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# A burgeoning role for Aboriginal knowledge

Indigenous knowledge systems have developed over thousands of years through association with the variability of the environment. Their structures and application are quite unlike those of the modern scientific knowledge model. With such vast experience of environmental management, and time-tested alternative perspectives on the human place in the natural order, it is little wonder that Indigenous knowledge has a growing, cooperative role in natural resource management. *Ecospoke* spoke to three commentators about Aboriginal knowledge's relevance to sustainability thinking and practice in Australia.

**Dr Sue Jackson**  
Senior Research Scientist  
CSIRO Sustainable Ecosystems

Sue Jackson's work in the Daly River, Northern Territory, for CSIRO Sustainable Ecosystems (Tropical Ecosystem Research Centre) has two strands: one is working with the area's Aboriginal language groups to understand the significance of the land and water to their culture; the other is working with regional organisations to include Aboriginal people and perspectives in catchment management processes. 'My research,' she explained, 'tries to develop systems within the catchment management process that enable Aboriginal people's values to be taken up by decision-makers.'



**Ecospoke:** How can Aboriginal knowledge, as you understand it, inform sustainability knowledge and practice in your field?

**Jackson:** In this area, the traditional hydrological knowledge includes a lot about rivers, wetlands, groundwater and surface water interaction. The river system is of great importance to Aboriginal people's religion, to their understanding of how the world was formed and the meaning of life. Their identity and way of life are closely related to this place, to travelling on the river, sourcing their food from the river system. Stories about the river are part of their way of understanding the world, their cosmology.

Aboriginal people call the environment 'country.' That word describes home country and ancestral lands, but it can also be used to refer to the person. It conveys the holistic, multi-dimensional notion where people, animals, plants, dreaming, underground, the earth, minerals, waters are all encompassed by the term 'country.' It can include attachments, feelings, people's spiritual relationship to the land. Aboriginal people say, 'The country needs its people.' They say, 'Healthy country means healthy people.'

**Ecospoke:** How does that perception inform the idea of sustainability?



**Ecospoke:** Bungle Bungle National Park. Aboriginal knowledge recognises central social and cultural dimensions of key ecosystems.

**Jackson:** That environment–people nexus – implicit in sustainability – brings ways of seeing people's material economic needs and their social values in line with the limits or requirements of the environment.

[Using that concept] enables us to move beyond the very segmented way in which resource management had looked, for example, at land and then water. We have separate legislation for the land and the water; we have separate administrative and institutional arrangements that apply to each. Some argue that this has contributed to many water resource management problems. For example, a lot of our coastal management legislation ends at the high-water tide mark or the low-water mark. Similarly the Aboriginal Land Rights Act only extends to the low-water mark. The coastal edge is a physical boundary for us.

Aboriginal people do not see that distinction. They talk of 'saltwater country' – that includes the coastal land and sea. Some Aboriginal customary estates extend way out into the sea. They believe that they own and have rights and responsibilities to the entire estate, regardless of where the low-tide mark is at any point in time.

The question of scale is raised from a time perspective as well as the geographic



one. In the Daly area there is much interest in devoting the water from the groundwater and the river flow to the intensification of agriculture and pastoralism. Many Aboriginal people, particularly older people, are concerned that we are currently in a wetter period [here], the water resource managers will think that this is the baseline and will allocate water based on the current situation. These Aboriginal elders speak of the much dryer periods they grew up in. They remind us that we have a system that is very dynamic, with a lot of fluctuation or variation. This conservative, cautionary approach that Aboriginal people apply to environmental decisions in the Daly River is another principle that people are trying to apply to sustainability practice.



Sue Jackson and Jabal, senior Wagiman Ranger, on the Daly River, Northern Territory.

Sue Jackson

**It is how we bring the knowledge together, what new knowledge is formed, and how people benefit from that process that is an interesting question.**

**Ecos:** It sounds as if there could be the possibility of conflicting interests between traditional owners and current managers. Do you see any?

