Hampshire Avon Fish Counter

Knapp Mill, November - January 2025/26

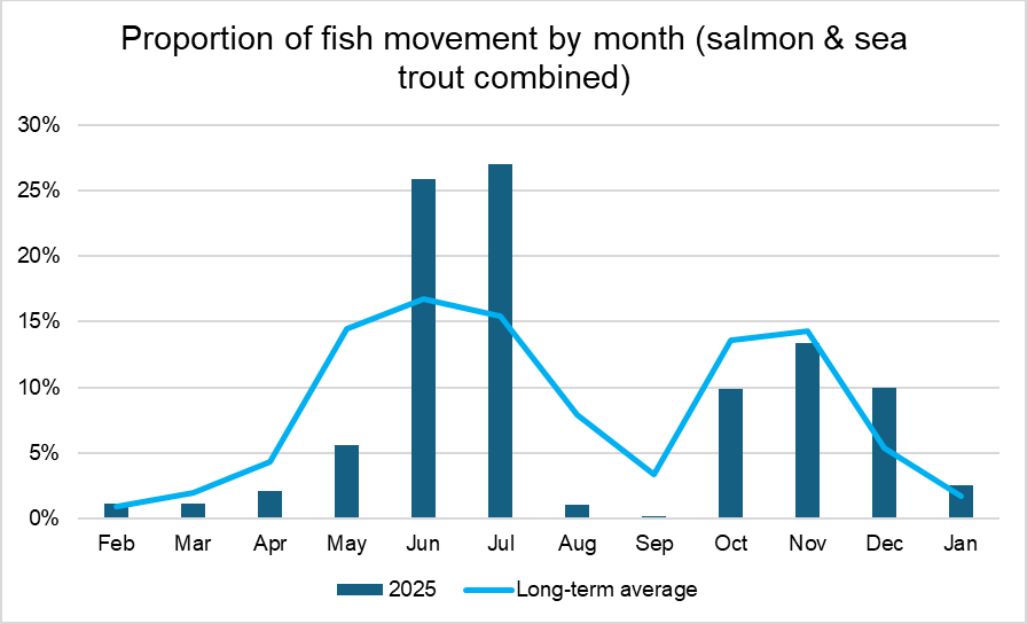
Figure 1 – *Two contrasting moods of January along the Avon. The image on the right is a view across the floodplain, looking downstream from where the river has breached the bank. 05/01/26 (left) & 27/01/26 (right)*

Summary

The counters at Knapp Mill operated without fault during January. The new computers have arrived, and these will support additional cameras across more counter channels as well as prevent the erroneous gaps in image recordings experienced with the previous equipment. We've installed further overhead cameras along the Great Weir, and as soon as the flows drop sufficiently to temporarily close some hatches we will be ready to add new underwater cameras too. Despite the flooding, the water clarity since the beginning of February has been very good, and hopefully we'll get some suitable images this month.

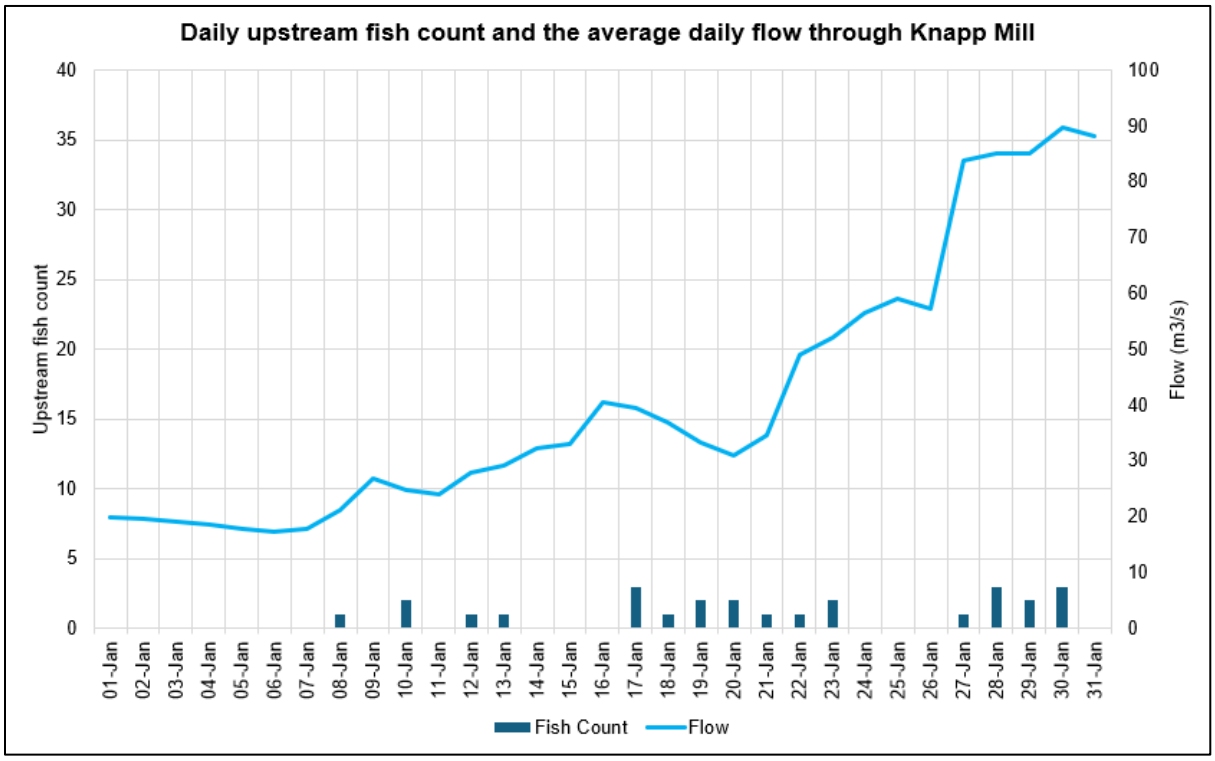
26 fish were recorded moving upstream in January, which is 173% of the long-term average for the month. The total fish count for the year is very close to the long-term average (99.7%), although this again includes all salmonids. You'll see in the species split further below that sea trout make up the majority of this, and salmon numbers have fallen again.

