

Northern Australia Land and Water Taskforce
Office of Northern Australia
GPO Box 594
CANBERRA ACT 2601

Dear Sir or Madam:

Subject: TRaCK's response to request for written submissions

Thank you for the opportunity to provide a written submission to the Northern Australia Land and Water Taskforce (the Taskforce).

This submission is to inform you of relevant TRaCK research as it relates to your terms of reference and direct you to further information if required. Our submission provides:

- A brief introduction to the Tropical Rivers and Coastal Knowledge research hub, or TRaCK;
- A response to your three terms of reference ([as outlined on the Taskforce's website](#));
- Some information on specific TRaCK projects which can inform the Taskforce.

It is widely acknowledged that we need to improve the information available for making good decisions about water resources in northern Australia and to increase our human capacity in the north to ensure development occurs in a sustainable way. TRaCK was conceived to address these needs.

TRaCK is a research hub under the Commonwealth Environmental Research Facilities scheme, managed by the Department of Environment, Water, Heritage and the Arts. We draw together more than 70 of Australia's leading social, cultural, environmental and economic researchers.

TRaCK research is particularly relevant to the Taskforce because it occurs across tropical north of Australia from Cape York to Broome. Field activity is concentrated in four main catchments: the Daly, Mitchell, Kimberley and Flinders, but is not confined to those locations, for example there is also field work in Darwin Harbour, the Norman River estuary (Qld) and the Archer River catchment (Qld).

1. New opportunities for development in the north, based on sustainable water use (including non-consumptive uses).

TRaCK is providing science and knowledge to inform governments, communities and industries about the sustainable use and management of Australia's tropical rivers and estuaries.

While TRaCK is not in a position to advocate sustainable development avenues, our projects – ‘Establishing water markets in northern Australia’ and ‘Developing an effective conservation and sustainable use economy in Arnhem Land: options for payment for environmental services’ are exploring sustainable enterprises in northern Australia. These projects will discuss prospects and time frames for developing a natural resource management-based economy in northern Australia and examine the potential effectiveness and durability of water markets in tropical Australia.

Key findings and outcomes from these projects will not be available in the time frame of the Taskforce’s written submissions, but will be useful for informing future decision making.

Go to the TRaCK website (<http://www.track.gov.au/research/theme-6-sustainable-enterprises>) for further information.

2. The potential impacts of new developments.

In contrast to much of southern Australia, nearly all of our tropical rivers flow freely from their headwaters to the sea and most connect to vast floodplains every year. Our research is showing that the supply of water, sediment and nutrients from rivers is important in supporting estuarine ecosystems and assets such as commercial fisheries. Preliminary results also suggest that we have underestimated the importance of upstream movement of coastal animals in supporting river and floodplain food webs. Management and development needs to recognise these important connections and take an integrated, catchment to coastal systems approach to decision making.

Many TRaCK projects can inform the Taskforce about the potential impacts of new developments, these projects include:

Project 2.2: Indigenous values and river flows

Project 4.1: Catchment water budgets and water resource assessment

Project 5.7: Environmental flow tools for northern rivers (synthesis project)

Project 5.8: Biodiversity and High Conservation Value Aquatic Ecosystems (HCVAE)

Go to the TRaCK website (<http://www.track.gov.au/research/>) for further information.

3. New governance and institutional arrangements for the effective management of water resources.

TRaCK is developing new approaches to help strengthen governance and institutional capacity in the management of water resources, and has strengthened the capacity of stakeholders, particularly Indigenous people, to engage in water planning processes.

New tools are being used to engage people in water planning processes, such as a groundwater visualisation model for the Howard East aquifer in the NT. This model was developed with input from water users and other interested people. The NT Government is using these tools and other collaborative approaches developed by TRaCK to expand transparent, inclusive and evidence-based planning processes that help people to understand water limits and evaluate the tradeoffs involved in water allocation.

TRaCK research is informing governance processes in the NT. For example, fish sampling science in the Daly River has been combined with Indigenous ecological knowledge to guide water allocation planning. This knowledge is helping to develop tools that the Government is using to identify fish species most at risk from altered flow regimes and to predict how changes in water quantity and quality will affect these fish stocks. These tools will be used to determine the effects of water resource development on commercial and recreational catches, and on the household economies of Aboriginal people who live along the river and rely on these fish resources.

Other TRaCK projects that can inform the Taskforce about new governance and institutional arrangements for effective management of water resources include:

Project 1.3: Collaborative water planning in northern Australia

Project 1.4: Knowledge integration and science delivery

Project 6.2: Indigenous rights to water in northern Australia

As shown above the TRaCK's work is playing a significant role in improving our understanding and management of the rivers, and catchments, of northern Australia. TRaCK's output will increase substantially over the next year as further research projects findings are made available. With the possibility of a next round of the Tropical Rivers and Coastal Knowledge research hub it is likely it will continue to play a significant role in improving our knowledge and capacity to manage and protect the rivers of the north, and the livelihoods of our communities.

For further information on TRaCK including more detailed project information, outputs e.g. final reports and computer models, events, researchers and more please:

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Kind Regards,

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