

















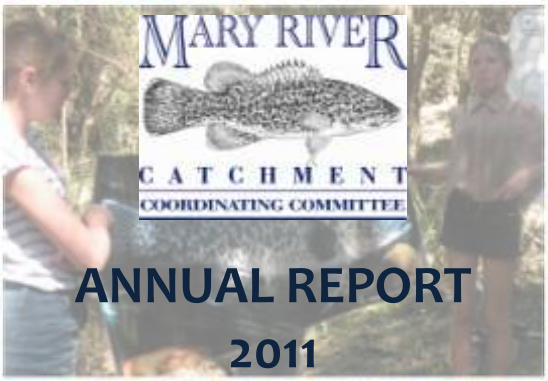





ANNUAL REPORT

2011

Mary River Catchment Coordinating Committee

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The MRCCC acknowledges the landholders in the Mary Catchment who contributed images to the MRCCC Flood Report. Many of these images appear in the 2011 Annual Report

Contents……

Delegates 2010-2011

Interest Sector	Name	Title
Beef/Grazing	Naomi Cooney	
Dairying	Rob Priebe	
Dept Environment and Resource Management	Luke Diddams	
DEEDI/DPI	Graeme Elphinstone	
Education	Sue Gibson	
Environment	Emma-Kate Currie	
Fishing	Vince Collis	
Forestry	Ernie Rider	
Gen Community Lower	John Williams	
General Community Upper	Dave Sands	
General Community Middle	Wayne Carlson	
Horticulture	Jim Buchanan	
Irrigation - unsupplemented	Brian Thomas	Deputy Chair
Irrigation - supplemented	Vacant	
Landcare, Lower Mary	Carol Neilsen	
Landcare, Upper Mary	Phillip Moran	Chair
Local Government Lower	Cr Debbie Hawes	
Local Government Middle	Cr Graeme Engeman	
Local Government upper	Cr Russell Green	
Rural Women	Rosemary Burnett	
Small Landholder	Elke Watson	Assistant Treasurer
Special Member	Nai Nai Bird	
Special Member	Tanzi Smith	
Special Member	Glenda Pickersgill	
Life Member	Margaret Thompson	Secretary/Treasurer
Special Member	Angus Hutton	
Sugar	Yolande Lambert	
Waterwatch	Ian Mackay	
Western Mary Community	Vacant	

MRCCC Staff 2010-2011

Brad Wedlock	Operations Manager
Eva Ford	Catchment Officer Threatened Species
Dale Watson	Catchment Officer
Steve Burgess	Catchment Officer
Dr Tanzi Smith	Catchment Officer
Debbie Seal	Administration
Leah Johnston	Administrative Assistant
Jenny Whyte	Project Support
Adam Logan	FarmFLOW Officer
Marc Russell	Biodiversity Field Officer

Chairman's Report 2010-2011

The 2010/11 year has certainly been interesting! We will never forget the massive floods that engulfed Queensland, including the Mary Catchment. Some parts of the catchment, particularly Wide Bay Creek, received record rainfall causing significant flooding and damage to infrastructure. Local flood events were showcased by Delegates at our March 2011 meeting and the photographs told the story. The resilience and strength of our local community came to the fore, and special mention must go to MRCCC's Deputy Chair, Brian Thomas, for his outstanding work with the State Emergency Service during and after the floods.

On a very positive note, I congratulate Sunshine Coast Council for recently winning the International River Foundation's prestigious National Riverprize. This prize is for excellence in improving river health and engaging the community in this endeavour. The Sunshine Coast Rivers Initiative included the work of the MRCCC and other community groups. The Mary Catchment constitutes 37% of the Sunshine Coast Council local government area. MRCCC activities in this area include landholder engagement and education, waterwatch, rivercare and biodiversity monitoring and projects.

The important role that the MRCCC plays as advocates for the health of the Mary Catchment has continued this year. Our staff and Delegates spend countless unpaid hours making submissions and contributing comments in relation to a wide range of planning issues affecting the Mary Catchment. The group has been involved in water planning in the Mary Catchment since 2002 when the process started as a "WAMP"! This past year has been significant in terms of water planning with the release of the Resource Operations Plan. In addition, the MRCCC has opened a dialogue with the State Government in relation to bulk water supply options for the Mary Catchment, with a further meeting planned later in the year.

The past year we have also seen a significant increase in demand for mineral resources from the Mary catchment. At the May 2011 meeting we invited the Mining Warden to speak on the plethora of mining proposals for coal, gold, silver, sand & gravel and coal seam gas exploration. At the same time, many in the farming community are finding life a real struggle. A former Chair of the MRCCC, Peter Buchanan, was unable to attend our AGM because he is trying to keep his head above water and can't leave the farm. In his opinion, the state of the farming community is the biggest threat to the region.

It is hard to believe that it is almost two years since the Traveston Dam was cancelled. The MRCCC continues to work with government agencies, Gympie Regional Council and the Mary Valley community on the Renewal process. Progress has been slow; however we hope to work with all parties to gain a positive outcome for the Mary Valley.

The MRCCC is also currently involved in the development of the Mary River Threatened Species Recovery Plan - the first River based recovery plan in Australia. I offer a warm welcome to Tanzi Smith who joined the MRCCC staff this year. Tanzi has been working with the Australian Government Environment Department on the Recovery Plan, and will be a great asset to the staff.

Marc Russell's re-appointment to the MRCCC staff was celebrated widely. His presence however was to be short lived as he has now taken a job with Sunshine Coast Council as a Land for Wildlife Officer. I am sure that all those who know Marc will concur that this is his forté and we wish him well. We hope to employ a suitable replacement to continue the work that Marc has been involved with in the Gympie and Fraser Coast regions. Adam Logan also departed this year leaving a void in the Gympie FarmFLOW project. We are currently waiting to hear if the FarmFLOW project will continue in this area with support from the state and federal governments.

Although 2010-11 was the final year of Better Catchments in the Mary, landholders still have an opportunity to control lantana on their property through the use of the splatter gun, which MRCCC loans out free of charge. This has been an extremely popular initiative of the MRCCC which is ongoing. The grazing community also has an avenue for assistance through the Reef Rescue project, which MRCCC undertakes in partnership with the BMRG and DEEDI (formerly DPI). The MRCCC has been over-whelmed by the response for assistance from this program.

The seventh annual Noosa Festival of Water was held at the Lake Macdonald Botanic Gardens in June. This was a resounding success, with up to 2,000 people attending on the day. Thanks to principal organiser Debbie Seal for all her work and to the many volunteers who donate their time and/or services to ensure the Festival is a success each year. Thanks also to major sponsors Sunshine Coast Council, Seqwater and Noosa Biosphere Limited.

The War on Aquatic Weeds forum was also held this year prior to the Festival of Water with support from the Australian Government's Caring for our Country Community Action Grants program. This full day workshop was held at the Australis Resort in Noosaville. Close to 100 participants from as far afield as Benalla in Victoria, right through to Gladstone and beyond attended. The forum featured great presenters, was very informative and also well organised, again by Debbie...thank you. Indeed, all the staff are involved in education of the community, particularly our kids...who are the future.

This year has been a challenging one for the group with a reduction in funds coming from traditional sources. The MRCCC is a valuable and respected partner in our community. We need to look towards other avenues of funding to continue the good work of the organisation. My goal will be to work hard on our future financial sustainability.

On a positive note, the Mary Catchment Public Fund continues to grow. A special thanks to our former Chair, Jim Buchanan for his efforts in promoting this fund. The MRCCC still needs to secure a long term 'home' and on that subject I thank Gympie Regional Council for continuing to provide the MRCCC with suitable office space.

I would like to offer my thanks to all the Delegates who attend meetings and provide feedback on the direction of the MRCCC. To the Executive committee of Margaret Thompson, Elke Watson and Brian Thomas I offer my thanks for all your help throughout the year. To all the volunteers – in particular the many Waterwatch volunteers - who help out in different ways, a big thanks.

To the Councillors who attend our meetings; thank you. It is greatly appreciated, as are our partnerships with Gympie, Sunshine Coast and Fraser Coast Councils. To Peter and Bevly Hughes from the Gympie Times, a heartfelt thanks. These two young people attend just about everything that happens in our region. They report, inform and educate our community.

The staff of the MRCCC have again worked tirelessly and enhanced the reputation of the group. Their level of skill, dedication, knowledge and passion for the Mary Catchment is evident in everything they do. I am extremely proud of the staff we have, they are a credit to the organisation. Well done. *Phil Moran*

Eddie Gresham monitoring water quality on the Mary River at Kybong.

Vale Eddie Gresham and Hugh Viner

Two champions of the Mary Catchment passed away this year. We will continue to remember Eddie Gresham and Hugh Viner, two influential gentlemen who helped to forge links between dairy and grazing landholders, and the landcare and integrated catchment management movement in the Mary.

Eddie supported Gympie Landcare for many years through his representation of the Dairying Industry, which provided office accommodation at its Tozer Street premises. As Chairman of Landcare, he presided over projects that resulted in revegetation of riparian habitats in the Mary catchment.

Eddie is also remembered for his contributions to the dairy industry, his passionate application of biodynamic farming and his contribution to the MRCCC's community waterwatch program as a volunteer for many years.

Hugh Viner was one of a small group of 'community influentials' drawn together by Gunther Kath in early 1991, to pool their extensive talents and experience, and begin developing a planning model for the sustainable management of the Mary River Catchment.

This informal group was called the Mary River Catchment Planning Group, and was the forerunner of the current Mary River Catchment Coordinating Committee which was formally chartered in mid-1993

Hugh was also the nominee of the Gympie District Beef Liaison Group as the Beef Industry Sector rep on the MRCCC Management Committee, and served in that position for 4 years from 1998 to 2001.

Hugh and Eddie's contributions to a sustainable and productive catchment will be remembered by all.

