

Ecosystem Services and NRM Practice:

Where the Rubber Hits the Road

Background

These notes emerge from a 'road test' of Dr Roel Plant's investigation into the academic and grey literature and regional interviews on applications of the ES concept and a brief summary of Simone Maynard's experience with sharing SEQ's ES program overseas. The meeting was held at Land & Water Australia on Friday the 13th March 2009. About 35 people were invited and the following people attended:

1. Richard Thackway (BRS)
2. Geoff Gorrie (Australia 21)
3. Peter Ampt (Australia 21)
4. Simone Maynard (SEQ NRM and Australia 21)
5. Kimberly Green (AGLC)
6. Stuart Davey (BRS)
7. Roel Plant (UTS)
8. Tally Palmer (UTS)
9. Jim Donaldson (LWA)
10. Joe Walker (CSIRO)
11. Phil Price (LWA)
12. Scott Rayburg (UTS)
13. Matthew Colloff (CSIRO)
14. Andrew Reeson (CSIRO)
15. Kerryn Molloy (LWA)
16. Stuart Pearson (LWA)

Simone Maynard (SEQ Catchments)

An excellent summary of the SEQ ES Project was provided (Attachment D and E). Appendix 2 and 3 of Attachment E are especially enlightening applications of the ES concept that rolls all the way up to the UN Millennium Ecosystem Assessment and down to SEQ. Her international conference experience checked that this is a lead project in the international field.

Dr Roel Plant (UTS, Institute for Sustainable Futures)

Roel has recently completed a review of the international academic literature. He was funded by Land & Water Australia to conduct a small project to find out how ES concepts were being used in the Australian published and grey literature and to understand the experience of practitioners with ES.

Methods

Roel described the methods in a PowerPoint presentation and his results provide a preliminary data set for informing further work. The 'grey' literature review is likely to have omitted related relevant works that do not explicitly use the term "ecosystem services" (such as David Pannell's body of work). The regional NRM interviews were done in 7 CMAs in NSW and Victoria, classified into *experienced* (Goulburn-Broken, North Central) *intermediate* (Namoi, Border Rivers-Gwydir, Murray) and *beginners* (Murrumbidgee, Lachlan) in applying ES thinking.

Results

- Strong policy and implementation support for ES internationally and in the US particularly, where there is a practical agricultural focus to the USDA Office of Environmental Services and Markets.

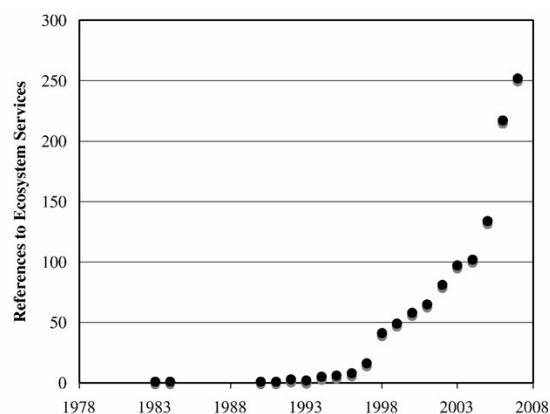


Figure 1 References to Ecosystems Services

- Several key reports published in 2008
- As shown in Figure 1 an increasing number of journal papers using the term “ecosystem services” or “ecological services” in an ISI Web of Science search through 2007.
- Australian research and practice on ES followed a similar trend and there are 100 Australian ES papers as seen in Figure 2. These include 35 papers that relate to biophysical aspects (such as water, pollination *sold* as ES), 15 to valuation of services and 25 that relate to policy design.
- A gap seems to exist in linking the concept and approaches to grounded problems.
- Some regional NRM practitioners thought ecosystem services were just buzz words, but nevertheless thought the concept was useful. Some were cynical about the concept and practitioners haven’t found the concept useful as a communication tool.

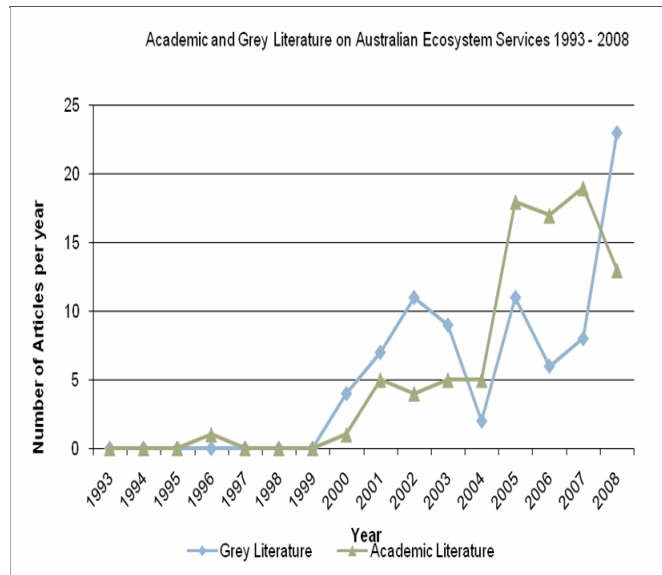


Figure 2 Academic and Grey Literature on Australian Ecosystem Services 1993-2008

Victorian CMAs said they have moved onto other Natural Resource Management (NRM) investment frameworks. Others have linked ES to resilience thinking.

