

Ripe for restoration



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Photos from left: Salmon jumping at Buchanty Spout in Glen Almond, near Crieff; pools were created to provide shelter for fish; beech trees growing over the burn. (Restoration images courtesy of Scottish Native Woods.)



The plight of lifeless Inchewan Burn, Perthshire, was brought to SEPA's attention in 2005. Three years on salmon are jumping once more. Habitat Enhancement Specialist Steven Jarron explains how.



Steven Jarron is a Habitat Enhancement Specialist in SEPA's Central Advisory Unit, providing good practice guidance, training and advice to internal and external customers that will help them make environmental improvements. Prior to joining SEPA in 2006, Steven worked for the British Trust for Conservation Volunteers and as an Environmental Consultant. Before that he was a mature student at Heriot Watt University, Edinburgh, after being a Fishery Officer with the Scottish Fisheries Protection Agency for six years and a North Sea Fisherman for six years.

The plight of Inchewan Burn near Dunkeld, Perthshire, was brought to SEPA's attention in 2005 by John Monteith, local head ghillie for the Newtyle Beat, on land owned by Murthly Estates. Poor salmon numbers on the Tay, of which Inchewan is a tributary, prompted John to take action.

The problem

John identified two factors that had contributed to the decline of salmon. When Birnam was bypassed by the A9 in the 1970s, stone-filled wire (gabion) baskets were installed along a stretch of the burn to provide structural protection for roadway piers. Reno mattresses (sheets of wire, encasing stones) were used to prevent down-cutting by the burn, and concrete walls were erected to provide a foundation for the piers. Over time, and in the high energy environment of the burn, this in-stream engineering disintegrated and the broken wire nets created a barrier to the passage of migratory fish.

In addition, the burn suffered from over-shading from non-native tree species and commercial forestation. Keeping the water unnaturally cool, this

had affected the entire ecology of the burn, leading to a reduction in insect life – an essential food source for fish.

The solution

An active member of the Tay Ghillies Association, John decided to set up a casting school on land donated by Atholl Estates to raise funds for a conservation project. Various groups and local organisations, including Scottish Natural Heritage, the Tay Liaison Committee, and the Dunkeld and Birnam Angling Association, also contributed.

John contacted SEPA for advice on remediation work, and we put him in contact with the River Restoration Centre (RRC). As the UK's leading authority on river restoration and enhancement, the RRC has a network of practitioners who provide advice on site-specific technical issues. John also contacted Scottish Native Woods for a survey on the riparian (riverside) woodlands of the burn.

SEPA ecologist James Davidson, senior ecologist Jo Long (then Water and Wetlands Sub-Group Leader from the Tayside Biodiversity Partnership), Martin

Janes of the RRC, and Area Officer for Scottish Natural Heritage John Burrow, carried out an initial survey of the failed engineering works. Their recommendations included:

- restoring free passage for fish;
- allowing natural sediment transport (silt, gravel, cobbles, etc);
- providing habitat in the immediate reach;
- mimicking a 'natural' section of the burn (for landscape and aesthetic benefits).

Subsequently, the reno mattresses were removed and a stone bed was engineered to prevent any possibility of undermining. A boulder bed to the river was also restored and some of the gabion baskets were removed to naturalise the visible left bank of the burn.

SEPA's role

If anyone intends to carry out work that may affect Scotland's water environment, they must notify SEPA. The Water Environment (Controlled Activities) (Scotland) Regulations – more commonly known as the Controlled Activities Regulations (or 'CAR') – require us to regulate discharges, disposal to land, abstractions, impoundments and engineering works in inland waters. SEPA provided the

necessary licence application in October 2007.

While protecting the water environment, the licence granted the contractor – John Langley Construction – a degree of flexibility. Langley wanted to work on the burn in a more 'artistic' way, to mimic the natural step pools further upstream, which are ideal for fish passage.

The result

Restoration work on the burn was completed in November 2007. Forestry Commission Scotland also removed 1,000 tonnes of commercial forest plantation from the edge of the burn, and other non-native trees were thinned to allow more light to penetrate from the southern bank. As well as leaving a higher proportion of native broadleaved species, the dappled shade is better suited to plant and insect life.

Final touches included interpretation boards funded by Perth and Kinross Countryside Trust and the further planting of native trees, including oak, birch, rowan and cherry, as part of a local eco-schools programme.

Three years after he contacted SEPA, John's efforts have paid off. For the first time in years, salmon, sea trout and brown trout have once again been seen passing over the reconstructed river section and up Inchewan Burn.

Good practice guidance

SEPA expects all applications for new engineering activities under the Controlled Activities Regulations to follow good practice. We have produced two guides to help contractors with the process of obtaining authorisation, to ensure they have the best information for reducing the impact of their work on the water environment.

Both guides can be found in the publication section of SEPA's website at www.sepa.org.uk

