

Mussel power:

How conservation in Ennerdale could be good for other Lakes landscapes too



Ennerdale's freshwater mussels are considered the last viable population in England

Efforts to safeguard the future of the freshwater pearl mussel, an unassuming mollusc – whose family tree dates back to the dinosaurs – have drawn the combined might of Governments, charities and business alike, as JOHN WILSON of West Cumbria Rivers Trust explains.

They may not have the visual appeal of some of our cuddlier native species but for curiosity value freshwater mussels are in a league of their own. They can live more than 100 years and grow up to 15cm long, each filtering more water every day than you use in your average shower. But despite their common name, Ennerdale's mussels rarely actually contain pearls.

A few hundred years ago there would have been millions of these fascinating river-bed dwellers quietly cleaning rivers up and down the country. Now Ennerdale's mussels are the largest breeding population remaining in England and as a result, the River Ehen is designated as a Site of Special Scientific Interest and a Special Area of Conservation. Mussels are indicators of excellent water quality and they help to maintain suitable habitat for other species, such as salmon and trout. Poor river health and an extraordinary lifecycle, including months clamped to the gills of fish, have conspired to put it on one of the famous Red Lists of critically endangered species compiled by the World Conservation Union.

“Although the waters in Ennerdale are considered to be very clean, issues such as, faulty septic tanks, run-off from roads and fields or excess silt from riverbanks settling on the riverbed can all have a detrimental impact to the survival of the mussels and other species,” explains Diane O’Leary, of West Cumbria Rivers



Out of respect for the beautiful location, United Utilities screened its work at Ben Gill using unusual mirrored hoardings



United Utilities liaised with stakeholders before and during the work

Trust, who is leading on the 'Pearls in Peril' Project, to protect and restore Ennerdale's mussels.

"A freshwater mussel's life cycle is fascinating," said Diane. "The larvae must be inhaled by young Atlantic salmon or trout and attach to their gills. They spend the first few months of their life growing in this oxygen-rich environment until they drop off the following spring. They need to land and burrow into clean sands or gravels in order to survive. Silt or mud suffocates them."

The Pearls in Peril (PIP) project, is just one of many activities which hold the key to the mussels' long-term survival in Ennerdale. The River Ehen is the only river in England to be part of this four-year nationwide EU LIFE funded project. PIP aims to improve river health in partnership with communities and landowners by raising awareness and implementing practical conservation work, such as tree planting and fencing. "There has been overwhelming support and commitment from the local community, landowners and a range of organisations to protect Ennerdale's mussels", said Diane.

Volunteers along with landowners have planted buffer strips of trees along river margins to help stabilise banks and reduce silt getting into the river. New fencing protects the river and its banks from livestock and allows riverbank vegetation to recover.

United Utilities is another major player and is a co-funder of the PIP Project. The company is providing support, not just through engineering, but practical monitoring, expert advice and funding innovative conservation and research, including a unique project to grow mussels in captivity and release them to their native rivers. These efforts have helped vastly increase our understanding of how to improve conditions for Ennerdale's mussels.

Dave Champness, the company's head of strategic planning, and a member of the Lake District National Park Partnership, says: "Ennerdale has supplied people with water for more than 150 years and its landscape has, to some extent, been shaped by that. There is a weir and a treatment works at one end and it's an important source of supply to some 80,000 West Cumbrians.

"The Environment Agency has told us we need to stop taking water from Ennerdale altogether, and we want to give the whole valley back to nature as soon as we can. New boreholes near Egremont will halve the water we take as soon as next year. But, if plans to supply all West Cumbria's homes and businesses from Thirlmere reservoir instead are given the go-ahead for publication by Defra, we will not only be able to stop taking water from Ennerdale within eight years, but other natural environments like Crummock

Water and Overwater too. This could be good for all sorts of wildlife, not just mussels, and it is a much more secure and sustainable water source to support a growing economy," he said.

A glimpse of this potential new future was seen in Ennerdale this summer, when water engineers painstakingly restored a pretty Cumbrian stream which has spent the last 40 years running through a concrete pipe.

Ben Gill was diverted into the lake to quench the thirst of booming 1970s Copeland. Now United Utilities engineers have restored its original confluence with the River Ehen allowing gravel and small stones to transfer naturally from Crag Fell, which experts believe will provide a great spawning ground for fish and an ideal living environment for young freshwater mussels.

The hard work and dedication of such a wide range of people ensures that the future for Ennerdale's mussels and many more of West Cumbria's precious species and natural environments is a bright one.

United Utilities' plans to connect homes and businesses in West Cumbria to its Thirlmere reservoir were the subject of an Examination in Public by the Planning Inspectorate for two days in mid-September 2014.

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