



The **CODLine**

***Incorporating NEWS of the
Mary River Catchment Coordinating Committee***

Matter of balance

by Helen Lofthouse
Mothar Mountain

My family and I moved to Mothar Mountain in 1987, so we are almost long-term residents. We were living in Melbourne when our son arrived and didn't want to bring him up in an urban environment, so we did a tree change before it had a catchy name. It was like coming home for me as I had grown up on a farm at Wamuran west of Caboolture.

We feel extremely fortunate to own our current property of 230 acres on which we have a Charolais stud. One of our boundaries is defined by 1.5 km of Six Mile Creek.

This stretch of the Six Mile is in very good condition and we consider it our responsibility to maintain this condition. It is always a joy to go for a walk down the creek: the water is generally clear except for a brief period after flooding, the big old trees lean out and into the water, and there is always life – an amazing and diverse range of plants and birds and even an odd frog or two.

The creek has a riparian zone of endangered rainforest; it is very fortunate that cattle have always been excluded from this area. We have set aside a further 25 acres of buffer zone forest to ensure this habitat isn't affected by adjacent land use.

We aim to balance our primary production with maintaining a healthy natural environment on the property.

Recently I travelled through outback NSW and South Australia and it was

shameful to see the land degraded by farming practices. I don't blame the farmers or the drought; it is important that farmers have support to destock when there is no fodder left rather than having so few options that they are tempted to soldier on to the detriment of all.

There is always a time and money balance between running the farm and doing things that will help maintain the viability of the creek banks and the environment. For example, weeding is a big issue.

We have both environmental weeds, such as small outbreaks of cat's claw creeper, and paddock weeds. The most important paddock weed we face is giant rat's tail grass which would have an enormous economic impact on the farm's production if it was allowed to get away.

As I provide all the labour on the property (my husband works away from home), I have to decide which weeds get my time. Will I crawl through rainforest vines trying to spot the cat's claw creeper, or will I walk around looking for the tell-tale heads of the giant rat's tail grass?

I do both, but when push comes to shove it's the giant rat's tail grass that gets prior-



Beef breeding balanced with environmental care.

[Photo: Helen Lofthouse]

ity because it will affect the viability of our business and the value of our farm.

The support I have received for weeding through the Mary River Catchment Coordinating Committee (MRCCC) has been invaluable. Over two years with their assistance we have eliminated the cat's claw creeper and hopefully most of the other weeds from the creek banks. Setting a date and weeding with a group is an enjoyable and achievable way of getting the job done, and it means I don't have to think about weeding again for a while. This is a relief, because otherwise I would always be feeling I should be seeing to the weeds but not seeming to find the time.

Fencing off the 25 acres of buffer zone has also been very successful; the MRCCC

... Continued on Page 2

Matter of balance ...

... continued from page 1

provided the funds for the materials and we put the fence up. We have also been updating our watering systems so water is pumped to a tank and all cattle are watered from troughs or dams.

We have also drastically cut back on the number of cattle we were running to try to get the balance right, especially with the drought affecting the pasture production so badly. In the future we will be aiming to maintain stock numbers at a level where we can minimise the amount of hay we have to buy in, and we are currently organising infrastructure to be able to irrigate fodder crops.

Recently we planted a further 400 trees, of which 100 were provided by Land for Wildlife and 300 by MRCCC, to develop further riparian buffer areas. I aim to plant a buffer area along our farm boundary within 18 months.

These buffer zones will have to be fenced on both sides but they will set up wildlife corridors across the block. They will also act as windbreaks between paddocks and benefit farm management in that cattle in adjoining paddocks can be isolated from each other.

I also plan to re-fence the creek. The old fence is just two strands of very old wire and it's actually lost in the forest in some places. We will move the fenceline away from the creek a little to reduce the chance of erosion where the cattle walk along the fence. It will also allow us to maintain a weed-free barrier along the fence for easier maintenance.

The Gympie & District Field Naturalists Club recently held a field day at our property. It is a pleasure to share with people who are interested in what we have and what we are endeavouring to achieve.

We would like to put proper tracks into the large areas of vegetation to make them more accessible for bird watching and general enjoyment, as well as for weeding operations.

The support from Eva Ford at the MRCCC has been great.

I am really hoping we will be able to keep this relationship going because so often it makes the difference between getting it done and not getting it done, especially the weeding.

A moving experience!

by Deb Seal

Mary River Catchment Coordinating Committee

February 2008 saw the MRCCC relocate AGAIN, this time to the old Cooloola Shire Council depot in Tozer Park Road, Gympie, where Council has provided ample space for our staff, Waterwatch laboratory, parking and storage for at least two years.

Rumour has it the site has been earmarked for the future Gympie Aquatic Centre, which will hopefully mean it will remain available to the MRCCC for some time yet. All contact details remain the same, with the exception of the physical address. It's not hard to find, just around the corner and down the hill from the old Dairy Farmers building and the old Qld Rail buildings that the MRCCC used to occupy!

The Resource Centre continues to provide information and a basic water testing service to the wider community and to schools in the region, as well as providing office space for MRCCC staff and project officers.

Committee

Council amalgamations have resulted in changes to the Committee. Councillors Julie Walker and Graeme Engeman of Gympie Regional Council now represent Middle Mary Local Government and Cr Debbie Hawes of Fraser Coast Regional Council now represents Lower Mary Local Government. We have yet to receive a response from the Sunshine Coast Regional Council regarding representation for the upper Mary. The MRCCC highly values our partnerships with local government; these partnerships have produced award winning results in past years.



