

River research for the public good

TRaCK aims to provide the science and knowledge that governments, communities and industries need for the sustainable use and management of Australia's tropical rivers and estuaries.

TRaCK's research has seven interconnected themes.

1. Scenario evaluation

This 'big picture' theme draws from all other themes to deliver graphical tools for exploring the social, cultural, environmental and economic implications of change for our tropical rivers and estuaries. Predictions based on realistic scenarios can inform public debate, stimulate community action and help policy makers explore solutions to conflicting stakeholder needs.

2. Assets and values

Working closely with landowners, land managers, industry and community groups, researchers are examining the full range of values associated with tropical rivers. They are assessing the effects of water use decisions on social, cultural, economic and ecological values, and exploring ways to better incorporate these values in decision making.

3. Classifying tropical rivers

Researchers are developing a physical classification system to characterise riverscapes in the region based on their flow patterns and how they form and evolve. They are also seeking to understand the demographic and economic character of local communities in nominated catchments, and how this relates to the physical classification.

4. Water, carbon, sediment and nutrients

Researchers are developing models to predict the effects of land use and climate change on the sources, amounts and movement of water, carbon, sediment and nutrients. Indicators for monitoring and assessing water quality and quantity are also being developed.

5. Food webs and biodiversity

In tropical aquatic systems, the sources of organic matter that drive the food webs are largely unknown. Researchers are identifying these sources, developing models that predict the effects of land use change on food webs and aquatic biodiversity, and developing tools for determining environmental flows and monitoring biodiversity and ecological condition.

6. Sustainable enterprises

Researchers are identifying sustainable and culturally appropriate uses of riverine and coastal resources, which offer opportunities for innovative enterprise development in remote and regional communities.

7. Communicating and integrating

TRaCK is synthesising knowledge from the different themes and tailoring it to local communities, regional natural resource management bodies and government policy makers.

To maximise local ownership, TRaCK is inviting local communities to participate in the research. Contact the TRaCK office to register your interest (see back cover for contact details).



TRaCK

Tropical Rivers and Coastal Knowledge

To find out more about TRaCK,

visit www.track.gov.au
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TRaCK partners

Australian Government Department of the Environment, Water, Heritage, and the Arts
Australian Institute of Marine Science
Australian National University
Charles Darwin University
CSIRO
Environmental Research Institute of the Supervising Scientist
Fisheries Research and Development Corporation

GeoScience Australia
Government of Western Australia
Griffith University
James Cook University
Land & Water Australia
National Water Commission
North Australia Indigenous Land and Sea Management Alliance
Northern Territory Government
Queensland Government
University of Western Australia



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Research to support
river and estuary
management in
northern Australia



TRaCK

Tropical Rivers and Coastal Knowledge

The origins of TRaCK

At a time of increasing awareness of the value of water across Australia, it is vital that public debate, policy and management decisions about our tropical rivers and estuaries are informed by sound science.

Around 70 per cent of Australia's fresh water lies in the rivers and groundwater systems of northern Australia, from Cape York to Broome. Supporting grazing, mining, fishing, agriculture and tourism, most of these rivers, floodplains, wetlands and estuaries are in a healthy state. The region is home to the world's oldest living culture and Indigenous Australians actively manage much of the landscape using traditional knowledge and customs.



There are, however, significant gaps in our current knowledge. To help us manage the opportunities and expectations for the rivers and water resources of northern Australia, we need a coordinated research effort that brings together social, economic and environmental disciplines, and strengthens our national and regional research capability.

Recognising these needs, a consortium led by Charles Darwin University, CSIRO, Griffith University, Land & Water Australia, the North Australia Indigenous Land and Sea Management Alliance and the University of Western Australia has spent two years developing the Tropical Rivers and Coastal Knowledge (TRaCK) research initiative.

In 2007, TRaCK was established as a research hub under the Commonwealth Environment Research Facilities Programme—the Australian Government's commitment to world-class public good environmental research.



TRaCK objectives

TRaCK is providing the science and knowledge that governments, communities and industries need for the sustainable use and management of Australia's tropical rivers and estuaries.

TRaCK aims to:

- increase our understanding of the social, cultural, economic and environmental benefits that our tropical rivers and estuaries provide
- develop methods and tools for assessing the implications of current use and potential developments
- identify opportunities to develop sustainable enterprises
- build the capacity and knowledge of local communities to manage Australia's tropical rivers and estuaries

TRaCK is contributing knowledge that can inform the National Water Initiative and be used as independent and objective advice by those making policy, planning and management decisions about northern Australia.

The research is intended for the public good and research findings are being made available to the public.



"We support those developments that stack up economically, are environmentally sustainable and do not have major impacts on recreational fishing.

But without a sound scientific basis, we'll continue to be cautious about both land clearing and water use. Our northern rivers and the fisheries and lifestyles they support are just too valuable to be put in danger like the Murray was."

Warren de With, President, Amateur Fishermen's Association Northern Territory



A spirit of cooperation

Drawing together more than 70 of Australia's leading social, cultural, environmental and economic researchers, TRaCK focuses on our tropical rivers and estuaries with a degree of intensity, coordination and integration not previously seen in the region.

Many of the key researchers live and work in northern Australia, which is strengthening research capability in the region.

Researchers are working with all levels of government; regional natural resource management bodies; Indigenous communities; agriculture, fishing, tourism and mining industries; local communities; and other researchers.

