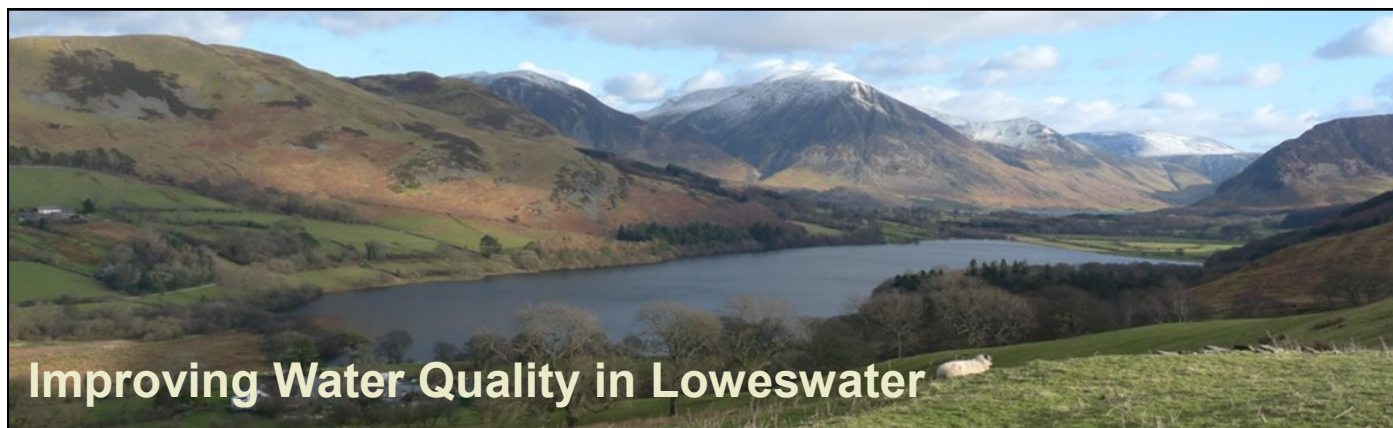


Catchment Restoration Fund (CRF) Project Briefing Note



Project Background

Over many years farming practices in the catchment, together with inputs from septic tanks, have led to nutrient enrichment (mainly phosphates) in Loweswater. This has led to increased algal populations, with frequent unsightly blooms, including those of cyanobacteria which are potentially hazardous to health.

This has had a detrimental affect on water quality and brought about a decline in the fish community. Signage is in place in the publicly-accessible lake surrounds, warning of potential health hazards from contact by people or animals with the water.

There has been a slight improvement in water quality recently, but the trophic status of the lake is still poor and does not meet the required standards for the Water Framework Directive (WFD).

To ensure that Loweswater achieves good ecological status under the WFD, diffuse pollution will be reduced through changes to farming practices and restoration of tributaries, and methods will be trialled to reduce algal populations within the lake including ultrasound and wind-powered aerating and mixing equipment.

The project will address issues including:

