



Revealing Synergies, Interconnections and Multiple Perspectives as an Aid to Natural Flood Management Delivery

Thea Wingfield (1), Kim Peters (1), Jack Spees (2), Karen Potter (3), and Neil Macdonald (1)

(1) University of Liverpool, School of Environmental Sciences, Liverpool, United Kingdom (tajw@liverpool.ac.uk), (2) The Ribble Rivers Trust, Clitheroe, Lancashire, United Kingdom, (3) The Open University, Department for Public Leadership and Social Enterprise

Natural Flood Management (NFM), similar to sustainability and greenhouse gas emissions, has been approached as a technical engineering problem. As such, the principle ambition in England and Wales is to demonstrate the efficacy NFM through a reduced flood peak on a hydrograph, resulting in an unsystematic practice focused on small rural catchments. However NFM is derived from the model of creating a more resilient fluvial system by harnessing, enhancing and creating features throughout the entire catchment to reduce flood risk while simultaneously improving water quality, habitat quality and the health and well-being of local communities. Working at the catchment scale with a diversity of objectives is complicated, filled with uncertainty and requires the cooperation of a large number of actors and as such, is rarely attempted. Uncertainty is a common feature of environmental management and NFM is not unique in this sense, presenting a number of socio-hydrological challenges for success. Faced with a similar issue of the complexity of inter-related, chaotic natural, technical and social systems and our incomplete and multiple knowledge frames, collaborative catchment management in the form of catchment partnerships was established in England and Wales to deliver Integrated Water Resource Management.

This paper details a study that has supported the Ribble Life Together catchment partnership in North West England, through a systems thinking method – called concept mapping – to understand multiple perspectives and the interconnections between actors in order to assist in the delivery of catchment scale NFM. Concept mapping is a mixed method approach that allows for shared meaning to emerge without specific voices or paradigms dominating. The study has revealed factors that are functioning as barriers to the adoption of NFM and their interactions in subsystems, grouped around leadership and coordination, vision and motivation, delivery and technical knowhow. Among the 75 study participants it is possible to detect differences in the perceptions as to the most important barriers between those who are active members of a catchment partnership and those of a governmental flood and coastal erosion regulatory authority. The advantage of allowing for multiple perspectives to coexist and ecological and social patterns to be visually represented are practitioners and organisations are offered a new view of differing perspectives. The outputs are being applied in conflict resolution and opening pathways to explore and establish mutually beneficial ways of delivering NFM.