Hugh Viner and Lloyd

Waterwatch and the 2011 floods

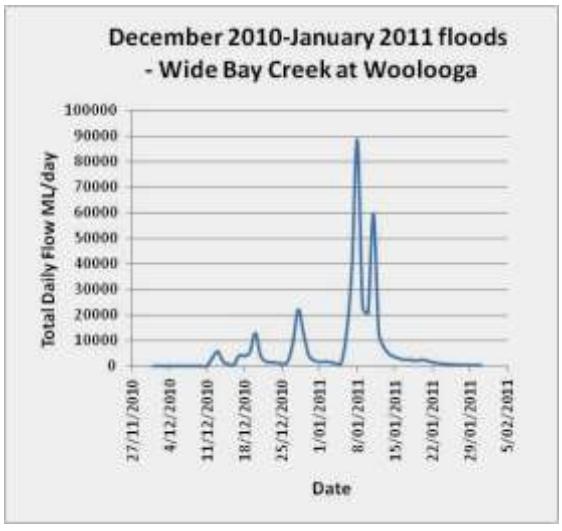
The Waterwatch program has been on-going since 2001. Some of our Waterwatch volunteers have collected water quality data for more than 10 years. The data is now providing the community, scientists and government agencies with a better understanding of the characteristics of the waterways in the Mary River catchment. Without this committed volunteer effort we would not have access to this valuable information.

It is sad to have to report on the loss of one of our first Waterwatch volunteers from the Gympie – Amamoor network; Eddie Gresham, who diligently collected data from the Mary River and Kybong Creek since 2003 and continued until shortly before he passed away. Eva has fond memories of careering across muddy paddocks with Eddie on his quad checking out old sites and looking for a new site to monitor on the Mary River!

In the Upper Mary Waterwatch network Wyn Boon who was the crucial transport link for the kit from Kenilworth to Montville for the past 5 years retired from the Waterwatch network earlier this year. We greatly appreciate his commitment to the Waterwatch program.

The volunteers of the Widgee – Wide Bay and Munna Creek Waterwatch networks soldiered on despite the flooding. In the Kenilworth Waterwatch network Scott Poad and Sally Warren left the network earlier this year – we thank them for their contribution to Waterwatch.

This past year saw a La Nina weather cycle which produced levels of flooding not seen in many years, and severe damage to some parts of the catchment. Many families and their properties, including Waterwatch volunteers, were directly affected by the floods and we extend our thoughts and wishes to these people.



The summer of 2010/11 was characterised by a series of rapid rises in the creeks and Mary River culminating in the large extended flood event of January 2011. The earlier events in 2010 had the effect of softening the creek and riverbanks and weakening vegetation in the riparian zone, resulting in extreme damage during and after the extended flood event in January 2011.

While the Mary River at Gympie and Miva experienced major flood events they were only in the order of a 1 in 20 year flood event, however the flood event in Wide Bay Creek at Kilkivan and Woolooga was the highest level yet recorded. Following a series of three minor flood events on Wide Bay Creek in December 2010, a major flood peak occurred on the 8th January, followed by another distinct flood peak 3 days later.

The water level at Kilkivan (Wide Bay Creek) was higher than what the gauging station was designed to measure, so the actual volume of water flowing through Kilkivan will never be known. At Woolooga on Wide Bay Creek it was possible to measure the volume of flow – the peak flow was 50% more than the highest ever recorded at this site. For example, on the 8th January alone, approximately twice the volume of Borumba Dam flowed through the town of Woolooga.

Along the entire Mary River and its tributaries there was severe scour, erosion and damage to vegetation due to the very rapid and sustained stream height rises.

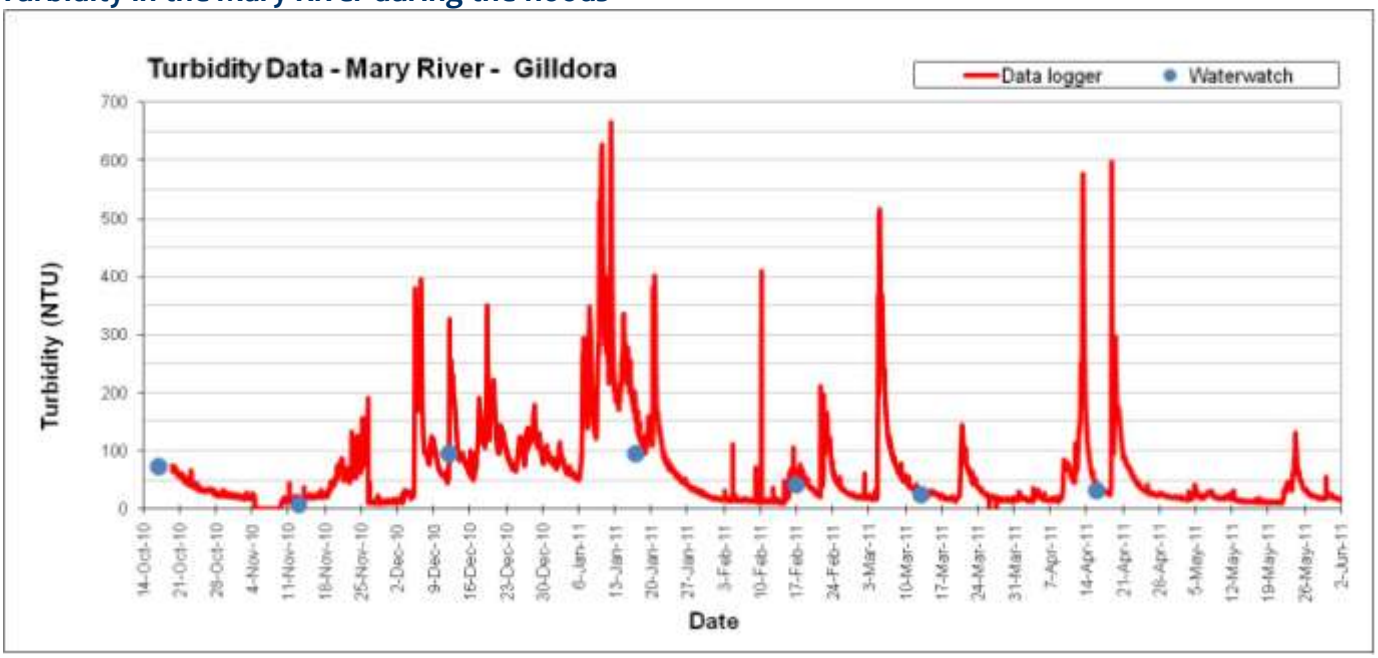
Since the floods, there appears to be a general improvement to the water quality of the waterways within the networks. Anecdotal comments written on the datasheets reflect this general improvement in stream health (not withstanding the damage caused by the 2011 floods). However native in-stream aquatic plants (macrophytes) and riparian vegetation are taking some time to recover, while weeds have colonised the bare areas created by the floods.

There is now enough long-term data from many sites to draw some statistically valid conclusions about differences in general physical and chemical characteristics of water quality between a number of sub-catchments in the catchment. At some sites there is also enough data to develop local water quality guidelines in accordance with the Queensland water quality guideline procedures.

At the February 2011 flood meetings hosted by DEEDI and Council, a lack of meaningful, sub-catchment flood height information was identified. The meeting determined that there was a need for people to not only access flood height data from the BOM website, but also to know how this information translated to their sub-catchment. The MRCCC compiled a fact sheet on river, flood and gauging information (stream height) which includes local landmarks so that landholders can understand the effect on their area. A copy of this fact sheet can be downloaded from the MRCCC's website at www.mrccc.org.au/publications

The Mary Catchment Waterwatch networks are supported by Gympie Regional Council's Environment Levy and Sunshine Coast Council's Partnership Program.

Turbidity in the Mary River during the floods



MRCCC has commenced recording flood event data using specialised sampling programs and in-stream data-loggers on the middle reaches of the Mary River.

The graph above shows turbidity data recorded from an automated turbidity data logger installed in the Mary River upstream of Gympie (Gilldora). This clearly shows the extreme turbidity levels (more than 600 NTU's) recorded in the Mary River during the summer 2010/11 flood events. MRCCC's previous data using hand-sampling techniques has not measured any turbidity levels over 500 NTU's. The automated equipment was able to sample during the dirtiest and most dangerous part of the flood, which we would not ordinarily be able to sample safely.

To put this into perspective a turbidity measurement of 600 NTU's combined with the peak flow rate recorded in the Mary River at Miva equates to approximately 237 tonnes of sediment (or seven dump trucks) flowing under the Dickabram bridge every minute.

The ambient turbidity sampling conducted by the volunteers cannot measure this impact on water quality because turbidity measurements are not taken during the peak flood events. The graph below shows the monthly Waterwatch turbidity measurements recorded for the year at a nearby Waterwatch site compared to the turbidity data recorded from the automated turbidity logger installed at Gilldora. This clearly shows that the Waterwatch turbidity data does not capture the peak events.

Evaluation of Better Catchments Rivercare sites – post 2011 floods

Since the January 2011 floods, landholders who have previously undertaken Better Catchments rivercare projects in 2008-09 with MRCCC were contacted to ascertain the extent of damage to their project site from the floods. The tables on the following page detail the condition of project sites after the floods.

Mary River at Conondale after the January 2011 floods. Note the significant sand deposits adjacent to the river.

Sand deposits were evident from one end of the catchment to the other

Six Mile Catchment and Cooroy

Landholder	Location	Stream	Project	Flood Report
Lofthouse	Mothar Mt	Six Mile Ck	Revegetation	• 20% loss of 2 yr old revegetation • <1% loss of 4 yr old revegetation
SCRC	Pomona	Cooroora Ck	Revegetation	• 10% loss of revegetation
SCRC	Cooroy	Cooroy Ck	Revegetation	• 30% loss of revegetation
SCRC	Cooran	Six Mile Ck	Revegetation	• 10% loss of revegetation
Barker	Cooroy	Blackfellows Ck	Revegetation	• 5% loss of 15 yr old creek revegetation • 90% loss of 1 yr old gully revegetation

Upper Mary Catchment

Landholder	Location	Stream	Project	Flood Report
Law	Harpers Ck	Harpers Ck	Revegetation	• 0% loss of revegetation • Trees held bank
Lowry	Conondale	Mary River	Revegetation	• No water over revegetation • Trees flattened in regeneration on banks
Woolbank	Conondale	Kilcoy Ck	Revegetation	• 30% loss of revegetation • 50% loss of regeneration • 2 x off stream watering points lost
Barung	Maleny Precinct	Obi Obi Ck	Revegetation	• 0% loss of revegetation (well established plants)
Barung	Maleny Boardwalk	Obi Obi Ck	Revegetation	• 0% loss of revegetation (10yr old plants)
Barung	Maleny Town	Obi Obi Ck	Revegetation	• Young revegetation flattened (3 yr old, may recover) • Mature plants survived

Calico Creek Area

Landholder	Location	Stream	Project	Flood Report
Williams	Gympie	Tributary	Revegetation	• <1% loss of revegetation • Lomandra held banks
Tompkins	Gympie	Calico Ck	Revegetation	• 50% loss of 4 yr old revegetation • 70% loss of 1 yr old revegetation
Mangold	Gympie	Calico Ck	Revegetation	• <1% loss of revegetation

Large Woody Debris Projects

Landholder	Location	Stream	Project	Flood Report
Cork	Conondale	Elaman Ck	LWD & Revegetation	• *No movement of LWD logs* • Some scour at toe of logs • 20% loss of revegetation
Rich	Conondale	Elaman Ck	LWD & Revegetation	• *No movement of LWD logs* • Bank scour up & down stream • 50% loss of revegetation
Friedland	Kidaman	Obi Obi Ck	LWD & Revegetation	• *No movement of LWD logs* • No bank scour at LWD site •10% loss of revegetation
Gillis	Kenilworth	Mary River	Rock Revetment & Revegetation	• 80% of rock remains • 2m of rock lost at toe • 20% loss of revegetation

Reef Rescue in the Mary Catchment

The Mary River Catchment Coordinating Committee (MRCCC), in partnership with the BMRG, DEEDI, Gympie District Beef Liaison Group, and AgForce is delivering Reef Rescue in the Mary Catchment. The project works with interested graziers to implement improved land management practices to reduce the amount of nutrients, chemicals and sediments leaving their farms and impacting on Reef water quality.

