The State of the River Monnow

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The abundance of flowering water crowfoot (*Ranunculus spp.*) in the lower Monnow in the 1990s. (Photo: Paul King)

Author's note

This report is a summary of information I have collected, for my own interest, on the status of the river Monnow and where it might be going. I hope it may be of use to others, especially those who are increasingly working to improve the condition of our rivers.

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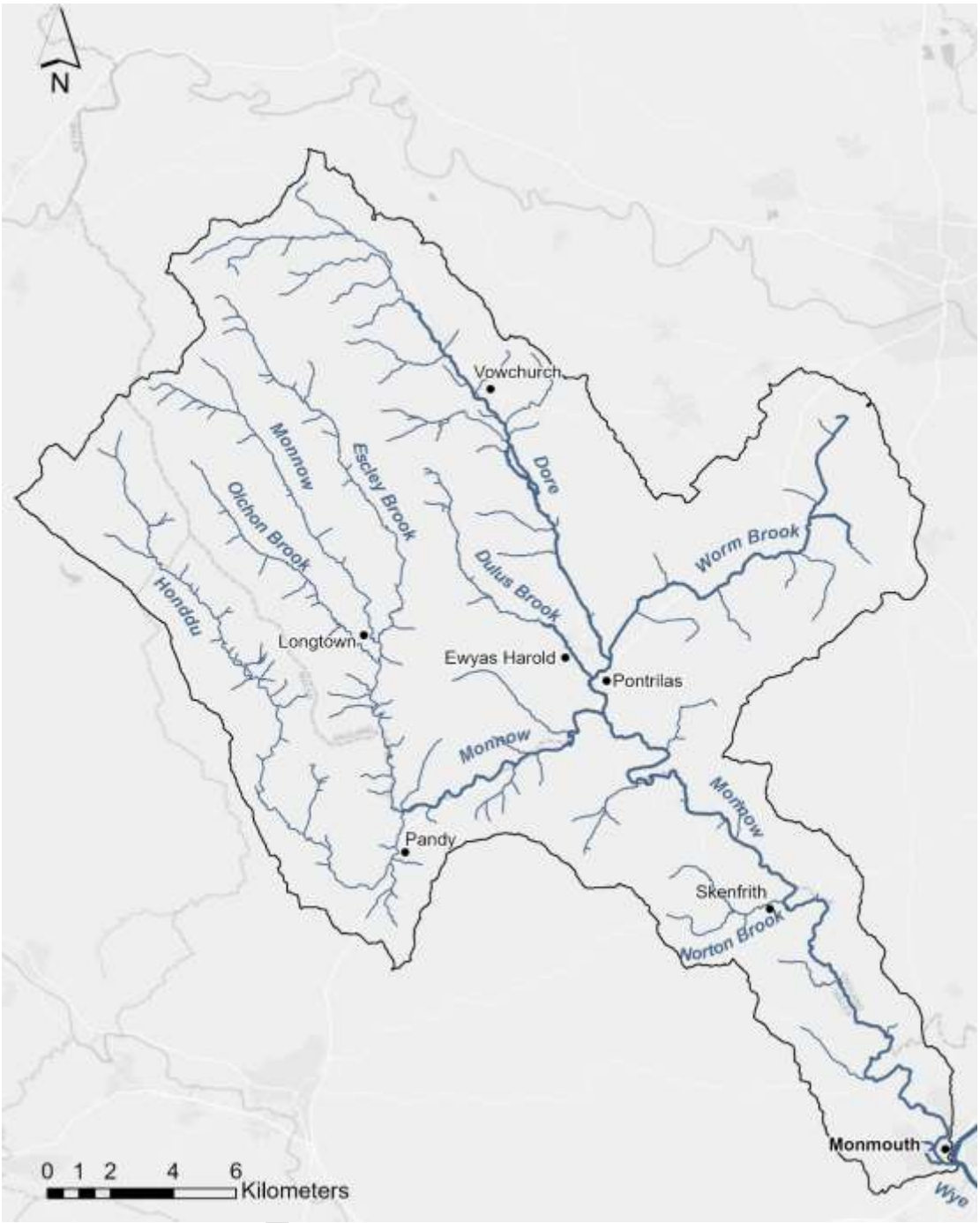

River Monnow catchment showing the main tributaries (courtesy of Afonydd Cymru)

Summary

- This document summarises the condition of the river Monnow in relation to the standards of the Water Framework Directive.
- 7 of the 10 water bodies in the Monnow catchment are failing to achieve Good Ecological Status.
- Fish are a major and increasing driver for failure. Only 8 of the water bodies were assessed for Fish, but 6 were less than Good. There has been a decline in trout abundance across much of the catchment.
- Invertebrates in all water bodies were of Good if not High status, but this contrast with Fish may reflect the monitoring methodology used for invertebrates.
- Macrophytes were assessed in 7 water bodies of which 4 failed to reach Good status, most recently the lower Monnow.
- All the water bodies in England failed to achieve Good chemical status due to Mercury and its compounds, polybrominated diphenyl ethers and in some water bodies, 'forever' chemicals. There was no sampling for these in Wales but the lower Monnow failed for an insecticide, Cypermethrin.
- Excessive abstraction at low flows may be an issue, notably in the lower Monnow but perhaps also the Dore.
- Investigation of the Reasons for Not Achieving Good ecological status or for recent deterioration has not been comprehensive. Agricultural practice is a major issue, especially poor nutrient, livestock and soil management. Climate change, itself an issue through greater and more frequent extremes of flow and temperature, may be exacerbating the effects of other issues.
- From progress to date, there seems little prospect of achieving Good Ecological Status in all water bodies by the revised target date of 2027 or even of preventing deterioration.
- The Office for Environmental Protection has recently criticised the implementation of the Water Framework regulations. A consultation has just opened to develop the next version of the River Basin Management Plan.
- Strong local interest and recent initiatives in both citizen science and collaborative working, driven in part by recent flood damage, offer some encouragement.

1. Introduction

In recent years, the Monnow Rivers Association has highlighted problems faced by the river as well as efforts made by the Association and others to address them. These are described in its annual newsletters[1].

This document summarises the condition of the river Monnow as portrayed by the latest classifications produced for the purposes of the Water Environment (Water Framework Directive) (England and Wales) Regulations 2017[2]. These classifications are required to inform management action as part of the Severn River Basin Management Plan[3]. A consultation on the next phase of the plan has just opened.

The Monnow is a tributary of the river Wye that straddles the border between England and Wales so its condition in the two countries is monitored by the Environment Agency and Natural Resources Wales (NRW) respectively.

The Monnow is divided into ten 'water bodies': seven in England and three in Wales. The Ecological and Chemical status of each water body has been classified based on the status of individual Elements[4] such as, for Ecological status: Fish, Invertebrates, and Macrophytes.

Ecological status is defined, using national guidance, as within one of five categories: Bad/ Poor/ Moderate/ Good / High. The objective of the Water Framework Directive (WFD) is for water bodies to achieve at least Good status, originally by 2015. The default is now 2027 though for some Elements it is later and for others it is stated that there is little chance of meeting the 2027 deadline because of what are deemed 'disproportionate expenditure and burdens'.

The overall status of each water body is defined by the worst condition of any of its individual Elements. So, for example, if the condition of Fish is assessed to be Poor, so both the Ecological and Overall status of that water body are also classed as Poor.

Not every Element has been assessed for every water body and there are differences between the monitoring in England and Wales, especially for chemicals, notably Priority Hazardous Substances which are monitored more extensively in England.

This report focuses mainly on the biological Elements of Ecological status, i.e. Fish, Invertebrates and Macrophytes as well as the Reasons For Not Achieving Good status. This information has been taken from the websites of the two government agencies [5&6].

The last classification of the status of water bodies was in 2022 in England and 2024 in Wales. The previous classifications were three years before that, respectively in 2019 and 2021. However, the date of a classification is not the date when data were collected. Some data are only a year or two older than the classification date but in some cases they were significantly older. Nonetheless, they represent the most recent assessment of the status of the waterbodies.

The Monnow is known for its hatches of Mayfly (*Ephemera spp.*)

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2. Ecological status

Of the ten waterbodies within the Monnow catchment only three achieved Good Ecological Status in the latest classifications and none was classed as either High or Bad.

No. of water bodies at:	2024 (Wales) or 2022 (England)	2021 (Wales) or 2019 (England)
High	0	0
Good	3	3
Moderate	5	5
Poor	2	2
Bad	0	0
Failing to achieve Good	7 of 10	7 of 10

There were some changes in the status of individual water bodies in the most recent classification compared to the one three years earlier, reflecting changes in individual elements. The Afon Honddu and upper Monnow (source to the confluence with the Escley Brook) were deemed to have improved, because of improvements in Fish. The upper Monnow achieved Good status. The Olchon Brook and the lower Monnow (confluence Afon Honddu to confluence R Wye) were downgraded, reflecting unsatisfactory assessments of Fish and Macrophytes respectively.

Ecological status of Water bodies, as classified:

	Waterbody Name	2024	2021
by NRW	Afon Honddu – source to conf R Monnow	Moderate	Poor
	Monnow – conf Afon Honddu to conf R Wye	Moderate	Good
	Norton Bk – source to conf R Monnow	Good	Good
by EA		2022	2019
	Olchon Bk – source to conf R Monnow	Poor	Moderate
	Monnow – source to conf Escley Bk	Good	Moderate
	Escley Bk – source to conf R Monnow	Poor	Poor
	Monnow – conf Escley Bk to conf Afon Honddu	Good	Good
	Dulas Bk – source to conf R Dore	Moderate	Moderate
	Dore – source to conf R Monnow	Moderate	Moderate
	Worm Bk – source to confl R Dore	Moderate	Moderate

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3. Fish

Fish are a major driver for failure to achieve Good Ecological Status, especially for the most recent classifications in England and Wales. Three-quarters of the water bodies assessed for Fish failed to reach Good status in the Monnow catchment, compared with half in the earlier classifications.

No. of water bodies at:	2024 (Wales) or 2022 (England)	2021 (Wales) or 2019 (England)
High	0	3
Good	2	1
Moderate	5	3
Poor	1	1
Failing to achieve Good	6 of 8	4 of 8

Two of the three water bodies in Wales were not assessed for Fish, including the lower Monnow, from the Honddu confluence to the Wye. In the latest classification the Monnow upstream of the Honddu confluence was Good but all the tributaries in both England and Wales were either Moderate or Poor. In three of the English tributaries, the status dropped two classes, from High in the 2019 classification to Moderate in the one in 2022. The data for the Olchon and Dulas Brooks were deemed 'suspect'.

For Wales, NRW gives the fish species which contributed to the failure to achieve Good status. On the Honddu, which was Poor in 2021, these were: Minnow, Bullhead, Trout and Salmon. When assessed in 2024, when the status was ostensibly better at Moderate: Minnow, Bullhead, and Trout were still failing, also Stoneloach; but for some reason not Salmon.

Fish status of Water bodies, as classified:

	Waterbody Name	2024	2021
by NRW	Afon Honddu – source to conf R Monnow	Moderate	Poor
	Monnow – conf Afon Honddu to conf R Wye	N/A	N/A
	Norton Bk – source to conf R Monnow	N/A	N/A
by EA		2022	2019
	Olchon Bk – source to conf R Monnow	Poor	Moderate
	Monnow – source to conf Escley Bk	Good	Moderate
	Escley Bk – source to conf R Monnow	Moderate	High
	Monnow – conf Escley Bk to conf Afon Honddu	Good	Good
	Dulas Bk – source to conf R Dore	Moderate	High
	Dore – source to conf R Monnow	Moderate	High
	Worm Bk – source to confl R Dore	Moderate	Moderate

N/A: Not assessed

It would be useful to know the species which were contributing to degraded Fish populations in the English tributaries. It seems likely that one of these was trout abundance judging from electrofishing surveys of riffles by the Wye and Usk Foundation (data courtesy of Jamie Carruth, WUF).

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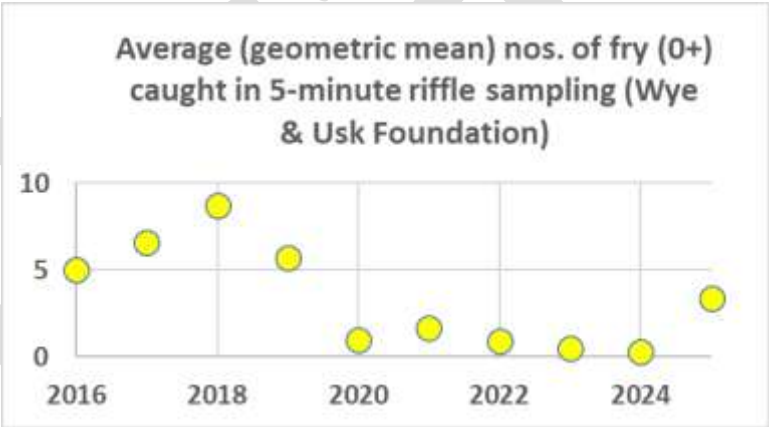
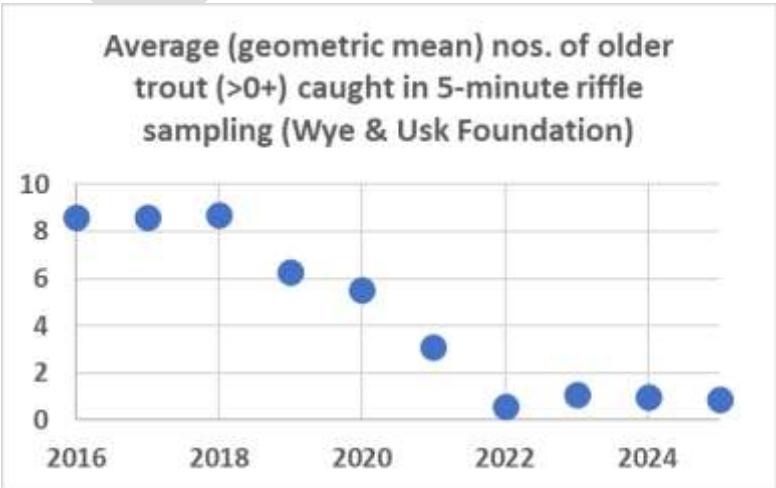
A brown trout (*Salmo trutta*) from the River Monnow.

