MRCCC • ANNUAL REPORT

2021

a Celebration...

20 years of Waterwatch

MARY RIVER CATCHMENT COORDINATING COMMITTEE

MRCCC Annual General Meeting – Tuesday 19th October 2021

Goomboorian Hall, Goomboorian

The MRCCC acknowledges First Nations people of the Mary River catchment: the Jinibara people from the headwaters in the Conondale and Blackall Ranges, the Kabi Kabi or Gubbi Gubbi people from the lands where the river begins its journey to the sea, the Wakka Wakka people in the very northwest part of the catchment and the Badtjala or Butchulla people in the tidal reaches, Great Sandy Strait and on K'gari.

We acknowledge the various names by which they've known this river that we've known so recently as the Mary; Numabulla, Moonaboola, Moocooboola, Moorooboocoola.

The MRCCC's efforts "healing the country", (this catchment), have spanned just over a quarter of a century.

We remain humbled by our First Nations peoples' long connection and custodianship and look forward to working together into the future.

The MRCCC gratefully acknowledges the support from the;

Australian Government Department of Environment and Energy,

Great Barrier Reef Foundation,

Seqwater,

Queensland Department of Transport and Main Roads,

Queensland Department of Environment and Science,

Burnett Mary Regional Group,

Sunshine Coast Council,

Gympie Regional Council,

Noosa Council,

Fraser Coast Regional Council,

HQPlantations,

and thousands of volunteers and landholders who consistently contribute their time and resources to ongoing sustainable natural resource management in the Mary River Catchment.

Mary River Catchment Coordinating Committee

Resource Centre	25 Stewart Terrace, Gympie
Postal	PO Box 1027, Gympie, 4570
Phone	07 5482 4766
Fax	07 5482 5642
Email	admin@mrccc.org.au
Web	**www.mrccc.org.au**
Find us on Facebook	**Mary River Catchment Coordinating Committee**

Front cover artwork –- Glen Craig. Image – Jess Dean

DONATIONS TO THE MARY CATCHMENT PUBLIC FUND ARE TAX DEDUCTIBLE

Contents

MRCCC Delegates 2021

Interest Sector		Title
Beef	David Higgins	Delegate
Biocontrol	Ross Smith	Delegate
Coastcare	Lindy Orwin	Delegate
Grazing Lands	Graeme Elphinstone	Delegate
Dairying	Elke Watson	Delegate
Department of Environment and Science	Vacant	
Department of Agriculture and Fisheries	Jason Keating	Delegate
Education	Zela Bissett	Delegate
Environment lower	Mike Moller	Delegate
Environment upper	Narelle McCarthy	Delegate
Fishing	Vacant	
Forestry	Ernie Rider	Delegate
General Community Lower	John Williams	Delegate
General Community Middle	Ray Zerner	Delegate
General Community Upper	Dave Sands	Delegate
General Community Western	Peter Hughes	Delegate
Gympie Field Naturalists	Berry Doak	Deputy Chair
Horticulture - Small Crops	Vacant	
Horticulture - Tree Crops	Brice Kaddatz	Delegate
Irrigation	Vacant	
Landcare, Lower Mary	Carol Neilsen	Delegate
Landcare, Upper Mary	Phil Moran	Delegate
Land for Wildlife	Annette Bourke	Secretary
Fraser Coast Council	Cr James Hansen	Fraser Coast Regional Council
Gympie Regional Council	Cr Jess Milne	Gympie Regional Council
Sunshine Coast Council	Denise Lindon	Sunshine Coast Council
Noosa Shire Council	Cr Brian Stockwell	Noosa Council
Seqwater	Julian Omara	Delegate
Project Participant	Jon Hannon	Delegate
Project Participant	Bob Hood	Delegate
Small Farms	Steve Burgess	Delegate
Special Member	Nai Nai Bird	Delegate
Special Member	Glenda Pickersgill	Delegate
Special Member	Ian Mackay	Chair
Special Member	Beverly Hand	Delegate
Life Member	Margaret Thompson	Treasurer
Life Member	Jim Buchanan	Delegate
Sugar	Vacant	
Waterwatch	Craig & Leslie Hanson	Delegate
Waterwatch	Garth Jacobson	Delegate

Chairman's Report 2021

It is with great pleasure that I present to you the annual report of the Mary River Catchment Coordination Association, known, less formally, as MRCCC.

Covid awareness and precautions continued this year, but without lockdowns our key operations were able to continue more or less as usual, thanks to the good position Queensland found itself in.

This year marks our 27th year of existence and I was reflecting recently on our formation in the time of the Goss government, under Primary Industries Minister Ed Casey. Both those gentlemen are no longer with us, but MRCCC, I'm pleased to say, is most certainly alive and well.

Our catchment is both extensive and diverse. It has a wetter part to the south and east, and a (significantly larger) drier part and it's a long drive from the upper parts of the catchment, around Maleny, to the lower parts beyond Maryborough. Though the main trunk of the river is just over 300 km long, the catchment that feeds it has an area of almost ten thousand square kilometres.

Our office is located centrally in Gympie, but our task would be all the more difficult were it not for the great work of a number of other organisations dotted throughout the catchment. In the upper catchment, Lake Baroon Catchment Care Group, Barung Landcare and Hinterland Bush Links inspire and assist landholders while Noosa Landcare based in Pomona and Gympie Landcare offer invaluable assistance and expertise closer to Gympie and in the eastern parts. Further downstream, Tiaro District Landcare and the Greater Mary Association, along with the Lower Mary River Landcare Group, engage in activities in the northern part of the catchment. I must acknowledge too the great work of a couple of Roving Restorer groups as well as the Wandering Weeders on the Gympie reach of the river.

There's no doubt that partnerships produce the best results. These include those with the previously mentioned groups; our regional body BMRG, the councils in the catchment (Sunshine Coast, Noosa, Gympie and Fraser Coast), and indeed the landholders throughout the length and breadth of the catchment.

We're pleased to report good collaboration with Seqwater with a recent re-signing of a multi-year partnership agreement to focus on dairy effluent management, riparian zones and weed control in the Kenilworth and Mary Valley areas.

An interesting partnership has been formed with Griffith University to study bushfire recovery of the wallum frogs in the coastal areas adjoining the Mary River catchment.

We've been delighted to report, in recent years, on the re-introduction of Land for Wildlife by Gympie and Fraser Coast Regional Councils, although are enormously disappointed by the current Gympie Regional Council in relation to dropping the environment levy. The environment levy had been introduced in early 1990s about the same time as MRCCC was formed. It was a modest amount ($20 per rate notice) that each ratepayer contributed to environmental initiatives over and above council's normal operational activities.

In folding the environment levy into the general rate, the present council may not recognise the original purpose but, most importantly, the enormous environmental benefits it could support.

A clear example of that is MRCCC's Waterwatch, a citizen science program that this year celebrates its 20th anniversary. Over those 20 years, hundreds of volunteers have collected water quality data, on a monthly basis, from both river and tributaries. On a positive note, we are celebrating such a wonderful achievement, having built up to 10 networks of Waterwatchers involving 110 volunteers collecting samples each month from over 90 waterways in the catchment (did you even realise there are 90 creeks in this catchment?).

This year, we've been involved in the early stages of the revision of the Water Plan for the Mary Basin. The previous plan had been extended a couple of times since it was written around the same time as the ill-considered Traveston Crossing dam proposal. Some significant changes since then have made the revision most important.

Decreased stream and river flows, a decrease in rainfall accompanied by an increase in aridity, agricultural changes like the move from growing sugar to growing macadamias in the lower part of the catchment have all pointed to greater demands on the river. Low levels in Wivenhoe and Somerset dams mean that more water from the Mary catchment (via Baroon Pocket dam on the Obi) will make its way through the Northern Pipeline Interconnector to the northern parts of Brisbane.

It's a sobering reality that this river, that some like to call the mighty Mary, has stopped flowing in its middle reaches at some stage in four of the last five years and is poised to do so again. Despite this, there are those who view the Mary as a great source of water, a notion we see as being more akin to Norman Lindsay's Magic Pudding, with its endless "cut and come again" qualities, than the reality.

Typical of this has been the recently-announced Borumba Dam Pumped Hydro Electricity proposal. Early announcements from both the Premier and the Energy Minister outlined some of the electrical details and benefits, but were unbelievably skimpy on the water side, apart from a brief mention of elevating the existing lower reservoir (ie Borumba Dam on Yabba Creek).

We became somewhat alarmed when it appeared to be based on an assumption that the additional water needed could be derived from the Mary River itself. The project is currently undergoing a far more extensive feasibility study which will include detailed hydrological studies and we feel we were able to appraise both the minister and his advisors as to the water implications on their recent visit to the Imbil area.

We've also advocated a return to Water Advisory Groups to ensure a more co-operative approach to water usage in dry times. Reports of one or two water-greedy landholders upstream are unfortunately all too common and the advisory groups, once a common feature in the catchment, are a good way to ensure that practices reflect the shared nature of water as it passes through or under properties.

And in keeping with the "Big Picture" thinking that accompanies the reviews of the Water Plan, under Brian Stockwell's guidance, we are currently reviewing our own Mary River Catchment Strategy. It's fascinating to see what has changed since our original strategy and how our aspirations have, by and large, remained constant, with the clear insertion of the recognition of the impacts of climate change. One interesting feature was that the original strategy identified (and conducted) a Mayors Forum to engender catchment-wide collaboration from what was then the thirteen councils across the catchment. Although amalgamation reduced this number to four councils, there's a strong feeling that we again need to revisit the Mayors Forum in the new year.

Mary River Month commenced on World Rivers Day in late September and culminates this year on November 11, which marks the 12th anniversary of the "no" decision on Traveston Crossing Dam. Activities include the annual two-day Catchment Crawl (water sampling across the sprawling catchment) and the delightful Spring in the Mary photo competition which each year elicits some great work by local photographers and showcases the beauty and diversity of our region.

Whereas Mary River Month normally has previously led up to the Mary River Festival in Kandanga, organisers made a call last year (and before Covid) to move it to a cooler time of year, July.

This year's festival was a great event for organisers, stallholders and patrons alike, with all welcoming the less hostile temperatures that the shift brought about.

Steve Burgess with the largest Mary River turtle ever recorded

The MRCCC's five year investment in gully remediation works wound up this year with some excellent results (outlined elsewhere in this report). During those five years we'd developed considerable expertise and experience, and, given that there is no shortage of gullies in the catchment, whether they be juvenile or approaching the "too hard basket", we had hopes the project might be extended. Unfortunately this was not to be, at least not in the short term.

On a related, but slightly different front, we were delighted that our bid to the Great Barrier Reef Foundation, in collaboration with BMRG, for a number of river restoration/sediment reduction projects, has been successful, due principally to the detailed preparatory site analysis and costing by Alluvium, a demonstrated collaborative approach of the various partners and of course our local knowledge and connection to landholders.

Serious erosion sites along the river were identified, and rehabilitation plans drawn up resulting in the recent construction of a number of pile fields principally around Kenilworth but also further downstream (again, more detail elsewhere in this report). More projects are currently in the planning phase in the Mary Valley and lower reaches of the river.

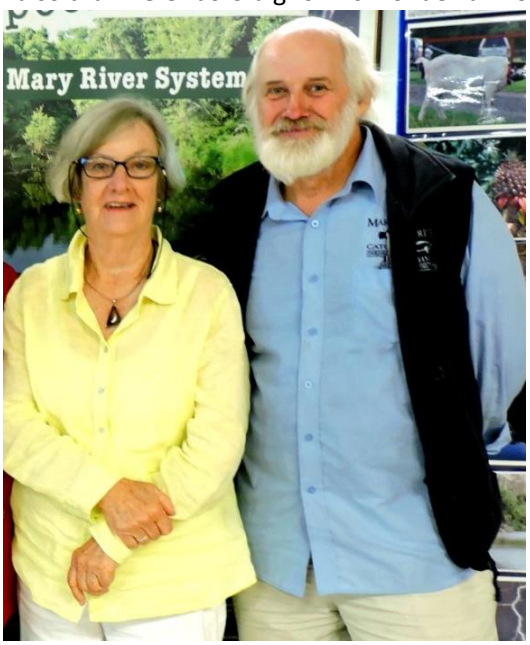
These past couple of years have seen a massive increase in people visiting both coast and hinterland with many drawn to spots near the river and many keen to utilise the capacities of their four wheel drive vehicles. The number of riverside camp sites have mushroomed, some large, some small on-farm affairs, but all of which bring people near the river and creeks. Over-usage of some areas such as Obi Crossing Number 2, Pickering Bridge and Belli Creek rest areas have led to Sunshine Coast Council making tough decisions to restrict vehicular access and camping. Traveston Crossing, in a very flood prone area, has been so heavily utilised that it is a maze of off-road tracks, all eroded, with tents and caravans right next to the river, abandoned camping gear, burnt out vehicles, rubbish and bush toileting all too common. The coast is facing the same problem on K'gari, Teewah Beach and Double Island Point and indeed one of the excuses for people driving repeatedly through the Mary River at Traveston Crossing, has been to wash their cars after driving on the beach. (More detail on the Traveston Crossing situation elsewhere).

A related issue has been that increased visitation has also brought increased fishing and this has highlighted the fact that there is very little awareness of the three month (August, September, October) **total ban on all fishing** in the Mary River and tributaries upstream of Gympie. This ban is timed to coincide with the breeding season for Mary River Cod as ensuring their ability to successfully breed in the wild is an essential part of recovery from their "endangered" status.

On a totally different note, we've been in our own home at Stewart Terrace for five years now and what a contrast to our earlier, rather nomadic existence. It's wonderful how it's been able to accommodate not only our increases in staff but also a host of other activities. This year has seen, thanks again to generous benefactors, some renovating at the rear of the upstairs part. While enabling a larger display area as well as a larger kitchen, it's also provided a significant increase in roof area suitable for solar panels. Our current 15 kilowatt array has completely negated our energy costs with our account now constantly in credit.

In looking back over the achievements of the year, I must pay enormous tribute to the delegates and staff who make up this organisation and who bring such wisdom, expertise and local knowledge to the table for each and every meeting. And while they may be the backbone of this organisation, our ongoing success is due in no small part to the host of volunteer waterwatchers, participating landholders and supporters, not just over the past twelve months, but over the entire life of this organisation.