Reef Rescue works by co-investing with land managers to give them an incentive to improve their grazing land management practices. Investment from the Australian Government's Reef Rescue program is providing graziers with the technical advice and financial support to implement eligible on-ground projects that can demonstrate best land management practices and enterprise sustainability, and contribute to Reef Rescue outcomes. For every dollar the Australian Government invests in Reef Rescue, land managers contribute an additional $1.50 in-kind i.e. cash, labour, materials etc.

The MRCCC project team is assisting graziers to undertake an assessment of their current grazing land practices using an A, B, C, D rating system. This audit process identifies specific on-ground projects that contribute to improved grazing land practices with a higher rating.

Improved grazing land condition leads to greater pasture productivity, sustainability and enterprise profitability, whilst reducing the loss of valuable sediments and nutrients from our grazing lands. Wetland systems such as riparian zones, billabongs, and marshes will be a particular focus due to their important function of filtering out nutrients and sediments from the grazing landscape, before they reach the river systems.

The “Great Barrier Reef Water Quality Improvement Plan” was released by the Federal Government in 2003 in recognition of the important role that grazing landholders can play in improving the quality of downstream water entering the barrier reef lagoon. The Mary River is the southern-most of these reef catchments, and the Mary’s grazing sector is the largest freehold land user ie about 70% of the catchment area.

The second year of funded on-ground works is currently being finalised, and expressions of interest are invited for the 2012/ 2013 year. The expression of interest period closes in January 2012.

Examples of eligible on-ground projects could include:

Creeks, Riparian Zones & Wetlands

- fencing to reduce bank erosion and manage cattle access to creeks and wetlands to improve water quality
- fencing of wetlands to encourage natural regeneration of aquatic vegetation to filter sediments and nutrients

Stock Watering Points

- provision of off-stream watering points eg tanks, troughs or dams, as an alternate water supply to creek water;
- provision of additional troughs in large paddocks to facilitate evenness of grazing & improved grazing land condition

Sub-division Fencing

- sub-division fencing to separately manage different grazing land types and improve grazing land condition
- fencing of remnant vegetation eg clumps of rainforest, pine scrub etc, or sensitive areas to manage grazing access

Contour or Keyline ripping

- implementing a strategic ripping program on steeper hillslopes to reduce runoff and improve grazing land condition (Note: does not refer to conventional renovation and pasture oversowing practices)

Stabilization of Erosion Gullies or Salt Scalds

- fencing to restore groundcover and encourage the natural stabilisation of gullies and scalds
- planting clumps of salinity-tolerant tree species adjacent to and above scalds to lower the salty watertable
- fencing ridge lines above salinity outbreaks to facilitate the natural regeneration of trees eg Spotted gum, to reduce the amount of surface water recharge of the groundwater

Reef Rescue Project wrap-up (2010 – 11)

- In March 2011 16 Reef Rescue on-ground projects were approved, with a total funding amount of $84 950:
    - 12 were riparian zone rehabilitation projects including fencing & off-stream watering points
    - 4 were fencing projects to separate grazing land-types & sub-divide paddocks to improve evenness of grazing
- Project outputs:
    - 101 hectares of improved riparian zone management
    - 13.5 km of riparian zone fencing
    - 1457 ha of pasture with improved management practices
- Due to the continuing wet weather experienced since the January 2011 floods some graziers were not able to access their paddocks with machinery to complete their on-ground projects. Seven grazing enterprises were granted extensions until 31 October 2011 for their Reef Rescue projects, however at least 2 enterprises did not require the extension.

Geographical distribution of Reef Rescue project participants

Western Mary Catchment	Mary Valley	Gympie East	West Cooroy (Black Mt)	Upper Mary
38%	19%	19%	19%	6%

Reef Rescue (2011 – 12)

- The Reef Rescue landholder on-ground project applications have been finalized for 2011-12.
- An assessment panel meeting will occur in October to approve the Reef Rescue on-ground projects.

Reef Rescue – Grazing, Mary Catchment 11-12 statistics	
No. of expression of interests received	32
No. of on-property consultations	25
No. of paddock maps prepared	25
No. of A-B-C-D practice change assessments jointly with landholders	25
No. of grazing land condition assessments jointly with landholders	13
No. of riparian zone condition assessments jointly with landholders	13
No. of applications received	23
Value of applications received	$132 000

Council	% of Reef Rescue Expression of Interests
Gympie Regional Council	53%
Fraser Coast Regional Council	31%
Sunshine Coast Council	16%

Grazing district	% of Reef Rescue Expression of Interests
Western Mary Catchments (Widgee, Wide Bay, Munna, Glastonbury Cks)	53%
Mary Valley (Mary River, Amamoor, Kandanga, Yabba Cks etc)	16%
Gympie East (Tinana, Six Mile Cks etc)	13%
Tiaro (Mary River, Tinana Ck etc)	9%
Upper Mary (Mary River, Obi Obi Ck etc)	9%

Healthy habitats

Earlier in the year, the MRCCC successfully tendered to again host the BMRG's Healthy Habitats program in the Gympie and Fraser Coast region. The primary focus of the work is to engage landholders who are seeking to improve their local ecology through rehabilitation and protection of critical habitats and ecosystems. Over the past few months, this work has involved:

- delivering and finalising landholder grants from Qantas funding which involved rehabilitation and protection of regional ecosystem 12.3.1 (riparian rainforest) on a total of 99 Ha to date
- undertaking field work and ground truthing of threatened species and threats, (mostly Cat's Claw Creeper, Madiera Vine and Dutchman's Pipe) in the Tinana Creek sub-catchment
- attending meetings
- signing up 6 new properties to the Land for Wildlife program,
- organising / presenting 4 workshops / field days in the Tinana & Widgee districts
- initiating applications for the new round of grants.

The target areas include Amamoor, Dagun, Mooloo, Widgee, Lower Wonga, lower Tinana Creek and the Mary River. At the Tinana Creek project site we have gained involvement from almost all the landholders on both sides of the creek on a stretch approx 25km long. Most of these landholders are cane growers. Landholders are now aware of the issues and some have been controlling Cat's Claw on the creek banks.

Top: Landholders at the Biodiversity Planning Workshop. Centre: Bush foods at the Workshops in 2011.

Below right: Gillian Crossley and large Fig. Below left Marc Russell. Photos courtesy of Bevly Hughes and Marc Russell

Better catchments 2009-2011 achievements

Project Team

- Dale Watson and Brad Wedlock
- Graeme Elphinstone (DEEDI)

Implementation Partners

- Gympie District Beef Liaison Group
- Gympie District FarmFLOW

The Better Catchments program aimed to improve catchment health and on-farm sustainability by managing erosion issues, improving soil health, developing strategic weed control plans and encouraging the adoption of best land management practices across the Mary River Catchment.

Better Catchments built on the achievements of the previous 'Rivercare', 'SuperGraze' and 'Better Catchments' projects delivered over the past four years by the Mary River Catchment Coordinating Committee (MRCCC).

The program is an initiative of the Burnett Mary Regional Group and is funded by the Australian and Queensland Governments through the 'Caring for our Country' Program.

The MRCCC project team worked with local landholders on the following priority actions:

- Promoting the implementation of improved soil management practices focusing on organic carbon, soil acidification, hillslope erosion issues:
    - Develop Soil Management Plans using the following tools:
        - Soil health score card for sown pastures systems
        - Grazing land condition assessment sheets
        - pH, EC and labile carbon testing in the field
        - Interpretation guide for laboratory soil analysis test results
        - A set of recommended soil management actions
- Developing Property Pest Management Plans, to target weeds of national significance (WoNS) e.g. Lantana, plus a number of other declared weed plants.
    - Develop customised Property Pest Management Plans in partnerships with landholders:
        - Weed prioritisation at the individual property level
        - Incorporating best management practices for weed control
        - Providing detailed property map
        - Compiling management actions with annual milestones

- By developing the Soil Management Plans and Property Pest Management Plans with landholders in the Mary River Catchment the project supported the implementation of on-ground outcomes for soil health and weed control, and may provide an avenue for landholders to access some small funding incentives.

