

# Fishing for sustainability!



## IRELAND: FRESHWATER IMTA SITE

Keywater Fisheries is a family run freshwater fish farm in Ireland. They recognise the importance of the environment and its resources, and are keen to explore new eco-friendly rearing systems and adopting new energy-saving technologies. The farm is on a 1.5hectare site and comprises of a hatchery, nursery, broodstock unit and 3 outdoor split-ponds. They produce Perch for the table in environmentally friendly and sustainable pond rearing systems, where good water quality is maintained by plants and algae that naturally grow on their farm. They believe that healthy fish grown in a natural environment results in the finest quality product, and their innovative split pond design allows them to do just that. Keywater are helping the IMPAQT project as one of the pilot sites and to promote and support the eco-intensification of aquaculture.



Site: **Keywater Fisheries**  
Location: **Cloonloo, Co. Sligo, Ireland**  
Activity: **Inland Freshwater Aquaculture**  
Operated by: **Keywater Fisheries Ltd**

## PILOT SETUP

Keywater Fisheries uses novel and innovative recirculating aquaculture, multi-trophic and split-pond technology (RAMPS) to improve water treatment (sediment and nutrient removal) within a recirculation system. They grow the fish in one end of the pond and the greater portion of the pond is used to grow plants, which feed on the nutrients supplied by the fish, thus reusing waste and using less water. Demonstrating the benefits of this circularity and bio-mitigation aspect of IMTA is a key priority, as is demonstrating the advantages of IMTA in maximising production from ponds and optimising the use of areas by farming multiple species. The IMTA set-up consists of:

## OUTCOMES

The Impaqt platform provides real-time water quality parameters, stock status and intelligent operational recommendations.



The Intelligent Management System (IMS) provides a clear and reliable method of gathering, storing and reporting of stock and environmental records for the operator and other users.



The system monitors stock population size and density providing advice on when to grade, thin or harvest.



Provides real-time operational information on the ecological footprint to help minimise impacts and ensure compliance.



Provide feedback on stock welfare, health status and production history as verification of animal friendly production.



### FED SPECIES

Perch, which input waste into the water column



### PLANT SPECIES

Plants and algae absorb and remove nutrients (waste) from the water reusing the waste as fertilizer and creating a secondary product



### MONITORING AND ACTUATION

Automated continuous monitoring of water quality parameters and fish welfare through sensors and data sources, with alert notification and actioning

### MANAGEMENT AND REPORTING

The IMS gives real time feedback on stock management, husbandry and the operating environment allowing to optimise productivity and minimise impacts



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