3.1 Wye & Usk Foundation electrofishing results for trout

The Foundation's surveys, carried out in summer, suggest:

- a decline since 2019 in the average catch of trout fry (age 0+) per site though with some improvement in 2025.
- A more gradual decline since 2018 in the average catch of trout older than fry (ages >0+) but with no recent improvement.





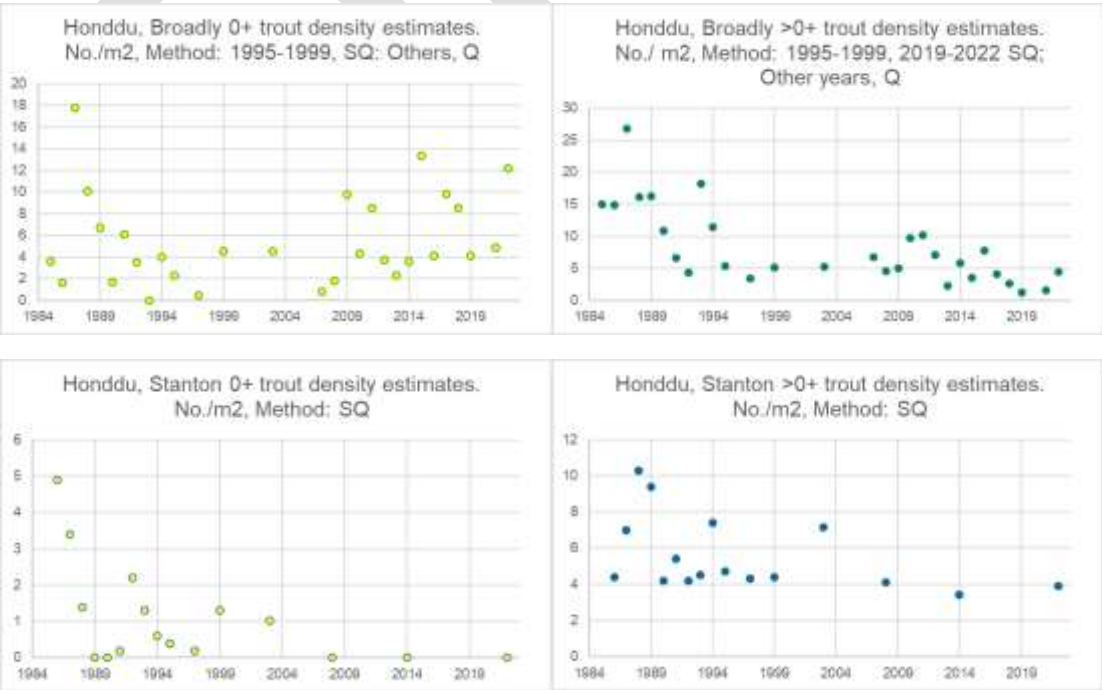
The number of sites fished in each year declined from 31 in 2016 & 2017 to only 6 in 2023 before increasing again in 2024 and 2025. Generalised comparisons between years should therefore be treated with caution. In most years after 2018, fewer sites were fished in the upper reaches where one would expect more trout, especially fry (0+). These differences in sampling may contribute to the appearance of an overall decline. However, the results for individual water bodies, shown in Appendix 1, confirm the pattern of general decline followed by some localised recovery, notably the upper Monnow and Honddu in 2025. Indeed, in 2025 the topmost sites on both these water bodies recorded the highest number of fry (0+) for the whole period. There was no indication of recovery in trout numbers in other water bodies, though most were only sampled in the lower reaches after 2019. Regardless of the differences in sampling technique, these results do align with the changes in the Fish classifications by the EA and NRW.

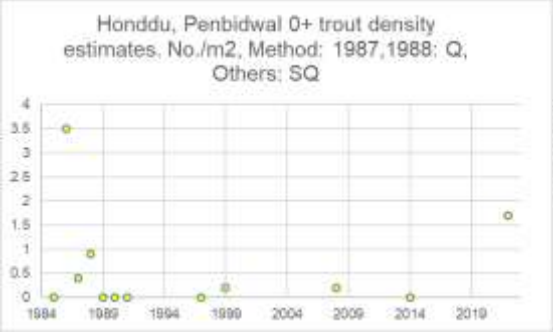
The Environment Agency recorded a degradation of Fish in the Olchon Brook from Moderate to Poor but describe the data as 'Suspect'. However, the WUF results for the lower end of this tributary at Longtown (see Appendix 1, page 37) show a very clear degradation in the abundance of trout, both fry and older fish.

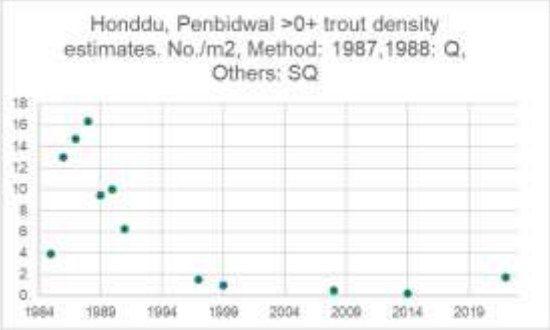
3.2 NRW's electrofishing results for trout (to 2022)

Since the late 1980s, NRW and its predecessors have regularly electrofished three sites on the Honddu: Broadly (SO 290 272), Stanton (SO312 219), and Penbidwal (SO 334 226). The fishing technique was not focused primarily on riffles, in contrast to that used by the Wye & Usk Foundation, but covers all habitats in a given length of river.

As a water body, Fish in the Honddu improved from Poor to Moderate in the latest classification. At Broadly and Penbidwal, this improvement aligned with the abundance of trout fry (0+), though not of older trout (>0+).

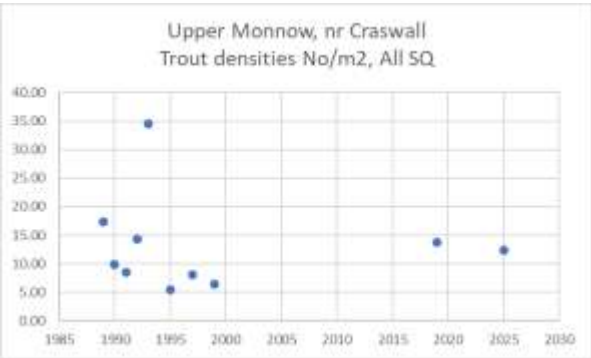


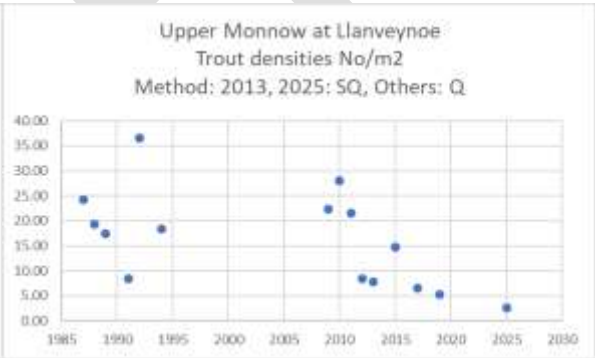


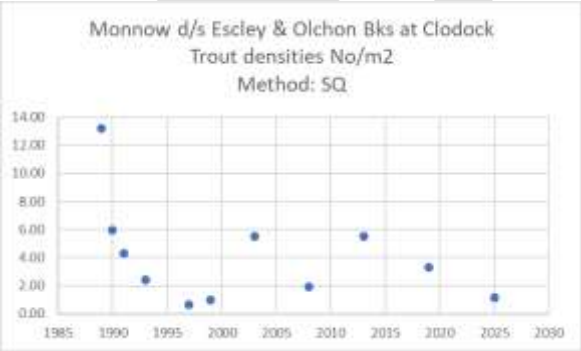


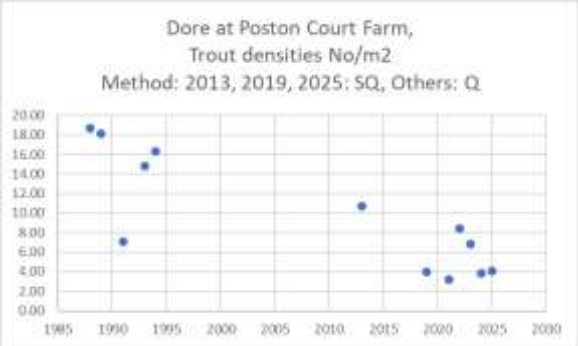
3.3 Environment Agency's electrofishing results for trout (to 2025)

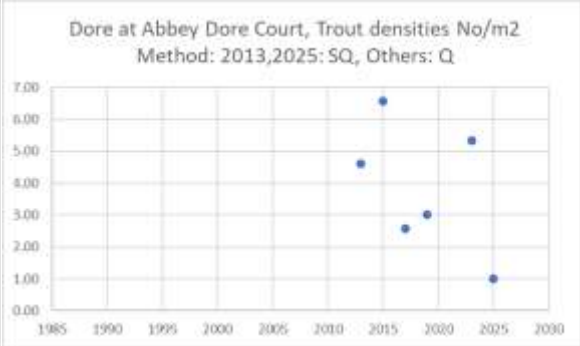
The Environment Agency's Data Explorer[8] provides electrofishing data for other sites in the Monnow catchment but they are not in the same form: estimates of trout abundance are given for all ages combined. There are some indications of decline in overall trout abundance on parts of the Monnow and the Dore.











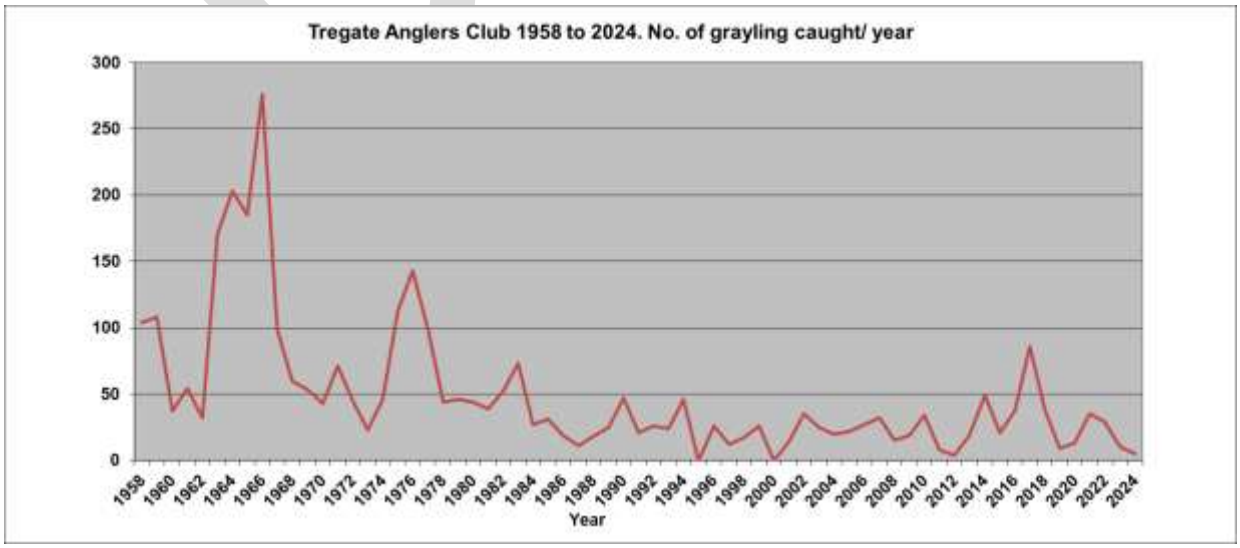
SQ: Estimate based on the catch from a single run through the site. Q: Derived from a catch depletion method from two or more runs.

3.4 Grayling

A grayling (*Thymallus thymallus*) from the Monnow.
Note the healed damage to the dorsal fin and back, probably from a cormorant attack.

The status of the grayling as a species listed under Annex V of the Habitats Directive, has just been assessed by NRW as 'cautiously stable'; the caution reflects limited information available, especially on its population status[44]. Monnow was well-known for its grayling and is included in the assessment. Oliver Burch, a local angling guide who monitors catches believes that grayling stocks are 'in trouble' across the Wye catchment, including the Monnow[48].