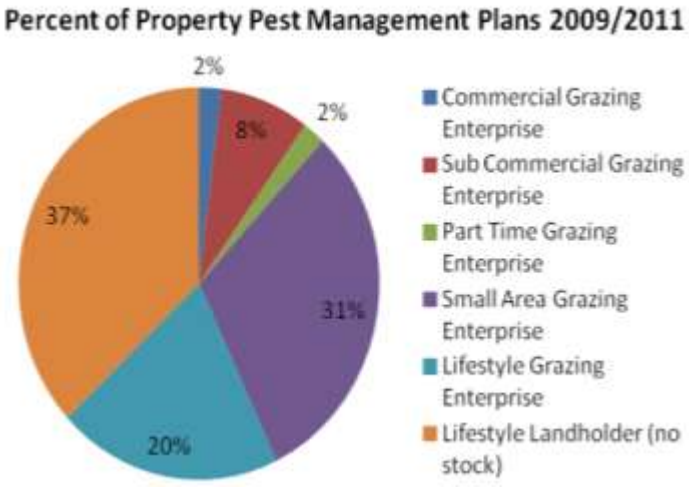
Better Catchment Highlights 2009/2011

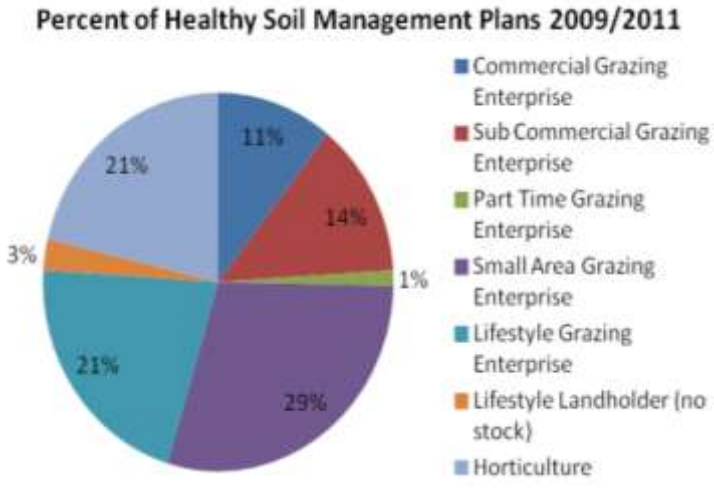
92	Number of landholders implementing practice change (KASA)
51	Number of completed Property Pest Mgt Plans, including milestones
82	Number of completed Healthy Soil Mgt Plans, including milestones
115	Number of on-property consultations
130	Landholder EoIs for on-property consultations
78	New landholders engaged
40	Landholders networked – Better Catchments projects (08-09)
65	Landholders networked – SuperGraze projects
98	Landholders networked – Rivercare projects

The MRCCC project team has worked with local landholders to achieve:

Landholders Involved	'Better Catchment's PPMP outputs
38	Lantana Property Pest Management Plans (PPMP)
11	Giant Rats Tail grass PPMPs
1	Cats Claw Creeper PPMPs
1	Creeping Lantana PPMPs
51	50 paddock scale property weed maps created

The range of landholders involved in Better Catchments has been varied:





On-ground projects identified by developing the PPMPs and/or improving soil health management have included:

- Lantana & GRT control using best management practice recommendations
- Splatter gun lantana control program
- Best practice grazing management strategies to improve groundcover, soil organic carbon
- Keyline ripping
- Sub-divisional fencing to grazing land type
- Riparian zone & wetland fencing
- Gully & hill-slope erosion (incl landslips) fencing

Soil acidification remediation

Landholders Involved	'Better Catchments Soil Management Plan outputs
82	Paddock scale property maps inc Atlas of Australian Soils layer
51	Grazing land condition assessments
82	Healthy Soil Management Plans (HSMP)
23	Soil laboratory analysis interpretations
18	Soil health score card assessments including labile carbon
8	Soil acidity management plans
2	Forage budgeting assessments
1	Soil salinity management plan
1	Landslip management plan (hill slope erosion)

The 2009/2011 Better Catchments program worked with landholders on the important issues of weed control and soil health. The project team would like to thank all the landholders who have participated in the Better Catchments program over the past three years, and the Gympie Regional Council (Environment Levy) and BMRG for provision of funds for this program.

The MRCCC Splatter Gun – Helping to Battle Lantana

Graeme Eales splatters lantana

The splatter gun technique is currently being employed by Mary Catchment landholders in the ongoing battle to control lantana. Lantana is a Class 3 declared plant under the Land Protection Act 2002, and often viewed as one of Australia's worst weeds. Lantana can have harmful impacts on both production land and environmentally valuable land. After encouragement from local landholders, Landcare groups and the National Lantana Working Group, the MRCCC purchased two gas powered splatter guns to assist landholders control their lantana.

The splatter gun technique for lantana control is a low volume, large droplet and high concentration application of herbicide to lantana foliage. The gas powered gun is easily portable and useful in difficult to access areas, areas of environmental value and also in pasture management areas. The technique is also beneficial as it limits off target damage to pastures and native plants thanks to increased accuracy and decreased spray drift.

The splatter guns purchased by the MRCCC are being shared amongst landholders battling lantana in the Mary River Catchment. Landholders have been using the MRCCC kits for the last year, and have been very happy with the results. A recent survey of the MRCCC splatter gun users showed that 90% considered the method a successful and cost effective weapon for their battle against lantana, and 100% of participants said they would like to use the splatter gun again.

The splatter gun method has allowed landholders to reach hard to access lantana infestations, to easily control large lantana bushes in pasture land and enabled them to minimise the off-target damage to native plants and pasture grasses under and around the lantana bushes.

The splatter gun is best suited to thick clumped lantana at least 30cm high or to scattered lantana regrowth with compact growth form. The technique does not work well on spindly canes as it is difficult to apply the total volume of required herbicide to the leaves in this situation.

The herbicide mixture for the splatter gun is a high concentration, for glyphosate 360g/L it is 1:9 (500mL glyphosate to 4500mL water). However the amount of herbicide applied is very low, for example a 2m by 3m wide lantana bush that is 2m high requires only 96ml of the 1:9 herbicide mixture. It is very important not to apply more than this registered rate of herbicide and not to spray to point of runoff, as this can put the plant into shock and inhibit the herbicide uptake by the plant. Using the splatter gun method, a 5L bottle of herbicide mix should cover approximately 0.5 acres of moderately dense lantana.

The splatter gun nozzle produces large droplets of herbicide mix to achieve the desired low volume, high concentration application. A fine spray or mist will not be effective with the splatter gun method. The gas powered gun enables the application of a stream of herbicide from a distance of 6-10m. This enables delivery of herbicide from an elevated position into gullies.

Unfortunately the splatter gun method is not the silver bullet for lantana, and follow-up control is essential. Options for follow up control will depend on the weed and landscape situation and include:

- Fire (depending on fuel load).
- Spot spraying of regrowth.
- Further splatter gun herbicide application (if re -growth is compact and has reached 30cm).
- Revegetation or encouragement of natural regeneration

Gympie District FarmFLOW project (2008 – 2011) summary

Summary of outcomes of Gympie FarmFLOW project from 2008 to March 2011.

87	Landholders demonstrating practice change
$109 134	Incentive funding distributed to landholders
53	No. of landholders accessing incentive funding via GDFF
15	No. of collaborating farmers demonstrating BMP's
20	No. of workshops and training events conducted
116	No. of landholder BMP assessments & consultations
437	No. of landholders attending training

The Gympie District FarmFLOW project has successfully engaged farmers in the district. The project targeted the small cropping (in particular beans), Macadamia, dairy and grazing industries of the Gympie district, including the Kin Kin Creek sub-catchment to adopt best soil and water management practices. This project has forged strong linkages with the Gympie District Beef Liaison Group, Gympie branch of the Qld Dairy Organisation, the Gympie Macadamia Bestprac Group and the Gympie Packhouse. There project has involved a wide range of participants, from full time commercial horticulture growers to people with small market gardens; from graziers with herds of 1000 to tree changers with grazing enterprises of less than 10 adult cattle equivalents.

Demonstration and trials of Best Management Practices were well utilised throughout the project, with collaborators being keen to co-operate with hosting field days and sharing their experiences.

Highlights or achievements from the Gympie District FarmFLOW project

Assessment of practices at demonstration sites have strongly shown that BMPs deliver both economic and environmental benefits:

- Minimum till in beans is shown to have an efficiency saving of $238/ha compared to conventionally grown beans
- Better orchard floor management in Macadamias has shown to reduce sediment run-off from 1.5t/ha/yr to 150kg/ha/yr

- Reducing pre-plant fertiliser in pineapples can save up to $1000/ha in fertiliser costs
- Small crop growers (especially beans) are now recognizing that minimum till is a viable option. Several farmers have taken advantage of this option when conditions have made traditional preparation impractical. An unexpected outcome was a grower winning Champion Bean Exhibit, and Overall Champion Horticultural Exhibit at the Gympie Show for beans he grew using minimum till.
- Strong engagement with the Macadamia industry through industry groups, workshops and demonstration sites. With incentive funding to implement BMPs available and strong interest from the industry significant practice change is expected in the local industry.
- Continuing involvement with local beef producers initially engaged through the Supergraze project, these relationships were enhanced by the Better Catchments project and now are continuing with Reef Rescue. A significant number of these producers are regular participants in the multi-industry workshops hosted by this project.

Challenges faced implementing the Gympie District FarmFLOW project

- There is generally a lack of soil health focused 'off the shelf' industry training packages available. To counter this we have used technical experts and customized presentations to suit local conditions, as well as the project focusing on delivering training needs identified by growers during the benchmarking process.
- Multi industry events / field days proved a significant challenge. It was difficult to find themes that related to all farming enterprises in the district. The formula used was to have a generalist presentation followed by splitting the group into graziers or croppers and having a relevant field session where we applied the theory of the early session. This proved reasonably successful with generally good attendances and positive feedback

Growers in the Gympie District also now have a much better understanding of soil health and what this means to the productivity of their systems. The development of soil health scorecards and workshops that have given growers the skills to measure their soil's health and relate this to management practices will be of long term benefit to the local agricultural community.

The partnership development between DEEDI and MRCCC is a valuable outcome of this project, with MRCCC now increasing its networks within the agricultural community as a result of this project. MRCCC works towards a sustainable catchment and this increased engagement will result in future opportunities for both MRCCC and local farmers to work together.

Workshops and field-days - highlights

Activity	Location	Date
Macadamia canopy mgt study tour - 35 local growers	Northern NSW	March 2011
Dairy farmers min-till workshop – 20 local producers	Gympie	March 2011
Macadamia canopy mgt field day – 41 local growers	Bauple	February 2011
Bean industry zero-till farm walk – 6 local growers	Glastonbury	November 2010
Multi-industry field day – Better Soils workshop – 34 attendees	Cootharaba	October 2010
Dairy pastures nutrient monitoring workshop – 25 local producers	Goomboorian	March 2010
Testing management options for beef workshop – 25 graziers	Gympie	August 2009
Pineapple industry field day – 70 attendees	Goomboorian	June 2009
Grazing land management workshop – 24 graziers	Kilkivan	April 2009
Green bean min-till field day – 24 growers	Curra	March 2009
Sustainable farming field-day – 50 attendees	Kin Kin	November 2008
Gympie District FarmFLOW project launch – 54 attendees	Neusavale	October 2008

Living with Threatened Species

Sunshine Coast Council Partnership Program

37 percent of the Sunshine Coast Council area lies within the Mary Catchment, including most of the upper catchment. We are fortunate that this council has jurisdiction over the all of the streams feeding into the river that flow through the townships of Conondale and Kenilworth and ultimately past Gympie, Tiaro and Maryborough on its way to the Great Sandy Strait. Also of significance within this council area are the Belli/ Cedar/ Blackfellow Creek systems and the upper reaches of Six Mile Creek. Many of these tributaries provide excellent habitat areas, as the riparian vegetation is usually intact and continuous along the banks. These habitat areas also provide many environmental services such as reducing erosion and improving water quality while also supporting a very rich diversity of flora and fauna including some highly significant threatened species.

