



Incorporation of Ecosystem Services Values in the Integrated Management of Irish Freshwater Resources



Newsletter compiled by Hugh Feeley (hugh.feeley@ucd.ie)

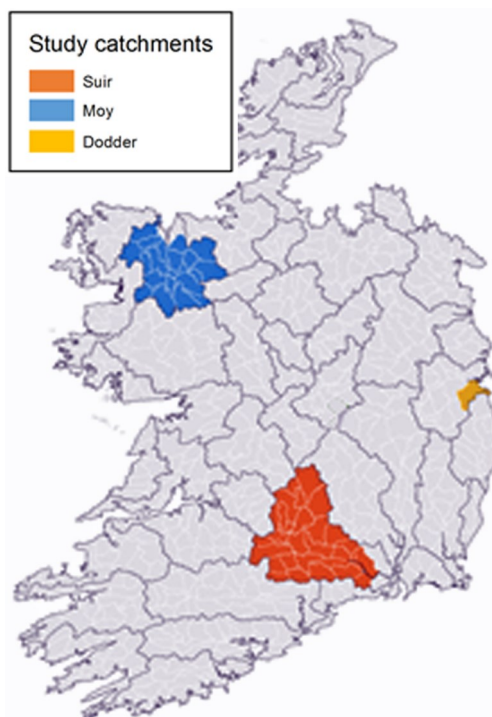
Issue 2, May 2016

ESManage News

ESManage is now just over a year old (started February 2015) and is making good progress on its main tasks outlined in the first issue. Over the last few months two new researchers have joined the **ESManage** team. Mr Thibault Hallouin is our new Ph.D. student who will work with Prof. Michael Bruen at UCD. Thibault will use scenario analysis to show how changes in drivers (land-use) affect pollutants inputs to rivers and associated changes in physical and chemical water quality.

Dr Edel Hannigan has also joined the team. Based at Inland Fisheries Ireland in City West, she is identifying the key attributes (e.g. population density, age class abundance) of fish related ecosystem services in Ireland and how they relate to water quality for use in our scenario and valuation studies.

In consultation with national experts the project has selected three test catchments: the River Suir, Co. Waterford, the River Moy, Co. Mayo and the River Dodder, Co. Dublin. These catchments range capture agricultural and urban land-uses and are important for both angling and recrea-



ESManage study catchments

tional. These catchments will be used in our scenario analysis and stakeholder valuation exercises over the next twelve to twenty four months. Keep in touch with **ESManage** for updates.

In other news we are keeping up to date with other related projects on-going in Ireland. More information on some of these projects is available on page 2.

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Project team:

- Dr Mary Kelly-Quinn¹
- Prof. Michael Bruen¹
- Dr Craig Bullock¹
- Prof. Mike Christie²
- Dr Hugh B. Feeley¹
- Dr Edel Hannigan³
- Mr Thibault Hallouin¹
- Dr Fiona Kelly³
- Ms Ewa Siwicka²

¹ University College Dublin
² Blue Island Consultancy Ltd, Aberystwyth, UK
³ Inland Fisheries Ireland

Click [here](#) for more details

ESManage is a 3-year project (February 2015 to January 2018), funded by the Irish Environmental Protection Agency. The overall project objective is to ***harness the knowledge and tools required to embed the ecosystem services approach into policy and decision-making for sustainable management of water resources, as required by the Water Framework Directive (WFD).***



Funding body:

Other Ecosystem Services Related Projects in Ireland

Mapping and Assessment of Ecosystems and their Services (MAES)

In mid 2015 National Parks and Wildlife Service of the Department of Arts, Heritage and the Gaeltacht, commissioned consultants to undertake ecosystem services mapping and assessment for an initial suite of prioritised ecosystem services in Ireland. This project is due for completion in 2016. It is developing Irish indicators for potential ecosystem services mapping, based on available national data, using methodologies developed in the UK and the EU. In the course of this work it has reviewed the availability and suitability of spatial data, and identified data and knowledge gaps which will be used to inform future research calls. In 2016 building upon this work, further analysis will be undertaken to examine the links between biodiversity and ecosystem services. A project on stakeholder consultation to elicit requirements for ecosystem services assessment products and use in the Irish legislative and policy environment is also planned for 2016.

