



11th April 2018

REDFA Objections to the proposed National salmon Consultation Byelaw measures (Mandatory C & R)

REDFA is the River Eden Fisheries Consultative representing 20 Member Clubs, Syndicates & Riparian Owners with migratory interests on the middle to lower Eden extending from the river Eamont confluence at Waters Meet to its estuarial limits at Rockcliffe.

Each of these rod fisheries provide monthly and annual data of rod catch and C & R rates as an independent rod fisheries comparative catch total for the River as well observing as C & R Conservation codes and the Salmon Carcass tagging scheme. Of these, 11 fisheries actively manage the river in the REDFA coordinated Area Predation (avian) Management scheme and additionally bailiff their waters and monitor the River for water quality incidents.

REDFA objects to the proposed national byelaw (mandatory C & R) and has today made a request to the Defra Minister that should the EA recommend to the Minister that Mandatory C & R measures are applied to "At Risk" rivers, an Inquiry is held - Schedule 26 of the Water Resources Act 1991

It should be noted that the River Eden and Border Esk are both classified as "Probably at Risk" Rivers in 2021, yet the only principal salmon monitored Rivers "excluded" from incorporation in the proposals. There appears to be a pre determined assumption that the NLO & byelaw will override and rule in mandatory C & R on the strength of NE assessment that the River Eden has failed to meet its SAC requirement of exceeding CL in 4 out of 5 years.

REDFA maintain that the assessments made by NE and EA in determining its conservation case proposals should consider all material considerations to impacts arising from the introduction of mandatory C & R. It is clear this is not the case.

The reasons for objecting to the National proposals are as follows :-

- REDFA together with four other national fisheries representatives in the Anglers Advisory Group met with the EA and Angling Trust over 18 months. We were tasked with developing and consulting on preferred rod measures to minimise rod exploitation as part of the 5PP objectives. Both the AT and AAG recommended Voluntary proposals be adopted and publically voiced their support for these. The decision by the EA to opt for Option 3 in the Consultation against these recommendations and the majority of Consultation respondents has disaffected many anglers and importantly fisheries organisations that manage catchment coordination of fisheries catch returns, predation control, bailiffing, red counts, pollution monitoring and habitat improvements etc.
- REDFA and its NW regional affiliates are challenging the EA over assurance and validity of the EA Compliance Assessment - River classification methodology that frames the mandatory measures and voluntary C & R targets. NWATFCC (North West Angling Trust Fisheries Consultative Council) commissioned Independent Statisticians in March 2018 to evaluate the principles and application of the Regression trend line forecasting and five year forward predictions of stock in determining a Rivers "Probability of meeting its management Objective". The evaluation brief asked that alternate models are considered with their benefits. The report findings and conclusions are of such concern that NWATFCC through the Angling Trust has written to the Defra minister on the 9th April 2018 requesting:

Angling Trust letter (**attached**) and Evaluation Reports (**attached**)

1. **Suspension of the 2018 proposed mandatory measures**
2. **Agreement on interim measures to be introduced to allow a full review of stock reporting and river classifications to support measures and C & R targets in a harmonised system across England & Wales**
3. **A recommended transitional period of 3 years**

REDFA & NWATFCC have submitted alternate models for consideration that provide improved accuracy, consistency and interpretation to raise confidence in our systems (**attached**)

REDFA maintain the application of the Regression model has flaws and weaknesses that lead to major concerns over system consistency, accuracy and reliability. Further evidence of this is seen in the EA's performance of predictive to actual stock status in the last five years. Nationally this performance is 25% and questions arise as to how an At Risk designation which requires 95% certainty of a probability of meeting MO can be applied where such poor predictive performance is evident (**see attached NWATFCC report on EA stock status forecasting accuracy**).

Noticeably a number of NW Rivers in 2016 that have excellent 10 year CL attainment and meet Management Objective in that timeframe have been assigned "At Risk" status in both current year (2016) and five year forward (2021) Compliance Assessments.

With hindsight it is apparent that the Regression model did not undergo sufficient scrutiny during its proposed launch and later adaptation's in 2012 to incorporate four banded "Risk status" probability confidence limits and the "on average" tagged to the compliance assessment procedure definition. REDFA question whether REFRAC and rod fisheries were fully consulted on these changes ?

Since that time EA forecasting accuracy has fallen in England from:-

2013 - 50% correct, to 2014 - 36%, 2015 - 24%, 2016 - 21%

In the North West in 2015 all 14 Rivers were forecasted incorrectly and in 2016 only 2 out of 14 were correct.

Ivor Llwyn refers specifically to this in his paper "Possible Changes to Future CL and Assessments in England & Wales" following the 2016 Telford Assessments workshop.

Heidi Stones letter from the EA of the 9th April to REDFA & NWATFCC does not provide assurance that the system is assured and routinely validated.

We are now in a position where we have a system that is discredited, cannot be explained statistically and produces five year forward projections of stock forecast that for rivers with moderate to large cyclical stock variances, place river stock forecasts well outside the normal range of spawning stock populations. The result is that we have Assessments that are out of step with actual river cycles and providing low forecasting accuracy.

The evidence of this being the range of EA predictive forecasts to NW Rivers as they reached or neared the bottom of 10 year declining rod catches. The EA predictions for 2014 & 15 being that many important of Rivers would have extinct salmon populations by 2019 & 2020 (Eden, Lune, Ribble).

