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Issue 22

The CODLine

Incorporating NEWS of the Mary River Catchment Coordinating Committee

Keeping our soil on our own land

by David and Wendy Clark
Bellthorpe

We purchased 'Bellthorpe Cottage', a small grazing property tucked away in the upper reaches of the Mary River catchment at Bellthorpe, in 2002. An upper tributary of the Mary River runs through the property before cascading down the slopes toward Conondale.

The country is red volcanic soil dominated by Kikuyu grass and had traditionally been dairy country until some 20 years ago. When we arrived there was some rainforest on the steeper slopes of the property but much of this would have been regrowth, having initially been cleared almost a century ago only to be reclaimed by nature over the decades. The rest of the 50 hectare property had been largely cleared, including the creekline.

Up until a few years ago, cattle had the run of the place. Uncontrolled stock access to the creek banks had resulted in sparse vegetation, bank erosion, landslips, loss of valuable topsoil into the waterway, and bogged livestock.

Action was needed, before most of the property relocated to Gympie. The objective was to improve the environmental outcome for the property while still supporting a viable grazing regime.

Fencing and revegetation

With so much to do, we were perplexed about where to start. We adopted the philosophy of starting with the easiest tasks, observing the outcomes, and then continuing with appropriate activity.

Stabilising landslip sites, for soil conservation and habitat rehabilitation.

We started by fencing off a section of the creek that was the most at risk, using a simple electric fence and a 'see what happens' attitude. We'll call this area 'Part 1'. In the absence of grazing the native wattles and other plants, including lantana, quickly established and, over time, helped to stabilise the banks.

From a resource perspective (time, money and labour), this was a most effective approach as there was very little input apart from stringing up a rudimentary electric fence and controlling weeds.

Deep cracks and 'blocky' soil characterised the slip conditions in Part 1. Interestingly we found this disfigurement provided the best conditions for natural regeneration; in other places where the soil was stable with a good grass cover, very little natural regen occurred.

Part 2 involved an Envirofund project that allowed us to install multiple off-stream water troughs and further fencing, which was a bit more substantial than the flimsy fence used in Part 1. Over the next few years we undertook parts 3, 4, 5 etc, all small steps as time and resources allowed, but the biggest section was yet to be tackled.

In February 2010 with funding provided by the Department of Employment, Economic Development and Innovation through the Queensland Wetlands Program we tackled the biggest section which included a wetland. From an environmental perspective, the wetland was strategically important because it filters the run-off from some 200 hectares of agricultural land before this water enters

... Continued on Page 2

Keeping our soil ...

... continued from page 1

the creek and flows through our own rainforest area and the Bellthorpe National Park. The DEEDI grant provided for fencing and tree planting, and we contributed the rest of the funds.

Barung Landcare were contracted for the site preparation and planting and provided the technical knowledge and expertise required for successful revegetation – a very wise step in any regen program is to get help from the professionals!

Healthier wetlands, better pastures

Now over three and a half hectares of riparian land has been fenced off and revegetated. The new trees and shrubs along the bank are helping to return the creek to a healthy, functioning ecosystem by providing shade, habitat for a range of animals and fish, leaf litter and stabilised creek banks. Since we have been actively restoring the creekbanks, we have noticed a dramatic change in the vegetation along the creek with improved habitat for all sorts of creatures including creepy-crawlies (snakes).

The fencing also means we can better manage our stock, utilising paddock rotation to improve pasture and decrease weeds and parasites. Once the creek area has stabilised, we plan to spot-graze it occasionally. The fencing also makes mustering easier.

Interestingly, we are able to carry a similar number of livestock on the property now compared to the previous open grazing system, even though areas such as the creek are no longer regularly grazed.

The biggest test was in January 2011 with the massive falls of rain. The creek and wetland served its purpose well as a filter in capturing downstream movement of silt and the revegetated banks held together the land prone to landslip.

Win–win outcome

We've taken many steps over the years in rehabilitating the creek area at 'Bellthorpe Cottage'; all the parts are coming together and the system is working.

The fencing and creek bank rehabilitation has not only led to a healthier creek, but it also saves us time and money in managing our stock and property. At 'Bellthorpe Cottage', it has been a win–win for grazing and the environment.

Mary River Threatened Species Recovery Plan is first of its kind

by Dr Tanzi Smith, Recovery Plan Project Officer, MRCCC

This year, the Federal Government is following through on the recommendation Minister Garrett made when he rejected Traveston Crossing dam in funding the development of the Mary River Threatened Species Recovery Plan.

This plan is the first of its kind in Australia in that it focuses on a river system. It will bring together scientific, local and traditional knowledge to identify threats to threatened species in the Mary River and important ecological processes such as healthy riparian zones and food webs.

Aquatic and riparian species such as the Mary River Cod, Mary River Turtle, Australian Lungfish and Giant Barred Frog will be given special attention.

The Mary River Catchment Coordinating Committee (MRCCC) has the responsibility of ensuring the perspectives of interested groups and individuals are incorporated in the plan. The MRCCC is also creating an inventory of all relevant scientific and planning information and will be producing a draft framework for the plan by the middle of 2011.

