



# the River

News from Tweed Fisheries Management: The River Tweed Commission & The Tweed Foundation

## Some rainfall at last (but not enough)

Although there is an Autumn feel in the air at the end of September and weather patterns are more unsettled with some welcome rainfall, the Tweed catchment has so far escaped a proper spate to clean out the river and get fish moving into the tributaries. Gauges at the top of the Teviot, Tweed and Ettrick in the West of the catchment rose up to 30 cm around the 28<sup>th</sup> September, but gauges in tributaries further East barely moved. When flow records are analysed in due course, it is likely that 2021 will go down as one of the driest on record, with the last significant rainfall on the 24<sup>th</sup> May.

The rise in water has been enough to get a few fish moving through the Ettrick fish counter but there is no sign of the main run just yet. Anecdotally, it would appear that fish don't like to move in coloured water and it may well be that fish are waiting for the next rise in water before starting their spawning run into the tributaries.

James Hunt, biologist at the Tweed Foundation commented :-

*"The Ettrick has been particularly low this year, to such an extent that it was virtually impossible for an adult Salmon to progress upstream of Selkirk. The counter at Philiphaugh showed that no Salmon were detected for nearly a month before the recent rainfall. With the poor fishing conditions experienced through much of the year due to low water and high temperatures in July, it is difficult to accurately assess the abundance of Salmon and Sea Trout in the river using rod catches. It will be fascinating to see what is counted through the Ettrick and Gala counters as an objective assessment of numbers this year."*

## Summer electro-fishing

Having counted many thousands of juvenile Salmon and Trout this summer, The Tweed Foundation has completed its summer electro-fishing programme. Thirty sites throughout the catchment have been sampled as part of an ambitious national monitoring programme which involves Trusts and boards sampling all catchments in Scotland that contain Salmon using a consistent method that allows results to be compared and assessed.



**The last national monitoring site to be surveyed was on the Eddleston Water**

While the results from our own electro-fishing still need to be analysed, major tributaries such as the Gala, Leader and main stem of the Upper Tweed continue to be extremely productive for Salmon fry.



**A typical sample of Salmon Fry from 100m<sup>2</sup> of the Gala Water**

### PIT tagging parr on the Gala Water

Since 2019, The Tweed Foundation has been PIT tagging Salmon Parr and Smolts to determine return rates of adult Salmon to the Gala Water and to look at the survival of Smolts through the lower Gala Water. PIT tags are the smallest type of tag that can be detected by monitoring equipment as they contain an internal microchip that is activated when it passes close to an antenna, rather than relying on a battery for detection.



**A PIT tag (top) compared to a 5mm acoustic tag (bottom)**

An important milestone in the development of the Gala Water as a monitored river (which means we monitor all stages of the life cycle) is the installation of a mains powered detection antenna next to the fish counter in the fish pass. Up until now, we had to change a battery every 5 days. This means in addition to seeing how many Salmon return to the Gala Water, there will now be a video recording of every PIT tagged fish and an estimated length. Last year we detected our first Salmon that returned after one year at sea, so of the cohort of Salmon tagged smolts that left in 2019, we will now detect two year old tagged fish, allowing us to calculate a total return rate to the Gala Water for the first time. We also expect to see some of the fish that were tagged in 2020.

For the first time in 2021 we also tagged 500 Sea Trout smolts; very little is known about their survival at sea, so it will be fascinating to see how many return in the next couple of years.

### How many Salmon are produced in the Gala Water?

As part of the development of the Gala Water as a monitored river, we are trying to estimate the numbers of smolts that are produced every year. However, a complicating factor is that an unknown number of Parr migrate down into the main river in Autumn, a pattern which may be found through the Tweed system and has been reported on other rivers. To start investigating this migratory pattern, we have PIT tagged around 250 Salmon parr in the Middle Gala Water in the last week of September. With the installation of a streambed antenna in the lower Gala Water just downstream of the fish counter, we will be able to start assessing the extent of this migration.



**A PIT antenna attached to the streambed in the lower Gala Water**

If Parr from the tributaries like the Gala Water do migrate into the main river in Autumn, then another interesting question is whether these fish then return to the Gala Water as adults to spawn; if this is the case, these fish would need imprint their first journey from the Gala Water to the main river (to find their way back) and then their migration to sea the following Spring from the main river. Why Parr would choose to migrate down into the main river is a difficult question to answer; perhaps over wintering habitat is more available in the main river or perhaps feeding opportunities are greater.