

## Freshwater pearl mussel project shortlisted for engineering award

26<sup>th</sup> October, 2016

*Improvements in the River South Esk as part of a £3.5 million UK project to improve habitat for freshwater pearl mussels and salmon were shortlisted for a prestigious Saltire Award.*

Presented by the Saltire Society and the Institute of Civil engineering, the awards showcase the vital contribution civil engineers make to Scottish life. The winner was the Forth Road Bridge truss end links repair, and in contrast to the South Esk Project all other shortlisted projects involved the installation or repair of structures. A short film of the entries can be seen here:  
<https://twitter.com/MoTheMussel/status/791191857200005120>

Last summer 900m of boulder bank protection was removed from sections of the River South Esk and its White Water tributary in Glen Clova and Glen Doll, within Cairngorms National Park, to improve habitat for the threatened freshwater pearl mussel and for Atlantic salmon and trout.

The bank protection was put in place during the 1990s to control the natural river processes of bank erosion and channel movement. This resulted in reducing the quality of river habitat, by increasing flow speed and depth, leading to riverbed erosion.

In some cases bank protection can increase flood risk downstream by reducing temporary floodplain water storage. In the past the river channel actively moved across the floodplain more readily. Removing bank protection allows the river to naturally re-meander over time, further slowing the flow of water in the River South Esk. The river was given a helping hand as infilled connections to three old channels were also re-opened as part of the works. In Glen Doll a stretch of the White Water has already changed route.

As well as working in remote locations, contractors endured twice the normal July rainfall, along with the accompanying flooding and mud to restore the modified river banks.

Although changes to the river environment are immediately noticeable, an increase in the mussel population won't occur for many years. Freshwater pearl mussels are very slow-growing – they don't start breeding until they are 15-20 years old and can live for up to 120 years.

Freshwater pearl mussels are also beneficial to water quality. An adult mussel filters 50 litres of water per day – around 1,000,000 litres over a lifetime, which is as much water as an average 4-person household uses over 6 years.

The work is being done as part of the Pearls in Peril LIFE project (PIP), working in partnership with the Esk Rivers and Fisheries Trust and land owners in the two Glens.

Marshall Halliday of the Esk Rivers and Fisheries Trust, said: "This is a welcome recognition of the innovative approach towards restoration of natural processes in the Upper Catchment of the river South Esk. It harmonises with the objectives of the Trust to restore the South Esk Catchment and enhance the key species in the aquatic environment."

Nicholas Mercer, owner of Glen Doll Farm where much of the work took place said, "As lifelong fishermen we have always been very keen to improve the conditions for salmon across the United Kingdom. We were delighted therefore to work with Pearls in Peril to improve the upper reaches of the South Esk and White Water and hope that there will be a measurable improvement as a result of the work done."

Dr Lorna Wilkie, the PIP Project Officer who coordinated the project said, "We are really proud of what we have achieved on the South Esk. Sometimes engineering involves removing structures as opposed to creating them, and this can be just as complex as conventional projects, especially when working in sensitive environments. I am pleased that this has been recognised."

Dr Kenneth MacDougall of project designers EnviroCentre said, "These works have had a really positive impact on the river already after only one year. The traces of the former engineering works have disappeared and been replaced by a more natural looking and functioning river. It has been great to see the initial ideas being brought to reality through the project team which had to manage the challenges of undertaking the works in a such a remote, sensitive environment during one of the wettest summer months in many years."

The PIP project ends in March 2017. Over the past three years it has carried out a number of improvements throughout the River South Esk catchment including planting nearly 35,000 trees, and taking primary school classes out onto the river.

## Notes to editors

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### 2. PIP – Pearls in Peril

1. PIP is a European funded project co-ordinated by Scottish Natural Heritage and aimed at improving and restoring habitat and conditions for salmon and freshwater pearl mussels in rivers across the UK. It is funded through the European Commission LIFE Nature programme and 22 UK partner organisations.
2. The Esk Rivers and Fisheries Trust <http://www.erft.org.uk/> is a community-based charitable company, registered in Scotland, No. SC037764 whose objectives are:
  - i) To advance for public benefit environmental protection and improvement by conserving and enhancing all species of freshwater fish and their environments primarily but not limited to the inland and coastal waters of the rivers North Esk, South Esk, Bervie and Lunan and their tributaries.
  - (ii) To advance the education of the public and any association, company, local authority, administrative or governmental agency or public body or representative body in-
    - (a) the understanding of aquatic ecosystems, including their fauna, flora and economic or social activity and river catchment management
    - (b) The need for, and benefits of, protection, conservation, rehabilitation and improvement of aquatic environments

### 3. Freshwater pearl mussels

Freshwater pearl mussels are rare molluscs that live in the gravel beds of clean rivers. They feed by filtering water and removing fine particles and so help to keep our rivers clean. The mussels are critically endangered and Scotland is one of their few sole strongholds.

Mussel larvae spend the first few months of their lives attached to the gills of young salmon and trout, so healthy fish populations are vital to their lifecycle.

Freshwater pearl mussels have historically been fished for the pearls they can produce, similar to an oyster. However, they very rarely contain pearls and they are fully protected under law – it a crime to kill, injure, take or disturb them.