WATER RESOURCES ACT 1991

THE WALES ROD AND LINE (SALMON AND SEA TROUT) BYELAWS 2017

THE WALES NET FISHING (SALMON AND SEA TROUT) BYELAWS 2017

DOCUMENT NRW/1B

APPENDIX 1 TO THE PROOF OF PETER GOUGH: MEASURES TO REDUCE FISH MORTALITY

on behalf of

NATURAL RESOURCES WALES

NOVEMBER 2018

1 Introduction

1.1 The Wales Rod and Line (Salmon and Sea Trout) Byelaws 2017 and the Wales Net Fishing (Salmon and Sea Trout) Byelaws 2017 (together the **All Wales Byelaws**) are proposed by Natural Resources Wales (**NRW**) to form part of a suite of measures to reduce fishing mortality.

1.2 This document sets out other measures which are either in progress or proposed. Further measures are also discussed in the evidence of Robert Vaughan[1].

2 Net Limitation Order

2.1 Net Limitation Orders (**NLOs**) regulate the number of net fishing licences issued for fishing in the public net fisheries around the Welsh coastline and estuaries. They are set under the Salmon and Freshwater Fisheries Act 1975 and last for a period of up to 10 years. The 'All Wales NLO'[2] comprises 13 different fisheries fish in 10 river estuaries and caps the total number of licences at 45.

Table 1 - **Licences available under the All Wales NLO**

Fishery	Instrument type	Number of licences available
Teifi	Draft	3
Teifi	Coracle	12
Tywi	Draft	3
Tywi	Coracle	8
Taf	Coracle	1
Nevern	Draft	1
Taf	Wade	1
Cleddau	Compass	6
Dyfi	Draft	3
Mawddach	Draft	3

[1] NRW/6.
[2] LEG/30.

Fishery	Instrument type	Number of licences available
Dysynni	Draft	1
Conwy	Draft	3
Glaslyn	Draft	0
Total		45

2.2 Salmon and sea trout are caught in a variety of nets and instruments in the estuaries of Wales, comprising coracle, compass, seine, wade and hand-held lave nets. Some of these may be unique to Wales and are regarded by some to have cultural and heritage significance.

2.3 Controlling net exploitation of salmon and sea trout, can be achieved through two principal routes: NLO and byelaws. The effectiveness of an NLO in reducing exploitation can be limited due to the time taken to effect changes such as reducing the number of licences available within fisheries[3]. Previous experience has proven that reductions in the number of licences being fished can take some considerable time to take effect as fishermen may elect not to leave the fishery for a considerable time, whilst byelaws can offer more immediate options. Following consultation with WG an approach was agreed to maintain the number of licences available and to control exploitation through a series of byelaws.

2.4 Although byelaws are the main tool for controlling exploitation, renewal of the NLO remains important as this is the mechanism to ensure there is no uncontrolled growth in the number of licences issued for the public fisheries. Accordingly, NRW advertised the new NLO – maintaining the current number of net licences - for a 12-week period (from 1 August 2017 until 24 October 2017).

2.5 The NLO was advertised and promoted on NRW's web site and communicated in writing to all existing netsmen. Additionally, meetings were held in Dolgellau (for netsmen in North Wales) and at Wolfs Castle (for netsmen in South West Wales).

[3] If an NLO reduces the number of available licences, and a licence holder objects, WG must hold a public inquiry before confirming the NLO.

2.6 The NLO proposed no changes to the number of licences available in each of the net fisheries.

2.7 It did however: -

2.7.1 change the 'qualification' period from 2 to 1 years in the Tywi coracle and Teifi seine net fisheries. This is the period for which the NRW net licencing officer must give preference when allocating licences. This will bring these fisheries in line with all the other net fisheries in Wales.

2.7.2 Clarify boundaries on the Tywi seine net, Dyfi seine net and Cleddau compass net fisheries (there were no changes to the physical extent of the fisheries, which replaced simple descriptions, that included marker posts, with 10 figure grid references)

2.8 Receiving no objections, we applied to WG on 1st November 2017 for confirmation of the new Order. The Order was signed by the Cabinet Secretary on 15th January 2018.

2.9 Overall therefore, the number of fishermen who may be licenced is regulated through the NLO that caps licence numbers, and the means of fishing to licence netsmen and season durations are regulated thought e byelaws.