The development of the plan is overseen by the Recovery Team, which is made up of stakeholder representatives including regional natural resource and local catchment/landcare and conservation groups; DEEDI and DERM (fisheries, water resources and threatened species); regional councils; water infrastructure operators; and traditional owners.

Scientific advice to the plan is provided by the Technical Advisory Group (TAG) of scientists, which includes DEEDI and DERM staff, university researchers, MRCCC staff, independent consultants, and engineers/scientists from water infrastructure operators.

These two groups have focused on shaping a vision and defining objectives for the plan and identifying threats to species. In the coming months, the focus will move to identifying and prioritising actions to reduce key threats.

Rec Plan on YouTube

To see a short introduction to the Mary River Threatened Species Recovery Plan, courtesy of Blackbean Productions, search for 'road to recovery mary river' on www.youtube.com

Identifying the threats to and actions required for the protection of threatened species and ecological communities is a legal requirement under our primary federal environmental legislation, the *Environment Protection and Biodiversity Conservation (EPBC) Act*. The Minister requires recovery plans to be developed where species have specific or complex needs.

Like other recovery plans, the Mary River Threatened Species Recovery Plan will become a statutory document under the Act. Once a plan is endorsed by the Federal Environment Minister, the Act requires that the Minister must not act inconsistently with a recovery plan, providing a significant level of protection.

It is anticipated the draft plan will be ready by the end of 2011 and available for public comment in early 2012.

YOUR SAY

The plan will only be a useful resource if it meets the needs and reflects the views of interested individuals and organisations.

Please contribute your thoughts by completing the online survey at

www.surveymonkey.com/s/MRCCCrecoveryplan

If your group would like more detailed information about the recovery plan, Tanzi is available for meetings and can be contacted on 07 5482 4596 or at mrccctanzi@ozwide.net.au

'River Rats' video helps science

by Steve Burgess, Mary River Catchment CC

About four years ago, a bunch of likely lads set out to make a video showing what they loved about the Mary River and local creeks – fishing and paddling about having fun. They've just produced a DVD called 'River Rats fishing adventures: Mary and Noosa Rivers', which is a bit like extreme-sport Leyland Brothers crossed with Rex Hunt and Huckleberry Finn with a dose of David Attenborough on the side. I really like it because it captures the spirit of barefoot mucking about in creeks with a real appreciation of what makes this river and its creeks special, and shows some great examples of creeks in good condition. The fishing part of it seems very much aimed at luring bass fishers to the Mary and upper Noosa but the boys do a great job of getting people to appreciate all the wildlife in the river and creeks. They have good sections on careful handling of cod and lungfish, and on having a low impact on the natural environment in general.

A valuable bycatch of this effort is that the boys have accumulated many hours of video and still photography (including excellent underwater video) of what goes on in these creek systems. When we found out about this, the MRCCC immediately saw an opportunity to sort through this material to produce verified fauna records for State and Federal government species databases. The video footage and observations of behaviour have also been very enlightening. For example, before seeing the video I was unaware of just how comfortable a red-bellied black snake could be in making its way underwater along the bottom of a creek.

As a pure coincidence, at about the same time we were also contacted by Peter Mallard, a student from the University of Ballarat, who was looking for a work experience placement with the MRCCC. When we found out he was also a keen fisherman and wildlife photographer, it was pretty easy to join the dots and get Pete working with the 'River Rats' footage collating the relevant data. River Rat Luke Maher has been of great assistance in making this footage available, and helping with verifying times, dates and locations. This little project has proved to be very interesting and worthwhile.

Luke Maher with a Mary River Cod, demonstrating careful handling and release technique.

If there are other people out there with good photographic or video records (that can be accurately dated and located) of aquatic wildlife in the Mary River system, particularly of cod, lungfish or turtles, please consider contacting the MRCCC on 5482 4766 and letting us know.

Getting wild about Macadamias

By Maria Matthes, Wild about Macadamias Project Officer

It is estimated that over 80% of our wild Macadamias and the genetic diversity they contained has been lost since European settlement.

The Wild about Macadamias Conservation Project is implementing the nationally approved Species Recovery Plan for the four southern Macadamia species which naturally occur between the Richmond River in northern New South Wales and Miriam Vale in Queensland, and which are currently threatened with extinction in the wild: *Macadamia tetraphylla* (Rough-shelled Bush Nut), *M. integrifolia* (Bauple or Macadamia Nut), *M. ternifolia* (Gympie or Maroochy Nut) and *M. jansenii* (Bulburin Nut Tree).

That's right, our national icon and national treasures are threatened. Sadly, populations continue to be cleared for agriculture, development, and roads.

The Macadamia Conservation Trust and Horticulture Australia Ltd have joined forces, partnering with local regional, city and shire councils, (including Gympie, Logan, Scenic Rim, Gold Coast and Tweed), and the macadamia industry for the long-term conservation of the wild populations of Macadamias and planted Macadamias from old genetic stock.

The Macadamia Conservation Trust is hoping that all Councils within the species' ranges will eventually participate in the Wild about Macadamias project, including supporting on-ground works where landowners have wild Macadamias.

