QUEENSLAND REGIONAL NATURAL RESOURCE MANAGEMENT GROUPS' COLLECTIVE – CHAIR'S REPORT

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Qld Regional NRM GROUPS COLLECTIVE

LANDSCAPE RESILIENCE

Resilience of the Gulf Plains

In January 2009, Tropical Cyclones Charlotte and Ellie brought unprecedented rain to the Gulf of Carpentaria. This was followed by the usual monsoonal weather of January and February. These rains resulted in flood waters which did not clear for 8 weeks, causing devastation to cattle production, pasture and the environment.

As well as contending with the initial losses and damage to their stock and infrastructure, graziers had to deal with damaged homes, repair bills and loss of income.

But the worst wasn't over, with the end of 2009 bringing drought-like conditions.

Throughout 2009, Northern Gulf Resource Management Group worked with graziers around the Gulf to seek assistance from the Australian Government. This resulted in an allocation of Exceptional Circumstances Assistance with payments coming through 18 months after the initial flood. It also saw a one-off environmental recovery response grant, funded through the Australian Government's Caring for Our Country program to help bring the landscape of the Norman Catchment back to health after such damaging floods.

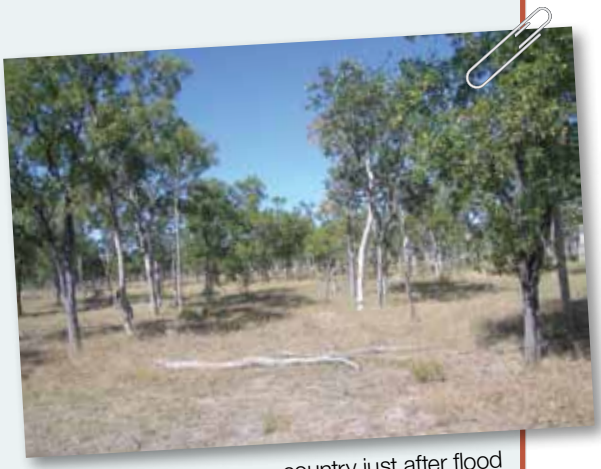
The one-off grant has allowed Northern Gulf Resource Management Group to undertake a range of activities:

- monitor the recovery of vegetation and fauna;
- assist graziers affected by the floods to manage the properties and the environment for long-term recovery and future resilience to extreme weather events;
- assist graziers to use good management practices to bring damaged landscapes to an improved land condition;
- provide access to property planning, landscape monitoring and funding assistance for weed control and infrastructure development, such as electric fencing to allow for an increased opportunity to spell land from grazing; and
- monitor the vegetation and fauna to establish the rate of recovery and health of the landscapes.

This work will give an indication of the resilience of Gulf landscapes, and in particular an indication of biodiversity and whole of landscape health. Northern Gulf Resource Management Group found that in the year after the flood, biodiversity in some areas (through the presence of ground fauna) was zero to very low.

Most significantly, the one-off recovery grant will also assist the Gulf community in flood preparedness and building resilience by developing risk assessments, flood resilience mapping, property planning and installing river height gauging stations. This will allow the community to better plan for, and manage the impacts of these events in the future.

Thanks to a reasonable wet season in 2010 and good growing weather throughout the year coupled with the best possible resources to re-establish ground cover and strong community networks, the Gulf Plains are well on the road to recovery.

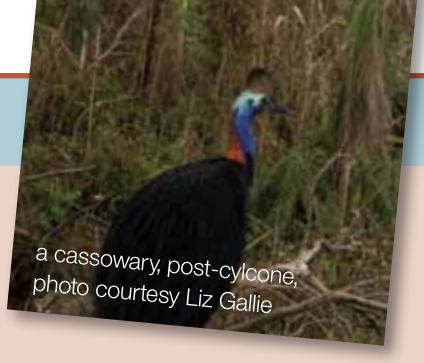


country just after flood

country nurtured after flooding

Lack of groundcover directly after the flood disaster, compared with groundcover following implementation of good management practices thanks to the assistance of Northern Gulf Resource Management Group.

Helping the birds bounce back


a cassowary, post-cyclone, photo courtesy Liz Gallie

After two extreme cyclones crossing the region in the space of five years, Terrain NRM and the Wet Tropics community are very familiar with the need to build resilience in the landscape. A broad range of land management responses have arisen during recovery efforts however the endangered cassowary has been a feature due to their rapidly declining populations and strong reliance on intact landscapes.

