



Queensland Regional NRM Reflection

A summary of regional NRM experiences from the 2005-06 Annual Performance Reports

Queensland Learning & Evaluation Unit, Community Partnerships, NRW
and
Queensland Regional Groups Collective

1.0 Introduction

The purpose of this report is to:

- acknowledge and congratulate the regions for their hard work and their contributions to the 2005–06 annual performance report.
- highlight some of the achievements of Queensland regional NRM bodies.
- share what has been learnt to improve management styles, systems and operations, and avoid the difficulties and challenges experienced by others.
- use this knowledge to plan activities and investments.

This summary draws on information that regional natural resource management (NRM) bodies submitted to Community Partnerships in their 2005–06 performance reports. It examines achievements across five topics:

- Alignment with government
- Best management practice
- Incentive schemes
- Research partnerships
- Cross-regional initiatives.

Rather than focus on on-ground works, contract issues and other problems, this report highlights regional bodies' achievements in implementing their regional plans and investment strategies. This report also explores other topics in more detail; for example, demonstrating how regional bodies are working with government and not in isolation.

Disclaimer

This summary highlights interesting activities under each of the selected topics. It is not exhaustive and represents only some of the achievements in 2005-06.

2.0 Alignment with government

Regional NRM plans are designed to be consistent with local, state and national priorities and government programs. A review of the 2005-06 performance reports shows the extent to which regional bodies' activities are aligned with government priorities and programs.

Current alignment with government includes activities that address priorities for:

- biodiversity
- coastal management
- salinity
- land management
- water quality
- pests and weeds
- local government activities
- arrangements to develop joint projects
- agreements for data sharing
- contracting
- processes and mechanisms for hosting staff
- managing projects and membership on committees
- the Great Barrier Reef Water Quality Protection Plan

Regional bodies and governments are well engaged and often negotiate arrangements to consider, develop and implement joint projects. There is significant regional body communication, negotiation, alignment and partnering with local, state and Commonwealth governments to implement investments and achieve regional outcomes.

Biodiversity

Regional bodies' work is aligned well with priorities for protecting endangered, vulnerable, rare and iconic species, and priority regional ecosystems. Alignment with the Environmental Protection Agency (EPA) nature conservation programs is also strong and has helped landowners establish and maintain voluntary nature refuges through financial and in-kind support. Examples include:

- Fitzroy Basin Association (FBA) contracting the EPA to monitor populations of endangered frogs, and training regional body staff in identification and survey techniques
- Burdekin Dry Tropics NRM working with the EPA to protect and enhance important habitat for the endangered Northern Hairy Nosed Wombat
- Condamine Alliance partnering with the EPA through a biodiversity incentive tender program with the outcome of securing covenants of 2 properties protecting 60 ha of endangered ecosystems. In addition, Condamine alliance is working with the EPA to establish benchmarks and improve understanding of vegetation conditions specific to 27 priority regional ecosystems.
- Southern Gulf Catchments (SGC) working with the EPA Nature Refuge Unit to develop a nature refuge concept across the region.
- Mackay Whitsunday NRM Group Inc is working with the Mackay City Council on an interpretive river-walk to enhance appreciation of fish, bird and turtle habitat in the urban precinct.



Coastal management

Coastal regional bodies are working with the EPA on coastal management priorities consistent with the *Coastal Protection and Management Act 1995*, the State Coastal Management Plan and regional coastal management plans. Regional bodies are ensuring that local-level coastal management is integrated with statutory planning processes at the regional and state level. Examples include:

- In the Burdekin Dry Tropics region alignment works two ways. First, two staff positions are hosted by local governments to facilitate local government and community involvement in mapping, prioritisation and management of coastal assets in the region. Secondly, the EPA is able to use the regional body's local networks to assist with the development of regional coastal management plans.
- The Burnett Mary Regional Group (BMRG) has provided data on shorebird roosting sites and is a member of the consultative group for the Wide Bay Coast Regional Coastal Management Plan.
- FNQ NRM Ltd is working closely with Local governments in the region to explore more effective ways to plan to better manage coastal landscape.