The involvement and support of community members will be crucial to the long-term conservation of the Macadamia species as local people provide local knowledge, assist with surveys to locate new populations, record population and threat information, raise awareness, and undertake on-ground works.

As project officer, over the next few years I will be running information sessions and workshops related to the conservation of the threatened Macadamia species (the Recovery Plan, species ID and location, threats and recovery actions) and how community members can be involved.

If you have information about wild Macadamia plants or populations; are interested in more information; would like to attend an information session-workshop; or participate in surveys or population and threat assessments, contact Maria Matthes on (02) 6687 9808 or 0400 209 214 or email

maria.matthes@macadamias.org

Noosa Festival of Water 2011

Join us at the Noosa Botanic Gardens & Lake Macdonald Amphitheatre on SUNDAY 26th JUNE 2011 from 10 am until 3 pm

The Festival offers a wide range of entertainment and activities which will help you appreciate the Noosa Biosphere and our natural environment.

- **Top local chef Dale Chapman** will be doing a bush foods cooking demo on stage, demonstrating traditional cooking methods including smoking meats and fish
- **Martin Fingland from Geckoes Wildlife** will again captivate and educate young and old with his collection of live native animals.
- **Allan Burnett of Reptile Awareness Displays of Australia** will provide life-saving information as he demonstrates reptile behavior, tips on avoiding snake bites, and the latest first aid treatment for bites.
- **Veggie Village** from Peregian Beach will be guiding rural and urban landholders about how to grow their own fruit and veggies.

Free Entry!

On the water ...

Several activities offer some time on the water – **boat trips** across the lake to the Hatchery and the Noosa Water Treatment plant, learn to **paddle a canoe** or **take a kid sailing**, and **catch the rowing demos**.

On shore...

For the kids in particular, there's the **Kid's Fishing Clinic**, **Arting About** kid's art activities, **face painting** and **jumping castle**. A range of **local and international foods** will be available.

Residents of the Noosa Biosphere who bring a current rates notice can **choose two trees** from the Noosa Landcare display, and MRCCC will **test 500 ml samples of dam, creek or bore water** brought in by landholders.

For more information, call the Lake Macdonald Catchment Care Group on 07 5482 4766 or email lakemacgroup@ozwide.net.au

The LUNKERs have landed

by Eva Ford, Mary River Catchment Coordinating Committee

From the world's worst acronym comes a great idea for turning degraded creek banks into useful aquatic fauna habitat. LUNKERs (Large Underwater Neighbourhood Keeper Encompassing Rheotactic Salmonids!) were originally developed in the USA to increase trout populations for the fly-fishing industry.

In Australia they have been installed in Victoria and Queensland to recreate the natural habitats provided by undercut banks.

Undercut banks are stable structures that form over a period of many years where the roots of undisturbed riparian vegetation stabilise the bank against the erosive effect of the water. In the Mary River catchment undercuts can extend under the bank for more than a metre.

LUNKERs have been installed as part of the rehabilitation works undertaken by MRCCC at Belli Creek Crossing Number 2 (now Murrary's Flat Bridge) on Eumundi-Kenilworth Road, following road and bridge widening works by the Dept of Transport and Main Roads.

In September 2010, an excavator dug out the site and the timber LUNKERs were anchored into place with steel rods. Large rocks were placed on top and rear bank pins covered by rubble from the site.

Topsoil was spread over the whole area in preparation for the riparian plants which will provide long-term bank stability after the LUNKERs have rotted away.

LUNKERs being lowered into position to provide stable aquatic habitat for fish and frogs in Belli Creek Crossing 2. [Photo by Eva Ford]

A Green Tree Snake was observed entering the LUNKERs on its journey upstream as soon as installation was completed, and a turtle has recently been seen using the LUNKERs! We will be monitoring the fauna use of the LUNKERs over the next several years.

In recent years we also have contracted labour to control woody weeds along the creek, and have planted about 2000 trees and installed 15 nest boxes and a glider pole.

Undercuts increase the habitat area of a creek significantly, providing a protected place where aquatic species can hide, breed and carry out ambushes – for example the Mary River Cod! Undercuts provide surfaces where the Giant and Great Barred Frogs can lay their eggs. Both these species flick their eggs out of the water to adhere to an overhead surface away from aquatic predators.

The assistance of experienced staff from Victoria DPI and Queensland DEEDI was most gratefully received during the planning of this project.

Where do they come from?

by Phil Moran, Noosa & District Landcare Group

Most of our aquatic weeds originate from South America and were deliberately introduced into Australia as ornamentals or aquarium plants.

When Cabomba *Cabomba caroliniana* was first declared a Weed of National Significance (WoNS), it was still on sale in Victoria. Cabomba is now banned from sale throughout Australia. AQIS do a good job of limiting the introduction of potential weeds, and the Pet Industry Association of Australia (representing many aquarium shops) actively discourage the sale of aquarium plants that are likely to become environmental weeds.

Training people in our community to recognise aquatic species is proving very successful for managing the spread of aquatic weeds, particularly in south-east Queensland. Such was the case when a sharp-eyed council employee, Shane Hokansen, saw something in a drain near Tewantin. Shane had attended an Aquatic Plant ID workshop. He has a deep passion for our environment, and keeps a sharp look out for anything unusual. He was spot on in spotting the Cabomba, but it's a mystery how it came to be in that drain.

