



Australian Government



National  
Environmental  
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Programme

# Indigenous science partnerships in northern Australia



Northern Australia  
Environmental  
Resources  
Hub

National Environmental Science Programme

The Northern Australia Environmental Resources Hub supports sustainable development in northern Australia through world-class research

The Northern Hub is assisting decision-makers in government, Indigenous, environment, industry and community sectors to understand, use, manage and protect the north's outstanding natural assets. A key feature of the Hub's research program is collaboration with Indigenous people who own and manage land and water across the north, with research aiming to support aspirations to protect and manage country and culture and to increase jobs and wellbeing through sustainable development. The Hub is working with Indigenous people through collaborations based on respect, trust and two-way learning.

Different partnerships encompass different activities ranging from identifying research priorities, designing projects and overseeing projects, to undertaking research and reviewing and communicating outputs.

Inside are some examples of activities and research projects that involve strong Indigenous partnerships.



## Improved feral animal management and indicators of success

Feral animals are damaging wetlands in Cape York's Archer River catchment. Researchers, Indigenous organisations and ranger groups, local communities and government agencies are working together to understand the most effective ways to manage feral pigs to deliver joint social, environmental and cultural benefits. They are designing monitoring and reporting methods that can be applied across northern Australia.

## Knowledge brokering for Indigenous land management

This project is supporting Indigenous land managers to strengthen their use of scientific and Indigenous knowledge for improved environmental and land-use decision-making. Collaborative case studies in WA's Fitzroy River catchment and the NT's Nicholson River region are designing and testing Indigenous-driven knowledge-exchange tools and approaches which, together with input from other Indigenous knowledge case studies, will inform *Our Knowledge, Our Way* guidelines.

## Indigenous natural resource management in Kakadu National Park

Traditional Owners have a widely recognised role in environmental management in Kakadu National Park and this project brings the interests of Traditional Owners, park managers and the public into closer alignment. Traditional Owners have identified action-research priorities to support Park management and are now working with researchers to implement these.

## Multiple benefits and knowledge systems of Indigenous land and sea management programs (ILSMPs)

As well as generating environmental benefits, ILSMPs generate many social, cultural and economic benefits. While we can clearly value some ILSMP benefits, we lack information to value many of the less tangible benefits, for example those relating to culture or to whole communities. In this project local Indigenous researchers are helping to collect quantified or comparable data about these co-benefits through case studies in the Kimberley and north Queensland.

## Indigenous water needs for the Fitzroy River

This research is identifying customary uses of water and waterways in the Fitzroy River catchment through strong local partnerships, and revealing links between Indigenous values, practices and water regimes, and eliciting knowledge and objectives for the future management of land and water resources. The information generated will contribute to water planning and allocation, and enhance Indigenous capacity to influence regional water policy decisions and development solutions.



## Environmental water needs for the north's rivers

Understanding the ecological impacts of changes to river flows is essential for informing sustainable water planning and management decisions. A suite of projects across the north is improving our capacity to predict the impact of potential future water allocations on environmental values in the Fitzroy (WA), Daly (NT) and Gulf (Qld) Rivers. These projects are working with Indigenous organisations through field and other activities, and sharing knowledge about riverbank and floodplain vegetation, aquatic animals, birds and threatened species.



## Guiding non-government investment in Indigenous resource management enterprises

This research will investigate the monitoring and assessment needs of key non-government investors in Indigenous cultural and natural resource management (ICNRM) enterprises. It will use case study partnerships with Indigenous organisations to identify investor needs, and options to meet these, to help practitioners articulate ICNRM benefits in investor-friendly ways. This will showcase the multiple benefits, reduce monitoring loads by aligning needs, and support more non-government investment in ICNRM.

## Assessing mangrove dieback in the Gulf

One of the worst mangrove dieback events ever recorded occurred along more than 1000 km of coastline from Limmen River (NT) to Karumba (Qld) during the 2015/16 wet season. This project is surveying, describing and analysing the exact extent and condition of the dieback. It is also examining the patterns, trends and likely causes of dieback, and local Indigenous rangers are being trained in quantitative mangrove assessment and monitoring methods. The project will provide recommendations for recovery, potential intervention, future monitoring and further studies.

## Monitoring, mapping and safeguarding West Kimberley bilbies

This project is providing an accurate understanding of where bilbies occur and how they use their habitat in the Fitzroy River catchment with strong involvement of Indigenous rangers. This information will be used to identify and implement on-ground actions that will help safeguard this threatened species. It will also contribute to recovery planning and threat abatement programs, and support environmental impact assessment and conservation planning.

## Waste and marine debris in remote northern Australian communities

This project worked with Indigenous communities and local government to investigate waste management in Lockhart River, Mapoon and Pormpuraaw on Cape York Peninsula. Each community faces unique local challenges to progressing waste management, but all are growing in size, receiving increasing numbers of visitors and tourists, and dealing with increasing marine debris washing up on their beaches. The research highlights current best management practices and found that opportunities exist for a networked regional recycling effort which could reduce local waste, generate new or repurposed resources and create new jobs and enterprises.





## Research priorities for Indigenous Protected Areas (IPAs)

In collaboration with IPA managers and research stakeholders across northern Australia, the project team undertook literature reviews, interviews and workshops to identify research priorities for IPAs. The priorities were found to be context-dependent, integral to priorities for Indigenous land management (ILM) broadly, and focused on multiple values of and

benefits from country. A complementary sub-project examined how the benefits of IPAs have been valued. It found that some IPA benefits are much more easily, and therefore frequently, quantified in monetary terms than other benefits that may be just as important. Unquantified benefits are often overlooked by decision-makers and to address this gap, researchers need to work with local people to determine the best valuation method to suit their needs.

## Lessons and protocols for Indigenous fire management partnerships

Fire has played a key role in the land management practices of Aboriginal Australians for millennia. Today, Indigenous communities are applying, adapting and rejuvenating this knowledge through a range of land management and enterprise activities. This project worked with fire program practitioners, partners, stakeholders and resource providers to review how Indigenous knowledge is being used in northern Australian fire projects. It identified lessons and developed protocols for effectively and appropriately incorporating Indigenous knowledge into fire management goals and practices. The six protocols aim to ensure Indigenous fire management partnerships are based on culturally and scientifically sound decisions.

## Other projects and further information

Many other Hub projects collaborate with Indigenous people and communities in northern Australia. For more information, visit our website at [nespnorthern.edu.au](http://nespnorthern.edu.au) or email [nesp.northern@cdu.edu.au](mailto:nesp.northern@cdu.edu.au).



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*Photos by Glenn Campbell, Leah Beesley, Michael Douglas and Norm Duke.*