Barung LANDCARE

LANDCARE NEWS

December 1995

Meet The Committee

Daryl Reinke (Pres.)

John Muir (Vice President)

Craig Hosmer (Treasurer)

David Fraser

Ann Oliver

Sammy Ringer (Secretary)

Jenny Allen

Jan Tilden

This issue of Barung's Newsletter is brought to you by *Duck*.

Dixon Hammer & Inge Fountain

Next newsletter - meet the staff - and their ducks.

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Uncle Isaac

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The Nursery Will be Closed Dec. 22 - Jan 2nd

From the Editor

Falling to the Earth

There seems no end to the messages we will scratch on the surface of our earth. From the air, the hinterland's rolling green hills often appear a scabby pattern of roads, houses and slices of red earth where houses will rise. On the receding coastal stip, they have taken this progress one step further; look down and you see scraggly beards of bush which huddle beseiged and out of place amongst the sandy, cleared expanses, the industrial warts and the Leggo housing estates. Fly over this narrow paradise for a time and you will see great blocks of scrub which have been dozed and turned over and left, the stumps burnt and the soil so shocked even weeds hesitate to take residence. It sits, waiting the arrival of tarmac and slabs and paving.

'So', as my grandmother would say, *'what's new?'* Look at history. Humans have always cleared and burned and worns brown paths over the land. They have squatted and scraped and left their mess behind for nature to absorb. Where there are people, there will be roads and houses, offices and shops, car wrecking yards and tips. It's not a process we will reverse overnight. Plagues, flood, famine and pestilance may throw up temporary setbacks but the human race has proven itself a resiliant camper on what remains of this terrestrial parkland. We can't reverse the speed at which the park is being devoured, the numbers are against us. There are more and more of us moving from one spot to another faster and faster - and tending to congregate in those dwindling havens which have not yet been overtaken by other people moving faster and faster...

But perhaps...if you were you to count this unstoppable migration as a blessing, you might look at it something like this:

every new house = a new garden
every new garden could = a small oasis of native flora

Every new person in the area adds the need for greater and greater and less and less sustainable infrastructures (town water, sewerage, land fill sites etc) but - they can also add to the momentum to creatively retain the very things we came here to enjoy.

This can only happen if we acknowledge the inevitable - people from all over Australia (and the world) will move here because this is, quite simply, one of the most beautiful spots onearth. We shouldn't hit these new arrivals over the head with big words and dire warnings - we should welcome them and help them understand what they can do to make the hinterland beautiful into the future.

Barung Landcare plays a part in all this but there are times when the value of the small things we do is lost. We are, after all, a very small organisation which relies on volunteers and the good will of the community.

We hope that the new arrivals, reading this newsletter, will join us.

WHY A DUCK?

From the President

As many of you already know, Lea Harrison has decided to return to her consulting business after spending the past year as Barung's coordinator. She has helped us in many ways during that time, but I'd like to mention in particular her leadership in the start-up phases of the Obi Obi Revegetation project, and her ability to transmit to others her passion for responsible and sensitive land management. While I grew up on farms on the Darling Downs, I'm a novice in dealing with many landcare issues. I've learned a lot from Lea, and want to thank her personally for her help. She will continue to teach sustainable landcare practices, and I'm sure you all join me in wishing her well.

Our new coordinator, John Muir, will start work early in the New Year. He brings to us a training in agricultural extension, together with a conviction that we must adopt new and environmentally friendly ways of managing our land resources. Please drop by the office in the New Year to get to know him, and help Barung to gear its programs towards your most urgent landcare needs by letting him or others in the office know what these are.

You will remember a few months ago we asked you to fill in a questionnaire ranking Barung's major activities in order of importance. We received 34 responses - not a lot, but probably a reasonable cross-section of our members. The activities were ranked, from most to least valuable as:

* operating a local native plant nursery;
* arranging public tree plants;
* lobbying government bodies regarding local landcare issues;

* holding one-day workshops;
* providing a landcare information service to members;
* offering junior landcare education;
* arranging property visits to land holders to give site-specific advice;
* holding property management planning workshops;
* providing a plant identification service;
* selling appropriate books on landcare issues; and
* building up a book and video reference library on landcare issues.