Cyclone Larry in 2006 taught the region about the impact of extreme weather on habitat quality, connectivity and the birds' change in behaviour. Significant food shortages for the cassowary along with increased incidents of vehicle strike and dog attack had a large impact on cassowary numbers post-cyclone.

Terrain NRM is building positive relationships with government departments, industry and the community to ensure the response efforts to both Cyclone Larry and Cyclon Yasi are well targeted.

"Cassowary survival is a heart-felt issue to the Mission Beach community," Terrain CEO Carole Sweatman said. "And since Cyclone Yasi, concern has filtered further south to the communities of Cardwell and Hinchinbrook."

"Terrain's role in harnessing community messages and supporting Queensland Parks & Wildlife Service's response efforts has proven valuable so far in the wake of Cyclone Yasi."

"We have coordinated community meetings and bulletins to ensure effective communication and enhance on-ground action."

"40% of cassowary habitat at Mission Beach is on private property," Carole said. "So working with these property owners is critical to ensuring the cassowary's survival."

Since Cyclone Larry, funds have also supported the identification of cassowary habitat corridor priorities for offering conservation incentives.

While the FNQ2031 regional plan has also help to reduce urban sprawl into cassowary habitat, there is still critical habitat subject to development pressure.

Further efforts now need to be concentrated around managing vehicle corridors and domestic animals, particularly dogs.

The Mission Beach Habitat Network Action Plan is being implemented by partners despite limited resources and the big task at hand. The Action Plan has been an essential tool in building consensus and prioritising the most effective management actions for the natural and cultural values of Mission Beach. It is a blueprint that may be adapted and applied for other parts of the region and broader.

Carole says it will be a significant amount of time before habitat is restored for Cassowaries and another endangered species in the region, the Mahogany Glider.

"Cyclone Yasi decimated large tracts of critically endangered littoral rainforest along the Cassowary Coast, with some areas simply washed out to sea," Carole said.

"In the meantime we are also contending with the risk of further wildlife fatalities due to starvation, disease, road incidents and dog attacks."

"The community, with support from Terrain and partners such as QPWS, will continue to roll out efforts to protect this most treasured national asset, the cassowary."

Building Knowledge and Skills of Graziers in the Queensland Mulga Lands

An innovative model focussed on local land manager experience and world best practice for a positive return on investment has been helping graziers in south west Queensland build landscape and business resilience.

The holistic and integrated program, coordinated by South West NRM aims to improve grazing practices, environment and business sustainability in south west Queensland's mulga lands. The suite of activities offered to graziersinclude improving knowledge and skills through training workshops, the establishment of on-property NRM Learning Sites, on-going support from project field staff and seed funding to improve ground cover and business sustainability outcomes.

South West NRM Programs Manager, Cathy Mylrea said that a large number of partners had contributed to the program.

"We've had funding from the Australian Government's Community Action Grants,NextGEN Farmers, Farm Ready and Recognising Women Farmers along with our core funding from the Australian Caring for Our Country program and the Queensland Government's Q2 Coasts and Country program," she said.

29 workshops covering topics such as holistic grazing management, land regeneration, pest and weed control and low stress stock management have been held with 475 graziers attending.

"What's significant about these numbers is that these 475 graziers are responsible for the management of more than 3 million hectares of land," Cathy said."

To help identify actions which offer land managers good business as well as environmental outcomes, a series of participatory NRM Learning Sites have been established on eight properties. These learning sites are located on working properties and demonstrate innovative grazing options backed up with monitoring results on environmental impacts and economic return to prove credibility.

South West NRM's Sustainable Practices Program has also provided land managers with devolved grants to improve ground cover through good land management practices. These practices have included sub-dividing paddocks for rotational grazing, water spreading to reduce erosion and rejuvenation of pasture through judicious stock management and seeding.

To complement these program elements, South West NRM is also providing support to individual land managers with property decision support material including mapping packages for property planning and to landcare and community groupskeen to improve business and landscape resilience in the south west of Queensland.

South West NRM CEO, Neil Judd anticipates that the NRM Learning Sites, holistic grazing workshops and field days will become a wonderful resource to assist graziers improve business and environmental outcomes over the coming years.