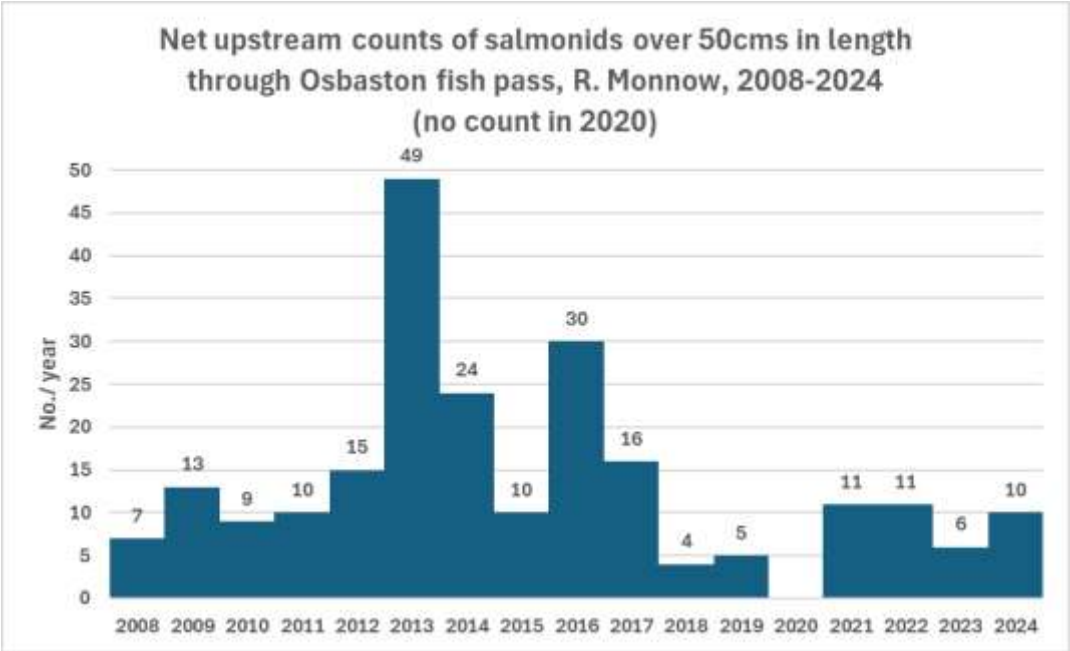
Although grayling do not tend to occupy the habitat sampled by electrofishing surveys, there are indications, from anglers' catches near Tregate, that the abundance of grayling in the lower Monnow has fallen. Both the number of grayling caught, shown below, and the catch per visit show a similar pattern. These catches were made in the trout season and, nowadays, fishing mainly with dry fly. It is possible that fishing methods and perhaps recording of grayling have varied over the decades. Nonetheless, it is clear that grayling were abundant in this part of the river in the 1960s and 1970s which is probably not the case now.



Data courtesy of Patrick Lloyd, Tregate Angling Club

3.5 Salmon

The salmon (*Salmo salar*) is another species listed under the Habitats Directive and is a designated feature of the Wye Special Area of Conservation (SAC). Historically, most of the Monnow catchment was inaccessible to salmon due to Osbaston weir at Monmouth. In 2008, Environment Agency Wales constructed a fish pass that enabled salmon to by-pass the weir. A fish counter at the top of the pass has recorded salmonids as well as other species migrating upstream (Peter Clabburn, NRW, pers. comm.). Most salmonids over 50 cms in length will be salmon which generally passed the counter in the autumn or early winter. After an initial increase to a peak in 2013, numbers have fallen back. Only one salmon was recorded in 2025 but there was an intermittent fault with the counter. Note that there was no count in 2020 when there might have been a better run of adults judging by the number of juveniles found by the Wye & Usk Foundation in its electrofishing survey, see below.



Another impassable weir at Skenfrith had already been washed out. Then, in 2011, Environment Agency Wales removed Kentchurch weir, a further 20 kilometres upstream of Osbaston and the last major barrier to fish movement on the Monnow.

In 2021, the Wye & Usk Foundation surveyed twelve sites across the catchment by 5-minute riffle samples (Jamie Carruth, pers. comm.). Juvenile salmon were recorded at half of these, i.e. at:

- Llanwonog (Monnow - source to the Escley confluence);
- Oldcastle (Monnow - conf Escley Bk to conf Afon Honddu);
- Lower Grounds, d/s Llangua, and Tregate Bridge (Monnow - conf Afon Honddu to conf R Wye); and
- Longtown (Olchon Brook).

However, in 2024, the Foundation recorded juvenile salmon at only two of eleven sites fished:

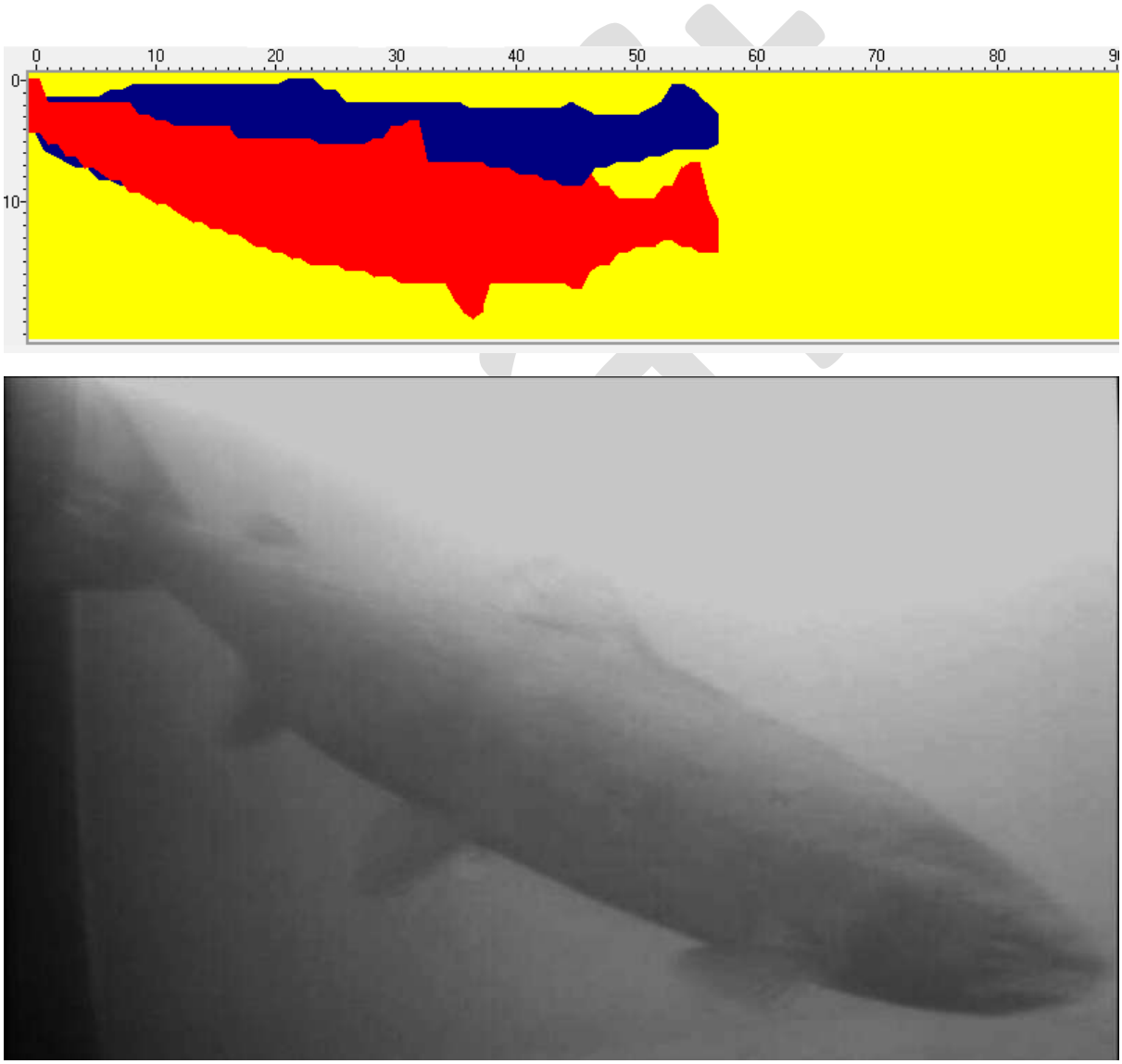
- d/s Llangua on the Monnow (conf Afon Honddu to conf R Wye); and
- u/s Neuadd Bridge on the Honddu.

By 2025, only a single salmon fry, at the d/s Llangua site, was found across 14 sites fished by the Foundation in the catchment.

(Grid references for these sites are given at the end of Appendix 1.)

The recolonisation of the catchment by salmon has not been sustained though this probably reflects problems beyond the Monnow, as well as within it. Undoubtedly, there are widespread issues for salmon across its life cycle. In 2025, the total rod catch reported to the Wye & Usk Foundation for the whole river Wye was only 59 salmon. It had been averaging over a thousand in 2017. If NRW and the Environment Agency include salmon in their next assessments of the status of Fish in the Monnow catchment, it will probably be one species that is failing. High water temperatures and extreme flows, both high and low, have been linked to poorer juvenile salmon production across Wales, including the Wye catchment[32,33].

The Wye & Usk Foundation has reported that an additional fish pass will be built at Osbaston weir with funding from EDF in mitigation for potential fish losses at Hinkley C power station in the Severn Estuary[7].



Above: the image of a salmon passing the Osbaston Vaki fish counter, with below, the corresponding photograph (Courtesy of Jonathan Griffiths & Peter Clabburn, NRW)

4. Invertebrates

All water bodies in the Monnow catchment were assessed by the EA and NRW for invertebrates (mainly insects). All were at least 'Good'; most were 'High'. This is not as encouraging at it appears. On the Hampshire Avon, a Smart Rivers project[40] documented a major drop in macroinvertebrate abundance and to a lesser extent diversity from 2015 to 2024 despite the water bodies there all being classed as Good or High.

Also, the standard method used for WFD assessment was designed to detect organic enrichment such as untreated sewage though it can also indicate toxic pollution. It may not flag other pressures such as sedimentation. As the assessment relies on a limited number of samples a year, it focuses on sustained rather than episodic pressures; recovery from local episodic incidents can be quite quick, a matter of weeks. Different methods (e.g. as used by Smartrivers[9], Riverfly Monitoring[10]) extract more information from monitoring invertebrates, such as sediment pollution or severe abstraction impacts. It is not known when such methods will be used by the Environment Agency and NRW for the Monnow.

No. of water bodies at:	2024 (Wales) or 2022 (England)	2021 (Wales) or 2019 (England)
High	8	8
Good	2	2
Moderate	0	0
Poor	0	0
Failing to achieve Good	0 of 10	0 of 10

Invertebrate status of Water bodies, as classified:

	Waterbody Name	2024	2021
by NRW	Afon Honddu - source to conf R Monnow	Good	Good
	Monnow - conf Afon Honddu to conf R Wye	High	High
	Norton Bk - source to conf R Monnow	High	High
by EA		2022	2019
	Olchon Bk - source to conf R Monnow	High	High
	Monnow - source to conf Escley Bk	High	High
	Escley Bk - source to conf R Monnow	High	High
	Monnow - conf Escley Bk to conf Afon Honddu	High	High
	Dulas Bk - source to conf R Dore	High	High
	Dore - source to conf R Monnow	High	High
	Worm Bk - source to confl R Dore	Good	Good

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5. Macrophytes

Only seven of the ten waterbodies were assessed for Macrophytes. In 2021, three failed to achieve Good. This increased to four in 2024 when the lower Monnow, from the Honddu confluence to the Wye, was downgraded to Moderate. Note the photograph on the front cover from 2004.

No. of water bodies at:	2024 (Wales) or 2022 (England)	2021 (Wales) or 2019 (England)
High	0	0
Good	3	4
Moderate	3	2
Poor	1	1
Failing to achieve Good	4 of 7	3 of 7

Macrophyte status of Water bodies, as classified:

	Waterbody Name	2024	2021
by NRW	Afon Honddu - source to conf R Monnow	N/A	N/A
	Monnow - conf Afon Honddu to conf R Wye	Moderate	Good
	Norton Bk - source to conf R Monnow	N/A	N/A
by EA		2022	2019
	Olchon Bk - source to conf R Monnow	Good	Good
	Monnow - source to conf Escley Bk	N/A	N/A
	Escley Bk - source to conf R Monnow	Poor	Poor
	Monnow - conf Escley Bk to conf Afon Honddu	Good	Good
	Dulas Bk - source to conf R Dore	Good	Good
	Dore - source to conf R Monnow	Moderate	Moderate
	Worm Bk - source to confl R Dore	Moderate	Moderate

The Monnow River Association's 2018 newsletter[11] noted that water crowfoot, *Ranunculus spp*, was still abundant in upper middle Monnow and especially the Dore. There had been efforts to reintroduce it to other parts of the catchment but, in general, these had not been successful with new patches either being eaten by birds or dying off within a few months. Further efforts were made in 2018. The 2020 newsletter[12] suggests that extreme floods, in autumn 2019 and winter 2020, as well as excessive phosphorus, mitigate against its recovery. Locally, patches of this macrophyte were also lost due to landowners bulldozing river channels.

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6. Hydrological regime

The flow regime is a supporting element to attaining good ecological status. Of the ten water bodies, all but three were classed as High. Two in Wales were classed as Not High: the Honddu and Monnow downstream of the Honddu confluence. In England, the Dore was classed as Does not support Good although the data were considered 'suspect'. The Dore in a stretch at Peterchurch, subject to past channel realignment, '*goes subterranean into the underlying gravels'* in dry weather; the Environment Agency carries out fish rescues, the latest in August 2025[38].

