

The Hogsmill in January 2024

Some spectacular contrasts to start the year: from fierce storms to frosty calm. The Hogsmill changed from a muddy torrent to a steady flow of clear water, while swampy pools in the surrounds became icy sheets.



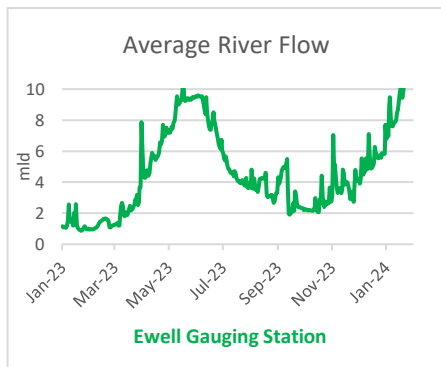
Meanwhile family life has gone on much as normal. There's been the cruel side with Ewell's cygnets having to be rescued from their parents' attempts to drive them away. Some birds have been eyeing up possible mates, though often from a distance, while others still seem to be enjoying a solitary or gang existence.



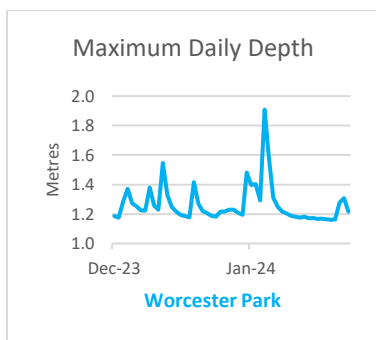
This newsletter looks at what is happening to the natural world along the Hogsmill, including the problems it faces and volunteer activities to monitor and restore its habitat, working with the South East Rivers Trust (SERT) and other local groups and alongside the Environment Agency (EA) and local water companies. This month it also reviews the results of riverfly monitoring in 2023.

The Hogsmill in January

Particularly striking this month has been the large rise in flow from the Ewell springs as groundwater, boosted by high autumn/early-winter rainfall, has reached its highest level for 3 years. The impact on the upper stretches of the Hogsmill has been very noticeable with the flow reaching 10mld up from 2mld in the autumn.



Rain this month has largely been concentrated in early downpours following Storm Henk that produced a massive surge in the water level further down the Hogsmill to a height only exceeded 4 times in the past 10 years. This led to some minor bankside flooding but with the dry spell thereafter the river soon settled down and for much of the month there's been a steady flow of unusually clear water. This has been interrupted by trees and debris blown into the water by the winds that EA has been busy clearing up.



It's been a bad month for pollution. The early storms were followed by discharges from the 3 Storm Tanks, including 40 hours at the Sewage Treatment Works (STW). More surprisingly, there was a 12-hour spill at Ewell in mid-month after 2 dry weeks, leaving a large residue of sludge and rag in the Tanks. Then after the moderate rain with Storm Isha, the STW was recorded as discharging for nearly 20 hours. There have also been signs of pollution, mainly mild, at other outfalls, including some that are not "regular polluters".

If you see pollution in the river or indications of possible pollution, such as dying fish, please call the EA Hotline: 0800 80 70 60, and ideally take a photo. You can also contact Thames Water on: 0800 316 9800 (option 2); on: www.thameswater.co.uk/help/report-a-problem or on twitter: [@thameswater](https://twitter.com/thameswater).



