



Manuel Pulido-Velazquez, Associate Professor, Technical University of Valencia

**Integrating science and economics for sustainable river basin management:
the role of hydro-economic modeling**

Sustainable Consumption Institute Seminar on Thursday, 22 April 2010

Time: 13:00 – 14:00

**Venue: Cording Room, Humanities Bridgeford Street
The University of Manchester**

Abstract

The complexity of water resources systems requires methods for integrating technical, economic, environmental, legal, and social issues at the basin scale within a framework that allows for the development of efficient and sustainable water use strategies. Recent decades have seen widespread use of systems analysis to help manage water resources. Combining economic concepts and performance indicators with an engineering-level of understanding of a hydrologic system can provide results and insights more directly relevant for water management decisions and policies. By *hydroeconomic models* we refer to spatially distributed river basin (or water resources system) management models in which water supply and demand are economically characterized. Water allocations and management are either driven by the economic value of water or economically evaluated to provide policy insights and reveal opportunities for better management. Integrating economics into water management models allows joining consideration of water supply and demand management options into a comprehensive framework.

In Europe, the EU Water Framework Directive (WFD) requires the integration of economics and water management and policy decision making with the final aim of reaching a sustainable “good water status” for all water bodies in the most efficient manner. The WFD calls for the implementation of a pricing policy by 2010 that should provide adequate incentives for efficient water use, contributing to the environmental objectives, while ensuring adequate contribution of the various water uses to the recovery of water service costs, including environmental and resource costs. The design of methods for implementing those principles has produced considerable debate.

This presentation aims to illustrate the development, application, and usefulness for water resources management of basinwide hydro-economic models. For that purpose, examples of international applications of hydro-economic models to different areas of water resources management are used, and the role of hydro-economic models in the implementation of the WFD is discussed.

For more information please contact Dr Johannes Sauer at johannes.sauer@manchester.ac.uk