This year, for the first time, more than half of all recorded fish were seen during June and July. Typically this figure would be roughly one third. You can see in graph 1 how far below average the neighbouring months of April, May, August, and September were for upstream migration.

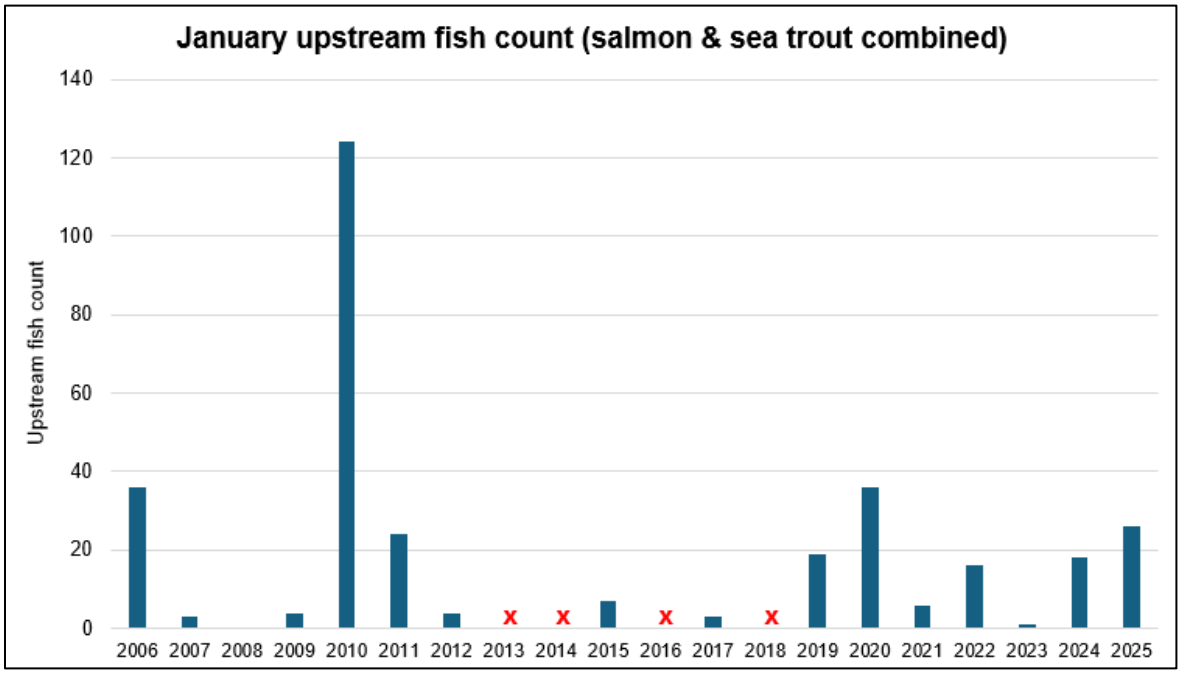


Graph 1 – *The percentage of the total fish count recorded each month.*

