Environment Agency

Evidence

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Ecosystem services assessment of sea trout restoration work on the River Glaven, North Norfolk

Project summary

'Ecosystem services' analysis looks at the wider benefits that an ecosystem provides to society and can be used as a powerful tool to help identify the wide range of benefits resulting from environmental management schemes, many of which may not have been part of the initial scheme design. Using these techniques, the Environment Agency has shown that a scheme which aimed to recover sea trout populations in the River Glaven, North Norfolk brought many additional environmental benefits.

The main aim of the North Norfolk Sea Trout project on the River Glaven was to restore populations of sea trout in the river. In order to do this, the river had to be reconnected laterally and longitudinally and restored to health and full function. This led to many other benefits. Benefits to angling and broader 'provisioning services' were a relatively small proportion of the benefits, with more substantial benefits coming from providing habitat for other species and increasing recreation and tourism. The project also meant that there was more scope for regulating the environment.

The project also brought together diverse groups from across the catchment, who worked together to restore the river. This increase in 'social capital' was seen as a major gain, with significant associated benefits such as providing facilities for local people.

The study also showed that the benefits expected for further work to provide ways for fish to bypass major obstructions in the river on the Bayfield Estate provide a solid economic case for further progress with river restoration. Indeed, this additional work is arguably justified on flood risk management grounds alone.

Defra use a weighting score for assessing ecosystem services based on the 'likelihood of impact'. This gives us a quick and helpful way to work out the most likely consequences of restoration and bypass works. As in related case studies, so many positive outcomes seem likely to come out of habitat rehabilitation that we don't always need to put a financial tag on the benefits.

Ecosystem-based restoration schemes appear to have a uniformly positive effect on a wide range of ecosystem services, with substantial benefit-to-cost ratios. Therefore we might not always need the expense and delays of economic valuation to justify continued investment in habitat restoration.

The study also underlines how powerful ecosystem services can be for identifying the breadth of issues and potential beneficiaries touched upon by environmental management schemes. By contrast, it also demonstrates the dangers of 'silo thinking', often enforced by siloed organisational structures, mandates and/or budgets. The best and most sustainable outcomes can only occur when a full range of impacts and benefits is considered at the same time.

This information will be useful to environmental managers, practitioners and policy-makers. This includes not only those who work primarily with fisheries and river restoration, but also with wider environmental initiatives (such as determination of 'programmes of measures' under the EU Water Framework Directive, water quality improvement or Biodiversity Action Plan measures) where alternative, ecosystem-based solutions may yield benefits.

The report provides both generic principles relevant to environmental management initiatives, but also quantified and monetised values that may be transferred to other schemes. This will help the Environment Agency and its partner organisations in applying an 'ecosystems approach' to environmental interventions, and in taking better and more rounded account of all outcomes for the environment, people and economic interests.

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