

EXECUTIVE SUMMARY

WFD 94 WFD and catchment restoration – scoping project

Background to research

The Water Framework Directive (WFD) introduces a new way of managing the water environment of Scotland. Whilst much of Scotland's water environment is in good condition initial assessments by SEPA suggest approximately 40% fail to meet environmental standards that support good ecological status as required by the WFD. A significant contributor to the pressures on these water bodies arise from impacts on river morphology from historical engineering, urban developments, agriculture and electricity generation.

Objectives of research

This project aimed to pilot a process for identifying and prioritising catchment-focused remedial measures to improve river habitats and morphology. The process is intended to provide a consistent and transparent method of prioritising remedial measures at the scale of waterbodies and catchments, in order to provide Area Advisory Groups (AAGs) with a robust strategy within which to apply their detailed local knowledge.

Key findings and recommendations

- A relational database and spatial query tool have been developed to provide summary information on pressures on individual water bodies that collectively constitute a catchment.
- The work has identified the need for and provided a flow network that recognises the spatial dependencies between individual water bodies that constitute a catchment.
- The work also identified that the existing data on morphological pressures needs to be linked to water bodies.
- The spatial query tool and databases allow users to identify what the main pressures are on a given waterbody.
- An index of Potential Benefit of Restoration (PBR) for water bodies and catchments was developed. Together with the flow network, relational database and query tool, the PBR provides a semi-automated method to prioritise morphological restoration measures at the catchment scale.
- The prioritised morphological restoration measures were used to develop an outline plan, which highlights waterbodies that will benefit most from morphological restoration.
- The tools also allow users to identify waterbodies where measures to address non-morphological pressures (e.g. water resources) should be given equal or higher priority.
- Matrices have been developed to help decision-makers identify potential implementation options for the prioritised morphological measures..
- The project identified that it will be crucial to have a significant input of local technical and stakeholder knowledge to develop an agreed, feasible prioritised restoration strategy at the catchment scale.
- River Basin Planners and AAGs provide the mechanism for participant and stakeholder involvement. This will also help to develop local ownership of catchment restoration frameworks.
- The framework has been trialled on the River Dee, NE Scotland. The process provides scores and restoration priorities which local knowledge and anecdotal evidence would support.
- Future requirements for the work include:

- Further development using the revised and updated river classification and other related data as they become available
- Further trialling on catchments that are more complex than the River Dee and where there is less information
- Further involvement of River Basin Planners and potentially AAG members in testing and developing the approach proposed

Key words: WFD, morphological, pressures, restoration, measures, decision support tool, decision support framework