**Jackson:** There is, in my experience, a very high degree of interest in the Aboriginal community in collaborating with researchers and government to co-manage the area. They are interested in a 'two-ways' approach to solving problems, where the Aboriginal and non-Aboriginal stakeholders both have the opportunity to contribute their knowledge and learn from each other's ways. People talk about the 'two toolboxes': the Aboriginal toolbox [and the scientific toolbox. In the Aboriginal toolbox is the environmental philosophy and cosmology, people's longevity of connection to the country . . . and their cultural institutions derived from their customary system of law. There is also their social organisation: the land tenure system and rights to use resources and how responsibilities to manage country are understood under Aboriginal law.

**Ecos:** What are your hopes or concerns about how the two toolboxes might work in the future?

**Jackson:** In our society, science is very authoritative. If you try to bring another body of knowledge to work with science, who will listen to the traditional knowledge? Will it get overwhelmed by the scientific knowledge? If there is conflict, how is it resolved? It is how we bring the knowledge together, what new knowledge is formed, and how people benefit from that process that is an interesting question.

**Contact:** Dr Sue Jackson, CSIRO Tropical Ecosystem Research Centre, sue.jackson@csiro.au

## Dr Debbie Bird Rose

### Senior Fellow

Centre for Resource and Environmental Studies, The Australian National University

Anthropologist Dr Debbie Bird Rose first experienced Australia while doing PhD research. She came with philosophical questions: Who are we? Why are we here? She wanted to find out how Aboriginal people's lives expressed answers to those questions. She said, 'One of the things I found out early on was that those questions relate to dreaming, the creation, and then I found out that creation is all about this living world too.'

**Ecos:** How does Aboriginal knowledge relate to notions of sustainability?

**Rose:** Aboriginal dreaming, the creation, is all about this world, the life-giving propensity of this world. The web of connection in Aboriginal culture is often formulated in the language of kinship – kinship between people in the world but also kinship amongst different parts of what we would call the natural world. Different kinds of eucalypts that are closely related are often called brothers. Different kinds of yams, a large one and a small one, are referred to as the mother and child. The human–natural relation says, 'This human is my uncle, this spotted owl is my uncle, this tree is my cousin' and so on. These webs, patterns and connectivity correspond to what Western science calls ecology. It's the ongoing ecological connectivity of the world.

**Ecos:** How do humans fit in that ongoing connectivity?

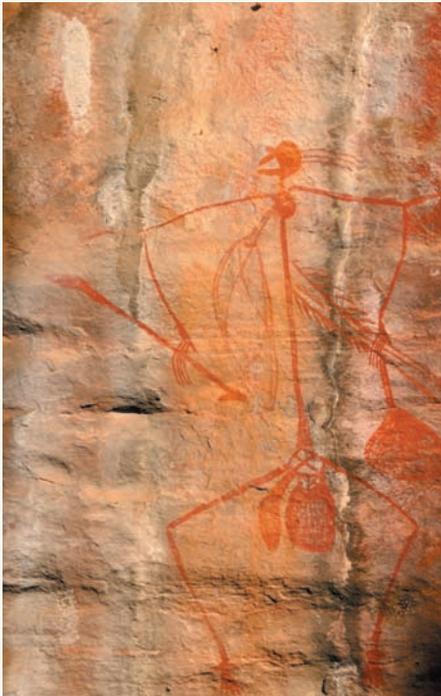
**Rose:** Humans have general responsibilities as well as care and protection of a particular species. Some have to do with protecting the sacred sites – a lot of these are refuge areas for certain animals so nobody can hunt there. Aboriginal people maintain areas where they do not hunt.

**Ecos:** Never?

**Rose:** If it is a sacred site it is never for hunting – that is a constant. Then there are a lot of variables. For example, in a particular area if a flying-fox 'person' dies, people do not hunt the flying fox in that area until the flying-fox 'people' say it is okay.