January Data

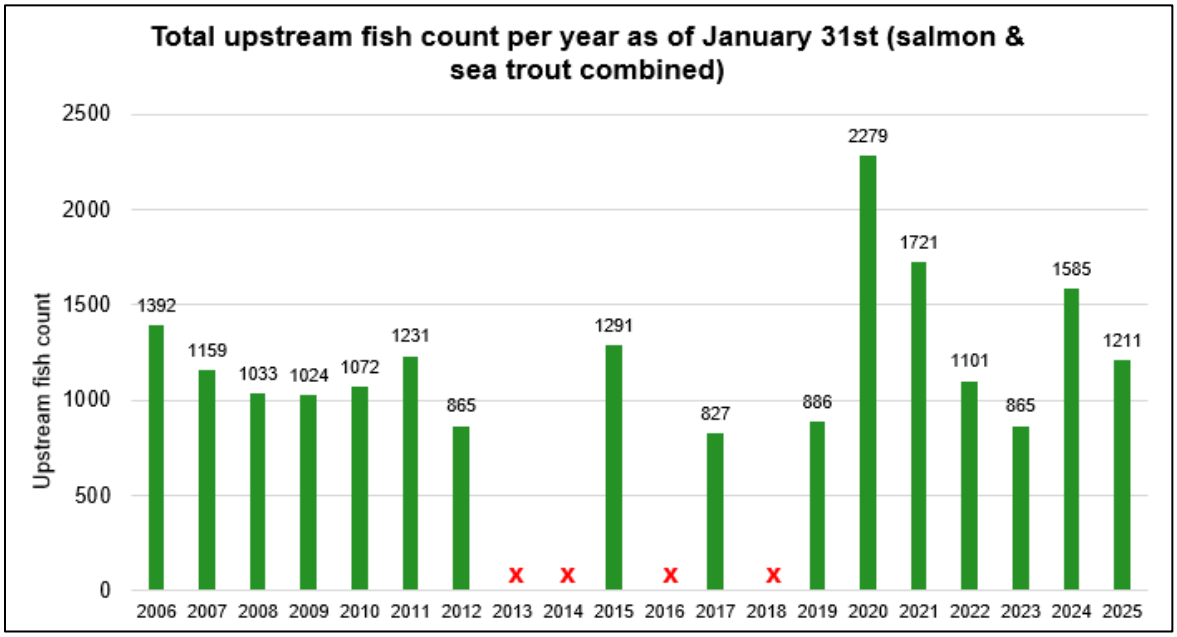


Graph 2 - *2025 upstream fish count (salmon & sea trout combined) each day in January alongside the flow through Knapp Mill for the same period.*

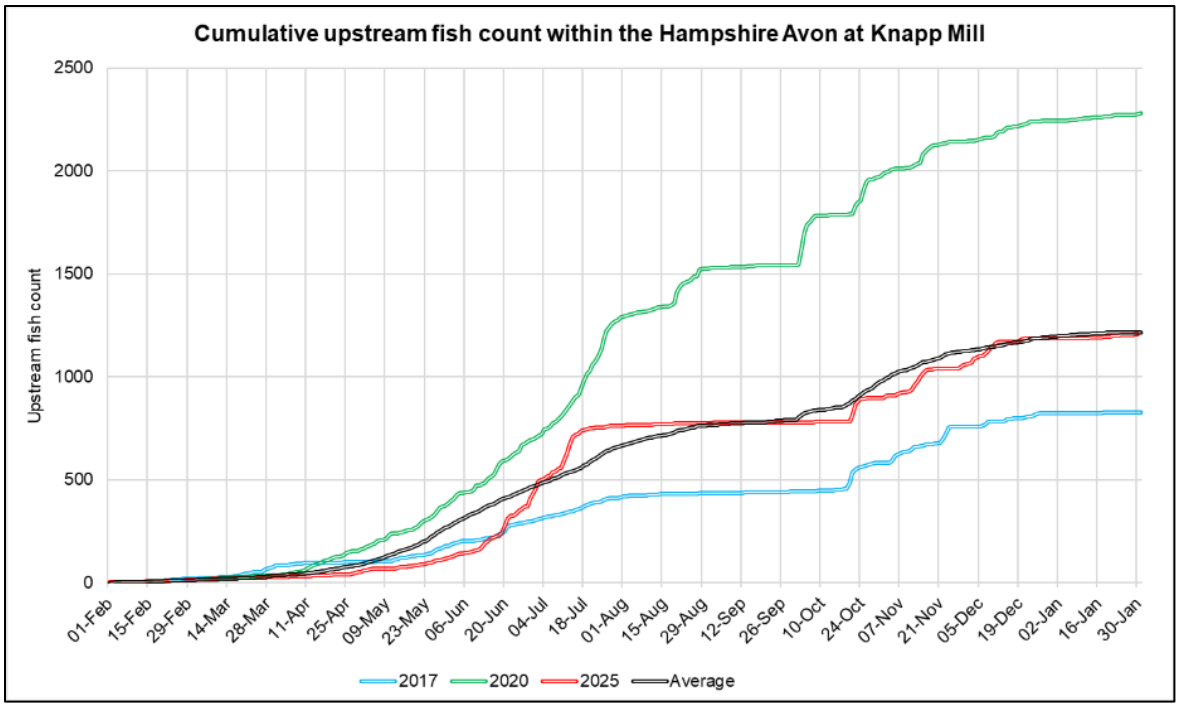


Graph 3 – *A comparison of the total upstream fish count for January across each year (no valid data was available for 2013, 2014, 2016 and 2018).*