Funding

At the time of writing, Federal funding beyond June 2008 for the MRCCC's ongoing riparian rehabilitation projects, grazing land projects, community Waterwatch networks and threatened species habitat restoration projects is uncertain.

This is not a new situation for the MRCCC and the many other community environment groups who endeavour to maintain community engagement and project continuity through changes in government. The Federal Government has indicated there will be a competitive tender process for projects from September 2008, and we will seek to participate in this process.

Meanwhile, MRCCC aims to maintain these well-supported and effective projects wherever possible, and our staff will be exploring all avenues of funding to do this.

Mary Catchment Resource Centre

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Gympie 4570
Ph: 07 5482 4766 Fax: 07 5482 5642
Email: mrecc@ozwide.net.au
Web: www.mrecc.org.au

Traveston Dam proposal updates

Dam proponents

Queensland Water
Infrastructure Pty Ltd

Website: www.qldwi.com.au
Phone: 1800 225 384
Email: info@qldwi.com.au

Dam opponents

Save the Mary River Coord' Gp
Website: www.savethemaryriver.com

Save the Mary Support Centre

Main St, Kandanga
Phone: 5488 4800

More info

www.stoppress.com.au
www.onlineopinion.com.au/view.asp?article=7340&page=0
www.youtube.com/watch?v=v3BcveG2DZg

Endangered turtle hatchlings swim away

by Marilyn Connell
Mary River Turtle Conservation
Project Officer
Tiaro & District Landcare Group



Tiaro Landcare member Lynn Klupfel says that the group really appreciates the community support for their turtle project. Protecting this endangered species which lives on our doorstep is a community effort.

For more information on Tiaro's turtle actions, contact Marilyn Connell on marilyn.connell@bigpond.com



Tiaro Landcare project officer Tanzi Smith releases artificially incubated Mary River Turtle hatchlings into the Mary River. [Photos: Marilyn Connell]

One hundred and four Mary River Turtle hatchlings were released back into their home in the Mary River near Tiaro this nesting season. In early January, Tiaro Landcare project officers rescued the eggs from rising floodwaters, as once the eggs are submerged the developing embryo dies. The eggs were taken to QPWS Mon Repos Turtle Research Centre where their incubation was completed.

It was fantastic to watch the little ones scuttle down the bank, find their water legs and swim away into their natural environment, the Mary.

More than 40 Mary River Turtle nests were protected during this nesting season, thanks to the project officers who start work at dawn to protect the nests before any predators arrive. The majority of eggs from unprotected nests are eaten by wild dogs, foxes and goannas.



Our very own Ramsar site

by Dawn Forrer
Twitching for Mary Coordinator

The coastal wetlands of the Great Sandy Strait are recognised as among the most important roosting areas and summer feeding grounds for at least 45,000 migratory shorebirds. These birds travel from the northern hemisphere, some from the Arctic. Even tiny birds weighing less than 20 cent coins make the journey, whatever the weather.

Some then stay here for the winter, especially the young and old. There is evidence that the Strait is also of critical importance for non-breeding yearling birds that do not return to the northern hemisphere until the following year.

During migration, waterbirds rely on a chain of highly productive wetlands to rest and feed, building up sufficient energy to fuel the next phase of their journey of 25,000 km. International cooperation across the migratory range is

therefore essential to conserve and protect migratory waterbirds and the habitats on which they depend.

The Great Sandy Ramsar Site was listed as a Wetland of International Significance in 1999, with the Australian Government committing to ensuring 'its special ecological values are maintained or improved'. This site covers the area from the mainland at the mouth of the Mary River near Maryborough to Fraser Island and lengthwise from Hervey Bay to Cooloola Cove – 93,160 hectares.

Back in 1981 the Australian Government signed the Japanese–Australian Migratory Birds Agreement (JAMBA). In 1988 a similar agreement was signed with China (CAMBA) and only last year another agreement was signed with Korea (ROKAMBA). These agreements are designed to protect migratory birds that are in danger of extinction by allowing the birds on their migratory paths to rest and feed in sites such as the Great Sandy

Ramsar Site. The wetlands support eight-een of the 24 species listed under JAMBA & CAMBA.

The Great Sandy Ramsar Site is important for other endangered species too. The Burnett Mary Regional Catchment Group also sees the whole area of the Great Sandy Strait as important enough to be included in its application for biosphere recognition for the Gympie Region.

We have protected the Great Sandy Strait Ramsar Site for birds to rest and feed, away from the cold Arctic winter – just like people who come to this area! Should the Mary River be dammed and put a downward 'Population Cap' on the birds visiting our area too?

More information on the Great Sandy Ramsar site can be found at www.ourgreatsandy.com

For more info on birds in the Mary catchment, contact Dawn Forrer on 5485 2836 or greenlinnet@cooloola.net

Reveg & turbid runoff

From a presentation by Bruce Carey, Qld Department of Natural Resources and Water, reported by Vanessa Moscato, Waterwatch Coordinator, Noosa & Six Mile Catchments.



Soil cover is the key to erosion control and clear runoff.

'Hungry' water picks up sediment, nutrient and pesticides as it moves across the landscape, searching for the path of least resistance in order to complete its journey. This journey is not necessarily a direct route to our creeks, rivers and out to sea. It is often a short trip to the next change in slope where sediment drops out as water flow slows – it might even be just a low flat area in the neighbour's paddock.