I wonder whether the library has ranked last because we haven't publicised sufficiently some ofthe materials we have available. I'd like to recommend three items to you:

1 The transcript of the last Queensland Landcare Conference at Longreach which includes some inspiring presentations

2 An excellent and thoroughly researched paper by Kath Zaiko on the Baroon Pocket Catchment Area (Kath has kindly agreed that Barung members may consult this paper at the office)

3 A book titled "*Farmers of Forty Centuries*" about the sustainable landcare practices traditionally used in China (not light reading, but nevertheless fascinating).

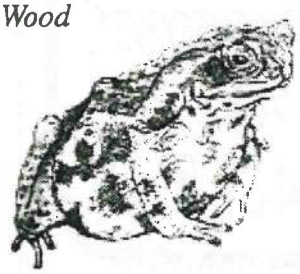
I'm enjoying my term as President of Barung Landcare, and looking forward to a busy program of activities in 1996. We have a enthusiastic and energetic team on the Management Committee, all of whom will be happy to receive your feedback on steps we should take to build on Barung's past successes.

MERRY CHRISTMAS AND HAPPY NEW YEAR TO YOU ALL!
Daryl Reinke

From the Front Desk

Free Rate Trees
Come and collect your free rate trees from Barung's wonderful range of native plants. Since we have had the new shade house erected the plants are looking 100% better. With every Caloundra City rate notice you will receive 2 tube size plants. You can pick any tubes in the nursery. If you have no room for any more trees on your block, they would be good Christmas gifts. The staff at Barung are looking forward to seeing you in the near further.

Christmas Ideas
Barung has a wonderful range of Christmas ideas. Ranging from hessian shopping bags, garden kneeling pads, Barung T-shirts, S.E.E.D.S. T-shirts, small and large Rainforest Kits, Bush tucker Kits and a wonderful range of Books, and much much more. Please come in and have a look.
I will be going on a 3 week holiday over the Christmas break but will be back in time to write this column for the next newsletter. I would like to take this time out and wish everybody a wonderful Christmas and a prosperous New Year, and where ever you go, please drive safely.
Lisa Wood



Is it our imagination, or are there fewer cane toads this year? Let us know,.

From the Nursery

Seeds - if you please!!!

Barung's nursery is in dire need of some particular seeds - do you have the following? -
Mallotus discolour - Yellow Kamala
Mallotus philippensis -Red Kamala
Omalanthus populifolius - Bleeding Heart
Clerodendron floribundum - Smooth Clerondendron
Castanaspora alphandi - Brown Tamarind
Cupaniopsis parvifolia - Small Leaved Tuckeroo
Dysoxylum rufum - Hairy Rosewood
Syzygium leuhmanni - Riberry
Ehretia acumanita - Koda
Kennedia rubicunda - Running Postie
Planchonella australis - Black Apple
Sterculia quadrifidia - Peanut Tree

And Tubes Please, Too!
Barung are in need of tubes - do you have any ??

John Muir - Our New Co-Ordinator

37 year old John (married to Trudi Cauley-Muir who teaches at the River School) was born & schooled at Manly, Sydney. He studied Agriculture at Hawkesbury Agricultural College (now University of Western Sydney) and then spent over 10 years as a District Extension Advisory Agronomist with NSW Agriculture (DPI equivalent) in south west NSW Riverina districts, mainly based at Hay. He worked in Cambodia from 1992 to 1994, with Trudi, on an Australian Catholic Relief/AUSAID community development project. He has recently arrived in Maleny, and has been actively involved in Barung as vice president and is also on the Baroon Pocket Dam Catchment Care Committee. He's also been working on their newly purchased old Queenslander removal home Enjoys sailing, Permaculture, good films and books and he's looking forward to meeting with all Barung members and working closely with them and the community.

Remnant Vegetation...

Over the past year, the Department of Primary industries (DPI) hay started a Remnant Vegetation Management Project for the Mary River Catchment. There are two approaches: demonstration sites, and "adopt a remnant" opportunities.

