



Proposed new salmon and sea trout rod fishing byelaws for the Wye in England

Executive Summary

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Executive summary

The Technical Case¹ document reviews the status of salmon and sea trout stocks in the River Wye and recommends the introduction of appropriate fishery regulations, which reflect the current stock risk status, and are required to protect the reproductive capacity of these stocks. This document summarises the Technical Case produced by Natural Resources Wales (NRW) as it applies to the River Wye and its tributaries in England .

The proposed byelaws would replace the current byelaws which will expire on 31 December 2021 mandating the release of all rod caught salmon and sea trout on the Wye that have been in place since 2012..

If new byelaws are not put in place for the 2022 season onwards, then there would be reduced protection of the vulnerable salmon and sea trout stocks in the River Wye. In evaluating management options, conservation and sustainability of the salmon and sea trout resources should take precedence. The proposals are also set in the context of maximising spawning escapement and promoting stock recovery towards improved resilience and sustainability. The proposals would, if confirmed and implemented, see byelaws requiring statutory catch-and-release (C&R) fishing for all salmon and sea trout caught by rod and line on the River Wye and its tributaries in England.

Following the establishment of NRW in 2012, it was agreed through a memorandum of understanding (MoU) between NRW and the Environment Agency that lead responsibility for the management of migratory salmonid stocks and fisheries within the Wye would sit with NRW. The Environment Agency would continue to take the lead for the management of migratory salmonid stocks and fisheries within the River Severn Estuary and River Severn catchment. However this MoU does not affect the Environment Agency's legal responsibilities for all fishery management matters in England.

The Environment Agency and NRW collaborate closely with respect to the management and regulation of all migratory salmonid fisheries operating within the Cross Border river catchments (Dee and Wye and the River Severn) to ensure a consistent catchment approach.

With respect to the River Wye it was agreed that NRW would take the lead in developing a suite of rod and line fishing protective measures and the Technical Case to support the need for the proposed rod and line protection measures within this river catchment. The Environment Agency would undertake a complementary consultation process for the same

¹ Technical case supporting a public consultation on proposals for new fishing controls to protect salmon and sea trout stocks on the River Usk and the River Wye. NRW 2021

byelaw measures to ensure that there was a consistent suite of measures applied to the whole catchment within England and Wales.

The Environment Agency is now seeking views on its proposals.

The Technical Case describes the status of stocks in the River Wye, considers issues around the exploitation of salmon and sea trout stocks and sets out the options for sustainable management.

Salmon and sea trout stocks are in parlous state across many rivers catchments in England and Wales. The need for these byelaw proposals reflects the status of salmon stocks in the Wye which are assessed annually against the Conservation Limits. In 2020 the provisional stock assessment is now 'At risk' for the River Wye with a predicted probability of being 'Probably at Risk' in 5 years' time based on the salmon stock statuses of 2020. This evidence emerging from the salmon stock assessments indicates a continued decline in the status of salmon in the River Wye, with substantial deficits in the number of spawning adults apparent in the Wye and neighbouring rivers such as the rivers Severn and Usk. Allowing salmon to be killed would lead to the clear likelihood of harm to these salmon populations continuing.

Salmon is a species listed under Annex 2 of the EC Habitats Directive (Council Directive 92/43/EEC on the Conservation of natural habitats and of wild fauna and flora) and currently contributes to the designations of the Usk and Wye as Special Areas of Conservation (SACs). At the last report by the UK in 2019 the status of Atlantic salmon was reported as Unfavourable-Inadequate, because both population and future prospects were assessed as inadequate.

Both salmon and sea trout are listed as UK BAP (Biodiversity Action Plan) priority species. Both are therefore currently regarded as most threatened and requiring conservation action.

Evidence

Provided within the NRW Technical Case 3 principal sources of evidence have been considered in concluding a preferred option for management change:-

1. The status of adult stocks of salmon and sea trout in both rivers
2. The status of juvenile salmon and trout stocks in both rivers
3. The status of salmon as a designated feature of the Wye SAC

Salmon

The most recent assessment of stocks indicates that the Wye is 'At Risk' of failing to achieve the management objectives (in 2020), and predicted to be 'Probably at Risk' in 5 years' time (in 2025). Based on average egg deposition levels over the last 5-years (2016-2020), the Wye has recorded deficits against the indicative Management Targets of 24.52 million eggs. This deficit approximates to 8,175 8lb fish equivalents.

