

Sources to transfers: evaluating the Nitrates Directive National Action Programme in Ireland using a catchment approach

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To support competitive farming and promote environmental protection in Ireland, Teagasc, the Irish Agriculture and Food Development Authority, is undertaking an Agricultural Catchments Programme to evaluate the effectiveness of the Nitrates Directive National Action Programme. The Agricultural Catchments Programme is based on a science-stakeholder-management partnership to generate knowledge, support competitive farming and protect water quality from nitrogen (N) and phosphorus (P) transfers. Catchments for the programme were identified by combining raster- and vector-based datasets, representing a range of farm enterprise and environmental variables, in a GIS-based multicriteria decision analysis to identify areas of potential N and P transfer risk to water bodies. This analysis was supported by practical hydrometric criteria and assessment to select eight catchments (5-12 km²) with a range of agricultural intensities and vulnerabilities to nitrate and phosphorus loss. Six of the catchments are dominated by grassland and two by arable land. An extensive monitoring programme will be used to generate long-term datasets of changes in field and farmyard nutrient sources, stephen ize and nutrient pathways through the soil/subsoil system, delivery and mass flux to water bodies. The biophysical monitoring is being supported by network advisors & monitoring of farm-level socio-economics parameters in each catchment.

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