So where do they come from? The main vector for aquatic weed spread is humans… deliberately or accidently. Weed material is moved from one water body to another on boat trailers, canoes, fishing gear and eel/fish traps. Aquatic weeds can all be spread by floods of course. And occasionally by wildlife.

Perhaps very small plants such as the duckweeds could be transported small distances, and I can imagine Salvinia hitching a ride on a turtle across a golf course from one pond to another.

Birds are often accused of moving aquatic weeds, but unjustly so I believe. I've often seen a pond with Cabomba just metres from another pond *without* Cabomba, so the birds can't be doing such a great job after all.

I think we just need to educate and try to minimise the impact of the major vector – which is ourselves.

Reflections after the floods

by Glenda Pickersgill, Kandanga

Recovering from floods takes a lot of time and effort for landholders along the Mary River, but it's to be expected. The benefits of farming rich alluvial floodplains brings with it the risks associated with being inundated every decade or so.

Our last big flood was in 1999. I remember it was the first big test for our riverbanks after we made the decision to electric-fence our stock off the banks, install off-stream watering troughs and help restore riparian rainforest along the river after the damge done by the 1992 and 1994 floods.

The January 2011 floods, although not as big as those in 1999, came in conjunction with an amazingly wet season that still seems to be with us, and the Mary River has been up and down like a yoyo.

Not only has the established vegetation suffered from the force of the floodwaters, but also the repeated flooding of the banks has resulted in lots of circular bank slips where the supersaturated soil turned to a slurry and collapsed into the river.

Our restoration efforts have significantly contributed to holding the banks and reducing the amount of soil lost into the river. The recent floods have also made us rethink the width of bank that needs to be fenced off. Most of the repaired electric fencing has been moved further from the top bank to a distance that depends on the stability of the riverbank at that point.

John Williams canoeing at the mouth of Kandanga Creek, where the riparian vegetation along the creek has been protected by electric fencing.

We've seen an incredible increase in weeds along the river this year. Around Traveston Crossing, the two most noticeable are needle burr taller than 2 metres and castor oil plant, the seeds of which are so poisonous that just one can kill a child. Combined with the spread of Chinese Elm, Camphor Laurel, Cats Claw and Madeira Vine in the riparian plantings, it's clear we will have a busy year ahead of us controlling weeds.

With the help of Conservation Volunteers and friends who organised further helpers, the electric fencing is fixed and extended to include another 700 metres of Kandanga Creek at minimal cost. Native trees grown in the farm nursery from local seed are ready for planting. This finishes off the fencing of Kandanga Creek from Goomong Bridge to the mouth of the Mary River.

A property walking trail is planned so that the wonderful riparian rainforest and birdlife in this area can be enjoyed.

MARY VALLEY FORUM

The next forum updating the Mary Valley Community & Economic Action Plan will be held at the **Imbil Public Hall** on **Thursday 14th July**.

The MVC&E Action Plan is helping us to focus on ways to improve our communities and our environment.

Come along and find out about getting involved with existing projects or working on new ideas important to protecting our special environment and rebuilding the communities of the Mary Valley in the aftermath of the dam proposal.

Doors open at 5.30 pm with displays and a sausage sizzle and presentations and discussion start at 6.15 pm.

Inquiries about the renewal process can be made to Glenda Pickersgill on 0411 443 589 or email maryvalleyrenewal@gmail.com

Save the Mary Museum and River Education Centre

At: **Kandanga railway station**

Open: **Wednesday to Sunday**
10 am to 4 pm

Offering visitors lots of information about the river and its unique environment. Streambank plants for sale.

Splattering lantana

by Graeme Eales, Walli

At our property on Walli Mountain Road, Kenilworth, we have Walli State Forest and the Mary River on our boundaries. The property is 45 hectares with some 6 hectares of cleared river flats and cleared pasture areas on the lower section rising to partially cleared and timbered land on slopes ranging from steep to very steep. The land has been used for mixed grazing, timber cutting, and some small cropping. Before we arrived in 2001 it had been neglected for some years.

We plan to graze 30 to 40 head of cattle and develop some areas for planting an orchard and cabinet timbers. Our strategy has been to return the steep marginal land to its natural state and use the better, more sustainable land for production. To help achieve our aims we have sourced information and advice from MRCCC, Barung Landcare, Greening Australia, local native and bush food nurseries and local/state government authorities. We have also drawn on our past experience with rehabilitation and revegetation of smaller properties around Gympie and Palmwoods. Volunteering with Waterwatch on the Mary River and attending field days have also helped greatly.

The first stage of a rehabilitation project, after planning, is weed clearing to access areas for fencing and prepare sites for planting desired species. Identified weeds of significance at our place are Lantana, Wild Tobacco, Urena Burr, Madeira Vine, Camphor Laurel and Groundsel. Blady Grass, although probably not regarded as a weed, is not favoured by stock.