	2024 (Wales) or 2022 (England)	2021 (Wales) or 2019 (England)
High	7	7
Not High	3	3

Hydrological regime, status of Water bodies, as classified:

	Waterbody Name	2024	2021
by NRW	Afon Honddu - source to conf R Monnow	Not High	Not High
	Monnow - conf Afon Honddu to conf R Wye	Not High	Not High
	Norton Bk - source to conf R Monnow	High	High
by EA		2022	2019
	Olchon Bk - source to conf R Monnow	High	High
	Monnow - source to conf Escley Bk	High	High
	Escley Bk - source to conf R Monnow	High	High
	Monnow - conf Escley Bk to conf Afon Honddu	High	High
	Dulas Bk - source to conf R Dore	High	High
	Dore - source to conf R Monnow	Does not support good	Does not support good
	Worm Bk - source to confl R Dore	High	High

It appears that the standards being applied for this classification are those given by the UK Technical Advisory Group[13]. 'Not High' means that more than 5 percent of the river is being abstracted under low flows. 'Does not support good' is a lower standard with a more complex definition. However, as the Monnow flows into the Wye Special Area of Conservation (SAC), the Habitats Directive Environmental River Flow (HDERF) should apply to the Monnow and its tributaries[14]. For that constraint to be met, there should be a hands-off flow for abstraction set by a flow of 129 Ml/d at the Grosmont Rhosllwyn gauge. That constraint is not yet being applied to all abstraction licences, including those for spray irrigation in the summer months, and it is not clear when they are due to be reviewed. The Wye Abstraction Licensing Strategy[14] indicates a review date of 2039 but as the Wye catchment is now a priority catchment in England[15], earlier reviews may be possible.

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7. Phosphate

Phosphate is also a supporting element to attaining good ecological status though not every water body was assessed. In the latest classifications, only two of the eight that were assessed were less than Good. The same two water bodies were less than Good in the previous classifications though one, the Dulas, had improved from Poor to Good.

Phosphate status of Water bodies, as classified:

	Waterbody Name	2024	2021
by NRW	Afon Honddu - source to conf R Monnow	N/A	High (UC)
	Monnow - conf Afon Honddu to conf R Wye	High (UC)	High (QC)
	Norton Bk - source to conf R Monnow	N/A	High (UC)
by EA		2022	2019
	Olchon Bk - source to conf R Monnow	High	High
	Monnow - source to conf Escley Bk	Good	Good
	Escley Bk - source to conf R Monnow	Good	N/A
	Monnow - conf Escley Bk to conf Afon Honddu	High	Good
	Dulas Bk - source to conf R Dore	Moderate	Poor
	Dore - source to conf R Monnow	Good	Good
	Worm Bk - source to confl R Dore	Moderate	Moderate

No. of water bodies at:	2024 (Wales) or 2022 (England)	2021 (Wales) or 2019 (England)
High	3	4
Good	3	3
Moderate	2	1
Poor	0	1
Failing to achieve Good	2 of 8	2 of 9

Citizen scientists reporting on WyeViz[41] present a more detailed picture. For example, the Olchon Brook is rated High by the Environment Agency. The results obtained by citizen scientists at Llanveynoe (C211) also indicate good quality. However, further downstream at Longtown Ford (C202), there are high levels and sharp spikes of phosphate in autumn and winter 2024 and 2025, pointing to pollution issues. These may explain the degraded Fish populations recorded by the Environment Agency and apparently confirmed for trout by the Wye & Usk Foundation (see p37 in Appendix 1).

Indeed, despite classing Phosphate as High, the Environment Agency recognises on its website that there is 'Poor nutrient and livestock management' within the Olchon catchment in its listing of Reasons For Not Achieving Good, see section 9 below.

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8. Chemical status

The water bodies in England failed to achieve Good chemical status because they all failed for:

- Mercury and its compounds; and
- Polybrominated Diphenyl Ethers (PBDEs) - used as flame retardants.

Three water bodies in England also failed due to Perfluoroctane sulphonate (PFOS), the only so-called 'forever chemical' or PFAS (Per-or poly-Fluoroalkyl Substance) which was tested for. PFASs are a group of over 10,000 industrial chemicals used in a wide array of everyday products and processes, from food packaging and clothing to pesticides and fire-fighting foams.

None of the three water bodies in Wales was deemed to have failed for these chemicals (Mercury, PBDEs and PFOS) but then NRW did not test for them. It seems likely that, if nowhere else, the lower Monnow would have failed for them, given that it received water from all the failing water bodies in England.

However, the lower Monnow was tested for Cypermethrin and, unlike the English water bodies, it failed. Cypermethrin is a synthetic pyrethroid insecticide that is highly toxic to aquatic life, especially insects. It is used to control pests on a range of crops and in public and commercial buildings and homes, and as a wood preservative. It is also used as a veterinary medicine though its sale for sheep dip has been banned since 2010[16].

Chemical status of Water bodies, as classified:

by NRW	Waterbody Name	2024	2021
	Afon Honddu - source to conf R Monnow	High	High
	Monnow - conf Afon Honddu to conf R Wye	Moderate	High
	Norton Bk - source to conf R Monnow	High	High
by EA		2022	2019
	Olchon Bk - source to conf R Monnow	Fail	Fail
	Monnow - source to conf Escley Bk	Fail	Fail
	Escley Bk - source to conf R Monnow	Fail	Fail
	Monnow - conf Escley Bk to conf Afon Honddu	Fail	Fail
	Dulas Bk - source to conf R Dore	Fail	Fail
	Dore - source to conf R Monnow	Fail	Fail
	Worm Bk - source to confl R Dore	Fail	Fail

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9. Reasons for Not Achieving Good status (RNAG)

Ecological

The reasons (RNAG) given by the Environment Agency and Natural Resources Wales are for the classifications in 2019 and 2021 respectively, rather than the subsequent 'interim' classifications in 2022 and 2024. These are shown overleaf for each water body together with the Ecological status.

Where the latest classifications downgraded water bodies to less than Good for individual elements, additional reasons have not been provided. The water bodies so affected are for:

- Fish: the Escley Brook, Dulas Brook, and Dore; and
- Macrophytes: the Monnow downstream of the Honddu confluence to the Wye.

Overall, the reasons (RNAG) identified in England were mainly linked to agriculture, principally 'Poor nutrient and livestock management' causing excessive Phosphate levels that damaged the Macrophytes. 'Poor soil management' and 'Riparian and in-river activities' were only identified as issues in the Worm Brook.

Sewage discharges were identified as issues in England: the Dulas Brook, the Dore and the Worm Brook.

Barriers to fish movement or Impoundment were issues on the Honddu in Wales, as well as the upper Monnow and the Worm Brook.

These reasons (RNAG) do not seem to be comprehensive, even for the 2019 and 2021 classifications. For example, on the Honddu in Wales, three species, aside from salmon, failed to achieve Good status yet the only reason given was 'Barriers to fish movement'. This seems improbable and it is likely there have been other issues, including from agriculture, especially as Invertebrates were only Good, in contrast to High almost everywhere else. At least one major pollution, by about 125,000 litres of slurry, is known to have occurred in 2017[12].

No mention is made of the Hydrological regime as a reason (RNAG) yet it was unsatisfactory in the Honddu, lower Monnow and Dore. A stretch of the Dore dries out in years of low rainfall such as 2022 and 2025. Although channel realignment is thought to be a problem it would be helpful to have details of abstraction licences in the catchment.

While it does not have any bearing on the assessments shown here, a significant pollution occurred on the Worm brook in April 2025[27]. This was flagged by local citizen scientists. Organisations engaged in checking water quality in the Monnow catchment include the Friends of the RIver Wye, Campaign for Rural England, Wye Salmon Association and the Dore Citizen Science Group[41]. Their input, together with that from the Monnow Rivers Association and the Wye & Usk Foundation, should help the Environment Agency and NRW identify specific issues. At the time of writing, WyeViz identifies numerous 'Sites of concern – Phosphate trend' including 5 on the Worm Brook; 3 on the Dore; and 7 on the Monnow, as well as sites on the Olchon Brook and Dulas[41]. Sites in the catchment are also identified as of concern for Total Organic Nitrogen.

Chemical

The reasons for not achieving Good chemical status are noted in S.7 above.

Reasons for Not Achieving Good Status (Ecological)

	Waterbody Name	Ecological status 2024	Ecological status 2021	Elements identified as affected	Reasons for Not Achieving Good
NRW	Afon Honddu - source to conf R Monnow	Moderate	Poor	Fish	Barriers to fish migration
	Monnow - conf Afon Honddu to conf R Wye	Moderate	Good	Macrophytes	None given for 2024
	Norton Bk - source to conf R Monnow	Good	Good		
		2022	2019		
EA	Olchon Bk - source to conf R Monnow	Poor	Moderate	Macrophytes and Phytobenthos Combined?	Poor nutrient and livestock management
	Monnow - source to conf Escley Bk	Good	Moderate	Fish	Poor nutrient and livestock management; Reservoir/ Impoundment - non flow related
	Escley Bk - source to conf R Monnow	Poor	Poor	Macrophytes and Phytobenthos Combined	Poor nutrient and livestock management
	Monnow - conf Escley Bk to conf Afon Honddu	Good	Good		
	Dulas Bk - source to conf R Dore	Moderate	Moderate	Phosphate	Poor Livestock Management (Diffuse)/ Sewage discharge (Point)
	Dore - source to conf R Monnow	Moderate	Moderate	Macrophytes and Phytobenthos Combined	Poor nutrient and livestock management/ Sewage discharge
	Worm Bk - source to confl R Dore	Moderate	Moderate	Macrophytes and Phytobenthos Combined; Fish	Poor nutrient and livestock management/ Sewage discharge; Poor soil management/ Land drainage/ Riparian & in-river activities (inc. bankside erosion)/ Barriers - ecological discontinuity

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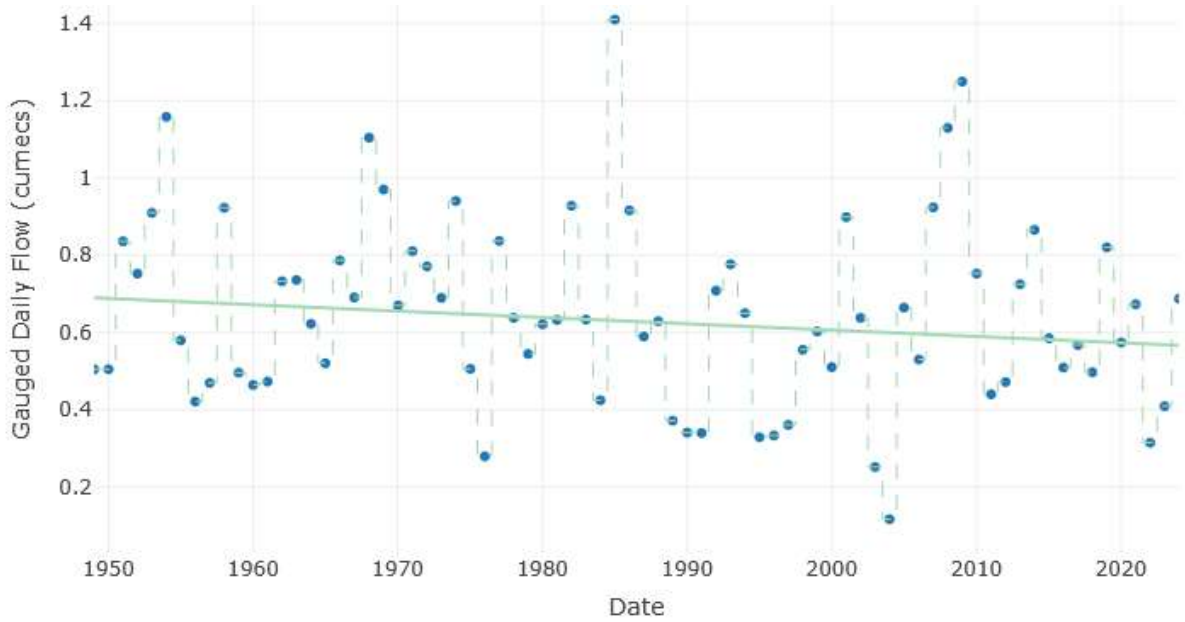
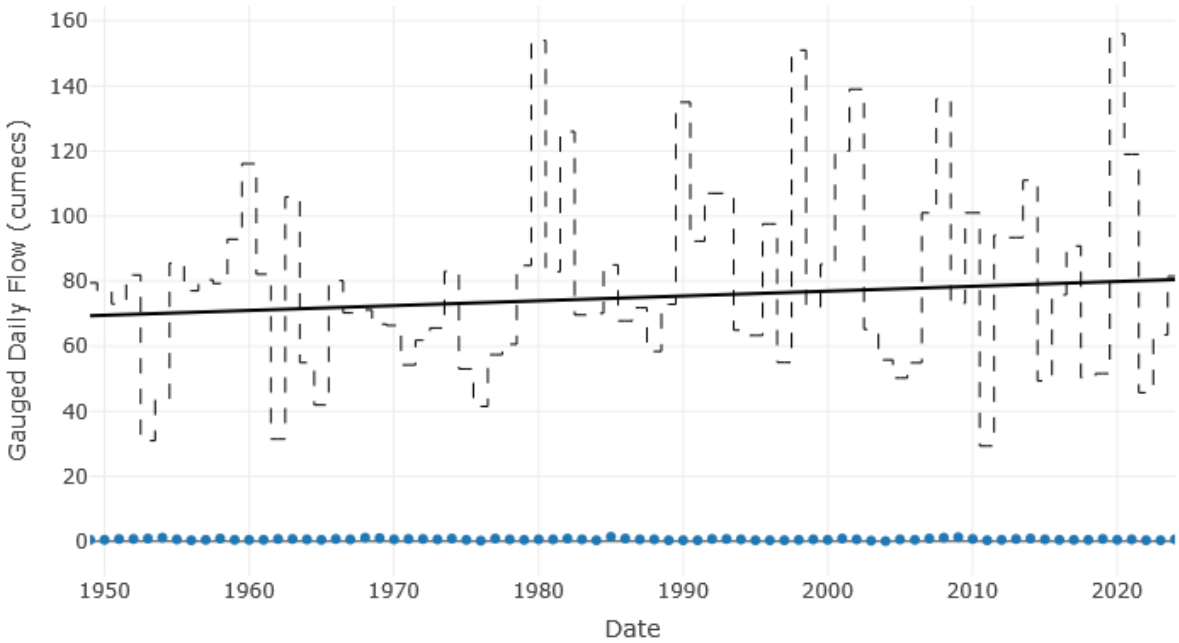
The elephant in the room is the impact that climate change may be having now and becoming worse in the future. Not only are there direct effects through more extreme flows, both high and low[17], and higher temperatures, but they exacerbate local water management issues. The implementation of effective measures is therefore more urgent.

