Salmon counter update

Test & Itchen, March 2026

A brief report on Test & Itchen salmon counter developments & results.

February and March summary:

At the time of writing, all three counters are clean and in excellent working order, but we have experienced recent problems. After the winter period, counters need a thorough clean at the earliest possible opportunity, but this requires water level to be low enough to allow safe access. At Gaters, we need water level to be below the level of the door to the underground chamber; at Nursling flow must be low enough that water doesn't overtop the penstocks (sluice gates) when they're closed and at Conegar, the river needs to be low enough for us work safely in the flow, with the aid of a harness and safety lines.

We gained access to Gaters counter chamber in early March and found that during the recent flood, a wire had become disconnected from one of the counter electrodes on (three stainless steel strips across the bed of the counter) - the electrodes are the electrical sensors that detect fish passing above them and a wiring breakage disables all counting, primary and backup. The video system was operational, but of no use because after the flood, the window was completely obscured by algae and limescale.

This fault meant that there is no count data for Gaters for the whole of February, but this is of negligible relevance to the annual count because, on average, February yields only 0.3% of the total Itchen salmon count in any given year – it is the month of least salmon migration. Nonetheless, we will account for the downtime by inserting the long-term average count for the affected period.

Gaters electrodes were entirely rewired and the counter scrubbed clean in early March. A few days later, Nursling was deep-cleaned and both side-viewing underwater cameras and the fibreglass camera arm they are mounted in were replaced with brand-new ones. The lenses of the old cameras had become foggy after a couple of years of regular cleaning, affecting image quality.

Flow has remained too high to enter the water at Conegar, but the counter has been kept clean using a telescopic scrubbing brush from the walkway above the counter.

Grayling and pike counts are common in February and March, as both species spawn in early spring and may move considerable distances to reach their preferred spawning reaches – we recorded several of each species in March.

Our new AI fish recognition system is ready to be installed on the hatches at Gaters Mill but has had to wait for the installation of electrical equipment associated with the new eel pass that runs up through one of these hatches. This is due for completion this week and we expect to start operating the AI system before the end of the month.

Impact of stocked trout abundance on salmon and sea trout counting:

More farmed trout are stocked to the River Test than any other UK river; the Itchen is the third-most heavily stocked after the Kennet. Existing permits allow **53,640** farmed trout to be released into the Test and **10,210** into the Itchen annually. Only a small proportion of stocked trout are caught by anglers, and most of these are returned to the river. A large proportion of trout stocked in any given year are still alive at the end of the trout season; many survive until the following year, and some may survive for several years. Over time, many of these fish move from the place where they were stocked, some upstream but most downstream. Some remain in the reach where they were released.
As a result, stocked trout that are a long distance from their original place of stocking are abundant in the lower Test and Itchen. Anglers' catch reports from Southampton Water demonstrate that some enter saltwater, while reports from fisheries near the head of tide reflect a mixture of displaced stocked trout that have adapted to saltwater (large and silver, often referred to as "slob" trout) and those that are resident in the intertidal zone but have gone no farther seaward (typically-sized and brown).

Right: a typical slob trout recorded heading upstream at Nursling on 25th March.

Below: overwintered stocked trout recorded at Gaters in March 2026. The left-hand one was heading downstream, the right-hand one, upstream.

Improvements in salmon counter video in recent years have corroborated anglers' reports that stocked trout in estuarine waters and the lower river tend to undertake an upstream migration in early spring; January to March; this has been very apparent in spring 2026. In fact, it appears likely that most, if not all of the upstream counts at Nursling, shown in figure 4 were overwintered stocked trout making their way back upstream, for reasons that are not understood.

Clearly, this persistence and accumulation of stocked trout has serious, wide ranging ecological implications, particularly in terms of predation, competition for space and food and the effects on predator abundance and behaviour. However, for the purposes of this counter update, we're focussed on the implications for monitoring salmon and sea trout populations. The majority of counts don't yield high-quality, clear images, so where the fish appears to be a trout of above 1kg, or if there is no image and we're reliant on electronic waveform amplitude, it is simply not possible to distinguish reliably between stocked and wild trout and large stocked trout may be mistaken for small salmon.

Aside from the salmon counters, many observations of displaced and estuarine-adapted stocked trout come via angler's catch reports on social media; the fish below have all been reported from the lower Test and Itchen in spring 2026:

Graphs:

The following graphs show the cumulative numbers of salmon and trout counted at each of the three counters. The long-term average numbers counted are also given, which are based on 2015-2025 for Nursling & Gaters and 2021-2015 (Conegar was built in 2021). Average daily flow is also shown and is given alongside long-term average flow. Note that "trout" does not mean exclusively sea trout; it's not always possible to distinguish reliably between wild and stocked trout.

