The Story So Far...

With Year Four of Reef Rescue well underway it is a perfect time to reflect on some of the great outcomes that have been achieved by the program within the Mackay Whitsunday Isaac region.

Reef Rescue is the Australian Government’s $200 million, five-year plan, to improve water quality entering the Great Barrier Reef through improvements in land management practices.

Chris Dench, Reef Rescue Project Officer said, “We have had plenty of farmers and graziers get involved over the first four years and have started to implement a range of improved land management practices across the whole region. This includes over 650 farmers and 200 graziers participating in Reef Rescue, all now part of the solution helping to improving water quality on the reef.”

In October 2011, all partners involved in the delivery of Reef Rescue including Reef Catchments, the Regional Groups Collective (RGC), Queensland Farmers Federation (QFF), other GBR NRM groups,* and industry bodies helped develop a Reef Rescue Impact Statement highlighting the achievements of the first three years of the program.

“One of the highlights was seeing that we had nearly achieved our five year target of 1300 new farmers and 650 new graziers participating in Reef Rescue in just three years; with 1200 farmers and 430 graziers already involved to date.

These projects have collectively impacted on more than 500,000 hectares which are now benefiting from improved farming practices,” said Chris.

On Tuesday October 11, the partners launched the Impact Statement at an official presentation at Parliament House. This included a presentation by local Mackay cane farmer Gerry Deguara and his son Joe on what Reef Rescue has meant to them and other farmers from across the Great Barrier Reef region.

Year Four of Reef Rescue has also seen more results from the Paddock to Reef monitoring program become available. We are now able to start to quantify the improvements to water quality from all of the on-ground management practice changes being validated. We have been able to include some results from our regions Paddock to Reef trials in this issue.

“It is positive to see the water quality benefits gained from the practices Reef Rescue is able to support,” Chris said.

“If we combine this good news with the great feedback we get from farmers and graziers, telling us how the new land management practices are benefiting them, we start to see some real win/win scenarios,” he added.

* Reef Rescue is undertaken by all NRM regional bodies with catchments draining into the Great Barrier Reef Lagoon including Cape York Sustainable Futures, NQ Dry Tropics, Terrain, Fitzroy Basin Authority, Burnett Mary Regional Group and Reef Catchments (Mackay Whitsunday Isaac).
Local Industry Continues to Support Improved Management Practices

One of the reasons for Reef Rescue being so successful in the Mackay Whitsunday Isaac region has been the support and participation by the regional sugar industry in all components of the program.

“It has been a real credit to all partners involved that into the fourth year of Reef Rescue there is still strong interest in continuing to support local farmers to adopt improved land management practices,” said Phil Trendell, Sustainable Agriculture Manager for Reef Catchments.

Phil added, “More importantly, there are plenty of new and repeat farmers that are keen to be part of the program and use the water quality grants to help them make changes that may not have been possible or would have taken a longer time to achieve without the Reef Rescue assistance. This includes making some funding available for growers to implement stage three projects and there are now plenty of growers in the Mackay Whitsunday region who have adopted improved nutrient, chemical soil and irrigation/stormwater management practices across their farms.”

One of the great outcomes of the first three years has been the formation of a Reef Rescue Cane Regional Working Group that supports the delivery and communication of the program and the development and approval of relevant industry-wide projects such as the Mill Mud applicators, Community Base Stations and the AgDat support role. The group meets regularly throughout the year and has a membership that includes Reef Catchments, Canegrowers, Mackay Sugar, Sucrogen, Plane Creek Productivity Services, AgriServ and Sugar Services Proserpine.

Regional highlights from the last three years include:

- 401 projects working with 510 new growers. That is around 43 per cent of the regions growers
- Impacted on 96,800 hectares of cane land. That is around 80 per cent of the regions cane area
- From the 510 new growers, 154 have been involved in 122 repeat projects
- Around $27,000,000 in total project costs with $9,106,725 provided by Reef Rescue. That means growers have contributed 66 per cent of improved land management costs
- 323 soil sub-projects, 214 chemical sub-projects, 199 nutrient sub-projects and 80 irrigation/stormwater sub-projects have been completed by the growers
Grower Feedback

Reef Catchments collects feedback about the Reef Rescue program to identify areas for improvement to better support and involve more land holders. Feedback comes from a range of sources but it is the feedback from the farmers and graziers who have been involved in the water quality grants component we value most highly. The following are just a few of the statements that we have collected over the first four years from cane farmers who have completed Reef Rescue projects.