Three demonstration sites have been selected as representative of several different vegetation types - a riparian rainforest community at Chinaman's Creek, a eucalypt vegetation community near Kilkavin, and a site with three different vegetation communities at Pomona. Most of the sites received some damage as a result of cattle grazing the vegetation and compacting the soil. Regeneration characteristics will be monitored now that the areas are fenced.

The "adopt a remnant" idea could be an exciting one for our area. Under this approach, individuals or groups work in co-operation with other interested people to save endangered areas. Issues to consider when choosing and establishing a program for a specific remnant could include:

1. The level of disturbance - an area which is under threat from grazing cattle may be an important area to conserve, or a relatively untouched area may contain significant flora or fauna in need of protection.
2. Linkages between the selected remnant and others in the area which may be beneficial to wildlife.
3. Protection from livestock and native grazing animals to encourage native regeneration.
4. Management issues such as woody weed control, seedling establishment, bush regeneration techniques and fire management.

Bronwyn Robertson, DPI's Remnant Vegetation Project Officer stationed in Gympie, is interested in updating us on this program, and Barung will organize a presentation and discussion of the program early in the New Year. We are giving this advance notice so that members with land in the Mary River catchment area can start thinking about suitable sites for adoption. If you know of such a site on a neighbour's land please share your newsletter with them, and let us know about it so that we can be sure to include them on our mailing list when we publicize the time of

Fish Need Trees

Riparian zones are what the average Australian would describe as trees and bushes on creekbanks and on riverbanks and dams and lakes and other water-courses.

These are the areas where land-based and water-based ecosystems meet and interact and as such, they are the "ecological arteries of the landscape". When the arteries are clogged, problems result, threatening the sustainability of life on land and in water.

According to Griffith University's Dr Stuart Bunn of the Centre for Catchment and In-Stream Research, "riparian zones are areas which directly influence stream channels and lakes and the ecosystems within them".

By stabilising banks and dropping logs and debris into waterways, riparian zones may affect the stream channel's form and provide food and shelter for fish and other invertebrates. They can also help growth of in-stream life by providing shade and litter for food - and even support wildlife on the land.

Riparian vegetation helps protect water quality - vital in this, the world's driest continent. The health of a stream can often be judged by the life that surrounds it. Dragonflies and damselflies are a stream "health patrol"; mayflies, stoneflies and caddisflies, well known to fly fishers, are found predominantly in healthy, flowing water. Various other groups of bugs, beetles and flies, are a significant food source for wetland fish, terrestrial birds, frogs, reptiles, bats and other mammals of the riparian zone.

The Forest Services recognises the importance of riparian zones and is working to protect them in State Forests and plantations. Guidelines have been established to protect vegetation in water catchment areas, especially during harvesting operations.

The Forest Service is also helping to heal one of Australia's most degraded waterways, the Mary River. Forest Service Extension Officer Simon O'Donnell is leading a study of plant human and environmental influences.

"The study will provide us with more information about the steps we need to take to protect the river's native vegetation," Simon said.

"Our aim is to provide for maintenance of aquatic habitats, ecological processes, ecosystems and bank diversity."

The Landcare-funded study has sites at Kenilworth, Gympie and Maryborough, including severely eroded areas which will be replanted and fenced off from stock to allow regeneration.

Forest Service protection of riparian vegetation is also helping to replenish the rare Mary River Wlaccullochella Cod which has been subjected to overfishing. Last December, waterways in Imbil and Toolara State Forests became home to over 1400 fingerlings.

Assistant District Forester Peter Leeson said the creeks running through these State Forest plantations were among the last areas suitable for the rare species.

"Habitat preservation is part and parcel of state forest management and this project is a great illustration of this. Our conservation management practices in the interests of watershed protection and habitat preservation are realising returns in the form of healthy ecosystems and species diversity."

NATIONAL RESEARCH EFFORT

The Mary River is one of a number of sites being considered for a five year national riparian zone research and development program begun by the Land and water Resources Commission in July.

Dr Bunn said the research and development program was working with the Department of Primary Industries and other agencies to identify sites and management issues, assign priorities and undertake specific research. Demonstration sites will be established in problem areas throughout the state.

"The goals of the program are to develop guidelines and demonstrate practices for effective and economic management of riparian zones, to help maintain and improve the condition and values of streams. wetlands, lakes and their associated terrestrial ecosystems.