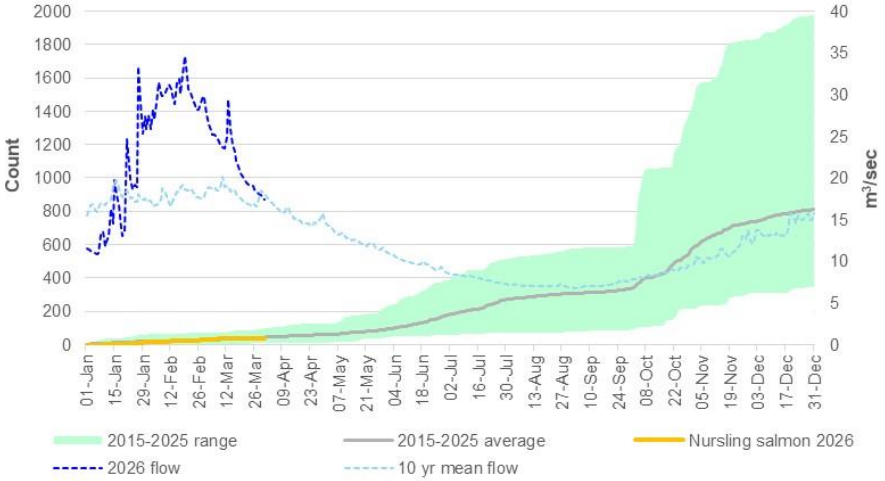

Figure 1: Great Test (Nursling) salmon upstream counts and flow.

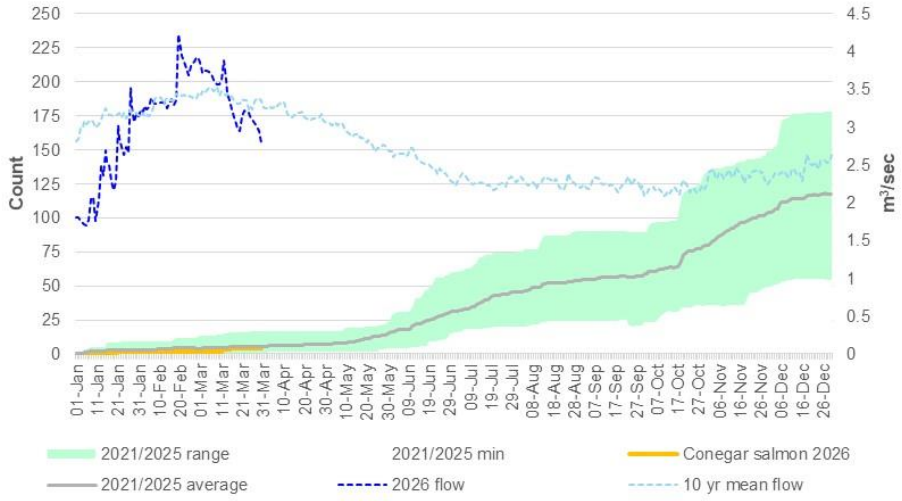

Figure 2: Little River Test (Conegar) salmon upstream counts and flow.

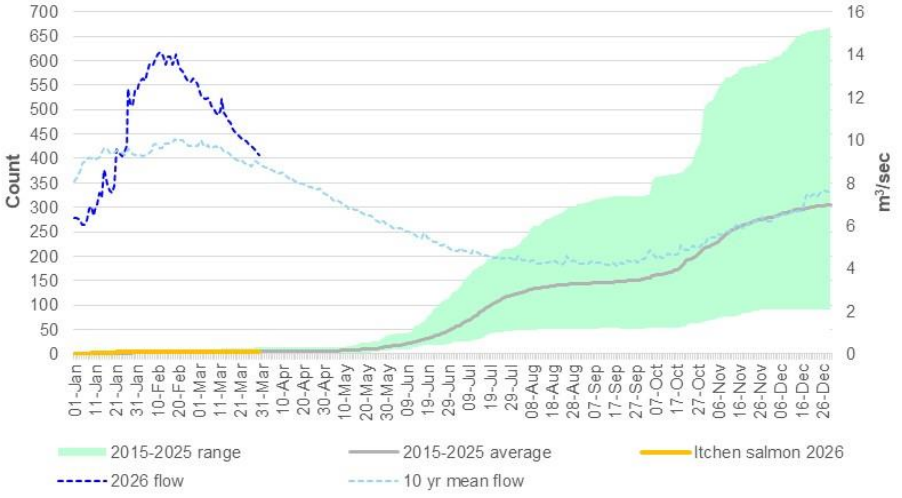

Figure 3: River Itchen (Gaters Mill) salmon upstream counts and flow.

