

A framework for predicting delivery of phosphorus from agricultural land using a decision-tree approach

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Abstract Diagnostic models such as the P Indicators Tool have been used to predict the risk of P losses from different areas of agricultural land to watercourses. These models embody the source–mobilization–delivery–impact framework as a simple logical summary of process understanding. However, the assessment of P delivery has been neglected in the past. An alternative, decision-tree approach to predict the delivery of P to water bodies is presented here. The approach was developed as part of the DEFRA PEDAL project (<http://www.lec.lancs.ac.uk/cswm/projects>) and makes use of national coverage data held within a GIS at the 1 km² scale, in combination with a “field toolkit” of measurements and qualitative observations. For all catchments, monitoring of total P loads in receiving waters has occurred over recent years enabling evaluation of the modelling and field toolkit approach.

Key words decision tree; delivery; phosphorus; prediction