The Sunshine Coast Council has recognised the importance of its waterways and its responsibility to downstream water users by placing a high priority on protection and rehabilitation of natural assets. Through their community grants program they are helping a significant number of landholders to continue or begin rehabilitation projects along waterways on their properties.

Council provides funding to MRCCC to support the continuation of our work with landholders in the upper catchment. Before mid-2010 council would fund MRCCC to carry out on-ground projects in priority areas. In a change of approach to community groups and the environment the council now supports MRCCC in an extension capacity and provides funding directly to landholders through their grant system. Building upon previous work to carry out on-ground works on over 100 properties over the past 5 years, we now assist landholders to develop property plans and to access assistance through the environment category of council's extensive grants program. This process has enhanced the quality of landholder contact provided by MRCCC and has helped to better engage landholders in the management of environmental values on their property.

Landholders in this area carry out a wide variety of activities on their property and their interest in environmental issues is vast. During 2010-2011 there were six council grant rounds offered and we assisted 30 landholders to better understand the environmental values of their property, to formulate a property plan and to access funding. Of those 29 were successful in securing funding approximately $67,000 and are currently progressing through their projects. Projects include riparian fencing, off-stream water supply, environmental weed control, revegetation and encouraging natural regeneration. Many of the landholders have worked previously with MRCCC to undertake on-ground works, some for several years.

MRCCC has developed a survey for landholders to gauge how they are travelling with their projects, how they feel about the grant process and what activities would assist them to learn more about the environment and property management. Of the 13 surveys returned so far all appreciated the assistance provided by MRCCC to complete their grant applications and seven highlighted the property visits from MRCCC as very worthwhile. All respondents are planning future projects and will apply for funding again with MRCCC assistance and all would like to participate in workshops and field days to interact with other landholders and to increase their knowledge. These are positive responses for both MRCCC and council and help us to further enrich the extension program in the upper Mary River catchment.

Turtle rock in the Mary River where 5 different species were seen basking. Image courtesy Peter Mallard

Turtle key

During the year, what was a whimsical idea became an integrated extra-curricular activity with Tiaro Landcare's Marilyn Connell. The idea was to produce a key that would enable us to identify turtle shells that turned up occasionally from members of the public. A live turtle is relatively easy to identify if you get a good enough look and there are 'only' six species to choose from in the Mary catchment if you don't include any exotics that might raise their heads (i.e. Red-eared slider turtle). Six turtle species in one river system is very high diversity by Australian and world standards, and of course we also have the unique Mary River turtle to boast about.

Turtle shells in themselves look superficially the same so the key was a way of identifying those subtle differences that would enable species identification. The idea gradually expanded to include whole specimens also and we ultimately ended up with a very useful tool for those working in the field or anyone who is interested in turtles of their area. The key also includes a more expansive section on each turtle to assist with identification and to gain a better understanding of the habits and requirement of each species.

The key can be found at the following link: www.mrccc.org/downloads/publications

For those that are interested in freshwater turtles there is also a newly developed key for live specimens of the turtles of Queensland at the following DEEDI website:
http://www.dpi.qld.gov.au/documents/Fisheries_SustainableFishing/Queensland-East-Coast-Freshwater-Turtle-Guide.pdf

Stony-creek Frog – Eva Ford

Frog monitoring

Long-term monitoring of our biodiversity continued this year. We have four sites in the Sunshine Coast Council area that have been visited for the past six years. This work is supported by Council and allows us to visit 100 metre stream transects three times during the frog breeding season to record frogs, microbats and any other incidental fauna. The sites are located on Cedar, Belli, Six Mile and Cooroora Creeks in sections that have excellent or good riparian vegetation cover and stream characteristics. Of greatest significance during the 2010-2011 summer season was of course the high rainfall and flooding. Some of the sites sustained minor changes from flooding flows but they all maintained their habitat values.

While most people were experiencing the deafening and sometimes monotonous cacophony of calling frogs around the region, the stream-dependant frogs were obvious with their near silence. Species that prefer to breed in, or adjacent to, permanent or near-permanent

streams, such as the Giant barred frog, Cascade treefrog, Stony-creek frog and Orange-eyed treefrog, find flooding conditions less than favorable for laying eggs. The water flows at speeds that may wash eggs away and areas such as undercut banks used by the Giant barred frog and riffle zones that are preferred by the Cascade treefrog are inundated for extended periods. Consequently frog calls were minimal and one would assume that breeding success was reduced. It was most satisfying though to recently find two juvenile Giant barred frogs at the Belli Creek site that would have been survivors of the last breeding season.

Monitoring has continued at 10 sites on Skyring, Coles, Traveston Creeks and the Mary River as part of the Bruce Highway upgrade for the Department of Transport and Main Roads. These monitoring sites are paired so that one is located upstream and the other downstream of an area that may be impacted by highway works. These sites have so far been visited for either one or two frog seasons.

Data collected from surveys is entered into the Department of Environment and Resource Management WildNet database. Members of the public can access data from this database by going to the following website: www.derm.qld.gov.au/wildlife-ecosystems/wildlife/wildlife_online/

Many thanks to Leah Watson and Kelvin Nielsen who spend many hours entering fauna data for us.

Planning in the Land of the Giants – the Mary River Threatened Species Recovery Plan

It's a year since staff from the Australian Government's Environment Department presented the proposal to develop the Mary River Threatened Species Recovery plan under the *Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)*. Since then project has been progressing steadily. MRCCCs role in this project is to draft a framework for the recovery plan and facilitate stakeholder engagement, which includes working with the Burnett Mary Regional Group on indigenous engagement.

In addition to having one part time staff member dedicated to the project (Tanzi Smith), MRCCC staff members Eva Ford and Steve Burgess are members of the Technical Advisory Group which provides scientific input to the plan. Steve is also on the recovery team. The recovery team consists of representatives from major stakeholder groups including state and local government, community, conservation and Natural Resource Management Groups and water infrastructure operators.

The Mary River Threatened Species recovery plan is the first of its kind in Australia to be focussed on a river system. Our approach is based on selection of "umbrella species" that represent key ecological functions and/or have major conservation needs. These include the Mary River Cod, Mary River Turtle, Australian Lungfish, Giant Barred Frog and an estuarine and freshwater dependent fish species yet to be determined. Ultimately, once endorsed the plan will provide guidance to the Australian Government Environment Minister and her/his staff regarding decisions under the EPBC Act related to the Mary River.

Perhaps most importantly from the local point of view, the process of developing the recovery plan also provides the opportunity to develop a set of agreed actions that can be implemented to achieve the recovery of key endangered species as well as improve the overall health of the river. For this decision making and prioritisation process to contribute to successful implementation of the plan, the use of the best available information from existing research and strategic assessments of river health and species requirements is needed.

Although essential, past experience of recovery plans has shown such science is not enough to ensure that a plan is implemented. There is often a gap between knowing what needs to be done and being able to do it.

The stakeholder engagement process adopted in the plan aims to help overcome this gap between knowing what needs to be done and actually doing it, and pave the way for implementation of the actions recommended by the plan. This is a long term undertaking that builds on the strong ethic of "Rivercare" that already exists in the Mary Catchment that in reality needs to extend beyond the current funding available for the project. To date the engagement strategy has focussed on learning from and supporting existing "Rivercarers" to keep doing what they do and encouraging new "Rivercarers" from a cross section of the community (ranging from politicians to school kids). Existing "Rivercarers" have provided advice through meetings and completion of an online survey about actions they would like to see in the plan and the ways they would like to be involved in the long term. New "Rivercarers" have been encouraged through use of the concept of "Playing in the Land of the Giants" to tell an engaging story about the recovery plan and the Youtube oriented "Shakin' it for the Dugongs competition".

The Technical Advisory Group is currently in the process of prioritising threats to key species. The next step will involve identification of recovery actions and consultation and negotiation among recovery team members regarding these actions. MRCCCs project officer will contribute to writing up these aspects of the recovery plan. Based on these, the community conversation about the recovery plan will have something concrete to focus on and effort will be directed toward generating momentum toward implementation of the actions.

The September 2011 Newsletter "Playing in the Land of the Giants" and the "Summary of Findings from the Community Survey" are available on the MRCCC Website.

Some key milestones in the project since 2010 AGM are:

December 2010	First recovery team meeting
March 2011	First technical advisory group meeting Employment of project officer commences Online community survey opened Presentation to Biosphere Meeting
April 2011	First Progress Report sent to Australian Government
May 2011	Second Technical Advisory Group meeting First meeting with Butchulla representatives Second recovery team meeting
7 June 2011	First meeting with Kabi Kabi/Gubbi Gubbi representatives Online/paper survey closed Visits to South State School Draft Framework and progress report provided to Australian Government "Shakin' it for the Dugong" competition entries have 10,000 hits on Youtube and winners announced by Peter Oliver
July 2011	"Playing in the Land of the Giants" presentations to Sunshine Coast Catchment Groups, Mary Valley Renewal Forum and BMRG Showcase
August 2011	Third Technical Advisory Group meeting
September 2011	Summary report of community survey completed First recovery plan newsletter completed
Sept/Oct 2011	Survey about recovery plan sent to indigenous representatives
October 2011	Paper about the recovery plan submitted to the 2012 Australian Stream Management Conference

Pool, Riffle, Bar EPBC nomination

In 2008 the MRCCC nominated the freshwater ecological communities of the pool, riffle and bar sequences of the Mary River floodplain to be listed as a threatened ecological community under the Federal Environmental Protection and Biodiversity Conservation (EPBC) Act. In 2009 this nomination was modified by the Federal scientific advisory committee to cover a wider range of rivers in the SEQ Bioregion and the nomination was placed on the federal priority assessment list (2nd in line after the nomination of the lower Murray wetlands). In 2010/2011 the federal government commissioned an independent scientific review of the nomination and in June 2011 approached MRCCC to organise a one day technical workshop and several days of field trips for members of the scientific advisory panel to continue working on the listing. The technical workshop brought together experts in aquatic ecology from around Australia with experts from the Mary, Burnett and other SEQ rivers to help define the scope of the proposed federal listing. The field trips took the various experts to locations in the Mary Catchment that MRCCC staff thought would be good examples of flowing pool, riffle and sand bar sequences in a range of different conditions from near-pristine to highly disturbed. The federal government is now using this information to help refine the scientific description of these systems as threatened ecological community under the EPBC Act.