I also thank Glenbo Craig for his wonderful work in assembling Codline, our impressive annual newsletter. While we've seen the demise of print versions of many newspapers, including the Gympie Times, Sunshine Coast Daily and Fraser Coast Chronicle, Glenbo, along with editor Lesa Bell, have combined to produce an excellent monthly publication, Gympie Living, which regularly features articles from MRCCC.



The gardens at 25 Stewart Terrace continue to thrive under the green thumb of Ross. As well as looking good, seedlings raised from our silky oaks and lomandras have spread far and wide and delicious garden vegies enrich lunches.

Can I particularly thank my fellow executive Margaret Thompson (as treasurer), Annette Bourke (secretary), Berry Doak (deputy chair), Bob Hood, Ross Smith and Jim Buchanan, the most supportive Life Member any organisation could have. And speaking of supportive, could I single out one of our delegates for services well above and beyond.

I refer to Steve Burgess whose wisdom, research, analysis, not to mention his excellent communication skills have been absolutely invaluable, particularly during both the Water Plan Review and the examination of the implications of the Borumba Pumped Hydro proposal.

Sadly we say goodbye to Annette our secretary at this AGM, having made the decision to move southwards for family reasons. Annette has been a tower of strength in not just this organisation but also in the Field Nats and previously in Gympie Landcare. We wish her well and thank her mightily for her contribution to MRCCC.

That our organisation functions so effectively is due in no small way to the work of Brad Wedlock our Operations Manager and Deb Seal our Administrative Officer. A year or two back, we finally accepted the inevitable, that, one day, inevitably, Deb will want to retire. We appointed Mackenzi Finger as admin assistant and she has proved invaluable over the past twelve months enabling Deb to spend time with family commitments.

This organisation runs on the generosity of time, experience and wisdom of so many people and I thank you all.

Well done all, past and present, we can look positively to the future. Ian Mackay

Treasurer's Report

As Treasurer of the MRCCC, I am pleased to advise that we are still in a sound financial position, despite the Covid pandemic. The only exception is the current bank interest rates, which continue to spiral downwards. Our total bank interest for the year is almost half of what it was last year, even though our investments have increased. We do rely on bank interest to fund some MRCCC activities where we are unable to source external funding, so we need to budget very carefully to make these dollars stretch further.

Our Audited Financial Statement provides details of our financial position at the end of the 2021 financial year and you could be forgiven for thinking that the MRCCC is a wealthy organisation. However, the majority of the funds are allocated to specific projects, particularly our Reef Trust and Great Barrier Reef Foundation projects, which focus on riverbank recovery and erosion control in priority waterways in the Mary catchment. I'd also like to point out that ~$1.2 million was spent on on-ground project work over the past year, and at least an equal amount contributed by landholders using their labour, equipment and machinery. This is a significant injection of funds and an indication that we are steadily helping to improve the health of the Mary River catchment.

I'm sure I am not the only Treasurer who appreciates multi-year project funding, like our Mary River Recovery and our Seqwater projects. These not only provide income certainty but also enable strategic planning and continuity of on-ground works. The Kenilworth reach is a perfect example, where 18 adjoining landholders have improved riparian condition and water quality in a continuous reach spanning some kilometers of the Mary River and Obi Obi Creek.

On behalf of the MRCCC, I would like to thank all those who donated to our Public Fund over the past year. These donations are greatly appreciated and do help to further the aims of our organisation, including supporting Professor Ron Johnstone's research into hydrodynamics and materials transport in the Mary River and Great Sandy estuary. We anticipate the final report from Ron in coming weeks.

Although I have accepted the nomination to continue as Treasurer for the coming year, I do encourage anyone with the time and availability to come along to our executive meetings, where issues relating to the direction of the MRCCC are planned. Our executive members are supported by our administration staff, to reduce the workload for our voluntary office bearers. Please don't hesitate to get in touch if you would like to join team Mary! Margaret Thompson

Vale John Pryor

Large woody debris at Pryor's on Obi Obi Creek

John was a big man – literally, and in our experiences with him and his great partner, Bev.

We worked with John and Bev between 2000 to 2010 on projects to help stabilise a one kilometre length of Obi Obi Creek on their property. They were forerunners of creek bank protection in their district, and wonderful to work with due to their appreciation of the creek and vision for its improvement. It's hard to talk about John in isolation from Bev, as the pair were an inseparable team, working so closely together on all aspects of farm and creek management. It was always a joy to enter their property, see the familiar old Queenslander and to be greeted by them; John in his Maroochy Council shirt from his days of long ago, Bev in her shorts and t-shirt, ready for action. They were always eager to take us to the creek to see progress of the work, after a cuppa and chat. In the early days of large woody debris installation, they would haul buckets of water by hand from the creek to water all the young, planted trees, to ensure the investment was protected and would do its job to stop the erosion. Despite their age and farming commitments, they somehow found time to go the extra mile, with a smile and a chuckle, to improve the condition of our collective natural ecosystems.

There's a lot more to the man than we know but the legacy of his and Bev's efforts along the creek will remain well into the future and continue to benefit the property and creek health for all. It was a pleasure to work with him.

Energy Minister visits Mary Valley.

Borumba Pumped Hydro-electricity Proposal

It might be well over a decade on, but the memories of the determined fight to stop Traveston Crossing Dam becoming a reality, still remain just beneath the surface. That goes a long way to explaining the greater than usual wariness around the state government's proposal for a pumped hydro-electricity scheme based around Borumba Dam.

Borumba Dam is located on Yabba Creek, a major tributary in the upper western part of the Mary catchment, draining some of the western side of the Conondale Ranges, travelling northwards, then east, over the magnificent Yabba Falls, through the dam and the township of Imbil, before joining the Mary.

Initial details of the proposal were rather scant, apart from it involving constructing a second dam, almost as large as the existing Borumba Dam but more than 300 metres higher than it, in the hills to the south-west, as well as "enlarging the existing lower reservoir".

Eventually we were able to access the study done by SMEC, which was able to provide a little more enlightenment.

The overall project, it appears, is divided into three separate but totally interdependent sub-projects, the first being water needs, the second the power generation, and the third the construction of transmission lines to convey power to the grid. The SMEC Report focusses principally on the middle sub-project but does provide some information on the others.

The report suggested that the "expanding" of the existing Borumba Dam would be brought about by the construction of an entirely new wall just downstream of the existing one but raising the depth of the dam by 23 metres. This would have the effect of raising its capacity from 46.1GL to 259.5GL, an almost six fold increase.

To put the "expanded" dam in context, it would be more than one and a half times the capacity of the ill-conceived Traveston Crossing Dam.

And given that the Borumba catchment would also have the high dam (capacity 31.1GL) located in it, there's absolutely no way that the existing catchment would be equal to the task of filling both. For this reason the SMEC study made a brief reference to an "offstream storage downstream on the Mary River and pumping infrastructure".

On September 21 and 22, the Minister for Energy, Renewables and Hydrogen, Mick de Brenni visited Imbil and surrounds, meeting with a number of stakeholders, the first step in what he plans will be ongoing community consultation.

The minister and several staff met with traditional owners from Kabi Kabi First Nation, Lake Borumba Fish Stocking Group, Gympie Regional Council Mayor, local MP Tony Perrett, Wide Bay Burnett Environment Council, Sunshine Coast Environment Council, Save the Mary and MRCCC.

With the review of the Mary Basin Water Plan already identifying increasing demand s for the Mary's water, it seemed the Mary was starting to take on the "cut and come again" qualities of Norman Lindsay's Magic Pudding.

While demands were increasing, water supply was not, and at the time of the visit, water flows in the main trunk of the Mary had virtually come to a standstill.

While the Minister's portfolio is energy, a hydro-electricity proposal necessarily involves ensuring a supply of water, and the minister certainly showed a keen interest in water issues of the Mary.

For those who hold images of a "mighty Mary", as a strong brown river, this time of year, when the river approaches a cease-to-flow point, can be quite disconcerting. With Baroon Pocket Dam diverting much of the Mary's upper catchment flow to the coast and even Brisbane, what keeps the river flowing are the releases from Borumba Dam as they flow downstream, firstly via Yabba Creek and then the Mary itself.

MRCCC's Steve Burgess rolled up his trousers to demonstrate the flow in Yabba Creek at Stirling's Crossing, emphasising that was the flow for Noosa's water supply, Gympie's water supply and all the irrigators right down to the barrage near Tiaro. On the way it effectively provided an environmental flow.

The attachment of both the minister and his staff to the controversial off-stream storage at Coles Crossing was nowhere near as fundamental to the project as earlier reports had indicated, something we found most heartening. There is considerable community apprehension that such a storage would adversely impact water availability and reliability both for consumption and environmental flows. Indeed it was suggested that if an off-stream storage could be ruled out early in the study, a much better consultation process would ensue with the local community.

Also heartening was the commitment for a detailed hydrological assessment using the same water modellers who are currently working on the review of the Mary Basin Water Plan and it is vital that the Plan is completed as soon as is feasible in order that it inform the water needs of the pumped hydro project, not vice-versa.

I have to say that our impressions at the end of the minister's visit were markedly different, decidedly more optimistic, than those in the early days of the Traveston battle. Who can forget Peter Beattie's memorable blustery quote on Traveston, "We will build this dam, feasible or not."

I think we all got the distinct feeling that both Minister and staff sought an infinitely better all-round outcome for this project.

Reef Trust Phase IV – Great Barrier Reef Riparian Zone Management

Funded by the Australian Government Department of Agriculture, Water and the Environment

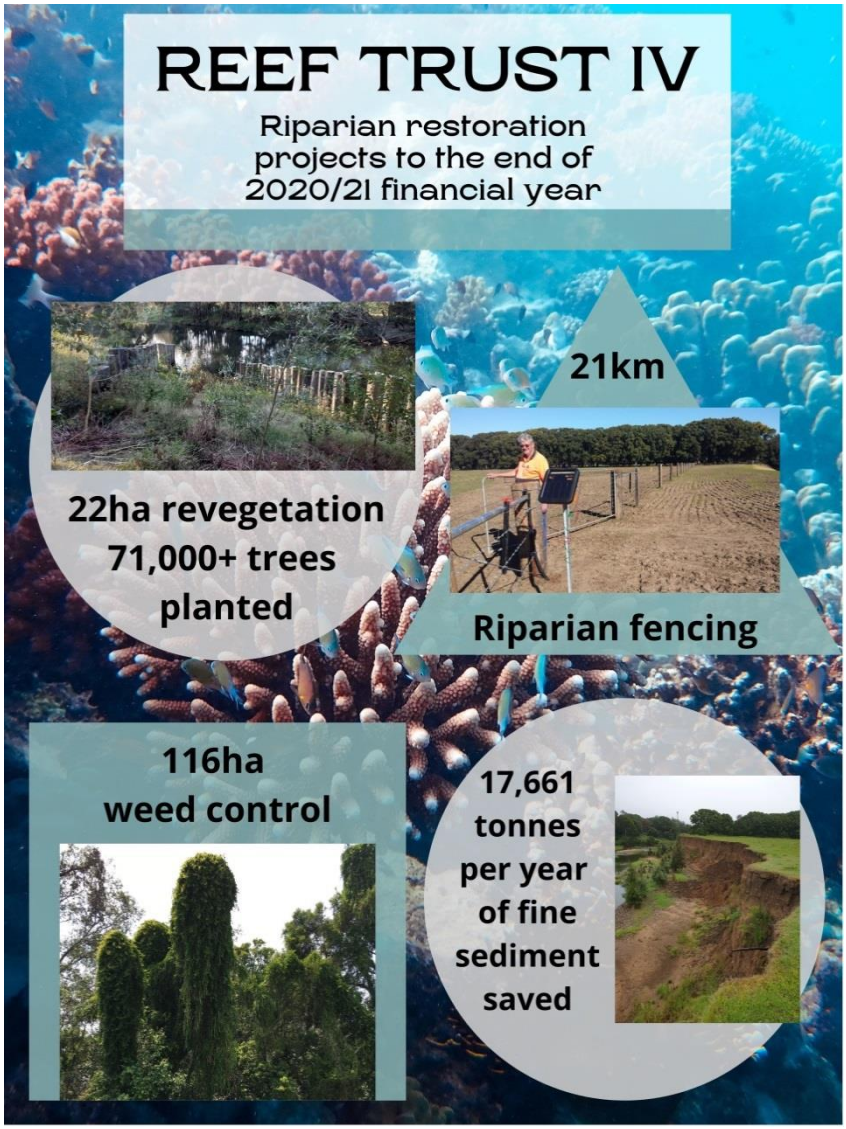
Sarah Grimish, Eva Ford

The federally-funded Reef Trust IV project has been running since mid-2017, and now enters its final year. The overarching aim of this project is to decrease streambank erosion in key sediment-contributing reaches of the Mary River catchment, thereby reducing the amount of sediment reaching the southern Great Barrier Reef. These key reaches include Kenilworth, the Mary Valley, lower reaches from Miva to Gundiah, and the Kandanga and Amamoor Creek sub-catchments.

Project progress

Over 60 projects on more than 50 properties have been progressed, and almost half of the landholders undertaking projects through Reef Trust IV are new to the MRCCC. The on-ground works budget for the project allows for three different types of riparian restoration activities: fencing and off-stream watering, revegetation and weed control. At the end of the 2020/21 financial year 21 kilometres of riparian fencing protecting 67.5 hectares had been completed, 53 off-stream watering points had been installed, 22 hectares of riparian area had been planted with over 71,000 trees, and 116 hectares of riparian zone had been treated for environmental weeds.

The key environmental weeds targeted include Cat's claw creeper, Madeira vine and Chinese elm. The fencing length, number of off-stream watering points, hectares of revegetation and number of trees planted will increase further as more projects are completed in Reef Trust IV's final year.



Monitoring outcomes of the projects utilises the Reef Trust Toolbox methodology, which was created for gully and streambank erosion by experts from CSIRO and leading universities. It has been adapted for stream bank projects and we currently have monitoring transects at 23 sites. These are monitored prior to project work, shortly after works are completed, and at the end of each wet season and dry season until mid-2022. The aim of Toolbox monitoring is to assess the effectiveness of the on-ground works in reducing sediment loss from the treated area of stream bank. The longer a site is monitored, the more accurate data is obtained to inform future projects. The MRCCC staff involved in Reef Trust IV and gully erosion projects are now working with the technical experts to develop a revised version of the Reef Trust Toolbox for use with current and future reef projects, including Great Barrier Reef Foundation projects.