Abstraction consents should perhaps now be reviewed to at least ensure compliance with the HDERF at low flows, even though the HDERF itself is based on a historical flow record that may be becoming outdated. The historical record of minimal daily flows at Grosmont indicates a declining trend. Although the trend is not statistically significant, it does not include the low flows of the exceptionally warm dry summer in 2025.



Minimum daily flows at Grosmont gauging station for flow years 1948-2024 (CEH: National River Flow Archive[19]). Note: this time series does not include flows after September 2024.

The Centre for Ecology and Hydrology's (CEH) 'Climate change impacts on flood peaks tool'[18] notes that much of the Monnow catchment is particularly sensitive to increased flooding due to climate change. Already there appears to be an increase in flood peaks from the historical record[19] to September 2024 of the gauge at Grosmont, shown below. Although not statistically significant it does not include the extreme flows in autumn 2024 and 2025. A flood on 14 November 2025, with NRW's gauge reading 4.837m, exceeded the previous highest levels at this gauge, of 4.622m in 2019, 4.630m in 2020, and 4.633m in November 2024. A major incident was subsequently declared following severe and widespread flooding downstream with damage to properties, notably in Monmouth. NRW's Flood Risk Management Plan[26] indicates that it will 'undertake initial assessment and feasibility work for reducing flood risk'. Presumably this includes assessment of the potential to improve catchment resilience to flooding. Herefordshire Council already has a natural flood management project aimed at reducing flood flows on the Dulas brook[27&28]. The Wye & Usk Foundation is also collaborating with partners to fund and deliver a Resilient Rivers Project[30&31] on the Monnow which, while driven by the urgent need to reduce flooding, should have wider benefits, including increasing summer flows.



Maximum daily flows at Grosmont gauging station for flow years 1948-2024 (CEH: National River Flow Archive[19]). Note: this time series does not include flows after September 2024.

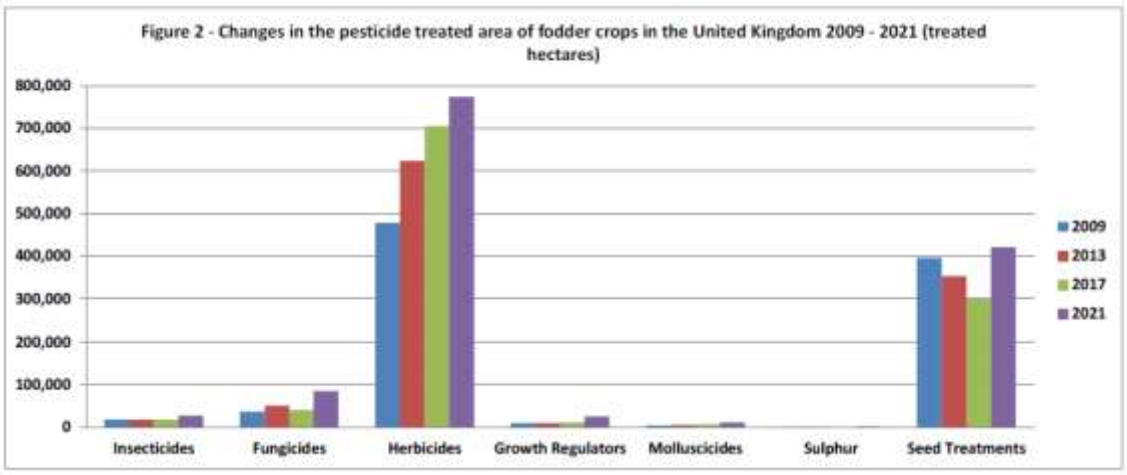
Land use and agricultural practice could be increasing the likelihood of extreme flows and soil erosion. If there is compaction of soils, there will be greater surface runoff rather than penetration to groundwater. If soils are exposed, there will also be more soil erosion carrying sediment, and any associated organic material, chemicals and nutrients, into the river. Both factors could be affecting fish recruitment and perhaps other aspects of the ecology. The Cranfield Environment Centre's Soilscape tool[20] indicates that soil types in the valley are vulnerable to pollution issues, such as sedimentation, leaching of nutrients and pesticides.

Flooding at Pandy during Storm Bert in November 2024. '*Notice how much soil is in the water. This shows it has run off the land, rather than through the soil.*' (Picture and text from a Wye & Usk Foundation article by Simon Evans in the Monnow Rivers Association Newsletter 2024[7])

Sediment from soil erosion is one aspect of water quality that is not being monitored effectively, if at all, by NRW or the EA. This is not because it is not damaging, quite the reverse. For example, in 2004, the Environment Agency highlighted the importance of siltation as a pressure on trout and grayling[49]. In 2008, the UK Technical Advisory Group on the Water Framework Directive (UKTAG)[50] recognised the difficulty in setting mandatory standards for suspended solids. Instead, it recommended pollution prevention through the application of 'General Binding Rules' to address siltation from farmland. It was 2018 before such rules were in place in England[42]. Though the need for them is accepted, they are still not in place in Wales[43].

As noted above, more extreme flows may be contributing to the loss of macrophytes, including water crowfoot, *Ranunculus spp*, which provides a key habitat for some fish and invertebrates. The loss of Ranunculus is not unique to the Monnow but has apparently occurred within the last decade on the lower reaches of other local rivers including the main river Wye[21,22], Usk[23], middle Severn[24], and, anecdotally, the Teme and perhaps the Tywi. The extent and mechanisms for such losses are not clear. As well as scouring by recent floods, excess nutrients, either dissolved or carried in the sediment from soil erosion, may be contributing. On the Wye, algal blooms in the water column have coincided with a loss of macrophytes but this does not appear to be the explanation on the Usk or the Monnow. What is also puzzling, on the Usk at least, is why a large flood in 2002 did not result in a loss of Ranunculus by scouring; rather it was exceptionally abundant the following year.

One potential source of pollution which has not, apparently, been monitored or investigated is contamination by herbicides or their metabolites, especially those bound to sediment derived from soil erosion which could be affecting sensitive macrophytes. Herbicide use has been changing and increasing on some crops, notably fodder crops, though whether this has any relevance to the Monnow or other local rivers is unknown.

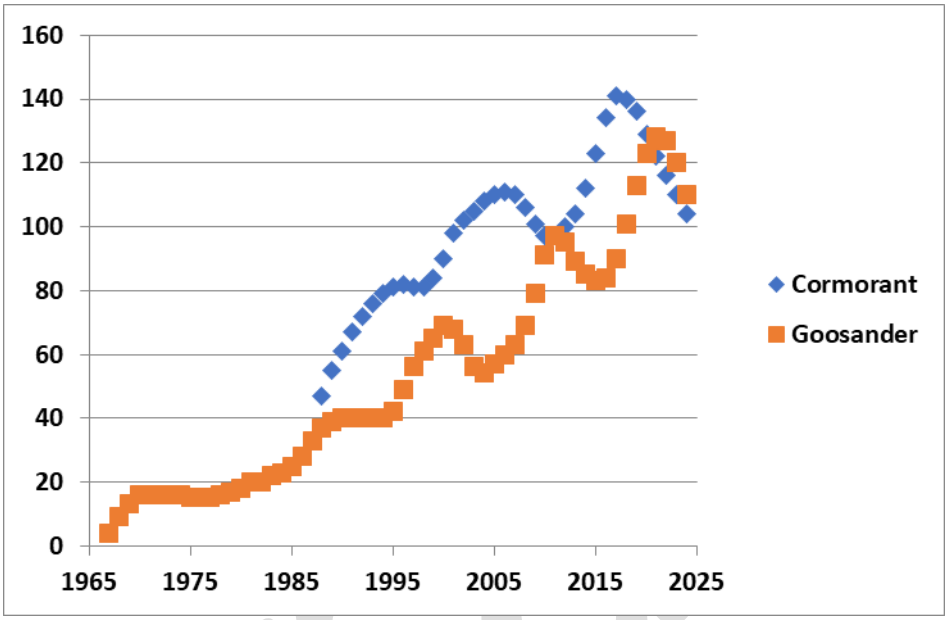


Reproduced from Ridley et al, Fera 2021[25]

One concern voiced in some MRA newsletters[1] is the potential impact of bird predators on fish abundance, especially trout which are of prime concern for anglers. Data from the UK Wetland Birdland Survey[39] indicate an overall increase to 2024 in counts of both cormorant and goosander both in Wales and England. Bird predation is particularly apparent to those on the river bank but how significant it is for fish populations in comparison to other pressures such as pollution and extreme flows, is not known. Nonetheless, increased numbers of predators are likely to have an additive impact on fish populations already under stress.

The recent assessment[44] by NRW of the status of grayling, as a protected species in Wales, notes that:

'Piscivorous birds are mobile species that do not depend on a single food source outside the breeding season, hence there is the potential for them to have significant local impacts on fish populations….. Several studies have indicated that fish-eating birds may affect the size and stability of grayling populations.'



Smoothed index of annual counts, mainly in winter, of cormorant (*Phalacrocorax carbo)* and goosander (*Mergus merganser*) across estuaries and inland waters in Wales[39].

10. Prospects for improvement

10.1 Ecological status

The standard objective is for issues to be addressed with all water bodies being at least Good by 2027, in theory. It would be unwise to assume or even hope that this will be delivered, given that this target was initially for 2015.

For some water management issues, such as poor nutrient and livestock management by the agricultural sector in England, the Environment Agency has specifically noted that there is 'low confidence' that the 2027 target will be met. This is because it was deemed 'disproportionately expensive' or a 'disproportionate burden' to deliver it. Examples include addressing poor nutrient and livestock management in the Olchon, Escley and Worm Brooks and the Dore.

In theory, even if there is no improvement, there should at least be no degradation but even that has not been achieved. For example, Fish was classed as High in 2021 in the Dulas and Escley Brooks as well as the Dore, but it is now only Moderate in these water bodies. The Olchon Brook has gone from Moderate to Poor.

Nonetheless, two of the ten water bodies have improved in the latest classification, reflecting better assessments for Fish: the Honddu in Wales, now Moderate, and the upper Monnow (source to the Escley Brook) in England, now Good. Whether the improvement will continue, or at least be sustained, is unclear.

10.2 Chemical status

For Mercury and its compounds which is polluting all water bodies (ostensibly only in England), national measures have apparently been taken to address the source of the pollution. However, Good chemical status is not expected before 2040.

Similarly, national measures have been taken to address pollution with polybrominated diphenyl ethers (PBDEs) but Good status is not expected before 2063.

The source/s of the forever chemical (PFOS) in English water bodies needs to be identified and the water bodies in Wales also checked to see how polluted they are. The source of cypermethrin in the lower Monnow needs to be identified and addressed.

10.3 Is past performance a guide to the future?

The Wye Catchment Partnership Plan[36] recognises work that has been done in the past for the Monnow. The catchment has received extensive habitat restoration by the Monnow Rivers Association (MRA) in partnership with the Environment Agency and Wye & Usk Foundation. Project work has included riparian habitat improvements and improving fish access.

One key achievement, through sustained effort, has been the eradication, almost, of Himalayan Balsam from river banks within the catchment[1]. Not only has this benefitted the native flora but could have reduced bankside erosion in winter thereby reducing siltation of the river bed[34].

The Plan also flags the need for phosphate stripping at Pontrilas sewage treatment works. Dwr Cymru planned to complete this, as well as increasing capacity at the works, by March 2025, benefitting both the Dulas and the Monnow downstream. The Dore should benefit from increased storm storage capacity recently completed by Dwr Cymru at Peterchurch sewage treatment works[35].

Despite the efforts that have been made to date, which will need to be sustained, significant changes will be required in the management of the catchment if its water bodies are to meet the required status. Such changes include:

- Reduced abstraction to meet the Habitats Directive River Flow under low flows.
- Changes in farming practice and land use to reduce extremes of flow, both high and low.
- Changes in farming practice to address pollution by both nutrients and sediment.

If fully funded and delivered, the Resilient Rivers project could significantly mitigate the increasing impacts of climate change, to the benefit of the ecology as well as helping to protect the local community from flooding.

The upsurge in public and political interest in the quality of rivers also offers encouragement, as does the Wye Catchment Partnership.

There may be significant changes in the next version of the Severn River Basin Management Plan (RBMP) and its delivery. The Office for Environmental Protection (OEP) has criticised the way that River Basin Management Plans have been implemented[37]. This criticism includes the need to reflect a court judgement in April 2025 for Pickering Fishery Association which affirmed that the Water Framework Directive regulations require specific, water-body-level plans. The OEP also identifies possible failures relating to the reasons provided for exemptions in the RBMPs, the public consultation process, and the requirement to prevent deterioration in the status of water bodies.