"We would not have financially been able to do it. In two years we have been able to change over to the new system completely, thanks to Reef Rescue."  

"We are hoping that we have moved to a more sustainable way of farming. We are hoping that we are going to be able to use less fertiliser and chemicals for the same, or even increased, production."  

"A lack of available funds forced our plans to be a low priority for our property. The fact that Reef Rescue was able to provide the financial support made this happen."  

"The Reef Rescue delivery team was very professional and able to offer good advice."  

"Without funding, this would have taken over five years, but with Reef Rescue it took us only two years."  

"The process might be more complicated for some of the older farmers but the support mechanisms were well resourced."  

"These changes have allowed some new farmers to get involved who might not have previously been interested," said Phil Trendell.

"What is really pleasing is to hear from earlier growers who adopted some of the original eligible activities and are now seeing benefits, such as the ability to reduce chemical and nutrient applications rates and improving efficiency and accuracy using GPS guidance," he added.

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**Year Four cane grants to date for Stage 1 (new growers):**

- 59 projects
- 68 landholders
- $3,233,845 in Total Project Costs
- $1,047,840 in Reef Rescue funding
- 24 soil sub-projects
- 25 chemical sub-projects
- 34 nutrient sub-projects
- 13 irrigation/stormwater sub-projects

**Stage 2 (returned growers):**

- 78 projects
- 90 landholders
- $4,518,214 in Total Project Costs
- $1,444,206 in Reef Rescue funding
- 37 soil sub-projects
- 25 chemical sub-projects
- 35 nutrient sub-projects

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Year four, eligible activities include:

- Support for adopting a controlled traffic minimum tillage system (zonal tillage, GPS technology)
- Knockdown herbicide strategies (shielded sprayers, high rise spray rigs)
- Improved nutrient management (sub-surface granular application, variable rate controllers)

There have been some changes with irrigation (low pressure overhead application) and stormwater (sediment basin) management improvements getting a higher priority and new activities such as the construction of mill mud pads now eligible when linked to the application of lower rates on farm.

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"What is really pleasing is to hear from earlier growers who adopted some of the original eligible activities and are now seeing benefits, such as the ability to reduce chemical and nutrient applications rates and improving efficiency and accuracy using GPS guidance," he added.
Grazing Industry

Lessons Learnt

Our two new Reef Rescue Grazing staff, Amanda Bland and Michael Boyd have been on a steep learning curve over the past three months. They have spent much of their time in the field, helping graziers put together plans to improve pasture, farm productivity and water quality. Some of the key lessons they have learned so far include:

• Some grazing properties are overstocked; the clearest evidence is poor pastures and stock in poor condition. A symptom of stock in poor condition is heifers taking a long time to get into calf.

• Weeds coming in from neighbouring properties can reduce the productivity of pastures. In most cases weeds are a symptom of an unhealthy pasture. Vigorous improved pasture grasses will outcompete most weeds, but graziers need to let them compete by reducing the grazing pressure (reduce stock), until desirable pastures are dominant.

• There are too many gates open. To encourage the growth of improved pasture species, exclude stock for periods of time. If all the gates are open the stock will prefer to graze the improved species and weaken them in the process. Productive pastures need to be allowed to establish (they need a lengthy spell after sowing) and should be left to set seed on a regular basis. This can only be achieved when there are closed gates.

• Fencing off riparian areas (streams and water courses) is one of the key programs in Reef Rescue. When stock are excluded from creeks and watercourses the natural vegetation will usually regenerate and stabilise the soil in these important areas in the catchment. Reef Rescue Grazing projects assist with funds to construct riparian fences and establish off stream watering points to reduce the slow erosion that occurs when stock are in streams and on banks; it also allows the natural vegetation to regenerate and add value to your farm.

• Soil nutrition is also very important in ensuring that pastures produce quality feed for livestock. The most common nutrients lacking are phosphorous and nitrogen. Soil tests can help determine fertiliser needs and using fertiliser appropriately can help to keep the balance in favour of the improved pasture species and reduce the need for buying in supplementary feed – it is cheaper to grow it than to buy it.