Estimated sediment savings

For the most recent reporting period, the MRCCC has calculated how many tonnes per year of fine sediment have been prevented from entering the Great Barrier Reef lagoon as a result of Reef Trust IV project works. Formulas for calculation are developed by the Reef Trust technical advisory team at the CSIRO, and supplemented with values specific to the project priority areas in the Mary River catchment (e.g. proportion of fine particles in alluvial soil, efficiency of fine sediment transport to coast, stream bank soil bulk density). The data obtained is linked with other programs including the Great Barrier Reef Catchment Loads Monitoring Program and the Paddock to Reef Program, both of which are administered by the Queensland Government. As at the end of June 2021, the estimated fine sediment prevented from reaching the Great Barrier Reef lagoon due to RTIV projects in the Mary is 17,661 tonnes per year.

The vast majority of sediment shed from streambank erosion occurs during moderate and major flood events not experienced during the past several years. Many of the projects were only completed 1 to 2 years ago, and will take many more years to reach their maximum erosion control effectiveness. It is important that we obtain as much data from these sites as possible to gauge their ongoing success or failure. During the 2021/22 financial year our focus will be on completing Reef Trust IV projects, and reflecting on the project outcomes and lessons learned to inform future stream bank erosion projects.

Gully erosion control in grazing lands of the Mary River catchment

Gully on Mary River, Tiaro - Geofabric drop (2 years after rehabilitation)

Gully at St Mary on the Mary River near Tiaro – rock chute and detention basin (10 months after rehabilitation)

Funded by the Great Barrier Reef Foundation (Project ended June 30, 2021)

Caitlin Mill, Bec Watson, Brad Wedlock

The MRCCC project team worked in partnership with graziers to remediate gully erosion on their properties to improve downstream water quality entering the southern Great Barrier Reef (GBR). The project provided extension support to the grazing industry to build capacity to better understand the causes of gully erosion and which remediation options are most appropriate on their properties.

A total of 90 graziers were engaged through project activities including on-ground projects, workshops and group activities.

The project also provided professional project design support coupled with financial incentives to undertake remediation of gully erosion projects using fencing or in-gully works such as porous check dams, geofabric drop structures or rock chutes. The financial incentive program provided the impetus for graziers to complete gully erosion control projects that directly improve water quality entering the reef.

Forty gully erosion control projects were implemented with 30 grazing enterprises in the Mary River catchment. These projects have an estimated fine sediment load reduction of 1728 t/ year entering the GBR, which equates to over 50,000 tonnes saved by 2050. Sediment savings were achieved at just $200/t through this project (overall target is $400/tonne). Landholders involved in the gully erosion project can already see benefits from their work.

"Before the gully was fixed we were losing an amount of soil every time it rained because the water coming down the gully was just taking our soil basically down the Mary River and out on to the Great Barrier Reef. Now that not only affects loss of production on my farm, but it also affects the wildlife not only in the river but also in the Barrier Reef." Mick Seeney (Sexton)

The project has resulted in greater awareness in the wider community of gully erosion impacts on the GBR. It has also led to increased on-farm biodiversity in recovering gullies from improved ground cover and vegetation recruitment due to stock management, as well as water quality improvement for threatened aquatic species.

"We've got some good foundations to work on now, because that's what we were after –to try and be environmentally sound." Brian Cavanagh (Miva).

The MRCCC community and landholders have been very supportive of on-ground gully works. Many grazing landholders now have a better understanding of the importance of actively managing eroding landscapes to reduce sediment related impacts on the Mary River and GBR.

"I'd just like to thank the MRCCC for their support, you know the work they do is just tremendous. So if you have an opportunity, become involved because we have to look after our farms firstly, also our rivers and the Great Barrier Reef." (Mick Seeney, Sexton)

Summary of gully erosion project outputs 2019 – 2021

Aim: 60 graziers engaged through project activities

90 graziers engaged through project activities including on-ground projects, workshops & group activities.

- 54 landholders in training and other initiatives
- 46 grazing enterprises participating in training and other initiatives
- 36 landholders successfully engaged in water quality improvement projects
- 30 grazing enterprises successfully engaged in water quality improvement projects
- ~5,308 hours provided by landholders plus $95,872 cash in-kind contributed by landholders

Aim: 30 on-ground gully erosion control projects implemented with estimated long-term sediment load reduction of 5,000 tonnes

- 40 gully erosion control projects implemented with 30 grazing enterprises:
    - 24 x Rock Chutes (& gully fencing)
    - 5 x Geofabric drop structures on gully heads
    - 23 x Porous Check Dams or leaky weirs (6 properties)
    - 2 x Revegetation (& gully fencing)
    - 5 x Off stream watering & gully fencing projects
    - 5 x gully fencing only projects
- Fine sediment load reduction of 1728 tonnes /year entering the GBR, which equates to over 50,000 tonnes saved by 2050
- Aim of $400-500/t to address gully erosion control and through this project have achieved sediment savings at ~$209/t

Treatment Option	Total	Rock Chute (& fencing & diversions & PCDs)	Gully fencing	Off stream watering & gully fencing	Geofabric drop structures
Number of On Ground Projects	40	24	6	5	5
Eroded: Estimated baseline fine sediment eroded (t/y)	3144	2636	265	151	92
Fine sediment saved through gully projects (t/y)	1707	1577	53	30	47
Project cost ($)	361948	276109	33496	47551	4792
Cost-effectiveness $ per t/y	209	175	629	1563	100
In-kind contribution $	187784	76391	47538	63075	780
In-kind multiplier	0.5	0.3	1.4	1.3	0.2
Proportion of on-ground funds		76.3	9.3	13.1	1.3

Mary River Recovery - improving reef water quality through riverbank restoration

Funded by the Great Barrier Reef Foundation in partnership with MRCCC, BMRG and Alluvium

The study 'An investment strategy for the Mary River', February 2020 identified Mary River reaches with the highest sediment loads caused by riverbank erosion. They are as follows:

Mary River description	Mary River reach code
Conondale to Cambroon – extends ~12km	M4 (Mary 4)
Little Yabba Creek to Obi Obi Creek (Kenilworth) – begins 1km downstream of Cambroon; approximately 25km to Kenilworth	M6 (Mary 6)
Kenilworth to Moy Pocket – extends ~20km	M7 (Mary 7)
Moy Pocket gauging station to Yabba Creek – extends ~20km	M8 (Mary 8)
Yabba Creek to Six Mile Creek – extends ~40km	M9 (Mary 9)
Glastonbury Creek to Munna Creek – extends ~ 52km	M11 (Mary 11)

These river reaches contain the highest concentration of fine sediment in the riverbanks, and when the banks erode, exceptionally high loads of fine clay and soil particles travel easily downstream through the river fine ultimately impacting on the southern Great Barrier Reef. From these river reaches, priority sites were identified based on calculated sediment losses and anticipated sediment savings to the downstream reef environment.

Project on-ground actions include all or a selection of the following:

- Landholder engagement and negotiated agreements for on-ground work;
- Fauna assessment, permitting and mitigation;
- Riverbank fence construction;
- Riparian revegetation and maintenance;
- Riverbank reprofiling, timber pile field and rock revetment installation, and preparation;
- Stock watering system installation including tanks and troughs;
- Environmental weed control including cats claw vine control;
- On-going monitoring.

2020/2021 projects

In October 2020 the first project was completed, remediating a priority erosion site on the Mary River near Conondale in the upper catchment. The site (Watson's) was identified as a priority in the Mary River Investment Strategy, and involved stabilising the site with timber pile fields and revegetation. Barung Landcare Group completed the revegetation works including supply of native riparian seedlings.

Watson's site immediately after flooding in 2013.

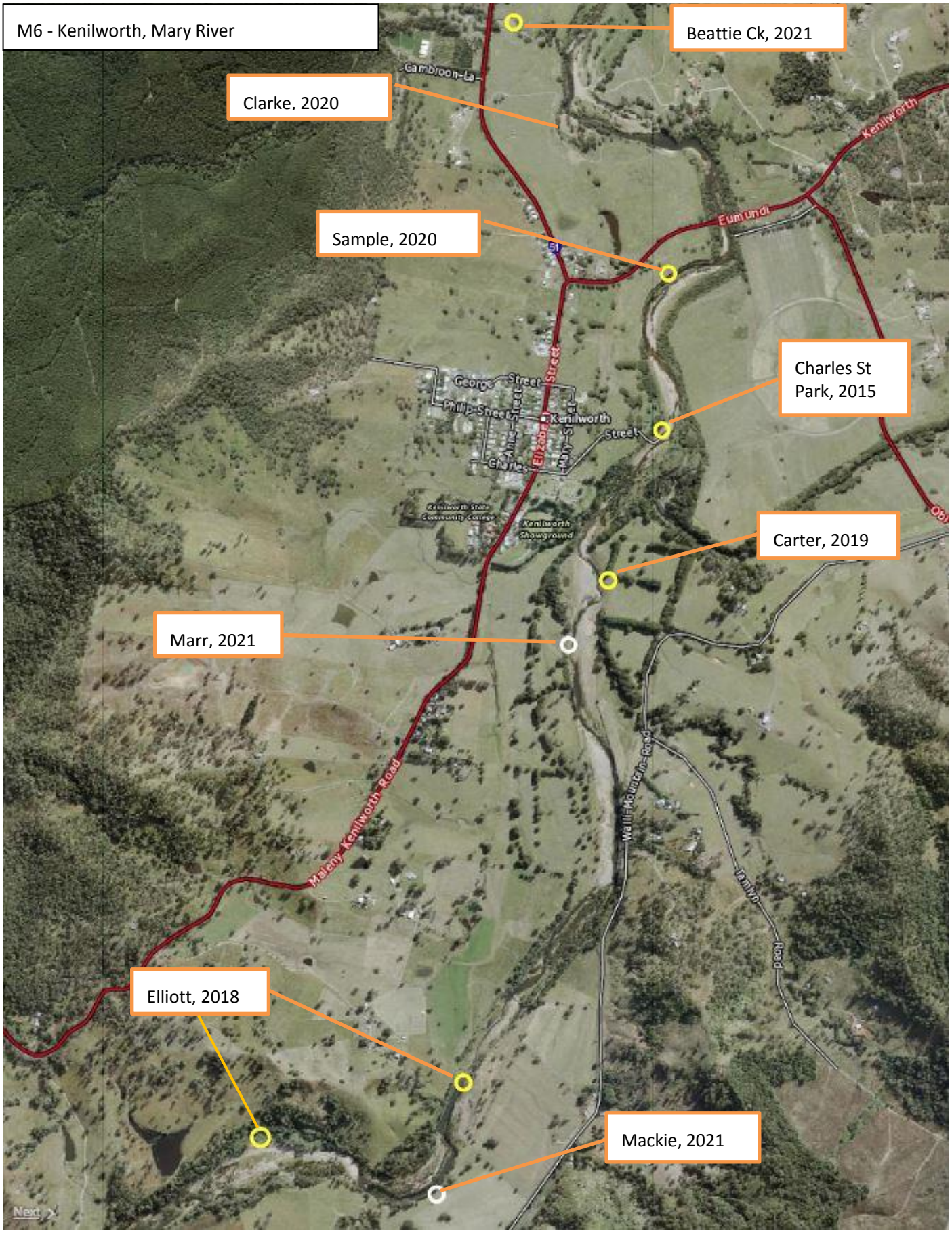
In August-September 2021, three riverbank projects were completed (two upstream of Kenilworth, one at Goomong in the Mary Valley) using timber pile fields. Riparian revegetation is planned to commence in February 2022. The riparian revegetation is funded by Seqwater; the landholders are constructing the riverbank fencing. Noosa & District Landcare Group will supply seedlings for the plantings.

Watson's site work completed

Completed and active project sites are shown in the table below with their sediment savings expected through project implementation.

Table 1 Riverbank stabilisation works to date

Site name	Location	Reach code	Year of project commencement	Sediment saving t/yr to the reef	Status
Watson	Conondale/ Cambroon	M4	2020	390	Completed Ongoing revegetation maintenance
Beattie	Kenilworth	M6	2021	135	Riverbank works completed Revegetation Feb 2022
Mackie	Kenilworth	M6	2021	723	Riverbank works completed Revegetation Feb 2022
Marr	Kenilworth	M6	2021	1449	Riverbank works completed Revegetation Feb 2022
Kevindale	Goomong	M9	2021	1190	Riverbank works completed Revegetation Feb 2022
King	Cambroon	M4	2022	433	Detailed design
	Gilldora/Kybong	M9	2022	3143	Initial site visits to scope feasibility


M6 - Kenilworth, Mary River
Beattie Ck, 2021
Clarke, 2020
Sample, 2020
Charles St Park, 2015
Carter, 2019
Marr, 2021
Elliott, 2018
Mackie, 2021
Kenilworth
Eumundi
Melody-Kenilworth-Road
Walli-Mountain-Road
Kenilworth Showground

Improving reef water quality in grazing lands 2020-2022

Queensland Government, Natural Resource Investment Program

This project commenced in 2020 during Covid working with graziers in key priority areas to adopt and implement best grazing land management activities that improve downstream water quality. The project offers on-ground project incentive funding to grazing landholders in three target areas:

- Munna Creek sub-catchment (including Teebar)
- Noosa hinterland (working in partnership with Country Noosa)
- Eel Creek sub-catchment (west of Gympie, including Pie, Marys, Jerry Creeks)

During 2021 four workshops and field-days were organised based on the theme of regenerative grazing land management in each of these target sub-catchments:

- Teebar pastures field-walk, April 2021 (Munna Creek sub-catchment), with 20 participants
- Langshaw grazing land management workshop and field walk, May 2021 (Eel Creek sub-catchment), with 35 participants
- Pastures soil health and nutrition workshop & field walk, June 2021 in partnership with Country Noosa (Noosa hinterland), with 28 participants
- Pasture forage budget workshop, Cooran, July 2021 (with Country Noosa), with 10 participants

Grazing land management field walk at Langshaw, May 2021

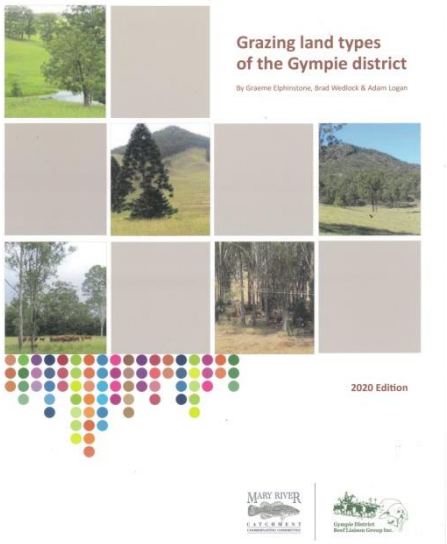
To date, 9 grazing landholders have accessed incentive funding, with another 9 landholders currently developing new on-ground projects. On-ground projects suitable for funding include installing tanks and troughs high in the landscape to create new cattle camps away from creek and drainage lines, riparian fencing to manage stock access to the creeks and fencing for sensitive areas e.g. to allow gullied areas to recover etc.