Our methods of control vary for the different weeds depending on effectiveness, accessibility, efficiency. We have that learnt that some methods, although effective in the long term, are not very efficient to apply. One example is lantana control. Slashing, pulling and foliar spraying mechanically are effective in open accessible areas, but we do not have many such areas. Growth here is dense and it is difficult to access the base of thick lantana bushes so using the cut stump method is very difficult and time consuming – but it is very effective and does not need much follow-up.

Two years ago we purchased a splatter gun and have found it to be the most effective control we have used. Sometimes, if the growth is thick, we experience some regrowth or missed application which requires follow-up. This is far outweighed by the less time and energy involved initially. Since using this method we are moving much faster on the lantana and consequently feel that we are achieving our goals much sooner.

We've also done several plantings to stablise the river bank, but after the floods in recent years, the results there are a whole 'nother story…

Tingids & the Terror

by Gillian Crossley, Gympie Landcare Volunteer

The Gympie Landcare project growing the Cat's Claw Creeper biocontrol agent, the Tingid Bug, was about to be scrapped. Luckily I discovered this just in time and with wonderful help from Bruce McCulloch, who fixed up all the watering infrastructure, and Wendy who's also come on board, we all got the project up and running again.

Anyone wishing to get pots of infected Cat's Claw can collect them from Gympie Landcare on Wednesday, Thursday or Friday for a receipted donation of around $10 for a tray of 10 to 12 infested plants in pots.

I'm there on Wednesdays, so if you'd like to come along and help out in the nursery you'd be very welcome.

I have put out many infected plants in our forest at Lower Wonga and now, nearly a year later, I'm finding the bug working well and quite high up in some trees.

One needs to put many pots quite close together in sheltered areas and keep them moist if possible.

At home, I have increased my number of infected plants by potting up Cat's Claw seedlings and putting them in boxes with a few infected plants, and you can do this too. The more infected plants introduced to Cat's Claw areas, the better.

When you plant them out, remember to water them well, and plant above recent flood levels where possible.

For more information contact Gympie Landcare at 07 5483 8866 Wednesday to Friday or admin@gympielandcare.org.au

Cat's Claw Creeper: garden ornamental (above, Gympie) turned environmental slayer (below, Widgee).
[Photos: Annette Bourke, Gympie Landcare]

Connecting the landscape in the Mary River Catchment

by Susie Duncan

Hinterland Bush Links, an exciting new conservation project recently initiated by Barung Landcare, aims to protect our local flora and fauna by connecting the big blocks of bush across the wider landscape of the Sunshine Coast Hinterland.

When big blocks of bush are surrounded by cleared country it is difficult for many plants and animals to disperse between these blocks. Broad wildlife corridors allow animals to move across the landscape with less risk of predators snaffling them. This allows for genetic flow between bush areas, and creates bigger areas of bush so that a species has a better chance of surviving. Corridors are also good for plants. Although seed-dispersing birds are relatively mobile, they won't always cross cleared land; wildlife corridors offer stepping stones of habitat between bush blocks.

The spectre of climate change adds urgency to these efforts as many species will need to move to more suitable habitat if conditions become drier.

Linking the Blackall and Conondale ranges is seen as a key step in reconnecting the landscape of this region. Hinterland Bush Links is looking at the restoration of habitat through the Bellthorpe district in the upper reaches of the Mary River, as well as further downstream at Cambroon where the valley narrows and the ranges are most easily linked.

A volunteer Bushcare group has formed at Little Yabba Park with support from Sunshine Coast Council. This group will help manage weeds and revegetate the creek and river banks here. Barung Landcare will also be working with Land for Wildlife, MRCCC and interested Cambroon landholders to further build a vegetated linkage across the valley.

The Cambroon linkage will form part of a potential corridor through the Walli, Kidaman Creek and Kondalilla sections of Maleny National Park. Ultimately it could link with Mapleton Forest Reserve to the north and the Mooloolah Valley to the south-east.

Many people are already involved in excellent conservation works in the Mary Valley. It is hoped that this project will provide a strategic framework for community action in the future.

Looking south up the Mary Valley from Imbil State Forest toward the Conondale and Blackall ranges.
[Photo by Nick Clancy]

If you are a Cambroon area landholder interested in undertaking restoration work, or if you would like to join the Little Yabba Park Bushcare Group, please contact Susie Duncan on 07 5429 6622 or wilderness@hotkey.net.au

Microbat roosting places - Survey

by Rachel Lyons, Planning and Biodiversity Coordinator
Burnett Mary Regional Group for Natural Resource Management Ltd

Common Bentwing Bat.
[Photo by Les Hall]

We know relatively little about the amazing echo-locating, insect-eating machines called microbats, despite there being more than 60 species in Australia, representing some 20% of our mammal species.

Eleven species of microbats in the SEQ Bioregion and Eastern Brigalow Belt, several of which are listed as Vulnerable or Endangered under the various Acts, use caves or cave-like structures as roosts for a variety of reasons.

Over the next few months, SEQ Catchments and Burnett Mary Regional Group are considering undertaking a survey of important microbat caves, mines, tunnels etc in the area from Gladstone down to the state border and west to Monto and Toowoomba – and we need your help in locating them.

