

# REGULATORY BARRIERS TO THE UPTAKE OF EDGE-OF-FIELD AND FARM-SCALE DIFFUSE NUTRIENT POLLUTION MITIGATION TECHNOLOGIES

Juliet Milne and J Luttrell

*NIWA, Wellington*

A growing number of edge-of-field and farm-scale mitigation initiatives are being explored and trialled across rural New Zealand to reduce the impact of intensive land use on fresh water quality. While the evidence base for the technological efficacy of these mitigation initiatives continues to grow, a wide range of social/behavioural, cultural, economic and regulatory barriers may limit their potential adoption by landowners.

In this presentation, we summarise a desk-top review of Regional Plan requirements relevant to the construction, operation and maintenance of edge-of field and farm-scale mitigation technologies, particularly when sited close to or within waterways and drains. The evaluation has focussed primarily on the following edge-of-field mitigations: constructed wetlands, seepage wetlands, riparian buffers, N-bioreactors, P-filters, detainment bunds, two-stage ditches, bank re-battering, silt traps and in-channel remediation works (e.g., wood addition). Such mitigations generally involve activities – such as earthworks, stream diversions, stream bed disturbance and discharges to land or water – that may trigger the need for resource consents in accordance with Regional Plans prepared under the Resource Management Act (RMA) 1991. Although permitted activity rules do exist for many of these activities, these rules vary from region to region and are typically accompanied by lengthy lists of conditions that must be met. Failure to meet one or more of these conditions will trigger the need for resource consent.

The first and most important step is determining whether or not a proposed mitigation will in some way interact with a river or stream, as defined under the RMA (i.e., includes modified rivers and streams). By avoiding construction in, or modification/ disturbance of, the bed or banks of a river, stream, lake or natural wetland, the likelihood of requiring resource consent is much lower. The volume of earthworks, dimensions of structures and amount of water taken are also key factors in determining consent requirements. Some guidance exists to assist landowners with defining watercourses and interpreting permitted activity rules but there appears a clear need to develop guidance for specific mitigation measures in different regions to facilitate greater uptake of mitigation initiatives that will help improve water quality and environmental outcomes.

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***Editor's note:*** *An extended manuscript has not been submitted for this presentation.*

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