

Title of your paper: Communities looking after Great Barrier Reef Ecosystems

Abstract: 100-200 words, a summary of the details below stating the what and why of your presentation including any findings or conclusions that you may have made.

Marine ecosystems require good quality water to remain healthy. To ensure that Great Barrier Reef ecosystems remain resilient, their tolerances to pollutants discharged from the adjacent catchment area must be determined.

Draft interim marine guidelines have been drawn together based on evidence of direct biological effects on marine organisms from exposure to particular contaminants. The document draft: *'Interim Marine Water Quality Guidelines for the Great Barrier Reef Marine Park'*, provides a starting point while work continues to further develop our understanding of tolerances of species to differing pollution levels.

We are working with communities in catchments that drain to the adjacent Great Barrier Reef on what the values and water quality objectives should be for waterways in their region, how these relate to land-based activities, if these will protect reef ecosystems, and what actions might need to be taken to improve water quality.

Agricultural industries are helping by improving land management practices to minimise the release of pollutants to adjacent waterways. Adoption of some of these practices has led to productivity gains for landholders, while at the same time delivered significant improvements in the water quality of local waterways and ultimately the Reef.

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Introduction: Background information. 50-100 words

The Great Barrier Reef Marine Park Authority is the principal adviser to the Commonwealth Government on the care and development of the Great Barrier Reef Marine Park. The goal of the Authority is to provide for the protection, ecologically sustainable use, understanding and enjoyment of the Great Barrier Reef for the long term through the care and development of the Great Barrier Reef Marine Park

Objectives: What problem was it that you are facing or have you overcome? What did you set out to do? What's your group's story? 50-100 words

Land-based run-off from agricultural activities in the Great Barrier Reef Catchment has been identified as one of the greatest threats to the health of the inshore ecosystems of the Great Barrier Reef World Heritage Area.

Information linking the cause and effects of particular pollutants on marine ecosystem health was not available in a synthesised form.

Changes will have to be made to address this threat. The sheer size of the area for change is such that no one government agency, industry or person can do it alone.

Theory: Was there any policy, legislation, issue or a catalyst that lead you to take the action that you did? 50-100 words

The National Water Quality Management Strategy (NWQMS) is a joint strategy of the Australian, state and territory governments.

The Australian and Queensland Governments jointly committed to the goal: *'to halt and reverse the decline in the quality of water entering the Great Barrier Reef'* (encapsulated in the Reef Water Quality Protection Plan).

Water Quality Improvement Plans are a tool for delivering on protection and enhancement of waterway quality while maintaining economic and social development.

Methodology: *How did you undertake what you did? 50-100 words*

We are a part of a community-based, on ground planning and delivery system being led by regional natural resource management bodies.

Scientific research, community knowledge and agricultural industry expertise is coming together to develop Water Quality Improvement Plans in catchments that drain to the Great Barrier Reef.

We have reviewed information on the effects of particular pollutants on marine ecosystems and synthesised this into a single document for the Great Barrier Reef, that is being used by the communities to set targets to protect the marine ecosystem.

Results or outcomes: *What did you discover? 50-100 words.*

Improved understanding of how we interact as a community, that there is common ground, and practical solutions that make sense for the environment and the people implementing them.

Investing in involvement of local people, who have a particular concern or stake in waterways that are part of their landscape or catchment in which they are living in is critical to the success of any strategy to address diffuse source pollutants.

Improvements already made by agricultural industries to minimise pollutant release to waterways (case examples).

Provides a closed adaptive management loop based on the best understanding of the system.

***What do you plan to do in the future? Where do you go from here? What help do you need? 50-100 words**

This is a long-term plan. The results of the actions now underway will be seen over a much longer period, with improvements in water quality continuing to be measured and further actions identified if needed to be taken in all catchments to ensure the health of the Great Barrier Reef is maintained.

We will need help from all community members that live in these catchment, and also from the government departments who have roles and responsibilities in natural resource management to achieve this goal.

***What worked for your group – what are the lessons that you learned or what helped? 50-100 words**

Good community acceptance of limits to knowledge balanced by need for a clear goal - maintaining the health of the Great Barrier Reef.