If you are aware of any significant microbat roosting structures in your neck of the woods we would love to hear about them – so that we can plan and work up the survey and make best use of the amazing scientists who will be helping us, including Dr Les Hall.

Please let me know via email the following information as soon as you can:

- Location
- Type of structure (eg cave, old railway tunnel, stormwater drain etc)
- Tenure of land and contact person
- Access considerations
- Info on current usage by microbats.

For more information contact Rachel Lyons on 0429 462 040 or Rachel.Lyons@bmrg.org.au

Tiaro Turtle Talk

by Marilyn Connell
Tiaro & District Landcare

Early spring rains helped to create ideal nesting conditions for the endangered Mary River Turtle (*Elusor macrurus*) in late 2010. Seventy-five nests were located and protected *in situ*, making it one of the most productive seasons recorded by Tiaro & District Landcare Group since 2001.

Due to a La Nina event however, major floods occurred in many rivers throughout the state of Queensland (Australia) from late 2010 to early 2011 which coincided with the incubation period of the Mary River turtle.

Tiaro Landcare members and researchers from the University of Queensland releasing tagged Mary River turtles in May 2011.

The water level at the mid-catchment of the Mary River rose over 15 metres, causing it to over-top the banks and flow out onto the floodplain. Four days after the first water level rise, the river peaked again at a similar height, amplifying and prolonging the impacts upon the system. As a consequence of these flood events, the river banks were eroded, riparian vegetation was swept away, and large quantities of sand, gravel and cobbles were moved through the river system, smothering aquatic plants growing in streambeds.

During the flooding, turtles were observed basking on floating logs in minor-flooded gullies, probably escaping from the fast flow of the main stream. After the major flooding receded, male turtles were observed basking on nesting banks. Previous observations of basking indicated changes in their usual behaviour. This is probably because logs and rocks previously used as basking platforms were submerged for long periods.

Some river banks used as nesting sites by the Mary River turtle were severely eroded, while others were replenished with substantive deposits of sand and/or gravel. As a result it is unlikely that nesting activity will occur on some of the eroded banks in the next season.

As all the nesting banks were submerged for weeks, all the Mary River turtle eggs laid during 2010/11 nesting season which had not been relocated would have drowned. From the relocated clutches, 516 hatchlings emerged successfully.

Tiaro & District Landcare Group aims to monitor the Mary River turtle nesting patterns along a number of river banks in coming years to investigate the impact of this season's flooding events on the population of *Elusor macrurus*.

Tiaro Landcare appreciates the grant received from the Mohamed bin Zayed Species Conservation Fund which funded this season's Mary River turtle conservation project. Tiaro Landcare was the first group in Australia to receive a grant from this fund, which supports conservation of all kinds of plants and animals across the globe.

Turtle Tracking

Twenty-four young Mary River turtles have been tagged and released as part of Mariana Campbell's PhD research.

Tiaro Landcare has successfully protected nests during the past 10 years, increasing the recruitment from the wild. However what happens to the hatchlings once they reach the river is unknown.

With money raised through the sale of chocolate turtles, Tiaro Landcare donated 10 tracking tags to the University.

It is hoped that the tracking being undertaken by the University will start providing some answers.

One tagged adult has been recorded at 7.4 metres depth in a pool in the Mary.

Updates will be posted on the web:
www.maryriverturtle.com

PEST TURTLE sliding into the Mary catchment

The sighting (and photographing) of a a Red-eared Slider Turtle in the Tinana Creek catchment around Neerdie caused great concern, enough to warrant staff from Biosecurity Qld, DERM, MRCCC, Gympie Council and local volunteers spending nearly two weeks searching the area by trapping, netting and sniffer dog. Unfortunately the turtle wasn't found.

This central American turtle is a Class 1 pest due to its status in 20 other countries as a serious and difficult to control pest. It is extremely aggressive and competitive with native turtles. It can also lay eggs for up to five years after just one mating!

A few small populations in southern Queensland and New South Wales have been subject to on-going eradication efforts since the 1960s. This is the first sighting in the Mary catchment.

These turtles are more reliably recognised by their behaviour rather than their looks. Their head and body stripes and the red facial markings are sometimes indistinct but this turtle's habit of retracting its head straight back into its shell is unique in Australia (see photo). Our native turtles all move their heads sideways when tucking them in.

PLEASE be on the alert and do catch, contain and report turtles suspected of being Red-eared Sliders to the MRCCC or DEEDI on their hotline 13 25 23.

Brochures are available from the MRCCC and the DEEDI hotline and website
www.deedi.qld.gov.au

Red-eared slider turtle retracting its head straight back into the shell.
[Photo: WA Dept of Ag & Food]

Gympie youth digging Dagun

by Steve Burgess, Wurraglen Nature Refuge

Two small teams of intrepid Gympie youth have been working on community and environment projects at Dagun as part of their wider activities throughout the region, under the Commonwealth's Green Jobs Corps program being administered by Conservation Volunteers Australia. Included in their worksites are a number of projects in and around Dagun Station and the Dagun Natural History garden, and in the nearby Amamoor National Park and the adjoining Wurraglen Nature Refuge.

