



Daly River study site, photo Stuart Blanch.



Northern Australia
Environmental
Resources
Hub

National Environmental Science Programme

Environmental water needs for the Daly River

Start-up factsheet

The challenge

Governments have a strong vision for future development in northern Australia, including the expansion of irrigated agriculture. However, we need to broaden our knowledge of the ecological impacts of changes to river flows. This knowledge will help decision makers navigate the trade-offs between the water needs of communities, the environment and future industries.

The need to understand how our river systems work is particularly pressing in the Northern Territory's Daly River catchment. The Daly is a unique, perennial river system that supports an abundance of aquatic wildlife, including 90 species of fish and eight species of freshwater turtle. The river is highly valued by the region's Indigenous people for cultural purposes and as a food source. Furthermore, the river is arguably home to some of the best recreational fishing in northern Australia. Most of the Northern Territory's current irrigation activity occurs in the Daly, and its reliable groundwater reserves and relatively good soils make it a prime candidate for further agricultural development.

To better assess the impacts of further water development on the river's values, we need an increased ecological understanding of the river. A priority is the risk of reduced flows during the dry season and understanding the effect on the river's ecology.



The Daly River catchment in the Northern Territory.



Eight turtle species are found in the Daly River, including pig-nosed turtles, photo Ricardo França Silva.

How will this research help?

The amount of water within the river, particularly during the dry season, as well as the timing of flood pulses in the wet season, is important for supporting the river's wildlife, including fish and turtles. This project will determine the water requirements of key environmental assets within the river and improve our capacity to predict the impact of current and future water allocations. The outcomes will inform water policy, water allocation planning and fisheries policy and management of the Daly River.

Project activities

This project will build on previous research in the river, including research by the Tropical Rivers and Coastal Knowledge (TRaCK) research hub, the National Environmental Research Programme (NERP) Northern Australia Hub and the Northern Territory Government. The project will incorporate existing research, along with targeted research activities including remote sensing,



Backpack electrofishing at Oolloo Crossing on the Daly River, photo Alison King.

habitat mapping and ecological studies to produce models that explore the relationship between river flows and key ecological assets of the Daly River system.

The main outcome of this project will be detailed evidence-based recommendations on water requirements for key assets in the Daly River basin, which can be used to sustainably manage water use in the catchment.



A barramundi being captured using electrofishing at Mt Nancar in the Daly River, photo Alison King.

Who is involved?

This project will be led by Associate Professor Alison King at Charles Darwin University.

Associate Professor King will be supported by researchers from Charles Darwin University, Griffith University, Northern Territory Department of Environment and Natural Resources and Northern Territory Department of Primary Industry and Fisheries.

Contact: alison.king@cdu.edu.au

For further information and project updates, visit the project webpage at nespnorthern.edu.au/projects/nesp/environmental-water-needs-daly-river



**Northern Australia
Environmental
Resources
Hub**

National Environmental Science Programme

nespnorthern.edu.au

nesp.northern@cdu.edu.au



/NESPnorthern



@NESPnorthern

This project is supported through funding from the Australian Government's National Environmental Science Programme.