• Remember to regularly monitor pastures, at least twice a year. Take photos to keep track of the impact of changes in management on the quality and quantity of feed in paddocks – this is the lifeblood of all grazing properties.
Michael Boyd and Amanda Bland have joined the Reef Catchments team to work with and support the region’s graziers participating in Reef Rescue.

Michael has a degree in Agricultural Science plus a wide range of experience in agricultural industries including pasture management. After learning the pasture management trade (research and extension) in Ballarat, Michael worked in the hay export business and a tourism operation in Bendigo, before moving to Warrnambool to focus on management of dairying, biosecurity and emergency management programs in the Victorian Department of Primary Industries.

In February next year, Michael will be travelling to India to play in a Rotary International cricket festival and currently plays with the Pioneer Valley Cricket Club.

Michael took on the newly created position of Reef Rescue grazing leader in late August, 2011. Part of his role includes coordinating the delivery of the water quality grants to the grazing industry in the Mackay Whitsunday Isaac region.

“The Reef Catchments grazing team will develop up Reef Rescue grazing projects with new graziers as well as supporting some repeat graziers to undertake stage two projects. A number of project plans have already been finalised and the Reef Rescue Grazing Working Group has met to review and confirm funding allocations for a range of fencing and water point projects,” said Michael.

Amanda Bland also joined the team in August after working for SEQ Catchments supporting graziers to reduce sediment losses reaching Moreton Bay. She has completed a degree in landscape management with a sub major in systems agriculture, and has a wide range of experience in natural resource management programs. Amanda has also worked as a tour guide traveling extensively throughout Australia is keen on landscape photography.

As a Reef Rescue grazing planning officer, Amanda works with graziers to plan, prioritise and develop water quality grant project proposals in the Mackay Whitsunday catchment.

“The Reef Catchments grazing team will work with all eligible landholders to plan and implement their projects as quickly as possible so that they can start to get the benefits from them,” said Amanda.

Contact the Reef Catchments office on (07) 4968 4200 to talk to either Amanda or Michael about grazing.
For three years Reef Catchments (Mackay Whitsunday Isaac) Limited has been working with local cane farmers, the Department of Environment & Resource Management (DERM), Mackay Area Productivity Services, the Department of Employment, Economic Development & Innovation (DEEDI) and CSIRO to validate the water quality, productivity and profitability benefits of a range of improved ways to grow sugarcane through the Paddock to Reef program.

What is Paddock to Reef?

The Paddock to Reef program monitors individual farm trial sites as well as agricultural catchments to determine the effectiveness of various management practices for sugarcane, grazing and horticulture. The program is funded by the Federal and State Governments, with the overall aim of enabling measurement of progress towards the Government’s Reef Plan targets. Paddock to Reef is being run in the Wet Tropics, Burdekin, Fitzroy, Burnett Mary and Mackay Whitsunday regions.

Reef Catchments’ role in the program focuses on sugarcane with testing of runoff at farm and stream level. This water quality data is combined with productivity and economic information collected over the duration of the trial such as the costs of inputs and compared with the resulting yield.

Belinda Billing, the Mackay Whitsunday Paddock to Reef Regional Coordinator said, “This helps to determine which management practices are most practical for farmers both economically and environmentally.”

Paddock to Reef is running a range of different trials across the GBR region and the learnings will be shared amongst all partners.

In the Burdekin, drip irrigation in sugar cane is being compared to traditional furrow application.

Also in the Burdekin, there is a focus on comparing various grazing strategies, including heavy stocking rates, moderate, varied and seasonally adjusted stocking rates and rotational wet-season spelling.

In the Burnett Mary, activities include validating weed control in macadamias using sensor technology with a resulting 50% reduction in herbicide use in the first year.

In the Fitzroy, various grazing practices are being compared in Brigalow and riparian zones, as well as monitoring run-off from dryland cropping in the Gordonstone Catchment.

The Paddock to Reef program also collects farm management practice data for the main agricultural industries across the different Great Barrier Reef regions.

“This will allow us to measure the extent of real change in land management practices that will lead to improved water quality,” explained Belinda.