So next time you go for a walk around your property or reveg site, ask yourself some key questions: Where does the sediment come from? Where is it deposited? Nature is always in a state of flux, and the answers to the questions we ask will always differ depending on local conditions.

Reducing turbid water

The movement of water-borne pollutants is a complex issue with no simple solutions. *Good water quality is all about good land management.* Riparian filter strips cannot compensate for poor land management practices.

A filter strip – no matter where it is located – cannot be expected to absorb all of the sediment from a poorly managed catchment. Unless we have responsible land users coupled with vegetation cover everywhere, the export of sediment, nutrients and pesticides into our creeks and waterways will continue to occur despite our best attempts to establish riparian filter strips. Ideally, the whole of the catchment, not just the waterways and drainage lines, needs good cover.

A vegetated filter strip will only be effective at reducing sediment and nutrient inputs into drainage lines and waterways if it is on contour and does not become overwhelmed with sediment.

A constructed sediment trap can only work if it is on contour and regularly maintained – otherwise it will just divert and concentrate runoff.

Revegetation works

Weed removal, digging and planting disturb the soil surface. Unless a lot of mulch is applied (which tends to prevent natural regeneration, is prohibitively costly and is usually washed away by heavy rain), there will be a window of time when bare soil between planted trees is vulnerable to erosion. So while we are rehabilitating an ecosystem, we may actually be having a short-term negative impact on water quality downstream.

Even if the reveg site is fully mulched at the outset to provide a stable, well-covered soil surface, **upstream sources** of sediment (from cleared land, construction sites, dirt roads etc.) may be exporting sediment and nutrients to the waterway, undermining any potential water quality improvements attributable to revegetation of the site.

While the methods we use for weed control and riparian revegetation are dictated by individual site characteristics and available resources, the methods we use to improve water quality depend on catchment-wide factors (including geology, soil, land use and vegetation cover), which is where the complexity starts.

Measurable reduction

This issue is particularly relevant to the onground work by Landcare Groups where water quality monitoring is linked to funding by regional bodies, state and federal governments for riparian revegetation work. We are often required to demonstrate an improvement in water quality following riparian revegetation. This is very difficult to achieve in the short term (most projects are funded only for 1–3 year periods) and in the context of the greater landscape where upstream land uses have an overriding effect on downstream water quality.

For more information contact Bruce Carey at Bruce.Carey@nrw.qld.gov.au or Vanessa Moscato at waterwatch@noosalandcare.org. More information on the Health Soils initiative is available at the website www.healthysoils.gov.au

Lower Mary Water Q.

by Lesley Bradley, A/President Lower Mary River Land & Catchment Care Group

We began water quality monitoring in the lower Mary River and its tributaries in 2005, after acquiring equipment and with sponsorship from Burnett Mary Regional Group, Water Quality Alliance and Wide Bay Water Corporation.

From our original five sites, we have expanded the program to more than 30 sites. We have set up sites where new housing developments are being established in the Hervey Bay area. A few sites can only be accessed by 4WD or boat.

Some macro-invertebrates test results have indicated a need for riparian management. After consultation with sections of the Fraser Coast Regional Council, the volunteers group's activities are being extended from water quality monitoring into tree planting.



John Parsons checks water quality with the Lower Mary River L&CCG
[Photo: Lesley Bradley]

Much credit goes to Terri Layt, who set up the programme for LMRL&CCG and who has spent her lunch breaks over the last three years training school students to monitor water quality. We have also appreciated the wisdom, expertise and support provided by Andrew Rickert (past WQA officer).

The Lower Mary River Land & Catchment Care Group can be contacted through Lesley Bradley on 4128 1750 or dmlbrad@bigpond.net.au

Dairies reduce water use, improve productivity

by Kate Lyons
Burnett Mary Regional Group

Most people in Australia think of effluent as a waste product. In Europe, however, the size of your effluent 'manure heap' is a status of how rich you are. In fact the annual National 'MUCK' field days are some of the biggest farmer get-togethers in the whole of Europe.

In Australia we do not have quite the same intensive feedlot-type dairy farming as in Europe, but effluent management is still an important issue, and one that dairy farmers want to do something about.

Many farmers now acknowledge that it is possible to reduce impacts on downstream nutrient levels by reusing effluent as fertiliser, and that this also increases their own production levels.

The Burnett Mary Regional Group and the National Landcare Program have made incentive funding available to farmers through the Queensland Dairy Organization to implement these best management practices.

The program has offered training, nutrient auditing, budgeting and general property management planning information to growers. Interested growers had to attend training sessions before they were eligible to apply for on-ground works funding through a competitive tendering or market-based instrument process. This required farmers to provide detailed improvement plans for effluent ponds, shade and shelter belt fencing, feed-out troughs and hard stand areas, all best practice features that increase production and also help the environment.

Demand being greater than the funds available, the high level of interest allowed the funding providers to acknowledge growers with high levels of initiative and enthusiasm for implementing on-ground works.

Russell and Karen McAuliffe are participants in the program and milk up to 250 cows a day. During the drought their water supplies became limited, so as part of their on-ground works they installed a pond recycling system to recycle water from concrete wash-down areas which they extended to improve effluent capture

and water reuse. Solid effluent separation and trapping allowed the manure to be stockpiled and used on pasture as organic fertiliser.