More information on MAES and ecosystem service projects ongoing in Ireland can be found [here](#).

Gemma Weir

Science and Biodiversity Section, National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.

OPERAS Project: Ecosystem Science for Policy and Practice

[OPERAS](#) is an EU FP7 project involving 27 EU Partners that has been looking at opportunities to operationalise the ecosystem services concept. That is to say, the project has been looking at how ecosystem services can be put into practice, for example in combination with spatial planning in the form of green infrastructure, for the protection of biodiversity, for the provision of amenity, and for the preservation of services that are key to environmental sustainability or human well-being and security. The project has work packages dealing with the ecosystem service knowledge base (ecosystem functions, socio-cultural values, economic values and governance) and the development of instruments such as spatial-ecological models, multi-criteria analysis, environmental accounting and economic incentives (e.g. payments for ecosystem services).

Much of the data for these work packages rests on a number of case studies - or exemplars - of specific ecosystem service applications, including stakeholder engagement or economic and social valuation in Ireland, Scotland, France, Spain, Portugal and Bulgaria. In Ireland, UCD had responsibility for the work task on socio-cultural valuation and has provided advice to project partners on how socio-cultural values can be combined with conventional economic valuation to support environmental management decision making. We have been applying socio-cultural valuation methods within public stakeholder engagement in Fingal with regard to valued features of the coastline and how these can be incorporated in spatial planning. In this area, important ecosystem services are those that contribute to coastal biodiversity and its amenity value, coastal water quality and storm protection.

Outreach is an essential element of OPERAs. The project's output, along with that from the FP7 sister project [OpenNESS](#), is being pulled together in the [OPPLA platform](#). OPPLA is a resource hub that is being used to disseminate output from the two projects, but will continue beyond their conclusion in 2017 as an on-line platform for the exchange on information, research output and practice.

For more information please contact:

craig.bullock@ucd.ie or marcus.collier@ucd.ie or click [here](#).

Craig Bullock

School of Geography, University College Dublin.

*Craig is also a key member of the
ESManage Project.*

New Project on the Implementation of Catchment Services in Ireland

The benefits received by ecosystems and humans from resources and processes which are supplied by water catchments have been termed 'catchment services'. These include ecosystem services (the benefits that are derived from ecosystems); geosystem services (the values and services associated with geodiversity); and human-social system services (social and cultural services which contribute to the life environment).

A new project has commenced at Dundalk Institute of Technology entitled 'Developing the Concept of

Catchment Services for Progress Towards Integrated Water Management ([Extra TIME](#)). Funded by the Environmental Protection Agency, this Extra TIME Project aims to identify the mechanisms for the feasible delivery of the catchment services concept in Ireland by:

- 1) Identifying national and international concepts and implementation of catchment services programmes;
- 2) Identifying key components of the catchment services concept in Ireland and how these may change in the future under different climatic, legislative and social/demographic scenarios;
- 3) Identifying the implications of implementing the catchment services concept on governance frameworks and regulations;
- 4) Identifying the implications for community engagement and catchment management;
- 5) Identifying the feasibility of implementing the catchment services approach in Ireland.

More information on the Extra TIME Project can be found at any of the links below.

[Website](#) | [Facebook](#) | [Twitter](#) | [Blog](#)

Alec Rolston

Centre for Freshwater and Environmental Studies, Dundalk Institute of Technology.

alec.rolston@dkit.ie

ESManage Guest Speaker

In March Dr Jeremy (Jay) Piggott visited the ESManage team in Dublin and gave an insightful presentation entitled 'Climate change and multiple stressors in agricultural streams.' Jay hails from the University of Otago in New Zealand but also has connections to Kyoto University, Japan, Imperial College London, UK and Peking University, China. Jays interests are extensive and include climate change, agriculture and other stressors and their impacts on ecosystem functioning in freshwater habitats. More information about Jay and his research can be found [here](#).