The teams have also been working on cat's claw control, including collecting and cultivating tubers for infection by the tingid bug biocontrol agent at Gympie Landcare. In addition to physical and chemical control, they have released the tingid bug and undertaken follow-up monitoring in Amamoor National Park.

The first long walk from the bottom of Dagun Gully up to the top of the ridge into the National Park to work on a patch of cat's claw motivated the team to make a more direct 'short–cut' walking access track directly through the Nature Refuge to the National Park boundary.

This track has been christened the 'Pine Tree' track after the prominent hoop pine on the ridge at the top of the track, and a few participants have laid claim to naming some of the welcome sitting and resting rocks along the steep zig-zag track. The most famous is 'Rod's Rock', claimed by the team leader, Rod Day, as his place to rest for smoko. The track provides great access through a part of Dagun Gully that was previously very difficult to manage. We hope to make this track available for more public walking access through the Nature Refuge to the National Park in future.

In addition to the Dagun projects, Green Jobs Corps teams (in partnership with the Mary River Catchment Coordinating Committee) have been assisting farmers in the Widgee and Kilkivan area re-building fence lines damaged by this summer's floods.

The "Friday" crew improving environmental access near Dagun.

If you are 17 to 24 years of age, in the Gympie region, and would like to find out more about the Green Jobs Corps program, contact Robyn Norris on 0404 828 924 or rnorris@cva.org.au

Sustainability Education in Action

by Sue Gibson, Earth Smart Science Facilitator
Barambah Environmental Education Centre

Earth Smart Science is a three year initiative by Education Queensland which supports state primary, P10 and P12 schools toward becoming more sustainable in their policies and practices.

Earth Smart Science facilitators, mostly based in Outdoor and Environmental Education Centres throughout the state, work closely with school communities to develop strategies to reduce the schools' ecological footprints through developing and implementing School Environmental Management Plans (SEMPs). These plans encourage a whole-of-school approach toward managing resources wisely, and focus on waste minimisation, water conservation, energy efficiency and biodiversity improvements.

Teachers in Earth Smart schools attend professional development workshops to increase their knowledge and skills in teaching in outdoor environments and collecting baseline data in the four focus areas of the SEMP.

The skills of a variety of education service providers and local experts, along with Science Spark teachers who are currently working with state primary school teachers to enhance the teaching of science, are contributing to the process.

A wonderful local example of this is the River Science Skills for Educators program, a joint initiative between Gympie Science Spark teachers Zela Bissett and Don Reid and the Mary River Catchment Coordinating Committee.

The River Science Skills sessions are being delivered by MRCCC staff and include the topics of macroinvertebrates, endangered species, water quality testing and riparian restoration, and are designed to give teachers the skills to deliver these topics as part of their own teaching. Zela has also worked with teachers to write the 'Marvellous Mary River' unit which is currently being taught in year 5 at the Mary Valley State College and in years 4/5 at Gympie South State School.

Students in Earth Smart schools become involved in hands-on learning about the environment and play a significant role in implementing the SEMP actions.

Examples of **energy smart** strategies being undertaken in schools include auditing energy use through the use of meters and the Solar Schools website and developing energy wise checklists for classrooms. **Biodiversity initiatives** include removing exotic and invasive plant species, developing revegetation projects and bush tucker gardens, and caring for wetlands areas. **Water smart strategies** to reduce water consumption include conducting water audits and retrofitting old plumbing devices. **Waste smart initiatives** focus on reducing the amount of packaging coming into the school and improving recycling within the school. An increasing number of schools are composting organic waste on site and using the compost to improve soil quality in garden areas of the school.

Sue Gibson can be contacted on 07 4168 8190 or sgibs50@eq.edu.au

Helping you to help your land

Many landowners in the Mary River catchment put enormous effort into protecting and restoring their waterways and land condition whilst managing their land for commercial and lifestyle purposes.

Good land management and healthy riparian vegetation both go a long way towards maintaining well-functioning ecosystems, providing flow-on benefits for productivity (e.g. reducing the loss of land through erosion, reducing nutrient inputs into waterways).

If you are interested in obtaining advice and possibly financial assistance in the form of grants, MRCCC may be able to help you. In certain local council areas and for particular project types across the Mary River catchment, incentives may be available now or in the future to help people to improve the condition of the environment. Opportunities to obtain assistance to apply for individual grants may also be available.

One example is Reef Rescue, under which graziers can gain assistance with undertaking fencing and offering off-stream watering points to protect waterways and wetlands and improve grazing management.

Contact MRCCC staff on 5482 4766 for further information or to register your interest in Rivercare activities.

Similarly, under the BMRG's 'Healthy Habitats' program, aimed at supporting the regions' threatened species and vegetation communities, assistance may be available to landholders in the Tinana, Amamoor, Glastonbury, Brooyar and Kenilworth/Booloumba Creek areas.

Projects will be selected based on their merit in achieving target outcomes.

