

**RES-224-25-0081, Prof CL Spath, Macaulay Institute**

**01 Jul 04 – 30 Sept 05**

**Achieving Sustainable Catchment Management: Developing Integrated Approaches and Tools to Inform Future Policies**

The overall purpose of this project was to critically reflect on current practice and contribute to policy makers' needs for better guidance on how to conceptualise and achieve integrated catchment management (ICM). The scope of this project is also relevant to the implementation process of the European Water Framework Directive (WFD).

The project brought together a group of 27 researchers from a range of disciplines in the social and natural sciences, with very different perspectives on catchment management, to consider integrated approaches and learn from one another in a series of interactive workshops and bilateral meetings. The workshops formed the main venue for interaction and learning and participatory approaches, including café methodology and open space technology, were used to encourage discussion. Particularly helpful was a session on terminology and jargon, which highlighted the difficulties and ambiguities in defining some terms, but also clarified concepts. The results of an internal evaluation of the project suggest that most researchers experienced modest to significant learning. This includes both personal learning, mainly procedural aspects about how to conduct interdisciplinary research, and subject-specific learning by picking up information from and becoming aware of concepts typical of other disciplines and perspectives in the field of ICM.

A review of literature on good practice reiterated the need for an integrated approach to catchment management. For many years, science and policy have been considerably fragmented in terms of both objectives and means. Now, a more holistic approach is seen as necessary to achieve long-term sustainable outcomes. The research findings relate to the obstacles and rewards of interdisciplinary working and social learning that are necessary for holistic and integrated approaches. From the collective discussions and work in preparing scoping reports, it seems that a great deal of information exists that could inform ICM in the UK. There are still gaps and problems within individual disciplinary approaches. Examples include how to measure what (i.e. what is regarded as key or most useful and how can or should this be accurately measured with available means); how to achieve consistency in measurement; lack of understanding of catchment processes and how to deal with uncertainties.

Several methodologies exist to assist in integrating knowledge and assessing different values and interests. Of particular relevance are various models and spatial technologies, multi-criteria assessment, scenario development and participatory approaches. The project developed a proposal describing how these might be brought together to provide a framework for ICM which can accommodate different geographical levels (e.g. field, regional, national) and consider short, medium and long time scales. Rather than being an 'independent' variable, scale was found to be a highly subjective and contentious factor that shapes our understandings and therefore the delivery of sustainable ICM. This means that the choice of scale(s) crucially affects what data is gathered, which processes are observed (or overlooked), what types of knowledge are constructed and considered important, and thus the viewpoints

and policies which emerge from these. Thus, much of the learning that took place during the project revolved around the issue of who decides what is 'sustainable' and the importance of involving the public and stakeholders who might have many different, often conflicting, views on how to manage catchments.

The project was designed to building interdisciplinary understanding within the team. Energy was devoted to building team dynamics and shared understandings. End user communication occurred via active links with the Environment Agency, SEPA, SNH and SEERAD, and such bodies were kept apprised of progress and reviewed the developed framework. Lessons on interdisciplinary working were shared with representatives from SEPA, Scottish Water, SNH and Aberdeenshire Council.