Environment Agency

Evidence

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ToolHab - Optimising habitat description and evaluation systems for fish in rivers

Project summary SC060093

ToolHab (Tools for managing habitats) is a decision support system developed to help river managers identify causes of low fish populations in rivers and prioritise management action.

The tool was developed by the School of Geography at Southampton University in conjunction with Fisheries and Biodiversity staff from the Environment Agency.

Decision support systems are computer software combining data, models and knowledge to help decision-making in organisation. Such systems will be vital to support diagnosis of reasons for failure of river water bodies to achieve good ecological status as required by the Water Framework Directive (WFD), and for prioritising actions to improve the status of fish stocks in rivers.

ToolHab is a prototype tool built in Access and consists of five elements:

- a wide range of sources of environmental and biological data on rivers from Environment Agency monitoring programmes (e.g. Fisheries Classification System, River Habitat Survey, water quality assessment)
- an archive for entry of anecdotal and miscellaneous information (such as fish stocking, pollution, special investigations, walk-over surveys etc)
- a river reach definition tool which helps identify reaches that can be considered as discrete management units
- habitat suitability models for selected fish species
- a bespoke user interface with in-built GIS developed in conjunction with the user community in the Environment Agency.

ToolHab was produced as part of PhD research into the social science of design, uptake and implementation of decision support systems in organisations. The thesis document and the ToolHab user manual are available from the Southampton University website: http://eprints.soton.ac.uk/347111/, and the user manual can be viewed on the project web site www.riverhabitatsurvey.org.

This new approach stresses the importance of understanding the cultural system in which decision support systems are used, and shows how cultural enquiry is used as part of an iterative process for designing software, summarising data, and developing models. Therefore, the study has wider implications for the Environment Agency and its partners when developing other decision support tools for a range of disciplines and activities.

ToolHab will undergo further trials with users to identify other requirements for source data and functionality and to explore how it could be developed into a wider diagnostic suite to support WFD investigations. The tool can currently be tested by any potential users by submitting a request to the project manager. Following these trials, ToolHab will be used by Environment Agency catchment officers and river basin planners to formulate detailed programmes of measures, and could be used by partner organisations such as the rivers trusts.

This summary relates to information from the following project:

Report: SC060093
Title: ToolHab (Optimising Habitat Description and Evaluation Systems for Fish in Rivers)

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