

Catchment partnerships – better planning for our rivers and landscapes

How can catchment partnerships use recent research to help balance the increasing demands society puts on our landscapes?



Photo by Westcountry Rivers Trust

Living With Environmental Change Policy and Practice Notes

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The **Living With Environmental Change Partnership** brings together 22 public sector organisations that fund, carry out and use environmental research and observations. They include the UK research councils, government departments with environmental responsibilities, devolved administrations and government agencies. The private sector is represented by a Business Advisory Board.

We place increasing demands on our landscapes. Historically we have managed these spaces by prioritizing a single sector in a given location, for example farming, or recreation, or biodiversity, but this has failed to address the ways in which land, water and nature are interlinked. Catchment partnerships, rivers trusts and other environmental organisations are playing an increasingly important role by developing stakeholder engagement and partnership working, in order to understand the range of demands from society and where there are trade-offs or complementarity. This understanding leads to recognition of the need for effective holistic planning and collaborative management, and these approaches must be informed by the latest research and methods.

What is needed for effective catchment planning?

The need to use our landscapes and water resources in a way that provides the broader goods and services vital to society requires effective integrated assessment and planning at a catchment scale. However, historically this has not happened because:

- We have managed the land through single sector policies and plans that do not take sufficient account of their effect on the wider ecosystem and the multi-functionality of land.
- The external costs of land use, where some services are provided to the detriment of others, has not been reflected or accounted for in planning, markets or policies.
- Single sector groups have developed high-certainty, single-outcome interventions such as activated carbon water treatment, flood levees, or SSSIs (sites of special scientific interest), rather than less certain multiple-outcome solutions.

What's involved in integrated catchment planning?

A process of Visioning; Review; Synthesis; Delivery; Monitoring and Communication may be helpful:

VISIONING means open deliberation of all legitimate interests and values and the collective development of **shared strategic goals that aim to match local priorities with national requirements and policies. Approaches can vary, but activities can include:**

- Public review of issues, concerns, challenges and conflicts such as that carried out by the Rural Economy and Land Use (Relu) Testing a Community Approach to Catchment Management project in Loweswater, which investigated new forms of participatory catchment analysis and governance with the local community.
- Open public education and awareness-raising events that can stimulate local interest and capture local views and priorities.
- Modelling and visualisation exercises that can raise awareness of the potential benefits deliverable by healthy and multi-functional ecosystems.

REVIEW means reviewing both the current understanding of the pressures and problems in a catchment and the organisations that influence the delivery of ecosystem services. Activities can, again, include use of modelling and communication tools, stakeholder engagement, community events and public participation.

The information collected and assessed includes:

- Data and information on ecosystem health and services delivery for the catchment.
- Data on problems and threats.
- Data from participatory use of modelling tools such as the ECM+ model developed under the Relu Catchment Management for Protection of Water Resources project to develop collective understanding of the scale and severity of problems such as diffuse water pollution.
- Data on the geographical and sectoral responsibilities of the groups and organisations interested in engagement.
- Previous and current plans of relevant organisations and businesses, as well as their planning cycle.
- Assessment of gaps in evidence, plans, organisations etc.

SYNTHESIS involves running stakeholder participation activities that further develop a shared understanding of the pressures and opportunities in a catchment, and allow the review of disparate, multi-sector views and management options, looking, for example, at how any particular parcel of land might deliver a range of different resources or ecosystem services. Activities can include:

- Synthesis and communication of ecosystem health in a catchment using tools such as the Ecosystem Health Report card that uses European Water Framework Directive evidence to communicate wider ecosystem status, developed by the Relu Catchment Management for Protection of Water Resources project.
- Stakeholder-generated modelling and mapping of multiple benefits and outcomes, such as the ecosystem service mapping work reviewed under the Innovative Market Based Mechanisms Relu project, showcasing areas where interventions could generate increasing multi-sector outcomes and how these benefits could be sold to beneficiaries through innovative market mechanisms.
- Further use of tools such as the ECM+ models to explore and test solutions and management scenarios, based on identification and apportionment of pollutant sources and loadings.

DELIVERY involves review of catchment plans, data and organisations that can be combined with the shared understanding gained through stakeholder participation. It is then possible to demonstrate the potential outcomes and design ways of monitoring these. This can then be fed into:

- An overarching catchment plan that shows what needs to be done, who will do it, who will fund it and what the outcomes will be. This needs to be referenced so that people can search by area, intervention, delivery organisation, funding organisation and intended outcome.
- Upwards reporting through the structures set out within national plans, such as the programme of measures under the Water Framework Directive as well as other directives such as those on habitats, species, floods etc.
- Downwards planning through inclusion in the individual business and other plans of the different organisations active in the catchment. Crucially this includes private landowners and their advisers. Examples of other groups delivering solutions are wildlife trusts, rivers trusts, and the Woodland Trust. Organisations providing funding and implementing solutions include water companies, government agencies and other public bodies such as local authorities, the Environment Agency, Natural England and the Forestry Commission.

