



“What is the job of a river?”

Penny Walker and Mark Everard discuss engaging stakeholders in using an ecosystem services approach

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Penny Walker (**PW**): At a river basin management workshop, one of the stakeholders, a farmer, frustratedly demanded “What is the job of a river?” I remembered this a few months later, Mark, when you were explaining ecosystem services. So, can you tell us what an ecosystem services approach is?

Mark Everard (**ME**): Thinking about ecosystem services makes us recognise the unbreakable dependencies between ecosystems and the multiple, largely uncounted services they provide to humanity. Assessing the potential impacts of decisions from an ecosystems context propels you beyond considering how well a project meets narrowly defined goals, such as boosting the local economy, to consider how it might impact on the full spectrum of services that the affected ecosystem is already providing.

PW: What might these be?

ME: A good starting point is the UN’s Millennium Ecosystem Assessment (MA), published in 2004/5, which unified various predecessor ecosystem service schemes into a reclassification of 27 services across the four broad categories of provisioning, regulatory, cultural and supporting services. This basic set can be applied to habitats and regions across the world, and augmented as needed in particular ecosystems; for

example, I add fire and salinity regulation when working in South Africa.

If we don’t consider all of these services together our decisions are likely to continue to optimise a few target benefits but overlook and as likely erode the overall capacity of ecosystems to meet our needs. Alternatively, an approach which analyses them as an integrated system enables us to optimise benefits for all who share these ecosystems, and to innovate to avoid or minimise negative impacts. It means that we’re less likely to make poor, short-sighted decisions which overlook critical ‘services’ provided by ecosystems or ignore some of their beneficiaries.

PW: That level of detailed systematic analysis sounds like a job for experts.

ME: Actually, people without any professional training can ‘get it’ very easily.

I’ve just come back from northern KwaZulu-Natal in South Africa. Here, the legacy of apartheid means that many more productive lands are held by white farmers or industrialists, whereas Zulu tribal lands generally encompass less productive areas. I had the honour of being invited to a meeting of Zulu tribal chiefs. Though naturally suspicious of white people come to talk to them, and having had few educational opportunities to help them grapple with detailed scientific terms, these people nonetheless rapidly grasped that over-grazing the land leads to less grass cover, which leads to less water yielded from the catchment because the bare soil

Table 1: Summary of the MA (2004/5) classification of ecosystem services

Provisioning	Regulatory	Cultural	Supporting
Fresh water	Air quality	Cultural heritage	Soil formation
Food	Climate	Recreation and tourism	Primary production
Fibre and fuel	Water	Aesthetic value	Nutrient cycling
Genetic resources	Natural hazard	Spiritual and religious value	Water recycling
Biochemicals, natural medicines, pharmaceuticals	Pest	Inspiration of art, folklore, architecture etc	Photosynthesis
Ornamental resources	Disease	Social relations	Provision of habitat
	Erosion		
	Water purification and waste treatment		
	Pollination		

doesn't hold it. They also understood that a small sacrifice of stocking density would increase water yield lower in the catchment, which could then be compensated by the 'users' of that extra water (generally white intensive farmers, industry and coastal developments). Equally, the white farmers in the cooler uplands of another of our target catchments understood that their use of water had potential ethical implications if it reduced water availability for people in the arid tribal lands downstream. This approach is very intuitive for people who have a direct relationship with the ecosystem. It is a metaphorical chessboard around which to engage disparate, formerly disengaged stakeholders in playing the game of 'how do we share this ecosystem equitably and sustainably?'

PW: Tell me more about how this project happened.

ME: Under a 'Watercourse' programme funded largely by UK Government, delivered by a great team of British and African scientists and facilitators, we got different people from discrete areas of this catchment together in a series of meetings to talk about their use and aspirations for water. They explored the lines of connection and interdependency between different communities sharing the catchment, through the 'language' of ecosystem services.

PW: What about people who don't have a direct connection to the ecosystem services: people with mains water and whose food comes from the supermarket?

ME: No matter how we live, we all depend upon a suite of ecosystem services. The approach really helps people recognise these dependencies, and their different geographical scales. Many of us are simply unaware of them, mainly because the 'bills' for the services are often paid by others. A classic example is planning for flood and coastal defences, where people affected by 'managed realignment' may feel that their traditions and well-being are being prejudiced to benefit other remote communities. The ecosystem services approach helps tease out the different service 'providers' and 'users' and look for market or other opportunities to connect them.

PW: In my experience of facilitating stakeholder dialogue, people disagree with each other about what the services are, and which are useful – at least initially.



The farmer said the job of a river is to carry excess water away from farmland as quickly as possible. The wildlife person stressed habitats. Another stakeholder emphasised drinking water.

ME: Yes, initially people may well disagree, and each do indeed hold a jigsaw piece of the bigger picture, but we have the 'Tower of Babel' scenario here! Without a common language, there is no common overview from which to see that these pieces are actually completely interdependent. Ecosystem services provide a shared language which makes the choices, implications and opportunities for innovation more transparent. The connections between the different services are also clearer – how water regulation is connected to land use, recreation, soil formation, ecosystems and industrial demand.

PW: So an ecosystem services approach helps stakeholders talk together about connections, interdependency, sharing and trade-offs. What are the benefits of engaging stakeholders and the public for people who use ESA professionally?

ME: Well the approach is used to aid decision-making. It's good to engage people earlier, before different value systems and world views run into conflict with each other, or indeed with 'solutions' that they perceive as being imposed upon them. It's basic DAD / EDD turf! (see issue 71, February 2009). Engagement makes it more likely that the ensuing decision is co-created from knowledge shared by the community, supported as needs by 'experts', and which is therefore better understood and accepted by everybody.

It also improves everyone's capacity to make more equitable and sustainable decisions. In this process, people learn something new about where they live, what they depend upon, and that bit more about how they need to cooperate to share it.

PW: Where is ESA being used now, to inform actual decisions?

ME: Since the Millennium Ecosystem Assessment reports were published, there is global impetus to apply ecosystem services as a more integrated framework for managing environmental resources. It is big in international development circles, the US is investing heavily in the approach, and it is being promoted by the EU and Defra.

PW: Thank you. And if people want to find out more about ESA?

ME: There are three key sources:

- The UN's Millennium Ecosystem Assessment documents (all accessible at www.millenniumassessment.org) and particularly the Ecosystems and Human Well-Being: Synthesis report (www.iema.net/env/87/7)
- Defra's 2007 Securing a healthy natural environment: An action plan for embedding an ecosystems approach (www.iema.net/env/87/8)
- Mark Everard's book, *The Business of Biodiversity* (2009, WIT Press). ■

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