If you are in a target area, have endangered plant or animal habitat on your property, and would like to participate in a project, please feel free to contact Rachel Lyons at Burnett Mary Regional Group on 0429 462 040 or email rachel.lyons@bmrg.org.au

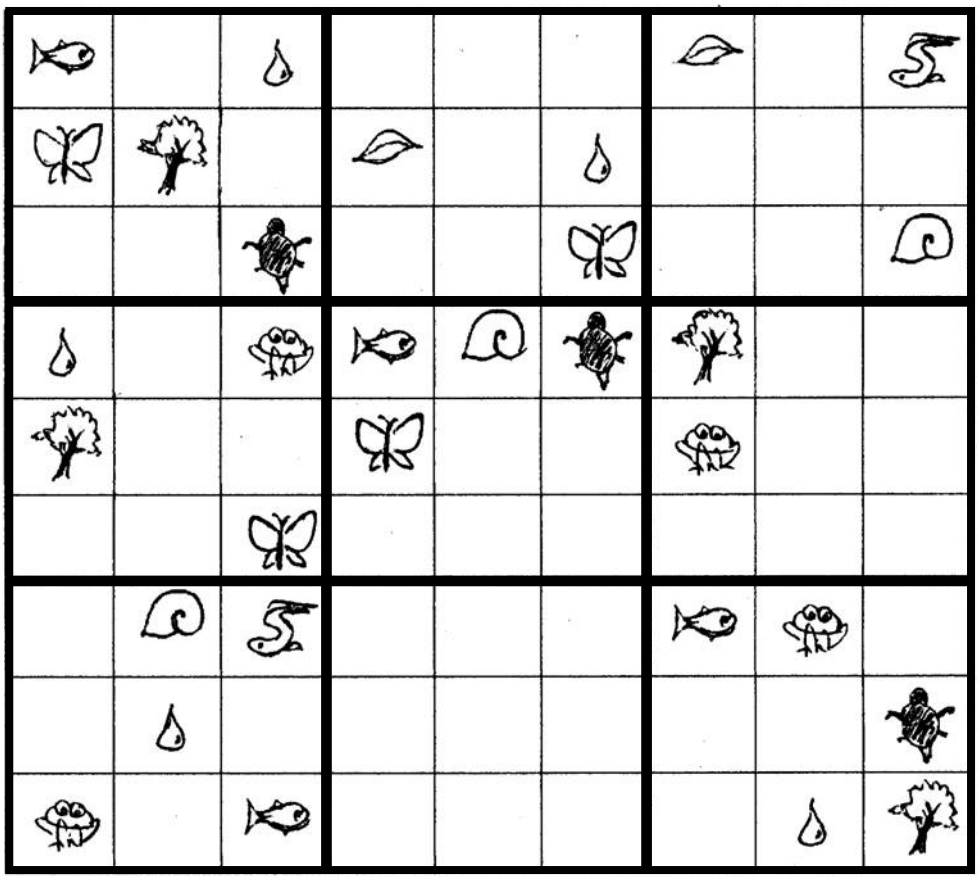
Turtle-Doku

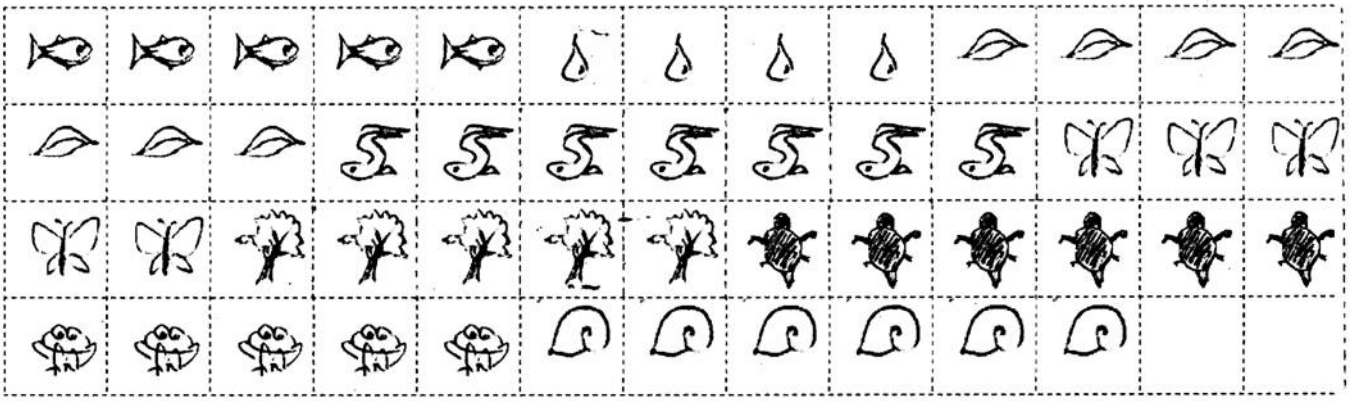
Designed and contributed by Harmony Douwes

You may have heard of Sudoku, but have you heard of Turtle-Doku?

The concept is the same: to fill every box, row and column with each of the nine different pictures, (Sudoku uses numbers), without repeating or missing any.

If you don't want to draw each of the nine pictures, you can cut out these below and use them to solve the Turtle-Doku.





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Sunshine Coast Council

WORKING FOR OUR FUTURE

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This issue ...

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