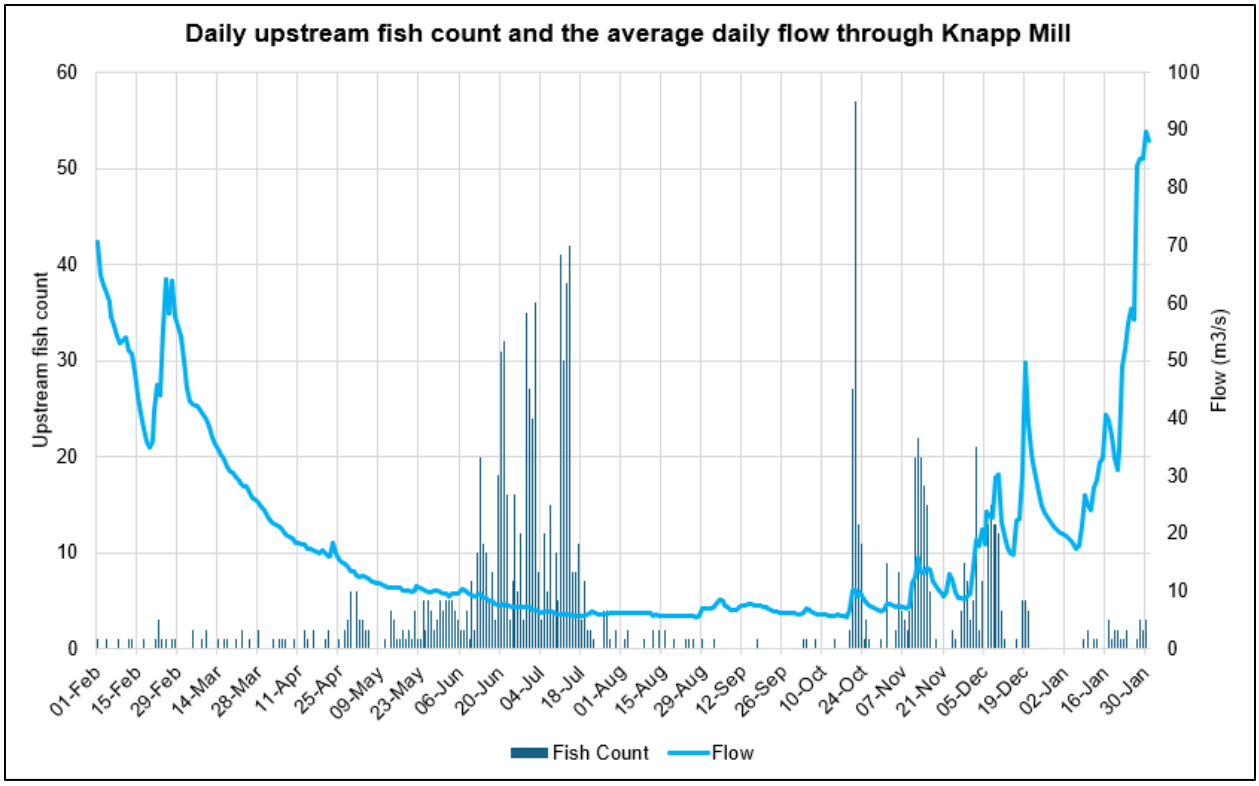
Q4 Data



Graph 4 - *Total upstream fish count through Knapp Mill for each year, beginning February 1st, as of January 31st (no valid data was available for 2013, 2014, 2016 and 2018).*



Graph 5 - *A comparison of the long-term average since 2006 (excluding 2013, 2014, 2016 and 2018) with the current year's cumulative fish count (2025), as well as the highest previously recorded annual count (2020) and lowest (2017).*



Graph 6 - *2025 upstream fish count (salmon & sea trout combined) each day alongside the flow through Knapp Mill.*

The missing data for 2013, 2014, 2016, and 2018 is due to issues with the fish counters during these years that resulted in erroneously low counts being recorded. Therefore, data from these years is not included in any of the long-term averages for fish counts.

