

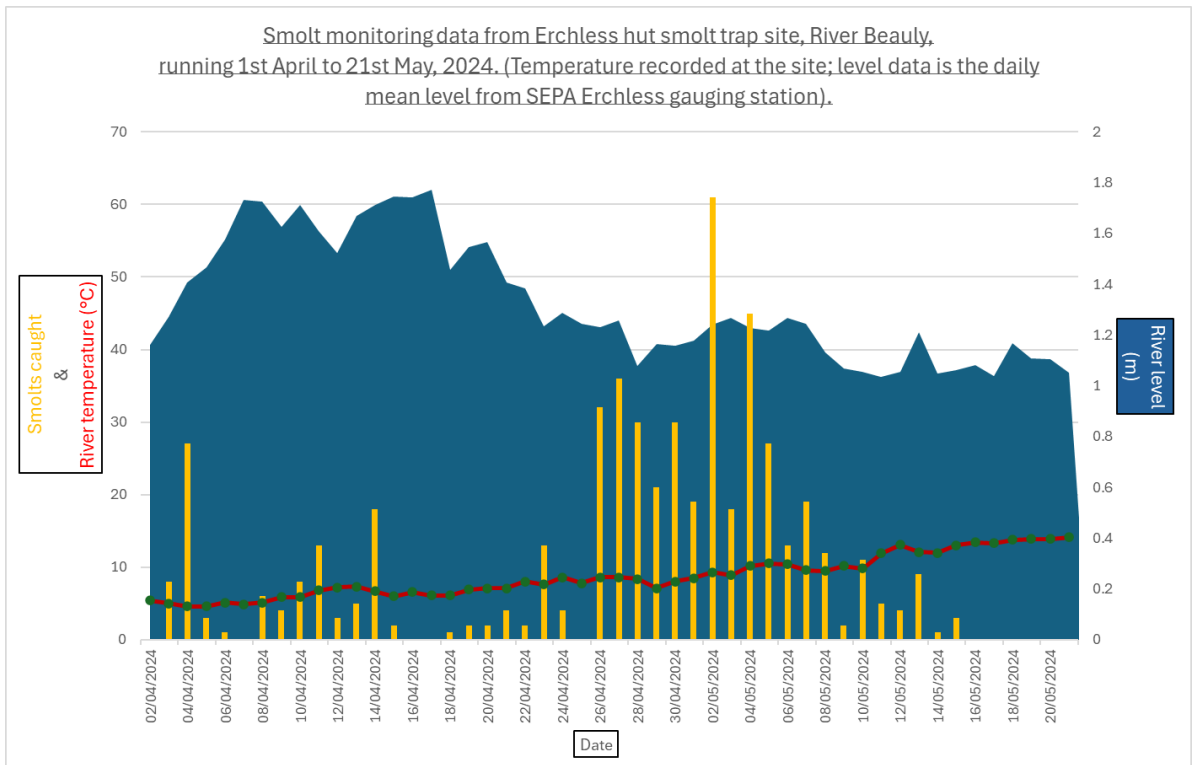
Smolt monitoring in 2024: Assessing smolt run timing for improved flow management and smolt survival.

Smolt monitoring is carried out in the catchment to identify smolt run timing to enable better flow management by SSE for improved smolt survival and passage at the dams. Building on work done in 2021, 2022 and 2023, a 6ft rotary screw trap provided by SSE was installed on the River Beauly at the Erchless hut (approximately 750m downstream of the Junction pool and the mouth of the River Farrar), in 2024.



The Erchless smolt trap site, in high flows in early April (top) and low flows in May (bottom), 2024.

This monitoring found smolts to be running on the Beauly (above the dams) from 3rd April – 15th May (drum was lifted on 21st May, after six consecutive days of zero captures). A total of **524 salmon smolts** (including pre-smolts – yet to fully silver-up) and **three trout smolts** were captured during this period. This is illustrated, alongside the river level data (from the SEPA Erchless gauging station) and the river water temperature that we recorded on-site, in the chart below. The results in 2024 were a good improvement on previous years sampling but based on a potential estimated smolt run of 80,000-100,000 for the Beauly catchment (not all of which, but the majority, would be passing this trapping site), this represents a very low capture efficiency for the trap. Many more fish were expected to be caught, as the trap ran well throughout the trapping period, and the site was considered very suitable.



Trap efficiency was assessed on four occasions, by dye-marking smolts and releasing them 300m upstream of the trap, and then seeing how many were recaptured in the trap. The recapture rates were very mixed – 27%, 50%, 0% and then the fourth batch were missed due to a branch becoming wedged in the trap and stopping it turning, on the day we released the fish upstream. Due to only testing during low flows, using small sample sizes of smolts (14-18 fish per batch), and on only three occasions, this testing is not considered robust.

Considerable thanks are due to the nine volunteers who gave their time to help us with the 2024 smolt monitoring.

SSE Operations at the dams

SSE's smolt protection protocol was similar to that in place in 2023. SSE implemented Phase 1 flows for smolts between 1st April-31st May with Phase 2 flows being in place between 22 April and the end of May. SSE staff have been monitoring the number of smolts in the dam gate slots and low numbers 10-40 were observed in early May, but on 23rd May this rose to approximately 200 smolts being seen, and on the weekend of 25th/26th approximately 500 have been reported. This was likely due to the significant outage of the G1 turbine, from 13th -31st May. By the 4th June however, when BFB staff met with SSE on Aigas dam, numbers had dropped significantly, with less than 20 in each gate slot, suggesting that trapped smolts can find their way out, when the turbines are running.