



Irrigated agriculture, photo Jorge Alvarez-Romero.



Tourism, Alamy stock photo.



Cattle, photo Michael Douglas.



Savanna burning, photo Glenn Campbell.

Multi-objective planning in northern Australia

Start-up factsheet



**Northern Australia
Environmental
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National Environmental Science Programme

Effective planning considers multiple objectives

There are varied development initiatives to promote the economic growth of northern Australia. But how do we balance increased productivity, traditional uses, and nature conservation? The diversity of views about the



The project is working in Western Australia's Fitzroy River catchment with the intention that the planning process can be transferred to other areas in northern Australia and beyond.

potential benefits and costs of different development options, and our limited understanding of the effects of these developments demand guidance on how to explore these considerations. This is particularly important because government agencies, NRM groups, Indigenous organisations, and industry commonly need to make decisions based on incomplete information. Also, decisions are usually made with a single objective in mind, such as agricultural development or biodiversity conservation. However, this focus on single objectives limits our capacity to consider the full range of environmental, social and economic outcomes of proposed developments and their implications for different stakeholders. It also hinders our understanding of the potential co-benefits or trade-offs between different objectives. Considering multiple objectives is therefore critical to support future effective planning for development and conservation of northern Australia's globally significant cultural and natural values.

Participants construct and assess scenarios

This project will demonstrate how to operationalise participatory, multi-objective catchment planning, where stakeholders collaboratively construct and assess the outcomes of alternative development scenarios. The scenario planning exercise aims to create a shared space for constructive and objective conversations about the future development of the Fitzroy River catchment.



A toolkit will be designed for the Fitzroy River catchment, photo Michael Douglas.

This process aims to develop common understandings about different development options for the region and systematically explore the possibilities as well as the potential outcomes of different development trajectories, including identifying those with multiple benefits and where trade-offs are needed.

Project activities

- Identify current and possible future uses of land and water and associated management issues as a basis for understanding stakeholder preferences for future developments
- Identify and explore environmental, economic and cultural values of land and water
- Explore development initiatives and drivers of land use change to guide the development of narratives of alternative development scenarios
- Build maps representing future land use scenarios based on the narratives
- Evaluate and discuss the potential outcomes associated with alternative scenarios, including changes in land and water values, and assess the potential co-benefits or trade-offs between different objectives.

Anticipated outputs

- Maps of land and water values
- Narratives and maps of future development scenarios
- A toolkit that can be used by different stakeholders to guide multi-objective planning, including developing scenarios supported by spatially explicit tools and models
- Factsheets, report, scientific papers.



The Fitzroy River catchment hosts significant cultural and heritage values, Alamy stock photo.

Who is involved?

This project is being led by Professor Bob Pressey at James Cook University.

Professor Pressey will be assisted by additional researchers from James Cook University, The University of Western Australia, Griffith University, CSIRO and the University of Tasmania.

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For further information and project updates, visit the project webpage at www.nespnorthern.edu.au/projects/nesp/multi-objective-planning



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