

Research

Seeing northern rivers through Indigenous eyes

Through a new study set to transform the way catchments are managed, researchers are tapping into Indigenous knowledge to document the value of northern tropical rivers, estuaries and billabongs to traditional communities.

Indigenous people are intimately connected with the plants and animals that live in Australia's tropical northern rivers, having relied on them for millennia for food, medicines, materials and cultural identity; they also have substantial land holdings in arid and tropical zones.

Yet their interests and values in water are poorly understood by the decision-makers who determine how catchment resources are used, according to Dr Sue Jackson, a CSIRO researcher and leader of a new project funded by the TRaCK (Tropical Rivers and Coastal Knowledge) research hub.¹

'Our research will help water planners and managers take Indigenous water needs into consideration. Indigenous people will be able to sit at the table with other water users such as farmers and irrigators and have their water requirements factored into planning,' she says.

The research will focus on two catchments: the Daly River in the Northern Territory and the Fitzroy River in the Kimberley region of Western Australia.

Dr Jackson's research team will survey communities in the catchments to record local social and cultural knowledge relating to water and quantify the economic benefit to households of animals and aquatic plants. Indigenous

people will be employed in the survey and in monitoring activities, and as advisers on river health.

'Our survey will involve asking Indigenous people questions such as how many fish they've caught or bush cucumbers they've collected over the past few weeks, and we'll compare the cost of purchasing the same amount of food from the community store,' says Dr Jackson.

'In what is a first for this kind of study, we'll also be looking at what effect different water levels, or flow regimes, have on the patterns of resource use by Indigenous people.'

Apart from providing year-round flows, the Daly is the Northern Territory's largest river and Indigenous people are concerned about increased agriculture causing erosion of river banks, increased weeds and reduced water quality.

Malak Malak Traditional Owner, Bidy Lindsay, says some billabongs on her traditional country have changed substantially over the last five to 10 years.

'Pigs, horses and cattle have stirred up the edges of some billabongs. We go to catch fish and turtle there but we don't catch much any more,' she says.

Mrs Lindsay is also concerned with the effects of groundwater extraction on the Daly River.

'All that water taken out used to mix in with the river water and make it good; not cloudy, not mud. Now that water in the river is not good; cloudy. It's not healthy that river any more.'

The Daly supports eight of the 12 species of freshwater turtle found in the Northern



Wagiman children with turtles caught on their traditional country, near Pine Creek, Northern Territory. Sue Jackson

Territory, including pig-nosed and long-necked turtles, important food resources for many Indigenous communities.

Given recent calls for more intensive agriculture in the north to counter the drop in production in southern food bowls within the Murray-Darling Basin, researchers will need to look at how modifying river flows might affect populations of turtles and other food species such as freshwater prawns and waterlilies before decisions are made.

'These considerations are often left out of government decisions,' says Dr Jackson. 'Farmers and mining companies can make a strong

case for using water based on the value of that water to their businesses.

'But it can be harder to see how important this water is for the daily life and culture of Indigenous people.'

'Changing a river might have detrimental effects on the household diet of Indigenous people, many of whom are already economically disadvantaged.'

● **Barbara McKaige and Mary-Lou Considine**

More information:
Tropical Rivers and Coastal Knowledge,
<http://www.track.gov.au/>

¹ TRaCK receives research funding through the Australian Government's Commonwealth Environment Research Facilities initiative and Raising National Water Standards Program; Land & Water Australia; and the Queensland Government's Smart State Innovation Fund.