

**1<sup>st</sup> Water JPI  
Thematic Annual Programming (TAP)  
Workshop**

**“Developing Approaches for Assessing and Optimising  
the Value of Ecosystem Services”**

June 12<sup>th</sup> 2019 Dublin  
Ireland





**Project Title: From Ecosystem Services  
Framework to Application for Integrated  
Freshwater Resources Management (ESDecide)**

**Project Coordinator: Mary Kelly-Quinn  
Organisation: University College Dublin  
Country: Ireland**

**June 12<sup>th</sup> 2019 Dublin  
Ireland**



# Description of Project



**Aim of project:** Develop an evidence-based decision support tool for managing Ireland's freshwater ecosystem services.

- **Timeline of Project:** March 2019-September 2021

# Background

## What ESManage Achieved

- Tested a methodological framework (from ES identification to valuation) on 3 study catchments – see 8 steps in the next slide.
- Reviewed the range of ecosystem services from Irish freshwaters and selected 5 for the valuation exercise in 3 study catchments
- Produced a BBN model to link catchment inputs (derived from hydrological models) to changes in the selected ecosystem services. The conditional probability table were populated with the help of experts.
- Identified gaps and needs:
  - ▶ strengthen the BBN with empirical information on multi-stressor responses
  - ▶ incorporate NCP and other valuation approaches (research needs to effectively capture the social and cultural values of nature's gifts from Irish rivers)
  - ▶ develop decision supports

Feeley et al. (2016). *Ecosystem Services in Freshwaters: ESManage Literature Review*. Research Report No. 187, EPA, Wexford.

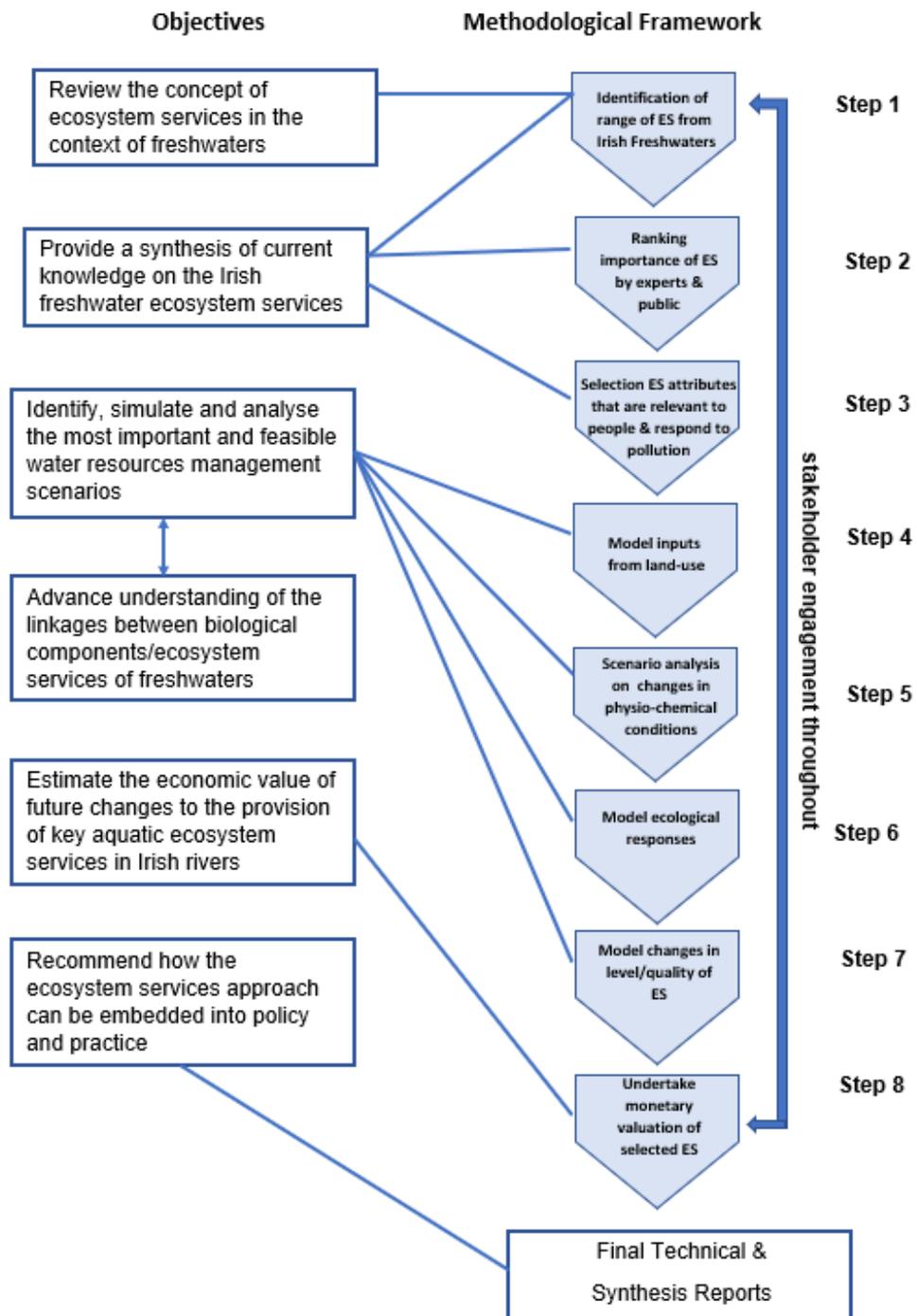
Feeley et al. (2017a). *ESManage Project: Freshwater Ecosystem Services – An Introduction for Stakeholders*. Research Report No. 208, EPA, Wexford.