3 Cross Border Byelaws

3.1 The Dee, Wye and Severn are Cross border Rivers, with parts in both England and Wales.

3.2 Cross border fishing controls are more complex than others as they require consideration by another jurisdiction to ensure the approach is mirrored on both sides of the border. However, it has previously been agreed with the Environment Agency (**EA**) that Natural Resources Wales takes the catchment lead for migratory fisheries matters on the Dee and Wye catchments, whilst the Environment Agency takes a lead for the River Severn.

3.3 To ensure an integrated catchment approach both NRW and the EA have independently consulted on identical byelaw measures for the rivers Dee and Wye. NRW advertised and carried out its consultation on byelaws for the Welsh jurisdictional areas of the Dee and Wye between the 13 November 2017 and 5 February 2018, and

the EA carried out a concomitant consultation, with identical proposals, for their jurisdictional area.

3.4 The proposals for the cross-border Dee and Wye are in line with the proposed All Wales Byelaws. The proposal is for a package of measures lasting for 10 years on the Dee, with a mid-term review, and for a shorter 3-year package on the Wye to expire on the 31st December 2021 which would be synchronous with existing Wye C&R byelaws.

3.5 The proposals are summarised below:

Byelaw	**Proposal**
Catch and release with rod and line (salmon)	Statutory C&R fishing on the River Dee only, as extensive measure is already in place on the Wye until 2021.
Size limit (sea trout)	60cm maximum size limit for sea trout on the Dee and Wye (commensurate with the 'All Wales' approach)
No Bait fishing	No bait fishing with worm for salmon on the Dee (this is already a permanent byelaw requirement on the Wye) No bait fishing for sea trout before 1st May
Hooks	Barbless or de-barbed hooks only (Dee and Wye). This is commensurate with the 'All Wales' approach. Single barbless hook (<8mm gape) only for bait fishing for sea trout (Dee only). Restriction on treble hooks on flies (maximum 7mm gape) for salmon and sea trout (Dee and Wye).

Byelaw	Proposal
	Single hook on lures (maximum gape 13mm), except for plugs where up to 3 single hooks can be used. (Dee and Wye)

3.6 It should be noted that a submission to Welsh Government for approval of the proposed cross-border Dee and Wye byelaws cannot be made prior to confirmation of the All Wales Byelaws. This is because both sets of cross-border byelaws would be dependent on amendments made by the 'All Wales Byelaws' to the earlier and substantive 1995 Welsh Fishing Byelaws.

3.7 Severn in Wales

3.8 In August 2017, we launched our consultation on catch controls, but this excluded the cross-border rivers with England.

3.9 In June 2018, we carried out a further consultation on the Welsh parts of the cross-border River Severn, and this concluded in September. The Environment Agency has carried out a matching consultation on the English parts of the Severn catchment as part of their catch control proposals. In this way, we can jointly seek to ensure that integrated solutions are rolled-out on the river. We recognise the need for a fully integrated approach for our border rivers, we are working together with the Environment Agency to ensure that this happens in a practical and sensible way.

3.10 The byelaws jointly proposed will apply to the catchment of the River Severn and include: -

3.10.1 Require all salmon to be returned before the 16th June

3.10.2 Prohibition of bait fishing before 16th June

3.10.3 Prohibition of some fishing hooks and trebles when fishing for salmon and sea trout

3.11 The byelaws are intended to protect vulnerable stocks, while maintaining many of the important benefits associated with the fisheries. It is our intention to apply for confirmation of both sets of cross-border byelaws i) Wye and Dee and ii) Severn in

Wales, following the conclusion and reporting of the Inquiry and a decision by Welsh Government on the 'All Wales' proposed measures.

4 The Water Framework Directive

4.1 NRW is the competent authority for developing River Basin Management Plans[4] in Wales. These plans are part of the work to protect and improve the water environment, as set out in the Water Framework Directive 2000[5]. The Directive commits all member states to achieve good qualitative and quantitative status of all water bodies whilst ensuring no deterioration.

Currently many water bodies in Wales are failing to achieve the target of Good Ecological Status, and this reflects the under-performance of many rivers including poor performance of juvenile fish populations, contributing to poor salmon and sea trout stocks.