The EA - Summary of initial consultation responses page 50 & 51 ref 3.15 explaining "the relationship between the forecast stock performance of salmon and actual performance" reads :-

We are not fundamentally trying to predict what the salmon stock will be in 5 years-time using this technique. If we wanted to do that, we would do it very differently from this stock assessment technique, incorporating direct measures of environmental production, perhaps as; eggs laid, fry/parr productivity, smolt output, sea survival etc., and incorporating some sort of measures or correlates of

how those features will change. What we are doing, is identifying the likelihood of the stock failing to meet the management objective of meeting or exceeding CL in at least four years out of five.

REDFA understand that it is the probability of meeting MO that is being "predicted" and not predicted five year forward forecasts of stock, BUT in using model applications that use a regressed (not actual) trend of historic 10 year CL attainment and bolting on an assumed five year linear projection of the same trend using statistically incorrect mathematical principles, the EA is making a predictive modeled stock forecast in arriving at "probability of meeting MO"

The EA, NRW and Cefas must provide procedures that are statistically correct, meet the MO or refined MO definition, are easily interpreted, do not need to be interrogated because there is confidence in the model, but also do have a good track record of validated performance.

- That variables applied in annual River egg deposition estimates use assumptions and data sets that are incomplete and require review. Equally, recommendations made over many years to incorporate rod effort & species effort apportionment and weather/river flow do need to be factored in to future declining catches that are influenced by diminished rod presence on the river. Listed below are the key variables that raise uncertainty over current egg deposition estimates. REDFA has made recommendations to the EA on these:-

- ~ Significant under reporting of EA angler reported catch – 20% + in 2015 & 16
- ~ Consistency over River multipliers of rod catch to run size
- ~ Weight scale table applications determining 1SW & MSW spawning stock components
- ~ Female proportions of component stocks and fecundity estimates
- ~ Inclusion of rod effort with salmon & sea trout apportionment, weather/river level

- That the proposals do not take into consideration the financial impact to rod fisheries & syndicates, reduced letting income to Riparian owners, lost capital asset values from reduced rod interest as mandatory measures are applied. REDFA provides a first year impact assessment based on a 30% reduction in rod memberships and a 50% reduction in visitor income to be £90,000 lost revenue for clubs etc, £25,000 lost revenue to RO from depressed rental values and £1,500,000 in reduced Capital asset values from a reduction of annual rod catch from 1,000 fish to 700 at CL - equivalent to £5,000 per salmon caught.

- Losses in fisheries revenues will cause some fisheries to close, but the greater majority may restructure and revise their fisheries protection activities - C & R codes, Carcass tagging schemes, Area (avian) predation management, bailiff patrols, pollution surveillance.

REDFA & NWATFCC conservatively estimate these protect 10 - 20% of our salmon stocks. How will the EA and NE whose responsibility it is to protect Atlantic Salmon replace these vital activities when they have paper thin resources at their disposal. Rod fisheries and anglers are now policing many reaches of our rivers and catchments because former water bailiffs and pollution enforcement staff no longer exist or have been redeployed elsewhere.

- The 5PP and its actions timetable needs to demonstrate a clear and coherent rationale to identify key areas of life cycle vulnerability and thus restore stocks.

There are no In River V Marine full life cycle examples to focus action delivery - where is the "Salmon modeller" developed by AST & IFM? Where are there any performance targets or a vision that reverses the

decline. Where is the strategy, vision and assessment of "natural" long term trends from the North Atlantic Oscillation impact on 1SW & MSW transition in many rivers i.e. how were rivers impacted in recent years in this transition in terms of CL attainment and what can we expect ahead.

Why, if we have had a long term worsening of marine survival (30-40 years) and a critical point now of EA estimates of 95% smolt losses in first year at sea are we deciding to "do some more studies in SW England" when Scotland has created a serious environmental threat to migrating smolts in its salmon farming operations - all on the north western seaboard.

Someone has to ask - why is there a Scottish salmon farming Inquiry this year ?

Salmon Farming is a manageable threat to our wild stocks and the Williamsburg Resolution of which we are a member state should be invoked and Scotland observe its undertakings and recent studies and research that require parties - Scotland to take measures to protect wild stocks. The cost should be borne by the polluter and a small gain in the marine phase will make very large improvements sought in spawning stock recovery.

Summary

REDFA has worked with our local fisheries officers to deliver sought for conservation objectives (C & R codes/meeting targets, Carcass tagging, Redd counting, independent rod catch data etc) and is an important player in the Eden Fisheries Plan.

We can do more to bring all rivers and minority interests into the collective vision that safeguards future stocks and also provides reliable angler and comparative independent fisheries data. But the EA and rod fisheries need to work cooperatively to achieve this end.

Introducing proposals for Mandatory measures carries high risk and is not supported by REDFA

We ask that careful consideration is given to the real and full impacts arising from the proposed mandatory measures and that all options are reviewed.

The draft NWATFCC proposals for revision of the River Classification Compliance Assessment system framing mandatory byelaws and voluntary C & R targets and the transitional arrangements provide space and time for parties to frame a constructive partnership approach that will conserve and benefit fish stocks, fisheries and communities for the long term.

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