Submission: *Inquiry into Australia's biodiversity in a changing climate*

Agriculture and Biodiversity: Farmers are the solution, not the problem

Biodiversity and farming go head to head as we struggle to feed the swelling ranks of humanity whilst conserving our continent's natural splendour. This dilemma has become acutely obvious to me as I participate in two projects:

1) A bid for a *Cooperative Research Centre (CRC) for Safeguarding Biodiversity* (http://www.facebook.com/SafeguardingBiodiversityCRC?fref=ts, a national program designed to prevent the extinction of Australian native vertebrate animals
2) *UWA Future Farm 2050*, for which the vision is "Imagine the ideal farming system for 2050, and do it now" (the year 2050 has been chosen because, by then, we will need to feed 50% more people globally without destroying the planet). Go to: http://www.ioa.uwa.edu.au/future-farm-2050

These two projects collide head-on because biodiversity can be lost when we change the landscape, and the farmers of Australia are the custodians for at least 60% of the landscape. We cannot do without agriculture, but the industry must be profitable. By contrast, protecting biodiversity is unlikely to be profit-driven. Can the two ventures ever be compatible?

Compatibility might look like academic idealism but, in fact, a major indicator of the success of any biodiversity program will be a normal level of profitability in agriculture so the farmers can pay salaries and have money for maintenance and development.

Importantly, up to a third of most farms is not profitable for cropping or pastures because it is rocky or otherwise unsuitable. Arguably, this land should never have been cleared of native bush. However, such land is not a waste but an opportunity.

Re-establishing the native ecosystem on the non-profitable parts of a farm is no simple matter – one does not simply go out and plant a few favourite native bushes. We need professional expertise: people who can measure the local ecosystem, make informed estimates of its likely structure before colonisation, and then formulate a feasible mix of plants for restoration. Planted areas need to link remnants of native bush and in steps towards the creation of a mosaic and corridors, eventually including neighbouring farms and public roadside verges and nature reserves. We would then expect restored ecosystems to be colonised by other Australian plants and, of course, by native Australian animals.

This brings us back to the bid for a CRC for Safeguarding Biodiversity and its three elements of research and development: i) gauge the urgency with which we need to tackle a given problem; ii) provide proven responses that solve the problem; and iii) future-proofing to prevent the problem recurring. Part of CRC's remit will be restoring and managing ecosystems restoration and management. We also have to grapple with the socio-political issues that get in the way of saving biodiversity. This type of problem is seen, for example, in cockatoos that are endangered yet are seen as pests by horticulturalists. At the other extreme, over-abundant animals are difficult to control in

peri-urban areas.

Both the CRC and the Future Farm address core elements of Australia's self-image. We cannot imagine an Australia without our iconic animals such as the bilby or the black cockatoo, and we cannot imagine an Australia that does not produce food.

So what is needed to marry these two identities? Probably the highest priority will be creating a socio-political system that encourages the custodians of our landscape to both produce food and participate in safeguarding biodiversity. The policies and laws of the land need to be compatible rather than contradictory. We currently punish industries that cause environmental damage but we should also financially reward them if they invest in ecosystem restoration.

On the Future Farm, we are certain that ecosystem restoration will have little effect on our long-term profitability because we are only using non-profitable parts of the farm. But the initial cost is significant, certainly tens of thousands of dollars annually over many years, and it would be unwise to expect all farmers to do this simply out of the goodness of their hearts.

On the other hand, it seems feasible to ensure a commitment from the farmers if they were rewarded financially for their efforts – via carbon sequestration, for example. Thus, 'Carbon Farming' is seen as a solution, but it looks like being bogged down in auditing processes as the government tries to ensure that thousands of farmers are not ripping off the tax payer.

A solution: give carbon farming funds to shires so they can purchase a couple of metres of land either side of roads for ecosystem restoration. Then the only auditing needed will be with a few dozen Shires who simply have to demonstrate a change of land use for the new corridors.

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