

Rod catches of Usk salmon and stock status in 2024

Guy Mawle (guy.mawle@gmail.com), 30 October 2024

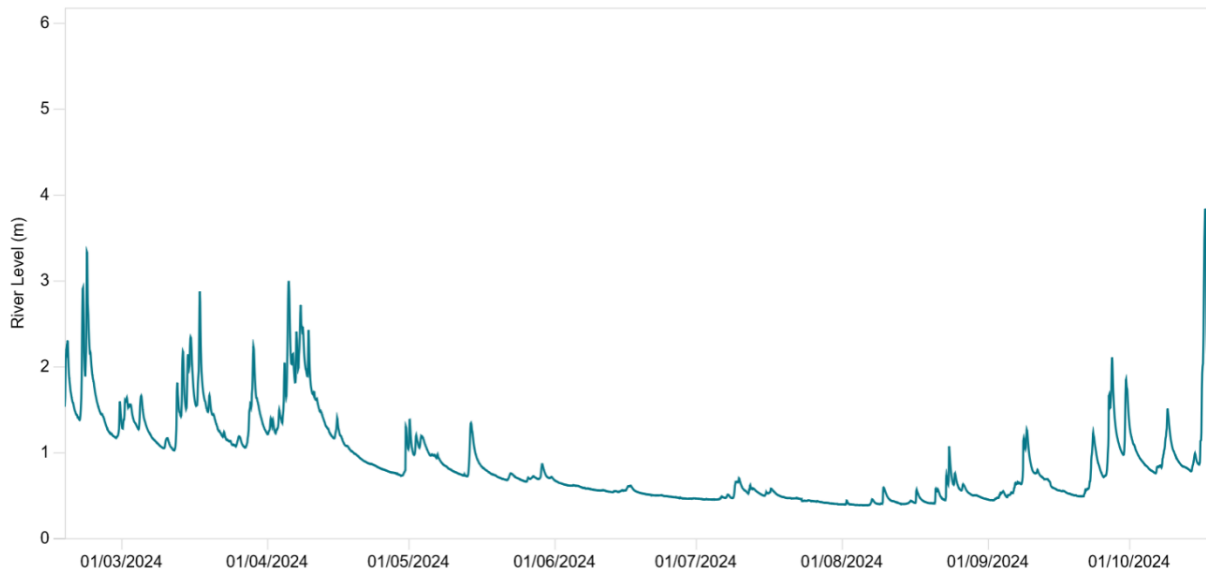
Summary:

- Overall, conditions for salmon migration and angling were reasonable.
- Many fisheries closed during hot weather in July and August to avoid mortalities after catch-and-release.
- Rod catches were as bad as those in 2022 and 2023, the worst on record. The declared rod catch for the whole river, when available next year from rod licence catch returns, is predicted to be between 41 and 82 salmon.
- Catches at Index fisheries peaked in June, early July and September. Most salmon were in the 8 to 14lbs size class. The proportion of smaller salmon in the catch was low again, probably reflecting the continued paucity of grilse.
- Fishing effort has fallen dramatically but this is not the reason for poor catches. The primary cause is the low chance of catching a salmon.
- The value of the salmon fishing rights on the Usk may have fallen by about £7 million to about £1 million due to sustained low catches.
- Adult stock status for Usk salmon will remain 'At Risk'. Average abundance of salmon fry at NRW's annual monitoring sites has now been low for eight years. However, higher densities were found in the upper catchment.
- Much of the ecology of the Usk is degraded and deteriorating.
- The salmon fishery is in a parlous state and it is not clear how long the Usk will have a viable population. Unless there are major improvements in salmon survival over its life cycle in the river and sea, recovery seems improbable.



14 June: A 14lbs salmon from the Isca AC tidal beat taken on a Sunray Shadow (Photo: Mike Bolt)

- 1. River conditions:** After a long, wet spring, flows dropped away with only a few small rises through June, July and most of August. They built again to the end of the season. Water temperatures were high for several weeks in July and August. Overall, conditions were reasonable for both salmon migration and angling.



In summary:

March/April: Flows were high, mostly too high for fishing, until the second half of April.

May/June: There were good flows for migration and angling in May when salmon had plenty of opportunity to penetrate the system. Flows remained reasonable for angling at the beginning of June but dropped away in the second half. Even so, flows were not extremely low, as in 2022.

July/August: There was a series of small rises in the second week of July, providing better opportunities for salmon migration. About 115 fish over 60cm, presumably salmon, were recorded moving upstream in two days by NRW's fish counter on the first of these rises (Richard Davies, NRW). Angling was relatively productive in the lower river, before the flows dropped again. The Chainbridge gauge was below 0.4m at the end of July and beginning of August. Water temperatures were high from the third week of July to 19th August and several fisheries closed for this period because of the increased risk to salmon from catch and release. Several small rises helped to freshen the river but no sizeable spate until the 23rd August.

The appeal by the Canal & Rivers Trust (CRT) against the conditions of its new abstraction licence has still not been resolved so the abstraction continues as before, taking a large proportion of the river at Brecon when flows are low. The canal could be supported by releases from Usk reservoir under low flows which seems the sensible long-term solution. However, Dwr Cymru/Welsh Water (DCWW) and the CRT have so far failed to agree. Nonetheless, DCWW did make a trial release from Usk reservoir from 1st to 10th July, increasing the flow from 11MI/d to 21MI/d to support the canal.

