

Farm ponds cut agricultural water pollution

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The reintroduction of farm ponds could significantly reduce agricultural pollution in our streams and rivers, according to new research.

At one time, every [farm](#) would have had a pond, but [agricultural intensification](#) has meant that many of them have been lost to make way for more farmland.

Working with farmers in Leicestershire and Cumbria, scientists from the University of Reading and Lancaster University have created ten new field wetlands in areas of unproductive farmland such as field corners and buffer strips. The field wetlands - single or paired ponds of varying designs and sizes - are being monitored to measure how much runoff, [sediment](#) and nutrients they can trap.

Diffuse pollution from scattered sources on farms and fields, transported by runoff [rainwater](#) through the [complex network](#) of drains, ditches and streams running through our countryside, poses a significant threat to water quality. Each year, over two million tonnes of topsoil are washed from farmers' fields as sediment, and nutrients such as nitrates and phosphates are also lost from [agricultural land](#), polluting clean water and damaging wildlife habitats.

Researchers have found evidence that field wetlands offer a simple, cost-effective strategy for environmental protection. Their work, carried out over the last four years, shows that the ponds can intercept runoff and prevent sediment and nutrients reaching watercourses:

Results from the first stage of the project show:

Up to 40 tonnes of sediment (the equivalent of about four London buses) was trapped in one year at the project's Whinton Hill site in Cumbria

The farm ponds also act as traps to store carbon

Nitrogen and phosphorous concentrations in runoff waters were also reduced through the ponds, improving water quality at the field wetland outlets

Dr Alison Bailey, from the University of Reading's [Department of Agriculture](#), said: "These early results suggest that the traditional farm pond is useful not only for storing water for agricultural purposes, but is hugely beneficial to wildlife and could be used prevent rivers and lakes becoming polluted downstream.

"We're now looking to see how ponds and field wetland areas can be made most effective and seeing what other benefits they can bring to farmers and the environment."

Mike and Ruth Tuer of Crake Trees Manor, Crosby Ravensworth, Cumbria run one of the farms included in the project. They have already overseen a number of environmental initiatives on their 175-acre beef, sheep and arable farm, including voluntary woodland planting, wildlife areas, hedgerow protection and the introduction of field margins, and now the farm has three [field](#) wetlands.

Mike said: "We've always had an environmental focus on our farm. I'm a great believer that if you pollute you should clean up. We were amazed at the amount of sediment that became trapped in the ponds which can be spread back onto the land and does not end up elsewhere."

The project, called MOPS2, began in 2008 and will run until 2013.

Provided by University of Reading

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