The status of salmon as designated features of the Wye SAC was 'unfavourable' in the most recently published round of Condition Assessments (Milner et al, 2013), driven largely by poor adult runs.

Sea Trout

The most recent assessment of our sea trout stocks indicates that the Wye stock is currently 'Probably At Risk' of failing to meet its conservation limits and predicted to still be as such in 5 years' time.

Juvenile Salmonids

Since 2015 there has been a decline in fry across the catchment with especially poor recruitment in 2016. Returning adult salmon numbers have been low in 2019 and 2020, although some uncertainty remains as to whether this can be wholly attributed to the 2015/2016 recruitment failure.





Whilst the 2015/16 recruitment failure was significant on neighbouring rivers such as the Usk and evident on the Wye, it was not as severe, and some recovery has been seen since. However, the juvenile salmon population on the Wye has been below average in recent years and remains of concern.

Salmon Stock Assessment for 2020

The numbers of adult salmon returning to spawn in a river each year, and hence the number of eggs deposited, are estimated and compared against the Conservation Limit (CL). The CL is the lowest desirable spawning stock level of spawning salmon (described as the number of salmon eggs deposited) for each river. The size of a stock should not be

allowed to fall below the CL, otherwise the risk of that river's salmon stock suffering serious decline greatly increases.

Because salmon stocks naturally vary from year to year, the Environment Agency and NRW aims to ensure that a stock meets its CL in at least four out of five years on average (i.e. >80% of the time); this is the Management Objective (MO). To meet this MO, the average level of a stock typically needs to be approximately 40% above the CL. This higher target level is referred to as the Management Target (MT). Stocks are therefore classified according to whether, on the basis of the trend over the past 10 years, they are likely to meet the MO in five years' time.

Key to graphs	
	20 th percentile trend line (in a 10 year period around 2 annual egg deposition values would be expected to fall below this line)
	Annual egg deposition estimates
	Conservation Limit
	Upper and lower boundaries of the Bayesian Credible Interval.

