

Ecosystems Services and Water Framework Directive

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The Water Framework Directive¹ is often described as inspired by the need to take an Ecosystems Approach to water management. Indeed main aim of the WFD, given in the preamble to the Directive, is to ensure the protection and sustainable use of water in the framework of the river basin. The directive involves consideration of stakeholder opinion, cost-benefit of management action and the economic value and use of water. All of these aspects are in line with the ecosystem approach.

First River Basin Management Plans

The Ministers for Environment approved for publication the first the river basin management plans for England and Wales in 2009. Involved parties-are now implementing the actions put forward in those plans. The second plans are due for publication in 2015. River basin planning and management is unusual in a planning context in that the objectives including “achieve good status by 2015” were hard-wired in to the directive. Normally the objectives of an environmental planning process would be developed at the start of the process-as part of the planning process itself. So the first river basin plan discussion and consultations became more technical discussion around the meaning of “good status” and a test of compliance with the directive and less of an engagement and deliberation about what benefits would be gained by achieving the objectives.

Good status has two components – (a) good chemical status driven by a desire to protect human health and the environment, derived mostly from toxicological data with safety factors applied (to account for testing uncertainties, biotransformation, bioaccumulation and transport in the environment etc)– and restricted to the most biological active substances and (b) good ecological status – a mixture of biological, hydromorphological and physico-chemical parameters – involving field measurement and consequent uncertainty. One concept of importance in good ecological status is that of a reference condition to assess status against. This concept acknowledges that non-impacted environments, which have different geological and topological characteristics, will therefore have different biological characteristics. This is fundamental to any ecosystem approach. Importantly it requires a basic understanding of different ecosystems and the differing environmental parameters / pressures we need to manage to achieve “good status” in those ecosystems.

The economic aspects of the WFD have been dealt with through a preliminary cost effectiveness analysis of the measures to achieve the objectives, the willingness to pay for achievement of objectives and a regulatory impact assessment of the measures. In all these studies the achievement of the status objectives has been the goal without a clear espousal of the benefits to communities of their water bodies meeting those objectives. Often the

understanding of cost has been much clearer than the understanding and monetisation of benefits.

In the river basin management cycle the engagement strategy was driven partly by the understanding developed from a pilot study on the River Ribble and partly by compliance with the directive to consult on the various statutory outputs that lead to the final river basin management plan. The Ribble study indicated that consultation with all the public would only result in responses from those already involved with organisations which we would have consulted on at an organisational level. The need for compliance and challenging timescales drove engagement in delivering the first plans down the, decide announce defend model, rather than the more collaborative engage, deliberate and decide, better aligned to the ecosystem approach.

Second River Basin Management Plans

The second plans are now being developed. We are discussing whether we can build these more around the second aim of the directive, “promote the sustainable use of water”, in more collaborative fashion and using an ecosystem approach.

In line with Defra’s requirements we are now testing engagement in at least 10 pilot catchments – with the aim of developing an approach to be taken forward in all catchments across England, and probably something similar for Wales, and so covering the 11 River Basin Districts. Other bodies such as Water Companies and River Trusts will be involved in facilitating the catchment level engagement.

The focus for engagement in these catchments will be more aligned to the question posed in Defra’s Natural Environment White Paper consultation “What can nature do for you” – or in this case what does this catchment do for you? What would you want it to do for you in the future? And what is stopping this happening?” Ecosystem services obviously provides the systematic basis for understanding the range of benefits people derive from their catchments and what they could be gaining but also the dis-benefits of concentrating on only one or a few specific services. This may well require us to take a more diverse approach to monetising benefits than the previous “willingness to pay” approach.

Our existing ecosystem service case studies have given us a good start in understanding ways forward with these types of questions. We have also begun to trial an ecosystem approach to river basin management plan engagement, in a rural and an urban catchment. Early feedback shows that the ecosystem services concepts are useful in engagement of the type described earlier. The full panoply of services can be viewed but quite early on it is possible to reduce the range to those particularly valued by those beneficiaries and providers in the catchment. Later in the planning process where measures options appraisal is required it will be necessary to revisit the full range of services, costs and benefits to ensure the most sustainable outcomes are planned for.

Conclusion

Soren Kirkegaard (1813-1855) highlighted another and pressing issue for us in using the ecosystem approach to river basin management planning – when he said “life can only be understood by looking backwards –but it must be lived forwards”. In answering the question “what can the catchment do for me?” during times of financial stricture we must be able to provide convincing and compelling predictions for outcomes, that maybe complex and uncertain, to encourage society to invest limited resources. Systems thinking is not common and we are moving in complexity from a situation of being able to predict where a stone lands if it is thrown, to where a bird lands if it is thrown. One might say that with the complexity of ecosystems and economics we are throwing two birds and trying to get them to land together! In this light – we need to be very clear that the adaptive management approach could be our main salvation – being willing to try new and innovative approaches and ensuring that we capture and disseminate the learning from each and every environmental management “experiment”,

Paul Logan -14th April 2011

Reference

1. Directive 2000/20/EC of the European Parliament and of the Council 23 October 2000 establishing a framework for Community action in the field of water policy. OJEC 12.12.2000

Disclaimer

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