Species Split

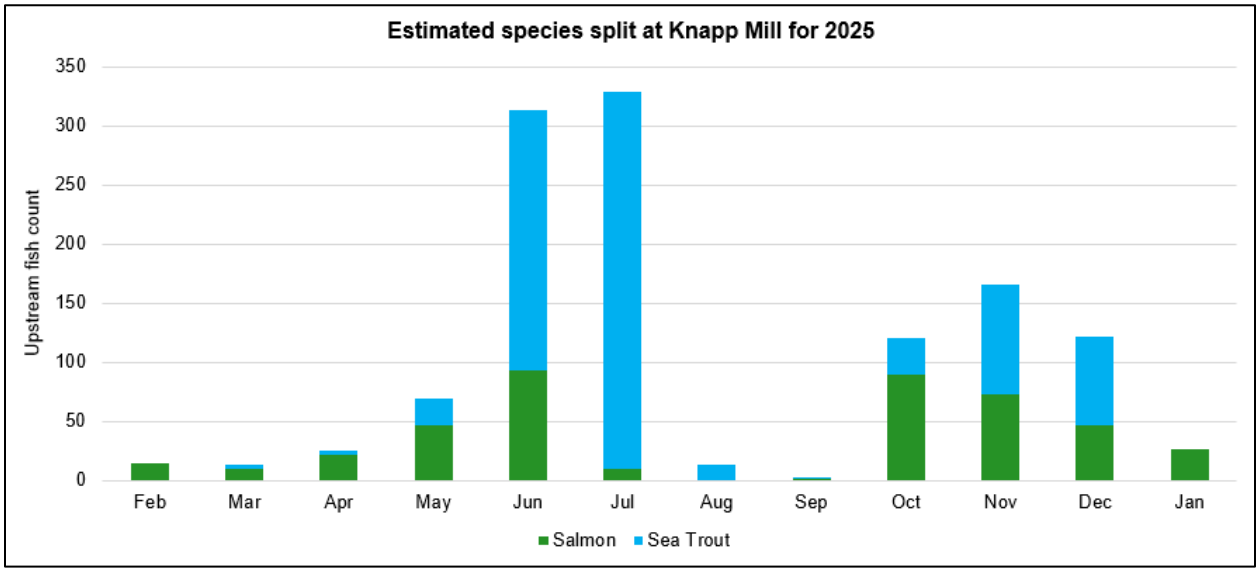
In January, the annual estimate for the number of salmon returning to the river in 2025 was completed. The method used to arrive at the estimate is shown in table 1. Where fish are detected by the counters but cannot be identified with a camera image, an estimation is used to determine the most likely proportion of salmon relative to sea trout. This can be an extrapolation of the current year's data or based on historic counts. As you can see, for the Turbine House where most fish are captured on camera and identified, we've only relied on historic data for one month. However, on the Great Weir where some channels do not have cameras, and those that do are more impacted by water turbidity, there is a higher degree of uncertainty affecting the final figures.

This year, 53.1% of fish were identified to species level using camera images, which is an improvement on last year. Additional cameras on the Great Weir should increase this figure for 2026, and ideally remove the need to incorporate historic data into the estimates.

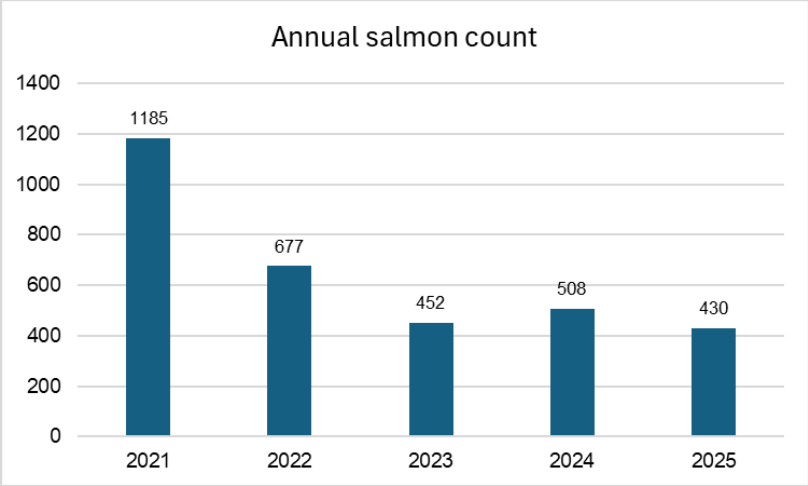
Graph 8 shows the overall decline of salmon numbers within the Hampshire Avon over the previous five years. While total salmonid numbers since 2006 (graph 4 above) appear to show no particular trend, the data suggests that sea trout numbers are rising while salmon decline.

	Great Weir		Turbine House		Final figures	
	Total fish	**Estimate Used**	**Total fish**	**Estimate Used**	**Salmon**	**Sea Trout**
Feb	14	Historic long-term average (2011-2024)	0	Not required	14	0
Mar	13	Historic long-term average (2011-2024)	0	Not required	10	3
Apr	24	Historic long-term average (2011-2024)	1	Historic long-term average (2019-2024)	22	3
May	45	Historic long-term average (2019-2024)	24	Turbine House data (2025)	47	22
Jun	81	Great Weir data (2025)	232	Turbine House data (2025)	93	220
Jul	13	Great Weir data (2025)	316	Turbine House data (2025)	9	320
Aug	0	Not required	13	Not required	0	13
Sep	0	Not required	2	Not required	1	1
Oct	68	Historic long-term average (2019-2024)	52	Turbine House data (2025)	89	31
Nov	102	Great Weir & Turbine House data (2025)	64	Turbine House data (2025)	73	93
Dec	111	Historic long-term average (2019-2024)	10	Turbine House data (2025)	47	75
Jan	26	Historic long-term average (2011-2024)	0	Not required	26	0
	497		714		**430**	**781**

Table 1 – *The method of how the species split estimation was calculated. The historic long-term averages are a combination of all channels over that time period. A longer time period (2011-2024) was used for months where the recent sample sizes are much smaller.*