September/October:

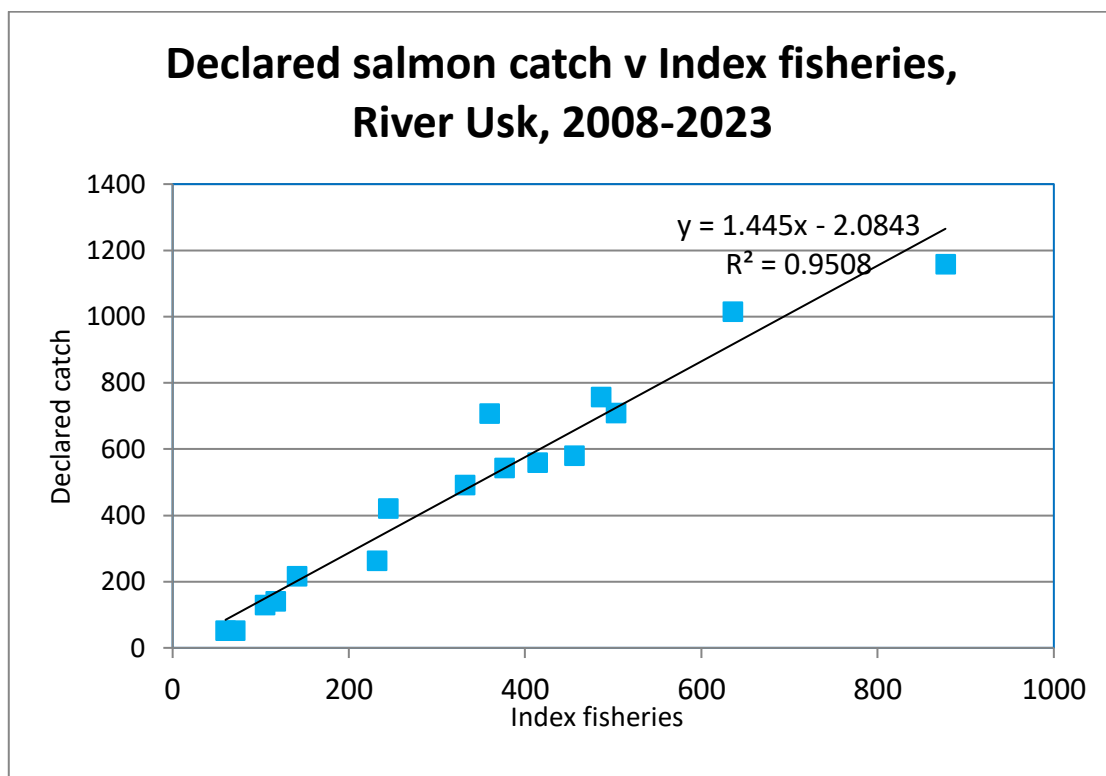
Flows were relatively low at the beginning of September when fishing with shrimp or prawn is briefly allowed under byelaw. Unlike last year, water temperatures were not high during this period.

From 9 September to the end of the season, there was a series of spates increasing in size to a flood of almost 4 metres on the last day. Salmon therefore were able to run and, in between the peaks, there were good opportunities to catch them, especially in the middle and upper river, for those inclined to try.

2. Rod catch of Usk salmon

2.1 **Seasonal totals:** Catches were provided for 'Index fisheries' in the middle and lower reaches, i.e. Upper Llangybi; Lower Llangybi (from David Addams-Williams); Monkswood (from Helen Harrison); Llanover (from Ross Murray); Merthyr Tydfil AA; the Usk Town Water (Chris Brain) and Isca AC's three fisheries (from Andrew Beattie). Together these totalled 57, marginally lower than the 60 last year, when the Usk recorded its lowest ever rod catch.

2.2 Salmon licence holders are required to make individual catch returns to NRW by the end of December. Not all do, but these 'declared' catches are used by NRW, with some adjustment, to assess stock status. There is a strong correlation between the catches at Index fisheries and the declared catch. Usually, the catch recorded by fishery owners and clubs at the index fisheries is less than that declared by anglers to NRW on their licence returns. For some reason or reasons, that has not been the case for the last two years. However, this anomaly makes little difference to the long-term relationship between the two.