Preparation of grazing land types of the Mary River catchment

In 2010 and 2015 Graeme Elphinstone and Brad Wedlock prepared the Gympie District and Western Mary Catchments Grazing Land Type (GLT) booklets.

In recent years, with the advent of websites where property-level grazing land type maps can be accessed and downloaded by landholders eg. Queensland Government Long Paddock or Queensland Globe mapping, errors in grazing land type classification have occurred in the Mary River catchment, with little correlation to the existing Mary Catchment GLT booklets prepared in 2010 and 2015.

The Department of Agriculture and Fisheries (DAF) has recognised this problem and requested that MRCCC review and prepare Grazing Land Types for the entire Mary River catchment, for inclusion on their Long Paddock website. It is expected that Graeme and Brad will complete this work by the end of November.



Mary River Waterwatch celebrating 20 years of citizen science in the Mary River catchment

The MRCCC's community based Waterwatch Citizen Science program has operated swimmingly for the past 20 years!

The program involves volunteers recording water quality data (pH, dissolved oxygen, turbidity, electrical conductivity and temperature) at their local stream on a monthly basis. In addition to physical and chemical data, Waterwatch volunteers record observations of Mary River aquatic fauna species (e.g. turtle sightings, platypus), water weeds and general river flow conditions. The data collected by volunteers has been recorded in the MRCCC's customised Waterwatch database for 20 years and is a valuable data set today which is widely shared within MRCCC and other stakeholders.

Just like the river, Waterwatch has had its peaks and lows during the past 20 years; the peak being the involvement of scores of volunteers, who are fundamental to the success of the Waterwatch Program. Waterwatch commenced as a school based program in the 1990's and grew to involve broader community networks due to salinity and water quality issues becoming apparent, with landholders being eager to find out information about their local waterways. Throughout the past 20 years, 248 individual volunteers have spent time collecting data from 222 sites at 93 streams. The monthly data collected by Waterwatch volunteers provides the MRCCC with detailed information of baseline water quality throughout the catchment. Another peak is the funding which keeps the Waterwatch Program operational. From purchasing, maintaining and calibrating equipment, coordinating volunteers, entering and analysing data, and producing reports is a crucial component of the program. One of the lows is the fact that funding is not always available, which threatens continuity and the ongoing viability of the program.

Thank you to all the volunteers who have assisted with this program over the last 20 years: the efforts of landholders, local businesses, Councils and other organisations who support the program financially and in kind is greatly appreciated. Thank you also to Waterwatch delegates past and present; Garth Jacobson from Tiaro and Leslie and Craig Hanson from Kandanga Creek who have represented the Waterwatch Sector on the MRCCC for the past year and have assisted with the logistics and promotion of the Waterwatch program.

Waterwatch Network	Waterways monitored 2020 - 2021
Upper Mary (Mapleton, Maleny to Conondale)	Booloumba Creek, Bridge Creek, Chinaman's Creek, Fryers Creek, lagoons at Russell Family Park, Little Yabba Creek, Lobster Creek, Mary River, Obi Obi Creek, Scrub Creek & Skene Creek
Kenilworth (including Belli Park, Brooloo)	Belli Creek, Coolabine Creek, Coonoon Gibber, Mary River, Oakey Creek, Walli Creek, & tributaries of Belli Creek
East Gympie (Gympie, East Deep Creek, Traveston)	Deep Creek, Mary River, Peter and Paul Watton Gully & Six Mile Creek
West Gympie (Pie Creek, Langshaw, The Palms, Glastonbury, Jones Hill)	Calico Creek, Eel Creek, Glastonbury Creek, McIntosh Creek, Pie Creek, Snake Creek & Three Mile Creek
Imbil to Amamoor (includes Kandanga, Kybong)	Amamoor Creek, Coles Creek, Kandanga Creek, Mary River, Three Mile Creek & Traveston Creek
Yabba Creek (Brisbane Girls Grammar and Imbil HQPlantations)	Araucaria Creek, Caseys Creek, Derrier Creek, Yabba Creek & Yabba Creek above Lake Borumba
Widgee & Wide Bay (including Sexton, Lower Wonga)	Fat Hen Creek, Mary River, Six Mile Plain Creek, Wide Bay Creek & Wonga Creek
Tiaro & Maryborough	Deep Creek, Fay Smith Wetlands, Goora Creek, Gutchy Creek, Mary River, Munna Creek, Ooramera Creek, Saltwater Creek, Spring Creek, Tanyalba Creek & Ululah Lagoon
Munna (Brooweena to Glen Echo)	Boompa Creek, Calgoa Creek, Chinamans Gully, Dry Creek, Eel Creek, Munna Creek, Sandy Creek & Teebar Creek
Upper Tinana Creek (including Goomboorian)	Big Sandy Creek, Coondoo Creek, Hines Creek, Ross Creek, Sandy Creek, Tagigan Creek, Tinana Creek, Ulirrah Creek & Yards Creek
Noosa hinterland (Pomona, Cooroy, Ridgewood)	Six Mile, Cooroora, School, Ferrells, Cooroy, Frogmouth, Waterford, Dath Henderson, Jampot, Pinbarren, Coles, Skyring, Middle, Slate, Blackfellows, Happy Jack Creeks

Waterwatch Statistics 2020/21

- 106 individuals, families and businesses volunteering time to support water quality monitoring in the Mary River Catchment
- 1174 water samples collected throughout the catchment
- 99 sites sampled at least once during the past year
- 57 streams monitored

Excellent water quality and riparian condition on Yabba Creek, Imbil

For the past year, Gympie Regional Council, Noosa Council and Sunshine Coast Council have financially supported Waterwatch. Community sampling is supplemented with data collected by HQPlantations (HQP) from the Toolara and Imbil forestry areas and by Queensland Parks and Wildlife Service (QPWS) from Conondale National Park. These areas include tributaries with quite unusual characteristics which cover large areas of the catchment. The data collected by HQP and QPWS staff helps the MRCCC gain a holistic picture of water quality in the Mary River catchment.

The logistics of moving water testing kits in and out of Gympie, and between diverse locations, on a reliable schedule would be a challenge, without the support of many local individuals and businesses. The MRCCC is grateful for the assistance of Sauers Garden Produce Gympie and Cooroy, B & H Rural Tiaro, BOS Rural Kandanga, Amamoor Store, Barung Landcare, Mapleton Realty, Conondale Store and the Kenilworth Garage for holding and transporting kits for volunteers to collect.

There will always be additional locations to be monitored and retiring volunteers to replace. If you have easy access to a section of the Mary River or one of its many tributaries and are able to contribute 1 hour a month there will be space for you.

Waterwatch Volunteers 2020-2021

Widgee and Wide Bay Waterwatch Network Anette Bambling Brian Thomas Gillian, Yvonne and John Crossley Mick and Yvonne Bambling Stephen Horseman Rob Newcombe Janette and Brad Parke	**Imbil to Amamoor Waterwatch Network** Noo Dye Leslie and Craig Hanson Cath and Colin Robinson Marion Firns and Warren Crispin Glenda Pickersgill
Tiaro Waterwatch Network Brian and Lyn Thompson Bronwen Long Cecile Espigole and Bill Price Garth Jacobson John Williams Owen and Lynda Thompson Ross Smith	**Upper Mary Waterwatch Network** Roger Westcott Robin and Norman Dobson QPWS – Bronwyn McAdam Matt Bateman Eric Anderson Debbie and Sven Felius
West Gympie Waterwatch Network Annette Bourke Bruce McCulloch Pat Ridgewell Joolie Gibbs Rob Kerle Graeme Elphinstone Patriece and Dave Wippell Ian Smith Nonie Metzler Robin Yule Matthew Long Tony DiCarlo	**East Gympie Waterwatch Network** Bob and Lorraine Hood Ross Craig Jude Coates
Munna Waterwatch Network Brett and Tammy Marsh Cam and Lisa Hughes Iain Lewis Kev and Helen Rogers Neville and Joy Turner Ross and Michelle Kinbacher Spencer and Leslie Innes Kerri Dixon	**Tinana Waterwatch Network (formally Eastern Catchments)** Kevin Jackson HQP – Garry Gosling HQP – Colleen Hair Abor king – Bruce, Dan and Christie Vincent Howard Kirby David Wilson
Kenilworth Waterwatch Network Adam and Victoria Kane Des King and Colleen Ryan Ian Mackay Kathleen and Steve Dennis Ruth and Stephen Carter	**Yabba Creek** (Brisbane Girls Grammar School (BGGS) and Imbil HQPlantations) BGGS – James McIntosh, educators and students HQP – Dan O'Regan, Allison Dillon and Regina Dodd

Mary River Annual Water Quality Catchment Crawl 2021

The MRCCC's annual Catchment Crawl provides a snapshot of water quality in the Mary River Catchment in the first week of October each year. Sampling occurred at 34 sites along the Mary River and major tributaries. This covers the length of the catchment from the headwaters in the Conondale Ranges downstream to River Heads where the Mary River flows into the Great Sandy Strait.

The 2021 Catchment Crawl was held on the 5th – 6th of October, 2021 and was the 19th conducted since 2002. This data collection over many years allows us to capture changes, trends, and observe the Mary River at the same time of year, in early Spring, before the wet season commences.

Data collected from each site includes physical and chemical water quality parameters, and observations such as the condition of the riparian zone. This covers water temperature, pH, electrical conductivity (salinity), turbidity, dissolved oxygen, nutrients (phosphorus and nitrogen) and total suspended solids (sediment load). *E. coli* (faecal coliforms) were also sampled at most sites. Riparian condition observations were recorded including streambank erosion, weed species, shading of water, presence of vegetation layers, and general observations.

Air Temperature and River Flow

In the week prior to the 2021 Catchment Crawl, the average daily maximum air temperature was 29.5°C. By comparison it was 27.4°C in the week leading up to the 2020 Catchment Crawl. The minimum air temperature was 13.8°C in 2021 whereas last year it was 10.5°C in the week leading up to the Catchment Crawl. The warm minimum air temperatures appear to result in warmer water temperatures at most sites (16 Mary River sites recorded warmer water temperatures, out of 19) compared to 2020.

Stream flow during the month prior to the 2021 Catchment Crawl was extremely low with cease-to-flow conditions at most gauging stations, similar to 2020. Despite a small rainfall event throughout the catchment the week prior to the 2021 Catchment Crawl, stream flow was very slow to no flow during the actual days of the Catchment Crawl. However, flow was observed to be moderately better than 2020.

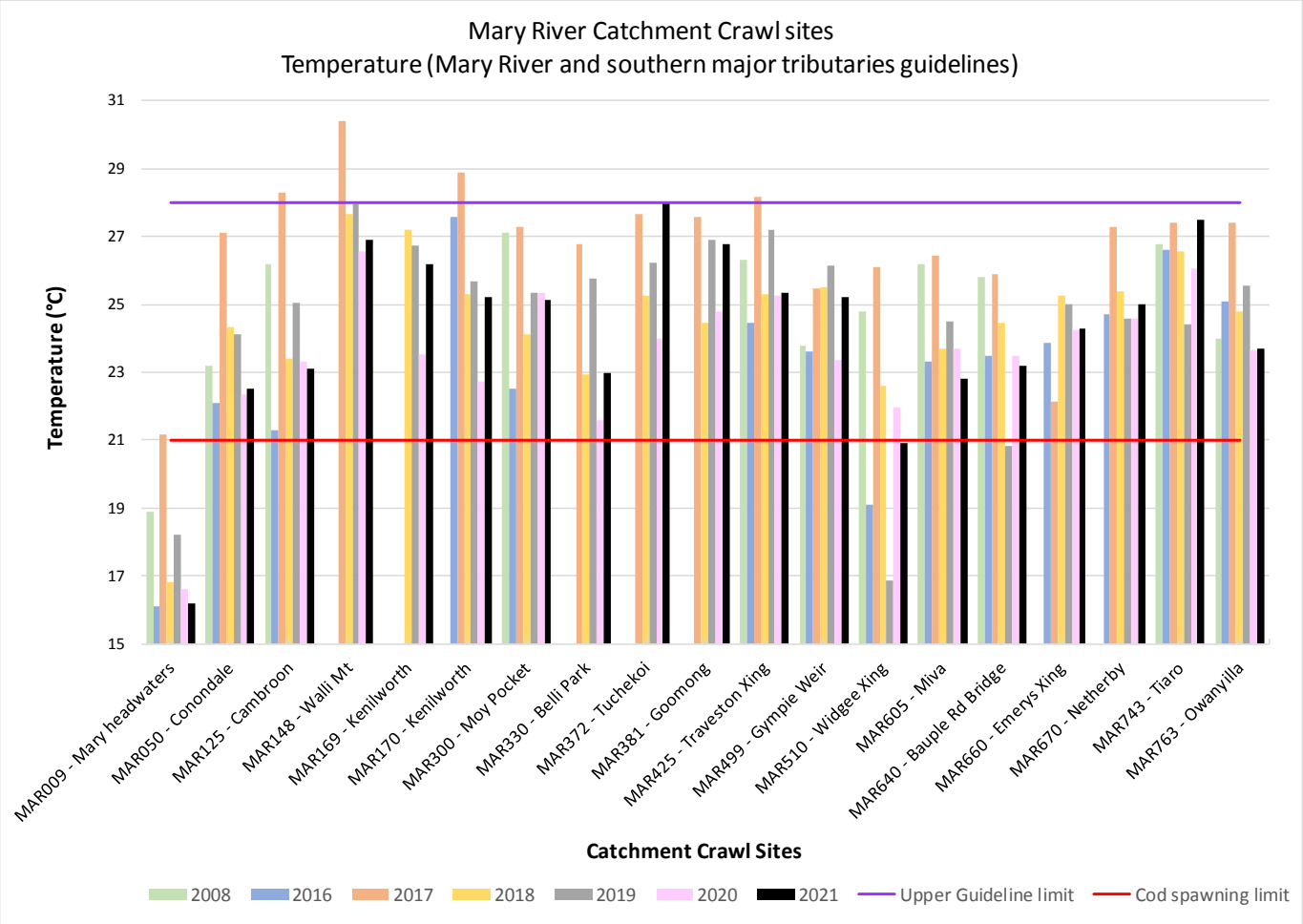
Above left: Coolest site, Mary River Headwaters (MAR009) Above right: Warmest site, Mary River Tuchekoi (MAR372)

Water Temperature

Sunny conditions were consistent throughout both days of the Catchment Crawl. Warmer water temperatures were recorded in the Kenilworth reach, Mary Valley (Belli Park to Gympie Weir) and the lower reaches (Emerys Crossing to Owanyilla) compared to 2020. The warmest site was at Tuchekoi, this site also recorded its highest water temperature (28°C) over the past 5 years.