4.2 The plans set out the current status of the water environment, the main environmental pressures, known as significant water management issues (**SWMI**), a programme of measures to resolve the pressures, and the objectives we are aiming to achieve. Plans are reviewed and presented to Welsh Ministers for approval every six years.

4.3 The most important issues we believe that threaten the current and potential future uses of the water environment have been grouped into SWMIs. These are based on the standards, methodologies and waterbody network introduced for the second cycle of River Basin Management (**RBD**) Planning. These were reviewed in 2014 through public consultation as part of the ongoing river basin planning programme. These are the main issues that the planned 'Programme of Measures' will tackle to ensure protection and improvement of the water environment across the RBD. In many instances we will need to tackle some of the SWMIs working across various sectors and with other organisations to be able to achieve our objectives, for example actions taken where there are failures resulting from nutrient inputs and bacteria from rural diffuse pollution and actions for sewage and waste water treatment.

[4] POL/3.
[5] LEG/16.

4.4 The ‘Significant water management issues’ identified in Wales are :

- Physical modifications – affecting 25% of water bodies
- Pollution from sewage and waste water – affecting 16% of water bodies
- Pollution from towns, cities and transport – affecting 12% of water bodies
- Pollution from natural flow and level of water affecting 3% of waterbodies
- Pollution from rural areas – affecting 20% of water bodies
- Invasive Non-Native Species – (INNS was not a reason for not achieving good in 2015 in water bodies in the Western Wales RBD)
- Pollution from mines – affecting 23% of water bodies
- Acidification – % of water bodies is included in other SWMI categories

4.5 The ongoing and future programmes of work under the WFD are vital contributions to the improvement of environmental conditions in our surface waters, and the ecology they support. This includes our fish populations and so programmes of commissioned work are expected to lead to better environmental conditions for the better performance of fish stocks.

4.6 Work under the WFD is covered in greater detail in the evidence of my colleague Mr Robert Vaughan[6].

5 Measures addressing land management

A) Land management measures

5.1 Measures to improve the environmental condition of our rivers through land management actions are addressed in the statement of my colleague Robert Vaughan.

B) Water pollution arising from agriculture

5.2 The State of Natural resources report (**SoNaRR**) published by NRW in Autumn 2016[7] describes how water quality in our rivers has generally improved over the last 25 years or so, mainly due to improvements and regulation of sewage and industrial discharges. However there remain significant challenges: 63% of our water bodies fail to meet Good or better ecological status.

[6] NRW/6.
[7] POL/19.

5.3 A range of factors influence water quality in Wales, including the continued and damaging nutrient enrichment of surface waters resulting from agricultural practices. Inevitably water quality in turn influences the strength and density of fish stocks including salmon and trout.

5.4 Agricultural pollution can take two forms: -

5.4.1 Point Source Pollution – from single identifiable discharge sources such as a pipe or a ditch. If pollutants that may include slurry and silage enter watercourses they increase the biochemical oxygen demand and can result in mortality of fauna including fish. There have been several high profile incidents in this category over the past 2 years.

5.4.2 Diffuse Pollution - caused by a variety of land management activities with no specific point of discharge. Such sources can be individually minor however collectively they can result in significant environmental impacts. Examples include entry of spread slurry into watercourses, over-application of fertilisers, and livestock eroding river banks leading to the entry of soils to the water where the sediments cause ecological damage.

5.5 The frequency of agricultural pollution incidents in Wales is of great concern. The poultry, pig, arable, sheep, beef and dairy sectors have been jointly responsible for at least 115-165 substantiated pollution incidents annually over the past 8 years. Over 80% of these occurred in South West Wales.

5.6 Under the auspices of the Wales Land Management Forum (WLMF; footnote) a multi-sectoral Working Group has been formed (membership consisting of Welsh Government, the National Farmers Union Cymru, The Farmers Union of Wales, the Country Land and Business Association, the Tenant Farmers Association, Dwr Cymru Welsh Water, Hybu Cig Cymru, AHDB Dairy, Afonydd Cymru and NRW). This Forum aims to assess root causes of agricultural pollution and to provide advice, incentives, regulation and innovation in the farming sectors.