Engaging with Indigenous Australians, who own and manage large parts of northern Australia's catchments and coasts, is a critical feature of TRaCK. Researchers are

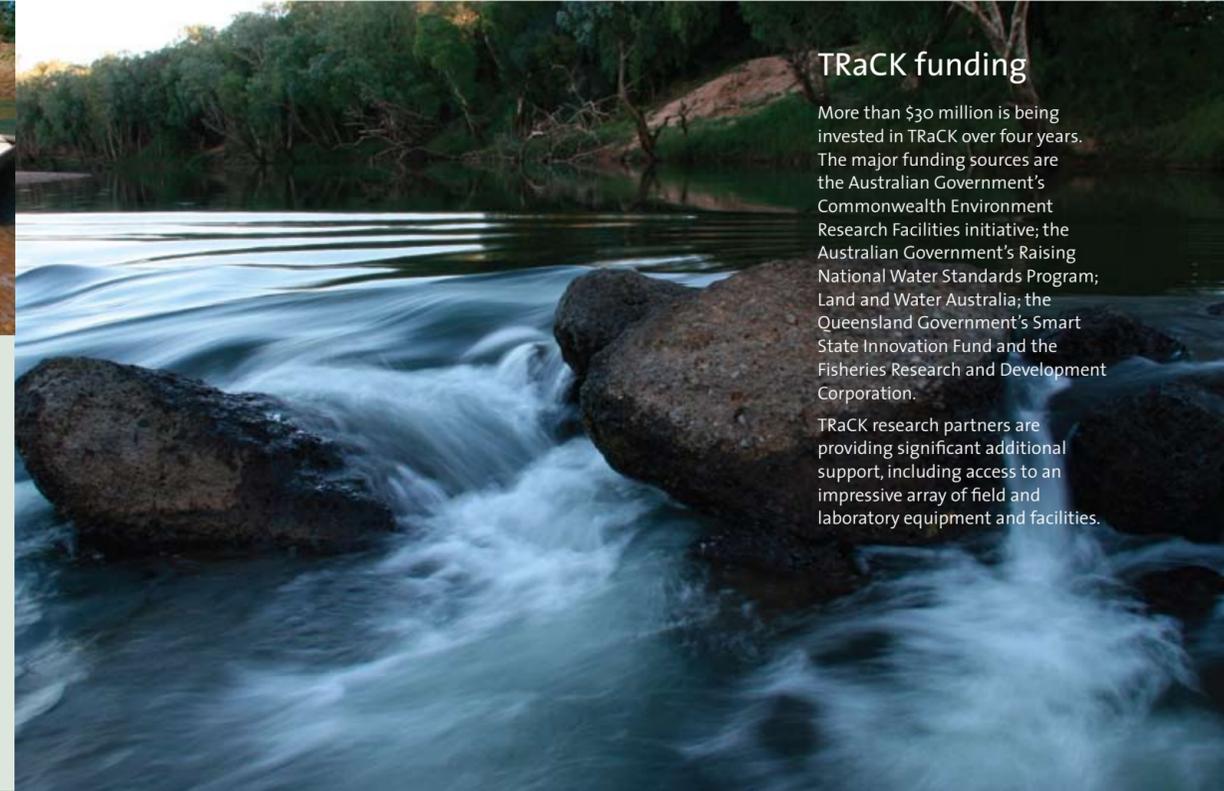
drawing on Indigenous knowledge, Indigenous perspectives on the region's ecology, and how changes to the ecology can impact Indigenous livelihoods in the region.

TRaCK is strongly supported by government agencies in Queensland, Western Australia and the Northern Territory, and by regional natural resource management bodies across northern Australia.

TRaCK funding

More than \$30 million is being invested in TRaCK over four years. The major funding sources are the Australian Government's Commonwealth Environment Research Facilities Initiative; the Australian Government's Raising National Water Standards Program; Land and Water Australia; the Queensland Government's Smart State Innovation Fund and the Fisheries Research and Development Corporation.

TRaCK research partners are providing significant additional support, including access to an impressive array of field and laboratory equipment and facilities.



"I believe that the sustainability of the environment and our social systems is by far the most important aspect in managing our water resources now and into the future. And it is foremost in our allocation planning which we are doing in full consultation with the community.

The work being done by TRaCK is vital to inform the community—and consequently the planning process—making sure we get those environmental and cultural water requirements right."

Ian Lancaster, Director of Water Management, Northern Territory Government



"We have a huge diversity of stakeholders in the Mitchell River catchment—graziers, irrigators, conservationists, Indigenous landowners, tourism operators, fisheries, mining companies—often with conflicting needs. Nevertheless, we have sat around the table and found a common ground—water quality is our number one issue.

The Mitchell River has the largest annual flow of all tropical rivers in the country and is one of our most ecologically diverse aquatic systems. Yet there are few comprehensive biological and ecological studies of the catchment to date. Without the science, it is difficult for us to manage the catchment sustainably."

Hilary Kuhn, Chairperson, Mitchell River Watershed Management Group Inc.



"We should all work together to keep our rivers healthy. My mob are from the Coleman and Alice Rivers area. The Alice runs into the Main Mitchell. All Aboriginal groups with country along the river system should work with all the other groups in the watershed to do this big job properly. At Kowanyama we are at the bottom end of the river system so a badly managed river upstream will affect all of us down here. That includes fishermen, cattle people and Aboriginal people. Remember our ancestors knew this land and its rivers before we. All our stories and special feelings are there so we must care for our river country."

Michael Yam, Olkola/Kunjen Traditional Owner, Executive Member Mitchell River Watershed Management Group Inc.