Feeley (2017b). *ESManage Project: Irish Freshwater Resources and Assessment of Ecosystem Services Provision*. Research Report 207, EPA, Wexford.

All available at <https://www.epa.ie/researchandeducation/research/researchpublications/researchreports/>

Steps in linking management interventions/options with their effects on flow regime, and inputs of pollutants (nutrients and sediment), the resulting chemical and physical water quality (focus on nutrients and sediment) and responses in the ecological processes/elements that support the chosen ecosystem services (ES), and resulting changes in the services that are presented for valuation.

[www.ucd.ie/esmanage](http://www.ucd.ie/esmanage)



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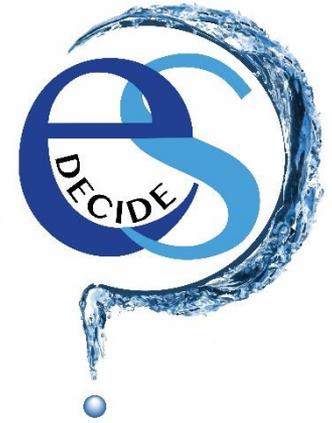
## Specific objectives:

- Enable effective operation of the research team to address the objectives and ensure delivery of research outputs (WPI)
  - Establish multiple pressure impact-response relationships and use them to strengthen and expand the number of ecosystem services in the existing ESManage BBN model (WP2);
  - Move beyond traditional monetary valuation of river ecosystem services, to evaluate a wider range of river's NCP (and social-cultural values in particular), and explore approaches that can be used to embed this plurality of river NCP into decision making (WP3);
  - Adapt the MARS 'Diagnostic Tool' for decision support tool, and provide training and guidance for stakeholders in the use of the tool (WP4)
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- Ensure effective communication of the project objectives and outputs (WP5).

Timeline of Project: March 2019-September 2021

# Project Team

- Mary Kelly-Quinn – University College Dublin (UCD)
- Michael Bruen – UCD
- Craig Bullock – UCD
- Mike Christie – Blue Island Consulting/Aberystwyth University, Wales
- Jeremy J. Piggott – Trinity College Dublin (TCD)
- Marcin Penk - TCD
- Christian Feld – University of Duisburg Essen
- Jasper Kenter – Ecologos Consulting & University of York



# Expected Outcomes

- Greater application of ecosystem services-based decision making relating to freshwater resources management.
- Application of the decision-support tool to communicate and illustrate to stakeholders and the general public the benefits of improved water quality, thus fostering awareness and greater bottom-up engagement in water quality and biodiversity protection.

# Identify Possible Synergies with the other TAP projects

Some common themes of relevance to ESDecide

- Human induced stress effects on structure, function and ecosystem services
- Resilience
- Integration of social dimensions into management
- Uptake of concept by policy makers
- Ecosystem services within natural capital assessments

# What we would like to gain from today

- Gain insight into the objectives and approaches of the various projects
- Identify common goals
- Identify common challenges
- Clarify the theme, goals and expected outputs of our TAP
- Identify how we can foster knowledge exchange between projects

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