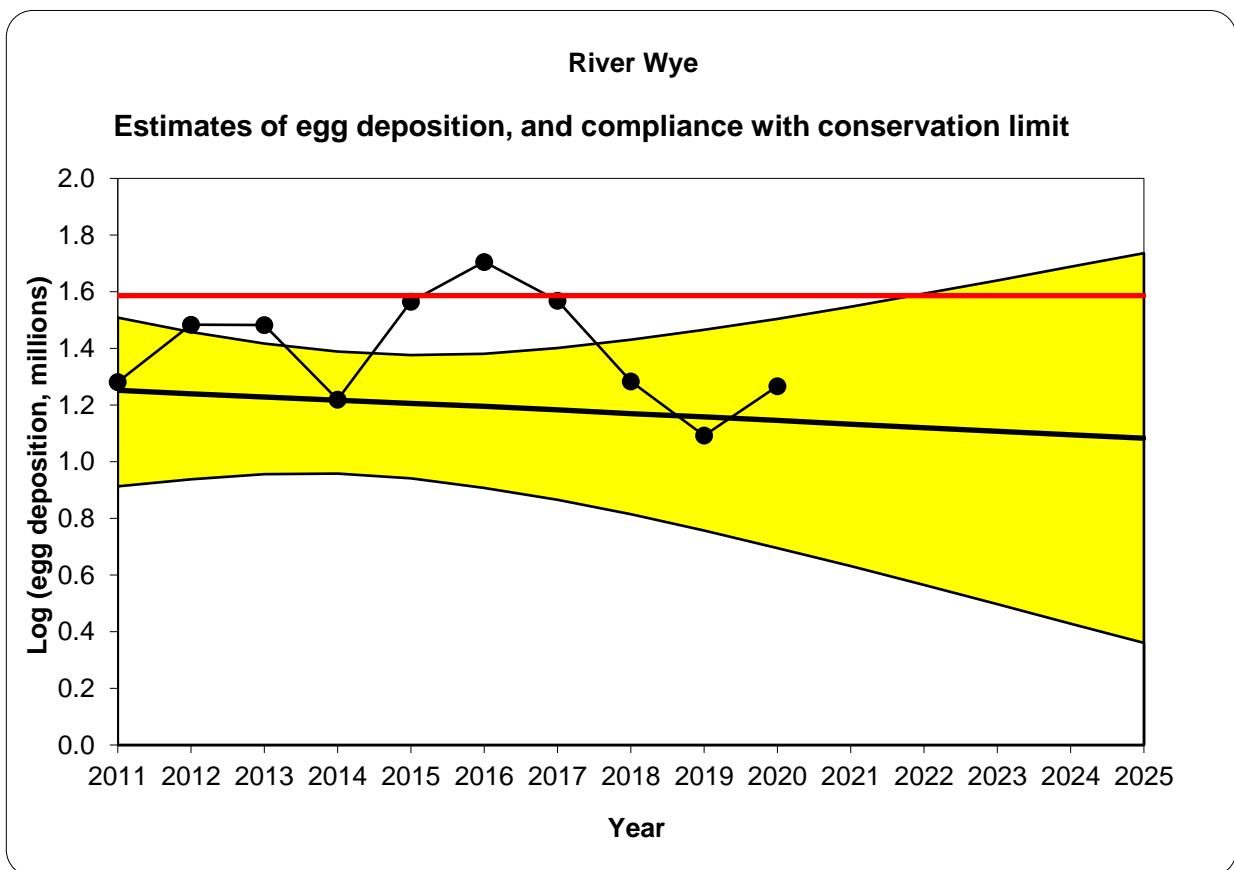


Figure 1 River Wye salmon spawning compliance assessment 2020

The River Wye has not achieved its salmon Management Objective (MO) for a number of years. In 2019 the reported rod catch was only 348 salmon, the second lowest rod catch recorded for the Wye (lowest was in 1992 at 320 salmon). The rod catch was higher in 2020; 607 salmon were caught. The overall catch of salmon within the Wye rod fishery has declined substantially over the past few decades. Consequently in **figure 1** it is evident that the stock has failed to achieve the conservation limit again in 2020, resulting in a provisional assessment of “At Risk” of failing the MO. With a declining trend the stock is projected to be “Probably At Risk” in five years’ time.

Salmon stock status on the Rivers Wye	
Current compliance status (2020)	At Risk
Predicted (+5yr) compliance status (2025)	Probably at Risk
Trend*	Declining (-)
Conservation Limit	38.57 million eggs
Management Target	48.69 million eggs
Egg deficit on MT**	24.52 million eggs
Spawner deficit***	8,175

Table 1 Summary of salmon stock status on the Rivers Usk and Wye: provisional assessment results for 2020²

* Declining trend: Slight (-); Moderate(--); Steep (---)

** Egg deficit based on 5-year mean 2016-2020

** Spawner deficit expressed as 8lb fish equivalents; where average fecundity = 3,000 eggs per fish

² Source NRW Technical Case 2021

Salmon and sea trout rod catches

The overall catch of salmon within the Wye rod fishery has declined substantially over the past few decades. Although a similar decline is reported for most salmon rivers in England and Wales, the decline in the Wye salmon catch has perhaps been more pronounced, possibly due to factors affecting the characteristic spring run of the Wye and its other multi-sea-winter salmon, together with the historic relative small run of grilse in the river.

Over the past half century, annual catches of salmon on the Wye have declined to a fraction of their peak in the 1960s, when annual catches often exceeded 5,000 salmon (**figure 2**). As recently as 1990, the rolling 5-year average catch was still about 3,500, however the catch fell substantially after this time to as few as 320 salmon in 1992. The catch showed tentative signs of a small recovery from about 2011 when the subsequent annual average catch exceeded 1,000 salmon until 2017. However, catches in 2018 - 2020 are amongst the lowest catches recorded on the river.

Based on assessments at the time, indicating salmon stocks in the Wye to be 'At Risk' with no evident trend of improvement, byelaws were introduced in 2011 by Environment Agency which prohibited the taking of any salmon or sea trout on the river. These came into force on the 1 January 2012.

