



**Northern Australia
Environmental
Resources
Hub**

National Environmental Science Programme

Environmental water requirements for the Fitzroy River

The challenge

Western Australia's mighty Fitzroy River is of high environmental, economic and cultural significance. As the largest river in the Kimberley, there is increasing interest in developing its significant water resources.

To manage and preserve the river's natural values, we need an understanding of how they may respond to proposed development. The Fitzroy River is home to many significant environmental values that are likely to be impacted if its natural flows or groundwater levels are altered, such as freshwater sawfish. However, the impact on the environment from increased water use for development, especially groundwater, is largely unknown.

*Above: Fitzroy River, photo: Michael Douglas.
Right: Freshwater sawfish are one of the river's key environmental assets, photo: Michael Lawrence-Taylor. Next page: irrigated agriculture in the Kimberley, photo: Michael Douglas*

How will this research help?

This project will work in close collaboration with the CSIRO and with the Australian and Western Australian Governments to improve the available information on the water requirements of key natural assets in the Fitzroy River. This knowledge will underpin future water allocation and planning decisions.



How will the research be carried out?

The project includes three major components, in which researchers will:

1. Review the current information on environmental water requirements and develop initial conceptual models to predict the impact of various water use scenarios on key environmental assets;
2. Undertake targeted research to determine water requirements of environmental assets, including significant plant and fish species; and
3. Use the new research to revise conceptual models and recommendations to reduce the risk to environmental assets from water resource development.



Research outputs

The primary outcome of this project is to improve our understanding of the environmental water requirements in the Fitzroy River to inform sustainable water planning and management decisions.

Other outcomes include:

- Contributions to the North Australian Water Resource Assessment for the Fitzroy/West Kimberley; and
- Improved understanding of the environmental consequences of proposed water resource and agricultural development in the Fitzroy River catchment for key species including the largemouth sawfish.

Where is the research happening?

The project will be focussed on the Fitzroy River catchment in Western Australia. Most activity will occur downstream of Fitzroy Crossing.

Who is involved?

The project will be led by Professor Michael Douglas from the University of Western Australia. The project team will include Samantha Setterfield and Matt Hipsey from UWA, Brad Pusey from Charles Darwin University, Mark Kennard from Griffith University and Robin Loomes from WA's Department of Water.

Contact: michael.douglas@uwa.edu.au

Visit: www.nespnorthern.edu.au



/NESPNorthern



@NESPNorthern

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



National Environmental Science Programme