

THE CONSORTIUM FOR INTEGRATED RESOURCE MANAGEMENT - A CASE STUDY OF A CROSS-ORGANISATIONAL SCIENCE PARTNERSHIP

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Abstract

A review of the Consortium for Integrated Resource Management (CIRM) has identified a clear role for improved research coordination and collaboration mechanisms to support natural resource management in Queensland. CIRM provides a cost-effective and valuable instrument for progressing strategic natural resource management priorities to funding institutions and policy makers; and to foster enhanced collaboration amongst the research capacity within Queensland. CIRM operates at a strategic planning and advisory level, and does not compete with operational research coordination mechanisms such as cooperative research centres, joint ventures and research and development corporations.

In addition, the review process provided an overview of the key natural resource management issues, and science coordination and delivery constraints facing regional planning and implementation initiatives in Queensland. Ultimately CIRM will only provide input to actively progress the most strategically important of the nominated issues, but the information collated during the regional workshops does provide a good starting point for flagging emerging issues and constraints to the delivery of scientific information towards improved natural resource management in Queensland.

Introduction

The Consortium for Integrated Resource Management is a partnership across seven natural resource management research organisations in Queensland, Australia. The seven partner organisations are three Queensland Government Departments (Natural Resources, Mines and Energy, Primary Industries & Fisheries and the Environmental Protection Agency), three Universities (University of Queensland, Griffith University and Central Queensland University) and CSIRO. Over the last three years the Consortium for Integrated Resource Management (CIRM) has developed the strategy of supporting the development of cross partner reviews of key strategic, science based issues in the regions. To address key issues identified in these reviews, cross partner implementation committees have been formed to confirm priority R&D needs and to advance the development of joint projects and the seeking of collaborative funding for such projects. This strategy has been successful in both increasing communication and knowledge exchange across partners, as well as facilitating good collaborative R&D.

However, the increasing focus on major science based issues such as the Great Barrier Reef Water Quality Protection Plan, CSIRO Healthy Country Flagship program, NHT2 etc, has emphasised the need for an even more integrated research focus and in addition, an increased focus on northern areas of Queensland. With these developments in Queensland, there have been a number of approaches to CIRM to develop mechanisms to facilitate better collaboration within the state arena. To be most effective, any process to increase the role of CIRM needs to be synergistic with the developing Queensland R&D Smart State strategy and address the need to both support and empower regional research providers. Tactically, any strategy to increase the role of CIRM also needs to take into account the increased difficulty of achieving successful, coordinated science based outputs from a larger number of stakeholders.

Materials and Methods

The objectives and methodology proposed for the review of CIRM were to focus on the following key questions:

- How has CIRM performed over the last 3–5 years?
- What are the possible new science issues for CIRM?
- What are the future roles for CIRM?

Regional workshops were conducted in Brisbane, Rockhampton and Toowoomba, with a more directed stakeholder discussion held in Townville. The focus of the workshops was to identify the regional needs for R&D coordination

to further natural resource management issues in the region. An overview of the key questions considered during the Regional Workshops is provided below:

- Provide examples of the issues, which restrict the ability of CIRM to support the needs of your organisation.
- Provide examples of positive outcomes for your or your organisation’s involvement in CIRM over the last 3 - 5 years.
- Given your organisation’s current business activities, what roles would you see CIRM could undertake to support your desired outcomes?
- What current or emerging NRM issues could a partnership, such as CIRM, provide an opportunity to achieve more efficient research investment and effort (next 3-5 years)?

Results and Discussion

There is clear evidence of significant achievements by CIRM in the last 2-3 years including:

- a series of research and development (R&D) review documents which have become embedded into the process for science prioritisation within the focus research areas;
- financial support for projects developed through the CIRM Social and Community Dimensions of NRM working group, with a strong partnership with Land and Water Australia’s Social and Institutional Research Program and investment through the National Action Plan for Salinity and Water Quality;
- the establishment of five working groups which have developed R&D priorities and are developing collaborative project proposals linked to potential funding sources;
- a Memorandum of Understanding developed and signed between CIRM and Land and Water Australia to support the alignment of national and Queensland priorities for natural resource management, and to facilitate the undertaking of collaborative R&D in the national context; and
- proactive involvement in the development of Queensland priorities for possible involvement in the CRC for Plant Based Management of Dryland Salinity and for re-bids of the CRCs for Coastal Zone & Estuarine Management, Catchment Hydrology, Freshwater Ecology and Climate Variability & Drought. CIRM will continue to provide a mechanism to inform the priorities for the involvement of Queensland research organisations in CRCs with a focus on elements of natural resource management.

The feedback from the regional review process provides a useful overview of the major natural resource management issues for which there is an identified need for both scientific input, but also additional coordination in the way that scientific input contributes to regional planning and decision making processes. A summary of this information is provided in Table 1.

Table 1. Priority natural resource management issues identified through CIRM regional workshops.

