

Impact Case Study: Informing Implementation of Plans and Policies

WaterMARKE: A System-Wide Approach to Improving Water Quality in Irish Agriculture

Mitigating Agricultural Impacts on Water Quality through Research and Knowledge Exchange (WaterMARKE)

Dr. Mary Ryan, Teagasc

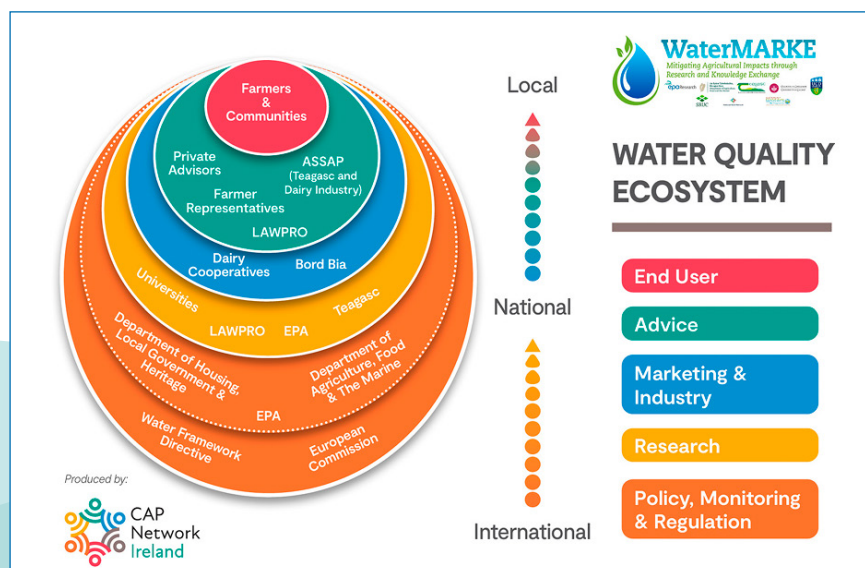
Impact Summary

- Developed a multi-actor, interdisciplinary framework to address agricultural impacts on water quality.
- Informed national policy and advisory strategies by identifying behavioural, institutional, and knowledge barriers to uptake of mitigation measures.
- Strengthened collaboration between researchers, advisors, farmers and policymakers to co-design localised water quality solutions.

Why Did We Fund the Research?

Agricultural activities are a significant source of nutrient and sediment pollution in Irish water bodies. Despite existing Good Agricultural Practice (GAP) regulations, water quality has continued to decline in some areas. The EPA and the Department of Agriculture, Food and the Marine co-funded the WaterMARKE

project to explore how research and knowledge exchange could be better integrated to improve the uptake of water quality mitigation measures. The project aimed to understand the behavioural, institutional and systemic barriers to change and to develop a framework for more effective advisory and policy interventions.



The innovation ecosystem for water quality improvement in Ireland (2018–2023). Source: CAP Network Ireland (<https://capnetworkireland.eu/watermarke-the-power-of-collaboration-for-water-quality-improvement/>)



What Did the Research Find?

WaterMARKE found that improving water quality requires a system-wide approach involving all actors in the agri-food value chain. The project identified key behavioural drivers and barriers affecting farmers' adoption of mitigation measures, including trust in advisors, perceived efficacy of actions and institutional complexity. It also highlighted the need for upskilling advisors and creating space for reflexive thinking and innovation. The project demonstrated that localised, co-designed solutions – supported by strong advisory systems and policy alignment – are essential for achieving sustainable water quality improvements.

What Was the Impact of the Research?

WaterMARKE has had a significant impact on how Ireland approaches water quality in agriculture. Its findings have informed the Agricultural Sustainability Support and Advisory Programme (ASSAP) and the Better Farming for Water campaign. The project's behavioural insights are now being used to shape training for advisors and to design more effective communication strategies. WaterMARKE also contributed to the development of the Farming for Water European Innovation Partnership (EIP), fostering collaboration across agencies, communities and farmers. Its legacy lies in embedding behavioural science and systems thinking into Ireland's water governance framework.



“WaterMARKE has shown that improving water quality is not just a technical challenge – it’s a behavioural and institutional one. Our work has helped shape a more collaborative, informed and effective approach to agricultural sustainability.”

Dr. Mary Ryan, Project Coordinator, Teagasc