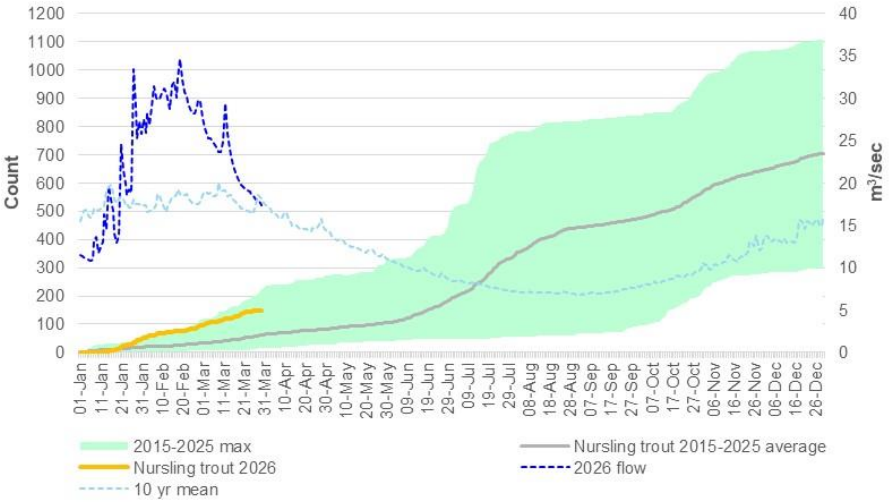

Figure 4: River Test (Nursling Mill) trout nett upstream counts and flow.

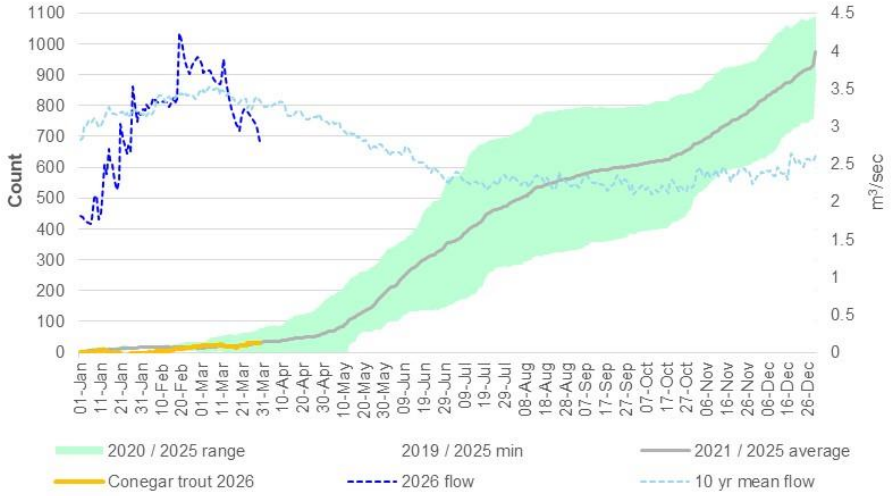

Figure 5: Little River Test (Conegar) trout nett upstream counts and flow.

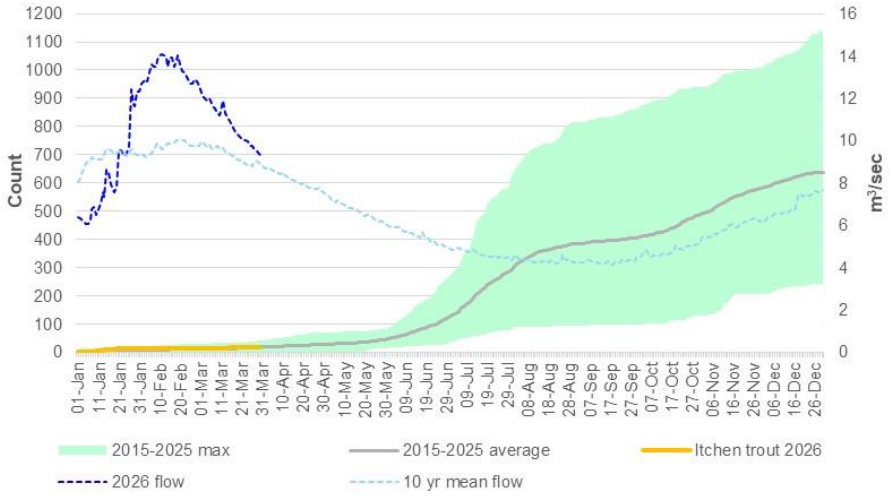

Figure 6: River Itchen (Gaters Mill) trout nett upstream counts and flow.

February and March gallery:

Flooding at Gaters Mill counter.

Above: Deep-cleaning Nursling counter in early March.

Above right: Nursling counter deep-cleaned and with a new camera arm & cameras fitted.

Right: a metal cylinder "fake fish" is passed through the counter on a line to confirm sensitivity.

Below: pre-spawning grayling at Nursling (left) and Gaters (right).

Left: large pike migrating in turbid water in early spring can easily be mistaken for salmon, but they have a distinctive way of moving that can aid identification: the head & forward half of the body remains dead straight, with all the swimming motion coming from the tail section. For this fish, a glimpse of the head on the side viewing camera confirmed identification.

Above left & right: two more March stocked trout at Gaters.

Right: rodents are an unfortunate hazard of operating electrical equipment at rural riverside locations, especially in winter when they seek warmth – this was an ancient but very much needed computer at Nursling, rendered a smelly, sticky mess by its murine residents. Incidentally, it was positioned right next to an electronic mouse deterrent device from a well-known building materials supplier.

For more information on the Test & Itchen salmon counters, contact: “dominic.longley@environment-agency.gov.uk”

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