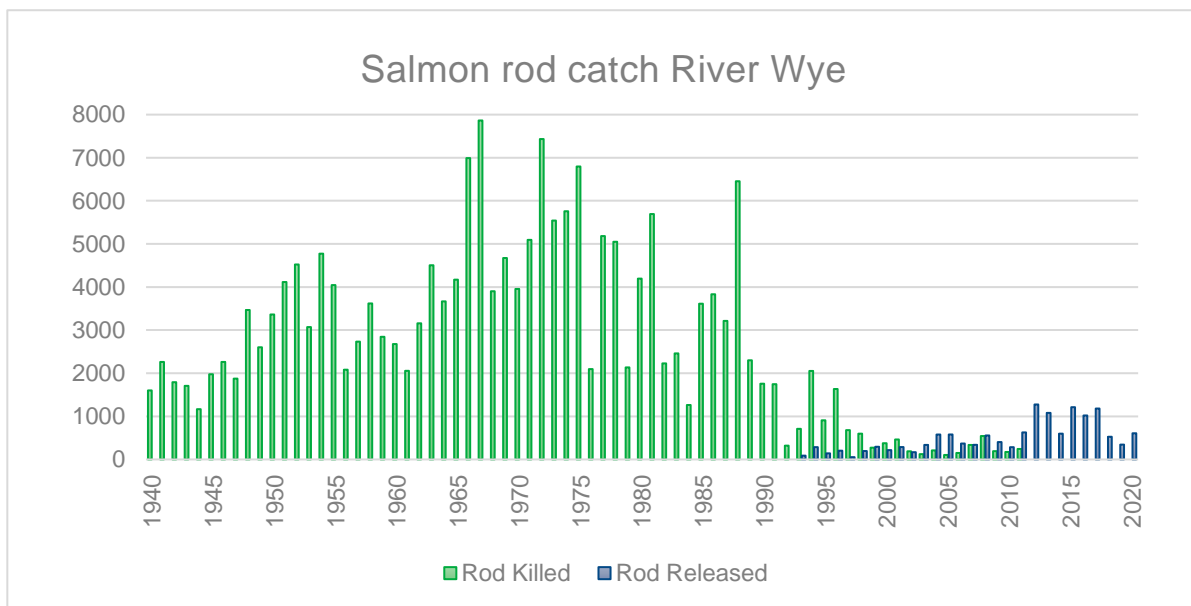


Figure 2 Salmon rod catch on the River Wye since 1940. Notes: 2020 data are provisional; reporting of numbers of released fish only started in 1993; national mandatory C&R of all salmon caught before 16th June came into force in 1999; and mandatory C&R for all salmon caught before 16th June came into force in 1999; and mandatory C&R for all salmon on the Wye came into force in 2012.

Recent indications from the Wye riparian owners' rod catch data of 2021 already suggest another poor start to the season, which correlates with the assessment and the continued failure to meet minimum biological safe levels and reduces likelihood of meeting management objectives in 5 years' time.

Juvenile salmon and trout stock status

There has been an overall downwards trend in densities of both salmon fry and parr in the Wye catchment, despite spikes in fry density in the late 1990s and in 2011 (**Figure 3**).

As seen in catchments elsewhere in England and Wales, salmon fry numbers in the Wye in 2016 were considerably lower than in recent years, although similar to those of 2007 (approximately half of the 5-year average catchment density). However, there were none of the widespread absences of fry or reduced spatial distribution noted in the Usk catchment. These poor fry numbers are seen to have tracked through into the parr numbers in 2017.

The salmon fry and parr populations have recovered somewhat since 2016, but numbers for the catchment remain low with a 5-year average of just 48 fry per 100m².