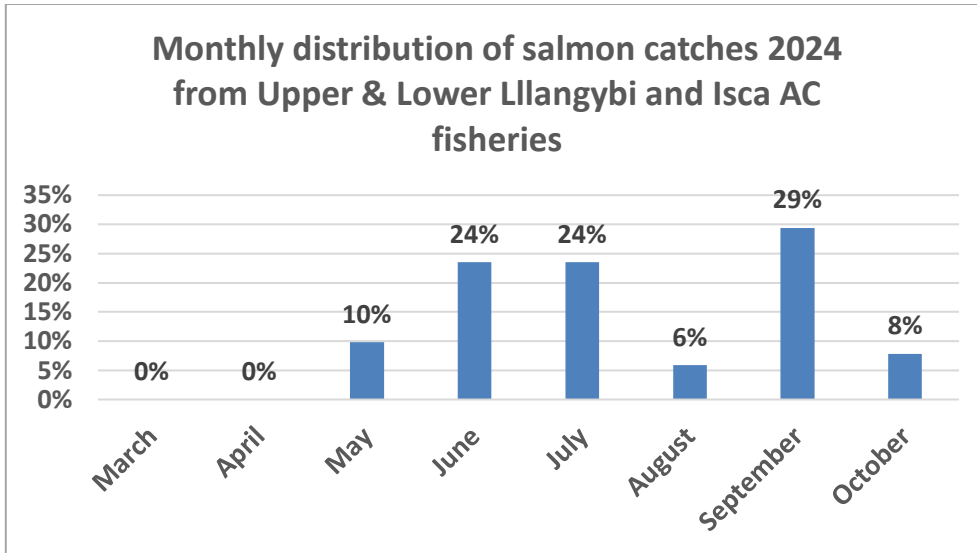


	Salmon catch Index fisheries	Declared Usk catch	Index catch as a Proportion of Declared Usk catch
2008	877	1157	76%
2009	332	491	68%
2010	456	580	79%
2011	360	707	51%
2012	636	1014	63%
2013	377	543	69%
2014	245	421	58%
2015	414	559	74%
2016	503	709	71%
2017	486	756	64%
2018	105	129	81%
2019	141	216	69%
2020	232	263	88%
2021	117	140	84%
2022	71	51	139%
2023	60	51	118%
2024	57	Predicted range: 41 to 82	Range 2019 to 2023: 69% to 139%

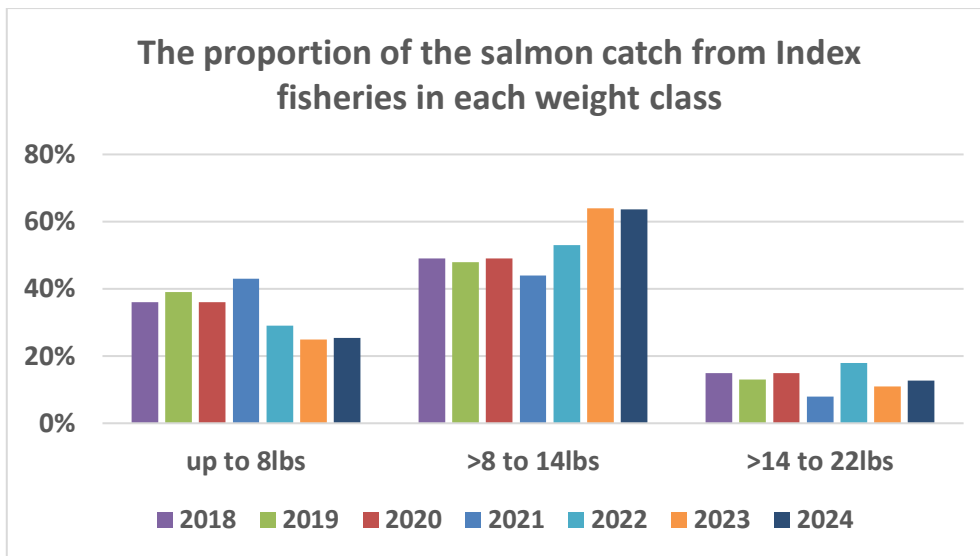
2.3 The catch recorded at the Index fisheries from 2019 to 2023 has been between 69 and 139 percent of the catch declared by anglers to NRW. The catch at the Index fisheries in 2024 can therefore be used to estimate the catch that will be declared to NRW this winter and reported next year. For the 2024 season, the declared catch is predicted to be between 41 and 82. It could be the lowest on record since 1871. The lowest to date were in 2022 and 2023. The last six years' catches have all been low, though 2020 was reduced by low fishing effort due to Covid restrictions.

2.4 Partial or complete catches in 2023 have been supplied for some other Usk fisheries: Crown Fishery (Mike Cowburn), Gwent Anglers (Rob Kerby), Glanusk (Harry Legge-Bourke), Brecon A.S. (Ian Williams), Crickhowell & District AS, and the Ithon Fishery (Mark McCloy). Together with a few reported on the Wye & Usk Foundation website and the total for the Index fisheries, these give a minimum actual rod catch of 75 for the whole river in 2023.

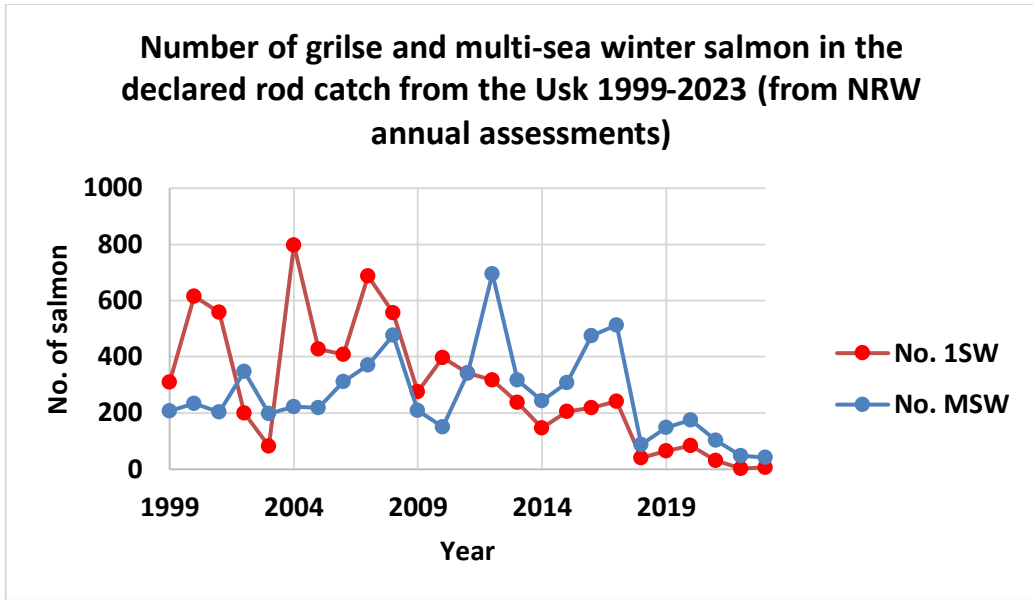
2.5 **Distribution of catch through the season:** Salmon fishing was limited by high flows at the start of the season and it was not until May that salmon were being caught from the lower river. Late May, June and the first half of July provided most of the catch at selected Index fisheries. September was also relatively productive, boosted by catches on shrimp or prawn in the first half of the month when these baits are permitted under byelaw. Unlike last year, water temperatures were moderate when bait fishing was allowed, improving the chances of fish surviving catch and release. As in 2023, there was no indication of a large late run with only a small proportion of the season's catch taken in October.