Ewell Storm Tanks

St James' Road Kingston

Middle Mill

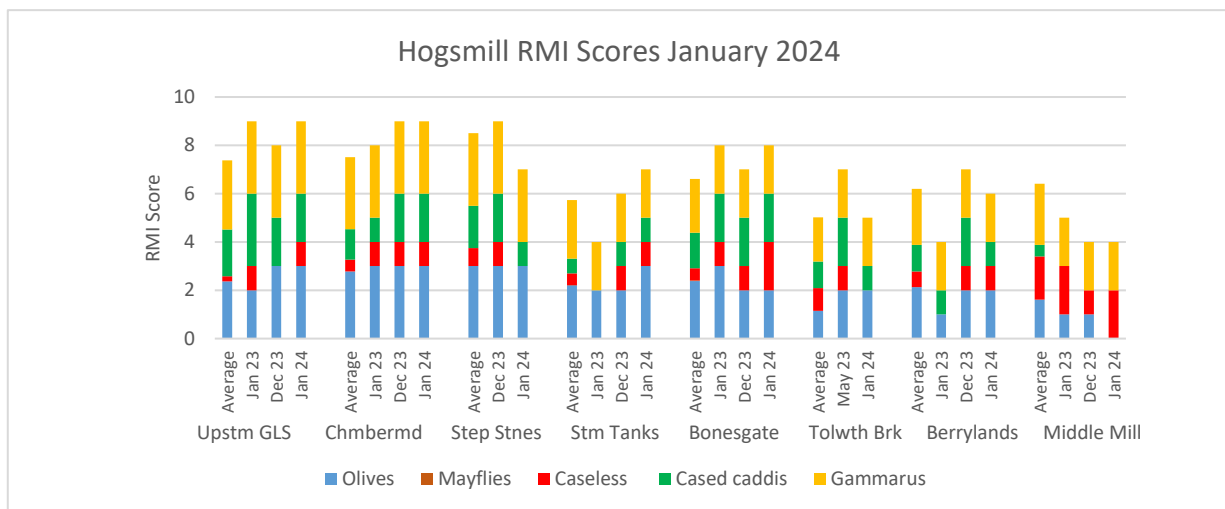
Eastcroft Road

Hogsmill RMI in January

The River Monitoring Initiative (RMI) is a national scheme that uses “scores” based on counts of a few “water quality sensitive” invertebrates collected in net samples to assess river health. Each site has a “trigger” below which scores could indicate problems and these are reported to EA for follow-up action.

8 sites were surveyed between January 17th and 20th: the usual main river ones plus the Stepping Stones and Tolworth Brook. Despite freezing air temperatures, the water was a balmy 12C at Middle Mill and 5-7C elsewhere so the invertebrates were not as sluggish and hard to count as they can be in cold weather.

Results were broadly similar to last month: scores were up slightly upstream though from small changes in counts, but they remained low downstream and the total invertebrate count was down:



- The biggest change was at Ewell Storm Tanks where a large jump in olive numbers led to the highest total count for 3 years. There was a strong flow reflecting the boost to the springs, but it was a day after the spill at the Tanks, though it *may* have been too soon to expect much impact from either;
- There was another breach at Middle Mill despite a recovery in caseless caddis numbers. This followed over 100 hours of sewage discharges at the STW over the past 3 months, though as January has generally been a poor month here, there *may* not be a link;

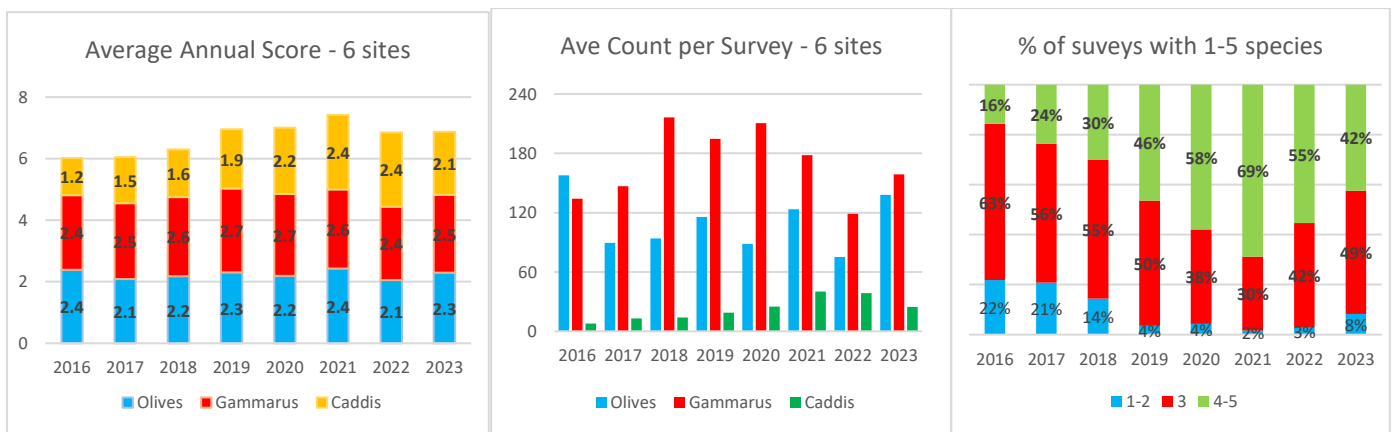
- Changes in score at the other 4 regular sites and the fall at the Stepping Stones were all driven by small variations in caddis counts, and may not be significant as these tend to be fairly volatile;
- The “5” at Tolworth Brook was below the scores in the last few samples here, but as surveys over the past 2 years here have been very infrequent it is not clear if this represents a notable change.