"We'll be focusing our research on areas where very little or no research has been done. For example, we know nothing of how riparian zones function in the semi-arid zones of central Queensland. As riparian zones vary from region to region we have to develop specific regional guidelines.

"In 12 months we'll have interim guidelines to assist agencies, community groups and landholders who are already seeking advice."

The research should dispel some landholders' concerns about riparian zones (they do not encourage weeds and feral animals!) and show how they can bring economic benefits. Anecdotal evidence from developers suggests a well managed riparian zone can add 15 percent to the value of a property.

"Riparian zones should be fenced off, but this is to manage access to it rather than prohibit it altogether," said Dr Bunn. "For example, farmers may choose to let stock in when fodder supplies are low."

Dinasaur Trees

Locked away in a Sydney laboratory under tight security is a cabinet where a living fossil, the Wollemi pine, is being brought into the twentieth century using cloning techniques. A relic from the age of the dinosaurs, the pine was thought to be extinct until late last year, known only from fossils gathering dust in museums. Then it turned up in a relatively inaccessible gorge in the 500 000 ha wilderness of Wollemi National Park. When the Wollemi pine was discovered, Professor Carrick Chambers, director of the Royal Botanic Gardens, hailed the discovery as "the equivalent of finding a small dinosaur still alive on Earth".

Dr Ken Hill, senior botanist from the National Herbarium of NSW, recently addressed staff from DPI Forestry and the Queensland Forest Research Institute, as well as interested residents in Gympie, on the difficulties in identifying the conifer - for example, the botanists had to collect their samples while dangling on the end of a rope from a helicopter in a narrow canyon in the sandstone massif of the Wollemi Wilderness.

Dr Hill identified the pine, previously known only from 50-million-year-old fossil pollen, as a member of the Araucariaceae, and a distant relative of Queensland's hoop and bunya pines.

To conserve the pine, botanists plan to propagate seedlings and distribute these to botanic gardens worldwide. A scientist at the Royal Botanic Gardens in Sydney, Cathy Offord, has the job of turning 20 wild, adult Woolemi pines into thousands or millions of trees. The 39 trees that have been found are thought to be all that exist in the world. With so few trees, a bare minimum of seeds and other material for propagation can be collected, and everything that goes into the tiny grove of trees is sterilised to prevent infection by fungi. That includes the soles of the shoes of specimen collectors.

The best hope for mass propagation from seed lies in cloning individual seeds by tissue culture, which requires just a few cells. These cells are placed into test tubes with a special gel, and hormones are added to produce either roots or leaves. Identifying the hormones is not easy, particularly the hormone which results in rapid reproduction.

Another possibility for producing these "dinosaur" trees would be to make use of the vegetative propagation techniques developed at the QFRI in Gympie, and experiments already undertaken with hoop pine indicate that cuttings could be an easy and successful way of increasing Wollemi numbers quickly. QFRI's clonal technology is mainly used to reproduce the best of a new hybrid developed by DPI Forestry, a slash/Caribbean pine cross. The clones produce timber of very high standard, and can result in 50% greater volume in plant production. All the basic material is ready for a move into large-scale clonal testing of the hybrids in the next few years. The process involves planting young trees which are heavily cut back after a six-to-eight-week settling period. When they start to grow again, they multishoot. The shoots are removed and placed in a nursery bed under shade and irrigation where they are tended for 10-12 weeks until they grow roots. Seven months later they are planted in the field.

While Queensland has no prehistoric trees as rare as the Wollemi pine, it does have its own supply of rare trees, according to Professor Trevor Clifford from the Queensland Museum. Our best example is the bunya pine, the distribution of which is now largely restricted to south-east Queensland. It is found in two small areas, one between Gympie and the Bunya Mountains and the other about 40km inland from Port Douglas.

"There are also plenty of rainforest trees known only from a limited locality, some of them down to just two or three trees. But the bunya pine is our best example of something which once had widespread coverage and now has very restricted distribution.

Professor Clifford said he had also seen fossilised tree stumps sticking out of rocks in the Wandoan district, and there are standing stumps in the mid-Downs area around Miles.

Reproduced from 'Between the Leaves' - Spring 1995.