Dr Ivan Lawler with a Mary River Turtle in Obi Obi Creek during the field trips for the proposed listing of ecological communities of Pool Riffle Bar River Sequences in the SEQ Bioregion under federal EPBC legislation

Monitoring Programs

Mary River Turbidity Monitoring Program

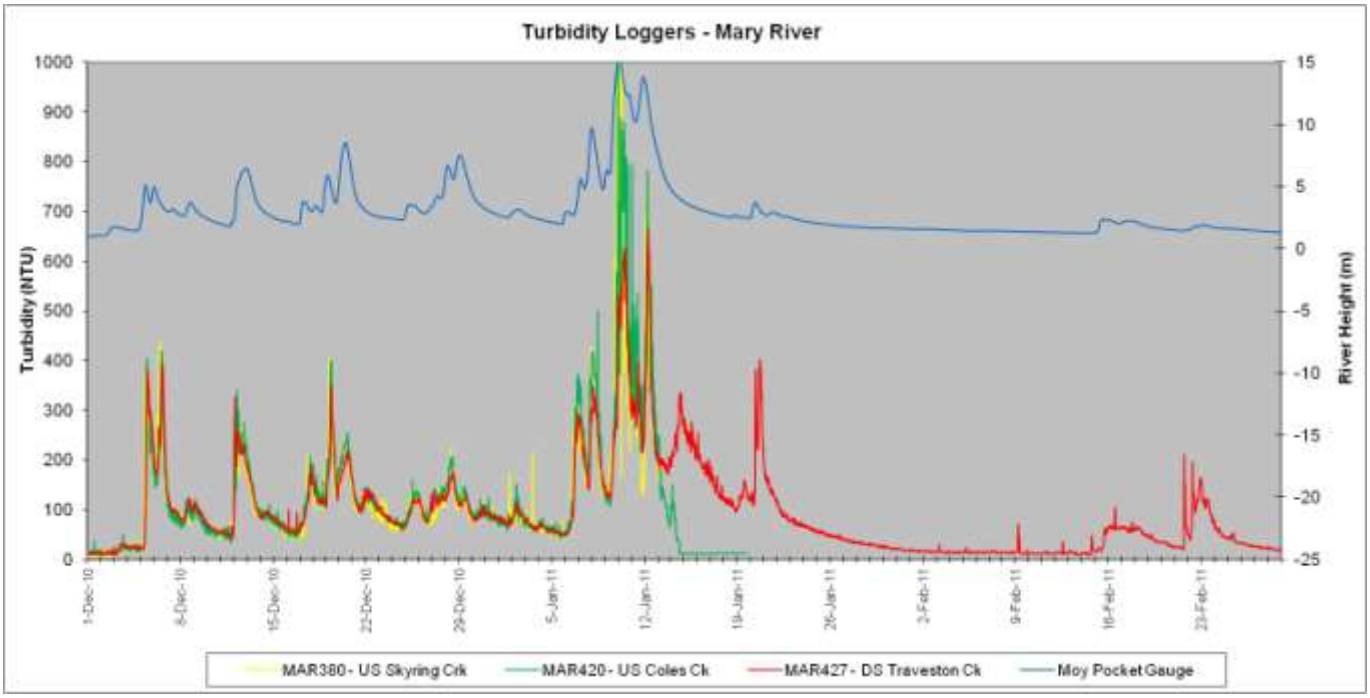
The Mary River Turbidity Monitoring Program was established in order to monitor turbidity levels (NTU's) of the Mary River upstream and downstream of the Skyring and Coles Creek confluences during and after construction of Section B of the Cooroy to Curra Bruce Highway upgrade. Data from the turbidity loggers allows for assessment of the impacts of turbidity from Skyring and Coles Creeks on the main trunk of the Mary River. Five turbidity loggers have been installed on the Mary River as follows:

Stream	Site Name	Site Location
Mary River	Upstream of Skyring Creek confluence	Goomong Road dairy farm
Mary River	Downstream of Skyring Creek confluence	Goomong Road dairy farm
Mary River	Upstream of Coles Creek confluence	Upstream Traveston Crossing - Garapine
Mary River	Downstream of Coles Creek confluence	Upstream Traveston Crossing – Mary Valley Rd
Mary River	Downstream of Traveston Creek confluence	Heather View - Bruce Highway, Kybong

Greenspan Analytical / Tyco – TS3000 Turbidity Sensor loggers with integral self cleaning wipers are used to collect the turbidity data. In-situ the turbidity probe record measurements every half hour. The TS3000 turbidity loggers have a maximum NTU reading capacity of 1000 NTU, therefore any turbidity levels higher than 1000 NTU are only recorded as 1000 NTU. Data from the gauging station on at Dagun Pocket allows correlations between stream height, flow volume and turbidity values to be made.

The turbidity logging data is provided to DTMR each month (during times of high river flow) accompanied by a written analysis of the data and the trends occurring in the data over time. The turbidity loggers were installed in October 2010, and the program will run to October 2012.

Using the data series from early December 2010, an analysis of the differences between the turbidity loggers data from the site upstream and downstream of the Skyring and Coles Creek confluences was undertaken. The analysis revealed a significant increase in turbidity on the Mary River downstream of the both the Skyring and Coles Creek confluences. Four possible reasons for the higher turbidity readings below the confluences were theorized:



1. Difference in turbidity logger calibration
2. Consistent difference related to the location of the loggers in a spatially variable hydraulic environment (eg local eddies)
3. Local input of sediment between the turbidity loggers (for example a bank collapse)
4. Influence of Skyring and Coles Creek creating higher turbidity levels at the downstream loggers.

High rainfall throughout the Mary River catchment resulted in a rise in river heights in early December 2010. During the months of December 2010, January and February 2011 continued high rainfall saw the Mary River maintain a constant high level with flood peaks at the Moy Pocket gauging station on the 5th December (5m), 12th December (6.3m), 20th December (8.5m), 29th December (7.5m), 8th January 2011 (9.7m), 9th January (15m) and 20th January (3.7m). As the graph below shows, each of these rises in stream height corresponds well with rises in turbidity values at the Mary River turbidity loggers sites. The highest peak of the flooding river heights on the 9th January (15m) corresponds with the highest turbidity spikes of 1000+NTU.

All turbidity loggers were reinstalled by March 2011, when river levels had receded to a safe level. The turbidity monitoring of the Mary River has continued, providing important information on sediment levels for the Mary River catchment.

Mary Valley Link Road & Traveston Connection Road Aquatic Health Monitoring Program

The objective of this monitoring program is to monitor a set of aquatic health indicators in the Mary River, Coles Creek and Traveston Creek before, during and after construction of the Mary Valley Link Road and the Traveston Connection Road.

The specific objectives of this monitoring program are:

- To monitor the **physical and chemical water quality condition** of the Mary River, Coles Creek and Traveston Creek.
- To monitor the condition of the Mary River, Coles Creek and Traveston Creek using the five indices of the **Index of Stream Condition** (hydrology, water quality, streamside zone, physical form and aquatic life).

- To monitor **crucial habitat parameters** of the EPBC listed species, the QLD Lungfish, the Mary River Turtle and the Mary River Cod at sites on the Mary River and Coles Creek. The crucial habitat parameters include the Mary River Turtle nesting banks and basking rocks, macrophyte populations used by the Queensland Lungfish for spawning habitat, and channel habitat requirements for the Mary River Cod.
- To monitor changes in **aquatic macroinvertebrate** communities at sites on Mary River and Coles Creek.
- To record riparian **frog and microbat** populations on the Mary River, Coles Creek and Traveston Creek.

The monitoring of these parameters will characterize stream health, enable comparisons of stream health data against guidelines, identify trends through time, identify trends through space and evaluate on-ground works.

The baseline report for this program is currently being completed and will detail the results of the monitoring to August 2011, prior to the construction of the Mary Valley Link Road and Traveston Connection Road.

Cambroon Bridge replacement – habitat monitoring

It was with great sadness that many people saw the decommissioning in May 2011 of the old, and very bent, Cambroon Bridge over the Mary River at Cambroon. This iconic bridge would have seen a great deal of history in its many years of service and provided an important link to the eastern side of the river in that area. Unfortunately, after several major flood events and the weariness of age, its time for replacement came along this year. Sunshine Coast Council has been working for several months to build a new 2-lane concrete bridge in its place, which is due to open on the same day as MRCCC's Annual General Meeting!

MRCCC has been heavily involved in monitoring the area around the bridge site for turtle nesting and potential changes in water quality. The White-throated snapping turtle *Elseya albagula* and the Mary River turtle *Elusor macrurus* are known to inhabit the river reach and potential nesting habitat for these species is within the general area of the construction site. A Species Management Program for these species at this site requires that the river and its banks and water quality be monitored during the construction phase of the project.

We have been inspecting the river and banks for turtle activity on a weekly basis since late April both up- and downstream of the bridge site. This is the period when the White-throated snapping turtle is likely to emerge from the water to lay her eggs. Fortunately there have been no records of activity on the banks.

Another component of the monitoring program is water quality monitoring and we have installed multi-probe loggers both up- and downstream of the bridge site to collect readings of turbidity, dissolved oxygen, electrical conductivity, pH and temperature continuously at half hourly intervals. The data is downloaded every two weeks and inspected to see if there are any effects from the bridge works. Council has been very particular about their operations, taking extra precautions against raising turbidity levels, and this has shown in the data collected to date.

While the old bridge will long be missed, locals and visitors alike will certainly be happy to have the route reopened!

MRCCC Fyke Net Monitoring

The MRCCC is now employing a new method for monitoring fish populations in the Mary River Catchment. Fyke netting is a passive monitoring method used primarily as method of collecting fish to deduce fish movement. Fyke nets are bag shaped nets held open by a series of hoops forming a holding chamber. A set of open wings direct fish into the nets holding chamber. Net funnels at the entrance to the holding chamber ensure that once the fish have swum into the holding chamber they are unable to swim back out. The fyke net is staked at three points to keep it in place and to ensure the wings direct the fish into the net hoops.

