



Case Study 3

Ballinderry Freshwater Pearl Mussel Rescue Project

Keywords

**Pearl mussel, habitats,
water temperature, flood risk,
conservation**

New stockproof fencing (right) with native willow saplings growing between the fence and the river

Photo credit: Ballinderry Rivers Trust

Location: Upper Ballinderry River Special Area of Conservation (SAC)

Collaborating Organisations: Queen's University Belfast and Ulster University

Date: 2012-2015

Project funder: Heritage Lottery Fund and NI Environment Agency (NIEA) Natural Environment Fund

Reported by: Ballinderry Rivers Trust

Aim: To save the Ballinderry Freshwater Pearl Mussel (one of the last six remaining populations in NI) from extinction by addressing the issues in the catchment preventing natural reproduction and to create a resilient habitat for the species to thrive in the river.



Introduction

The project focused on the upper 127km² of the Ballinderry River catchment in County Tyrone, where the river channel is a designated SAC. Ballinderry mussels are genetically distinct from all the remaining populations in NI's rivers. It was predicted that without intervention, Ballinderry freshwater pearl mussels would become extinct by 2098.

Key Actions

- Identified the sources of silt²¹ that were impacting on the ability of the freshwater pearl mussel to naturally survive and reproduce.
- Established a sanctuary population of freshwater pearl mussel in the river.
- Supported the delivery of silt remediation and river restoration work. This included: engagement with 76 landowners along the Upper Ballinderry River SAC; installation of over 26 kilometers of stock-proof fencing and alternative livestock watering facilities to reduce cattle trampling of riverbanks that are vulnerable to erosion during high flows; strategic planting of over 3,000

native willow trees along the river banks to stabilise the banks and slow the flow during flood conditions. Trees planted with the aim to also reduce the impact of rising water temperatures and create the correct balance of light and shade for young fish and mussels to thrive in the river.

- Delivered a learning and outreach programme aimed at the wider public through a variety of outlets and resources.

Outcomes

There has been a positive impact on slowing the river flow during floods, bringing long-term environmental, societal and economic benefits. Improving the balance of light and shade has also helped reduce the impact of rising water temperature on the water-dependent wildlife of the river, including freshwater pearl mussel, trout and salmon.

A freshwater pearl mussel

Photo credit: Ballinderry Rivers Trust

21: Too much silt, arising from eroding river banks and poor land management practices, settles on gravel beds in the river and prevents oxygenated water from freely passing through them. Without this supply of oxygen, juvenile mussels cannot survive.