Delivery will require not only of incentives, notably for agriculture as proposed by the Resilient Rivers project, but by more effective regulations and enforcement for those who disregard them. In March 2025, the Welsh Government accepted 23 recommendations to improve the agricultural regulations in Wales. These included a regulation to prevent soil loss, something England has had since 2018[42]. As yet, there has been a discouraging lack of progress[43]. Even if England has had better regulations for water, it is not clear that they have been effectively enforced. The English Government's Water White Paper[45] states that there will be increased resources, across England, for more farm visits to reduce agricultural pollution through increased enforcement. NRW has also increased its capacity to make farm visits in Wales. However, in both countries the way regulations are enforced remains unchanged, with legal action remaining a last resort. Whether this achieves the desired outcomes remains to be seen. It will rely heavily on effective targeting of likely polluters. One way of doing this may be regulators to use the extensive information being collected by citizen scientists[41]. Another could be to make better use of technology such as that supporting the Wye Catchment Partnership Plan[36], or used for some years by the Environment Agency in some parts of Herefordshire[46].

10.4 The next version of the River Basin Management Plan - consultation

For the purposes of the Water Framework Directive, the whole Monnow catchment lies within the Severn River Basin. A consultation on the next version of the Severn River Basin Management Plan (RBMP), led by the Environment Agency on behalf of both agencies, has just opened. It will appear on: https://consult.environment-agency.gov.uk/ . The first stage is a consultation on the identification of Significant Water Management Issues (SWMIs): https://consult.environment-agency.gov.uk/environment-and-business/swmi/ which will close on 20 May 2026. Those with knowledge of the catchment might consider responding to the consultations using their knowledge of the catchment.

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Appendix 1: The number of trout fry (0+) and older trout (>0+) caught by 5-minute riffle sampling in individual water bodies by the Wye & Usk Foundation (data from Jamie Carreth, pers. comm.)

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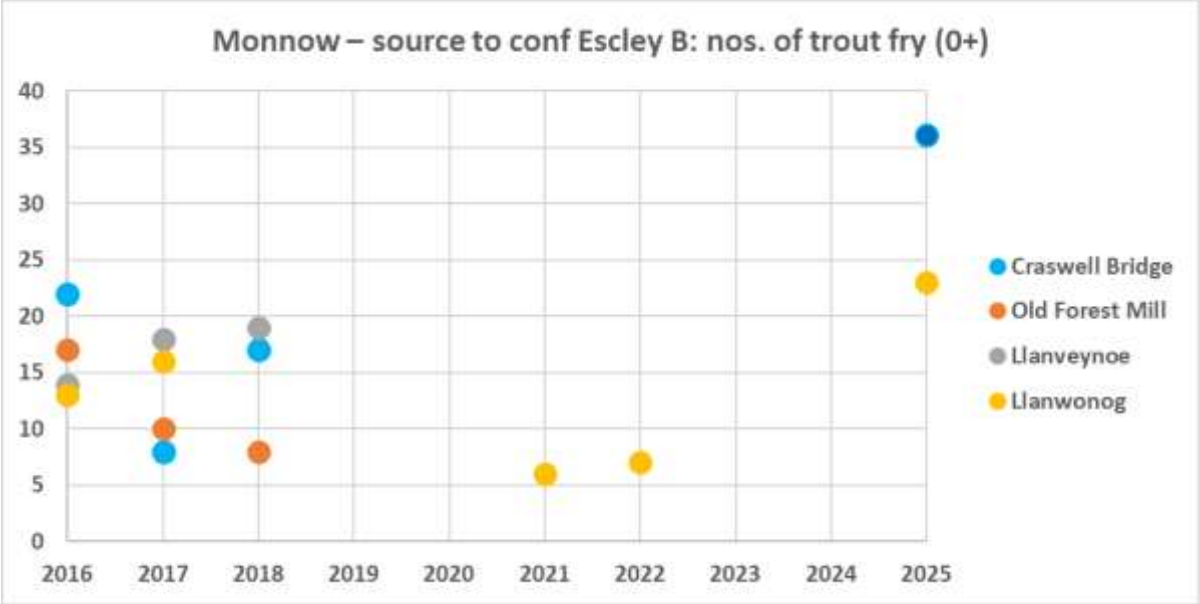

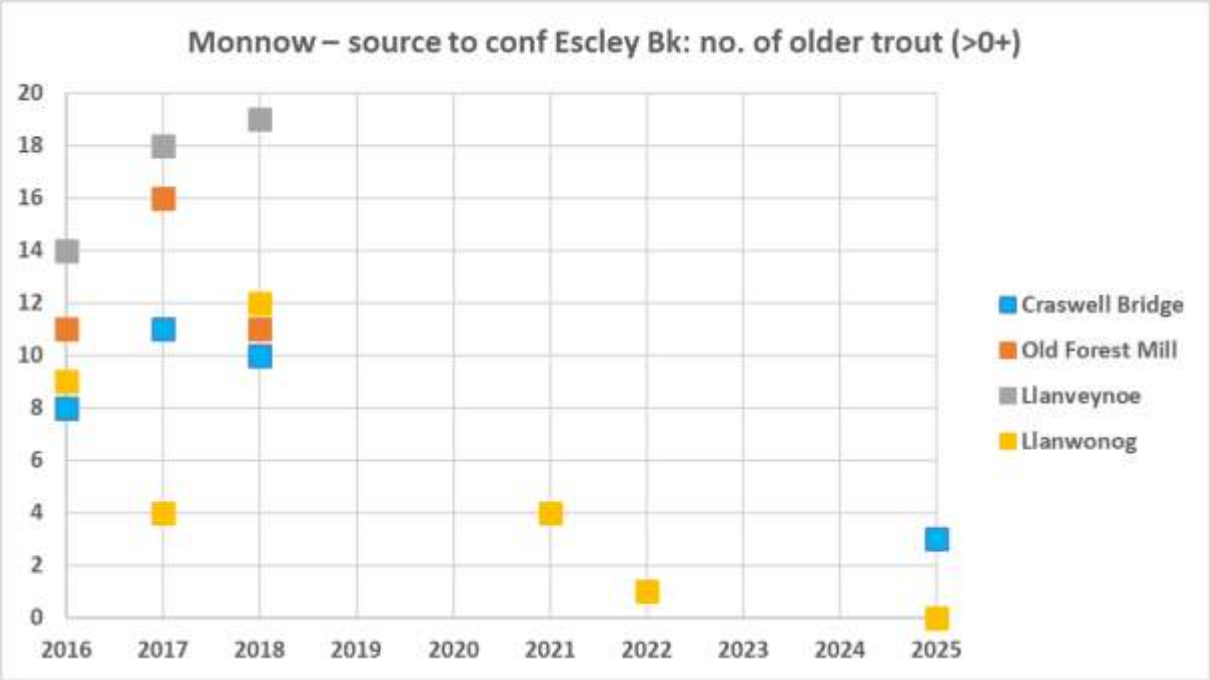

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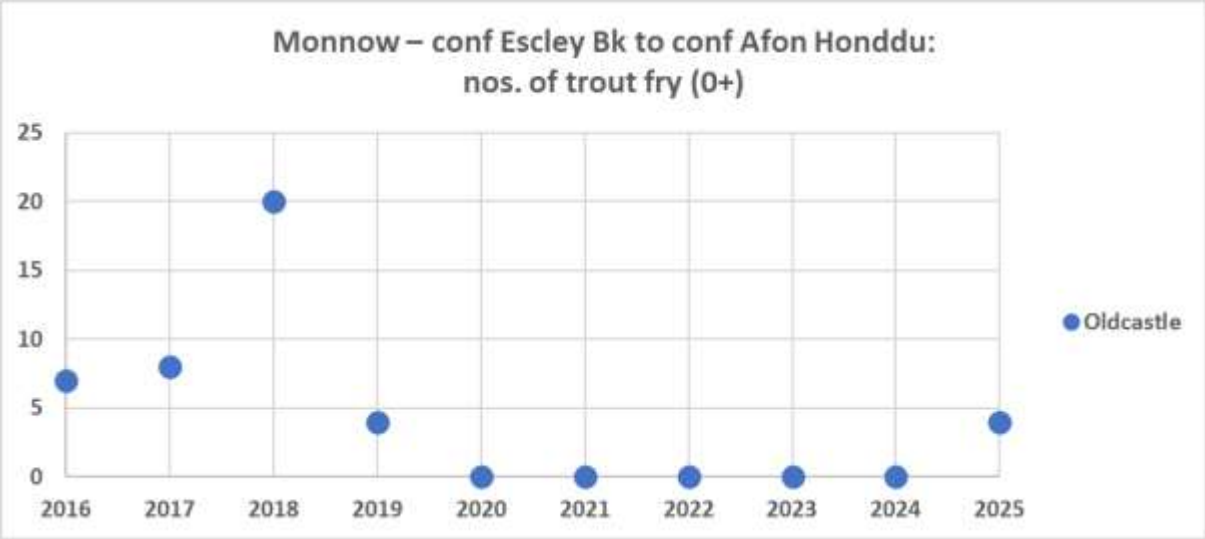

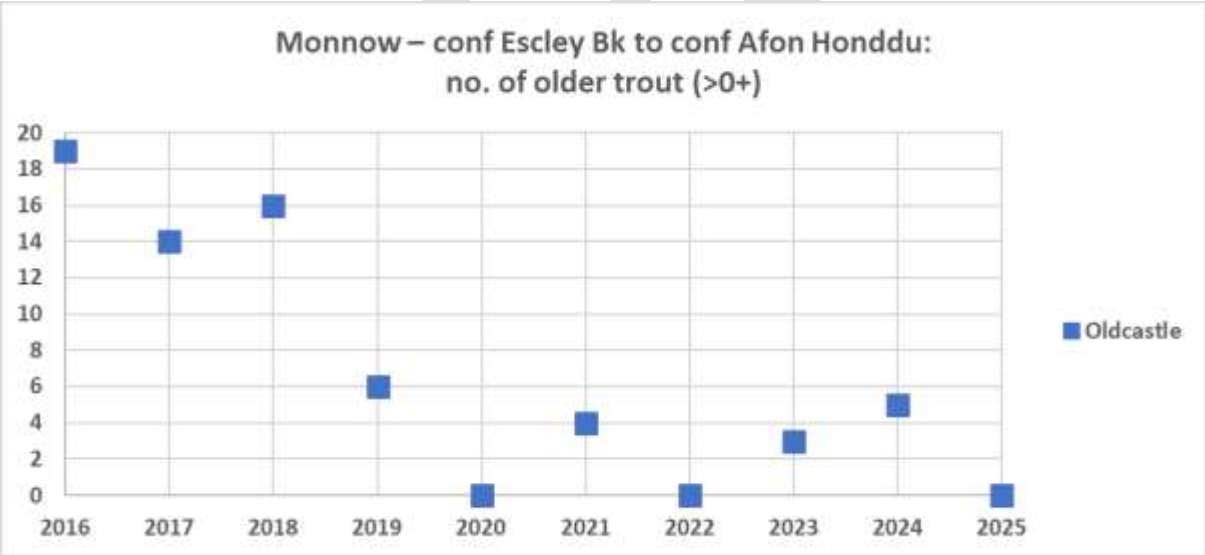

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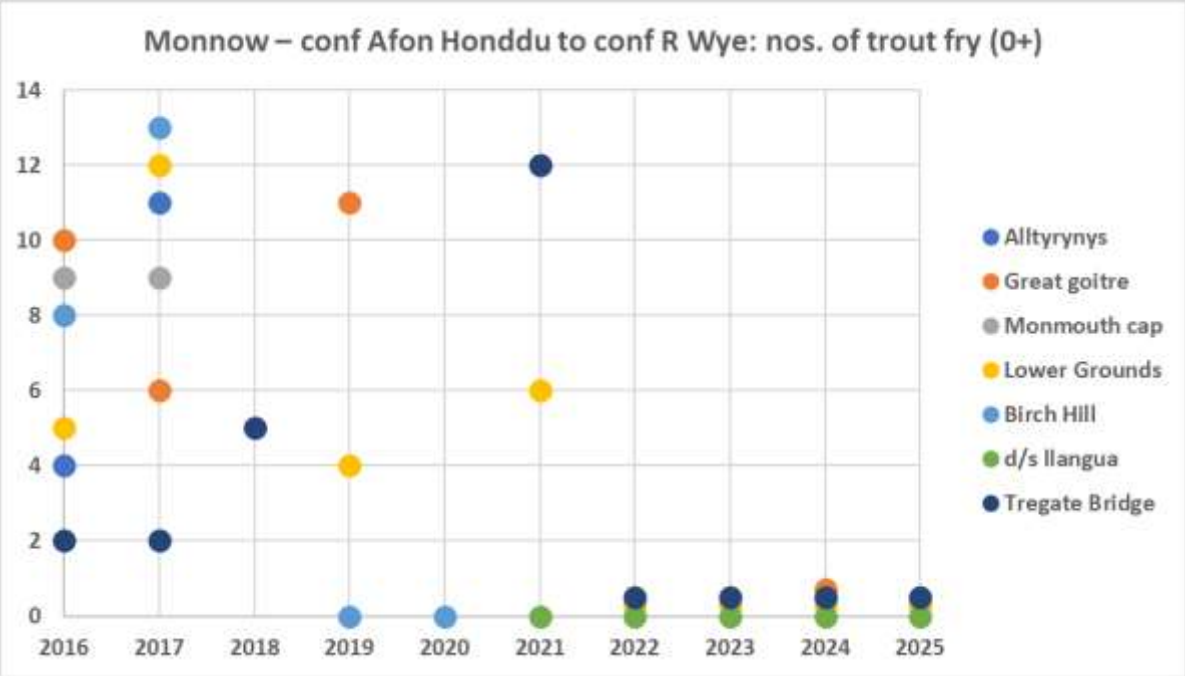

