

RURAL ECONOMY AND CONNECTIVITY COMMITTEE

SALMON FARMING IN SCOTLAND

SUBMISSION FROM NORTH ANGLING TRUST FISHERIES CONSULTATIVE COUNCIL (NWATFCC)

NWATFCC represents the west coast game fisheries of Cumbria & Lancs, comprising 14 nationally monitored salmon rivers contributing 30% of the total English rod catch.

Eight of the 14 NW rivers face the prospect of 10 year mandatory C & R of salmon being applied in 2018, for reason of declining and threatened stocks or SAC designations in unfavourable condition. These eight NW rivers represent 75% of England's designated "At Risk" rivers. All Welsh rivers have similar proposed statutory C & R measures being imposed in 2018.

The impact and annual losses in the first year of these proposed measures are estimated for each of the NW Rivers Eden & Lune to be approx £100,000 (combined rod membership/bookings and fisheries lettings) and a £1,500,000 reduction in capital asset values as a direct result of reduced rod takings and rod catch.

Marine survival rates are now a fifth of 1970/80's estimates, with the EA confirming 95% of smolts die in their first year at sea.

Rods & Haaf nets report high concentrations of sea lice on sea trout herling and grilse. The timeline of 30 years of declining runs point to marine losses sustained from the concentration and growth of salmon farms in the smolt migration pathways through the inshore waters of the mainland western Scottish seaboard and Inner/Outer Hebrides. Below a 1lb Eden herling – June 2016 with approx 35 sea lice on gill covers and tailfins



The Committee would like to hear your views on the following questions:

1. Do you have any general views on the current state of the farmed salmon industry in Scotland?

The salmon farming industries growth appears unchecked and without regard to the scale of environmental impact in its sensitive setting.

For the industry to be self regulating compounds the damage, not only to wild salmonids but wider species – shellfish, baitfish, sea bird colonies and mammals.

At first glance the inshore waters hide the evidence of an intensive livestock industry operating on an industrial scale. With closer inspection we are witnessing loss of species diversity and abundance that would not be permitted in a properly managed land based context.

There are clear contradictions in planning and environmental policy :

a) Aquaculture policies set out in the National Marine Plan include:

There is a continuing presumption against further marine finfish farm developments on the north and east coasts to safeguard migratory fish species.....this highlights a divergence and disregard for the fisheries of the Highlands, Argyll, Ayrshire, Solway, NW, Wales & Ireland using the Irish sea migration route. There is clearly a perceived or known risk to the premier rivers of the Scottish East coast, but not to these western fisheries ?

b) International conventions to which Scotland is a member signatory set unambiguous obligations which other countries are adopting

The Williamburg resolution states..... *that where significant adverse impacts on wild salmon stocks are identified, the Parties should initiate corrective measures without delay and that these should be designed to achieve their purpose promptly.*

c) Evidence from extensive European research and studies conclude

The June 2016 Theme based Session of the NASCO Council on “Addressing impacts of salmon farming on wild Atlantic salmon” *The Steering Committee believes that there is now sufficient evidence of significant adverse impacts from salmon farming having occurred that all Parties/jurisdictions with salmon farms must implement further, more stringent measures to protect the wild stocks from the impacts of salmon farming if they are to meet their obligations under the NASCO Convention*
In the Steering Committee’s view, there is now an urgent need for all Parties/jurisdictions to adopt stronger measures if their international responsibilities are to be met, which it believes is not currently the case. The Steering Committee reiterates that the agreed international goals are that:

- *there is no increase in sea lice loads or lice-induced mortality of wild salmonids attributable to the farms; and*
- *100% of farmed fish are retained in all production facilities.*

The predictions made by scientists at earlier NASCO/ICES symposia about the consequences of escapes appear to have materialised despite efforts to improve containment measures.

The Steering Committee notes with great concern the confirmation by ICES of widespread introgression of farmed salmon genes into wild salmon populations in Norway, with the highest levels in salmon farming areas, and the detection of introgression in other countries.

In its advice, ICES indicates that the consequences of this introgression are likely to be depression of fitness, decreased overall productivity, erosion of genetic diversity and decreased resilience. Repeated invasions of farmed salmon in a wild population may cause the fitness of the native population to seriously decline and potentially enter an 'extinction-vortex' in extreme cases.

d) Given these scientific warnings and national government obligations it is difficult to comprehend why Environmental Impact Assessments at planning stage permit continued siting and expansion of West coast salmon farm operations.