Salinity and land management

This priority is about regional bodies accessing expertise in the area of salinity and land management to align with regional priorities and the undertaking of resource assessments. Examples include:

- The Condamine Alliance have completed work with the Department of Natural Resources and Water (NRW) on salinity investigations, including salinity expressions, risk to infrastructure, mapping, the effect of land use changes on salinity and development of management strategies to manage the salinity findings. The outcomes have resulted in the initiation of other regional bodies extending the project to their regions.
- South West NRM implementing the Grazing Land Management (GLM) program and working with the Department of Primary Industries and Fisheries (DPI&F) to deliver the program.
- Desert Channels Queensland (DCQ) partnering with DPI&F, NRW and the Climate Impacts and Natural Resource Systems group for the monitoring component of the GLM program.
- SEQ Catchments aligning its property management planning with government's farm management system programs and providing support for industry implementation where possible.

Water quality

Water quality monitoring is a state government priority and responsibility. Developing regional resource condition targets for water quality requires monitoring to be extended across all regions. Consequently, alignment with government to improve the coverage of water quality monitoring has been substantial. Examples include:

- The Condamine Alliance's water quality monitoring is as rigorous as NRW's and the regional body and state can now share data.
- The Fitzroy Basin Association is contracting NRW to enhance biophysical datasets and water quality models for target setting and working with NRW to refine SedNet models for sedimentation in coastal catchments.



- The Queensland Murray–Darling Committee (QMDC) has worked with Water Quality SIPs where landholders collect event water quality samples, which are published in event mean concentrations fact sheets.
- Water quality improvement plans (WQIP) are underway in several regions with funding support from the Australian Government Coastal Catchments Initiative. WQIPs have been completed, or are underway, by SEQ Catchments, FNQ NRM Ltd, Burdekin and Mackay Whitsunday.
- The Mackay-Whitsunday NRM Group Inc *Healthy Waterways Integrated Monitoring Program* is implementing a baseline water quality and fish community monitoring program that will allow future water quality monitoring programs to be more strategic, reducing duplication of effort and identifying knowledge gaps. The baseline monitoring program will be used by the Queensland Water Quality Guidelines as a state-wide model for developing local water quality guidelines. Baseline ambient and event water quality data has been collected from more than 20 sites and the report, *'Fresh and Marine Water quality in the Mackay Whitsunday Region 2004/2005'* has been produced.

Pests and weeds

Regional bodies and local and state governments work closely to manage pests and weeds. This includes:

- collaboration on development of pest management strategies
- devolved funds to local government for on-ground work consistent with pest management plans
- integrated pest management activities between local government, private enterprise, Landcare and community groups
- involvement in research (e.g. wild dog collar research)
- regional weed and pest mapping that can be shared with the state-wide PestInfo mapping.
- QMDC has provided a PDA-based tool for landholders to capture and store property-scale weed and pest distribution data that is compatible with NRW's PestInfo maps.
- The Condamine Alliance collaborate on the development of pest management strategies, in particular the implementation of an on-ground coordinated approach across 3 local government areas with the intent on expanding this across the catchment to include all 12 local government areas.
- Weed pest and quarantine management in the Torres Strait involves joint patrols and surveillance activities with multiple government agencies, including Customs, the Department of Immigration and Multicultural Affairs, Australian Quarantine and Inspection Service (AQIS), NRW and land protection officers, within a politically complex, geographically remote, and culturally and environmentally unique region.
- Mackay Whitsunday NRM Group Inc facilitated action to eradicate the weed *Mimosa pigra*, a Class 1 pest plant, after the February 2001 discovery of Queensland's only infestation at Peter Faust Dam, through collaboration with the Department of Natural Resources and Water, Sunwater and the Whitsunday Shire Council.