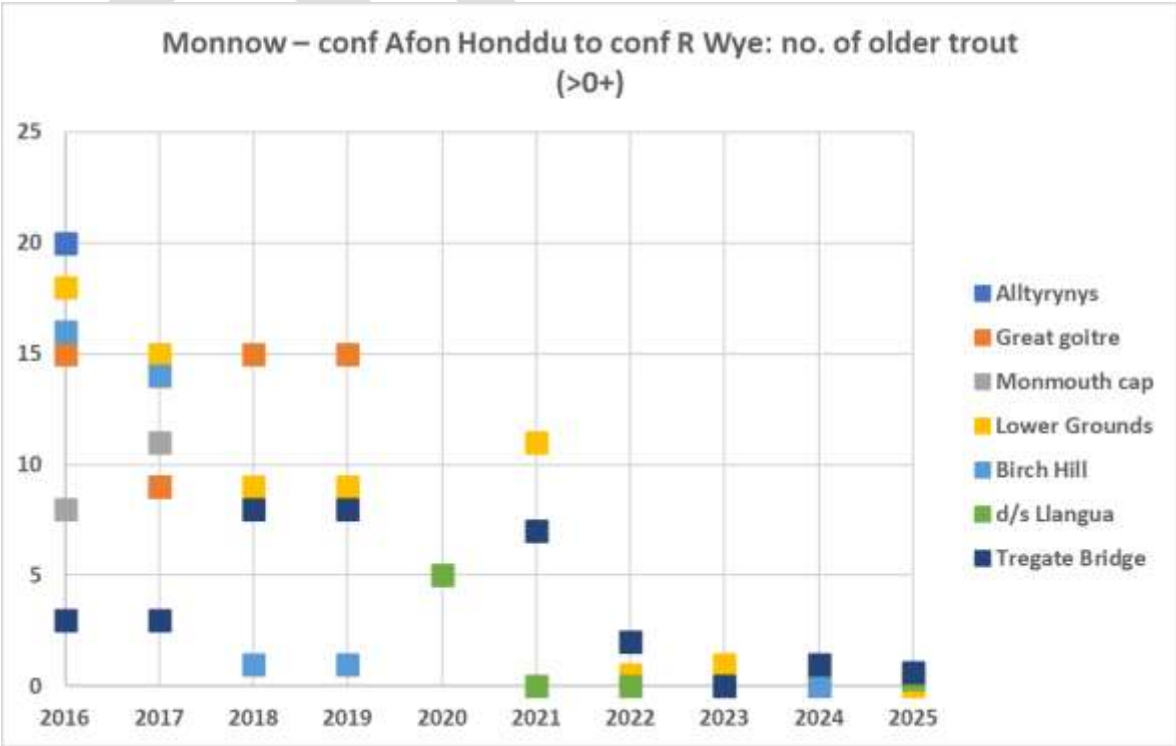

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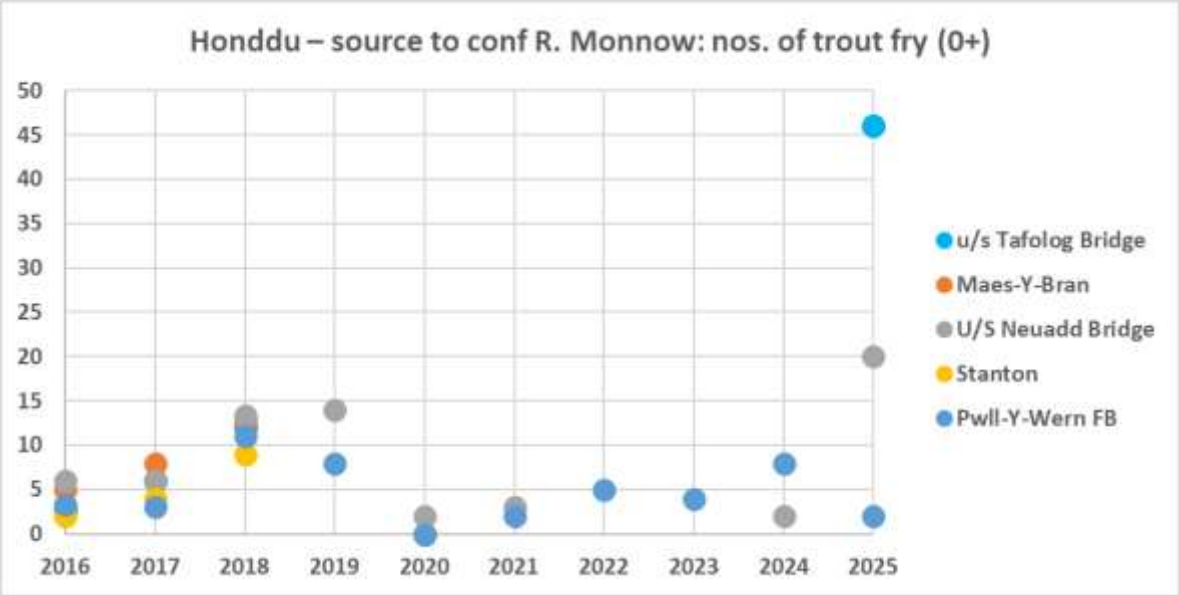

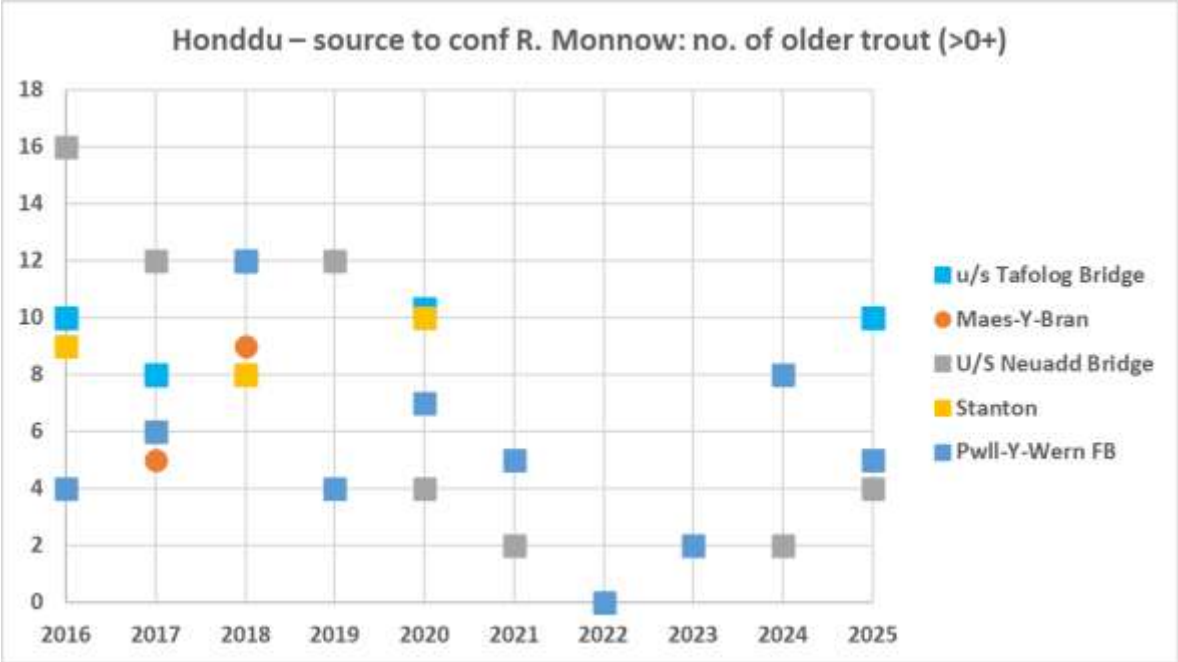

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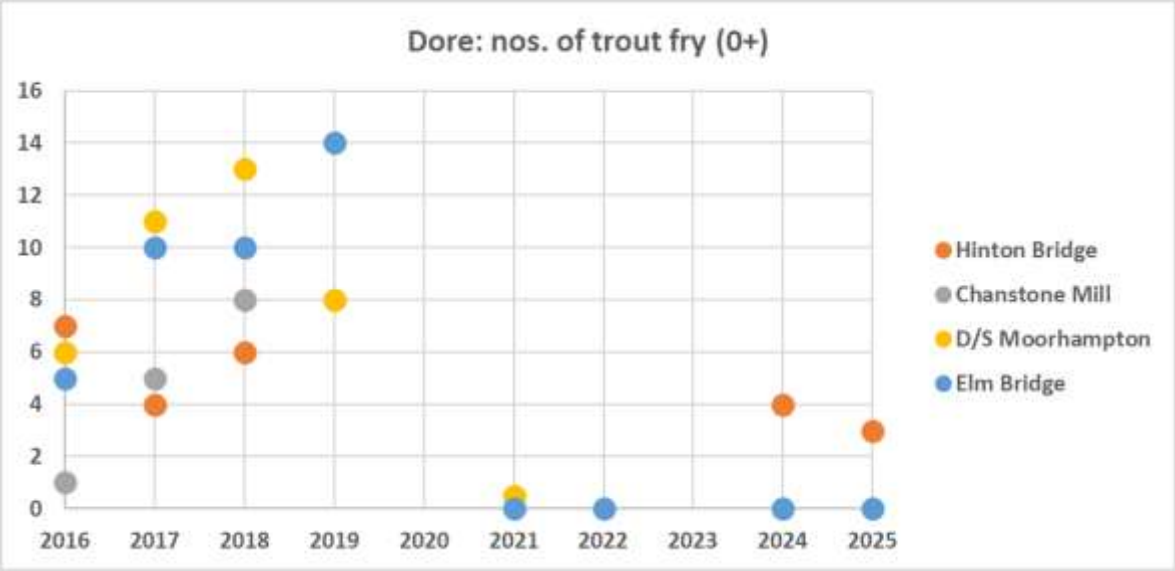

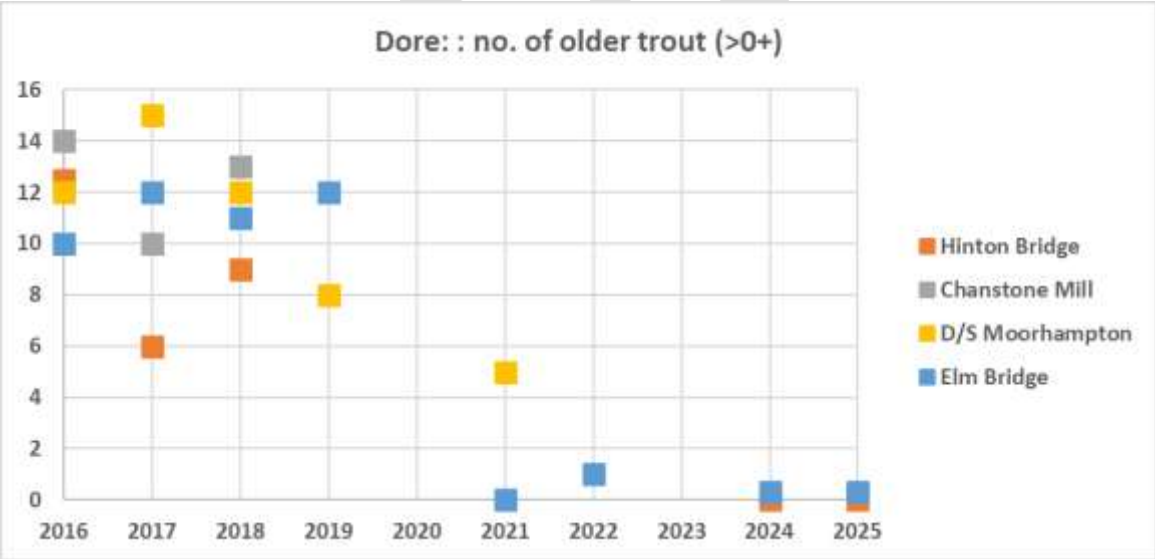

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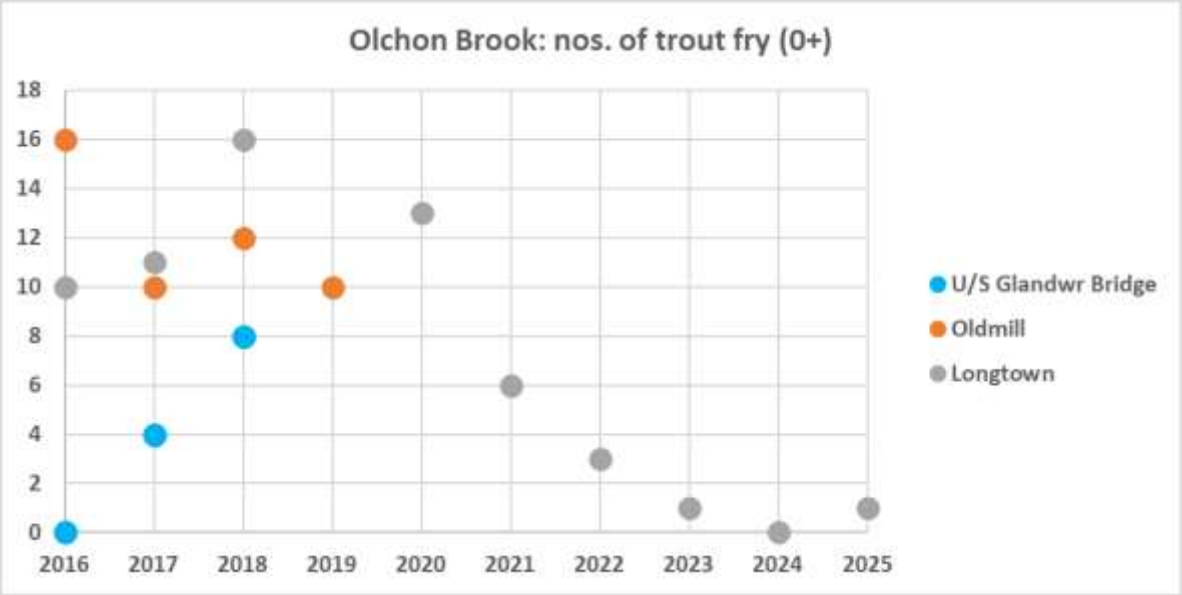