5.7 Detail of this work is provided in the evidence of my colleague Mr Robert Vaughan.

C) Measures to address the river environment and related factors

Restoration of rivers

5.8 It is essential that our rivers are in good condition if our fish populations are to flourish. However, most of our rivers are failing to achieve the standards required by the WFD and one of the key factors contributing to this is hydromorphological damage including the effects of barriers to migration of fish. Barriers restrict access to habitats and reduce population abundance below that which might otherwise be attained. This likely to be exacerbated by future flow modifications anticipated under future climate scenarios.

5.9 NRW takes an SMNR approach to river restoration, using evidence to work collaboratively internally and externally at appropriate scales (spatial and temporal) to prevent damage to rivers and produce more biodiverse and resilient riverine ecosystems as well as other multiple benefits.

5.10 Historically the management of our rivers mainly addressed water quality problems, however the impact of the degraded physical state of our rivers on biodiversity is now widely recognised. Changes to our rivers made by our predecessors, including the construction of thousands of structures that disrupt the connectivity of our rivers, have often caused major ecological damage harming biodiversity and reducing fish stocks. Many impounding structures support key infrastructure such as drinking water supply and flood risk management and are still required by society today, but most today no longer have their original roles but remain, supressing local river quality and biodiversity.

5.11 Management of the riparian zones of our rivers has often been poor with unfettered access to rivers of grazing livestock leading to degradation of river banks through erosion and delivery of soils to the river where they settle to the bed and contribute to ecological deterioration by their smothering effects.

5.12 Grazing also restricts riparian vegetation and many upland rivers today have little and sometimes no tree cover. They are therefore deprived of the supply of carbon from leaf litter, habitat diversity through supplies of woody debris, and terrestrial insects which can contribute to the food supply for fish. The absence of tree cover also exposes rivers to solar radiation and so adds to the risk of increasing water temperature.

5.13 River restoration is therefore seen as a critical contribution towards improving fisheries status in Wales, and to ensure that our spawning reserves of fish, comprising also those saved by C&R fishing, have the best conditions for their progeny to flourish. Typically this restoration work consists of improved arrangements fish migration through either the construction of fish passes or removal of barriers, and greater care in management of riparian zones by stock-exclusion fencing and promotion of riparian vegetation.

5.14 Knowledge of our rivers gained through survey work and discussions with our fisheries partners is identifying the issues to be resolved if rivers are to be restored to conditions that secure their full ecological potential, including the optimising of conditions for fish populations.

5.15 NRW is undertaking a range of actions to restore our rivers: -

Strategic action: - NRW has contributed to the IUCN River Restoration and Biodiversity project that raises awareness of the need for restoration[8].

NRW managed and delivered an EU LKIFE project to produce Prioritised Improvement Plans and Thematic Action Plans (Diffuse Pollution and Man-Made Changes to Hydraulic Conditions) and is committed to the actions within those plans in all appropriate future initiatives.

We have established a River Restoration Task and Finish group to work across NRW to focus and co-ordinate ongoing work with regards to river restoration.

We are developing a River Restoration Strategy for Wales to deliver SMNR for Welsh rivers.

We are building capacity in NGO sector across Wales to carry out river restoration through partnership working.

We provide support and guidance to external partners including support for the development of project proposals e.g. to

[8] The report of this project is available at:
http://www.ecrr.org/Portals/27/River%20Restoration%20and%20biodiversity_web_1.pdf

Snowdonia National Park Authority for a project on the Afon Eden catchment, and to the Freshwater Habitat Trust for a water friendly farming project on the River Irfon catchment.

We apply for funding for river restoration projects such as LIFE funding for work across the River Dee, for which we are now invited to submit a full bid by January 30th 2018.

We will use Area Statements to outline opportunities and engage with stakeholders to progress positive works on rivers

Local action: - We are working together with Afonydd Cymru and local rivers trusts to identify and prioritise remediation of all structural constraints that suppress fish stocks. We have commissioned work on 4 river catchments and plan more each year. The output of this very practical work will inform future proposals for river restoration activity and support funding applications to deliver this.

NRW and its processor bodies have delivered practical works to improve river habitats over the past 20 years, both alone and in partnership with others. Most recently we delivered the "Salmon for Tomorrow" project in which 62 fish passage improvements led to a further 700km of river habitats were made accessible or where existing access was improved.

6 Considering avian predation

6.1 In certain circumstances, including demonstration of economic harm to fisheries, NRW will licence the lethal control of predatory birds. Lethal control is licensed as a contribution to ongoing non-lethal scaring of birds away from the location of predatory activity.

