

Britain's rarest freshwater fish found in Bassenthwaite Lake

October 2 2014



A young vendace. Credit: Ian J Winfield

Two adult vendace, Britain's rarest freshwater fish and a relic of the last ice age, were found in Bassenthwaite Lake in north-West England last month, more than a decade after being declared 'locally extinct'. Last year, a single young vendace was recorded during the annual fish survey.

Dr Ian Winfield from the Centre for Ecology & Hydrology leads the annual [fish](#) surveys of Bassenthwaite Lake. He said, "Finding adult

vendace in 2014 following the recording of a young fish in 2013 is excellent news giving great encouragement to everyone involved in the restoration of Bassenthwaite Lake and its fantastic wildlife."

The fish community of Bassenthwaite Lake has been monitored by the Centre for Ecology & Hydrology since 1995 in a collaborative project previously with the Environment Agency and now with United Utilities. Each year, the abundance and composition of the fish community is assessed using state-of-the-art hydroacoustics (echo sounding) combined with limited netting.

Dr Winfield added, "The news for Bassenthwaite Lake is about as big as it gets for rare fish. I am certain that other adults remain in the lake. I also think that such fish will spawn this winter, but I'm unsure of how egg incubation will go given persistent sediment problems at the [lake](#)."

The 2014 fish community survey of Bassenthwaite Lake was carried out on 10 September 2014 and recorded two post-underyearling vendace which would probably be old and large enough to spawn as adults during the coming spawning season of late 2014.

There are a number of possible origins for the vendace found in Bassenthwaite Lake in 2013 and 2014. One theory is that vendace have actually survived in Bassenthwaite Lake below the limit of detection for the last decade and may now be increasing in abundance. A second is that fish may recently have arrived in Bassenthwaite Lake by moving down the River Derwent from the population in Derwent Water. Recent DNA analysis suggests that the underyearling fish recorded in 2013 originated from Derwent Water, but similar tests have yet to be performed on this year's adults.



Bassenthwaite Lake. Credit: Ian J Winfield

United Utilities' Head of Wastewater Strategic Asset Planning Jo Harrison said everyone was absolutely thrilled that vendace had been found in Bassenthwaite Lake again. She said, "We've worked really hard and spent millions of pounds to help improve Bassenthwaite Lake over the last few years. Projects to improve sewage treatment and help stop storm [water](#) spills were aimed specifically at reducing the amount of potentially harmful phosphate in the water. The Lakes is a unique and beautiful environment and it's right that we do our bit to protect it. We're absolutely thrilled to be part of this project and that the vendace seem to be making a comeback."

Vendace is the UK's rarest [freshwater fish](#) and a relic of the last [ice age](#), with only four native populations ever having been recorded at two lochs in SW Scotland and Bassenthwaite Lake and Derwent Water in north-

west England. The populations in Scotland became locally extinct many decades ago, probably as a result of local nutrient enrichment, and vendace were last recorded in Bassenthwaite Lake in 2001. Until recently it was believed that only the Derwent Water remained along with a refuge population in Loch Skeen in south-west Scotland, which was established using eggs from Bassenthwaite Lake in the early 2000s.

Provided by Centre for Ecology and Hydrology

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