

# Loughs Agency - Glenshane Native Tree Planting Project

11/12



## Key Points



Loughs Agency - tree planting project in the riparian (riverside) zone adjacent to the River Roe.

Primarily to keep the river cool for Salmon and Trout species, but also to increase biodiversity and surface water absorption.

The area was chosen because it is a designated Special Area of Conservation for Atlantic salmon.

One of numerous tree planting projects in Northern Ireland - simple and effective mitigation and adaptation measures

This case details the Loughs Agency project to plant trees along the riparian (riverside) area of the River Roe in the uplands surrounding the Glenshane Pass. This sits within the Natural Environment action category of the Northern Ireland Climate Change Adaptation Programme.

Projections of increasingly warm summer weather pose a problem for fish in Northern Ireland's rivers. Rivers are particularly sensitive to changes in climate with small changes having a dramatic effect on freshwater wildlife. The English Environment Agency states that "Brown trout and Salmon are particularly vulnerable to predicted climate change" because "a rise in water temperature above 22°C for more than seven consecutive days can be lethal." Loughs Agency implemented this project in an attempt to try and increase the cooling capacity of rivers. Summer water temperatures are on average 2-3°C lower in shaded than in open rivers.

Natural rivers, streams and their floodplains across the UK were more densely wooded in

the past, but due to the need for timber and agricultural expansion, the uplands were cleared. With tree cover greatly diminished, rivers lack shade and the rate of absorption of surface water in the area is greatly reduced.

Planting trees and shrubs in the riparian zone has also provided woody debris and leaf litter, which is beneficial to biodiversity. It is an important food reserve for a large number of invertebrates, which in turn are the foodstuffs of prey fish such as salmon, trout and eels. Fish populations may have been limited in this section of the upper Roe catchment due to limited availability of this leaf litter and the invertebrates that rely upon it as a food source. Fish can use woody debris build-up in the water as a refuge from predators.



## Overview

Loughs Agency developed a project to plant trees along the riparian zone of the River Roe. This was primarily to increase the resilience of some sensitive fish species by providing shade but also to facilitate greater rainfall absorption rates and encourage enhanced biodiversity from the accompanying leaf litter.

## Objectives

“Reasons behind the project were to conserve, protect and improve the numbers and diversity of native fish species including Atlantic salmon and Trout. Best practice has shown the benefits from native riparian planting on both biodiversity and in mitigating climate change.” – Loughs Agency

Obligations under the European Union Habitats Directive, Water Framework Directive and the international ‘North Atlantic Salmon Conservation Organization (NASCO) convention’ require the implementation of measures to improve the ecological status of water bodies.

By adopting a partnership approach Loughs Agency hoped to deliver a mutually beneficial project meeting statutory obligations and contributing towards local best practice implementation.

## Challenges

Loughs Agency believes that more clarity and vision within rural development policy is required to achieve cross cutting goals and to demonstrate the value ecosystem services can have. The partnership aspect of this project was particularly important and incorporated consensus building.

Loughs Agency had to decide where and how many trees were to be planted, in order to optimise the impact of the planting.

There is a potential impact for landowners’ single farm payments.



Loughs Agency Riparian Planting Scheme



“Best practice has shown the benefits from native riparian planting on both biodiversity and in mitigating climate change.”

## Successes

The area was chosen because of its importance for wild salmonids and it is a designated Special Area of Conservation for, amongst other things, Atlantic salmon. For this reason, the ongoing delivery of the project is a success as it will contribute towards improved resilience for sensitive native fish species.

Many native species of tree were used in the process, including; Oak, Alder, Bird Cherry, Rowan, Birch, Willow and Hazel. These have been planted within existing fenced areas and have been individually staked and guarded to allow the area to develop free from interference from grazing animals.

## Climate Adaptation

This project offers some clear examples of adaptation.

Increased rainfall interception capacity by reducing runoff rates. The absorption rate of the land was greatly reduced when trees were cleared for timber or agriculture. By planting on valley slopes and the floodplains of upland areas the land is more resilient to increased rainfall. This is because of the increased storage capacity of the land.

The provision of shade over the river will help to regulate water temperature which will benefit fish populations, such as native Atlantic salmon and trout.

Native fish will benefit from an increase in invertebrates feeding on the leaf litter from deciduous trees. This project allows for the enhancement of biodiversity in the face of projected temperature increases.

## Lessons learned

There has been an enhancement of knowledge and best practice in Northern Ireland because of the renewed understanding of the need for riparian cover.

Loughs Agency advocate the investment of further resources in order to develop similar projects across the country. Also essential is the development of wider partnerships, which will lead to a greater number of projects on this scale.



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Case Study 11 of 12: 2014

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