A point taken up by other submissions to the Inquiry highlighting the need for protection zones at critical sea lochs/migratory river mouths and coastal pinch points.

A supporter of Aquaculture and wild fisheries – Jon Gibb of the Lochaber DSFB recommends a moratorium on placing any new or expanded fish farms within 30kms of the mouth of migratory salmonid rivers.

Certainly salmon farm applications would undergo much closer scrutiny in England where there are NO coastal licensed salmon farm operations.

With approx 250 salmon farm sites operating on Scotland's west coast over a north to south latitude range of approx 250 miles, the distribution of a salmon farms is approx one every mile of coastal latitude. This coastal hot spot has an industry expansion policy to take production to 210 tonnes by 2020 (163,000 in 2016). Its goal is to do this sustainably. This seems way beyond its capabilities given its present record.

Where Scotland's output has doubled since 1996, by comparison Irelands production has dropped significantly to 16,300 tonnes (2016) with licensing restrictions, in part due to impact on wild fisheries.

e) Governments ability to act independently of the Salmon farming Lobby.

In February 2017 NWATFCC proposed a motion through S&TCUK to the England Fisheries Group

that was subsequently carried as a resolution by the National NGO's calling on the Defra Fisheries Minister to speak with the Scottish government to legislate "for the cessation of Open Cage salmon farming". The response from Defra was that Fisheries policy was a devolved Scottish government matter.

NWATFCC believe this is contrary to clear international obligations in relation to migratory species and impacts to SAC Rivers that extend beyond coastal boundaries and is symptomatic of the perceived view that a blind eye can be turned to environmental damage, even on an industrial scale, in pursuit of a “bigger” economic gain, providing the damage is hidden below the sea.

f) Norwegian business relocation and expansion in West Scotland.

The five multinationals that dominate and produce 93% of the Scotland`s salmon output are owned/linked by Norwegian owners or parent companies (Marine Harvest, Scottish Sea Farms, Grieg Seafoods, Scottish Salmon Co) or in the case of Cooke Aquaculture, Canadian owned.

Norwegian salmonid fisheries have been decimated by parasitic disease, aquaculture impacts and hydro barriers. There followed a Government moratorium phasing out Open Cage operation in 2020 and controls that led to most Norwegian sites being closed containment inland locations..

West Scotland afforded an easy opportunity to export Open Cage technology into a location that was poorly regulated where sea lochs provided protected moorings, easy access, “hidden” locations and a sparse population needing employment. Norway was able to replicate and relocate its salmon farming model (low input management systems) to locations on coastal fringes where waste products could be dumped at sea with little detection.

Lax planning and environmental assessments, together with Industry Self regulation of sea lice, pharmaceutical treatments and mortality were and still are the enablers of a mushrooming industry out of control in its natural environment.

2. There have been several recent reports which suggest how the farmed salmon industry might be developed. Do you have any views on action that might be taken to help the sector grow in the future?

Scotland`s salmon farming sector has been able to grow and exploit a market demand and attracted inward investment off the back of competitive advantage from operations that require little waste management or planning restrictions..

The perception of a wild food sourced product is far removed from the reality of fish farmed husbandry and the industry may only have a little time to clean up its act or become swamped by other global producers who can provide better farm assurance. <https://addfield.com/hidden-cost-of-salmon-farming/>

Its brand image has to be improved and until it is the current practise of industry self regulation is not an option.

Closed caged systems provide that assurance in terms of contained disease, sea lice treatments and separation/managed disposal of waste.

<http://www.bbc.co.uk/news/uk-scotland-highlands-islands-41551531>

There are commercially viable units, but obviously provide little cost benefit to Scottish producers. Using these, other countries are and will obviously take up the slack and compete on equal terms with Scottish producers. Scotland's image has to withstand this and be built on something more tangible than sea pens around a beautiful coast whose operations are endangering wild salmonids. <http://www.fishfarmingexpert.com/news/land-based-system-gains-inspiration-from-agriculture/>

Into the future, Aquaculture and global salmon farming cannot be "sustainable" when the rearing/fattening food source is depleting our oceans. New naturally produced food sources or combinations of vegetable/baitfish foods to feed larger fish and salmon have to be produced to meet this demand.

Marine Scotland, the industry and Scottish government have to get this strategy right and put in place clear goals and targets to limit and phase out open cage operations and encourage new thinking.