Barung Landcare Rural Sub-Committee Report on The University of Queensland Collaborative Research Activity in 1994.

SUMMARY

The University of Queensland, Centre for Integrated Resource Management, is working with the Barung Landcare Rural Subcommitee in analysing soil samples firom farms where effluent and/or fertiliser is applied using various methods, as well as water samples from streams within the study areas. Funding is from the National Landcare Program.

Two sets of soil samples (totalling 270 samples) were taken during the rainy and the dry seasons from six farms with different effluent management practices. The disposal methods included direct irrigation onto pasture by spray and manually moved irrigators, disposal through a worm farm and an agroforestry plot and disposal via a double pond treatment system. Soil was analysed up to a depth of one metre. The results show a large range in the levels of ammonia and nitrate-N in the soil profiles (from 90 to 880 Kg N/ha) both within fields and between farms. The levels were large enough to cause concern about nitrogen movement into the ground water or by lateral flow or overi and flow into streams.

Soil samples taken from an adjacent paddock and an area of remnant rainforest on the same soil type as the dairy farms, but with no history of fertilisation or effluent irrigation, were very low in ammonium and nitrate-N (0.1 to 10 Kg N/ha). This large difference in mineral nitrogen between these sites and effluent irrigated or fertilised fields is most likely explained by the pasture improvement practices on the dairy farms.

Tile Krasnozem soils are highly fixing of Phosphorus and available P levels in the soil decreased rapidly with depth, with only small amounts present at 30cm depth. Soil salinity levels and pH were little affected by the effluent treatments. There is no consistent difference between fertilised and effluent treated sites, but there is a large difference between the mineral nitrogen levels in these sites and in trial sites which have no history of nutrient addition. The dairy shed effluent contained soluble nitrogen mainly in the form of ammonium.

Results firom samples taken from a farm implementing a double pond disposal system were of particular interest. The system appears to be achieving a substantial reduction of mineral N contained in the ponded/stored effluent. The level of ammonium was reduced ten fold from the first to the second pond and very low levels of nitrate were present in both ponds. Soil samples taken from the site on this farm where effluent was piped directly onto pastures from 1978 until 1994, revealed very high levels of nitrate and phosphorus. This suggests that these nutrients can accumulate and persist. Samples taken from the site where irrigation of the pond treated effluent occured were low in all nutrients. However, irrigation of this field with the treated effluent only started six months previously.

Analyses of two sets of stream samples (totalling 54 samples) showed no consistent influence of the farms on the amounts of nitrate and ammonium the streams. While total N levels in the samples analysed were well below thresholds set for drinking water quality, many were at a level which may stimulate algal growth. Total N levels in the streams appeared to be elevated following a significant rainfall event. Levels of phosphorous were generally low; however six samples revealed levels in excess of 0.10 ppm, which may be high enough to stimulate algal growth.

Proposed Activity in 1995/96

+ Continue to monitor the effect of different methods of effluent disposal on nutrient accumulation in the soil profile.

+ Monitor the movement of nitrogen down the soil profile using suction cups placed at different depths in the soil, particularly during and after rainfall.

+ Assess the charge characteristics of the study areas' soils in order to estimate the potential for leaching of the accumulated nutrients in the profile.

+ Monitor the movement of nutrients in surface runoff for effluent treated paddocks and for urban development areas using stream water sampling and overland flow tipping bucket sampling devices.

+ Follow the changes in the form and concentration of soluble and organic nitrogen in the double pond disposal system established by this project on one participating dairy farm

+ Collate existing useful data on rainfall and groundwater quality (Caloundra Water Board) to complement existing data generated by this project.

+ Publicise our findings through farmers field tours, discussion group meetings of the landcare group and report writing and publication.

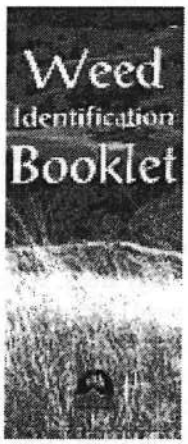
CHRISTMAS GIFTS...