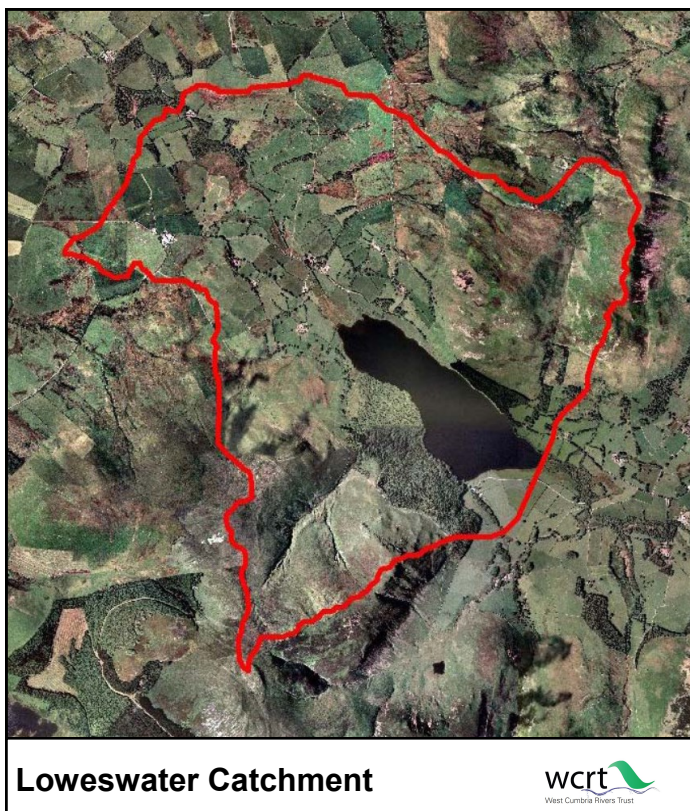
- Phosphorus inputs from septic tanks, livestock and fertiliser use, soil erosion and other land management practices; and
- Algal blooms, including potentially hazardous blue-green algae blooms, their ecological effects on the lake, drinking water treatment issues and social effects.

Key facts	
River Basin District	North West
Catchments	Loweswater
Outcomes	<p>Improved water quality - reduced total phosphorus and phytoplankton and increased dissolved oxygen in line with Water Framework Directive objectives.</p> <p>Improved biodiversity - reduced diffuse pollution and restoration of watercourses.</p> <p>Social - improved environment for recreation and visitors perception of the area.</p> <p>Economic - reduction in the level of treatment required to remove phytoplankton in drinking water.</p>
Start Date	1st October 2012
End Date	31st March 2015
Budget	£316,950 (100% CRF)
Project Partners	National Trust Environment Agency Natural England United Utilities Centre for Ecology and Hydrology University College London Cumbria Wildlife Trust

Description of Works

West Cumbria Rivers Trust aims to address the water quality issues in Loweswater through delivery of the following activities:

- **Reducing phosphorous inputs** - Adjusting farming and land management practices in terms of fertiliser application, farmyard wastes and septic tank discharges and minimising their direct ingress to feeder streams and the lake combined with restoration of feeder streams and quantifying the net effect on phosphorous loads from visiting waterfowl.
- **Sampling and analysis of lake sediments** so that the contribution to phosphorous loads from the annual recycling of sediments can be estimated.
- **Reduce phytoplankton populations** through applying ultrasonic techniques to reduce cyanobacterial populations and applying wind-powered aerating and mixing equipment to increase dissolved oxygen levels at depth and minimise phosphorous dissolution and recycling from lake sediments.
- **Monitoring** - which will provide continued tracking of the lake quality against historic trends and allow the impact of the above measures to be gauged. Regular assessment of the lakes water chemistry will be undertaken through monthly sampling by the Environment Agency, algal species counts will be undertaken by our volunteer algologist on a monthly basis and bloom monitoring will be undertaken by volunteers.
- **Community engagement and education** - there is a strong history of community engagement with the Loweswater project and this will continue to be maintained through for example, community meetings and regular project updates, engagement with farmers/landowners, volunteer activities such as the algal bloom monitoring and engagement with local schools.



About the team
Project Officer - Vikki Salas
Loweswater Care Programme Chairman - Leslie Webb
Other contacts
Environment Agency - Charlie Bradshaw National Trust - Mark Astley

What will success look like?

As a charitable organisation, the West Cumbria Rivers Trust want to make use of past research undertaken at Loweswater (through the Rural Economy and Land Use Programme) by taking forward this knowledge to solve the issues in a practical and innovative way. We will continue to work with the local community and solve issues in a way which will benefit both the people and the environment. Our principal aim is to see the lake reach good ecological status under the Water Framework Directive. This will only be reached through an improvement in water quality, which will in turn improve the biodiversity of the Loweswater catchment.



Department
for Environment
Food & Rural Affairs



Contact West Cumbria Rivers Trust on 017687 44347

or email vikki@westcumbriariverstrust.org