The Catchment Crawl coincides with the endangered Mary River cod spawning. Cod require temperatures to drop below 12°C in winter and to rise towards 21°C and stabilise at this temperature to trigger spawning. This year, two sites complied with suitable cod spawning temperature - the Mary River headwaters site above Conondale and Widgee Crossing. By comparison only the Headwaters site was suitable for spawning in 2020.

Continuation of the annual catchment crawl will lead to improved understanding of water temperature long-term trends. This is important not only for the threatened aquatic species including the Mary River cod, also to understand the impact of riparian restoration work undertaken by the MRCCC and other organisations in the catchment.

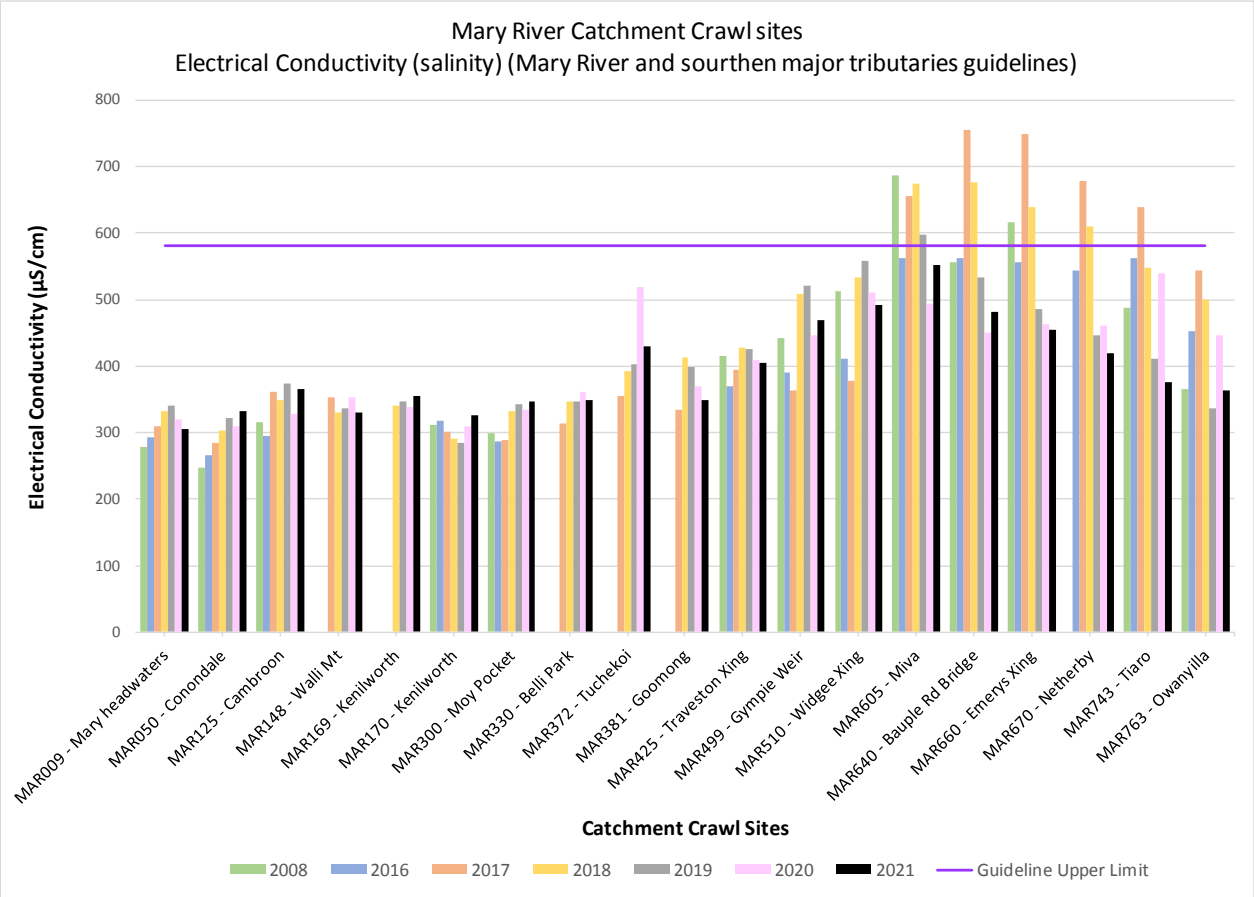


Tom Brook collecting a sample at Emery's Crossing where the electrical conductivity was at an all time low level.

Electrical Conductivity

The majority of Mary River sites recorded lower electrical conductivity (EC) compared to 2020 and all sites were within the EC guidelines. Conondale, Kenilworth and Moy Pocket sites recorded the highest EC levels out of all Catchment Crawls due to lack of rain, flow and input from surrounding tributaries. The sites downstream; Goomong, Traveston Crossing and the Gympie Weir all receive Borumba Dam water releases that regulate EC levels.

From Emerys Crossing to Tiaro, all sites displayed a significant decrease in EC since 2008, with most sites recording an all-time low EC result out of all Catchment Crawls. This was also observed in 2020. It is assumed that this is due to a continued lack of flow from Munna Creek over the past few years.



Becca McBride at Moy Pocket where the highest E. Coli levels in the catchment were recorded.

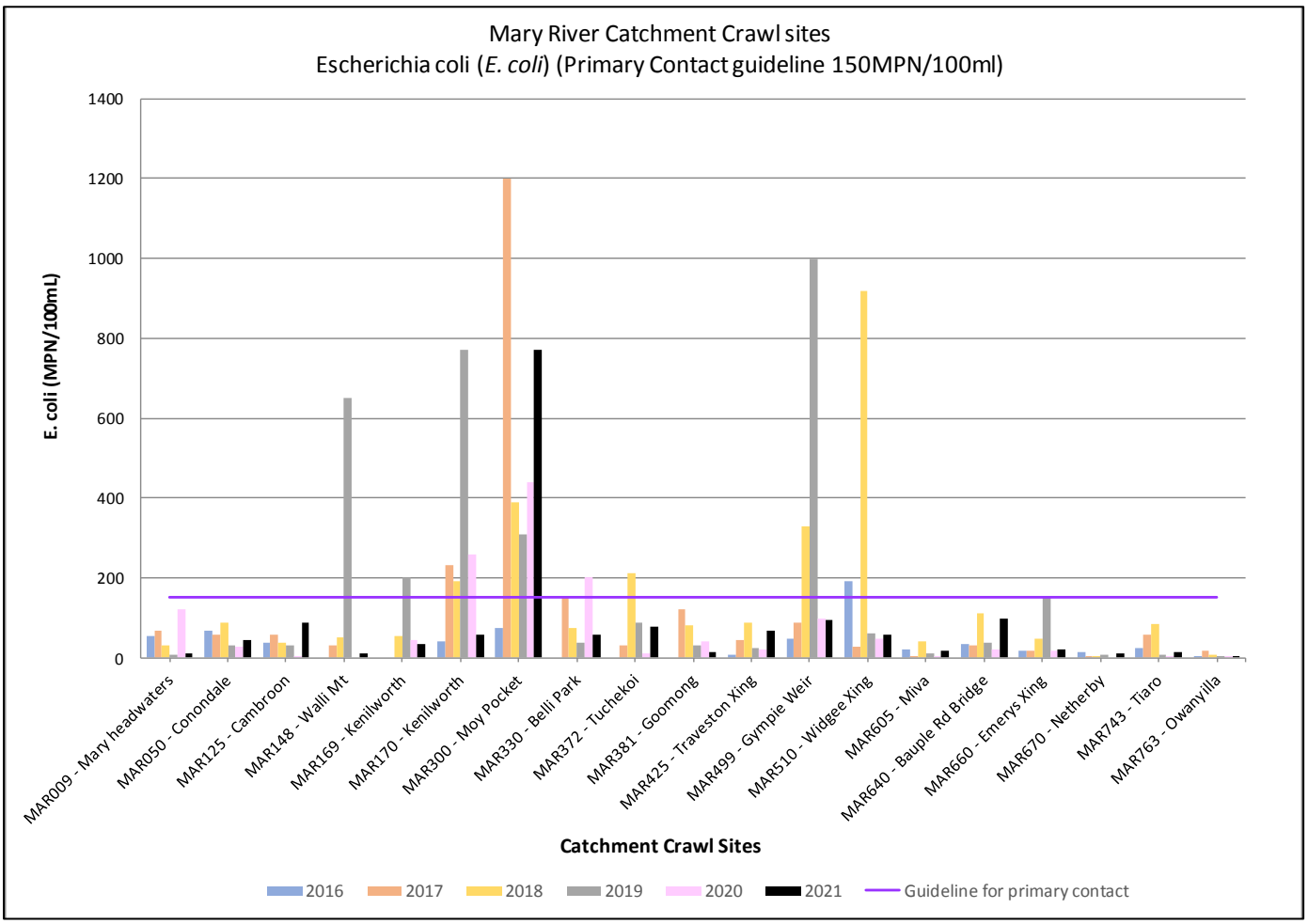
Escherichia coli (E. coli)

Escherichia coli (*E. coli*) is a bacterium that is commonly found in the gut of humans and warm-blooded animals. *E. coli* levels are used as indicators of the presence of faecal material in drinking and recreational waters. Both indicate the possible presence of disease-causing bacteria, viruses, and protozoans.

Sources of bacteria include improperly functioning wastewater treatment plants, leaking septic systems, storm water runoff, animal carcasses, and runoff from animal manure and poorly functioning effluent systems.

The guidelines for *E. coli* level used is the Primary Contact guideline (ANZECC and ARMCANZ, 2000) and the value is 150 MPN/100ml. The *most probable number* (MPN) is the *number* of organisms that are *most likely* to have produced laboratory results in a particular test.

The highest *E. coli* levels observed on the Mary River during 2021 Catchment Crawl was at Moy Pocket (770 MPN/100ml). Moy Pocket has consistently exceeded the *E. coli* guideline over the past 5 years during the Catchment Crawl. All other Mary River sites did not exceed *E. coli* guidelines. The townships of Gympie and Kenilworth consistently record a presence of *E. coli*.



Volunteer Ian Smith's photo of Tilapia in what was left of Munna Creek on Day 2 of the Catchment Crawl

Once all of the laboratory results are available a full 2021 Catchment Crawl report will be completed. The report will be available to download from the Waterwatch page on the MRCCC's website.

The MRCCC acknowledges all the landholders and volunteers who visited or helped us with the Catchment Crawl, particularly Ian Mackay, Garth Jacobson, Becca McBride, Belinda Wedlock, Keira McGrath, Jude Coates, Ian Smith, Stan Chandler and Andrew Mahoney.

Thanks also to Seqwater for supporting this year's Catchment Crawl and the Queensland Government Department of Environment and Science for providing nutrient and total suspended solids analyses.

Threatened species assessment and recovery in burnt coastal wallum wetlands

Project summary

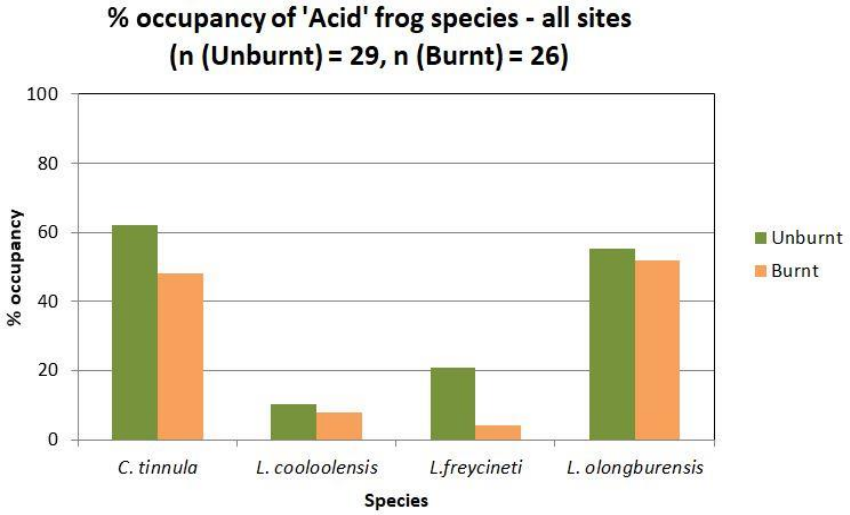
Supported by the Australian Government Department of Agriculture, Water and the Environment - Wildlife and Habitat Bushfire Recovery Program.

Collaboration partners: MRCCC (frogs), Griffith University (fish and crayfish), Burnett Mary Regional Group, Traditional Owners, Australian and New Guinea Fishes Association.

Project aim: The project investigated the effects of the 2019 severe fires on aquatic fauna of the wallum wetlands along the east coast through:

- surveys to document distribution, abundance, habitat condition and threats;
- development of methodology for ongoing monitoring;
- identification and prioritisation of critical habitat for fauna;
- development of actions for rehabilitation and recovery.

Project period: July 2020 to December 2022.