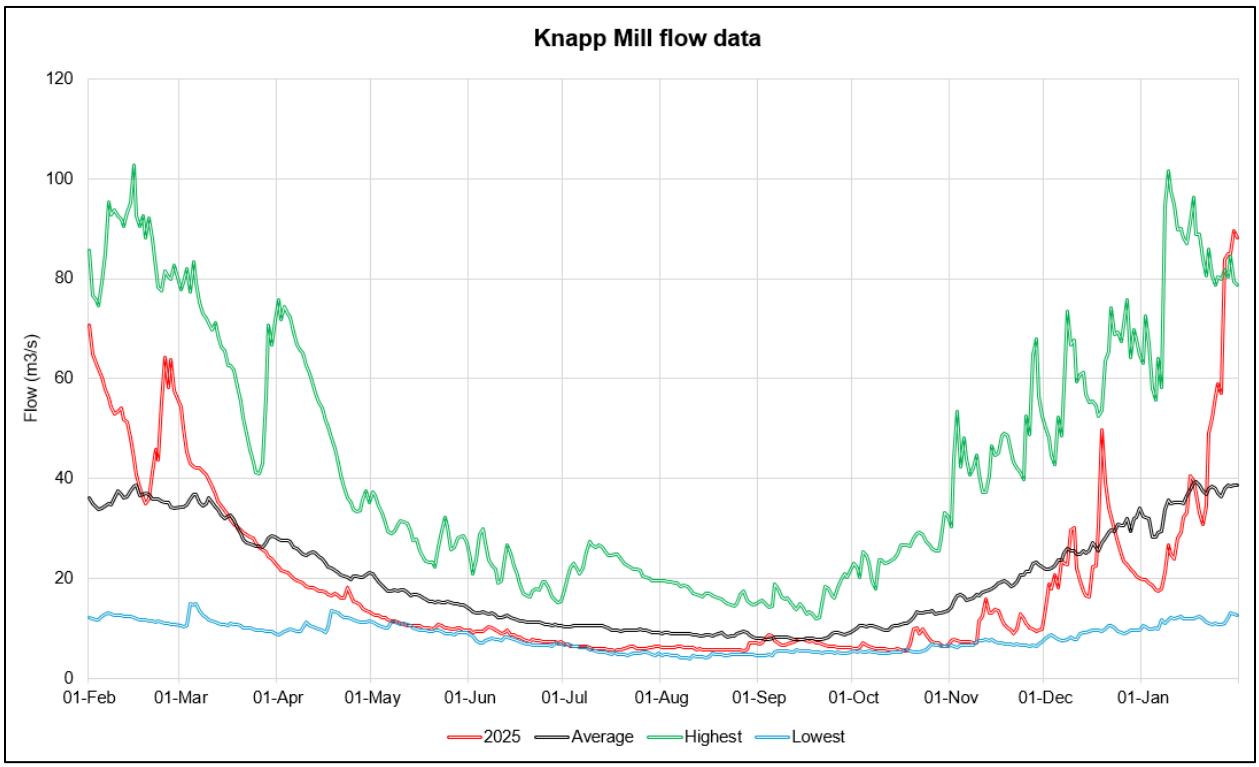


Graph 7 – *The species split, including both estimated figures and camera images, for all channels combined.*



Graph 8 – *The total count for salmon at Knapp Mill for each of the last five years.*