The risk of platypus and turtles entering the fyke net is minimised by installing a turtle excluding device at the entrance. The fyke nets also have a large float placed in the end chamber to provide an air pocket should platypus, water rats, water dragons, snakes, tadpoles or turtles enter the chamber.

The fyke nets used for this monitoring program have a 60 cm high 'D' hoop entrance to the holding chamber, two internal funnels, two 60cm x 5m wings and are made with 2mm tricot mesh.

The nets are set with the wings angled out from the holding chamber at approximately 45 degrees and running right to the water's edge, ensuring all moving fish are captured during the sampling period.

The fyke nets are set facing downstream to capture upstream movement of fish, or set facing upstream to capture downstream movement of fish. The fyke nets are placed at the top and bottom of the creek diversions. The nets were set for two 24 hour cycles facing downstream and two 24 hour cycles facing upstream. During the 24 hour cycles the nets were checked and cleared (fish species and numbers recorded) twice, providing a night (approximately 5pm to 7am) and a day (7am to 5pm) sampling period.

To check the nets each hoop is shaken in turn, until all fish are at the end of the holding chamber. The captured fish are then poured into a nally bin partially filled with fresh creek water. The fish are anaesthetised, identified and counted. The first twenty fish from each species are sub-sampled for measurement. Lengths are measured to the tip of the tail for species with rounded tails or to the fork of the tail for species with forked tails. All native fish are released back into the creek after recovering from anesthesia. All due care is taken to ensure the health of the collected fish and minimise any fatalities. Once sampling is completed the fish are returned to the site in good condition.

Staff involved in this project are covered by a General Fisheries Permit, Scientific Purposes Permit, are approved by an Animal Ethics Committee and are registered as a Scientific User through Biosecurity QLD.

Fyke net monitoring of Skyring Creek revealed the most abundant fish species to be the *Hypseleotris* species complex, which includes the Western Carp Gudgeon (*Hypseleotris klunzingeri*) and the Midgley's Carp Gudgeon (*Hypseleotris species 1*). A total of 829 *Hypseleotris spp* were recorded during this survey. The second most common fish species was the Firetail Gudgeon (*Hypseleotris galli)* with a total of 436 individuals recorded. The third most common species was the Australian Smelt (*Retropinna semoni*). Other fish species recorded in Skyring Creek were the Crimson-spotted Rainbow Fish (*Melanotaenia duboulayi*), Agassiz's Glassfish (*Ambassis agassizii*), Flathead Gudgeon (*Philypnodon grandiceps*), Eel-tailed Catfish (*Tandanus tandanus*) and the Long-finned Eel (*Anguilla reinhardtii*). The monitoring also showed that night sampling produces greater diversity and abundance of fish species.

Cooloola Pipeline Duplication - Environmental Monitoring

The MRCCC has been engaged to monitor for any offsite impacts on water quality, vegetation and wildlife resulting from the construction of a duplicate water supply pipeline from Teewah Creek to the Gympie Regional Council Cooloola Cove Water Treatment Plant. This work commenced in August 2011 and is anticipated to continue during intervals of suitable weather, soil and waterway conditions into 2012. This project presents difficult engineering and environmental challenges and Gympie Regional Council staff have been active in consulting with MRCCC with the objective of using the construction of the new pipeline as an opportunity to reduce the long-term environmental impact of the existing pipeline, road and powerline easement that the new pipe is being laid within.

Left: Wallum Rocket Frog - *Litoria freycineti*

Lake Macdonald Catchment Care group

Noosa Festival of Water

The 2011 Noosa Festival of Water was held at the Noosa Botanic Gardens and Lake Macdonald Amphitheatre on Sunday 26th June 2011. This was the seventh year that the Festival has been held, and the first year that it has been held on the last weekend in June. Over 2000 people attended the Festival, enjoying fine weather for most of the day. This year the Festival offered more activities, more displays and a wider variety of entertainment; an indication that the Festival is growing.

The Lake Macdonald Catchment Care group stages the Noosa Festival of Water each year to raise awareness and improve understanding of biodiversity and ecological issues in the Lake Macdonald subcatchment and the Noosa Biosphere region. Activities, presentations and displays organised for the Festival are mostly associated with environmental care, sustainability and ecological issues.

The Festival also showcases Lake Macdonald and the Noosa Botanic Gardens as a high quality recreational destination with a wide range of facilities suitable for all age groups. The partnership with Sunshine Coast Regional Council and the Seqwater Grid Managers facilitates the success of the Festival each year.

Festival 2011 overview

Additional funds raised by the Lake Macdonald Catchment Care group enabled more activities and presentations to be offered at the 2011 Festival. The inclusion of the Reptile Awareness display, the Bush Tucker cooking demonstration, the Veggie Village display and the addition of a Jumping Castle all helped to add diversity and increase patronage to the Festival.

Right: Martin Fingland, Geckoes Wildlife, draws a crowd to the Amphitheatre with his collection of critters

Adding to this, activities on the Lake were boosted with the inclusion of the Noosa Yacht Club, who offered free sailing tuition in 12 foot sailing boats. The sight of rowing, paddling, power boats and sail boats all operating created another level of interest for patrons enjoying the entertainment in the Amphitheatre. A full range of the activities, presentations and displays on offer at the 2011 Festival is included in the Program which produced for the event and distributed widely throughout the Festival on the day, and also through a range of outlets and shopping centres prior to the Festival.

Feedback from patrons and Festival participants has been mostly positive and /or constructive, which helps the organizing committee to plan for future events. A considerable number of comments centered on the pleasing attributes of the location at the Botanic Gardens and the fact that the Festival is a free family event. Patrons from a wide area attended the event, possibly as a result of the increased media coverage across the Sunshine Coast and in Brisbane.

Planning for the 2012 Festival has already started, with a tentative date of Sunday 24th June 2012 proposed.

Above left: Festival Patrons line up for the free boat trips across the Lake and below "The Dugong Rock"

War on Aquatic Weeds Forum

The Lake Macdonald Catchment Care group received a Community Action Grant from the Caring for our Country program funded by the Federal Government to hold a forum about the prevention and management of aquatic weeds. The forum was held on the 24th of June, 2011 at the Australis Noosa Lakes Convention and Exhibition Centre, Noosaville.

Sunshine Coast Council's Steve Skull welcomes participants to the forum

97 registrations were received for the forum, including representatives of local government from the NSW border to Gladstone and beyond. A number of representatives of Queensland Government Agencies, Training Organisations, community and industry groups attended the Forum as well. This certainly confirms that aquatic weeds are a major issue in south east Queensland and across Australia. The Forum featured top weed experts from around the country who shared their knowledge and research.

Our region has a lot of problematic aquatic weeds which have infiltrated from South America. They thrive here because of the similar sub-tropical climate. Forums like this one help to overcome some of these problems by improving information about these species, and treatment methods including herbicide updates, physical removal and biological control option.

Valley Bees

The blue banded bee – image courtesy of Dianne Clarke

Valley Bees was formed from a meeting called in February to address community concern of the scarcity of bees in the local environment. The public response to this meeting was overwhelming, much to the amazement of the concerned beekeepers who called it.

A steering committee was formed to decide the structure of the organisation. So, on the second Sunday in May Valley Bees was formed, auspiced by MRCCC and meeting on the second Sunday of each month.

Valley Bees addresses the needs of all bees - honeybees, stingless social native bees and solitary native bees. Landholders are encouraged to provide habitat for all bees and food for all pollinators. Each meeting has a theme covering aspects of bee management, including managing diseases and challenges, planting trees to attract pollinators, getting started with hives, building boxes and frames, honey production etc.

Also workshops have been held on the biology of the bee, management and habitats needed to conserve bees, and on splitting hives - both native bees and honeybees.

In September we held our official launch with Jerry Coleby-Williams from Gardening Australia as our key speaker, as well as three key native bee experts from Brisbane, Warwick and the Sunshine Coast. We launched our 16-page booklet "TREES to attract BEES" - which we compiled in close collaboration with Ernie Rider. This 2.2MB PDF document is available as a free download from the MRCCC website. While you are there, also check out our 16-page PDF document on Honey (yum!), and also our Valley Bees flyer.

Our meetings continue to be well attended and vibrant (our next meeting will be in the Imbil School Hall on November 13, starting at 2pm).

We continue to appreciate the on-going support and loyalty of MRCCC, and recognise their invaluable role in our success. Our future looks bright! *Athol Craig, Valley Bees*

Cooloola Nature

"Conservation through Education"

In keeping with our ideals of "*Conservation through Education"*, Cooloola Nature has recently successfully facilitated a PhD Project undertaken by Tara Nielsen related to Shorebird Habitat and Restoration, (funded by Coastcare Australia), and sponsored by MRCCC. A copy of Tara's report is available at the MRCCC on request.

Among our many other Environmental Education Activities is our current "Bird Trails of Cooloola Project" and linked Website, "Birding Cooloola Mountains to Shore".

"Cooloola Festival of Birds"

For a weekend of "All things Bird", Cooloola Nature proudly Sponsored by MRCCC, is facilitating the *"Cooloola Festival of Birds"* to be held over the weekend of the 11th – 12th of February 2012, in the RSL Hall Tin Can Bay and grounds adjacent to this facility, and that of the Tin Can Bay Library.

In what will be a unique environmental and educational event, this Festival will feature presentations with following field trips undertaken by a range of speakers from the University of the Sunshine Coast, Queensland University, Birds Queensland, and Mangrove Watch.

Presentations will cover a broad spectrum of environmental topics, ranging from Habitats for Birds, Bird Atlassing, Bird Photography, to Shorebird Migration and other topics.

In addition, local artists will undertake a series of "Art in Nature" workshops, while a related Inter-School Art Competition, open to Primary and Secondary Students, will have as Awards for successful entrants book prizes donated by Random House, Scholastic Publications, and Dr Norm Duke, Queensland University.

Cooloola Nature takes a holistic approach to environmental education, through this Festival and all other activities we undertake. Cultural groups including "Bird Songs of the Balkans", the "Solomon Island Dance Troupe", "Gubbi Gubbi Dance Troupe", and others will present "Bird Dances" and Nature Story-Telling relating to their Cultures through the course of this Event. We invite you all to keep this weekend in mind, and join in Celebrating the Birds of Cooloola.