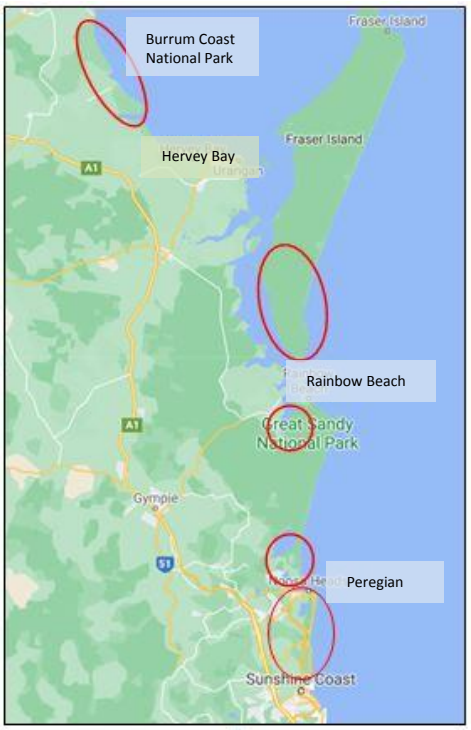
Species' occurrence across the project area

Overview: Target species are the 'acid' frogs of the wallum country (*Litoria olongburensis)* Wallum sedgefrog -picture on the right, (*Crinia tinnula)* Wallum froglet, (*L. freycineti)* Wallum rocketfrog, (*L. cooloolensis*) Cooloola sedgefrog; a group of highly specialised species that live in wetlands with pH as low as 3. Many threats occur for this group, including coastal development causing habitat loss and fragmentation, changed hydrology altering water levels (many of these wetlands dependant on high levels of groundwater), pollution, pests and unsuitable fire regimes. Surveys were carried out at 54 sites to obtain species and abundance data from a suite of paired sites; those burnt by wildfire in 2019 and those that were unburnt. Areas covered were Noosa Shire, Cooloola National Park, K'gari and the Woodgate/Kinkuna sections of Burrum National Park.

Observations: Data is currently being analysed in full, however, initial observations reveal some trends. 'Acid' frog species occurring in wetlands following fire seems to have been stable in habitats where water is normally abundant. This applies mostly to sedge swamps. By their nature, these habitats are too wet to support shrubs and trees (wallum heath) and are dominated by thick sedge growth. They provide habitat for all of the four 'acid' frog species and, during a wildfire, would provide refuges in the water or nearby damp areas. Drier vegetation communities, such as Melaleuca and heath swamps, revealed some losses of species a year after the fires.

All four species appear to occur in less of the burnt wetlands than they do in those that had not experienced the high intensities of the 2019 fires. This was particularly so for *Litoria freycineti*; a species with general requirements that breeds in a broad range of wetland type; temporary and permanent.

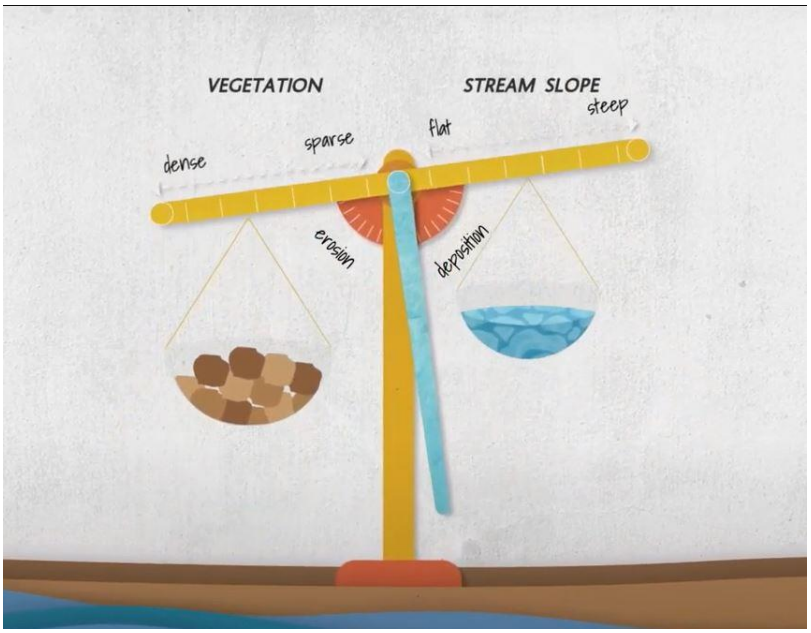
By the end of the project we will be able to quantify the effect of the wildfires on the fauna of coastal, acid wetlands and present the methodologies we used that can be transferred to future studies.



Location of surveys in bushfire affected areas

Some sites will be selected for long-term monitoring involving local communities to further assess species' recovery over a longer period following fire. We aim to develop recommendations that will be useful for protected area and freehold land fire management planning in the future. Understanding and responding to species' needs and the threats that prevail, is so critical as we move into an era where prolonged dry periods and the risk of wildfire are both increasing.

Video – an introduction to River Processes



It's a complicated story of interaction, interdependency, cause and effect. When we look into the processes that occur to make a river and its channel behave in a certain way, we see many components (level of the bed, steepness of the banks, width of the channel, slope between two longitudinal points, sediment size and movement, vegetation extent, sharpness of meanders, and many others) that alter according to forces at play when water comes flowing down slope from mountains to the sea. Many beliefs and understandings live in the community depending on experience, observation and level of research. To help everyone gain a full understanding of how a river works and responds we, in partnership with the Sunshine Coast Council, the Burnett Mary regional Group and Alluvium Consultants, and with the creative talent of InfoGrafia, have created a six minute video to introduce some concepts and interrelationships.

It's not easy to pack all information about river processes into a short production so another installment to expand on the basics is now in the making. All of those involved have appreciated the collaboration and the opportunity to put our creative hats onto our scientific heads! We hope that this video will provide an introductory understanding for anyone that works with rivers, has the privilege to draw on them as a resource or enjoy their ambience and hidden treasures. Understanding how they work can help us to make decisions that have desirable outcomes for the health of any waterway.

Watch it here https://www.youtube.com/watch?v=DurRy9kBv4g and find other MRCCC videos at https://mrccc.org.au/videos/

Local Council Partnerships - Living with Threatened Species

The Mary River catchment and adjacent coastal catchments are largely administered by four Councils; Sunshine Coast, Noosa, Gympie and Fraser Coast. The Mary River catchment has vast, high value natural areas and waterways, a high concentration of threatened species, and an aware and involved community carrying out conservation works and best management practices every day, in both large and small ways. But serious threats abound, such as bank erosion along waterways, vegetation degradation and fragmentation, vine weeds in riparian canopies, feral pests (deer, Tilapia, wild dogs) and population pressures for space and resources. To maintain and improve the richness and health of the catchment, assistance is often required to increase landholders' ability to address issues beyond their own resources and capability.

All of the catchment Councils have an interest in river health and biodiversity and provide essential support for many MRCCC programs, particularly our Citizen Science programs. The support enables the MRCCC to maintain a presence right across the catchment; working closely with the community, sharing expert river understandings, providing experiential water quality and biological learning opportunities, and assisting with waterway rehabilitation. The MRCCC has 3-year partnerships with some Councils, and this provides welcome stability for the MRCCC and continuity of our programs.

Program	Sunshine Coast	Noosa	Gympie	Fraser Coast
Find a Frog in February				
Educational activities				
Waterwatch				
Long-term frog monitoring				
Public education/festivals				
Hinterland extension				
Cane toad Challenge				

Programs supported by local government of the Mary River and coastal catchments

India-Lee with froggy friend

Fauna programs

Since 2004 we have continued to survey four long-term threatened frog transects along Belli/Cedar, Six Mile and Cooroora Creeks. The severe dry of the past several years seems to have resulted in declines and absences of some of our local frog species from some sites, and we await improved moisture conditions to confirm persistence, or otherwise. Volunteer participation in frog surveys provides landholders and students with an opportunity to learn about waterway ecology and species requirements; knowledge and experience they can contribute to their work and interest areas.

With support from all catchment Councils, 'Find a Frog in February' had its 5th year of encouraging citizen scientists to be out recording frog observations. Despite the long, dry months leading up to early 2021, some patchy rain fell in January and February to assist with frog detectability. We continued our media drive, public workshop program and support for schools to monitor local frogs. Over 400 people were involved, providing more than 1300 records of 32 species (6 threatened) from 124 sites.

The conditions of recent years bring cause for concern for some of our frog species as surface water becomes scarce for long periods and reproduction windows narrow. Additional problems have risen in 2021 with a Chytrid fungus outbreak along the east coast of Australia affecting some of our most common species such as the Green treefrog (*Litoria caerulea*).

It reinforces the critical need to survey new sites and monitor all frog populations and habitat conditions regardless of their status, in conjunction with continual reassessment of our land and water management practices.

Our biodiversity and citizen science programs have expanded their scope this year through funding from the Australian Government to research the effects of the 2019 wildfires on the aquatic fauna of wallum wetlands from Peregian to Woodgate. MRCCC staff and volunteers collected frog data from wetlands in Noosa, Gympie and Fraser coast shires.

Working with the Sunshine Coast hinterland community

We have worked closely with 16 hinterland landholders to develop projects and obtain funding support through the Sunshine Coast Council Landholder Environment Grant (LEG) program, to improve riparian health through stock management, weed control and revegetation. Some landholders have completed up to seven stages of projects while others are new to natural area rehabilitation. The program provides the MRCCC with an important vehicle to form relationships with landholders previously unknown to us as well as continue long-term involvement with others.

Many of the projects link in with other MRCCC programs for river rehabilitation such as the Reef Trust IV, Great Barrier Reef Foundation and Seqwater partnership. During 2020-21 projects developed with the MRCCC and supported by the LEG program enabled the installation of 5800m fencing with off-stream watering, control environmental weeds over ~29 hectares of riparian zone, and a small amount of revegetation. The total value of projects was $204,000.

Seqwater Partnership

Kath Nash and Alana Ebert

The 2020/2021 financial year was the fifth year of the Seqwater - MRCCC partnership. The purpose of the partnership is to improve water quality upstream of the drinking water offtakes operated by Seqwater in the Mary River catchment.

Water quality improvement projects delivered by the MRCCC reduce pathogens, sediment and nutrient risks to potable water in the Mary River. This year the projects delivered by the MRCCC targeted dairy effluent management and health of riparian zones along the Mary River upstream of the Goomong and Kenilworth offtakes. Effluent management projects decrease the nutrient and pathogen risk to water quality. Riparian zone fencing and vine weed treatment improves riparian vegetation structure, which stabilises the banks and reduces the risk of sediment entering the river.

Stories of Change

Effluent Management on the Gillis Dairy – Trafficable Solids Trap

Paula and Daryl Gillis run Richmond Dairies, the property has been in the family for several generations, the existing dairy was built by Paula's father. The property covers 55 acres, with a centre pivot irrigating 12 yards. The Gillis's run 200 milkers of Jersey and Friesian cows. The dairy is ranked as priority 1 in the Seqwater Implementation Plan for the Mary River catchment due to the high risk of pathogens from cattle effluent potentially entering the Mary River and polluting Seqwater's potable water supply at Kenilworth.

Gillis dairy before and after

Up until September this year the effluent from the 200 head milking herd has been flowing into a drain that leads to the Mary River. This year, one of the major projects in the partnership was the construction of a Trafficable Solids Trap (TST), which separates the solids from the liquid effluent to allow reuse of the nutrient rich effluent back on farm. The Gillis's played a key role in project implementation including; realigning fences and the supply and installation of a pump and pipe for irrigation and the tractor and driver.

Effluent Management on the Walker Dairy – Solids Collection Ditch

The Walker dairy farm covers 815 acres and also produces eggs, chicken and grass-fed beef. The farm has frontage to both the Mary River and Cambroon Creek, approximately 11.5 km upstream of Kenilworth. The Walker dairy is also ranked as priority 1 due to the high risk of pathogens from cattle effluent potentially entering the Mary River. This year some improvements were made to the effluent system including;

1. storm water diversion away from the dairy and effluent ponds;
2. a solids collection ditch was constructed to act as a primary settlement pond;
3. the horizontal boards on the weeping wall of the TST were replaced with vertical boards.

Vine weed control in Kenilworth and Goomong

This year we treated over 150 ha of Cat's claw and Madeira vine across 27 properties and released over 15,000 bio-control agents, including tingid bugs, madeira and jewel beetles.

2021 was a good year for bio-controls, with understory Cat's claw vines on many properties showing evidence of tingid damage. This complimented the weed control carried out by our contractors who were able to focus on extending the control into hard to reach areas and target mature vines to save large riparian trees and prevent seed dispersal. Seqwater is a strong supporter of bio-controls as a necessary tool in the long-term fight against invasive vine weeds, having now funded the release of over 70,000 bio-control agents. The combination of biological, physical and chemical control, works well for weed control in the Mary River catchment.

Kath Nash with Darryl and Paula Gillis

Mary River cod update

3 week old Mary River cod

In 2019, and thanks to financial assistance from Seqwater, we were able to relocate the Mary River cod breeding program from the Gerry Cook Hatchery at Lake Macdonald ahead of a planned dam safety upgrade.

While the dam upgrade has been delayed by a couple of years, the good news is that the Cod have settled into their new location and have now had two successful spawning years with the result that hatchery manager Darren Knowles was recently able to release twelve thousand fingerlings into suitable parts of the Mary system.

Covid has seen a massive increase in the number of campers visiting the Mary and it concerned us that very few seemed aware of the three month total ban on fishing in the Mary and tributaries upstream of Gympie. The Fisheries website advises that for August, September and October, no fishing is to occur apart from in the stocked impoundments, Borumba dam, Lake Macdonald and Baroon Pocket dam.

There has been very little public notification of the ban, nor yet of the significance of its timing so as to provide protection at cod breeding time. Also apparent is the lack of awareness of the complete ban on using net fishing, not just in the Mary but in fresh waters throughout Queensland.

The Department of Fisheries has circulated information to some bait and tackle outlets but the MRCCC is advocating for more extensive coverage, including to the many campgrounds that have mushroomed along the river.

This year saw the publication of Stewart Rowland's excellent book "The Codfather", with a detailed chapter on our Mary River cod, paying particular tribute to the late Gerry Cook who developed techniques for captive breeding. With numbers in the wild back in 1996 estimated to be around 600, and with cod only being found in around 30% of their original habitat, they were clearly endangered. A personally signed copy of "The Codfather" now resides in the MRCCC library.