2.6 **The size of salmon caught:** The 56 salmon caught at Upper Llangybi, Lower Llangybi, Llanover, Monkswood and the Isca AC fisheries had an average weight of 10.1 lbs. This is slightly up on last year's average of 9.9 lbs. As for the previous six years, most salmon were in the 8 to 14lbs size class presumably mostly 2-sea-winter salmon. The proportion of smaller salmon in the catch was low again, reflecting in part the paucity of grilse. The two largest salmon reported were both estimated as 22lbs, one caught by Peter Dent at Monkswood on 10 May on a Cascade, the other by Simon Powell from Isca AC's tidal beat on 5 June on a 1" tube.

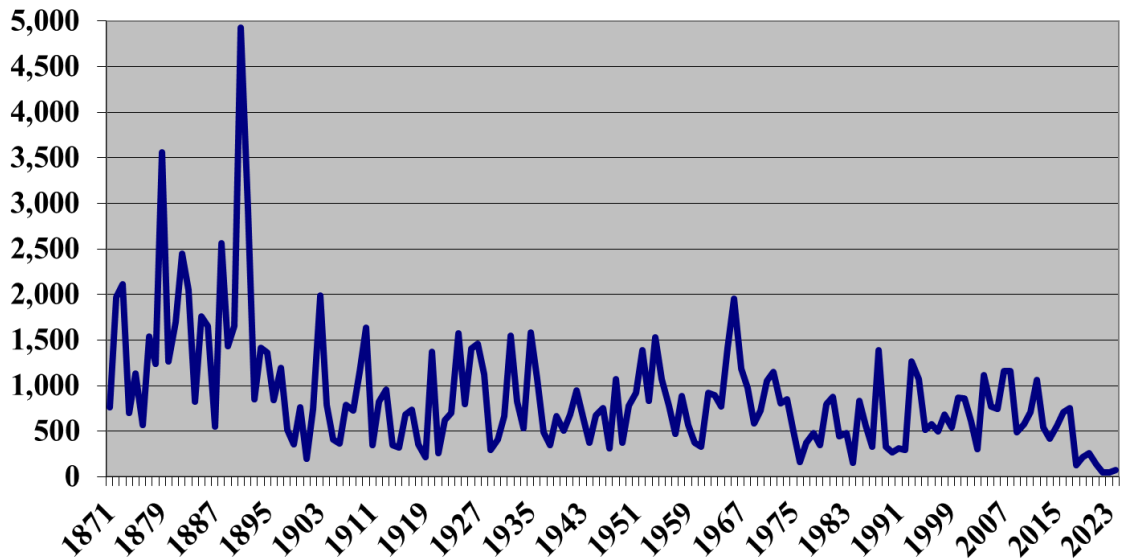


2.7 Grilse, which spend only one winter at sea, dominated the declared rod catch in the early part of this century with a peak of 798 in 2004. As shown below, the number caught has since declined to a handful. In contrast, the catch of larger, multi-sea-winter salmon had been increasing before the drop in catches in 2018.



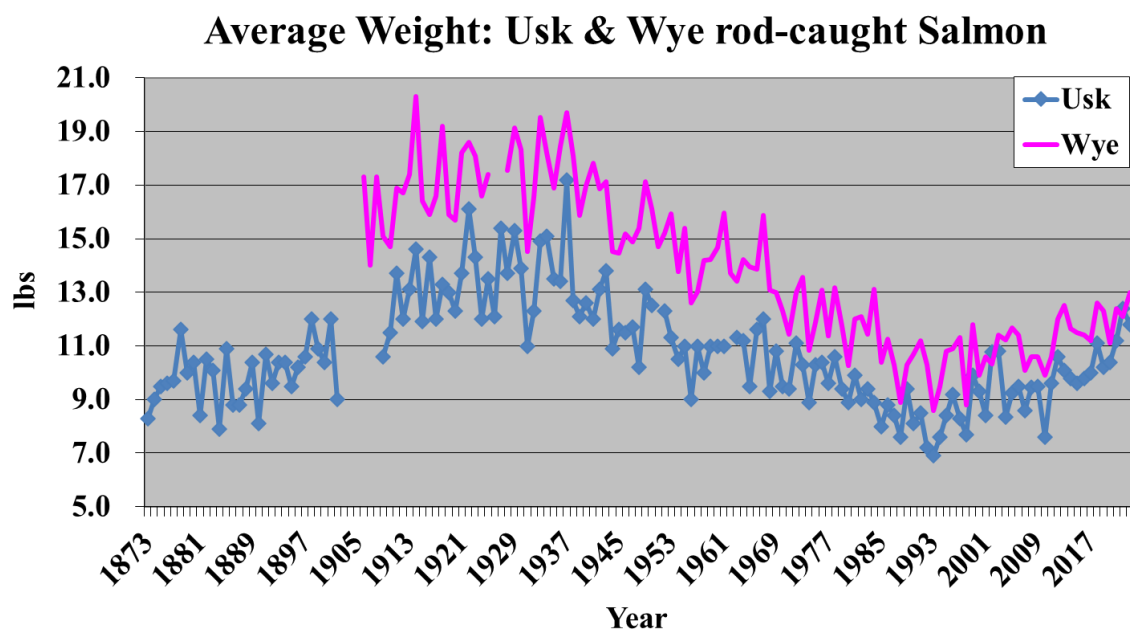
2.8 The decline in grilse abundance is not confined to the Usk and reflects changes in the marine environment linked to climate. Such declines have occurred before and have been followed by a period of increased abundance and size of multi-sea-winter salmon, associated with fluctuations in the ocean climate.