Greg and Michelle Anderson are also successful participants in the program and have a herd of 500 milkers. As a part of their on-ground works they had installed a new hard area runoff effluent sludge pump to irrigate an additional 15 acres of pastures. This not only fertilised the pastures but irrigated as well.

This state-of-the-art pump cost more than \$20,000 to set up. No labour is required to operate this fully automated float controlled pump. All wash down water from the huge 100 m x 50 m concreted and covered bails and shed area is collected and now reused through the pump-out system, including rainfall overflow (7.5 ML/pa) from roof and tanks.

Chemical fertiliser usage has been significantly reduced on the effluent-irrigated area,

which is an additional saving, and soil test organic carbon levels are well above farm average at 4 per cent.

For more information on incentive funding for best practice in dairying, contact Joel Bolzenius of the Burnett Mary Regional Group on 4181 2999.



Property owners Greg and Michelle Anderson view their new automated effluent sludge pump with BMRG and QDO representatives.

[Photo: Kate Lyons]

Soil and water management advice

Adam Logan, DPI&F
FarmFLOW extension officer

The aim of the Gympie Region FarmFLOW project is to boost primary production growth through adoption of good soil and water management practices.

The project is a collaboration between DPI&F and the Mary River Catchment Co-ordinating Committee. Local producers have played a major role in shaping the direction of the project and make up the majority of the steering committee.

By improving soil and water quality in our productive landscapes we can improve profitability and reduce flows of sediments and nutrients into our

waterways. Best management practice demonstrations on commercial properties, field days and training opportunities and workshops will be used to address:

- building organic matter in soil
- fertiliser and nutrient management
- minimum till systems
- environmental management systems
- grazing management
- weed management
- water use efficiency.

Adam will be working with primary producers in the middle Mary and Kin Kin subcatchments. For more information, contact Adam Logan at adam.logan@dpi.qld.gov.au or on 0427 001 101.

New hatchery building underway

by Vince Collis
Noosa & District Community
Hatchery Association Inc.

Well, after the storm last year, first we had to rebuild then demolish the hatchery, and now it's being rebuilt. All the broodstock have gone to stay at a five star hotel till we are ready to start this season.

We have five females and one small male. Last season we had just one spawning of around 20 thousand fingerlings. I think the poor fellow had one go then he went and hid. Before next season we need more male fish around the 5 to 8 kg mark.

The new building is well underway now; the rain didn't help. We will finish up with a new 28 x 18 metre shed with a drop floor for the recirculation system, and no more pipes running across the floor.

This new building, still on the original site, is being funded by the old Noosa Council and Queensland Water Infra-

structure Pty Ltd. We have increased financial support from DPI&F this year.

The Hatchery is operated by our community group. We have about 57 members on the books, but the number of workers that turn up depends on what we're doing. If it's interesting, heaps, but anything else 3 to 4 if you're lucky!

A big 'thank you' to all in Council who helped with the rebuilding and dismantling of the hatchery – most appreciated. And also thank you to John Cutmore and friends for their help in chasing broodstock, even if they had to pull the F250 out with a Hilux.



Construction proceeds on the new fish hatchery at Lake Macdonald.
[Photo: Vince Collis]

If you can help out with finding male broodstock, please contact Vince Collis on 0415 480 400 or contact Vince at collisv@westnet.com.au

Talking community engagement with the Chinese

by Steve Burgess
Catchment Officer
Mary River Catchment
Coordinating Committee

In April this year I had the privilege of meeting nine representatives from the Yellow River Conservancy Commission, visiting the Mary Valley during an exchange visit coordinated by the International Water Centre. I was humbled by their knowledge of our catchment and their ability to communicate in English, compared to my knowledge of the Yellow River and their language.

When I asked about the size of their organisation I was flabbergasted – 30,000 staff! They manage a river system that supports much of China's good quality agricultural land and supplies water to 108 million people.

In one part of the river, they are responsible for the safety of 18 million people living on the floodplain below the level of the river bed. The Huang He (Yellow River) carries an incredible sediment load down from the loess soil plateau of its upper reaches (35 kg of soil/cubic metre

of water). Its once legendary flooding has been greatly reduced by the large number of impoundments on the river, and now most of the sediment is deposited close to the channel. This has built up the height of the stream bed and natural levee banks to well above the level of the surrounding flood plain. In the event of a flood that breaks these levee banks and other man-made bunds, conservancy staff coordinate the planned evacuation of 18 million people from these areas onto man-made hilltops and other structures.

As one delegate said: 'First we worry about water, food and stopping people from drowning, then we start to think about the environment.'

They came to the Mary Valley to learn about how we look after the environment; they were drawn by the biodiversity of the region supported by the Mary, which is well recognised in international circles.

I was amazed at the personal research they had done on the Mary and its tributaries, and wish the average water planner and politician in Brisbane had the same geographical knowledge of the Mary. I found it very hard to talk to them about

community involvement in catchment management. I had all the right words, principles, case studies and historical information about why the Mary had been an excellent example of community engagement in catchment management. But then I had the unpleasant task of explaining the reality of the current situation, where the local community has been effectively bulldozed out of the river and cut out of nearly all effective involvement in water resource planning for the future of the river.

Several said they were surprised to hear this because they had come to Australia hoping to learn about effective local community engagement in river management.