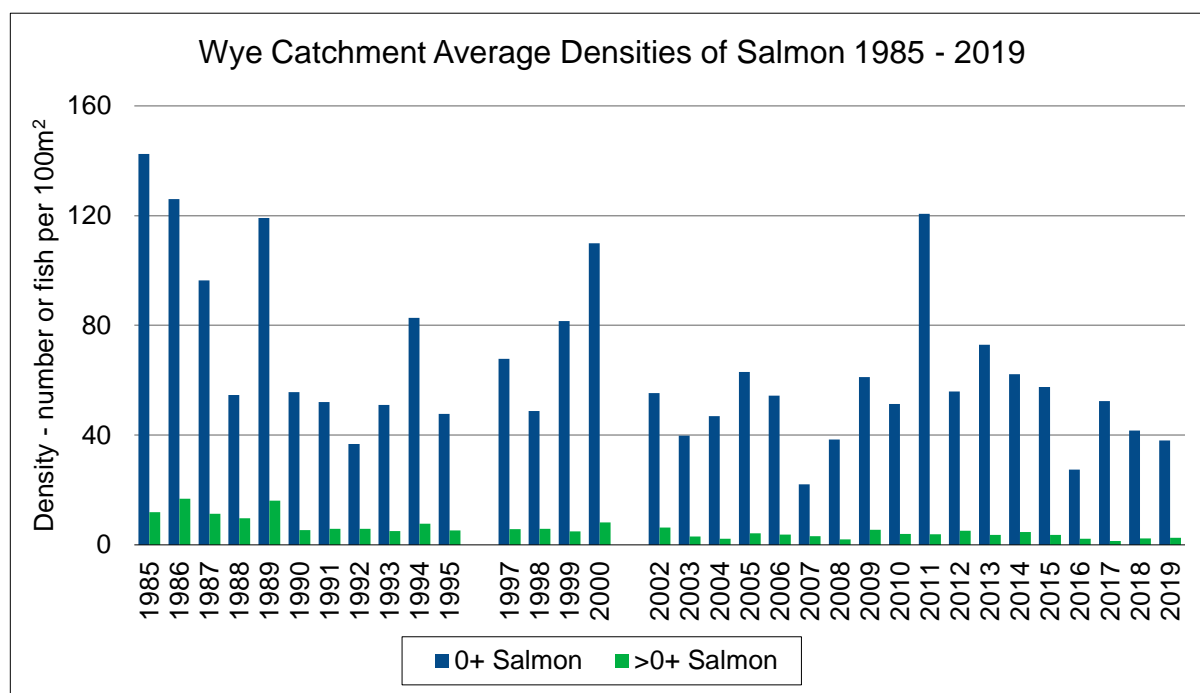


Figure 3 Catchment average densities of salmon in the Wye since 1985.

There is little evidence of a trend in trout fry numbers in the Wye, however the long-term trend in parr is downwards, driven by higher average densities prior to 1997; numbers have stabilised since then (**Figure 4**).

The fry recruitment concerns noted in 2016 for salmon fry and parr do not appear to have had such an impact on the trout populations, with fry numbers only being about 10% lower than the 5-year average and no impact noted in parr populations.

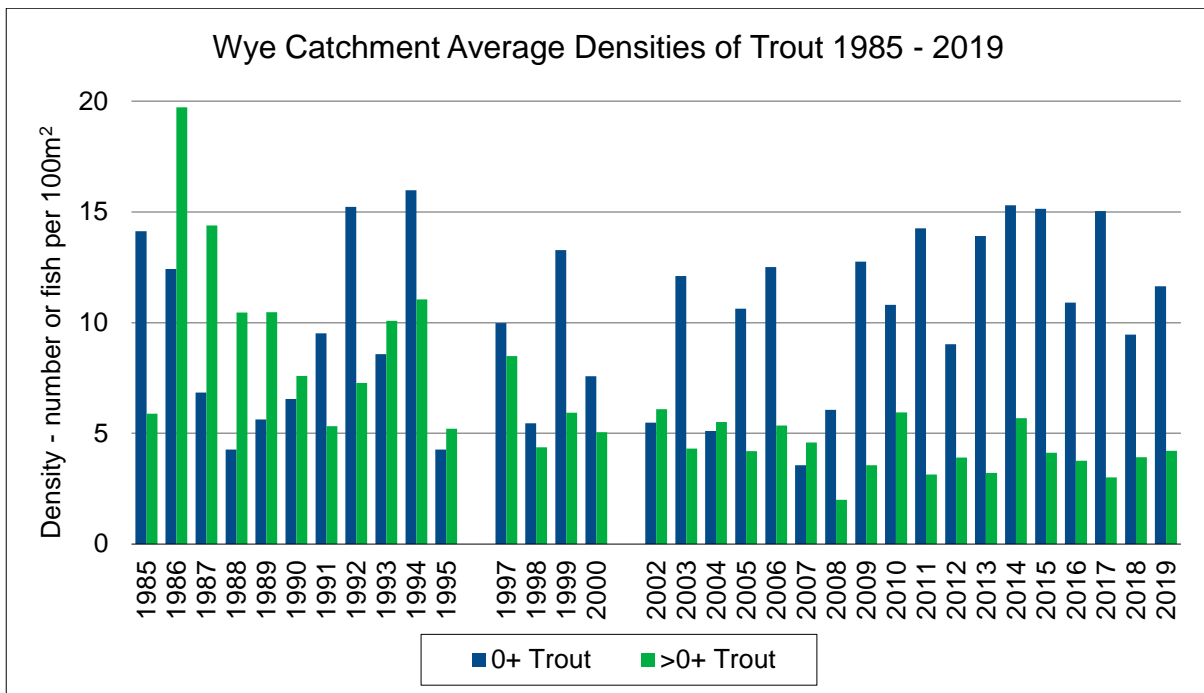


Figure 4 Catchment average densities of brown trout in the Wye since 1985.