River Usk : Salmon rod catch, 1871-2024



Above: The declared rod catch for the Usk was measured in the thousands in the 19th century and exceeded a thousand several times early this century before the recent collapse. It is now measured in scores. An estimated declared catch of 60 is used for 2024.

2.9 These changes are reflected in the average weight of rod-caught salmon, see below. The last period of low salmon abundance, both grilse and multi-sea-winter, was at the start of the last century. Runs were subsequently dominated by large, early-run salmon in the 1920s and 1930s. In 1937, the average weight of rod-caught salmon from the Usk was over 17lbs. Whether historical cycles will be repeated seems uncertain given the impact of man-made climate change on the North Atlantic.



2.10 The recent upturn in average weight and, prior to 2018, the abundance of multi-sea-winter salmon in the Usk follow measures introduced in the 1990s to reduce the number of multi-sea-winter salmon killed in rod and net fisheries.

2.11 **Run-timing:** As in recent years, there seemed to be few fresh salmon, even grilse, caught after July. Presumably most salmon destined for the Usk now arrive at the river mouth in late spring and early summer. While flows in this period were not as low as in 2023, there were no large spates associated with low temperatures in June and July to aid migration into and past the lower reaches. Fish arriving at this time may have delayed entry until the autumn. If so, there was still little indication from the rod catch of a substantial late run.

3.0 Adult stock status

3.1 The level and trend in estimated egg deposition over the last ten years is used by NRW to assess the current and future status of the salmon stock. As in 2022, NRW assessed the Usk as 'At Risk' of failing its management objective in 2023 with a similar assessment predicted for 2028. For more detail see page 73 in:

<https://assets.publishing.service.gov.uk/media/66f6ad7ea31f45a9c765ede8/SalmonReport-2023-summary.pdf>

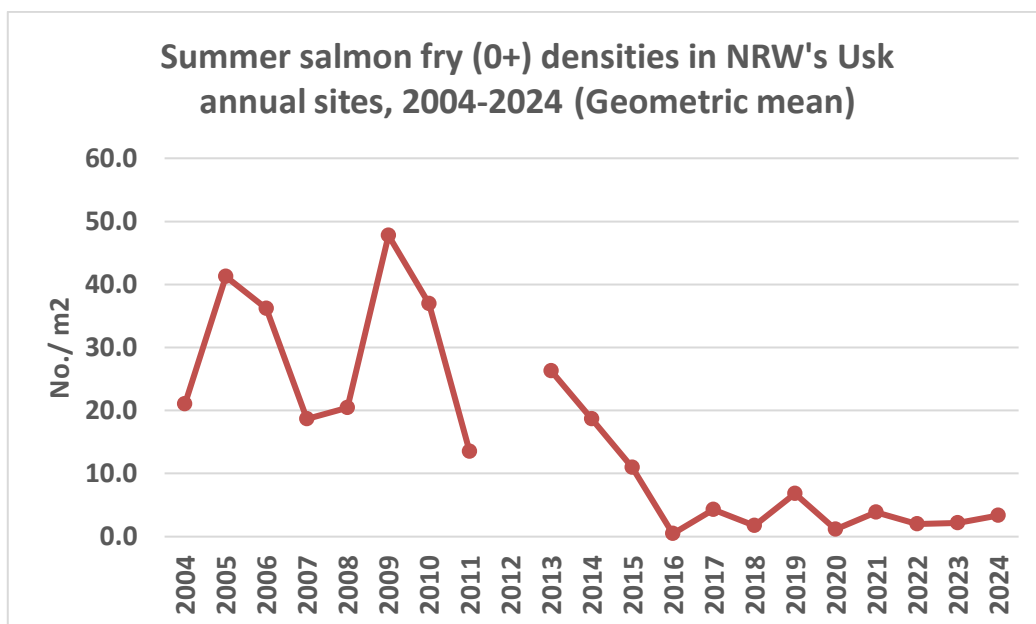
3.2 In past years, NRW has used the predicted rod catch (from 2.2 above) and the weights of salmon caught at Index fisheries to make an initial assessment of the adult stock. Given the poor catch in 2024 and downward trend in recent years, it is evident that the Usk salmon stock will again be classed as 'At Risk' in 2024 and be projected to remain so in 2028.

3.3 NRW estimates that anglers catch about 8 percent of the total salmon run on average. The estimate is based on recent exploitation rates recorded by NRW in the Welsh Dee which has similar rod fishing byelaws to the Usk. This indicates a run into the Usk this year of about a thousand salmon. NRW has been operated a fish counter since 15 May this year on the lower river which, when analysis is completed, should provide a minimum estimate for the salmon run.