Kelvin & Amelia Nielsen

MRCCC Policy and project submissions and representations

During the period from October 2010 to 2011 MRCCC staff prepared the following formal submissions on legal and planning matters relating to the Mary River Catchment.

Date	Issue
October 2010	Submission to the Department of Environment and Resource Management on the draft Mary Basin Resource Operations Plan.
October 2010	"Technical arguments in support of proposed improvements in the Mary Basin Resource Operations Plan" MRCCC publication.
November 2010	Submission to Department of Sustainability, Environment, Water, Population and Communities on the EPBC Referral of Section A of the Cooroy to Curra Bruce Highway upgrade.
November 2010	Submission to Sunshine Coast Regional Council on Draft Waterways Management Plan
November 2010	Submission to Gympie Regional Council on results of MRCCC consultation with sector representatives re draft Gympie Regional Council Environment Strategy.
December 2010	MRCCC submission to the Wide Bay Burnett statutory Regional Plan
January 2011	Submission to Fraser Coast Regional Council on draft Mangrove Management Strategy
February 2011	Submission to Sunshine Coast Regional Council on DA 2010/6100004 (Sand and Gravel Extraction)
February 2011	Submission to Queensland Water Commission re "Mary River Catchment Coordinating Committee position regarding consultation with the Queensland Water Commission over future water supply infrastructure options in the Mary River Catchment".
April 2011	Submission to the Draft State Planning Policy Protecting Wetlands of High Ecological Significance in Great Barrier Reef Catchments.
April 2011	Submission to Department of Environment and Resource Management on Draft Queensland Biodiversity Strategy.
May 2011	Submission on Caring for Country review
July 2011	Comments on EPBC Referral Department of Transport and Main Roads, Bruce Highway (Cooroy to Curra) Upgrade Section A (Cooroy Southern Interchange – Sankeys Road)
August 2011	Submission to the Parliamentary Committee for Environment, Agriculture, Resources and Energy on the Water and Other Legislation Amendment (WOLA) Bill 2011.
October 2011	Objection to proposed gold and silver mining operation on Chinaman's Creek, Cambroon.

Representations

MRCCC staff called as a witness before the Parliamentary Inquiry into the Water and other legislation Bill 2011
Gympie Regional Council – Pest Management Planning
Sunshine Coast Council – Catchment groups get-together
Mary Valley Renewal Team
Coordinator General's Stakeholder Reference group for Mary Valley lands
Wide Bay/Burnett Environment and Natural Resource Working Group
Consultation with DEEDI in relation to Agricultural and Environmental values of Government owned properties in the Mary Valley

Education and awareness

MRCCC Workshops 2010 - 2011

Date	Activity	No. of participants
8th October 2010	Frog Workshop – Noosa Parks Association	45
9th October 2010	Wildlife Photography Workshop with Raoul Slater	50
14th October 2010	FarmFlow Better Soils Workshop	34
18th October 2010	Gympie Field Naturalists - Patterned Fens and frogs	20
29th October 2010	Macadamia Canopy Management	46
6th November 2010	Richmond Birdwing Butterfly Workshop, Maryborough	55
6th November 2010	Biodiversity Planning Workshop, Gympie	20
22nd January 2011	Bush Foods Workshop, Wilson's Pocket	35
5th February 2011	Bush Foods Workshop, Wilson's Pocket	40
12th February 2011	Frog workshop – Cooroora Park Bushcare group	20
24th June 2011	War on Aquatic Weeds Workshop, Noosaville	97
6th March 2011	Clean Up Australia Day – Weiss/Nancarrow property, Widgee Mountain	36
11th March 2011	Frog Workshop, Kandanga	12
13th August 2011	Vines and Feral animals (Lower Tinana target area)	34
20th August 2011	Lower Wonga Field Walk (Widgee target area)	25
25th August 2011	Seed collection and plant ID (Lower Tinana)	20

Other educational activities

October 2010 - Rivers for Life 3, Temacapulin, Mexico
November 2010 – Queensland Landcare conference, Waterwatch and Sustainable Grazing presentations
November 2010 - Mary River Festival
September 2011 – Paper presentation to the Environment Institute of Australia and New Zealand Conference

School visits 2011

Date	School/Location	Activity
21-October-2010	Great Barrier Reef Marine Park Authority, Lake Alford	Reef Guardians Program
30-April-2011	Home schoolers, Belli Crossing	Seed balling
12-May-2011	RiverScience Skills for Teachers	Waterbug presentation
26-May-2011	RiverScience Skills for Teachers	Frog talk
31-May-2011	St Andrews Anglican College	Water resources and planning
09-June-2011	RiverScience Skills for Teachers	Water Quality
23-June-2011	RiverScience Skills for Teachers	Riparian condition
22-July-2011	Hong Kong International students	Freshwater ecology
31-August-2011	Sustainable Schools and Indigenous Knowledge Celebration	Macroinvertebrates
15-September-2011	St Patrick's College Gympie Year 9 – Roadcraft Gympie	Threatened Species, Waterwatch, Macroinvertebrates and Cat's Claw bio-control
12-October-2011	Great Barrier Reef Marine Park Authority (GBRMPA Reef Guardians) – Two Mile School	Threatened species

MRCCC-related short films created in the last year.

Cat's Claw Crusaders (6:55 minutes) 2011 Ian Mackay. Encouraging people in the Mary River Catchment to keep working on the control of Cat's Claw Creeper. EcoFlicks 2011 "Most Inspirational" award http://www.youtube.com/watch?v=GThHl2BYwiE

The Road To Recovery (6:16 minutes) 2011 Ian Mackay. Describing the Mary River Threatened Species Recovery Plan http://www.youtube.com/watch?v=vGuEIPNo7oA

A River Runs Through Us (22:48 minutes). A documentary which features a section on the Mary River Catchment, filmed at "Rivers For Life 3" in Mexico 2010. Shown in a number of international film festivals throughout Europe and the Americas. http://www.internationalrivers.org/en/river-runs-through-us

Dugong Rock - Numabulla to Hervey Bay. Entry into the 2011 Dugong Rock competition, featuring the dancing skills of MRCCC sector reps and staff. http://www.youtube.com/watch?v=62Fno-dnndQ

Dugong Rock - Rainbow Beach State School. Winning school entry. http://www.youtube.com/watch?v=MzUMbK3RBZg

Dugong Rock - Zumba with DudeGong. Local prize winning entry from Mary Valley http://www.youtube.com/watch?v=q-xf-UlDpDQ

Dugong Rock - Nefertiti Dance. Local prize winning entry from Hervey Bay. http://www.youtube.com/watch?v=gZdaIV190WY

Waterwatch volunteers 2010-2011

Gordon Agnew	Cam and Lisa Hughes
Keith and Christine Bagnall	Kent Hutton
Susan and John Bailey	Spencer and Lesley Innes
Mick Bambling	Lesley Innes
Anette Bambling	Errol Janke
Matt Baxter	Rob and Kathy Kerle
Malcolm Beresford	Ross Kinbacher
Mark Bews	Will Kingham
David and Rosemary Burnett	Iain Lewis
Qld Parks & Wildlife, Kenilworth	Shane Litherland
Jason Buckley, Nick's Readymix	Ian Mackay
Nina Cox	Lorne and Ross Maitland
Therese Cronin	Brett and Tammy Marsh
Gillian and Yvonne Crossley	Kye McDonald
Kathleen and Steve Dennis	Peter Milton
Graeme Draper	Kath Nash
Noo Dye	Widgee State School, Robert Lonergan
Graeme and Julie Eales	Cath and Colin Robinson
Bob Fredman	Kev and Helen Rogers
Janet and David Golding	Brian Thomas
Eddie Gresham	Neville and Joy Turner
Narelle Hall	Graeme White
Gordon Halliday	Scott and Lyn Woolbank
James and Cassandra Hansen	Des King and Colleen Ryan
Leslie and Craig Hanson	Scott Poad and Sally Warren
Bob and Lorraine Hood	Elke Watson

January 2011 flood heights

Gauging Station	2011 Peak Flow	2011 Peak Height	Ranking
Bellbird – Mary River	211 534 meg/day	8.989m	4th highest since 1959 Peak – 1989 – 11.0m 329 097 meg/day
Moy Pocket – Mary River	247 798 meg/day	15.748m	3rd highest since 1963 Peak – 1999 – 16.87m 312 336 meg/day
Miva - Mary River	536 554 meg/day	19.46m	5th highest since 1910 Peak – 1974 – 20.8m 641 606 meg/day
Tiaro – Mary River	524 729 meg/day	18.728m	3rd highest since 1982 Peak – 1992 – 20.61m 730 166 meg/day
Kilkivan – Wide Bay Ck	79 920 + meg/day (discharge larger than recorded)	8.20m (overtopped 8.2m gauge by 0.5m+)	Highest peak since 1974 Previous peak – 1989 @ 74 563 meg/day (7.86m)
Woolooga – Wide Bay Ck	194 793 meg/day	12.937m	Highest peak since 1909 Previous peak - 1947 @ 126 835 meg/day
Munna Creek	111 451 meg/day	11.992m	10th highest since 1923 Peak – 1955 – 16.24m 274 492 meg/day
Kandanga Ck – Hygait	66 198 meg/day	7.263m	Peak – 1989 – 8.77m 114 566 meg/day
Glastonbury Creek	47 462 meg/day	6.766m	Peak – 1955 – 8.28m 81 129 meg/day
Amamoor Creek	54 432 meg/day	8.658m	
Six Mile Ck – Cooran	29 808 meg/day	10.318m	
Obi Obi Ck – Maleny	18 775 meg/day	2.006m	
Tinana Ck - Goomboorian	13 137 meg/day	6.441m	

The MRCCC gratefully acknowledges the support of
The Sunshine Coast Council,
Gympie Regional Council and
Fraser Coast Regional Council,
the Department of Transport and Main Roads,
the Burnett Mary Regional Group,
the Department of Agriculture, Fisheries and Forestry,
the Department of Sustainability, Environment, Water, Populations and Communities
the Department of Employment, Economic Development and Innovation,
the Australian Government Caring for our Country Program,
the Gambling Community Benefit Fund,
and landholders throughout the Mary Catchment.

DONATIONS TO THE MARY CATCHMENT PUBLIC FUND ARE TAX DEDUCTIBLE

MARY RIVER

CATCHMENT

COORDINATING COMMITTEE