NRM research theme or issue	Project area	Regional relevance
<i>Integrating science disciplines for improved NRM outcomes</i>	Fostering more trans-disciplinary programs of research (integration of social and biophysical sciences) and dealing with spatial and temporal dynamics	Statewide
	Developing an integrated approach to analysis of land and water use change on NRM outcomes	Statewide
	Importance of people in NRM – increased research in social issues to enhance land manager/user uptake of science outcomes	Statewide
	Incorporation of different knowledge systems into the science process – experiential and indigenous	Statewide
<i>Geographical gaps in fundamental NRM knowledge</i>	Management of coastal sand islands	SE Qld & GBR catchments
	Great Artesian Basin – sustainability of water resource	SW Qld
	Sustainable management of rangelands	SW and W Qld

NRM research theme or issue	Project area	Regional relevance
<i>Improved delivery of science to policy and planning decisions</i>	Urbanisation – impacts on land and water resources	SE Qld & GBR catchments
	Impact of land and water management on biodiversity	Statewide
	Process science to improve connection of R&D outcomes to policy and planning processes	Statewide
	Priority setting for the NRM change agenda – where is the best return for NRM from a change in land and water management	Statewide
<i>Improved delivery of science to support property and catchment planning</i>	Property management for “triple bottom line” outcomes – science to support decision-making at property scale	Statewide
	Sustainable management of rangelands	Inland Queensland
	Role of plantations in catchment management	Coastal catchments
	Promoting no-regrets activity for NRM	Statewide
	Encouraging achievement of NRM outcomes – more transparent support for landholders in achieving NRM outcomes; honest broker across agencies	Statewide
<i>Impacts of climate change and variability on NRM</i>	Improved understanding the implications of climate change on natural resource management outcomes.	Statewide
<i>Impact of pest plants and animals on NRM</i>	Improved understanding of the interaction between biological pests and the sustainability of natural resources	Statewide
<i>Impacts of biotechnology on NRM</i>	Understanding the risk from emerging biotechnology on the State’s natural resources	Statewide
<i>Enhanced monitoring and evaluation</i>	Development of an agreed set of NRM performance indicators (resource condition improvements): coordination of monitoring and evaluation of NRM outcomes, e.g. coordinating water quality monitoring across all partners providers, local to regional level	Statewide
<i>Greenhouse issues in Queensland – more integration across the agenda</i>	Integration of greenhouse issues into the broader agenda of natural resource management in Queensland.	Statewide
<i>Science partnerships</i>	Building improved relationships between partners – overcoming the competitive environment for R&D.	Statewide

After collation of the possible roles for CIRM provided during the regional workshop process, a summary of the key roles for CIRM in the future were developed. These key roles for CIRM include:

Strategic R&D Planning

- facilitate the preparation of a strategic NRM R&D plan for Queensland. This should be CIRM’s flagship program and it should be linked with the Smart State Strategy
- encourage, facilitate and enhance cross-organisational interactions and collaborations on integrated NRM R&D initiatives
- identify the highest priority *short-term* and *long-term* NRM R&D issues for Queensland and facilitate the preparation of R&D implementation plans for these issues

- engage fully, in facilitating the preparation of R&D implementation plans, with (a) the policy makers and planners associated with government policy implementation, (b) regional community groups responsible for NRM planning and implementation, and (c) industry organizations
- facilitate stronger relationships with national science policy makers and influence national NRM R&D priorities relevant to northeastern Australia.

Implementation of Strategic R&D Plans

CIRM will facilitate the development of partnerships to develop and fund priority projects. CIRM does not have the ambit or resources to undertake R&D projects in its own right. Projects will be undertaken by the CIRM partners and other organisations and consortia such as Cooperative Research Centres. However CIRM should:

- develop communication and other processes for having its strategic R&D priorities incorporated into the R&D programs of the partners and other organisations, including for instance CRCs
- develop a partnership or linkage with regional NRM bodies and peak industry groups to ensure CIRM's strategic R&D plans inform future investment in science through emerging regional arrangements for NRM in Queensland.
- facilitate networking for the necessary coordination of both partner and non-partner research organisations to undertake multidisciplinary and multi-agency projects
- facilitate communication and other processes to identify NRM R&D priorities which link national, state and regional NRM research, planning and management initiatives.

Conclusions

The review of CIRM found that it offers a cost-effective and valuable instrument for progressing strategic natural resource management priorities to funding institutions and policy makers; and to foster enhanced collaboration amongst the research capacity within Queensland. As an outcome of the review process the CIRM Board has endorsed the following goals and scope for CIRM, as the basis for activity over the next 3 years.

Primary goals

- Encouraging, facilitating and enhancing cross-agency interactions and collaborations for the planning and implementation of strategic science for natural resource management initiatives, and developing synergies that would otherwise have not occurred, or would have been arrived at only after greater start up costs and time expenditure.
- Maximising the opportunities for science to form an effective and timely basis for policy, management and decision making through brokering collaboration and coordinating science initiatives.
- To ensure holistic, systems-based approaches are used to obtain improved management outcomes
- Provide vision on new and emerging science issues impacting on sustainable natural resource development and management

Future scope

- Natural resource, production and environmental management and policy issues that impact on the sustainable and profitable use of natural resources and ecosystems including an increasing recognition of biodiversity, conservation and socio-economic aspects.
- Natural resource, production and environmental management issues at enterprise, property, regional and state scales.
- A whole systems perspective, which incorporates and integrates biophysical, social and economic dimensions with a participatory approach with various groups and the wider community.
- Focus on the subtropics and tropics of Australia with recognition that demand for sustainable natural resource use requires links with relevant national and international groups and organisations.
- Expansion of the scope of NRM R&D issues to incorporate the continuum from catchments – coastal zone – oceans.