4.0 Juvenile stock status

4.1 NRW has 13 electrofishing sites on the catchment upstream of Crickhowell that it has surveyed annually in the summer since the 1980s. These annual surveys show that, for the last eight years, average densities have been persistently low in these sites, and are now a small fraction of those before 2015.

4.2 Although they were selected to be important for salmon historically, these sites are not necessarily representative of the catchment. All are on the lower part of tributaries except one that is at the very top of the main river. However, the tributaries do not produce all the juvenile salmon in the Usk. The tributary sites were selected because of the sampling method used. The main river, even down to the tidal reaches, is, or should be, an important, perhaps more important, nursery area as well.



Data from NRW, except 2020 when, due to Covid, the sites were fished by the Wye & Usk Foundation.
No survey in 2012.

4.3 Despite the minor increase in average fry abundance, there was evidence of localised improvements. In 2022, 7 of the 13 sites had no salmon fry. This year, as in 2023, only four sites had no salmon fry. Also, the abundance of fry had increased on seven sites from those recorded in 2023.

4.4 The Wye and Usk Foundation (WUF) surveyed many more sites across the Usk catchment, albeit using a different electrofishing technique to NRW. WUF also found better and encouraging densities of fry in some locations (Simon Evans, WUF, pers. comm.).

4.5 The improvements observed by both organisations seem to be largely confined to the upper catchment above Brecon, including historically important spawning tributaries, notably the Crai, Ysgir, Bran, Cilieni, and Senni. Numbers were also marginally up in the Grwyne Fawr. However, the main river upstream of Brecon is not much improved while most of the main river downstream of Brecon and some tributaries, such as the Rhian Goll, seem still to hold very few salmon fry. There were no salmon found by either NRW or WUF in the Tarrell, Honddu, Camlais, Crawnon, Menascin, Grwyne Fechan, Cynrig, or Olway.

5.0 Survival of the smolt run

5.1 One reason for the apparently poor returns of two-sea-winter salmon in 2024 is likely to be the low river flows in 2022 and poor survival of smolts on their downstream migration through the river and their delayed entry to the sea.

5.2 NRW tagged smolts in 2021 and 2022. These were released in the upper river and their progress downstream monitored, identifying when and where tags were lost. The work is still being written up but NRW (Oliver Brown, pers. comm.) has shared some provisional results. In 2021, when there was a large spate in early May after low flows in April, almost 70 percent of the smolts were tracked to the estuary. In 2022 during low flows, only 25 percent survived the migration downriver.

5.3 While smolts were lost throughout the river, the highest losses in 2022, about 27 percent, occurred in a short stretch upstream and downstream of Brecon weir which, together with the large abstraction of the river flow to the canal, appeared to obstruct smolt migration leading to losses, presumably through predation and disease. NRW is seeking to change the structure of the weir to make smolt migration easier. It has also sought, since December 2022, to impose restrictions on the water lost to the canal through an abstraction licence. However, this has been challenged by the Canal and Rivers Trust (CRT) through an appeal to Welsh Government and is still not in force, so abstraction continues as before.

5.4 There was finally an appeal hearing on 15 October 2024 with evidence presented by CRT and NRW as well as written submissions supporting the licence by others, notably Afonydd Cymru. A decision is expected shortly. It is hoped that CRT's appeal will be rejected and that protective conditions of the abstraction licence will be applied in full from next year. This would help not only smolt and adult migration past the weir but also the survival of juvenile salmon in the stretch downstream of the weir.

5.5 Flows were relatively good during April and May in 2023 and even better this year so smolt losses should not have been so severe. One source of loss during the smolt run is believed to be predation by birds, notably goosanders. In 2024, NRW worked with the Usk Fishing Association and the Wye & Usk Foundation in a pilot project to reduce bird predation on smolts at key points in the river. It is intended that the project will be expanded in 2025.

6.0 The state of the riverine environment

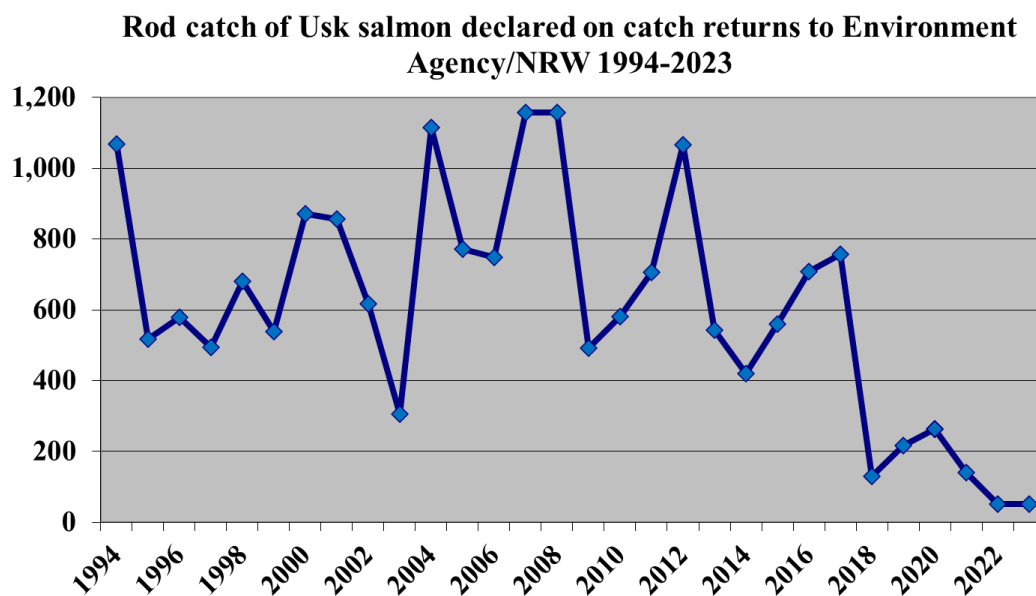
6.1 It is not just the salmon stock that is in trouble. Much of the river Usk’s ecology is degraded, including all the designated features of the river as a Special Area of Conservation. For example, water crowfoot (*Ranunculus*), important habitat for juvenile salmon, has been lost from almost the whole of the main river. The degradation of the Usk is described in a report published in 2021:

<https://afonyddcymru.org/a-dying-river-the-state-of-the-river-usk/>

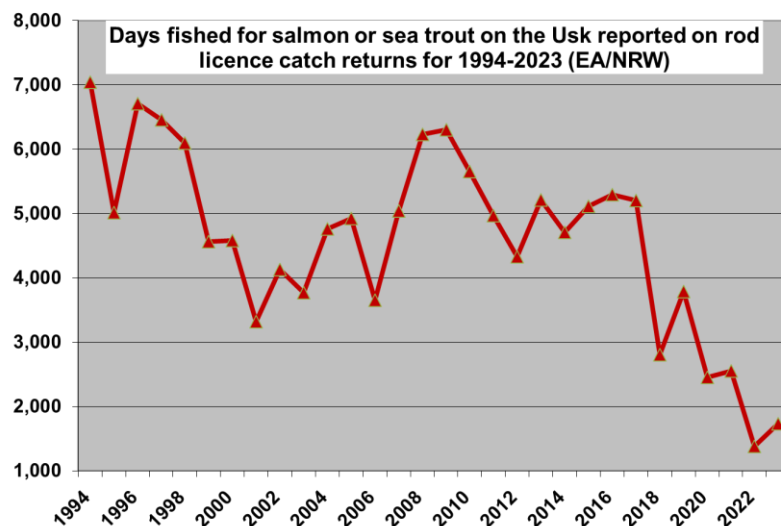
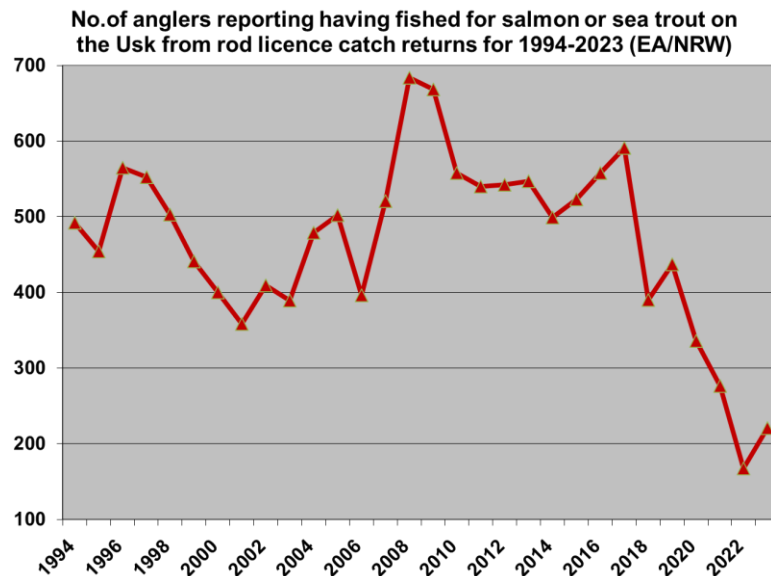
6.2 Since then, NRW’s monitoring shows further degradation in the ecological status of the river despite previous NRW plans to improve or at least maintain it. The 2021 assessment found that 65 percent of the water bodies in the Usk catchment failed to reach even ‘Good Ecological Status’, under the Water Framework Directive, compared to 50 percent in the previous assessment.

7.0 The decline in fishing effort:

7.1 Since 2008, the rod catch declared on anglers’ catch returns to the Environment Agency and NRW had fallen by 94 percent by 2023 and looks to be similar in 2024.

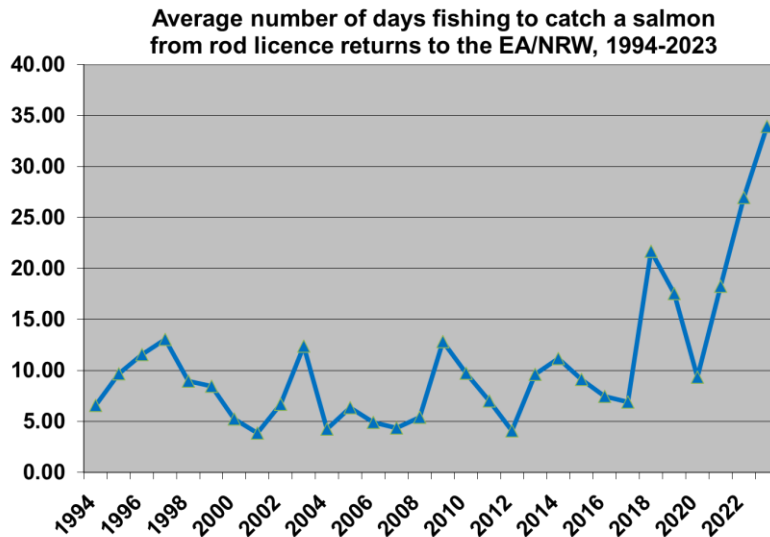


7.2 One reason for this fall is a decline in fishing effort with both fewer anglers fishing and fewer days fished. Rod licence holders are asked which rivers they fished and for how many days when making their annual catch return to the EA and NRW. The number of anglers reporting that they had fished for salmon (or sea trout) on the Usk fell by 68 percent over the same period, from 684 to 221. The number of days fished for salmon on the Usk fell by 72 percent, from 6234 to 1730.