MONITORING AND COMMUNICATION involves monitoring of outcomes and wide communication with the beneficiaries of improved ecosystem service delivery to ensure better understanding of the benefits of integrated multi-sector planning and catchment management.

Examples of this include:

- Internal communications between stakeholders already involved within partnerships as well as external communication aimed at other potential stakeholders who would be interested in catchment management.
- Public activities such as volunteer days (including monitoring activities), county shows, and community events.
- Compilation and synthesis of Environment Agency and other monitoring data and effective periodic communication of trends using tools such as the Ecosystem Health Report Card or other examples of visual mapping of a catchment, such as that used by the Eden Rivers Trust.
- Online media and presentation of results from monitoring including interactive graphics and short videos about the area, as well as access to actual data and summarised information.

What can rivers trusts and catchment partnerships contribute?

Rivers trusts and, more recently, catchment partnerships have been formed to encourage a move away from single sector planning, through wider stakeholder engagement.

This process can enable:

- Bringing together of a wide range of stakeholders and enablers who affect, or are affected by, the way ecosystems deliver goods and services, in order to identify and frame the key issues.
 - Use of these multi-sector stakeholders to understand the nature of the different pressures and problems affecting landscapes and catchments, and to deliberate on priorities and solutions.
 - Valuation of the environment in the broadest terms to afford better protection, including taking account of the positive and negative side effects of land use, rather than just direct outputs.
- Planning for multi-outcome solutions, including which organisations could deliver them and how they will be funded, resulting in multi-sector policies and plans that take into account their effect on the wider ecosystem, well-tailored to local conditions through use of both local and scientific knowledge.
 - Connecting local plans with national priorities and opportunities provided by existing policy and funding mechanisms, innovating new opportunities, but also identifying and addressing constraints and barriers to change.
 - Solutions that match local priorities with national goals, and that have legitimacy through local ownership and commitment, plus the endorsement of higher level agencies with relevant statutory responsibilities.
 - Solutions based on an allocation of available resources accepted as fair and equitable by all those affected.
 - A shared understanding of any uncertainties involved in delivering the solutions.

Further information

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Useful resources: There is a growing knowledge base to support the development of catchment partnerships and integrated catchment planning. There are several mechanisms available to partnerships for locating appropriate evidence:

- **Demonstration Test Catchments**
www.demonstratingcatchmentmanagement.net A UK government-funded project designed to provide robust evidence regarding how diffuse pollution can be cost-effectively controlled to improve and maintain water quality in rural river catchment areas
- **EATME** www.eatme-tree.org.uk A self-guided roadmap for professionals to work through the key stages of a project, decision or policy process
- **NERC/BESS Ecosystem Service Mapping Gateway**
www.nerc-bess.net/ne-ess A map based gateway for highlighting mapping projects across the UK by service and habitat
- **Catchment Change Management Hub** <http://ccmhub.net/> An online repository for UK catchment data
- **Catchment Based Approach Forum**
www.catchmentbasedapproach.net An online forum to answer questions about research and current opinion on the development of the Catchment Based Approach

Smith, L. and Hiscock, K. (2009) Catchment management for the protection of water resources: The Ecosystem Health Report Card. Relu Policy and Practice Note No. 7.
www.relu.ac.uk/news/policy%20and%20practice%20notes/Smith%20PP7%20final.pdf

Catchment Management for Protection of Water Resources
<http://relu.data-archive.ac.uk/explore-data/search-browse/project/?ID=RES-229-25-0009>

Innovative market-based mechanisms and networks for long term protection of water resources <http://relu.data-archive.ac.uk/explore-data/search-browse/project/?ID=RES-240-25-0018>

Smith, L., Hiscock, K. and K. Porter, Catchment Management for Protection of Water Resources: a 'template', available from: Catchment Management Resources www.watgov.org/index.html

A community approach to catchment management. Relu Policy and Practice Note No. 32.

www.relu.ac.uk/news/policy%20and%20practice%20notes/Waterton%2032/RELU%20PP32.pdf

Modelling, Decision Making and Flood Risk: doing simulation modelling differently Relu Policy and Practice Note No. 22.

www.relu.ac.uk/news/policy%20and%20practice%20notes/22%20Whatmore/RELU%20PP22.pdf

Locating and Measuring Nature's Benefits, LWEC Policy and Practice Note No. 2. www.lwec.org.uk/publications/locating-and-measuring-nature-benefits

US EPA Handbook for Developing Watershed Plans to Restore and Protect Our Waters, EPA 841-B-08-002, March 2008

http://water.epa.gov/polwaste/nps/handbook_index.cfm

Examples of mapping and modelling techniques used by Westcountry Rivers Trust www.wrt.org.uk/evidence.html

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