

**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/4A  
SUMMARY PROOF OF EVIDENCE  
OF  
IAN RUSSELL  
FISHERY SCIENTIST FOR CEFAS**

**on behalf of**

**CENTRE FOR ENVIRONMENT FISHERIES AND AQUACULTURE SCIENCE (CEFAS)  
and  
NATURAL RESOURCES WALES**

**NOVEMBER 2018**

## **1      Introduction**

- 1.1 My name is Ian Russell. I have a B.Sc. in biological sciences (Plymouth Polytechnic) and an M.Sc. in applied hydrobiology (London University). I have been employed as a fishery scientist for over 40 years, initially with the Ministry of Agriculture, Fisheries and Food and more recently at Cefas. I am currently the senior Cefas advisor to Defra on inland fishery issues, and provide expert advice to government and other bodies on the management of migratory salmonids, eels and freshwater fish species and the fisheries dependent upon them; predation by fish-eating birds and the impacts, management and control of non-native fish species.
- 1.2 I have extensive national and international experience in the investigation and management of inland fisheries. I have been a member of the ICES Working Group on North Atlantic Salmon since 2001, chairing the Group from 2013 to 2015. I have also participated in, and chaired, many other ICES Expert Groups. Since 2012 I have also participated in the annual meetings of NASCO. At other meetings I have provided expert scientific support to the EU delegation and have performed a range of roles in ad hoc NASCO groups and various NASCO intersessional meetings.
- 1.3 Aside from these roles, I have had extensive experience of interpreting and reporting fisheries-related data. I have authored over 30 papers in refereed journals, as well as numerous Cefas contract reports and reports to ICES and other bodies. For the past 20 years, I have also had responsibility for co-ordinating the preparation and publication of the annual assessment report on the status of salmon stocks and fisheries in England and Wales.
- 1.4 My involvement in the NRW Byelaws has been as a technical assessor of the NRW Technical Case that was prepared in support of the proposed measures, following a request made by Welsh Government.

## **2      Scope of evidence**

- 2.1 In my evidence, I address the basis on which NRW have concluded that the proposed Byelaws are necessary and proportionate. This covers both:
  - 2.1.1 a review of the current international guidance for sustainable salmon stock management; and

- 2.1.2 a review of the technical case which NRW produced to support its case for the proposed Byelaws.
- 2.2 In brief, my view is that the NRW Technical Case provided a comprehensive evidence base in support of the proposed measures. The proposed byelaws ensure proportionality in balancing the interests of both net and rod fishery sectors while addressing the underlying need to better protect Welsh salmon and sea trout stocks.

### **3 Current international guidance for sustainable salmon stock management**

- 3.1 NASCO and its Parties have agreed to adopt and apply a Precautionary Approach to the conservation, management and exploitation of salmon. Their objective for the management of salmon fisheries is to promote and protect the diversity and abundance of salmon stocks, and in support of this, they have developed a number of guidelines and agreements.
- 3.2 The NASCO guidelines set out a number of elements that should be applied in all jurisdictions, namely:
  - 3.2.1 A clear and transparent decision-making process that is consistent with the Precautionary Approach;
  - 3.2.2 The routine collection, maintenance and publication of information, covering recreational, commercial, subsistence and scientific fisheries. This should include records of fishing activity; catch statistics; and estimates of the level of unreported catches and other mortalities associated with the fishery;
  - 3.2.3 The provision of appropriate powers for managers to control exploitation, including the power to close fisheries and regulate fishing effort and/or harvests through controls on the numbers of fish caught or the amount and type of fishing gear used, and enforcement powers;
  - 3.2.4 The use of Reference points, such as Conservation Limits or other measures of abundance and diversity. Conservation Limits should be established to define adequate levels of abundance for all river

stocks of salmon. Management Targets should also be established at a level above the conservation limit to assist fishery managers in ensuring that there is a high probability of stocks exceeding their Conservation Limits;

- 3.2.5 Evaluating the extent to which stock levels have met the Management Objectives annually, and forecasting stock levels for one or more years ahead to provide some predictions of future expected achievement of Management Objectives under current (or modified) management measures. As assessments of stock abundance and diversity based on catches involve considerable uncertainty, other sources of information should be used to confirm the status of stocks (e.g. juvenile surveys, counter and trap data), and the management measures introduced should take into account the uncertainties in the data used;
  - 3.2.6 Identify and address other factors influencing the stock(s);
  - 3.2.7 In managing salmon fisheries, priority should be given to conserving the productive capacity of all individual salmon river stocks. Managers should demonstrate that they are being more cautious when information is uncertain, unreliable or inadequate, and the absence of adequate scientific information should not be used as a reason for postponing or failing to take conservation and management measures. Fishing on stocks that are below Conservation Limits should not be permitted. If a decision is made to allow fishing on a stock that is below its Conservation Limit, on the basis of overriding socio-economic factors, fishing should clearly be limited to a level that will still permit stock recovery within a stated timeframe.
- 3.3 Advice from ICES to NASCO affirms that the management of all fisheries should be based upon assessments of the status of individual stocks and that fisheries on mixed-stocks, particularly in coastal waters or on the high seas, pose particular difficulties for management as they target all stocks present, whether or not they are meeting their individual conservation limits. Conservation is best achieved if fisheries target stocks that have been shown to be meeting conservation limits. Fisheries in estuaries and especially rivers are more likely to meet this requirement since these will largely only be

exploiting fish from that specific stock and management actions can be targeted more effectively.