This work ensures the [continuation of] the creative world. There is a presumption that the world as it is created works well,

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and that working well should be sustained. It is not anybody's place to imagine a better world; we should try to appreciate this one. That is grounded in reality instead of that Western way of imagining [how the world could be] and then trying to do an extraction from the natural to make it that way.

**Ecos: How else would you compare Western ways to Aboriginal ways and knowledge?**

**Rose:** Western consumerism is, you could say, diametrically the opposite of the Aboriginal way of interacting with the world. Look at fresh water: [the Aboriginal way is] moving people around to where the water is, rather than to move water to where the people are. Aboriginals might enhance water supplies by digging wells and so on, but not actually alter its way of being in the world. And water is for the animals as well as people. It works for the broader ecosystem.

The way Aboriginal cultures understand how the world works ... the connections and kinship, mean that they do not have to draw a distinction between self-interest and other interest. The interests of self and of others are so mutually constituted that they look for what works well for everybody.

A lot of [Aboriginal] people I have talked with say they can't comprehend white thinking. They say, 'What's wrong with the white fellas? Are they crazy? They think the more they take for themselves the better off

everything will be, but things are not better off when you only take for yourself.'

**Ecos: How did Aboriginal people live sustainably on the land for 60 000 years?**

**Rose:** It isn't just that they had low numbers, low technology and therefore low impact. They had the potential to have a big impact, and they did have major interventions in ecological processes, but they did them to enhance the overall biodiversity and fertility. They were not [purely] extractive technologies; they were enhancing technologies.

**Ecos: What about managing the population size?**

**Rose:** Did they think in an abstract way about population? Probably not, just as they didn't think in an abstract way about biodiversity. They produced biodiversity rather than work with an abstraction called biodiversity. There is lots of evidence of how people managed population: that was women's work, done with contraceptives, abortifacients, possibly infanticide if necessary.

**Ecos: Do you have any personal examples that relate to Aboriginal approaches to sustainable living?**

**Rose:** I have a story about perceptions of waste. When I was growing up in Salem, Oregon, USA, in those days all of us kids went out into the fields picking strawberries. So I knew a lot about picking: don't pick anything too under ripe, but you have to be careful you don't leave anything behind. It was a commercial orientation towards picking.

So when my [Aboriginal] friend took a bunch of us out to pick conker berries, there was no question in my mind that I knew what I was doing. But I realised they were all moving along and I was going very slowly. So I rushed to catch up and she said, 'What's wrong? Why are you taking so long?' I said, 'I want to be careful to pick every one. I don't want to leave anything behind because I don't want to waste it.'

She said, 'That is not waste. Goanna eat that fruit; turkey eat that fruit; emu eat that fruit; dingo eat that fruit. That fruit is there for everybody; you are not wasting it.'

**Contact:** Dr Debbie Bird Rose, Centre for Resource and Environmental Studies, ANU, debbie@cres10.anu.edu.au

**Steve Johnson**  
Researcher

University of Queensland and Charles Darwin University (for the North Australian Indigenous Land and Sea Management Alliance)

Steve Johnson is a researcher at the University of Queensland with personal as well as academic ties to the Aboriginal community. His grandmother was a linguist working with the Yanyuwa community in the south-west Gulf of Carpentaria in the Northern Territory and his family has maintained ties with Aboriginal groups for three generations. He is currently working at Charles Darwin University, for the North Australian Indigenous Land and Sea Management Alliance (NAISMA) on a project funded by Land & Water Australia and Tropical Savannas Cooperative Research Centre, to develop a strategy for the conservation and application of Indigenous knowledge across Australia's tropical savannas.

**Ecos: How do you understand Aboriginal knowledge systems?**

**Johnson:** Indigenous knowledge takes in a whole social dimension and environmental ethos, whereas in a Western headspace we tend to reduce knowledge down to an elemental, material reference. For instance, people in Western societies will look at a tree or a plant species and identify its medicinal properties as its primary value, whereas many Aboriginal people would look at the same tree and say that tree is in fact a relative; it has some kinship relationship with the people as well as a range of other values – the medicinal is just one element.