I said we all hoped that the current situation was a temporary one, and that we could eventually regain the ground lost over the last three years and work again towards seeing all three levels of government and the community co-operating effectively in managing the future of the Mary River.

The Yellow River Conservancy Commission website is www.yellowriver.gov.cn/eng/

Don't Murray the Mary

by Steve Posselt

Steve Posselt, Murray-Darling kayaker and water engineer, has just completed a four-week round trip from Brisbane, down the length of the Mary, and back to Brisbane. These were Steve's thoughts as he embarked on his trip.

A trip of over 3000 km dragging and paddling a kayak from Brisbane to Adelaide down the Darling River probably changes a person. I was certainly very fit when I finished. Re-building fitness for my next venture, up the Brisbane River, over the Connondales, down the Mary River and back to Brisbane via the sea, was vitally necessary.

What did I learn down the Darling? We seem to have mucked it up pretty well. The river system is over-exploited and water is very divisive. In the main, communities without irrigation seemed to be happier places. Maybe they are not as well off financially but surely there is more to life than just money.

The federal government is on the right track trying to attack the problems on a whole-of-basin strategy. States should be irrelevant. The task to fix it is huge and perhaps impossible. The main issues such as salinity and acidity are essential. Saving all of the river gum and coolibah areas may well be out of reach.

Darling River water is dependent on different weather systems from that of the Murray. Just like us, the Darling is linked to the southern oscillation index and the powerful El Nino and La Nina cycles. Climatologists tell us that the dry El Nino events are going to be longer so we will need to adapt to lower rainfall.

Dams are therefore going to be less reliable than in the past. It will be essential to have water supplies independent of climate. This means more recycling and more desalination. Desalination is not an ogre option; if renewable energy is used to provide power, desalination of seawater is a very effective means for obtaining water.

One of the problems with dams is that they fill up in wet times and empty in dry times. Then vegetation grows at the new water's edge, only to drown when the dam fills again. It then turns to methane which is around 20



Steve in his three-wheeled kayak.

As a water engineer for more than three decades, the SEQ Water Strategy is an insult to my intelligence. It purports to know what we need for the next fifty years yet fails to take into account the most serious issues. These come under the umbrella of sustainability and include climate change and peak oil.

We are going to need arable land close to population centres. The Lockyer Valley's underground water has been mined almost to extinction. We need other land close to the population and here we are planning to flood a good deal of it. This makes no sense whatsoever.

The lower Murray is on the brink of disaster if it is not already there. Not only are there serious salinity problems, there is now the very serious issue of acid sulphate soils being exposed and turning the bottom of the river to acid. If it has come to this how can we not worry about the consequences of damming the Mary?

These are my thoughts as I prepare for what will be a gruelling venture. It will be difficult paddling and walking up the mid-Brisbane River to the dam wall at Wivenhoe. It will be tough towing the kayak over the spectacular Connondales, and if there are southerly winds down the coast that will be tough as well.

If by doing this I can make a difference and encourage the decision-makers to opt for solutions that make sense, it will be very worthwhile indeed. I go on this journey in the hope that sanity will prevail.

You can find out more about Steve Posselt's Mary River trip at www.kayak4earth.com More of Arkin's Mackay's images of the Mary River and its supporters can be viewed at this website:

www.stoppress.com.au



Steve Posselt is welcomed on his arrival at Noosa Main Beach.

[Photo: Arkin Mackay]

times more powerful than CO₂ as a greenhouse gas. Dams are huge emitters of greenhouse gases.

I did not think it possible that construction of Traveston Crossing Dam would proceed. Unfortunately, unless something is done, and done soon, it will be built. That is why I have stopped writing my book about the Darling River trip to join the fight to save the Mary.



Just on 100 canoes and kayaks joined Steve on the Mary River for the second anniversary of dam protest action.

[Photo: Arkin Mackay]

Tell-tail turtles

by John Cutmore
Obi Obi Creek

I have always thought of turtles as a thing with a hard shell installed in fresh-water creeks mainly to try the patience of dedicated fishermen who only want a bit of peace and quiet and to catch a feed of fish.

NOT SO. Thanks to Vince Collis of the cod hatchery at Lake Macdonald, I have found out there are people out there who are passionate about turtles.

Vince was aware how passionate I am about the Mary River Cod and that I have been moving around Obi Obi Creek catching and releasing cod to see how widespread they are. He asked me to photograph any turtles I caught as there has been a suspicion the Mary River Turtle (*Elusor macrurus*, or the bottom breathing turtle) could now inhabit the Obi Obi.

I'm aware there are people who have been known to talk through this part of their body but I certainly didn't know of any other species that could breathe through it.

We caught quite a few turtles and sent photos to Vince; he always said they were just Obi turtles. Then my wife caught one that was vastly different from the others we had seen. A quick round of photos and emails and Vince confirmed

it was indeed *Elusor macrurus*, the first confirmed sighting up Obi Obi Creek. I still couldn't understand why people were so excited until I read this turtle is only found HERE in the world and it is severely endangered. The more protected banks and nesting sites up the Obi could offer real hope for its survival.

So I'm taking more notice of turtles, and have also caught the relatively common Saw-shelled Turtle (*Elseya latisternum*) and the long-necked Broad-shelled Turtle (*Chelodina expansa*).

Now I know what Mary River Turtles look like, I realise I've been looking at them for some years now from the 12 metre bank above the pool in our part of the creek. The large tail is very visible even from that height.

