

DEEP DIVE INTO WATER

C/ Cause & Effects - Farming practices and their relationships with water quality

Chaired by Dr Brendan Horan, Project Leader, Grassland Research & Innovation, Teagasc



Eddie Burgess

Agricultural Catchments Programme at Teagasc

Edward Burgess is a Catchment Science Specialist working with Teagasc's Agricultural Catchments Programme (ACP), a combined research and knowledge transfer programme established over 12 years ago to evaluate Nitrates Directive regulations. The ACP works with 300 farmers in six contrasting agricultural catchments. Edward's role is to make the research findings from the programme accessible to a wide audience, including farmers, industry, policy and research. Edward has worked with the ACP since it commenced, as an agricultural advisor and as the programme's manager.



Dr David Burger

Strategy and Investment Leader: Responsible Dairy at DairyNZ

David oversees strategy and programme investments related to environmental sustainability, community engagement and biosecurity at DairyNZ.

A water quality scientist by training, David has more than 20 years of national and international experience in applied water resources management generally. He joined DairyNZ as a water quality specialist in 2013 and became manager of the environment team in 2015 before joining the executive team in 2018.

Prior to DairyNZ he spent seven years working as a scientist and advisor for Deltares, an independent water research institute and consultancy, based in the Netherlands and then Singapore. David holds a PhD in limnology and a MSc in freshwater ecology from the University of Waikato in New Zealand.

Water quality remains a significant concern for both countries as new regulations are implemented to improve both freshwater and estuarine outcomes. In New Zealand, the expansion of dairy land use between 1996 and 2003 led to increases in nutrient load to many catchments although ecosystem health metrics remain similar to other land uses. Significantly more nutrients would have entered rivers from dairy land if farmers hadn't improved environmental practices. In Ireland, riverine and estuarine nitrate concentrations have increased during the last decade on the free-draining soils to the south and south east while the EU green deal proposals have targeted significant reductions in nitrate loss to water in all member states. Quantifying the impacts of dairying on water quality is challenging due to substantial variability in nutrient loss drivers and farm management practices. While nitrate losses to water from the agricultural landscape is influenced by farming intensity, there are other processes which can often over-ride the source of nutrient. This also provides an opportunity to optimise mitigation options to reduce footprint to meet environmental limits. In these presentations our speakers will explore the scale of the water quality challenge and opportunities to address these.