Local government engagement

Regional bodies work closely with local government. For example:

- To help build networks, some local governments host regional body staff.
- Some regional bodies are providing support for local government planning processes (e.g. stormwater planning, pest management plans, stock route management plans, water planning and monitoring), contributing to template development, monitoring

protocols and study tours for planners, reviewing draft plans, and participating in formal plan assessment.

- Local governments are working with regional bodies to link regional NRM targets into Integrated Planning Act (IPA)-based statutory planning processes, and to co-develop management action targets. In FNQ NRM Ltd, local governments are providing strong support for development of the Tully Water Quality Improvement Plan, taking on roles including planning and implementation, administration, mapping and GIS support, as well as ensuring that industry groups have a role.
- Other regional body initiatives with local government include co-investing in consultants, and signing memorandums of understanding to deliver programs such as SEQ Catchments' Land for Wildlife, and DCQ's assistance to develop and implement a working management plan for the Longreach town common.

Data share and access arrangements

Access to spatial information is a significant part of regional NRM. For example:

- Every regional body has established either formal or informal data-sharing agreements with key data custodians, namely NRW, EPA, DPI&F and some research organisations.
- In some cases, regional bodies have contracted the state government to develop datasets, models and modelling to assist with target setting.
- Aligning with government also means using mapping and classification methods consistently so that information can be exchanged, e.g. preparing wetland maps consistent with the EPA's mapping and classification methods.
- Regional bodies are developing integrated data management and sharing involving community, council and government input to specifically developed information databases as in SEQ Catchments.
- Northern Gulf Resource Management Group and Burdekin Dry Tropics NRM have purchased satellite imagery and GIS capacity, and are training landholders to use the spatial information for land management activities.
- Purchase of SPOT 5 2.5m pixel satellite imagery for the whole of the Fitzroy Basin Associations region with every landholder holding licence



The Great Barrier Reef Water Quality Protection Plan

The Great Barrier Reef Water Quality Protection Plan (the Reef Plan) aims to halt the decline in water quality entering the reef within ten years. The Reef Plan identifies responsibilities across governments, regional NRM bodies and industries within the adjacent reef coastal catchments to implement actions that achieve this outcome.

An independent evaluation identified and assessed that regional NRM bodies' activities in the regional resource plan and the Coastal Catchment Initiative are aligned to the strategies and actions described in the Reef Plan. The evaluation of alignment involved Far North Queensland NRM, Burdekin Dry Tropics NRM, Mackay Whitsunday NRM, Fitzroy Basin Association, and Burnett Mary Resource Group.

This evaluation found that the reef regional bodies are working hard to 'cover all bases' of the Reef Plan requirements through a range of activities. Many of programs within the regional resource plan support the 10 Reef Plan actions that regional NRM bodies have lead or joint-lead responsibility. This includes priorities and targets, water quality monitoring, exchange of information and supporting partnerships. The report is available from the Regional NRM web site at www.regionalnrm.qld.gov.au. The reef regional NRM bodies are also contributing to the Reef Plan Annual Report for 2006.

3.0 Best management practice

Regional bodies have developed systems that aim to reduce the environmental and social impact of a range of land uses, while ensuring the land use remains economically viable. These systems are known by a number of names, including best management practices (BMP), environmental management support systems (EMSS) and codes of practice.

In 2005-06, BMPs were developed for:

- agricultural systems (e.g. sugar cane, grazing, irrigated lands, cotton, egg producers, abattoirs, piggeries)
- pollutants (e.g. point sources and sediments)
- water (e.g. use, efficiency, irrigation distribution systems).

Regional bodies have worked closely with industry to develop and then encourage adoption of BMPs.

Regional bodies are also demonstrating the connection between action at the local and sub-catchment level and the wider landscapes and regional resource condition.