Wrasse and lump sucker, thermolicers & hydrolicers are stop gap measures to allow the continuing exploitation of Scotland's natural resources and continued dumping of waste at sea

3. The farmed salmon industry is currently managing a range of fish health and environmental challenges. Do you have any views on how these might be addressed?

Both are associated with high density intensive farming operations in a wild environment. The scale of Open Cage operations mean neither can be minimised or managed away in their present marine locations.

Faecal waste from a medium sized salmon farm (annually 1,000 tonnes of organic waste) is estimated to be in excess of the waste discharges of a town the size of Oban. Add in medicinal treatments and you have toxic and nitrogen/phosphorus loadings and contamination across a wide area affecting seabed ecology. This may be as much as 250,000 tonnes of waste deposited annually in the western seaboard.

Sea lice infestation has reached critical levels in many farm locations in recent years and presents a major challenge to the profitability and viability of the industry. The Nov 2016 Harvest Marine, Loch Greshornish on Skye reports of 175,000 salmon (600 tonnes) killed as salmon were overheated in a thermolicer and a further 20,000 destroyed at the site in the same year after other chemical attempts to treat sea lice failed highlight the cost and measures needing to be taken.

<https://www.telegraph.co.uk/news/2016/11/18/thousands-of-fish-poached-alive-in-lice-treatment-bungle-that-co/>

The industry must move operations to land based sites where there is a controlled environment and improved monitoring which will reduce the incidence and need for costly sea lice treatments

Escapes from salmon farms would be negligible and transmission to wild salmonids of disease and parasites brought under control. Introgression and genetic dilution would be halted.

Waste matter and discharges will be contained and efforts need to be directed to making use of what may be a saleable fertilizer or mixer with other energy generation projects – anaerobic digesters etc.

Employment opportunities can be maintained and the marine environment and species mix restored.

4. Do you feel that the current national collection of data on salmon operations and fish health and related matters is adequate?

NWATFCC is not familiar with the range of national data collated, but it is apparent that there are major discrepancies in current reporting.

Example - Government data on Escapees filed by the individual licensed sites.

http://aquaculture.scotland.gov.uk/data/fish_escapes.aspx

In 2016 it was reliably reported that 311,000 salmon escaped in 5 separate incidents on Scottish Fish farms. However the Government records show only < 11,496 escapees. <http://www.bbc.co.uk/news/uk-scotland-41327433>

Of interest is the scale of reported escapees, in the period between 1998 & 2014 inclusive approx 3,500,000 salmon have been reported as escaped in 188 incidents. Representing an average of 200,000 salmon each year. What are the real number of escapees ?

Does the national reported data require all reported mortality, with causes to be filed ? <http://www.bbc.co.uk/news/uk-scotland-highlands-islands-30493457>

Evidence suggests that sea lice limits and treatments are weaker in Scotland than other European countries and that marine Scotland is unwilling to disclose sites that are breaching the 3 & 8 limits leading to public distrust in the regulator (The SAMS Report page (vi)

Does self regulated sea lice reporting meet NASCO guidelines and are we experiencing trends that that are being managed within target guidelines ? Are there proper safeguards in place to weed out producers that fail to meet standards.

Do we routinely monitor inshore smolt health? – other countries do.

Do we have individual smolt tracking studies on the West coast to identify poor performing rivers and the reasons why ?

Questions have to be asked why the three major AST tracking studies are for East Coast only ?

The scale and cost of the SARF research projects into the impacts of the industry are huge, who is benefiting from this and where does the cost lie ?

Is the industry and Marine Scotland in step with NASCO Implementation plan commitments ? Page 7 Action F3 items b), c), d), e), f), g), h), i)

http://www.nasco.int/implementation_plans_cycle2.html

5. Do you have any views on whether the regulatory regime which applies to the farmed salmon industry is sufficiently robust?

For the reasons already stated the regulatory regime is not taking full account of the evidence available in its Environmental Impact Assessment at a planning stage in relation to scale and siting of Open Cage operations.

The demise of important recreational fisheries on the west coast of Scotland, England and Wales during the expansion of the Industry and scientific evidence of damage to wild stocks in close proximity to salmon farms where sea lice infestations are out of control, speaks of a regulatory regime that is not sufficiently robust and unable to be effectively managed.

6. Do you have any comments on how the UK's departure from the European Union might impact on the farmed salmon sector?

No comment or knowledge of this.