"This suite of support activities will bring land managers together and build a process to explore best practice management options in south west Queensland."

Post-flood resilience in the Murray-Darling Basin

Ensuring resilience in the landscape of the Queensland Murray-Darling Basin has certainly been challenging in the wake of a series of devastating flood events in 2010 and 2011. The region is now faced with a massive rebuilding and recovery task in the wake of not one, but four flood events in the past few months.

Queensland Murray-Darling Committee is coordinating a whole of basin response to these damaging weather events, with a focus on supporting landholders to ensure they have sustainable businesses.

Queensland Murray-Darling Committee CEO Geoff Penton said it's impossible to focus on resilient landscapes until you help landholders get back on their feet.

"We need landholders in the region to have sustainable businesses to they can, in turn, direct their attention to ensuring sustainable and resilient landscapes," he said.

"That's why we set up the Basin Flood Recovery Team," Penton said.

The Flood Recovery Team was borne out of a need to rebuild strong, sustainable and vibrant rural communities and the environment. Volunteers from across Australia, America and even Europe have helped start the recovery process for landholders across the Queensland Murray-Darling Basin.

"The resilience of our landscapes and our people has been sorely tested since November which is why QMDC and Landcare groups joined with organisations such as BlazeAid, Conservation Volunteers Australia and Volunteering Queensland as well as regional businesses to give landholders some help as the start of the recovery process."

To 10 March, more than 370 volunteers had taken part in the Basin Flood Recovery Team, helping out more than 100 landholders.

Penton said the recovery work complements the strategies in their Regional Natural Resource Management Plan.

"We've identified key strategies for landscape resilience already," Penton said. "This Basin Recovery process is an obvious response to a distressed landscape."

"Our Basin Recovery work will result in improved health of the region's soil and water resources; improved health of the rivers, wetland and floodplains; the ongoing protection of native plants, animals and cultural heritage; and the reduced threat of weeds and pest animals which often flourish as a result of these extreme weather events."

"Through our regional plan, our association with a variety of Landcare groups and the sub-catchment planning process, QMDC provides land managers with an ongoing opportunity for the widespread adoption of environmental best practice and the uptake of new innovations in sustainable farming practices," Mr Penton said.

"All of this requires land managers who are confident in their businesses and their communities which is why our current flood recovery work is so important.

"Our volunteers are out there, on farms, getting their hands dirty."

"So often the volunteers have been told by landholders that having them arrive gave them the motivation to pick a starting point for the repair process, to start them thinking about what needed to be done in terms of a series of achievable goals, not one unfixable disaster," Penton said.

Mr Penton said that so far, about a third of the landholders contacted had indicated they would like help from the volunteer crews with calls to affected landholders continuing.

"This effort is truly more of a marathon than a sprint because as well as helping to repair the physical damage caused by the floods, we need to help rebuild community and landscape resilience and that's not something that can happen in a few days or a few weeks or a few months."

Reef Catchments tests flood impact on Reef

Reef Catchments staff recently travelled 120 kilometres offshore to find out how the Great Barrier Reef has been affected by fresh water flowing in from the flooded Fitzroy River.

Reef Catchments Water Manager, Carl Mitchell, said the group hoped to detect what had been carried through the flood waters into the Reef and assess the flood's extent.

A team from Mackay took a boat trip to the Percy Island group, about 120 km off the coast of Mackay, to take samples from the Fitzroy River flood plume. The samples are currently being analysed by the Australian Centre for Tropical Freshwater Research at James Cook University in Townsville.

"We took samples at 10 sites in a straight line from Middle Percy Island to Mackay," Mr Mitchell said.

"We measured salinity levels to try and track how far-reaching the fresh water was and what nutrients, herbicides, pesticides and sediments were carried in the flood plume. We also looked at the chlorophyll, which is a measure of the algae feeding off those nutrients."

Mr Mitchell said that while results from the samples would not be available for a couple of months, it was clear that the flood waters had reached the inshore areas of the Great Barrier Reef.

"You could see the algae blooms that were feeding on the nutrients. The water appeared green and murky in some places and you could also see the extensive debris that was being carried by the flood waters," he said.