Mary River Cod

Cod are doing very well in the Obi at the moment and I have caught and released some beautiful specimens of varying sizes. I watched but did not catch a lovely fish one afternoon that has since been caught and released without lifting it from the water; it was approximately 80 cms in length.

Good news also for the cod is the number of Mullet up this way for the first time in probably four or more years. I've always considered Mullet an important food source for the cod, particularly

now that the cod have to compete with the Yellowbelly, Silver Perch and Bass. (These species aren't native to the Obi, and have probably ventured here from other areas where they've been stocked for recreational fishing). I must say I have caught some very frightened small Bass with teeth marks on them.

I guess it could be said there is real hope here at the moment for our threatened species. The only thing that could make things better for them would be if plans to build Traveston Dam were abandoned.

Feral animals

Since giving up dairying, I have had more time to indulge in my other passion of hunting feral animals (dingoes, foxes and feral cats). The current year is especially bad for foxes and dingoes and we have had more reports of stock and domestic animals being attacked than I can remember for some years, in spite of the large numbers that have been culled in the past four years. Feral cats are also becoming a serious pest with similarly large numbers being caught.

I am told these feral animals have played a large part in the decline of hatchings of endangered turtles. Quite a few feral animals are being trapped or shot on sections of the Mary River which may be helping turtle breeding.

I have often wondered if some funding could be made available to control ferals near nesting sites at the appropriate times of the year.

Noosa Festival of Water

Sunday June 1

Lake Macdonald Amphitheatre &
Noosa Botanic Gardens
Lake Macdonald Drive, Cooroy

10 am to 3 pm

Free entry

Lake Macdonald Catchment Care Group hosts the Noosa Festival of Water to highlight issues relating to our most precious natural resource – Water – particularly conserving and protecting water supplies for current and future generations, and to celebrate World Environment Day in the Noosa Region.

Kids' learn to fish sustainably: with the 'Take a Kid Fishing' program under the expert guidance of David Whelan,

Bush 'n' Beach Fishing Magazine's journalist; book a place on 5482 4766

Canoeing on the Lake: please book with Pedal 'n' Paddle on 5474 5328

Free boat tours: to the Gerry Cook Fish Hatchery, and also tours of the Noosa Water Treatment Plant

Displays: from organisations featuring alternative water treatment/storage solutions

Hourly birdwatching tours: with Valda McLean from Noosa Parks Association and Cecily Fearnley

Free water testing: of your dam, bore and/or creek water samples at the Mary



River Catchment Coordinating Committee's display, between 10 am and 2 pm

Two free trees: from Noosa Landcare to every Noosa ratepayer who produces a current Rates notice

Musical entertainment: live music from the Noosa Pipe Band, Pomona Community Choir, talent from the Sunshine Coast Regional Council's Mentoring Program, and more

Art activities for children: in the Arting About tent in the Gardens

Lecture Tent: information on a range of wildlife and sustainability issues

And numerous other displays.

For more information, contact Ruth at the Mary Catchment Resource Centre on 5482 4766.

Climate Change and Life on Earth

by Rebecca Richardson
Queensland Coordinator
Threatened Species Network

Everywhere I go my ears are burning with all the talk of climate change. It is a global and complex issue, but what does it all mean for Australia's plants and animals?

What is the problem?

If greenhouse gas emissions were to suddenly drop to zero, the Earth is still committed to approximately 0.4°C of warming by 2050.

Australian research has found that the bioclimates of some species of plants and animals will disappear with a warming of just 0.5°C to 1.0°C.

Temperature is not the only climate variable likely to change. In some regions there will be changes in precipitation, radiation, wind speed, and relative humidity.

So what?

Climate is a crucial factor in determining where many of our plants and animals

live and reproduce. Species already threatened with extinction are likely to be even more vulnerable with the additional pressures of climate change, while robust species such as weeds and feral animals will find a wider range of environments favourable.

In some cases climate change is already influencing species distribution and, as a result, the structure and function of ecosystems. Some studies have shown that many species have migrated toward the poles and to higher elevations to escape warmer conditions. Species with restricted geographic and climatic ranges are under even greater pressure.

For example:

Frogs: Temperature is the primary driver for seasonal patterns of emergence and reproduction in frogs. Seven rainfor-

est frog species have been identified as being vulnerable to losing greater than 50 percent of their core climatic environment with a 1°C increase in temperature.

Birds: According to the *State of Australia's Birds 2007*, climate change is bringing mixed news for Australia's birds; some species will benefit, while others will be disadvantaged. There have already been adjustments to the timings of migration and breeding of land birds, and recorded range shifts in some bird species.

We will need to help ecosystems and the species that rely on them to become more resilient (that is, their ability to adapt naturally to change) if we want to ensure the security of their future.

Rebecca Richardson can be contacted at rrichardson@wwf.org.au or on 07 3012 7574.

Websites for further information:

Australian Species and Climate Change Report: www.wwf.org.au

Climate Change and the National Reserve System CSIRO Report:

www.csiro.au/resources/DunlopBrown2008.html

Australian Greenhouse Office website:

www.greenhouse.gov.au

Richmond Birdwing in the Mary

by Eva Ford
Mary River Catchment
Coordinating Committee

The recovery activities for the Richmond Birdwing Butterfly are fun, interesting and have wide-ranging benefits for other species. We want to see this magnificent butterfly flying around as it used to but we also want to help people understand, through the butterfly, that no creature lives alone; all creatures are part of complex communities with interesting and delicate interactions and dependencies.