Water quality in each region is monitored at the catchment and Great Barrier Reef lagoon level. This information can be combined with the annual management practice data to assess the immediate and ongoing effects of management practice changes in the Great Barrier Reef region’s agricultural industries.
Mackay Update

In the Mackay Region we have:

• 2 paddock Scale monitoring sites (on 2 soil types)
• 1 multiblock monitoring site (53.5 ha)
• 1 multifarm monitoring site (2965ha)
• 1 catchment monitoring site (326km²)

Improved farm management practices being validated include:

• 1.8m controlled traffic row spacing
• 1.8m skip row farming
• N replacement nutrient management
• Six Easy Steps nutrient management
• Knock down herbicide use

Measurements of nutrient, herbicide and sediment levels are taken from the runoff water at each site. At the farm level we are able to measure the water quality of runoff generated through different farming practices, comparing traditional farm management practices with best practice farm management.

Some interesting results from the first two seasons show:

• The 1.8m controlled traffic system averaged 18 per cent less runoff compared to a traditional 1.5m system in 2009/2010 and 14 per cent less runoff in 2010/2011 – despite significant flooding in the second season.
• Cane yields for 1.8m controlled traffic system matched the yield for 1.5m traditional tillage in 2009/2010; however water logging in 2010/2011 resulted in yields that were slightly lower.
• Matching nitrogen inputs to soil tests resulted in total losses of 4.85kg/ha compared to 13 kg/ha lost from traditional nitrogen application in 2009/2010 and 13 kg/ha compared to 16kg/ha in 2010/2011. 2010-2011 runoff loads were higher due to unusually high rainfall and persistent flooding.
• Applying herbicides within 14 days of a runoff event has resulted in significant losses when compared to applications that benefited from having more time before a runoff event and/or being incorporated such as through irrigation.

The information collected through Paddock to Reef is being made available to growers who can then make better informed choices about their own farm management considering the productivity and economic outcomes of the newer practices. Reef Catchments is working with local extension staff in an effort to get the information to local cane growers.

“All of the improved farm management practices being trialled in Mackay are eligible for Reef Rescue funding for growers wanting to implement them,” said Belinda.

For more information on the Paddock to Reef program contact Belinda Billing on Reef Catchments on 07) 4968 4208 or email belinda.billing@reefcatchments.com.au.
The Time to Get Involved is Now!

It has been a great start to the fourth year of Reef Rescue with targets already met for stage two and three participants, and stage one spaces filling fast. If you haven’t been involved before but now want to get involved, we want to hear from you. With incentives for eligible activities as high as 50 per cent of the total cost of the project and an upfront payment to help get projects underway, Reef Rescue has helped producers undertake those long thought of projects which have been just out of reach. With only 18 months remaining in the Reef Rescue program there has never been a better time than now to get involved. Interest is still high so to ensure your place within the program talk to the relevant Key Contact Officer for your industry (details below).

Reef Rescue’s eligible activities are based on A and B management practices which have been identified in the ABCD Management Framework for each industry. Activities areas include soil, nutrient, chemical and irrigation/stormwater. Industry experts and scientists have identified the areas which will provide the greatest water quality benefits while maintaining profitability for the land managers.

Over the past three and a half years we have seen some hugely innovative projects undertaken by land managers and industry. Collectively these projects are having a lasting impact on the water quality of the Great Barrier Reef as shown by the data being accumulated by the Paddock to Reef monitoring program. While improving water quality these projects are also ensuring the long term sustainability of agriculture within the Mackay Whitsunday Isaac region and across the Great Barrier Reef catchments.

Submitting an expression of interest is an easy process and there is no obligation once submitted. Key contact officers are available to help with the whole process and can answer your questions about Reef Rescue, identify eligible activities and discuss any of your ideas. Contact details for these support roles are below.

If you would like to find out more about Reef Rescue or any other program being implemented by Reef Catchments visit our website www.reefcatchments.com.au or call (07) 4968 4200.

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For more information:
This newsletter is produced by Reef Catchments - the natural resource management organisation for the Mackay Whitsunday Isaac region. If you would like more information on any of the articles in this newsletter, or if you would like to submit a story idea for the next issue, please contact Reef Catchments on (07) 4968 4200.

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