Activities to help landholders adopt BMPs include:

- Burdekin Dry Tropics NRM's integrated incentive and extension-based approach to enhancing the uptake of grazing sugar and horticulture industry land management practices for water quality improvement.
- QMDC's environmental management support systems.
- FNQ NRM Ltd's incentives to promote BMPs to minimise diffuse sources of pollution to the Great Barrier Reef lagoon. For example, demonstrations of sugar cane farming practices that incorporate legume/trash fallow, minimum tillage and controlled traffic to reduce diffuse pollution, with one-on-one extension to encourage adoption.
- Condamine Alliance's operational projects and partnerships with the peak industry bodies of Growcom, Cotton Australia, Queensland Egg Farmers' Association and Queensland Dairy Organisation focusing on increasing the adoption of current recommended practices within the industries

Although regional bodies' work on these systems has focused on agricultural practices, the skills they have developed will be useful when considering BMPs for other industries.

Once BMPs are developed and adopted, evaluation will be important. Some regional bodies are starting to ask how effective BMPs are in improving the condition of natural resources. For example, FBA is trialling the sustainability and efficiency of Dawson Valley irrigation techniques. This involves intensive irrigation trials to benchmark current practices versus an optimised system that demonstrated between 20–40% potential improvements in water use efficiency and reduced deep drainage.

4.0 Incentive schemes

Regional bodies have used incentives and devolved grants extensively. Incentives and grants have funded:

- on-ground work to enhance land, soils, agricultural systems, vegetation and biodiversity, including providing materials for construction, fencing, alternative watering points, monitoring, salinity mitigation and prevention
- protection of significant habitats, hot spots, migratory and endangered species, e.g. the Desert Uplands bioregion, riparian vegetation, wetlands, the Mission Beach area, cassowary conservation, coastal and marine environments such as the Land and Sea Centre in the Southern Gulf, and South West NRM's FUTURESAPES program, which targets projects with high environmental value
- local Landcare and sub-catchment groups, local and state government, and individual landholders, with support and assistance from a variety of partners including World Wide Fund for Nature (WWF) and Green Corps teams.



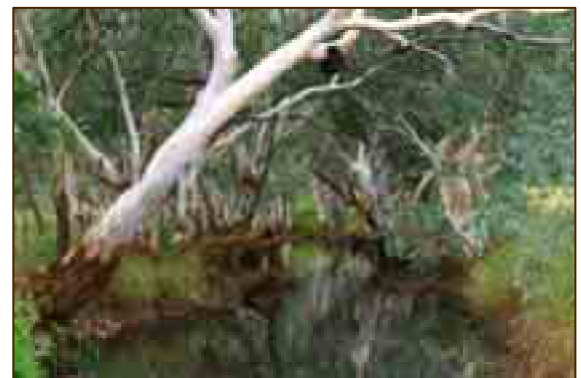
Specific examples of incentive and devolved grant programs include:

- BMRG's agreements with landholders generally include conservation agreements, property management planning and awareness-raising activities.
- QMDC held a soil tender to improve ground cover on both grazing and cropping lands, and a vegetation incentive tender involving 10-year voluntary agreements.
- SEQ Catchments devolved grants for Water Use Efficiency (WUE) projects where for every \$1 spent by SEQ Catchments, irrigators spent \$4.86.
- FNQ NRM Ltd provided ecosystem service payments to five landholders willing to supply land to restore wetland functions at three sites.
- The state-level investment project SE05 facilitated innovative approaches to incentive schemes, with exceptional results for land and vegetation protection, for example:
 - Condamine Alliance's Millmerran grazing lands stewardship project based on an environmental benefit index
 - Fitzroy Basin Association's management agreements, which have protected 22 414 ha of remnant vegetation
 - SEQ Catchment's incentive toolbox for website planning and reporting for reconnecting fragmented landscapes.