6.2 All birds are afforded some protection under the Wildlife and Countryside Act 1981[9]. In deciding whether a licence should be granted, all applications to control birds are

[9] LEG/2.

assessed in the same way against the relevant policy and within the legal framework of the Wildlife and Countryside Act.

6.3 It is illegal to kill wild birds without a licence from NRW. The EC Wild Birds Directive provides a robust framework for the protection of wild birds[10] their habitats, eggs and nests across the European Union. NRW notes, that any policy being considered must ensure continued compliance with the Birds Directive.

6.4 A person who kills, injures or takes a wild bird for certain purposes under and in accordance with a valid s16 licence issued by NRW will not be committing an offence. NRW can issue a licence to undertake an action that is otherwise prohibited (e.g. killing, injuring or taking a wild bird) for the purpose of "*preventing serious damage to... fisheries or inland waters*"[11]. NRW currently acts as the licensing authority for the issuing of licences to control fish-eating birds where they are causing, or are likely to cause, serious damage to natural and inland fisheries in Wales. NRW can only issue a licence for this purpose if it is satisfied that there is no other satisfactory solution[12].

6.5 There is very poor evidence currently available on the impact of licenced control on piscivorous bird populations and conservation status. Therefore, a precautionary approach is applied during the licence consenting process.

6.6 NRW has formed a Wales Fish-eating Birds Advisory Group (the '**Advisory Group'**), a joint group between organisations that represent sectors of government, conservation and fisheries management. The Advisory Group will identify evidence and establish expert opinion to ensure Welsh policy continues to be based upon the best available evidence and is robust and fit for purpose.

6.7 NRW will help inform the Advisory Group with expert advice from its staff, particularly from the Evidence, Policy and Permitting Directorate, and through close working with those individuals and/or organisations that have evidence and knowledge in the field.

6.8 The Advisory Group will:

[10] The Directive provides for the conservation of all species of naturally occurring birds in the wild state in the European territory of the EU Member States.
[11] LEG/2, Section 16(1)(k).
[12] LEG/2, Section 16(1A)(a).

6.8.1 Review the interactions and effects of piscivorous birds on salmonids and inland fisheries;

6.8.2 Review and consider experience in Scotland and England;

6.8.3 Seek views and advice from group members concerning requirements for Wales;

6.8.4 Produce recommendations for next steps;

6.8.5 Ensure any subsequent recommendations are within the existing legal and policy framework, or they identify where legislative or policy changes would be required.

6.9 The key output of this group will be a recommendation paper to NRW's Board identifying whether a formal review of Wales' approach to fish-eating birds is required, and if so it will set out the Advisory Group's suggested Terms of Reference, Scope, Time-frames and Standard of Evidence required for such an evidence-led review of the impacts of fish-eating birds in Wales. This recommendation, if accepted, would then be submitted to WG by NRW's Board. The Advisory Group will be time-limited, aiming to put recommendations to the NRW Board in March 2019.

7 Addressing climate impacts on our rivers

7.1 Some of the generic river restoration proposals fulfil actions required to partly address potential impacts of climate warming. However, it is worthwhile to set out these key actions.

7.2 As river flows are forecast to change, with drier summers, it will be important to ensure that adult salmonids are able to achieve their upstream migrations, not least because of the access this affords to cooler water refugia. The construction of fish pass solutions and, where possible, the removal of barriers greatly support resolution of connectivity constraints.

7.3 NRW and partners have constructed in excess of 100 passage solutions over the past decade (e.g. NRW, 2014; Afonydd Cymru, 2015).

7.4 The protection of upland streams from increasing warming through solar radiation has been developed by the Environment Agency and is now managed by the Woodland Trust (https://www.woodlandtrust.org.uk/publications/2016/02/keeping-rivers-cool/).

7.5 The simple principle is that restoring riparian vegetation to streams where this has been lost, for example as a result of intensive browsing by sheep, will reduce warming. The effectiveness of this been demonstrated in many cases (e.g. Woodland Trust, 2016). Riparian fencing to promote vegetative growth is a routine practice for fisheries habitat improvement in Wales, and increasingly the climate-proofing opportunity it proves is a principal driver for project work.