Indigenous land and sea stewardship builds resilience in ecosystems and communities

Indigenous Australians are at the forefront of managing Australia's conservation estate, and the stewardship of the biodiversity held within it.

The 78 Indigenous Protected Areas (IPA) currently dedicated across 740,000 square kilometres of Australia comprise more than half the area of the national reserve system. Indigenous Land Use Agreements between native title holders and other land users exist over 33 per cent of the continent.

The Indigenous Stewardship session at the Resilient Landscapes Biodiversity Conference, held in Perth in September 2021, highlighted how Indigenous land and sea managers from the Kimberley, Western Deserts and Swan Coastal Plain are leading conservation management and research on their Country.

For us, with us, and by us

Across Australia, Indigenous-managed lands have the lowest number of endangered species and the lowest levels of ecosystem change, said Wardandi Professor Stephen van Leeuwen, the BHP Curtin Indigenous Chair of Biodiversity and Environmental Science at Curtin University, in his plenary address.

Any biodiversity-related research undertaken on Indigenous-managed lands should involve Indigenous land and sea managers, he said. Not only do Indigenous managers bring with them '60,000-plus years of ecological knowledge and ecosystem management', but supporting their stewardship of Country creates additional cultural, economic and social beneifts. Research has shown that every dollar spent on an IPA generates $3.40 of additional value for Indigenous communities.

Capturing their knowledge in the 'right way', so that cultural governance, customary decision-making and community consensus is respected, is one of the key tasks that Indigenous rangers are undertaking.

This knowledge can then be woven together with Western scientific knowledge, but must be done in a way that is 'for us, with us, and by us,' Professor van Leeuwen said.

Resources such as the Our Knowledge, Our Way guidelines, published by CSIRO, and the Kimberley Saltwater Country Research Protocol developed through the Kimberley Indigenous Saltwater Science Project will assist researchers in understanding how to work with Indigenous land and sea managers so that knowledge is shared with free, prior and informed consent, and is used in ways that are culturally appropriate.

Stewardship of Country

Co-presentation of research at academic conferences is an important part of weaving knowledge together, and acknowledging the contribution of Indigenous rangers to research outcomes.

Rangers from Nyamba Buru Yawuru Country Managers and Bardi Jawi Oorany Rangers, in partnership with Environs Kimberley, presented their work to protect endangered monsoon vine thickets in the Kimberley. Martu Elders Yvonne Ashworth and Annette Williams spoke of their desire to see Matuwa and Kurrara Kurrara IPA develop as a hub of two-way science.

Fire in central to Indigenous land management, and Indigenous people love working with it, said Professor van Leeuwen. 'It's part of the toolset we've been using for 65,000 years.'

Jigalong Rangers, in collaboration with the 10 Deserts Project, showed how they have damped down destructive wildfires by using strategic burning to protect the Durba Hills (near the Canning Stock Route) on Martu Country.

The Karajarri Traditional Lands Association, which manages a land area the size of Belgium, conducted 5670 trap nights to assess how their burning program was influencing the habitat of birds, reptiles and small mammals. They found that while each fire 'age' fostered a distinct ecological community the patch sizes of their burns were still too big.

'We're trying to figure out right-way fire management; how our old people did it,' said Mr Braeden Taylor, a Karajarri ranger, of the research.

Two-way and right-way

The ultimate goal of collaborative research 'for us, with us and by us', is to have research programs developed and led by Indigenous land and sea managers, said Professor van Leeuwen. Developing 'two-way, right-way' research collaborations takes time, and is not without its challenges. Researchers and administrators should be patient, he said.

The research agreement on a project to assess the abundance of the greater bilby in the Fitzroy Catchment, conducted collaboratively between Ngurrara Rangers, Nyikina Mangala Rangers, Gooniyandi Rangers, the Department of Biodiversity, Conservation and Attractions and the National Environmental Science Program's Northern Australia Environmental Research Hub, took two years to negotiate. Yet it was the sharing of cultural knowledge with scientific techniques that made the project a success.

Indigenous stewardship, collaborative research, and respectful sharing of knowledge are not just important for the resilience of the remote landscapes of the north. Research undertaken by the Clean Air and Urban Landscapes Hub is bringing together the 'dual lenses' of Noongar water knowledge and Western science to improve land use planning and conservation management in the Dyarlgarro Beeliar (Canning River) catchment in Perth.

Noongar Elders felt that they had shared their cultural and ecological knowledge of the waterways with researchers 'time and time again,' said project co-leader and Noongar Yamatji woman Ms Sharon Wood-Kenney. Elders wanted to have access to this information so that they themselves could weave it back together. The project is using geographical information systems to help Noongar participants visualise and map their social and cultural connections across the catchment. Having all of the Elders together in one room helped them to build their capacity, Ms Wood-Kenney said.

'It's a new narrative that we're coming up with. It's about slowing things down and taking a breath.'