

BEYOND 2020

Burrishoole Ecosystem Observatory Network 2020

Ireland & UK



Overview

BEYOND 2020 is a multi-institute research cluster, built on the existing biological and sensor monitoring programme in the Burrishoole catchment, that applies next generation science and technology to inform ecosystem response to environmental change. The team from six Irish and UK institutes undertakes research to understand, predict and communicate the role and response of aquatic ecosystems in a changing global environment.

The project includes seven scientific work packages: Nutrient Dynamics, Environmental Observation, Sensor Development, Metagenomics, Microbiome, Genetic Architecture, and Network Science and Modelling. The Microbiome work package has particular implications for the Atlantic Sea Basin. The research is conducted with cooperation between universities in Scotland, Ireland and Canada, and is focused on the biogeography of gut microbiomes of Atlantic salmon sampled in Burrishoole.

Environmental and biological samples will be collected on a seasonal basis for microbiome analysis. An intestinal wash will be taken for microbial DNA extraction and sequencing from eel and stickleback collected in the Srahrevagh river, Lough Feeagh and Lough Furnace. Water and control samples will also be taken to monitor environmental microbiome fluctuations, as well as potential contamination. This work package will deliver microbiome gut morphology profiles of Stickleback and European eel in the Burrishoole system.

Results

- 1 Improved understanding on the role of aquatic ecosystems in the changing global environment;
- 2 Better predictions of ecosystem responses to anthropogenic pressures and climate change.

Project funding

Funding source:

European Social Fund (ESF) through



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<https://www.dkit.ie/beyond-2020/work-packages/microbiome>

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