precious wildlife.

Persons may nominate themselves or they may choose to nominate a third party who they believe should receive recognition. All nominations must be supported by a referee (see below).

Name of nominee: _____

Address: _____

_____

Telephone: _____ Fax: _____ E-mail: _____

Summary of achievements. (Please summarise in less than two hundred words why this nomination should be considered for the Serventy Conservation Medal.)

_____

_____

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Press clippings, testimonials and photographs can be attached to support nominations - do not send books or videos.

The Wildlife Preservation Society will accept nominations for the Serventy Conservation Award via e-mail to wildlifepreservation@optusnet.com.au or mail to PO Box 42 Brighton Le Sands NSW 2216 or fax 02 9599 0000.

Deadline for submission: 31 December.

Name of nominator: _____

Address: _____

_____

Telephone: _____ Fax: _____ E-mail: _____

Name of referee: _____

Address: _____

_____

Telephone: _____ Fax: _____ E-mail: _____

Wildlife Preservation Society of Australia
Community Wildlife Conservation Award
Nomination Form

The Wildlife Preservation Society of Australia Community Wildlife Conservation Award will be awarded to a community conservation group that is making a major contribution to wildlife preservation in Australia.

Our Society knows that many organisations and thousands of volunteers are already working tirelessly to save our threatened species as well as the humble and more common Australian species and the precious wildlife habitat in which they live. We are all aware of the wonderful work being carried out by volunteers across the country in saving our sick and injured wildlife. They spend many hours and days caring for a single animal that has been injured by a car, savaged by a feral animal or hurt in bush fires. We want to recognise and help these conservation groups continue with their good work on behalf of the whole community. Our Society will present a trophy and a cash award of $2,500 to the winning conservation group that is helping to save our precious Australian wildlife.

Persons may nominate their own organisation or they may choose to nominate a third party who they believe should receive recognition. All nominations must be supported by a referee (see below).

Name of nominee: _____

Address: _____

_____

Telephone: _____ Fax: _____ E-mail: _____

Summary of achievements. (Please summarise in less than two hundred words why this nomination should be considered for the Wildlife Preservation Society of Australia Community Wildlife Conservation Award.)

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_____

Press clippings, testimonials and photographs can be attached to support nominations - do not send books or videos.

The Wildlife Preservation Society will accept nominations for the Wildlife Preservation Society of Australia Community Wildlife Conservation Award via e-mail to wildlifepreservation@optusnet.com.au or mail to PO Box 42 Brighton Le Sands NSW 2216 or fax to 02 9599 0000.

Deadline for submission 31 December.

Name of nominator: _____

Address: _____

_____

Telephone: _____ Fax: _____ E-mail: _____

Name of referee: _____

Address: _____

_____

Telephone: _____ Fax: _____ E-mail: _____

WPSA MERCHANDISE

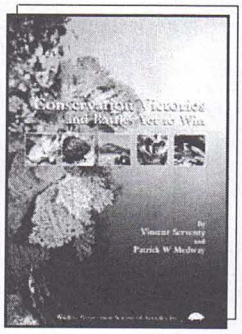
Many of our members have expressed interest in purchasing gift merchandise for friends and family (or even themselves)! This is a great way to support WPS, so we have responded below with a mail order system. Simply send your cheque or credit card details (with expiry date) and we will post your order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

Polo shirts: $25.00
(navy with white logo/ white with navy logo)

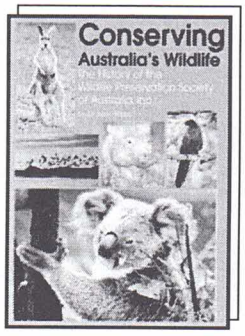
Kids T'shirts: $10.00
(navy with white logo/ white with navy logo)

Cap: $10.00
(navy with white logo)

Drink bottle bag: $10.00
(navy with white logo, bottle not included)



Conservation Victories and Battles Yet to Win
By Vincent Serventy and Patrick W Medway
Price: $20.00



Conserving Australia's Wildlife
By Dr Joan Webb
Price: $15.00

Product	Quantity	Size	Cost per item	Total
Polo shirts	_____	S, M, L, XL, XXL	$25.00	_____
Children's T shirts	_____	4-6, 8, 10	$10.00	_____
Caps	_____	n/a	$10.00	_____
Drink bottle bag	_____	n/a	$10.00	_____
Conservation Victories	_____	n/a	$20.00	_____
Conserving Australia	_____	n/a	$15.00	_____

Add $5 Postage & Handling within Australia : _____
Please allow 14 days for delivery **TOTAL:** _____

Delivery Details

Name: _____

Phone: _____ Email: _____

Address: _____

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

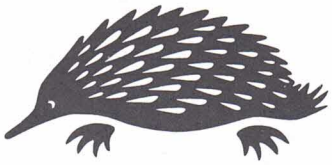
Card Number: |_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|

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: .....

Email: .....

Membership category (please circle)
Individual: $35 Family: $45 Concession (pensioner/student/child): $25
Associate (library, school, conservation groups): $55 Corporate: $65
(Includes GST and postage within Australia. Add $10 for overseas postage)

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

Card Number: |_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|

Name on Card: _____ Expiry: _____

Signature: _____

Amount $ .....

Donation $ .....

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 W MEDWAY AM
National President

It is staggering that while over 100,000 people gave up their Sunday to plant trees, protect farmlands and restore the environment, tree clearing continues in Australia faster than in any other developed country. Research shows that over a hundred million trees are bulldozed and cleared each year in Australia and every day nearly 400,000 trees are destroyed by land clearing. Nearly a football field worth of native Australian bushland is cleared every minute of every day. Australia would need a National Tree Day every three days to keep up with the bulldozers.

Land clearing causes land salting, wildlife extinctions and also greenhouse gas pollution from the burning and rotting of bulldozed bushlands.

Our Society organised its Sydney members to participate in National Tree Day by getting children to plant trees in the Bicentennial Park in Rockdale, Sydney. By encouraging children to help plant native trees, our Society hoped to inspire them to look after the environment in the future.

Rockdale City Council donated 200 trees for this tree planting project and our volunteers planted over 300 trees on the day.

Our Society members were joined by community volunteers from AIG Insurance and AIG donated funds towards the free BBQ held afterwards. Our thanks to AIG Insurance and their community volunteers for supporting our Society in this project.

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