



THE GALA FISH COUNTER RESULTS 2013

The Gala fish counter is located in the fish pass at the Skinworks Cauld (behind B & Q) in Galashiels. All fish travelling upstream have to go through the fish pass and are therefore counted. The counter consists of an infrared scanner for counting and measuring the lengths of fish and a video camera for species identification.

2013 Summary

2013 was a challenging year for the Gala fish counter. First of all the scanner had to be returned to Iceland for repair and on return the electricity supply to the counter was cut off while renovations were carried out in the neighbouring building. Thankfully, the prolonged dry period lasted into October and the counter was back in operation by mid-August, allowing most of the run to be counted. The first rise in water was on the 16th and 17th October when over 1,500 fish passed through the counter in four days. Due to high water turbidity, species identification using the video camera in 2013 was reduced to 17% (normally around 60%) which meant that unidentified fish had to be classified using Salmon or Trout reference data from 2008 to 2012.

The results in the table opposite show that the Trout total for 2013 was ranked fourth in six years of results. The Salmon total was ranked fifth out of six, being only slightly higher than the total for 2012.

To consider the lowest ranked Salmon results in 2012 and 2013, a snow melt event in Spring 2010 led to high mortality of Salmon fry in the main channel of the Gala Water and this was expected to be detectable in future fish counter results due to fewer emigrating smolts and therefore fewer returning adults. The most common river and sea age combination in the Tweed system for Salmon is 2.1 (2 years in the river, one at sea) followed by 2.2 (two years in the river, two in the sea). In 2013 the 2.1 fish from the 2010 fry returned in 2013 but no large scale decrease was detected in the adult count. There is no clear explanation for this result; more fry may have smolted after one year in the absence of any competition and returned in 2012 or Gala Salmon may be part of a wider stock that is not specific to the Gala Water. It is interesting to note, however, that the two lowest totals so far (Table 1) have been recorded in 2012 and 2013 and this could be related to the fry mortality event in 2010. Another low total in 2014 followed by an increase in 2015 will provide evidence that the effect of the flood event has actually been spread out over a three year period instead of the two expected.



Table 1. Annual totals. The figure in brackets for the Trout total column is for Trout under 40 cm, the majority of which are assumed to be Brown trout. Salmon surplus = number of Salmon minus spawning target of 656 fish (at egg deposition rate of 500 eggs / 100 m²).

Year	Salmon total	Trout total	Total	Salmon Surplus
2008	1954	2273 (345)	4227	1298
2009	1063	1889 (377)	2952	407
2010	1361	1362 (232)	2723	705
2011	1481	2354 (559)	3835	825
2012	821	1361 (239)	2182	165
2013	894	1494 (304)	2388	238

In addition to the standard fish counting and analysis that is carried out for the Gala counter, a fish trap is run in the fish pass upstream of it on an occasional basis when fish are running. Trapping fish allows us to take scale samples for ageing fish and make species identifications to validate the results of the fish counter. Depth measurements of each fish (its flank height) are taken, to define the relationship between depth and length (the fish counter uses fish depth to calculate length).

A large Brown Trout of around 60 cm caught in the trap



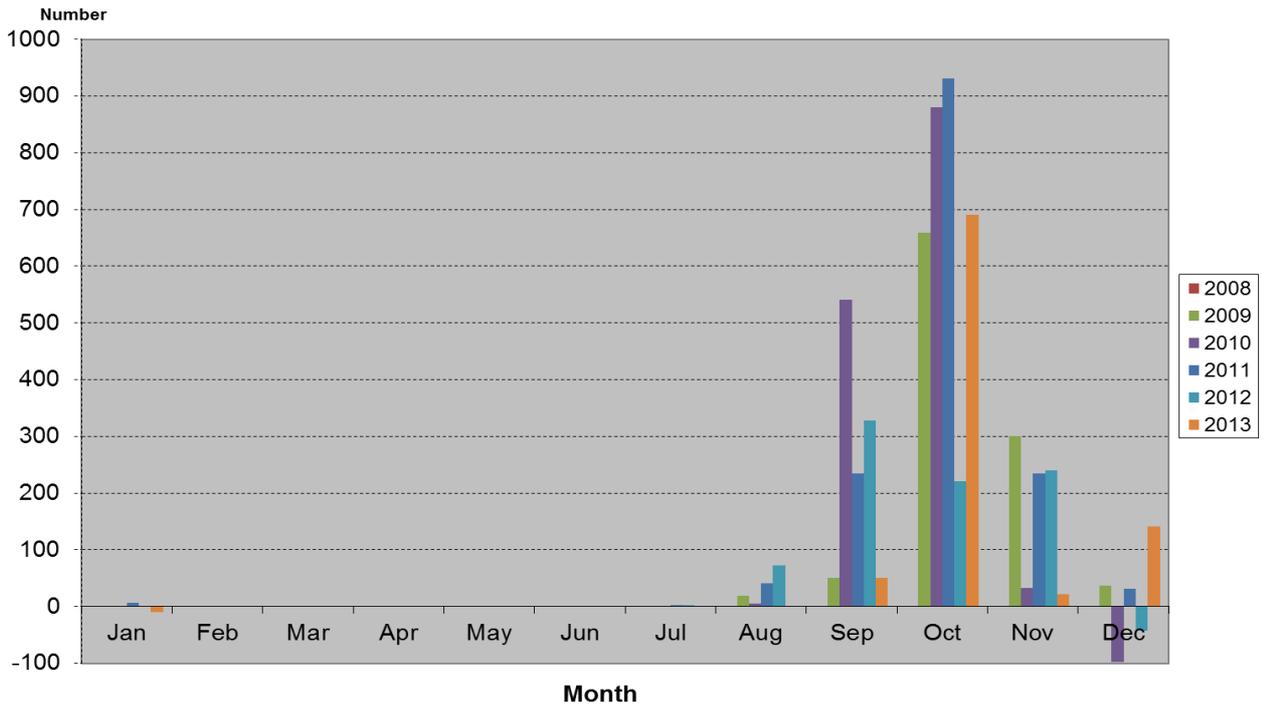
Monthly totals for Salmon and Trout are shown on the following page.



Annual totals by month

The monthly totals confirm that the main migration of both Salmon and Trout is from August onwards, with the main run of fish in October. Kelts come back down through the counter in December so totals can be negative for this month.

Salmon



Trout