Management systems and processes

Regional bodies have developed innovative management systems and processes to ensure transparent management of incentives and devolved grants. Examples include:

- Burdekin Dry Tropics NRM establishing a land managers' group to facilitate community input and reflection
- DCQ using a permanent independent technical assessment network to assess devolved grant applications
- Regional bodies such as Mackay Whitsunday NRM acting as project managers and devolving incentive and grants funds to sub-catchment groups
- Northern Gulf Resource Management Group assessing devolved grants schemes against regional plan targets; applications to reduce threats and protect and rehabilitate special habitats are assessed against biodiversity targets. The Northern Gulf group has also



linked grazing land condition to biodiversity health by using devolved grants to survey over 400 sites.

- South West NRM using a four-member government technical panel to assess a devolved project's technical feasibility, legislative requirements and government alignment.

Monitoring

Similar to BMPs, evaluation of incentive and devolved grants schemes will be important to determine their impact and effectiveness. Regional bodies are making great progress in monitoring and evaluation and some are asking how well the incentives have worked, what is the link to resource condition change, and is this change being monitored. Examples of activities in this area include:

- Mackay Whitsunday NRM has established good pre-project site monitoring, built incentive programs skills development and training, communication through field days, good record keeping, monitoring and evaluation of individual projects, and assessment of impacts – monitoring and evaluating the effectiveness of adoption on catchment and landscape health.
- QMDC has established 28 long-term monitoring sites to establish impact of vegetation protection management actions.
- South West NRM has an established review process, for example, the review of round two of the FUTURESCAPES program highlighted the need for projects, such as establishing water infrastructure to balance grazing pressure, scald reclamation and fencing land types, to be funded through more intensive planning processes such as the PLANSCAPES program, while only projects with clearly demonstrable environmental values are funded through the FUTURESCAPES program.



5.0 Research partnerships

Natural resource management plans and activities must be based on sound science. Government and research organisations are the custodians of much of the economic, social and environmental knowledge that regional bodies need to manage natural resources effectively, but many regional bodies have had difficulty accessing this knowledge.

In the last year, regional bodies have tried to improve their access to and use of scientific information. They have built networks, formed technical advisory panels, outsourced work to research organisations and established partnerships with researchers. Examples include:

- Through contracting CSIRO, Burdekin Dry Tropics NRM has developed 'Sustainable Ecosystems BioTools' for biodiversity management and condition assessment complementary to grazing land management systems. The group is also considering integrating traditional ecological and environmental knowledge with other data sets for resource management applications.
- BMRG has partnered with the Queensland Wader Study Group and Queensland Parks and Wildlife Service (QPWS) to map migrant and resident shorebird roosts and potential nesting sites in the northern Burnett Mary region.
- DCQ has developed a social research project for the Desert Uplands to assist community-based development of resource condition and management action targets.
- FBA has contracted and partnered multiple research organisations and government agencies for assessment of ground cover from satellite imagery, salinity risk assessment and finer resolution in four priority neighbourhood catchments, species recovery projects and GIS mapping. These projects have involved DPI&F, NRW, EPA, CSIRO, Geosciences Australia, Central Queensland University, Birds Australia, Threatened Species Network, and Australian Animal Carers and Education Incorporated.
- FNQ NRM Ltd has established social, economic research partnerships with University of Queensland, James Cook University and CSIRO to develop critical indicators of community resilience to assist capacity building and engagement activities.
- An innovative project in SEQ Catchments is assessing the impact of septic systems on surface water in the Pine River and North Maroochy River catchments using biochemical fingerprinting and faecal sterol analysis techniques.



Monitoring and mapping

Monitoring and mapping is an expensive activity, so the establishment of partnerships to help fund, implement and assess monitoring results has been an important development.

