

Biodiversity in multi-functional landscapes: is there a role for reconciliation ecology?

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A new paradigm is emerging in the management of private land for biodiversity outcomes, involving new ways of framing conservation problems and innovative methods of intervention. Reconciliation ecology is about biodiversity conservation in human-dominated ecosystems, on the premise that there is not enough area in protected areas.

The problem worsens as species distributions shift in response to climate change. Hence, it is becoming more important to increase biodiversity in human-dominated systems. A 'win-win' situation emerges when biodiversity can be encouraged without reducing human utility of the landscape.

The inaugural National Agricultural Productivity and Reconciliation Ecology Centre (NAPREC) Conference was held in Deniliquin on the 4-5th of October to explore the role of reconciliation ecology in achieving 'win-win' situations when managing multifunctional landscapes within the Murray Valley in Southern NSW.

An engaged group of farmers, researchers, industry and government representatives got together to discuss how partnerships can be formed to reach environmental outcomes in modified landscapes. The Conference opened with a 'Welcome to Country' from a local elder of the Wamba Wamba and Perrepa Perrepa Nations and an introduction from the Mayor of Wakool Shire Council.



Farmers, researchers and government representatives attended the NAPREC conference on the 4-5th of October, 2017

The morning session involved a video presentation from the 'father' of reconciliation ecology, Michael Rosenzweig. Subsequent sessions described projects already occurring locally. Presenters included farmers, government and industry representatives and social/ecological researchers.

Presentations and discussions in the audience emphasised the critical role of trusting partnerships, equity, local knowledge, ownership and long-term investments of time and funding to enable successful reconciliation ecology in Australia. As one participant stated, “valuing local knowledge is valuing local people”.

Discussions also focused on the need for a social-ecological approach to reconciliation ecology, which could also provide a platform for integrating local, traditional and scientific knowledge towards shared objectives.

In the afternoon session we visited working farms around Deniliquin, showcasing examples of positive biodiversity outcomes in agricultural landscapes.

The day finished with presentations on the role of social context in natural resource management and a panel discussion reflecting on the key points from day one.

Day two consisted of workshop sessions on policy, research needs and the future of NAPREC, concluding with findings from the inaugural conference and key activities for the coming year. Key to the Conference was exploring the question: why do we need different approaches to biodiversity conservation? New paradigms emerge when enough evidence suggests that conventional patterns of thinking and acting are not achieving the expected biodiversity outcomes.



Daniel Svozil, Luisa Perez Mujica and Jess Schoeman during the visit to the farms (Source: NAPREC)

Local landholders described how ‘fortress conservation’ techniques of the past, where farmland was locked away into ‘conservation reserves to protect endangered species, eroded their trust and left them feeling isolated from decision-making processes.

This situation was typified by efforts to protect the Plains Wanderer in the early 1990s. The Plains wanderer is a charismatic, ground-dwelling, endangered bird that was found occupying grazing land between Hay and Deniliquin.

Regulatory processes and restrictions were applied to private land where Plains Wanderer habitat was determined. In parallel, the government acquired private pastoral land for conversion into National Parks. The view at the time was to remove all grazing to protect essential habitat. This was contrary to observations by farmers and as the grass grew, the

Plains Wanderer, being a ground-dwelling bird, left the protected areas in favour of shorter grass, as it increased visibility for the detection of approaching predators.

The Plains Wanderer example highlights the dilemma of how to best preserve species and the importance of good relationships with the farming community. Landholder concerns were not valued and despite considerable attempts by landowners over the years, it is only now that more positive pathways are being identified and developed.

Arguably the biggest issue was the rapid loss of trust by the farming community in conservation agencies, which took more than a decade to be restored.

The Office of Environment and Heritage began to talk with landowners on ways to address past regulatory concerns and encourage co-existing arrangements of management between farming and the Plains Wanderer.



Plains-wanderer, an endangered ground dwelling bird found in the Murray Irrigation District

(Source: <https://www.zoo.org.au/werribee/animals/plains-wanderer>)

The [Bitterns in Rice Project](#) on the other hand, is an example of a community and industry led initiative in the Murray Irrigation District. It emphasizes the need for local champions to showcase the use of rice production wetlands for Bittern breeding and innovative funding models including crowd funding. Rice has a bad environmental reputation because of the volumes of water required. The Bitterns in Rice Project was presented as an opportunity to 'rebrand' rice with a positive image and explore opportunities for creating refuges for wetland fauna.

These two examples show that local people, government and industry all have a strong role in implementing reconciliation ecology.

All the positive case studies of reconciliation ecology leads us to ask: is this too good to be true? Can humans really produce the food we need, while encouraging native species to thrive? Let's think about the commercialisation of native duck hunting in rice growing areas. It generates extra income for farmers and prevents crop damage, but the ducks are clearly not winners in this scenario. The right of biodiversity to exist based on its intrinsic value, rather than how it serves human needs and wants, remains unclear.

We need to be mindful of creating landscapes based entirely on human preferences. This could result in a narrow focus on 'charismatic mega-fauna', or species that are not in competition with agriculture, rather than a systemic approach to improving ecosystem health.

Thus, reconciliation ecology might not be a win-win for all components of the system. The question at the heart of it is, who is winning and who is losing? A challenge of implementing the concept is finding ways to manage trade-offs.

We have discussed some clear benefits of reconciliation ecology, but the concept needs further development in an Australian context. 'Reconciliation' is a loaded word in Australia. This creates both a need and an opportunity to foster strong Indigenous partnerships in future projects.

Reconciliation ecology is not a panacea for saving biodiversity. Rather, it is an approach to bridge social and ecological dimensions as part of a holistic approach. It creates a springboard for future collaborations based on partnerships. Concepts aside, the buzz in the room at NAPREC was energising. We all left with a feeling of hope and excitement for bringing biodiversity back into multifunctional landscapes.

Jess, Luisa and Daniel are PhD graduates at the Institute of Land, Water and Society. They are interested in social-ecological approaches to face complex problems in multi-functional landscapes.