Hogsmill RMI in 2023

We achieved a complete set of monthly samples for the 6 main-river sites in 2023, bringing the total number for all sites along the Hogsmill to over 650 since monitoring began in 2014.

Overall the results for 2023 were disappointing:

- an average *score* per survey of 7 for the 6 sites, the same as last year but below 2021, so no overall improvement since 2019;
- some recovery in total *counts* per survey from the very low 2022 level, with olive numbers notably higher, but no overall increase since the late 2010s and caddis numbers fell in 2023;
- less *diversity* - the number of different species found per survey. Surveys where 4 or more species were identified were much lower than recent years;
- more surveys than recently – 7 – with scores below the trigger level.



Up to 2021 there had been a gradual but fairly steady improvement in scores that coincided with increased rainfall and hence more water in the river and perhaps also reflected benefits from river restoration and TW’s work to tackle outfall pollution. It had been hoped that the decline in 2022 was a temporary “blip” caused by the exceptionally hot and dry summer. With much more rain in 2023 – the highest total since 2014 – and some rebound in water flows and levels, a recovery might have been expected.

Part of the reason this did not show up in better annual figures might be that the 2022 drought cast a long shadow forward. Groundwater was severely depleted with winter rains providing limited respite so the

springs only flowed for about 4 months in 2023, similar to 2022. The higher rain and water levels were also mainly later in 2023 and their positive effects would probably only have come through gradually. Monthly scores at the 5 upstream sites most impacted by the weather were on an upward trend during 2023. So with the high rainfall so far this winter, there might be hope of further improvements this year.

Another factor might be that rainfall and water flows and levels were more volatile in 2023. There were a couple of months when the average level along the middle stretch of the river was as low as in the 2022 drought, but there were also twice as many very large storm surges as in 2022 and these can be particularly damaging by swamping the water with pollutants from run-off as well as sewage overflows. With such volatility probably now more likely with climate change, this could be an ongoing effect.

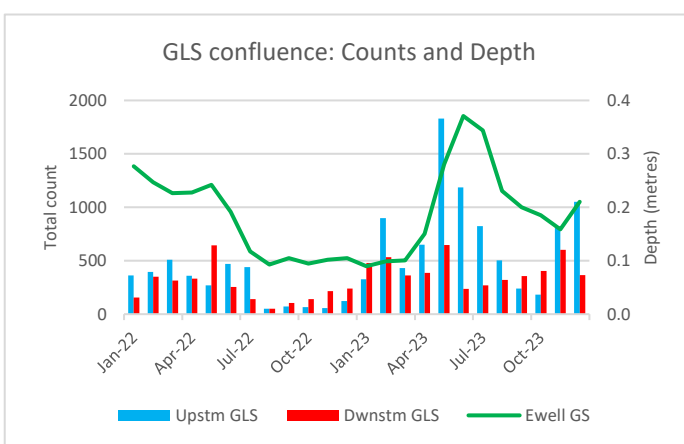
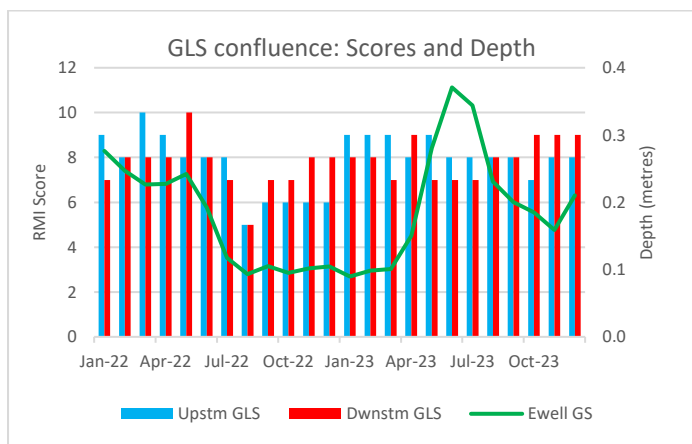
Also, while in 2022 scores fell at all the main-river sites, there was a range of experience in 2023 with some performing quite well, so there look to have been different influences at different points along the river.



The sites that did particularly well were those by the [Green Lanes Stream confluence](#); not only did scores recover from the 2022 dip but the average of “8” in 2023 at both was the highest since monitoring began.