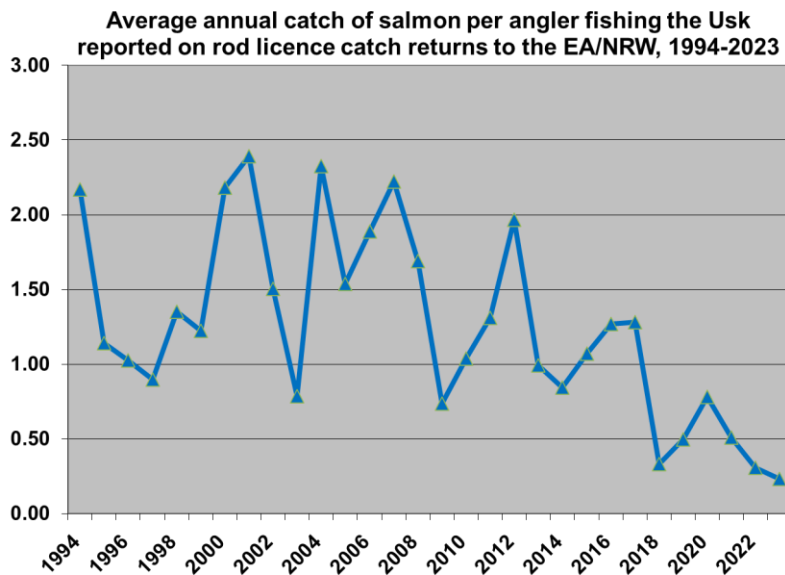


7.3 Although it is a legal requirement, not all anglers make a catch return to the EA/NRW. It is believed that those failing to catch a fish are less likely to make a return. The catches and fishing effort declared to the EA/NRW will therefore, to some extent, be underestimates.

7.4 **The chances of catching a salmon:** The fall in catch, and probably the fall in fishing effort, is due mainly to an increase in the effort required to catch a salmon. The catch per day reported in 2008 was 0.182 salmon which by 2023 had fallen by 84 percent to 0.029. Another way of expressing the chances of catching a salmon is by averaging the number of days fished to catch one salmon across all those fishing the Usk. This increased five-fold from about 5 days in 2008 to 34 days in 2023.



7.5 On average, anglers reported catching more than two salmon each in the 2008 season. By 2023, the average had dropped to 0.23 salmon per angler and there is little evidence of much improvement in 2024.



7.6 Catches are not distributed evenly. Most of the salmon are now caught by very few anglers, generally those fishing the more productive beats downstream of Usk. The chances of catching a salmon from the Usk would seem to have become vanishingly small for many anglers. It is not surprising that some have stopped fishing the river for salmon. With fewer people fishing, the viability of some angling clubs and individual salmon fisheries must now be in doubt.

7.7 **The loss in value of salmon fishing rights on the Usk:** The average annual catch is probably the key determinant of the salmon fishing rights with each fish contributing about £8,000. If one assumes a simple linear relationship, the value of salmon fishing rights on the Usk may have fallen by about £7 million since 2008. Indeed, it is likely that many fisheries in the middle and upper river are now valued primarily as wild brown trout fisheries.

7.8 The value of fishing rights is only one facet of the value of salmon angling on the Usk. For a wider discussion, see:

<https://cdn.cyfoethnaturiol.cymru/media/686544/economic-value-angling-wales-report.pdf?mode=pad&rnd=131800996923730000>

It is likely that the main value of salmon now lies in its conservation as a species in Wales and the cultural values associated both with it and the fishery.



Inn signs in Crickhowell and Usk

8.0 Prospects for the future

8.1 As noted in 2.8 above, this is not the first time that rod catches have collapsed on the Usk. There was a collapse of similar proportions at the start of the twentieth century though not to such a consistently low level. With the salmon rod catch at an all-time low, the future for salmon in the Usk must be in doubt. Although the improved abundance of salmon fry in the upper catchment provides some hope, it is not clear how long the Usk will have a viable salmon population. The salmon fishery is in a parlous state. Globally, the Atlantic salmon in British rivers is now classified by the International Union for Conservation of Nature (IUCN) as 'Endangered'. Its status in the Usk looks even more precarious than in most.

8.2 Unless there are major improvements in salmon survival over its life cycle in both the river and at sea, supported by sufficient, well-directed resources, whether private and public, recovery seems improbable.

Acknowledgements

Thanks to all who contributed information, especially those who provided catch data for their fisheries so promptly; to the Wye & Usk Foundation for their 2020 survey data; and to NRW for various data and stock assessment. My particular thanks to Andrew Gott and Paul Greest (NRW) for providing the 2024 juvenile data, to Oliver Brown (NRW) and Richard Davies (NRW) for the information on smolt survival and the fish counter respectively.