

Environmental water requirements for the Fitzroy River



Northern Australia
Environmental
Resources
Hub

National Environmental Science Programme

World class research to support sustainable development in northern Australia

Project update, February 2019

Michael Douglas, The University of Western Australia

This research is improving our understanding of the environmental water needs of key plant and animal species in the Fitzroy River to inform sustainable water planning and management decisions.

What's new?

We have:

- selected study sites and shared knowledge with Traditional Owners on Nyikina-Mangala, Yi-Martuwarra and Gooniyandi country as well as worked with Indigenous rangers
- characterised aquatic food webs in pool and run habitats
- collected data to determine the use of groundwater by key riparian tree species at the end of the dry season
- sampled wet season floodplain fish and algae to learn more about their contribution to the food web
- surveyed fish to determine dry season habitat requirements and food sources (surveys were conducted at 31 sites along the river including main-channel pools, main-channel sandy runs and off-channel wetlands)



Fieldwork on the Fitzroy: Nathan Green from the Nyikina Mangala Yimardoo Warra Rangers (top) and Leah Beesley from UWA, photos Michael Douglas.

- surveyed woody riparian vegetation in the dry season to determine the relationship between inundation history and species distribution (we completed rapid vegetation surveys at 58 sites)
- developed principles and key considerations for planning and management
- worked closely with WA Department of Water & Environmental Regulation, and presented project update to Department of Biodiversity, Conservation & Attractions.

What's next?

- continuing fish surveys
- collecting data to measure plant functional traits relating to surface and sub-surface water regime, including the installation of piezometers
- developing a framework of relative vulnerability of key species to changes in water regime, synthesising the results of the project's studies
- scientific paper in prep: *Predicting the occurrence of riparian woody species to inform environmental water decisions in the Lower Fitzroy River, Western Australia.*

Further information

Contact project leader, Michael Douglas at michael.douglas@uwa.edu.au

The project page can be found on the Hub website at nespnorthern.edu.au, along with the project start-up factsheet.

This project is due for completion in December 2020.