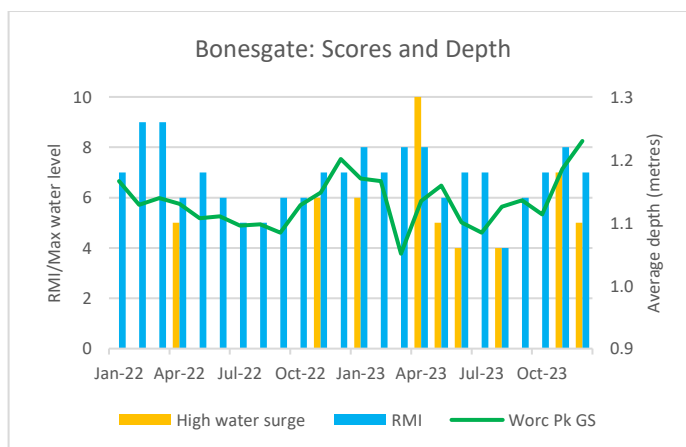
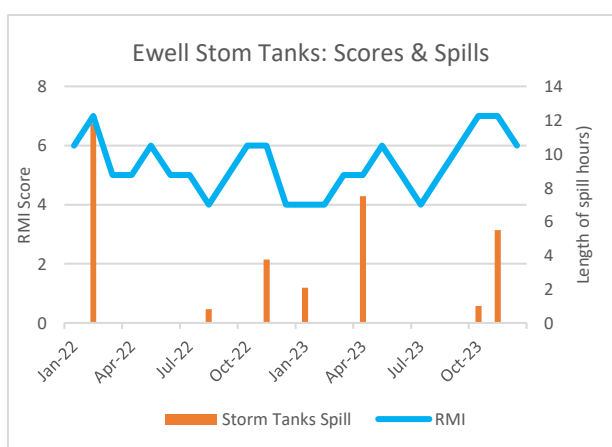
Perhaps surprisingly, the link between the water level, which has been especially volatile over the last 2 years with the springs being “off-on”, and scores looks weak: scores don’t appear to have been affected by the boost in water levels when the springs were flowing in 2023. But there was a strong link with *total counts*, with very large increases in olive and gammarus numbers when the springs began flowing last summer.

One possible reason for the relatively good performance *could* be that these sites are probably less affected by pollution from storm surges. This is certainly the case for the upstream site and while the Green Lanes Stream picks up “nasties” from road run-off, spills from the Epsom Storm Tanks were relatively few in 2023 and visible signs of pollution from other outfalls were also less than in some earlier years.



Average scores at the mid-river sites in 2023 were similar to 2022. Habitat at the [Ewell Storm Tanks](#) is poor and scores have for some time hovered around the trigger, falling on either side depending on whether the few caddis happen to be caught in the survey. 2023 was no different with the same average score as 2022, though this time 3 breaches of the trigger compared to 2. There looks to have been *some* tendency for scores to fall in the month or so after sewage discharges from nearby Tanks, though not a very strong ones; the total duration of these spills seems to have been broadly the same before surveys in 2022 and 2023.

Scores at [Bonesgate](#), which in 2022 had broadly tracked changes in river level, were much more volatile in 2023 with a couple of sharp drops, including a trigger breach for only the second time here, spoiling what would have otherwise been a much improved set of results. Its proximity to the Bonesgate stream, which is prone to surges of cloudy water from mostly rural run-off, makes that a possible source; and there were some large surges in the months before the drops, though the link does not look particularly strong. The drops were quickly reversed so they probably don't reflect a significant issue with water quality.



The average score at [Berrylands](#) in 2023 was also unchanged but again there was considerable month-to-month volatility; a slow start to the year with a trigger breach, the first for 4 years, but much improved scores later on. This is just downstream of the Tolworth Brook, which is another tributary prone to surges of runoff from Tolworth strrest and there was *some* correlation between such surges and lower scores, though again it is hard to assess the extent to which these contributed to reduced counts.

The one site with a sizeable fall in the average score in 2023 was [Middle Mill](#). With the bulk of the water being effluent from the STW, which differs in temperature, variability of flow and composition from that upstream, it is not surprising that results tend to be quite different from other sites. Scores are generally relatively high in the summer but struggle over the winter and when water depth is greater: the former *could* be partly linked to the large amount of weed here in the summer that probably provides good habitat.

2023 was no exception to this pattern, but there were more low months and 2 breaches. There were long gaps in the monitoring of sewage discharges from the STW in 2022 so comparisons are difficult, but the number and duration of spills in 2023 appear especially high, which *might* have been a factor.

But this is one of many questions arising in trying to understand the results of Hogsmill riverfly monitoring!