Other Info - NW River Conservation Limit Compliance. 8 of 12 NW rivers are forecast to be placed under 10 year Mandatory C & R in 2018. Of these the Eden, Derwent & Ehen are SAC designations

Table 26. Conservation Limits (CL) and the percentage of the CL attained for the principal salmon rivers in England and Wales 2007-2016. Current compliance against the management objective and predicted compliance in 2021 are also shown.

EA Region/ NRW River	Accessible wetted area (ha)	CL eggs / 100m ²	CL eggs (x10 ⁶)	Mgmt Target eggs (x10 ⁶)	2016 egg deposition (x10 ⁶)		Predicted compliance ^[b]	
							2016	in 2021
NW								
Ribble	351	202	7.10	10.75	7.37	104	PaR	AR
Wyre	67	73	0.49	0.59	0.02	3	AR	AR
Lune	423	237	10.01	14.94	10.58	106	AR	AR
Kent	68	223	1.52	2.85	1.32	87	PaR	PaR
Leven	46	182	0.83	1.19	0.52	62	PaR	PaR
Crake	16	194	0.32	0.44	0.04	13	AR	AR
Duddon (& Lickle)	26	121	0.31	0.76	1.04	336	PNaR	PNaR
Esk	20	181	0.37	0.85	0.67	180	PaR	PaR
Irt	35	198	0.69	1.04	0.42	60	AR	PaR
Ehen	41	230	0.94	1.97	1.08	116	PaR	PaR
Calder	13	261	0.33	0.52	0.05	16	AR	AR
Derwent	213	185	3.93	7.49	3.51	89	AR	AR
Eden	688	200	13.75	17.37	15.54	113	PaR	PaR
Esk-Border [d]	306	255	7.79	11.06	6.41	82	PaR	PaR

Key to compliance assessments: **NaR** Not at risk **PNaR** Probably not at risk **PaR** Probably at risk **AR** At risk

North West Angling Trust Fisheries Consultative Council
April 2018



Rt Hon George Eustice MP
Minister of State for Agriculture, Fisheries and Food,
Nobel House
17 Smith Square
London SW1P 3JR

February 21st 2017

Dear Minister,

As you know, the England Fisheries Group (EFG) is supporting the Environment Agency (EA)'s 5-Point Salmon Restoration Approach, an initiative designed to reverse the current trend in the worryingly low number of adult Atlantic salmon returning to English rivers. This is in light of predictions that very few principal salmon rivers will achieve conservation targets for the species by 2018.

One issue not presently covered by the 5-Point Approach concerns open cage salmon farming. While England does not have any marine salmon farming sites at present, there is a strong suspicion amongst North West fishery managers and anglers that salmon smolts emanating from their rivers are being impacted by having to migrate through areas of the Scottish West Coast supporting marine open cage salmon farms. Research has shown that sea lice, which proliferate in unnaturally large numbers within open cage systems, can impact wild Atlantic salmon with as much as a 39% mortality rate, which, when added to already declining numbers of returning adult salmon from their marine phase, could be highly significant in the ability of individual river stocks to achieve conservation targets.

The siting of open cage salmon farming operations off the West Coast of Scotland is a major and contributory cause to the recent decline of wild migratory salmonid stocks and has already adversely affected important recreational rod fisheries and their associated local economies in the rivers and lochs of West Scotland. Because of the potential for salmon migrating from North West English rivers to also be impacted by these farms, we believe that, under the Precautionary Principle for salmon management, signed up to by the UK through the EU delegation at NASCO, the Scottish Government has an international obligation to ensure protection of these stocks.

Therefore, in light of the parlous state of North West English salmon stocks, and the Scottish Aquaculture Industry Group`s proposed expansion plans for the doubling of farmed salmon output by 2030, we believe the Scottish Government is required to make a Strategic Environmental Assessment of its likely impact on wild salmon from English as well as Scottish rivers.

We therefore ask Defra to seek an assurance from the Scottish Government over an agreed timetable for the following:

- a Strategic Environmental Assessment of the likely impact of Scottish open cage salmon farms on wild salmon from English rivers
- an immediate Scottish moratorium on all future planning consents for open cage salmon farming applications in inshore, tidal and freshwater locations until we better understand migration routes and potential impacts
- agreement and implementation of a phased timetable for conversion of existing open cage salmon farms to more technically advanced units that create a biological barrier between farmed and wild fish – either closed containment units or those so far removed from migration and feeding areas as to be of no danger to wild salmon or sea trout

We would also encourage Defra to liaise with the Scottish Government over supporting the efforts of NASCO`s International Atlantic Salmon Research Board (IASRB) to research migration routes through its SALSEA-Track programme. The sooner we know the migration routes taken by smolts from English rivers, the better we will be equipped to make management decisions which might increase their rates of sea survival.