Great Sandy Strait Research Oversight Consortium

Left to right - Lindsay Titmarsh, Associate Professor Ron Johnstone, Dr Daniel Harris, (the late) John Sinclair (FIDO), Glenda Pitman (GMA), Ian Mackay (MRCCC) at Tandora, August 2018

In 2018, out of concern for the impacts of the proposed Colton coal mine located between Maryborough and Hervey Bay, MRCCC joined with FIDO (Fraser Island Defenders Organisation and the late John Sinclair) and GMA (Greater Mary Association) to establish a Research Fund.

Part of the mine proposal was that waste water be discharged into the Mary River at a point just 12 km upstream from the Ramsar wetland boundary. The shared concern was that this discharge had the potential to impact not only the river but also the Great Sandy Strait and even Hervey Bay.

The fund enabled a research project "Hydrodynamics and Materials Transport" by Associate Professor Ron Johnstone and Dr Daniel Harris of the University of Queensland, which is nearing finalisation.

That study has identified areas most likely to be impacted and has highlighted the need for ecological research in the northern part of Great Sandy Strait between River Heads and Hervey Bay. This area is characterised by soft sediments, shallow seagrasses and both shallow and deep reefs.

It also features a delta of deep sub-tidal channels, fringed by deep rocky reefs and ledges which are hotspots for biodiversity, refuges for iconic species and stepping stones for migratory species.

The rocky reefs and ledges were actually part of the Mary River as it cut across the coastal plain when sea levels were much lower, around 20,000 years ago. They have never been adequately mapped, nor has data been gathered to describe their fauna. The research consortium is currently looking at a proposal from Associate Professor Andrew Olds from the University of the Sunshine Coast to carry out habitat and terrain mapping, biodiversity surveys, animal tagging and acoustic monitoring.

While the status of the mine proposal is unclear since the previous proponent went into receivership, it has changed hands and may well re-surface.

It is the view of the research consortium that background studies into both the hydrology and ecology would be highly desirable.

Noosa Festival of Water

It was off, it was on, it was off then it was on again, by popular demand! The 2021 Festival of Water did take place on a beautiful sunny Sunday on the 13th June at the Noosa Botanic Gardens and Lake Macdonald Amphitheatre. Seqwater's plans to start the dam wall reconstruction were put on hold, which meant that the Festival could go ahead, albeit with a slightly reduced program due to the Covid pandemic restrictions.

The Amphitheatre with the view of the lake in the background was a popular place to be througout the day, with fantastic local musicians including the wonderful Andrea Kirwin, the Famous Jimmies and Linc Phelps drawing people in. Displays, information and sales from Noosa Landcare, Noosa Flying Fox rescue, MRCCC, Noosa Council, the Burnett Mary Regional Group, Noosa Integrated Catchment Association, Noosa Biosphere Association, Friends of the Koala, Friends of the Noosa Botanic Gardens, Wilvos, Wildlife Preservation Society and the Freshwater Fish Stocking group helped those attending learn more about our local environment and natural resource management.

Festival stalwarts Jan and Bob Clarke did a wonderful job keeping small children occupied in the Kid's Art marquee, where their fauna artwork creations adorned the Noosa biosphere mural.

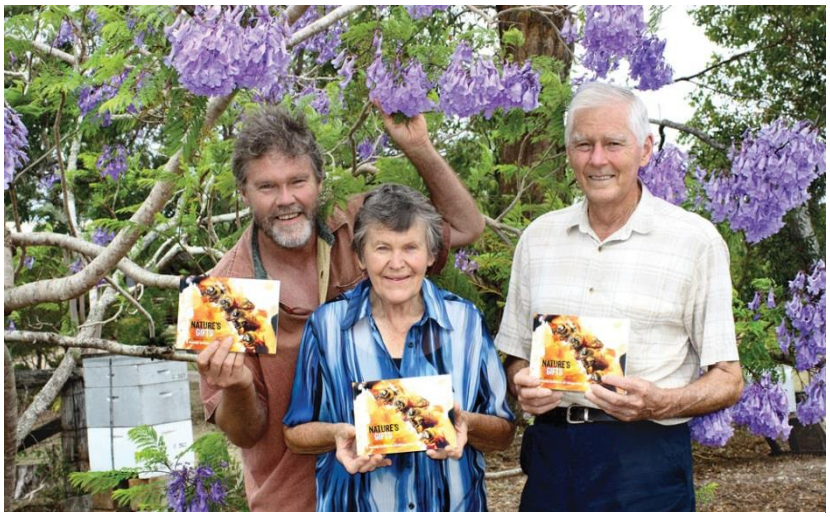
The Noosa Botanic Gardens provide such a stunning venue for the Festival and we are very fortunate that Noosa Council provides this facility for our use, and supports the day through their Signature Event funding. We also appreciate support from Seqwater and the Burnett Mary Regional Group, and inkind support from council employees Michael Lyons and Jackie Kelk. It was also a huge help to have the Noosa Landcare trainees support before, during and after the event. Thanks also to the Noosa Eco Resort in Pomona for providing the door prize which encouraged people to submit their feedback. The lucky winner of 2 night get-aways at the Eco-resort was manager of the Wide Bay Burnett Conservation Council, Mike Moller and partner Katerina!

It takes literally hundreds of hours to pull these events together, and we could not do it without the army of volunteers that assist with planning, staging and participating at the Festival on the day – all with the primary aim of improving community awareness of our environment and engendering an ethic of care for the unique attributes that make Noosa such a special place to live.

A enormous thanks also to Mackenzi Finger, MRCCC's intrepid Administration Assistant, for stepping up and doing an excellent job of organising, despite being thrown in the deep end. Thanks Kenz, top work!!

Valley Bees

Valley Bees have had another busy and successful year with a number of activities including the Bee Open Day at the Pavilion on Sunday 4th September. This was the first year that the event was held at the Pavilion, having previously been at Mary Valley College in Imbil. The Bee Open Day included workshops, hive displays, kits, equipment, bee plant sales, and presentations about all things bees. Overall the general consensus was that this year's event was very successful. Over the past year, Valley Bees has hosted a number of outdoor workshops attracting 300-400 people all interested in learning about bees and beekeeping. Meetings will continue to be held at Honey Bee Farm in Kandanga, which is now called Honeybee Wellness Resort.



Glenbo, Skaedra and Athol Craig with the Nature's Gift publication

At the Valley Bees AGM earlier this year, Dana Heslin was elected Chairperson of the group while Athol Craig will continue as the group's Patron. For more information, visit the Valley Bees website www.valleybees.org

Gympie Regional STEM Hub and STEAMzone 2021

STEM (Science, Technology, Engineering and Maths) activities were always going to be problematic during the Covid pandemic and that included the annual STEAMzone Science Festival. With the exception of last year's innovative virtual event, STEAMzone was previously held at the Pavilion and attended by hundreds of Primary School children all rotating through various activities aimed at stimulating interest in STEM subjects.

This year's STEAMzone Festival was held at the Lab of Awesome at the VIBES Wellbeing Centre in Gympie during National Science Week from the 14th August. Students attending were given an opportunity to experience the following activities:

- virtual reality (VR)
- augmented reality (AR)
- agriculture science activities
- Sci-arts
- presentations and more

These activities are designed to encourage students to learn, create, share, and inspire the next generation with a broad range of technologies to help people positively change their world, and the world around them.

The Gympie Regional STEM hub with Lindy Orwin at the helm has been auspiced by the MRCCC since 2017. As Lindy prepares to hand over the reins, it may be timely for the MRCCC to reconsider our auspicing arrangement. If you have an interest in progressing STEM activities in the Gympie region, please don't hesitate to get in touch for more information.

The MRCCC is very appreciative of Lindy's work with the STEM hub. Her exemplary knowledge of the digital world and incredible drive and energy has led to hundreds of students in our region benefiting from STEM activities. Thank you Lindy for your amazing contribution.

Top right: students make slime from agricultural products and below, experiencing virtual reality.

Landcare in the catchment

Noosa & District Landcare

The Noosa & District Landcare group's dynamic and proactive approach to achieving long term environmental outcomes incorporates a diverse range of programs and activities to engage the wider community in caring for our environment. This includes offering training programs to young jobseekers and educational activities to schools, universities, rural and residential landholders, community groups, industry and government. The depth and breadth of expertise and knowledge within the group is extensive and highly sought after.

The list of current programs on offer includes the recently established Noosa chapter of Roving Restorers, the Habitat for Wildlife program, the Koala Habitat Restoration Partnership, the Fish Habitat Bushfire Recovery Project and source protection works at Lake Macdonald. The group also operates a retail and wholesale nursery, with the up to date stock list available on the website.

Earlier this year, the Pomona office in Station Street was transformed and is now the Noosa HinterHub, specialising in native plant sales, locally made artisan gifts and an extensive book list. Managed by Belinda Wedlock and Keira McGrath, the Hinterhub is the perfect place to get advice about what to plant in your garden, browse for local native seedlings or pick up a gift for that special friend or relative. Open from 8.30 am to 3.30 pm Monday to Friday and 8 am to 1 pm on Saturday, the HinterHub is the latest feather in Noosa Landcare's cap and well worth a visit.

For more information about Noosa Landcare, visit their website www.noosalandcare.org or find them on Facebook.

Tiaro & District Landcare

The Tiaro Landcare group's main focus is conservation of the endangered Mary River turtle and protection of it's habitat. In recent years, the turtle achieved world wide recognition, when the London Zoological Society EDGE (Evolutionary Distinct and Globally Endangered) program listed the species as the 29th most endangered reptile in the world.

An image of a Mary River turtle with algae growing on it's head which was taken by photographer Chris van Wyk during the Traveston Dam campaign catapulted the turtle into the world spotlight, as it became known as the "punk" turtle.

Despite the very real threat that this species is on the brink of extinction, the heightened international exposure of the plight of the turtle did not result in support from the Australian Government, and there is still no threatened species recovery plan for the species. For years, Tiaro Landcare has made and sold chocolate turtles to raise funds to support turtle conservation and research. The Noosa and Gympie Landcare groups are now selling chocolate turtles to help Tiaro with their conservation efforts. 2020/2021 saw an expansion of the nest protection program. New nesting sites were found with nests protected in Gympie and near Kenilworth by MRCCC staff. A major motivation for this program is the turtle's uniqueness and that it is found nowhere else in the world than in our river. Therefore its future is totally dependent on we who live in the Mary catchment.

Predation of nests has been identified as a primary reason for the decline of the Mary River turtle and the white-throated snapping turtle. In response, nest protection programs have been instigated over many years and have successfully reduced mortality of eggs and hatchlings. However, studies found that those actions hasn't translated into any significant recruitment into the population.

The Foundation for Australia's Most Endangered (FAME) has provided funds for Tiaro Landcare to investigate the effectiveness of additional conservation actions. A group of hatchlings were given a head start for 15 months. Specialised transmitters were attached to 15 juvenile turtles prior to their release into the river. Currently these turtles are being tracked to determine their movements and survivorship. Key lessons to date are (1) successfully managing one threat may not achieve the expected long term result, (2) the importance of monitoring results of projects and, (3) being adaptable to incorporate new actions. This research program is being led by Prof Hamish Campbell from Charles Darwin University with SunWater, Fraser Coast Regional Council, FAME, MRCCC, BMRG, Wide Bay Seedlings and Tiaro Landcare providing funds.

Tiaro Landcare's other main focus is the biennial Tiaro Field Day which attracts thousands of people seeking information about land managtement, agricultural products and services. Postponed due to Covid in 2021, the Field Day will be back mid 2022 with a comprehensive program of displays, demonstrations and speakers. For more information, check out the website www.tiarolandcare.org.au

Gympie Landcare

Over the past 12 months, Gympie & District Landcare Group have focused on better collaboration with community and environmental groups, developing larger-scale projects across the organisation including environmental conservation, education and bio-control, and improving overall customer experience.

Our bio-control facility is working hard to expand their services with new products available such as our composting worm packs, and the planning of developing aquaculture options and water plants. In the last 12 months our bio-control team have produced and released over 130,000 jewel beetles, 25,000 tingids, and 5,000 madeira beetles to tackle the invasive Cat's Claw and Madeira vines.

In other news, our nursery now offers improved quality of stock with changes made to soil mixes, irrigation upgrades, and seed storage methods. Our team of volunteers and trainees have potted over 66,500 pots since January 2021 with all our seed being locally sourced by trusted suppliers. Our retail shop is now offering many more products and we will be continuing to expand our products to ensure our nursery will become a "one stop shop".

Our environmental conservation team has focused on riparian areas on the Mary River, and along Amamoor and Kandanga Creeks, working hard to rehabilitate areas impacted by erosion and invasive flora. For more information, visit our website at www.gympielandcare.org.au

Barung Landcare

The Barung Landcare group continues to be the go-to organisation in the Sunshine Coast hinterland for sustainable natural resource management advice and services. The recent influx of residents to the region is generating new interest in landcare and native plants, which means good news for the nursery and community driven projects like the Hinterland Bush Links Roving Restorers and the Gardens for Wildlife project. Barung workshops are extremely popular and usually full with a waitlist. These workshops are free for members, which provides an added incentive to join the group.

A Regent bowerbird visits a Maleny garden

The very successful Maleny Wood Expo is another Barung Landcare initiative, which will be held at the Maleny Showgrounds from Saturday 30th April – Monday 2nd May in 2022. This is a landmark event showcasing historical woodworking skills, and the use of beautiful native timbers through the work of local and regional artisans. The Expo also offers sales of native plants and local crafts, guest speakers, workshops, natural resource management displays and live music. The Expo attracts over 10,000 people every year and provides a wonderful day with something for the whole family.

Planning is continuing for the Barung Nature Centre on land leased from Sunshine Coast Council in Maleny.

The Nature Centre aims to be the hub of nature-based education and resourcing for people looking after and connecting with the local environment across the Sunshine Coast hinterland. The relocation of the nursery is already fully funded and the office, meeting rooms and education space will proceed as funds become available. A native plant and community garden has already been established.