Flow and Temperature

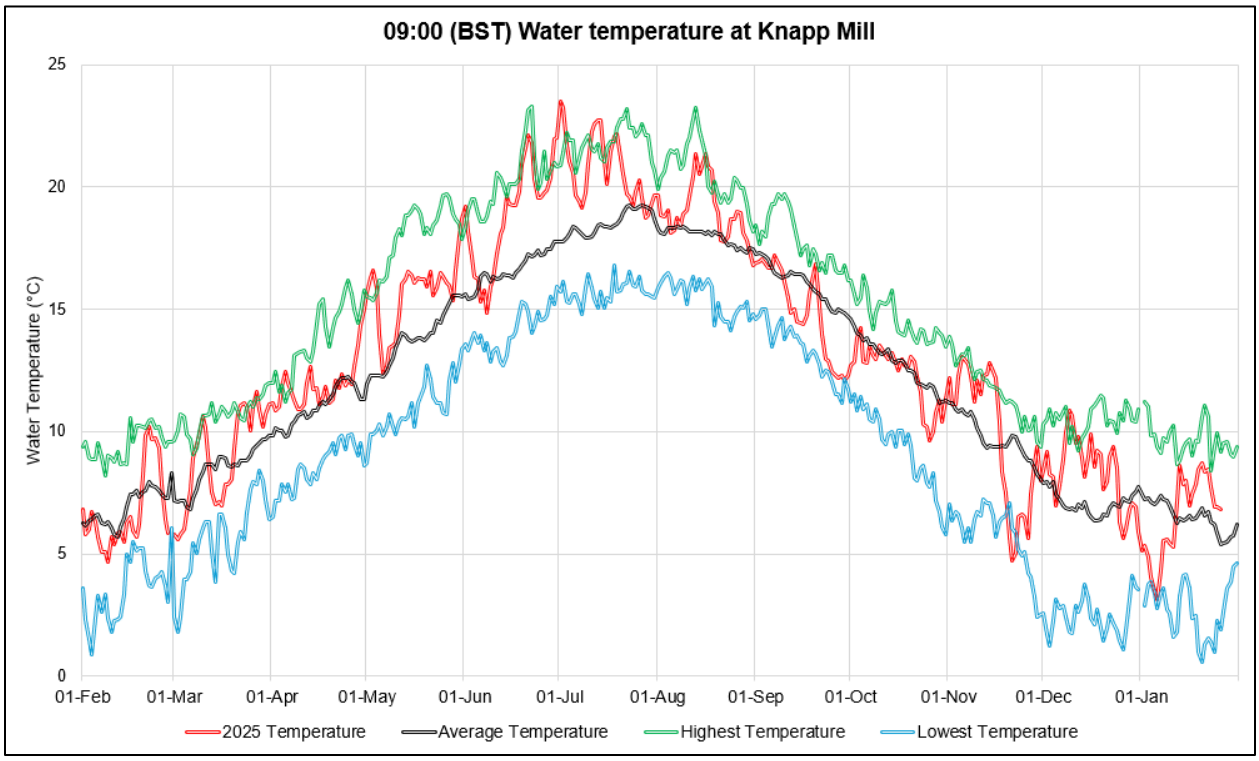


Graph 9 - *A comparison of the long-term average flow data, as well as highest and lowest mean daily flow, for the period of 01/02/2006 – 31/01/2025, with the current year's flow data.*

The Met Office have confirmed that 2025 is the warmest year on record, joining 2022 and 2023 in the top three. It also goes down as the sunniest year on record. For Knapp Mill, the year has been dominated by the high water temperatures and low river flows, creating conditions that raised concern for fish welfare.

293 days recorded a below average daily flow at Knapp Mill, with only four above average days between the start of April and beginning of December. Obviously the final week of January saw a completely different picture, with river levels managing to creep over the footpath across the weir, and several daily highest flow records being surpassed.

For the 09:00 temperature data, 239 days of the year were above the daily long-term average. 36 days set a new highest daily record for that date, with only four days setting a lowest daily record.



Graph 10 - *A comparison of the long-term average 09:00 water temperature data, as well as highest and lowest daily 09:00 water temperature (all from 01/02/2006 to 31/01/2025), with the current year's water temperature data.*

Gallery

Below is a collection of images taken from the counter cameras. Figure 2 offers a sense of scale for any images taken within the fish counters.

Figure 2 *– Overhead view of the Turbine House (left) and Fish Pass (right). The distance between neighbouring electrodes, as indicated by each yellow line, is 45 cm.*

Figure 3 – *A barbell and three dace at the bottom of the Fish Pass. Placing cameras outside of counter channels has allowed sightings of a wider range of species, including a chub that was just out of shot for this image. 11/06/25.*

Figure 4 – *Caught on the same camera as figure 3, this sea trout, as with most salmonids seen here, spent a few minutes circling the Fish Pass counter entrance before heading upstream. 14/06/25.*

Figure 5 – *A large sea trout emerging from the Turbine House counter. Positioning the camera here has provided greater detail within the images and helped us identify more fish to species level. 03/07/25.*

Figure 6 – *A sea trout at the top of the Fish Pass. The new camera here is less affected by weed and gives a wider field of view than the original, which is now located on the opposite bank where many fish stop to rest. 07/07/25.*

Figure 7 – *An eel, ~30 cm long, that had slightly overshot the entrances to the eel pass and was seen within the closed channels on the Great Weir. 15/07/25*

Figure 8 – *One of the many sea trout seen during the summer months. With the low river flows, a large majority of fish used the Turbine House route in June & July. From 31 July to 20 October no fish used the Great Weir to move upstream. 15/07/25*

Figure 9 – *An example of a non-salmonid species using the counters to move upstream. This chub was too small to trigger the counter electrodes, but a few pike earlier in the year were recorded within the data. 17/08/25*

Figure 10 – *Much like the chub above, these perch were sighted with the help of motion detection within the camera. The motion detection works well at the Turbine House where there are few weeds or shadows to trigger it. 27/08/25*

Figure 11 – *The rainfall event in October saw the busiest day of fish movement this year with 57 on 21 October. The salmon (left) and sea trout (right) in these images moved the day before, while the water was still clear enough for reasonable visibility. 20/10/25*