Your sincerely,

Paul Knight
Chief Executive



Department
for Environment
Food & Rural Affairs

From George Eustice MP
Minister of State for Agriculture, Fisheries and Food

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Mr Paul Knight FIFM CEnv
Chief Executive
Salmon & Trout Conservation UK
paul@salmon-trout.org

Our ref: PO423049/KM

29th March 2017

Dear Paul

Thank you for your letter of 21 February about the potential threat posed by salmon farming.

I appreciate your concerns about the status of salmon stocks in England. I am fully supportive of the work conducted through the Environment Agency's Five Point Approach, to restore stock salmon stocks in England. The planned outputs from the work package that focuses on marine mortality, include a review of the latest scientific information on the various stressors that may impact on English salmon stocks in near-shore and coastal areas. This will incorporate the potential impact of salmon farming.

There has been extensive research on the interactions between salmon farms and wild stocks, which includes evidence of the effect that sea lice can have on wild fish. Studies have indicated that the risk of infection among wild salmon populations can be elevated in areas that support salmon farms, although louse management activities can reduce the prevalence and intensity of infection on wild fish. While researchers acknowledge some uncertainty about the extent of the zones of elevated risk of infection, such as due to changes in local hydrological processes, these are typically relatively localised. Risks to wild stocks are generally expected to be higher for those that are in closest proximity to the highest biomasses of farmed fish.

Our knowledge of salmon smolt migration routes from English rivers is limited. However, available evidence suggests that the stocks move offshore rapidly, picking up the shelf edge current to aid their migration northwards into the Norwegian Sea and feeding areas in the North Atlantic. It is perhaps unlikely that salmon originating from rivers in North West England will come into close proximity with Scottish fish farms, which are located in lochs and close to shore, although it is recognised that some uncertainty remains about the specific migration pathways taken. The review completed by the International Council for the Exploration of the Sea (ICES) last year, in providing advice to the North Atlantic Salmon Conservation Organisation (NASCO) on the sea lice issue, recognised that there was a relative lack of information on possible interactions in areas more remote from salmon farms. This advice is available at:

[http://www.ices.dk/sites/pub/Publication%20Reports/Advice/2016/Special Requests/NASCO AquacultureEffectsAdvice.pdf](http://www.ices.dk/sites/pub/Publication%20Reports/Advice/2016/Special%20Requests/NASCO%20AquacultureEffectsAdvice.pdf).

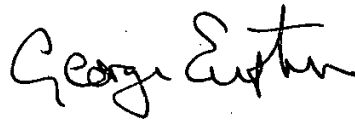
The Scottish Government is also working with Scotland's salmon farming industry and representatives of the wild salmon sector on a strategic programme of further research that includes a study to explore any impacts of sea lice from fish farming in Scotland.

I agree that we need to better understand salmon migration routes at sea. Smolt tracking investigations are planned in England and elsewhere. These will be coordinated by NASCO. Additional tracking investigations are also being conducted in Scotland, which should also help to further our understanding of salmon movements in coastal areas. Defra will continue to liaise with Scottish colleagues on this issue.

I understand that the Scottish Government has no current plans for a moratorium on fish farm developments or to conduct a Strategic Environment Assessment on impacts of aquaculture on wild salmon from English rivers. It has a framework in place to ensure regulatory processes are responsive, accessible and proportionate in a way that can enable measured development while protecting the environment on which the aquaculture also depends, and supporting communities. This is through both Scotland's National Marine Plan (NMP), which provides the framework for managing increasing demands on the marine environment and encourages economic development of industries while incorporating further environmental protection into decision-making; and the local authority authorisation process for new fish farm developments, including complying with stringent Environmental Impact Assessment requirements.

In addition, and in parallel with the annual assessment of conservation status of wild salmon across Scotland, the Scottish Government is introducing a salmon conservation plan to provide national understanding and evidence of conservation factors.

I hope that the above has reassured you, and those you represent, that the UK Government and the Devolved Administration in Scotland are taking the issue of wild salmon health seriously and are working to improve their environment.

A handwritten signature in black ink, reading "George Eustice". The signature is written in a cursive, flowing style.

GEORGE EUSTICE MP