Management Options

The management options are those that are that are presented within the NRW Technical Case, the Environment Agency have considered the following principal options:-

1. Do nothing further, allowing the current catch and release byelaws on the River Wye fisheries to lapse on 31 December 2021.
2. Maintain current C&R restrictions (100% mandatory C&R for salmon and sea trout on the Wye; maintain fishing method restrictions).
3. Maintain current C&R restrictions and introduce additional measures. Maintain catch and release measures; alter fishing method restrictions and / or seasons.
4. Closure of the rod fisheries, resulting in negative socio-economic impacts.
5. Further options around season dates and method restrictions have also been considered and are detailed later in the Technical Case.

We conclude that:

Option 2 is required for sea trout on the Wye;

Option 3 is required for salmon on the Wye

Summary of Proposed Byelaws

Given the current status of the Wye salmon stocks and the continuing trends that are supported by those data presented in the NRW Technical Case it is clear that current restrictions on the killing and survival of salmon need to be maintained to rod fisheries in order to protect these stocks.

We are proposing to seek confirmation of new byelaws for rod fishing on the River Wye in England. We propose the following measures to run until 31 December 2029, a date selected to synchronise dates with the period of the 'Cross Border' byelaws that were implemented in 2020.

River Wye (England)

A. Salmon

- Statutory catch and release fishing at all times.
- Salmon fishing season to run from 3 March to 17 October for the whole of the River Wye and all the tributaries of the River Wye.
-

B. Sea trout

- Statutory catch and release fishing at all times.

There is no real recognised sea trout fishery on the Wye, any captures being an accidental bycatch. The introduction of mandatory catch and release of sea trout, whilst helping to conserve the few sea trout that are caught, is aimed primarily at eliminating the risk of misidentifying fish, leading to the inadvertent or deliberate killing of salmon. Sea trout C&R measures have now been in place on the Wye for 10 years and are widely accepted by the angling community.

The key aim of C&R angling is to ensure that individual fish, once they have been caught and released back to the river, survive to contribute to the fish stock by successfully spawning. Implicit in C&R is the assumption that fish experience low rates of mortality and minimal sub-lethal effects and that consequently, they demonstrate high rates of survival. This was the basis for the inclusion of method restrictions in the 'all Wales' and 'cross border' byelaws (England) and (Wales) 2017.

Even relatively small numbers of fish could be crucial in order to aid recovery of stocks. There would be accumulated benefits over time. It is therefore essential that spawning stocks are maximized if populations are to have the best chance of recovery.

There is a range of factors that contribute to the decline of salmon and sea trout. It is recognised that anglers are not the primary cause of declining stocks, but in the current context of the severity of the depletion of the stocks, the killing of fish is considered to be unsustainable and to contribute to the problem. Anglers must therefore be part of the solution.

NRW has under taken liaison and discussion with Environment Agency regarding the River Wye, where NRW takes the management lead for diadromous fish stock management, have resulted in agreement that NRW and Environment Agency will seek a single integrated

approach to fishery regulation with equivalent byelaws applying in respect of the English and Welsh parts of the river.

NRW has lead, with support from the Environment Agency, a series of engagement events with our stakeholder groups on prospective new control measures through focussed meetings with the Wye Local Fisheries Group which include rivers trusts representatives. There was good attendance with views and opinions of the groups on stock status and the potential need for new byelaw measures were sought and debated.

There was unanimous support for reinstating catch and release measures for salmon and sea trout on the Wye. The Environment Agency has evaluated other suggestions made by stakeholders, including amendments to fishing seasons within the Technical Case which we propose to take forward the extension to the end of the season on the upper Wye and tributaries.

These proposals are being taken forward as the existing byelaws expire on the 31 December 2021. These proposals therefore amount to betterment in comparison to a scenario of no regulation. The proposals are also set in the context of maximising spawning escapement and promoting stock recovery towards improved resilience and sustainability.

References

Natural Resources Wales; Technical case supporting a public consultation on proposals for new fishing controls to protect salmon and sea trout stocks on the River Usk and the River Wye; 2021.

Natural Resources Wales; The River Wye Rod and Line (Salmon and Sea Trout) (Wales) Byelaws 2021

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