"Despite being so far from the mouth of the Fitzroy River we could tell that from where we were sampling, we were well within the fresh water plume."

Along with contaminants, the group also looked for temperature and salinity change in the water.

"There are a range of influences that can impact on coral and marine health - both positive and negative," Mr Mitchell said.

"Fresh water presence over coral for a significant amount of time can have an influence on its health, while flood events can also have positive effects on fisheries stock. We really need to have a look at the overall extent and content of the flood waters before we can make any real assessment on the impacts to the marine environment.

"Although floods can bring destruction and devastation, they can bring new life as well."

This monitoring is part of the Paddock to Reef program which is a collaboration between the Australian and Queensland governments, natural resource management bodies and research institutions monitoring progress toward protecting the Great Barrier Reef and its catchments.

Reef Catchments Water Manager, Carl Mitchell sampling water from the Reef

A sustainable fishery starts with a single fish

A Barramundi swimming through Amity Creek near St Lawrence at the start of 2010 travelled 62km downstream to the Styx River, gaining 137mm in length, before being caught in February this year by a recreational fisher.

The journey of this one fish is testament to ongoing community efforts in the Fitzroy Basin to build the resilience of fish resources in one of Queensland's most significant fish nurseries.

This fishy tale started when a rock ramp fish passage was funded by Fitzroy Basin Association and designed and installed by Queensland Primary Industries and Fisheries on Amity Creek.

The passage was created to help fish avoid a weir on the property of local graziers Ron and Beverley White and move upstream, which is an essential step in the breeding cycle of many native species.

Our barra friend was tagged in March 2010 in Amity Creek by Matthew Moore from Queensland Fisheries who joined Fitzroy Basin Association staff to monitor the number and type of fish using the newly created fish passage - more than 30 Barra were tagged in the space of about two hours.

"Fish could only get over the weir during big flow events, and even then they only have a tiny window of a couple of days when it's drowned out – the passage should extend this by months," Mr Moore said.

"The fish passage is a sloping channel with a series of ridges in rock and roughened concrete which slows down the flow of water past barriers. It provides a safe route for fish to pass the weir, especially juvenile fish."

Almost a year later, that same tagged barra tugged on the line of a fisher enjoying a trip on the Styx River near Ogmore, and became somebody's catch of the day.

The reason we know this is the fisher was one of many dedicated individuals across the basin that report recaptures of tagged fish through a community monitoring program designed to help improve local knowledge of fish movement, abundance and catch rates.

Removing barriers to fish movement and monitoring fish movement and numbers are essential to the long-term sustainability of our fisheries. This is particularly important in the face of the combined pressures of expanding development and extreme weather.

Flood events are generally accepted as being of potential benefit to fish stocks because the fresh water flowing to the ocean can assist the spawning of native fish. After the large flood event in 1991 in central Queensland, tagged barramundi were found around 1000km of coastline from Hervey Bay to Mackay, showing that infrequent large flows aid in the maintenance of strong genetic diversity for the region's fisheries.

However, devices like fish passages become really critical not when the waters are rising but when they recede. When the receding water gets to a point where man-made barriers start to impact fish movement, then fish can become stranded. Smaller native species may be prevented from getting further upstream.

Fitzroy Basin Association Coastal Coordinator Shane Westley said a study funded by the group had identified more than 200 fish barriers within the Fitzroy Basin.

"Funding the installation of fish passages on farms is helping improve the quantity and diversity of fish stocks in our regional waterways, which makes our fishery more sustainable in the long-term."

"Our efforts to remove fish barriers help create fish 'freeways' that allow ease of movement both during normal flows and in times of extreme weather. Monitoring then completes the picture by helping gauge the effectiveness of such activities," Mr Westley said.

The Amity Creek fish passage is one of several funded by the Fitzroy Basin Association, which has been successfully implementing the Fitzroy Fish Passage Priority Strategy in partnership with the Australian, Queensland and Local Governments, fishing and other groups over the past five years. Other fish passages are located on Raglan, Gavial, and Waterpark Creeks, and St. Lawrence and Kinka Wetlands.

Qld Regional NRM GROUPS COLLECTIVE

To find out more about natural resource management projects or contact details for your regional natural resource management group, visit the Queensland Regional NRM Groups Collective website - **www.rgc.org.au** or ph 07 4699 5000.

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