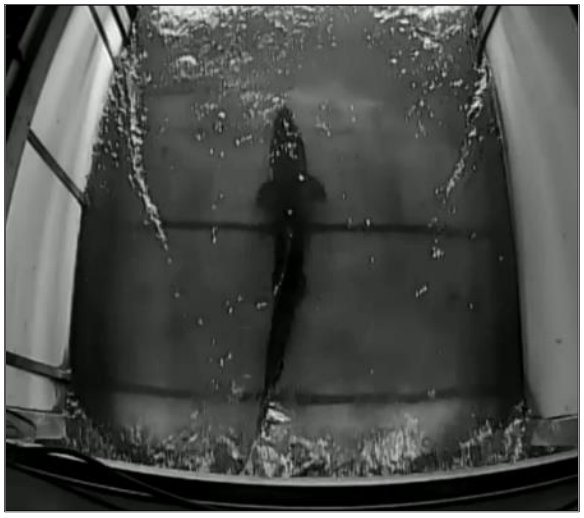
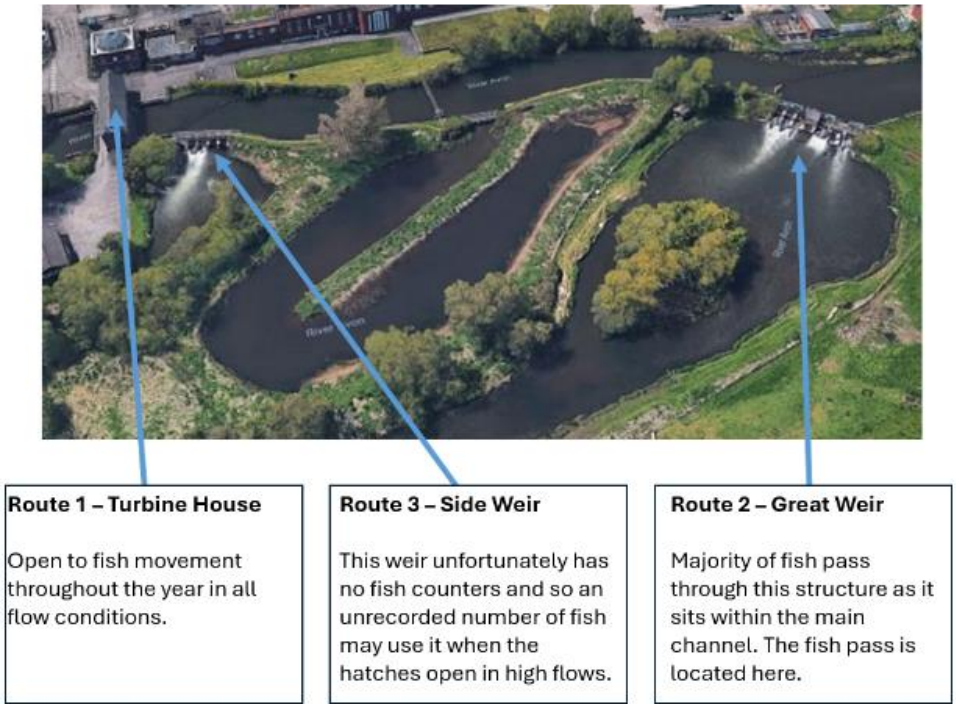


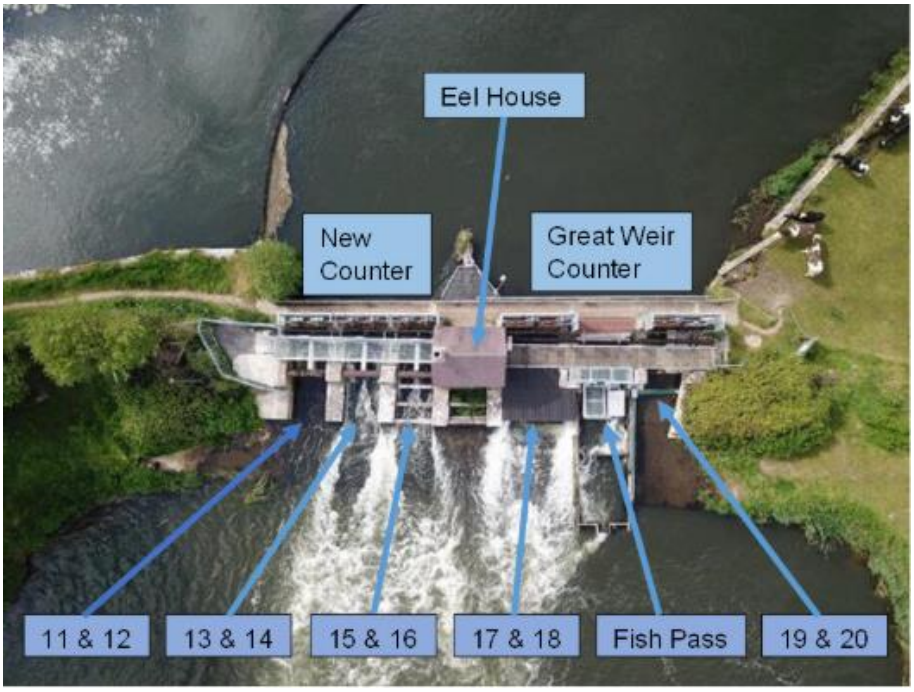
Figure 12 – *The largest salmon seen during the year, at ~100 cm long. 01/11/25*

Figure 13 – *Just a reminder of summer along the Avon, and a day without rain. 01/08/25*

For further information

Contact: KnappMill@environment-agency.gov.uk





Great Weir showing the location of each channel.