We have an amazing range of gift ideas for garden lovers and property owners! A present for every taste.
Choose from our selection of beautiful hanging baskets, Rain-forest and Bush Tucker Kits, flowering climbers and ground covers which are on display now.
Native Violets (Viola hederacea) are at their best, cascading in towering beauty from hanging baskets or carpeting boxes.
A number of prostrate grevilleas are also available in hanging baskets.
Cat's Whiskers (Orthospihon aristatus) a stunning white flowering groundcovering perennial to 1 metre high and the same width. This fast growing plant loves moist places in shade or sun and has long been known in cultivation for the ease with which it's grown although it is frost tender in exposed conditions.
Bower of Beauty (Pandorea jasminoides) a beautiful native climber that has attractive glossy leaves and gorgeous pale pink trumpet flowers with red throats, that are borne in Summer and Autumn.
Bush tucker and Rainforest Kits We have a special selection of 10 Rainforest or Edible Native Plants available in an attractive package which includes 3 plant species and a culture List - already packaged as an ideal gift.
For these and our other Christmas gift ideas hurry to Barung, 17 Bicentenary Lane, behind the Rainforest Plaza where we have not only plants but a good selection of books, hessian shopping bags, garden kneeling pads, Barung T-shirts and much more! Make sure you drop by while stocks last.

From Chainsaw to Fine Furniture

Barung Landcare, with the assistance of DPI Forestry, will hold a major exposition in April, 1996 to feature the work of local wood workers from the Blackall Range area who work in native timbers, preferably those that grow locally.
The objectives are to provide a showcase for local craftspeople, to display their work in native timbers, at the same time educating the community on the beauty and value of these timbers and promoting a better understanding of the economic opportunities for farm forestry growing local native species.
If you'd like to take part - call Lisa at Barung on 943 151.

Know Your Weeds



Now available at Barung Nursery - the Weed Identification Booklet compiled by Gympie & Distict Landcare - over 20 local weeds in (glorious?) colour - just $1.50 while stocks last.

VOLUNTEERS - ONE-TIME OPPORTUNITIES -

Help paint Barung's work room (and perhaps donate paint)
Help organise Barung's major fundraising activity for the year (an exposition called *"From Chainsaw to Fine Furniture"* to be held in April 1996),
Organise and identify old photographs of Barung's past activities
Help review documentation of past activities, and prepare a chronological record of Barung's achievements

ONGOING OPPORTUNITIES -

Help plant trees at Barung-organised tree plants.
Help with plant propagation, and potting of seedlings, under Denise Iron's masterful guidance.
Maintain Barung's existing nursery stock in weed-free condition
Collect ripe seeds from native species on your property, and deliver them to Barung for propagation (idcntify trees carefully, and check first to see that the seeds are needed)
Help with a variety of maintenance tasks in collaboration with Barry Beale
Weed Barung's gardens
Collect SEEDS members from the primary school prior to each monthly SEEDS meeting, and supervise their walk over to Barung
Help staff street stalls organised by Barung as fund raisers
Help Lisa Wood with general office work (filing, etc.). Please contact Lisa to register your interest in any or all of these activities.

The Role of Native Plant and Animal Communities in Catchment Management

Cont'd from the Oct-Nov Newsletter...

SALINITY

When forests and other perennial native vegetation are removed, salts in the groundwater rise to the surface. In one area of Victoria, around Walpeup the groundwater recharge rate has increased from 0.1 millimetres per annum to 3 millimetres per annum following clearing (Breckwoldt, 1986). Also, with clearing there is usually an increase in the total amount of runoff in a catchment. Large areas of Victoria, South Australia and Western Australia attest to rising water tables and salts as evidenced by the huge loss of agricultural lands in those states.

Dorricott and Roberts (1993) state that there are major influences on runoff and groundwater recharge namely;

- differences in incoming energy due to variations in slope and aspect over a catchment or between catchments;
- differences in rooting depths of vegetation which create different moisture deficiencies as the catchment dries out;
- cultivation and cropping practices such as fallow which greatly reduce evapotranspiration loss for significant amounts of the year.

WILDLIFE HABITAT

Large areas of native vegetation are essential for conserving native animals. In a catchment it is important that these native vegetation areas occur in large blocks and are linked to each other by corridors.