The Mary River catchment once provided core habitat and corridors for the Richmond Birdwing Butterfly (RBB) between the Blackall/Conondale Ranges and the coastal rainforests of the Rainbow Beach and Hervey Bay areas. The butterfly now tenaciously clings to a line of receding occupancy, roughly from Kin Kin through Belli Park to Kenilworth.

Over the past three years MRCCC has worked in partnership with the Richmond Birdwing Recovery Network (RBRN)

and other NRM groups to involve the community in recording vine and butterfly locations, protecting and enhancing current natural vine locations, and planting vines in strategic corridors.

With local council support we have provided 1500 vines to willing, dedicated community members to establish on their properties. Each plant in a small way fills in the gaps and increases the food density for the butterfly north of Kenilworth, helping to increase the butterfly population and maintain its genetic vigour.

The recent workshops run by the RBRN and local Landcare and Catchment groups have contributed significantly to the growing momentum of the RBB recovery actions in the Mary catchment. A few key people have emerged: Col Bowman from Bauple, Melanie Mott with the Land for Wildlife program at Hervey Bay, and John Eggleston from WPSQ at Hervey Bay. The effects of having these people involved has been very noticeable.

The new 'Neighbourhood Links' program, proposed by Lee Rostron of Pomona, is



Doc Eckley and Jordon getting set to plant Richmond Birdwing vines along Walli Creek. [Photo: Eva Ford]

seeing people in suburban neighbourhood areas planting a few vines each. Together a number of small holdings can create a vine mass capable of sustaining a butterfly colony. Seven people at the Pomona workshop offered to be Neighbourhood Coordinators.

For more information, contact Eva Ford on mrcceva@ozwide.net.au or 5482 4766.

Dealing with frost

by Ernie Rider

Senior Conservation Officer
Qld Parks & Wildlife Service

During winter 2007 we witnessed some pretty severe frosts with official figures less than -4°C and unofficial figures of about -10°C . Many native plants can stand down to -15°C if the weather gradually becomes colder and colder into winter, whereas the same species die at -1°C to -2°C when a frost comes after a warm period.

CSIRO scientists have studied the temperature gradient from the soil upwards and have found that the gradient is very steep near the ground; for example, for a screen temperature of -4°C it could be -15°C right on the ground but -6°C only a couple of centimetres above!

The main thing is that we often can't see the frost coming or have no time to prepare when we do.

Fortunately most of our frosts are radiation frosts and most of us never see a black frost, that is, where the air itself moving into the zone (from down south or down a mountain) is well below zero, which often happens in North and South America.

Species selection and planting time

The best thing to do is to use frost-resistant plants in the first place but it is perhaps amazing to see that many species in the landscape are frost sensitive and yet become established. Even so, but many tough species have a transient juvenile frost susceptibility. Such species can be planted in spring but may need to be watered to get them through our notorious spring/summer dry period, or they may be planted in early autumn when the ground is moist and temperatures dropping. Then even if they frost off in winter they can resprout from below ground in spring, and by the following winter they have their much more resistant adult leaves. Spotted gum is one such species.

Once the trees are in the ground, there are a few proven techniques that may be employed to shield them from frost damage.

The techniques vary in terms of cost, effort required, effectiveness, and appropriateness for small or large scale projects.

Bare-earthing

On a large scale the best form of frost protection is bare, moist earth. Remember mulch does not generate useful warmth – plants are not warm-blooded. Anything that comes between the earth and the plant merely insulates the ground and prevents warm air from rising. For example, how many times have you seen frost on top of a pad of cow manure or a grass mulch with none on the ground around it?

The only contra-indication is if the land is susceptible to erosion. Otherwise at least 85% of the ground should be cleared of all grass and weeds (living or dead) and other debris or the mulch should be raked away from individual susceptible young plants in late autumn to about a 2 metre radius – and of course, raked back in spring.

When very dry it also pays to water the bare soil to increase its heat-holding capacity. This principle is used every year commercially by Forestry; in areas mapped as probable frost hollows, debris is raked away and complete weed spraying is effected from about Christmas onwards. On a large scale this would appear to be the best method.

Cover-cropping (sacrificial overwood)

Here a frost-hardy species is planted to protect one that is sensitive. The main problem is that this extends the establishment period, which can be shortened only by intensive management.

When Forestry used rose gum as sacrificial overwood for hoop pine, the gum had to be lopped at least once a year for about 3-5 years and then poisoned to release the advanced-growth hoop pine.

I've used the 'natural' approach i.e. using wattle to cover rainforest species. Here again, management must be timely and ruthless; the highly competitive wattles need to be thinned at least yearly in a very considered manner relative to the growth of individual rainforest plants.

The ultimate trick here would be to use a short-lived cover-crop species; most rainforest-edge acacia species last from 7-70 years – too long for an eager rainforest revegetator.

Chemical sprays

Sprays such as Envy® do work for light frosts but only on the foliage sprayed.

Fogging devices

These devices create a smoke haze, which prevents the ground cooling by radiation. This method won't work when there are intermittent breezes and requires someone to stay up all night and function at the bottom of a rum bottle.

Water sprays/misting

This can be effective for lighter frosts at least but requires a large amount of water and a costly reticulation/spray system.

Fans

Forced convection of cold air from near the ground keeps the air moving so that frosts can't form. Fans have been used in fruit orchards, and again the equipment and running costs are quite expensive.