For more information or to get involved visit the website at www.barunglandcare.org.au

MRCCC Workshops, festivals, field-days, presentations (2020-2021)

When	Activity	With whom?	Notes
October 2020	Freshwater turtle training	Tiaro Landcare	Training provided by Dept of Environment & Science
November 2020	Pastures soil health & nutrition workshop	Country Noosa	MRCCC and Country Noosa jointly organized a workshop and fieldwalk on a property at Ridgewood
December 2020	Online Reef Trust Erosion Forum	CSIRO and Reef Trust projects	Mary River catchment the focus of this Reef Trust phase 4 forum.
December 2020	Mary River catchment strategy review	MRCCC delegates	First Mary River Catchment Strategy review workshop with MRCCC delegates, Chatsworth
December 2020	Noosa hinterland catchment crawl	Noosa Council	Water quality catchment crawl in the Noosa hinterland
February 2021	Noosa councilors catchment tour	Noosa Councillors and Mayor	A tour of the Mary River catchment in Noosa Council, highlighting key natural assets, projects
March 2021	Teebar pastures fieldwalk	Teebar grazing landholders	Held in conjunction with Dept of Agriculture & Fisheries at the Teebar Hall
March 2020	Clean up Australia Day	Gympie Regional Council	Annual clean-up at Traveston Crossing, Mary Valley
March 2021	Quollseekers presentation	Wildlife Queensland	Quollseekers presentation to the Upper Mary River community at Kenilworth Hall
March 2021	Fieldwalk on Carters riverbank site	Members of public	Fieldwalk to showcase the Carters riverbank stabilization project at Kenilworth, Mary River
April 2021	Traveston Crossing stakeholder meeting	GRC, DAF, DES, Qld Police, landholders	Stakeholder meeting to discuss future management of the Traveston Crossing land on the Mary River
May 2021	Grazing Land Management workshop, Langshaw	Landholders from Eel Creek, Langshaw	Grazing land management workshop and field-day at Langshaw hall
May 2021	Mary River catchment strategy review	MRCCC delegates	Second Mary River catchment strategy review workshop with MRCCC delegates, Gympie
May 2021	Cooloola Bioblitz	Cooloola Coastcare	MRCCC involved in the Cooloola Bioblitz
May 2021	Riverbank stabilization presentation, Kenilworth	Sunshine Coast Council and bushcare volunteers	Presentation on riverbank stabilization projects at Kenilworth; held on the council Tuan Bushland Reserve, Kenilworth, Mary River
May 2021	Leaky weir review	CSIRO, ANU	Inspection and review of performance of leaky weirs constructed in the Mary River catchment

May 2021	Green open day, Imbil	Marrapatta, Brisbane Girls Grammar School	MRCCC presentation and display at Marrapatta Imbil campus on riparian zones and their importance
May 2021	Gympie Probus meeting	Probus members	Presentation on MRCCC work on the Mary River rehabilitation and MRCCC activities
June 2021	Mary River catchment strategy review	MRCCC delegates	Third Mary River catchment Strategy review workshop with MRCCC delegates, Gympie Bowls Club
June 2021	World Environment Day, Crystal Waters	Sunshine Coast Environment Council	Presentation and display at Crystal Waters, Upper Mary River
June 2021	Pastures soil health and nutrition workshop	Country Noosa, Noosa Landcare	MRCCC, Noosa Landcare and Country Noosa jointly organized a workshop and fieldwalk on a grazing property at Cooran
June 2021	Land for Wildlife fieldwalk, Gundiah	Gympie & Fraser Coast Land for Wildlife properties	Land for Wildlife field walk and talk on the Mary River at Gundiah
June 2021	Noosa Festival of Water	Noosa Council etc	Noosa Festival of Water held at Lake Macdonald Botanical Gardens
July 2021	Pastures forage budgeting workshop	Country Noosa, Noosa Landcare	MRCCC, Noosa Landcare, Country Noosa jointly organized a pastures forage budgeting workshop on a grazing property at Cooran
July 2021	Mary River catchment strategy review	MRCCC delegates	Fourth Mary River catchment strategy review workshop with MRCCC delegates, Pomona
July 2021	Noosa hinterland catchment crawl	Noosa Council	Water quality catchment crawl in the Noosa hinterland
July 2021	Effluent management on dairies information exchange	Subtropical Dairy, QDO; Agriculture Victoria, DAF, SEQwater	Information exchange with dairy farmers on improving the use of dairy effluent with national experts, Kandanga Bowls Club
July 2021	Mary River Festival, Kandanga	Save the Mary River Committee	Festival held on Kandanga Creek; MRCCC organized a creek walk and displays
August 2021	Mary River catchment strategy review	MRCCC delegates	Fifth Mary River catchment strategy review workshop with MRCCC delegates, Albert Bowls Club, Gympie
August 2021	STEAMzone Science Festival, Lab of Awesome Gympie	Gympie STEM hub	Ag-Science , virtual reality, STEM presentations at the VIBES Wellbeing Centre in Gympie during National Science Week from the 14th August
September 2021	Mary River walk, Gympie	Gympie Landcare members	Gympie Landcare members participated in a riverwalk hosted by MRCCC along the River Trail
September 2021	Off-grid Festival, Imbil		MRCCC display at Off-Grid festival held at Imbil
October 2021	Mary River catchment crawl	Waterwatch volunteers	Catchment crawl from upper reaches to River Heads along the Mary River
All year	Kenilworth Info Centre	Sunshine Coast Council	Servicing MRCCC project participants in the upper Mary River catchment through regular presence in the town of Kenilworth.

Educational activities including Find-a-frog in February

Oct 2020	Frog workshop, Pomona	Noosa Landcare	Presentation to Skilling Queenslanders for Work trainees
Feb 2021	Find a Frog in February	Pomona State School	Presentation
Feb 2021	Find a Frog in February	Mimburi, Noosa State High School, Belli Creek	Presentation and frog monitoring on Belli Creek
Feb 2021	Find a Frog in February	Mapleton State School	Frog monitoring on Baxter Creek
Feb 2021	Find a Frog in February	Mary Cairncross reserve, Maleny	Public presentation and frog survey on Friers Creek
Feb 2021	Find a Frog in February	Noosa Landcare	Presentation to landcare members and frog monitoring on Cooroora Creek
Feb 2021	Find a Frog in February	Gympie East State School	Presentation and frog monitoring on Deep Creek
Feb 2021	Find a Frog in February	Tinana State School	Presentation and frog monitoring of wetlands of Woocoo Park, Tinana
Feb 2021	Find a Frog in February	Noosa Bushcare Groups	Presentation and frog surveys in coastal waterways at Sunshine Beach
Feb 2021	Find a Frog in February	Poona Bushcare Group	Presentation and frog surveys on Scrubby Creek, Poona
March 2021	Frog surveys, Fraser Island	Qld Parks & Wildlife	Frog surveys on Fraser Island, post bushfire
April 2021	Frog workshop, Hervey Bay	Bushfire project stakeholders	Frog workshop and training, in conjunction with Griffith University
April 2021	Frog workshop, Fraser Island	Qld Parks & Wildlife, traditional owners	Frog workshop and training
May 2021	Frog workshop, Rainbow Beach	Cooloola BioBlitz	Presentation on frog and monitoring wetlands near Rainbow Beach
May 2021	Mary River presentation, Mawarra School	Mawarra School, Kybong	Presentation on Mary River at the Sands, Gympie with school students
May 2021	Water quality workshop, Pomona	Noosa Landcare	Workshop on water quality and aquatic macro-invertebrates with Skilling Queenslanders for Work trainees

Representations

When	What	Who	notes
During 2020/2021	Waterwatch Australia Network	State representatives from Waterwatch groups meet quarterly	Queensland representative for Waterwatch Australia
During 2020/2021	Lake Macdonald spillway upgrade	Seqwater	Community reference group representation
During 2020/2021	Qld Water Futures in 2050 – drivers workshop	Australian National University	Jess Dean and Steve Burgess representing MRCCC
During 2020/2021	Mary Basin Water Plan	Dept of Resources, Manufacturing & Water	MRCCC met with representatives from the Water Department on the review of the Mary Basin Water Plan

Conferences and seminars

Feb 2021	Presentation	Paddock to Reef Science Forum, Maryborough	"Reef Trust projects in the Mary River catchment"
May 2021	Presentation	Presentation to Sunshine Coast Council and catchment groups on the coast	"Actions in the Mary River to address reef water quality outcomes"
May 2021	Presentation	Great Sandy Strait Ramsar Management Advisory Group, Hervey Bay	"Wallum frog recovery after the Black Summer Bushfires in Wide Bay / Burnett" with Griffith University
July 2021	Presentation	Regional prioritization workshop, Pomona	"Riverbank restoration projects on the Mary River"

MRCCC Research Project Collaboration

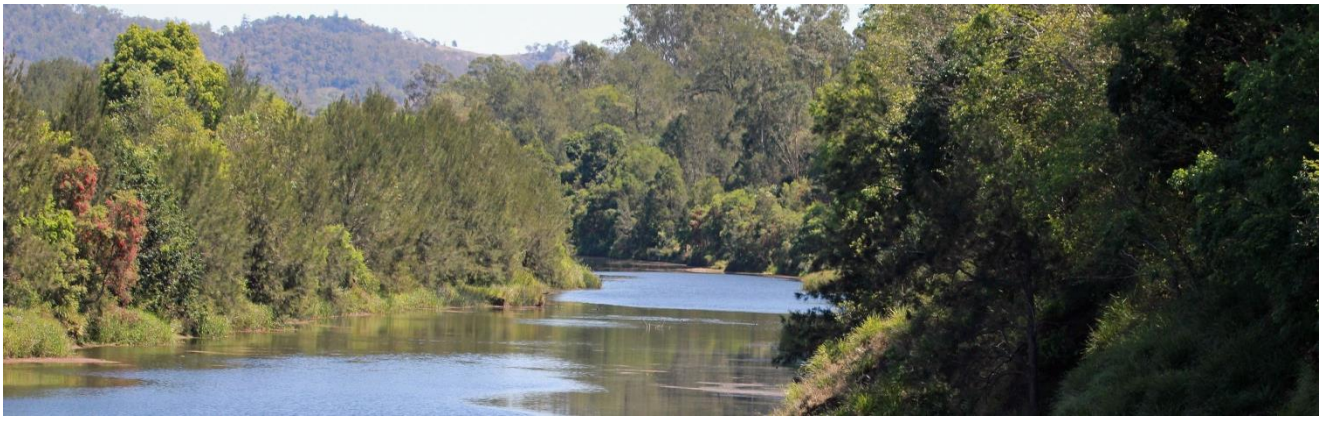
	Project collaboration	Description
Cane Toad Challenge (CtC)	University of Queensland Molecular Biology Unit.	MRCCC is an Affiliate Member of the CtC program developed by UQ. This program enables the MRCCC to disseminate the tadpole baits and traps to community members for tadpole control.
Mary River Turtle nest protection	Marilyn Connell	Community and landholder links provided by the MRCCC to assist with the turtle nest protection program and its expansion upstream in to the Kenilworth reaches.
Frog Data management	FrogID, WildNet re data harvest	Citizen Science collaboration project between MRCCC Find a Frog in February and Australian Museum FrogID program with Queensland Government WildNet database team involved to data harvest from Australian Museum database.
Wallum frog and freshwater fish recovery	Griffith University	Investigating the recovery of wallum frogs and freshwater fish following the Black Summer bushfires in 2019

Submissions

Jan 2021	Dept of State Development & Planning	Wide Bay Burnett Regional Plan review, MRCCC submission
Feb 2021	Deputy Premier of Queensland	Gympie Council repeal of Local Planning Instruments
March 2021	Federal Environment Minister, Sussan Lley	Requesting consideration for continuation of gully erosion control projects in the Mary River catchment following the end of the MRCCC gully erosion project
March 2021	Llew O'Brien MP	On-site inspection of gully erosion control projects at Home Park, Netherby
May 2021	BMRG	Burnett Mary NRM Plan revision, MRCCC submission
July 2021	Dept of Resources, Manufacturing, Water	Mary Basin Water Plan review, MRCCC submission
September 2021	Minister for Energy, Mick de Breni	On-site meeting with Minister de Breni re: Borumba Dam pumped hydro-electricity power proposal, Imbil

MRCCC Staff

Operations Manager	Brad Wedlock
Threatened Species Project Officer	Eva Ford
Catchment Officer	Caitlin Mill
Waterwatch Coordinator	Jess Dean
Catchment Officer	Sarah Grimish
Catchment Officer	Kath Nash
Catchment Officer pt	Bec Watson
Catchment Officer pt	Alana Ebert
Catchment Officer	Tom Brook
Administration	Debbie Seal
Administration	Mackenzi Finger
Project Support	Sandra Noonan

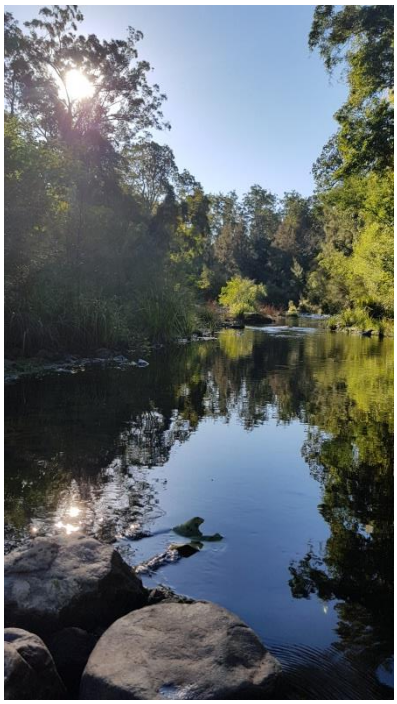


Mary River Catchment map

Spring in the Mary Photo Competition Winners 2020

Above: ***Spring Storms,*** Michelle Honey

Page 43 (clockwise from top left corner): ***Bee Collecting Pollen,*** Eli Gurnett; ***Wrapped in Fog,*** Debbie Polley; ***Flower Bed,*** Paul Vallier; ***Going cross-eyed (Emerald spotted tree frog,*** Shanna Bignell; ***Kingfisher at Borumba,*** Nikki Coombs; ***Whisp,*** Jade Currie; ***The Serenity,*** Thys Benade; ***Platypus at dawn,*** Nikki Coombs; ***Are you looking at me?,*** Oscar De Blois, ***Amy's lambs,*** Jocelyn Pope, ***Sunflower storm,*** Dani Clifford



Mary's Famous Five