- So-called ‘minimal models’, simplified versions of complex dynamic computer models that can simulate ES trade-offs, were identified as a potentially useful tool for NRM practice.

Discussion after the presentations

- The use of “ES concept” is preferred because the “ES approach” is about disciplinary tools rather than the concept. In prior and follow-up discussions with **Steve Cork** (who was unable to attend the meeting) Steve has commented that it wasn’t the *concept* that should be road-tested but the *applications* and that frameworks like multi-criteria analysis (MCA) and cost-benefit analysis (CBA) didn’t translate the concept very well.
- **Peter Ampt** commented that Australia 21 saw ES as the right concept that required breadth of discussions and a national strategy. They have made 2020 Summit submissions and had limited Caring for our Country traction. They are working with Nick Reid’s research group at UNE to develop a national network. Australia 21 proposed to have a broader group meeting.
- **Geoff Gorrie** saw the beauty of the concept (“there’s a role for everybody in ES”) and the difficulty of converting it into something to do and commented that only a few CMAs can put the ES into more than the headline goal of CfoC. He was supportive of the SEQ model and asked whether Australia 21 could work to bring practitioners, government and policy-makers together to develop a timely development program.

- **Richard Thackway** reflected on the general comfort with economic valuation approaches and tangible outcomes.
- **Simone Maynard** spoke about the importance of timing and not missing the moments.
- **Phil Price** stated to Simone that “In the end you’ve got to convince people that it matters”.
- **Matt Colloff (CSIRO)** said that there needs to be an important distinction between loss of ecosystem services due to a deliberate decision to change land use and the loss of ecosystem services due to decline in ecosystem health, but where the land use and ecosystem remains the same. He pointed out that mapping the latter has some predictive value for future capacity of ecosystems to deliver services. Mapping the latter and the former together represents the introduction of a confounding variable that reduces predictive capacity. Mapping the former only is not mapping ecosystem services. It is mapping change in land use, as per National Land and Water Resources Audit activities.
- He stated an understanding of the trajectory of ecosystem services at landscape scale was potentially of relevance for those landholders who may be engaged at the enterprise scale in future environmental stewardship programs.
- He clearly stated there appeared to be a drop in interest in the concept in the last couple of years amongst the research community.
- He observed in the SEQ work there is no clear delineation of what is an ecosystem service and what is an ecosystem function, and the importance of making the distinction. He noted that some functions were also listed as services. Greater clarity around this issue, as well as the purpose and application of the mapping may serve to improve the utility of project outputs and outcomes from this group.’
- **Simone Maynard** observed that some ecosystem services projects adopted a top down approach whilst others applied a bottom up and that there was a need for a national framework to coordinate efforts.

Unfinished business

1. The best next steps with this research and preliminary results
 - a. Share the resources developed in the project via a web site
 - b. Support SEQ as it moves onto the livelihoods frontier (how?)
 - c. Develop options for supporting regional ES practice (how? – e.g. an ES section on the NRM Toolbar)
 - d. I think we need something about filling the gap here, something like an ES Practitioners’ toolkit, drawing together simple models, MCA, CBA and scenario planning tools). Such a toolkit would only work if appropriate knowledge sharing would be put in place, combined with incentives for practitioners to actually use the tools (next iteration of Caring for our Country Business Plan?)
2. The best next steps for advancing and promoting ES thinking in general
 - a. Ecosystem Services will not work without getting landholders and the community involved and on ground actions happening. Regional bodies and local governments will play a major role in its delivery.

- b. Funding is essential as hard economic times for Catchment Management Authorities may see this cut-out or never attempted
 - c. Develop a collaboration with Australia 21
 - d. Further expand the website resources available
3. Upcoming activities
- a. Connection to Costanza's visit to Australia/Qld
 - b. Richard Thackway told the group that John Finisdore (from the World Resources Institute) was speaking at BRS on the 27 March 2009. The summary documents about US developments are useful and support Roel's view that the US agencies (EPA, USDA USGS NOAA) are moving quickly to adopt an ES approach.
 - c. Tally Palmer will host a Symposium on ES at the 2009 INTECOL conference in Brisbane (16-21 August).