Jay is also involved in the [ExStream](#) system in New Zealand which is an ambitious experimental set-up that allows freshwater scientists to study the impact of multiple stressors on freshwater biota and pro-

cesses. The **ESManage Project** is in the process of building the same experimental system in Ireland, utilizing Jays knowledge and expertise, with the aim of addressing questions regarding thresholds in ecosystem service delivery and multiple stressors in Irish freshwaters.



Jeremy (Jay) Piggott

Research Fellow,
University of Otago, New Zealand

ESManage Visitor

In April, **ESManage** had a visit from Prof. Rachel Havrelock from the Dept. of English at the University of Illinois at Chicago. Her current work focuses on building new community structures around the sharing of resources like water and oil. She works with [Friends of the Earth Middle East](#) (FoEME) to support Middle East peace building through water sharing and conservation. She also beginning to work on issues of water and energy around the Great Lakes in North America.

Below is a piece by Prof. Havrelock on water issues in the Middle East.

Ecopeace Middle East and the Jordan River Valley Master Plan

It might seem that any step taken to address a depleted river is a step forward. The Jordan River of biblical fame and mythic significance is one such depleted river, running at about 4% of its historic flow and conveying mainly waste water runoff through its lower course. Yet, because the Jordan flows through politically contested terrain, certain kinds of remediation would only ignite the situation whereas some actions that further deplete the river (such as supply-

ing water to Syrian refugees in Jordan) vitally support political stabilization and de-escalation. For example, should the State of Israel now flush with drinking water through desalination begin to restore the upper Jordan to benefit Jewish communities and increase tourism, the unilateral move would attest to humanitarian disregard for the Palestinian communities whose water supply falls beneath the U.N. threshold for health and human dignity. Should the Kingdom of Jordan take similar actions, then the dire situation of Syrian refugees, as well as the water stressed Jordanian population would stand in contrast to a perceived luxury project.



Therefore, the expiring Jordan River cannot be addressed in any sort of piecemeal, incremental fashion. It requires big thinking and a grand vision. This is precisely what Ecopeace Middle East's Jordan River Valley Master Plan offers. Ecopeace –a trilateral NGO with mirror offices in Bethlehem, Palestine; Amman, Jordan; and Tel Aviv, Israel— is one of the few organizations formed during the Oslo Peace Accords that has survived their unfurling. Its survival can likely be explained by the material focus on water quality, allocation, and conservation, as well as by the fact that participants have seen substantive gains in clean, available water. Ecopeace further empowers leaders in communities along a shared basin as “Good Water Neighbors” who collectively manage fresh water as the basis for a manner of post-conflict, maybe even post-national, governance.

The Jordan River Master Plan reimagines the ecological health of the basin, social relations, and economic development at once. It outlines the elimination of all wastewater pollution together with comprehensive water recycling. The implementation of water management tools will ensure sustainable water supply and an increase in the Jordan's base flow. Sustainable agriculture and integrated cultural and ecological tourism will shore up the economic basis of the plan, initially reliant on international donor support. Vitally, the plan relies on grassroots governance through a regional coordination structure comprised of key Jordanian, Israeli and Palestinian governmental stakeholders and eventually taking the form of a River Basin Organization for the Jordan Valley. Such a radical departure from the status quo would gain ground support from the im-

proved economy, accessible open spaces, and consistent supply of recycled water. The collective restoration of the river works simultaneously as a form of social transformation.

For more information on Ecopeace publications click [here](#) and for the Master Plan pdf click [here](#)



[Rachel Havrelock](#)

Associate Professor,
Director, [UIC Freshwater Lab.](#),
[University of Illinois at Chicago](#), Chicago, USA.

For more information please contact us or visit our website by clicking on the icon below

Project Contact

Dr Mary Kelly-Quinn

UCD School of Biology & Environmental Science,
Science Centre West, University College Dublin,
Belfield, Dublin 4, Ireland.

Tel: +353 (0)1 716 2337

Email: mary.kelly-quinn@ucd.ie

