The benefits of agri-environmental schemes and nutrient budgeting in the Ythan estuary - UK

1. Policy Objective & Theme

- ADAPTATION TO RISK: Preventing and managing natural hazards and technological (human-made) hazards
- SUSTAINABLE USE OF RESOURCES: Preserving coastal environment (its functioning and integrity) to share space

2. Key Approaches

- Participation
- Knowledge-based
- Socio-economic

3. Experiences that can be exchanged

Agri-environmental schemes offer new interactive and participative approaches to environmental protection. Sites exist throughout the EU where diffuse pollution sources make protection through top-down regulation problematic.

4. Overview of the case

Rising pollution is threatening bird life in the Ythan estuary, northeast Scotland. The Ythan LIFE funded project implemented a range of education and awareness-raising activities to involve local communities in the environmental protection of the river.

5. Context and Objectives

a) Context

Aberdeenshire's Ythan estuary in northeast Scotland is an extremely important site for birds, and is designated as a Ramsar Site and as a Special Protection Area under the Birds Directive. Levels of nitrates and phosphates in the estuary waters have been increasing in recent years. This has led to a growth of green macro-algae on the estuary mud which is a potential threat to the food supply of wading birds. Current approaches to regulating this problem are only partially effective. Despite SPA status, this designation does not protect the site from the impacts of activities upstream or more general impacts such as pollution of the adjacent sea area. Designation as a Nitrate Vulnerable Zone (NVZ) also will not protect the site from pollutants other than nitrogen (e.g. phosphorus and soil particles). Unless the local community is encouraged to take responsibility for the state of the river and its associated habitats, and to instigate a voluntary response to tackle the problems facing the river, significant damage may be done to its natural heritage in future years.

b) Objectives

The work programme aimed to introduce measures to help reduce inputs of a range of pollutants, and thereby to enhance the river's ecological status and to provide a model of best practice for the involvement of local communities in these issues. It also aimed to reduce the growth of algae in the estuary and, as such, set out to assess the value of taking a community involvement approach to developing sustainable land management practices in the Ythan river catchment. The intention was to achieve more wide-ranging results than would otherwise be gained through Nitrate Vulnerable Zone (NVZ) designation alone.

6. Implementation of the ICZM Approach (i.e. management, tools, resources)

a) Management

Aberdeenshire Council is the responsible, regional authority for the county of Aberdeenshire in eastern Scotland.

b) ICZM tools

Sustainable land and river management was promoted through raising public awareness and engaging the community in a range of measures viz.:

- Farmers were assisted to apply to join the Rural Stewardship Scheme (RSS) to support the development of buffer strips alongside streams and rivers. Water management plans were also produced for these farms.
- Water quality data was collected over a three-year period. Local people, supported by Scottish Environment Protection Agency staff, were involved in water quality sampling at eight sites and in 50 river habitat surveys.
- Anglers, walkers, local residents and national agencies were brought together to select and manage restoration work on sections of the river to create areas of semi-natural habitats;
- The University of Hertfordshire were contracted to design computer software to enable local farmers to complete nutrient budgets.
- Local farmers were shown around two farms that were chosen to demonstrate the benefits of agri-environmental schemes and nutrient budgeting.
- Local communities were involved in awareness-raising events in schools and community centres. They selected river restoration sites and assisted with restoration work on 12 sites.

The project also monitored changes to the condition of the river and estuary through the use of aerial photography, and bird counts were carried out every two weeks for two years as part of on-going monitoring at the estuary. In addition, social surveys assessed public attitudes to the work and to water management at the beginning and end of the project.

7. Cost and resources

The total budget was €737,000.

8. Effectiveness (i.e. were the foreseen goals/objectives of the work reached?)

The project was an excellent example of a participatory project in a rural area. The outputs of the project were considerable. Contacts with around 200 farmers resulted in a rise in applications to RSS, and more than 70 kilometres of buffer strip had been established by the end of the project. 102 water management plans for farms were completed by the farmers. Amounts of suspended solids in some neighbouring streams were reduced and the nutrient budgets demonstrated that fertiliser use on farms could be cut by an average 15%. River restoration sites were selected by local communities and work on 12 sites was completed. Another positive result was the establishment of a forestry management plan for a large woodland site adjacent to the River Ythan. More than 2,000 broad-leaved trees were planted at 35 riparian sites. The project organised around 50 events, including a major conference in October 2004. Many of these events were organised and/or supported by community volunteers. The project successfully demonstrated a range of interventions to raise awareness of the river and mobilise interest in mitigation projects in the local community and is a model for similar initiatives to clean up river catchments.

9. Success and Fail factors

Nutrient Budgeting software aimed at farmers was designed by the University of Hertfordshire. Training courses were run and 62 farmers were helped to complete nutrient budgets. It is likely that this software will continue to be used in the future by farmers and farming advisors. The flexibility of the participating organisations and their ability to consider a wider range of issues than their own individual remits was considered important. The very real level of commitment, interest and participation shown in the wider community which led to their successful involvement in professional activities such as survey work was also significant. A flexible funding system allowed full public participation in the decision-making process. The approach taken,

however, increased the time requirement when working with the many stakeholders in partnership and when dealing with the wider groups, such as farmers, on a one-to-one basis.

10. Unforeseen outcomes

The project was selected as one of the "Best" LIFE Environment projects in 2005-2006

11. Prepared by

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12. Verified by

Tamsin Morris, Former project manager in Aberdeenshire County Council

13. Sources

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- SLIM-UK Catchment Cases: The Ythan and Eyebrook Watson D, Morris D, Collins K, Stoate C, Blackmore, C., and Gibbon, D. (2004) Social Learning for the Integrated Management and Sustainable Use of Water at Catchment Scale.

SLIM -UK Catchment cases - Ythan estuary (888.37 KB)