Examples include:

- FBA has created industry partnerships for the Port Curtis Integrated Monitoring Program (PCIMP). Partners, including Qld Alumina Ltd, Boyne Smelters, Gladstone Area Water Board, Comalco, Gladstone Pacific Nickel, Gladstone City and Calliope Shire Councils, Central Queensland University's Centre for Environmental Management, Cement Australia, Orica, EPA, QPW, NRG, QRL, Central Qld Port Authority, have had input to sampling points and monitoring regime.
- FNQ NRM's monitoring alliance has undertaken its third full year of event monitoring, analysis and interpretation of previous data; its partners include the Douglas Shire Council, GBRMPA, CSIRO, EPA, the Department of Environment and Heritage and NRW. FNQ NRM has also partnered up with the new Marine and Tropical Science and Research Facility to develop monitoring protocols for biodiversity restoration works.

- Northern Gulf Resource Management Group has partnered with CRC Tropical Savannah fire management for wood thickening project where initial results are helping native pasture health. Initial information shows exposure to hot fires (generated by good fuel from pasture spelling) just prior to the first storms in the region (October to November) improves native pastures.
- QMDC has developed extensive partnerships, and has numerous contracts, with industry, research and development corporations and research organisations for various land, water, salinity and biodiversity projects. An example project is the deep drainage, water balance, lateral flows and links to land management practices in irrigation areas of the Border Rivers and Maranoa-Balonne catchments involving multiple partners, Cotton Research and Development Corporation, Cotton Catchment and Communities CRC, NRW, DPI&F, University of Technology Sydney, and neighbouring regional bodies in New South Wales.
- Southern Gulf Catchments has established partnerships and legal agreements with Carpentaria Land Council Aboriginal Corporation (CLCAC) for fire management information services, which has led to employment of a fire management officer, training of Indigenous fire teams, increased appreciation of traditional fire management, and cooperation between pastoralists, traditional owners, the Doomadgee community and Burke Shire Council. Other partners include the Department of Emergency Services Rural Fire and WWF.



Interesting processes

- BMRG has analysed its research needs and developed a research prospectus to assist with better use of science information in planning and implementation of activities.
- Mackay Whitsunday NRM has established a science taskforce to determine priorities for additional research and extension across all reef catchments.

6.0 Cross-regional initiatives

This section highlights multiple regional bodies working together for positive, efficient and cost-effective natural resource management. Some examples include:

- For a large, isolated region with few services, Northern Gulf Resource Management Group has established a mapping program featuring GIS support and training, and landholder capture of property information to facilitate property planning. Northern Gulf also chaired the first inter-regional GIS forum with FNQ NRM Ltd, Burdekin Dry Tropics NRM, Cape York and Southern Gulf Catchments.
- Inland regions are also collaborating on projects, such as DCQ's cross-border partnerships with Desert Knowledge CRC and South Australian Arid Lands NRM group, as well as a climate change project with QMDC.
- The Murray Darling regions of Condamine Alliance and QMDC are working with downstream regions in New South Wales on water quality monitoring and land management projects.
- In the northern regions, Burdekin Dry Tropics NRM, Northern Gulf, Southern Gulf Catchments and FNQ NRM Ltd often collaborate on projects. For example, grader grass biology and management investigations, and contributions to traditional owner wellbeing.
- The Great Barrier Reef catchments are also working together on projects including the Reef Partnership and North Queensland Regional Alliance (water), providing support for development of water quality improvement plans and consistency in the area of water monitoring, modelling and reporting.
- Condamine Alliance, South West NRM and SEQ Catchments are working together on the development a suite of Indigenous indicators to measure resource condition change

7.0 Conclusion

This document was produced by NRW Learning and Evaluation team from the regional NRM bodies 2005–06 performance reports.

Monitoring, evaluation and sharing lessons and approaches enables all parties to review and improve NRM processes and delivery and can provide practical and innovative ways to tackle local NRM challenges and opportunities.

For further information about the information contained in this document or regional NRM bodies 2005–06 performance reports, contact NRW's Learning and Evaluation team via CP.PerfReporting@nrm.qld.gov.au

For further information about regional NRM bodies or the Regional Groups Collective (RGC) visit the RGC web site at www.regionalgroupscollective.com.au