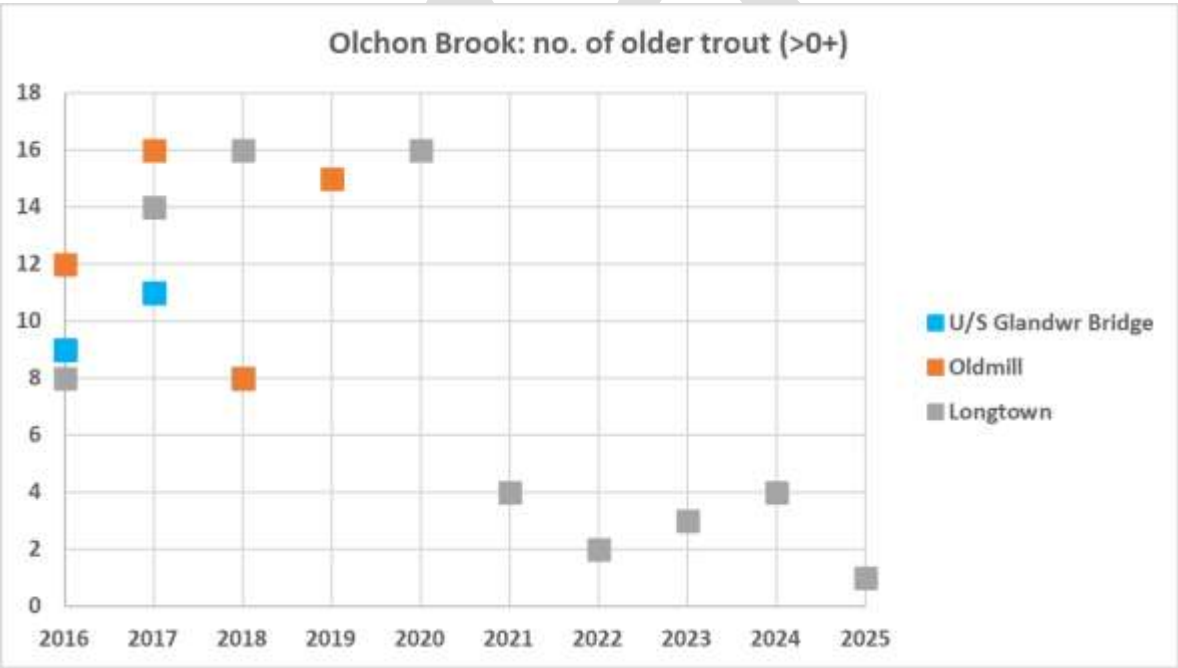

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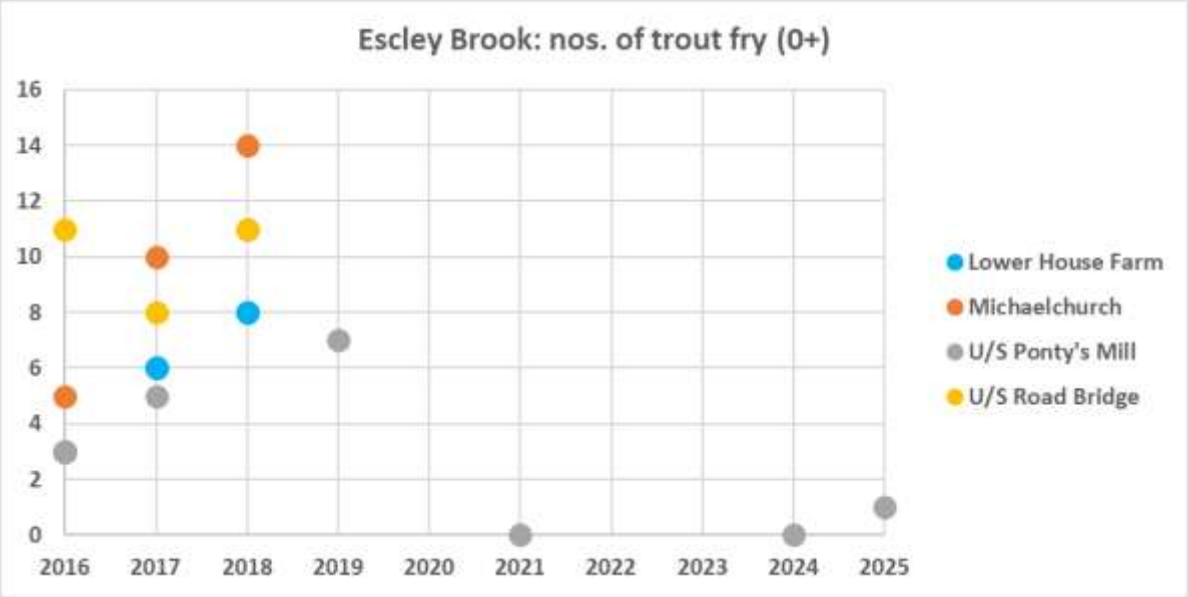

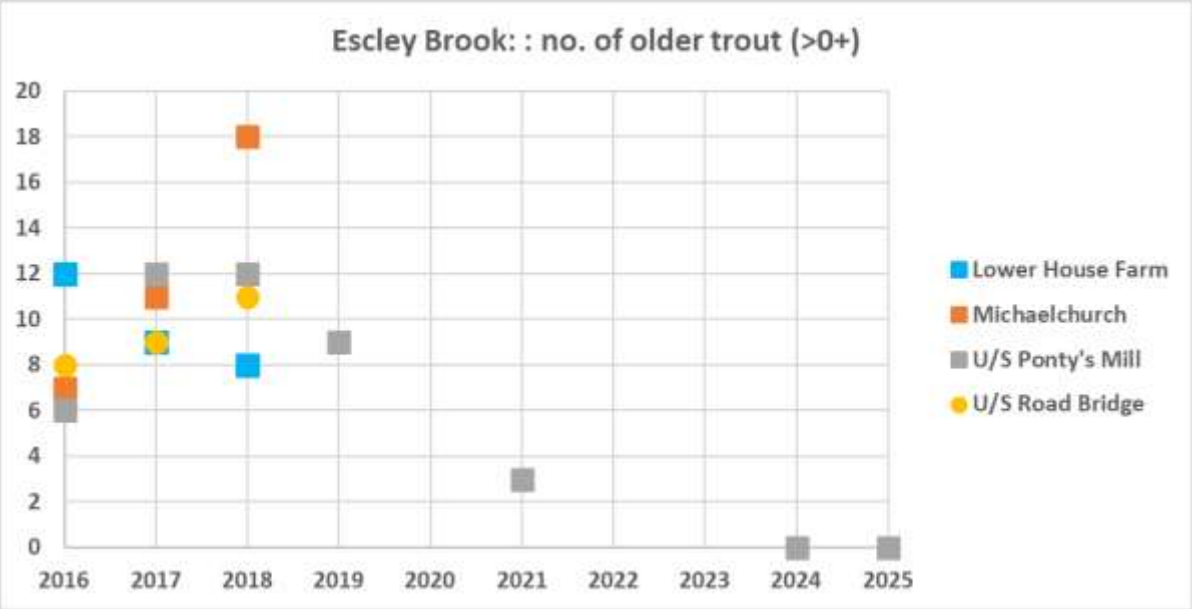

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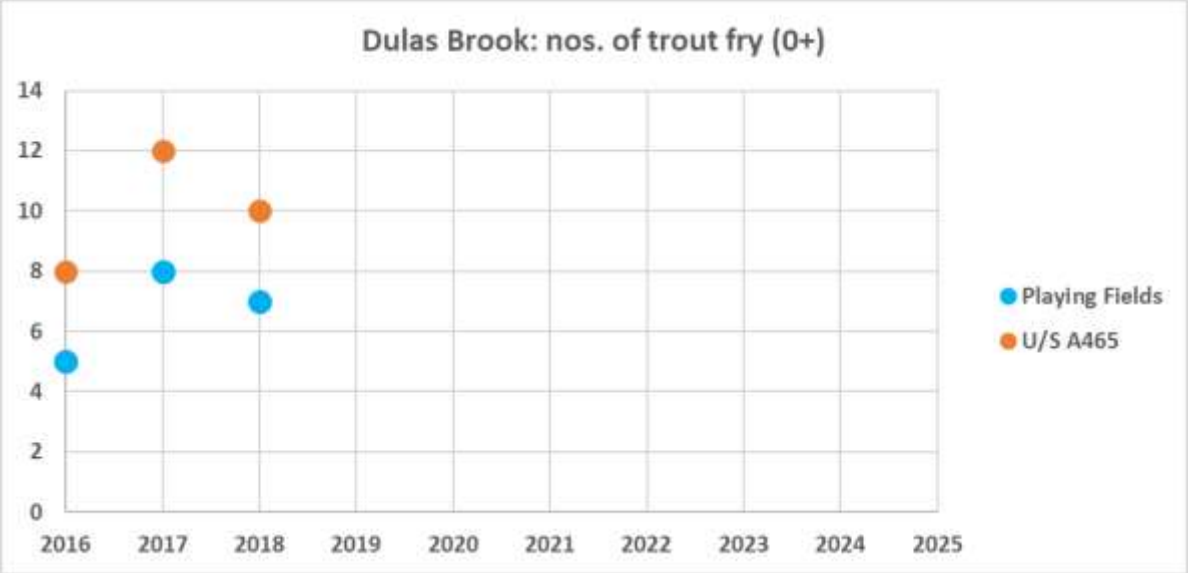

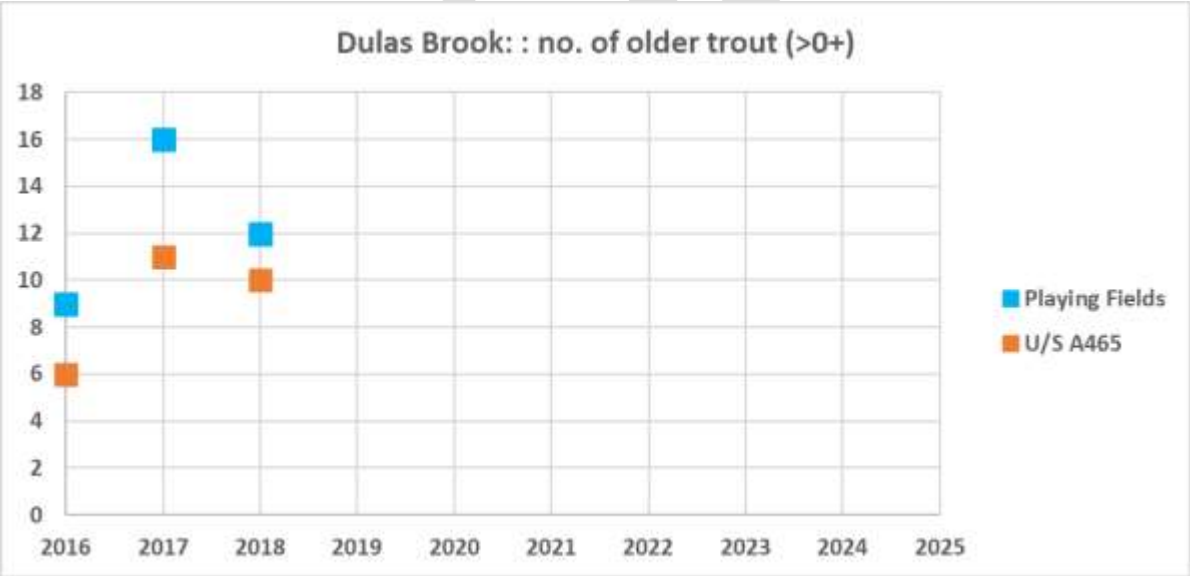

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Sample site locations

Monnow	
Monnow – source to conf Escley Bk	**O.S. Grid reference**
Craswell Bridge	SO 278 361
Old Forest Mill	SO 295 343
Llanveynoe	SO 309 317
Llanwonog	SO 323 296
Monnow – conf Escley Bk to conf Afon Honddu	
Oldcastle	SO 331 246
Monnow – conf Afon Honddu to conf R Wye	
Alltyrynys	SO 336 233
Great Goitre	SO 362 243
Monmouth cap	SO 395 265
Lower Grounds	SO 419 244
Birch Hill	SO 453 213
d/s Llangua	SO 396 265
Tregate Bridge	SO 477 172
Honddu	
u/s Tafolog Bridge	SO 276 294
Maes-Y-Bran	SO 294 264
U/S Neuadd Bridge	SO 295 233
Stanton	SO 313 213
Pwll-Y-Wern FB	SO 331 217
Olchon Brook	
U/S Glandwr Bridge	SO 288 316
Oldmill	SO 312 297
Longtown	SO 326 281
Escley Brook	
Lower House Farm	SO 307 361
Michaelchurch	SO 314 345
U/S Ponty's Mill	SO 334 311
U/S Road Bridge	
Dulas Brook	
Playing Fields	SO 386 287
U/S A465	SO 394 276
Dore	
Hinton Bridge	SO 341 389
Chanstone Mill	SO 365 359
D/S Moorhampton Bridge	SO 383 325
Elm Bridge	SO 397 285

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