

## Enhancing the Upper Spey

**The advent of the European Union's Water Framework Directive (WFD) led the Scottish Environment Protection Agency (SEPA) to carry out an assessment of the status of all water bodies throughout Scotland.**

The aim of the WFD is to achieve Good Ecological Status in a series of six-yearly phases that began in 2009 and is expected to be complete by 2027. Rivers which have been heavily modified, for example by the impoundment of water for hydro-electricity schemes, such as the Rivers Tromie and Truim (upper tributaries of the Spey) are not expected to achieve Good Ecological Status by the nature of their modifications, but instead will be expected to achieve a lower classification of Good Ecological Potential (GEP). However, the achievement of GEP in rivers for which the flows have been modified can conflict with another of the Scottish Government's stated policies, that of maintaining the production of renewable energy. The Rivers Tromie and Truim, the flows from both of which have been modified by Scottish and Southern Energy (SSE), form key components of the Spey Fishery Board's current strategy of improving water resource management in the upper Spey catchment, an area which is a key strong-hold for spring Salmon.



*The Scottish and Southern Energy dam at Loch and An't Seilich on the River Tromie*



*A typical salmon smolt and brown trout captured in the River Tromie Rotary Screw Trap. (Photo. R. Laughton)*

More broadly, SEPA and SSE are required by the Water Framework Directive to establish GEP in the River Garry in the Tay catchment, the flow of which has been largely diverted as part of the Tummel Hydro-Electric Scheme. This is significant for the Spey catchment because substantial volumes of water from Loch An't Seilich, at the top of the River Tromie, are diverted to the Tay catchment as part of the Tummel Scheme. In order to achieve GEP for the River Garry without reducing the production of renewable energy, a proposal was put forward in September 2006 by SSE and SEPA to modify the existing water regime by reducing the compensation flow in the River Tromie. In doing so, SSE also proposed to increase the flow of water down the River Cuaich, a tributary of the Truim. Plans to improve fish access to the Cuaich, along with an increase in the flow down the Allt Sluie at Dalwhinnie are also being considered, which together with more variable flow release regimes should be more beneficial for the fish populations in those Rivers. However, in order to fully assess the impacts of these proposed changes, better baseline data on fish populations in the area is required.

## Generating Smolt Run Data

Measuring the smolt output from a river is one of the best ways to determine the health of a Salmon population and a Rotary Screw Trap (RST) was trialed on the lower River Tromie during spring 2009. This proved very successful and the data collected provided an insight into the Tromie Salmon and Trout populations. Salmon smolts were the most abundant fish caught, followed by Trout, with a solitary minnow also recorded. A proportion of the Salmon and Trout were marked using a simple dye tattoo and then released upstream of the traps. Over 50% of these marked smolts were subsequently recaptured, indicating that the efficiency of the trap was good. Using the 2009 data and the Petersen Recapture model, Salmon smolt output for the Tromie in 2009 was estimated to be 7348 smolts.

The initial year of operation indicated that good Salmon smolt data can be collected from the River Tromie. Support from SSE has helped to continue the operation of the smolt trap in 2010 and collate data to assess the impacts of the proposed modifications in operating procedure and river flows. Plans to re-install the smolt trap in February 2010 were hampered by a frozen river and heavy snow, but the trap was successfully re-installed on the 23rd March.



The 6ft Rotary Screw Trap installed on the River Tromie.  
(Photo R. Laughton)



Jim Reid (Spey Foundation Assistant Biologist) inspects the fish box on the 4ft Rotary Screw Trap installed on the River Truim. (Photo R. Laughton)

2010 has also seen the expansion of the smolt monitoring programme with the installation of another trap in the lower River Truim. Establishing a Rotary Screw Trap on the Truim proved tricky; initial trials indicated that the water flow was insufficient to drive a 6ft Rotary Screw but tests with a smaller 4ft model proved to be successful. The additional smolt data will be essential to the Board in their strategy of improving the management of these valuable upper Spey Salmon spawning grounds.

**Collecting smolt data is time-consuming and expensive and the Spey Fishery Board is very grateful for the generous funding received from Scottish and Southern Energy for the River Tromie project and the Hon. Michael Samuel (Phones Estate) for the River Truim project. The Board would also like to thank Angus Morrison (Inveran Estate, Wester Ross) for the loan of the 4ft Rotary Screw Trap and Ray Dingwall (River Ewe ghillie) for his assistance.**