Communities want different levels of involvement in activities and you should allow for this. Multiple workshops run on a sub-catchment basis allow local people living in these areas to provide their local knowledge and views on water uses and values. It is important to include the widest possible range of local people holding different views.

Local champions reach members in their own community better than government.

Demonstrated economic benefits of best management practices in addition to their water quality benefits, provide a powerful motivation for adoption.

*What were the mistakes that you made that you wouldn't want anyone else to repeat? 50-100 words

Getting the balance right on ensuring broad engagement (not just regionally), and timing (earlier the better).

You cannot presume that because you have a local representative from a government body or an industry that you have 'consulted' with either. You may need multiple levels from both (and several layers in between!) to be successful.

Conclusion: Refer back to your introduction and objectives and how these were met. 50-100 words.

Communities are becoming more and more aware of how important it is to look after our water resources.

Many good actions have already been taken that will improve the quality of water.

Matching community desires for waterways is critical to successful uptake of any change that might be required.

The GBRMPA plan to continue to be a part of the community involved in the implementation of actions that improve water quality.

Photos: Insert photos of your group doing this task.

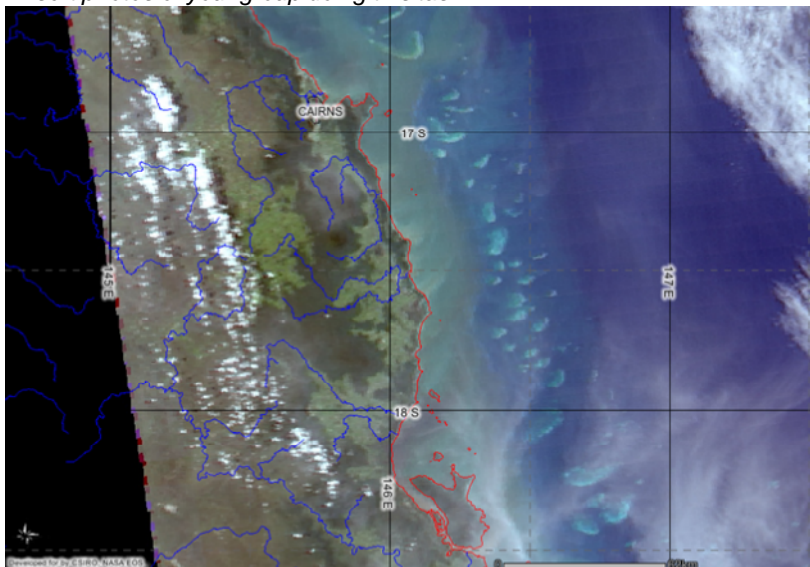


Photo 1

caption: Modis satellite imagery showing plume of material entering marine waters (Photo: courtesy Arnold Dekker CSIRO and Jon Brodie ACTFR).

Photo 2



caption: Coral bleached in the presence of 10 µg/L diuron (left) and a healthy coral exhibiting normal pigmentation from symbiotic zooxanthellae (right). Photo: courtesy A. Negri, AIMS



Photo 3
caption: Tully River community field workshop

Other information : *Is there any further details that you would like to share with the conference participants?*

References and Bibliography: *Are there any reference sources, methods etc. that you referred to for help?*
Each component of the project has multiple references many of which can be downloaded from various websites. Here is a key site on reefplan activities: <http://www.reefplan.qld.gov.au/>

Acknowledgements: *Is there anyone else that you would like to acknowledge? Was there anyone that helped you or provided you with funding?*

Local support from Canegrowers, Growcom, individual landholders and all the participants in various workshops, activities and steering committees etc has been invaluable. There are too many participants and contributors to the success of these projects to list them all here.

Multiple government departments and staff are giving their time and energy to components of the program. In particular Queensland Departments of the Premier and Cabinet, Natural Resources and Water, Primary Industries and Fisheries, Environmental Protection Agency, and the Australian Government Departments of the Environment and Water Resources and of Agriculture, Fisheries and Forestry.

The water quality improvement plan work is funded through the Coastal Catchment Initiative (CCI) under the Australian Government Natural Heritage Trust.