Heaters

These can be as primitive as bonfires or oil pots lit and kept stoked throughout a plantation – and if they smoke, all the better. Drawbacks are the provision of fuel and the risk of wildfire under dry conditions (when frosts often form). On a small scale, hurricane lanterns can be placed under individual trees to provide warmth.

Species selection

I have a list of some 140 species whose initial response to frost was noted after the severe frost of late July 2007.

This list and further advice is available from Ernie on 5480 5441 or 0427 363 138 or at ernest.rider@qld.gov.au

Local Landcare groups also have information about the ability of local species to deal with frost:

Barung Landcare Group

5494 3151

info@barunglandcare.org.au

Noosa & Dist. Landcare Group

5485 2468

admin@noosalandcare.org

Gympie & Dist. Landcare Group

5483 8866

admin@gympielandcare.org.au

Tiaro Landcare Group

4129 6206

tiarolandcare1@bigpond.com

Lower Mary River Land & Catchment Care Group

4128 1750

dldbradley@bigpond.com

Noosa High returns to the Lake

by Phillip Moran

Noosa & District Landcare Grp

One of the many good things about learning and working with weeds is when you talk to young people and find out they *are* interested too!

Such was the case recently when Noosa & District Landcare Group, in conjunction with the Sunshine Coast Regional Council and the Bulk Water Entity (the mob that took over SEQ's water bodies), conducted a field day at Lake Macdonald, Cooroy. This is the third year we have worked with this grade 12 class from Noosa District High School, and they have two really special teachers: Wendy Ensby and Annie Bailey.

The day began with me talking to the students at the school about the perils of aquatic weeds in general, and *Cabomba caroliniana* (Fanwort), in particular. Now this sort of classroom Power Point thing can be a bit dry, but not with this mob. The students showed a keen interest in all the latest goings on, and were appropriately shocked by some of my scary aquatic weed photos. The result of my prattling on about the best environment for aquatic weeds led (inevitably, I suppose) to the Traveston Dam issue. What is usually described as a 'full and frank' discussion followed, during which I really tried to be balanced and impartial (I did!). These kids were like terriers after information, and we had to stop discussions for morning tea.

After this we travelled the Lake Macdonald, where Ross Paulger and Vanessa Moscato were waiting to continue the educational bit. Ross used to work for Council but is now employed by the Bulk Water Entity. He operates the weed harvester on the Lake and is a real font of knowledge. He answered the students' questions about the machine and gave us a demonstration of the harvester and the newly upgraded compactor truck. I continued to waffle on and answer their many questions.

Whilst this was going on, Vanessa, the Noosa Waterwatch coordinator, was teaching another group about the water quality monitoring being conducted by Noosa Landcare's Waterwatch programme. The students were able to get their hands on the equipment used to monitor over 35 sites in the Noosa



Enquiring minds from Noosa District High School with Phillip Moran.

region. They discussed pH, Dissolved Oxygen, Turbidity and Conductivity. Vanessa explained the *interaction* of these parameters within an ecosystem and the students were very interested. We even had to pull one group away for lunch.

Now considering that the Sunshine Coast Regional Council had provided a wonderful BBQ lunch for all and the aroma of frying onions was pervading the air, this shows the level of enthusiasm the students had for Vanessa's presentation.

The students all had to select a weed for an assignment and I, (perhaps not wisely) volunteered my e-mail address if they wanted further information. So now I have a new group of e-mail friends!

This was a fantastic day, and the interest of these young people tells me that maybe the future of our land is going to be in good hands.

Phil Moran can be contacted at nrmanager@noosalandcare.org or on 5485 2155.

Animal word search

Find the names of the animals mentioned in articles in this *CodLine*.

Names go horizontally, vertically, diagonally or backwards, and letters may be used more than once.

R	T	A	C	A	T	T	L	E	B
B	U	T	T	E	R	F	L	Y	A
I	R	D	I	N	G	O	R	E	S
R	T	O	P	L	A	X	N	O	S
D	L	G	T	A	N	N	A	O	G
T	E	L	L	U	M	F	I	S	H

The seven remaining letters spell something we can do to care for our catchment.

The **CODLine**
is hosted by
Barung & District Landcare Group.

*Additional support from the
Mary River Catchment Coordinating Committee
and
Burnett Mary Regional Group
is gratefully acknowledged.*



WORKING FOR OUR FUTURE



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This issue ...

Landholders' experiences

Matter of balance 1
Tell-tail turtles 8

MRCCC News

A moving experience 2

Threatened species

Hatchlings swim away 3
Climate Change & Life on Earth ... 9
Richmond Birdwing in the Mary ... 9

International engagement

Our very own Ramsar site 3
Talking community engagement
with the Chinese 6

Community group projects

Lower Mary Water Q. 4

Practical advice

Reveg and turbid runoff 4
Dealing with frost 10

Best Practice projects

Dairies reduce water, improve
productivity 5
Soil and water management advice .5

Cod research and restocking

New hatchery building underway .. 6

Trip down the Mary

Don't Murray the Mary 7

Students' activities

Noosa High returns to the Lake ... 11
Animal word search 11

*The CodLine can be viewed online
(later editions in glorious colour!)
at*

www.mrccc.org.au/newsletters.html

The CODLine

PO Box 755
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PPP# 440524/00004

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Issue 18:
May 2008