There are at least 12 rare and endangered plant species that only occur in remnant communities on private land. Others may be confined to roadside verges. In the Victorian Wimmera 90 species of bird were found in a strip of native vegetation 2.5 kilometres long and 70 metres wide. Nine of the species were waterbirds. This number equals the average population found in continuous woodland in the district. In another part of Victoria (South Gippsland), isolated remnants of 50 to 100 hectares in area supported about half the 21 native mammal species of the region, excluding bats. The diversity of habitat has a bearing on the diversity and abundance of wildlife living in it. A woodland may contain a few species of tree, but may contain numerous shrubs and smaller plants. If the woodland is grazed heavily or cleared and these smaller plants are removed, the range of native animals will decrease also.

The reason for wanting to keep as many native species as possible lies in recognising that all things in the environment are interconnected and have a value. As we have seen with the removal of trees in some parts of Australia, dryland salinity results. Many people in Australia admire the building constructed in Europe and England in the past several hundred years and the Sphinx and Pyramids constructed a few thousand years ago. Surely, native plant and animal communities that have developed over hundreds of thousands of years should be equally treasured and protected?

Just retaining small isolated patches of native bush will not be enough to retain the variety of native animals that would normally occur in an area. Small and large native bushland

areas need to be linked to each other. Some species of bird will fly great distances between bushland areas. However, many smaller species will not. They will expose themselves to predators, such as eagles, if they fly between clumps of native vegetation. Small mammals and reptiles, such as native mice and lizards, will be restricted to each vegetation clump. Thus, it is important to have a regional network of corridors for wildlife.

GENETIC RESOURCES

Not all populations of one species are the same. There is variability in all species. Some species of plants that are widely spread may contain different genetic material in various populations at different locations. The river red gum (Eucalyptus camaldulensis) shows this variability between populations.

Seeds taken from the population at Petford in Queensland have been used in Nigeria and Zimbabwe to achieve outstanding results, but the population at Lake Albacutya in Victoria is used in Mediterranean countries. Others from western Victoria are highly salt - tolerant and can be used to reclaim salt - affected soil and prevent erosion. As ably stated in Breckwoldt (1986) "Agriculture stands to benefit most from remnant vegetation that contains genetic material that can be used in a changed and changing environment".

To Be Continued...

From the *Australian Journal of Soil & Water Conservation Vol. 8 No. 3 August, 1995.*

District Water Quality Monitoring and Education

On-going monitoring of our local waterways is now possible, following the purchase of testing equipment by Barung Landcare and Baroon Pocket Catchment Care groups. Several water quality training workshops have occurred thanks to Peter Oliver and DPI. Part of this monitoring is the DPI's "Waterwatch" school education program, presently being run at the River School on Bridge creek. Not only is equipment used to test the water, but its health is also determined by the number and variety of water insects found

Two projects also presently being conducted by Barung are the Dairy Effluent trials and the Obi Obi creek restoration, which are both helping to reduce the pollution and sediment loads in our waterways A report is available on the Dairy Effluent trials (see article in this newsletter). If any group or individual is interested to learn more or join in Waterwatch activities, please contact
Cameron Romano
Mary River Catchment Waterwatch Coordinator
DPI Gympie, Ph 074 821522;
Barung Coordinator, John Muir;
Baroon Pocket Catchment Care members, John Wildman or Des Harries.

Note: There is also funding available to all landholders from the Mary River Catchment Riverbank Restoration Grant Scheme: -
Contact Allan McGrigor at DPI Gympie on 074821522 or get a brochure from Barung.

Uncle Isaac

"Every Sunday after church, summer and winter, Uncle Isaac walked the back paddock. Some days we kids would line up and walk with him, hands stuck deep and angry in our pockets, feet clump clumping over the frozen clods, hacking and spitting and stopping to look up at the sky and read it. Times Isaac would stoop down and press his hand on the dirt, face all furrowed and nine digits spread over the icy soil. We'd stop and wait and never did stoop down with him but we wouldn't make a sound till he'd finished listening and stood up again. On good days he'd nod and wipe his hands on his trousers like he'd been given sound advice; on bad days he'd jump up straight and shake a brown fist at us and we'd scatter like chickens to let him finish his argument with that back paddock and the dirt-brown frost and the withered crops."