**Ecos: How can Aboriginal knowledge inform sustainable practice?**

One important thing is immediacy. In remote Australia there is a sense of heightened responsibility because of the immediacy of the physical environment, whereas in urban areas, there is a physical and conceptual separation: for instance, the idea that milk does not come from cows, but from a bottle. I saw a documentary recently about water shortages in Melbourne. A woman was concerned because she would not be able to water her exotics or wash her BMW. There was ignorance there. She thought the water was in unlimited supply and simply arrived out of the end of the tap.

There is evidence everywhere to suggest that if you look after the environment it might look after you. Lots of Indigenous people argue that landscapes demand a human presence. It is not a hands-off view like a lot of people in the West have. People are responsible for 'country'. I have heard an old man saying, 'The country is too hard now because no one had been here for 10 years; no one has looked after it.' Where Indigenous people have been removed from their country, the country has suffered.

It works the other way too – there is a nexus between healthy country and healthy people. Research indicates that instead of spending millions of dollars on a remote clinic that a nurse may visit once every 12 months, if you divert even a little of that money towards re-establishing people back on the country, this will bring measurable health benefits that you can attach a dollar return value to. People are healthier when they are back on their country as is the country itself.

Indigenous people attribute a lot of social dysfunction to the fact that people have been removed from the country. In a classic example of the perceived relationship between human behaviour and the environment, they talk about the cane toad in the same terms as they talk about white fellas. Cane toads and white fellas have no history, are out of country and don't know how to behave; hence environmental degradation.

In Manankurra, in the south-west Gulf, Indigenous people have made a bread-like dough out of the cycad, which if it is not



Georgetown Billabong, Kakadu National Park, NT. • John Coppi/CSIRO Land and Water

prepared carefully is carcinogenic. It takes close to a week to prepare it, to make it safe. Once it is prepared correctly, people say it is much more filling and makes one feel much more complete than white-fella bread. Yanyuwa people call it *wurruma*, a food of authority. I think it encapsulates that whole environmental ethos: if you prepare the cycad carefully it will sustain you; if you do not prepare it with respect it will kill you.

**Ecos: What are your priorities for the work you are doing?**

**Johnson:** Education is a big part of it, to acknowledge that Indigenous Australians across the tropical savannah and around the continent are making contributions to sustainable land and sea management, creating outcomes that benefit all of us. And they are often doing it for little or no money.

A lot of the work is concerned with cleaning up the mess made by white land managers. Aboriginal people are involved in a range of activities from the control of feral animals, to weed and fire management. One specific example concerns ghost nets, as they call them, which drift discarded, and ensnare turtles and dugongs. Indigenous people are actively cleaning up those nets, and plastic bags – things like that. There are also ranger programmes policing illegal fishing and

protecting the nests of turtle eggs. These activities are important but they need to take more account of Aboriginal aspirations and land and sea management priorities. In many areas Indigenous people are not mere stakeholders but landowners.

**Ecos: Should Westerners learn from Aboriginal culture to think in more holistic terms?**

**Johnson:** I've talked about that gulf between the social and physical that occurs in urban environments. If you can repair that then you can talk credibly about notions such as spirituality and enchantment, which are an everyday, matter-of-fact reality for lots of Indigenous people. These notions engender respect and responsibility and have brought about long-term sustainable land and sea management practices, a material outcome.

Unless we do engage with those intangible dimensions or the wider social aspect of Indigenous knowledge – which includes ceremony, kinship, ritual, hunting, harvest, all of those things – and until we engage with them, Indigenous knowledge will continue to be subsumed into mainstream agendas.

Contact: Steve Johnson, Charles Darwin University, [steve.johnson@cdu.edu.au](mailto:steve.johnson@cdu.edu.au)

● Interviews conducted by Gillian Kendall