- 3.4 While the NASCO guidelines for fisheries management fall short of legal obligations, the UK government has been committed to managing their fisheries in line with international best practice and a Ministerial Direction was issued in 1998 to the Environment Agency requiring them to establish Conservation Limits (as defined by NASCO) to all their principal river stocks, to assess compliance with the Conservation Limits annually and take management action as appropriate. This Direction applies to both England and Wales.
- 3.5 NRW's proposed Byelaws are entirely consistent with the NASCO guidelines and with a precautionary approach. They respond to the widespread poor status of stocks in Wales, have been developed in accordance with the current national decision structure and are aimed at conserving the resource, which is the overriding management requirement.

#### **4 On what basis are the Byelaws Proposed? Comments on the Technical Case**

- 4.1 I was asked by Welsh Government on 12 June 2017, to review the NRW Technical Case<sup>1</sup> being prepared in support of the proposed Byelaws. I reviewed the draft documents between 23 June and 5 July, and sent my review to WG, copied to NRW, on 6 July 2017<sup>2</sup>.
- 4.2 Low salmon stock abundance has been evidenced across much of the North Atlantic in recent years, particularly for more southerly countries such as the UK. As a result, exploitation has been restricted in many jurisdictions. For example, extensive new controls on exploitation have been introduced in Scotland and Ireland in recent years to protect declining stocks. These measures have included various restrictions, including mandatory catch-and-release, and, in Ireland, the closure of many rivers to all forms of fishing. NRW's proposed measures fit within this context of action being taken in many jurisdictions. However, NRW have sought to recognise socio-economic

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<sup>1</sup> APP/4.

<sup>2</sup> This is appended to my main proof of evidence as NRW/4(B).

considerations and are seeking to retain fishing opportunities where possible, for example through the proposed catch-and-release provisions.

- 4.3 The decline in the status of salmon stocks in Wales (and England) is well documented and the majority of stocks remain in a depleted state. There was a marked downturn in stock status in 2014 and little appears to have changed since this time, with the vast majority of rivers in Wales currently categorised as being ‘at risk’ or ‘probably at risk’ - i.e. having a less than 50% probability of meeting conservation limits on a regular basis. In addition, juvenile surveys in freshwater indicate a downward trend in salmon fry abundance over the last 15 years in the majority of catchments for which suitable data are available.
- 4.4 Further, particular concerns have been raised about the very poor salmon fry levels observed in rivers across Wales (and England) in 2016. This appears to have been caused by a combination of abnormally high winter temperatures and, in some cases, elevated flows, alongside relatively low numbers of spawning fish. This is likely to result in reduced smolt output and lower adult returns in coming years.
- 4.5 The status of sea trout in Wales appears to be a little better than salmon, but also gives cause for concern. Both the primary method for assessing the status of sea trout stocks, and the new approach developed and applied by NRW (and explained by Mr Davidson<sup>3</sup>) indicate that large numbers of rivers in Wales are ‘at risk’ or ‘probably at risk’. Under the primary method around one third of the principal sea trout rivers in Wales have been assessed as either ‘at risk’ or ‘probably at risk’. Under the new approach, closer to two thirds of Welsh sea trout stocks currently fall into the ‘at risk’ and ‘probably at risk’ categories.
- 4.6 Juvenile surveys for trout are more positive than those for salmon, with most catchments having relatively stable abundances or indicating positive trends over the last 15 years. However, trout fry densities in 2016 were also markedly below the recent 5-year averages in most catchments, indicating that they were also impacted by conditions in the winter of 2015.

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<sup>3</sup> Paragraphs 5.9 to 5.17 of NRW/2.

- 4.7 The technical case thus makes a compelling case for further urgent conservation action to help arrest the decline in the status of salmon stocks, and to a slightly lesser extent sea trout, and to help restore stocks to healthier and more sustainable levels.
- 4.8 NRW's technical case acknowledges that its proposed measures will result in relatively modest increases in spawner numbers, although accumulated benefits would be expected over time. Nonetheless, it is entirely justifiable to aim to maximise spawner numbers in the short term and, while it is clearly important to continue to address the many other factors affecting stocks (e.g. water quality, habitat), it needs to be recognised that such improvements are only likely to be achieved over the longer term. As such, it clearly makes sense to implement appropriate fishery control measures in the short term to increase the numbers of fish surviving to spawn and to facilitate recovery.
- 4.9 Following my review of the NRW Technical Case, I concluded that it provides a comprehensive evidence base in support of these proposed measures, and that these appear proportionate and reasonable. The measures have also clearly been designed to ensure proportionality in balancing the interests of both net and rod fishery sectors while addressing the underlying need to better protect Welsh salmon and sea trout stocks. I am therefore happy to endorse them. I further consider that a solution to the urgent and severe problem of salmon and trout stock depletion can only be provided by means of a raft of measures to be deployed simultaneously and in combination and that these measures must include the proposed Byelaws.

## 5 Summary and conclusions

- 5.1 I am satisfied that the NRW Technical Case provides a comprehensive review of the current status of salmon and sea trout stocks in Wales and represents a robust evidence base in support of the proposed measures. I believe the proposed Byelaws have been designed to ensure proportionality in balancing the interests of both net and rod fishery sectors while addressing the underlying need to better protect Welsh salmon and sea trout stocks.