FROM DISASTER TO DUCKS...

The massive Beerburrum fire salvage effort is now complete with close to 400 000 cubic metres of timber built on 40 ha of State Forest plantation land, the irrigated storage facility is preserving logs that were salvaged after the 1994 wildfires for future timber needs.

An unexpected benefit of the site is that the dam is proving successful in another way.

Around 100 ducks have been drawn to it and are nesting on the grass beside the log storage area. Moreover, hundreds of frogs and thousands of swallows are visiting the site, drawn by the insects and mould on the logs being stored.

Matt Grant, manager of the Beerburrum fire salvage task force, described the fauna invasion as 'a welcome side effect of a successful timber salvage operation.

Now we have frogs and ducks to eat the insects living on the tree mould, ducks to nest near the dam, and swallows diving for the insects.

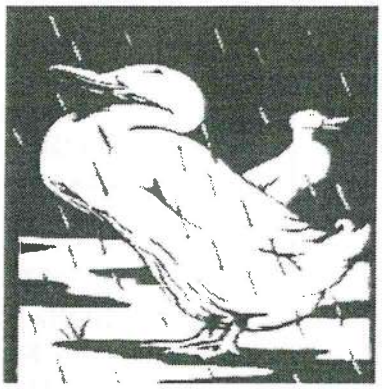
We have been careful to avoid any detrimental effect on the local environment, and we have succeeded in doing more that this - we have created what appears to be a healthy waterway.

The water we pump over the logs through sprinklers dissolves oxygen and nutrients from the soil and from the logs themselves.

Our initial concern was to do all the right things with environmental monitoring and development of an Environmental Management Plan for the site to ensure we have no detrimental effect on the environment.

To our great pleasure, we have been fortunate to have achieved no negative impact and also to have created a new ecosystem which is quite healthy.'

When bushfrres swept through Queensland's State Forests in



September last year and again two months later, they left in their wake 4800 ha of damaged plantation pine trees in the Beerburrum area. These were the worst plantation fires to strike Queensland in 70 years.

The second set of fires were a nightmare for forestry officials who only weeks before had managed to find markets for the 200 ha of timber damaged in September.

Losses could have been up to $35m were it not for the salvage operation that followed. Salvaging began virtually as soon as the fires were out. Over 100 men and machines worked around the clock to save $35 million worth of pine in the biggest timber operation in Queensland's history.

The Ash Wednesday fires in the early 1980's had taught that, if logs were kept moist, they could be as good as a green tree for up to five years.

The biggest problem was the lack of a large body of water in which to store the logs. As a result, a .05 megalitre dam and an advanced irrigation and sprinkling system were built adjacent to Elimbah Creek, the main source of freshwater supplies for the dam.

The logs are stacked according to size, and a series of sprinklers fed by an underground irrigation system are placed over each pile to keep the timber moist. Water is sprayed daily, since research has shown that Ips beetles and other harmful insects and fungi will not attack moist logs.

Matt Grant said they work with nature in terms of their water supplies. 'At times when there is plenty of rain, we pump water into the dam.' he explained.

'For the animals nesting there now, it is a wonderful new environment. However, we don't want to pretend we have created a new paradise that will be there forever.'

The future of the site, he said, has yet to be determined, although one possibility is that it will be kept for storage following disasters such as the one that led to its present use.

'Now that we have all the environmental monitoring equipment on site, it may be appropriate to keep it as a log processing and merchandising facility for the local industry beyond the next four years, the expected length of time by which the last of the current logs will be sold.'

Test are made regularly to monitor the site's impact on the immediate surrounds as well as on Pumicestone Passage.

The whole salvage operation cost about $10.2m, including about $7.5m on the harvesting, haulage and stacking of the logs, and about $2m on construction and maintenance of the storage facility. The value of the salvage to the timber industry will be about $300m.

Another advantage of the salvage is the prevention of job losses, since continued supply of timber from storage prevented closure of two mills during an extended period of wet weather when field operations had to be suspended.

The size, speed and success of the operation has been hailed nationally and internationally as a model for the plantation timber industry.

From 'Between the Leaves' - Spring 1995.

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