



Making Salmon Conservation a National Priority

**A roundtable discussion in the Scottish Parliament, sponsored by
Michelle Ballantyne MSP**

7 January 2020

Context

The roundtable discussion was held to discuss the collective efforts required to conserve and improve the situation for Scotland's iconic Atlantic salmon.

Salmon and sea trout catches in 2018 were the lowest since records began. Environmental change, and a range of human impacts across the Northern Hemisphere are placing salmon at risk across their natural range. Figures for 2018, taken together with those of recent years, confirm this iconic species is now approaching crisis point. The purpose of this multi-stakeholder event was to discuss efforts to save our salmon, and to explore the collective efforts required to make a meaningful difference.

This event was sponsored by Michelle Ballantyne MSP, Scottish Environment LINK species Champion for the Atlantic salmon and was jointly hosted by Fisheries Management Scotland and Scottish Land & Estates.

Introduction

Michelle Ballantyne MSP welcomed all participants to the roundtable, acknowledging the excellent attendance of MSPs. Ms Ballantyne highlighted the threats wild salmon face, commenting on the crisis point salmon stocks are now reaching. She hoped the round table event would move us a step forward in developing solutions to the threats facing Scotland's most iconic fish and made the point that it is now more crucial than ever that politicians listen to the experts and have a constructive conversation about what can be done to protect and replenish stocks.

Existing work being undertaken to conserve salmon and improve riparian habitat was recognised but the point was made that much work is still needed. By raising awareness of the scale of the challenge, and by bringing together organisations and stakeholders from across the country for this round table event, Ms Ballantyne believed there was a unique opportunity to work together to find practical solutions.

Roseanna Cunningham, Cabinet Secretary for Environment, Climate Change and Land Reform gave an opening address, highlighting that 2020 is the Year of Coasts and Waters and emphasising the economic, social, environmental and cultural importance of Atlantic salmon. The Scottish Government very much welcomes the collaborative approach been taken to conserve wild salmon and reinforced its keenness to continue work with all key partners to safeguard the future of this iconic species. Ms Cunningham welcomed that NASCO was to hold its annual meeting in Edinburgh this year.

She was pleased to announce a Scottish Government funding contribution of £750,000 for an innovative project between the Scottish Government, Atlantic Salmon Trust and Fisheries Management Scotland to work in partnership to track smolt migration on the west coast of Scotland and thereby seek to improve our understanding of this important fish.

Reflecting on representing Scotland at the COP25 UN Climate Summit last month, she said she raised the importance of us all working together to tackle the global climate emergency, as well as the importance of tree planting- and was mindful about the relevance of this in protecting wild salmon. As well as noting the [Marine Scotland Science information leaflet](#) (published last October) illustrating river temperatures in Scotland during the hottest and driest June-July period on record (2018).

Ms Cunningham went on to highlight concerns regarding the decline in the numbers of wild salmon returning to Scottish rivers and reinforced Scottish Governments commitment to the issue, emphasising the recent Programme for Government commitment to develop a Wild Salmon Strategy by September 2020.

Session 1 – The state of salmon

Dr Alan Wells, Chief Executive of Fisheries Management Scotland gave a presentation entitled [“Making Salmon Conservation a National Priority”](#). Alan gave a brief overview of the work of Fisheries Management Scotland and outlined the structure of wild fisheries management in Scotland, and the breadth of work undertaken by District Salmon Fishery Boards, the River Tweed Commission and Rivers and Fisheries Trusts.

Declines in salmon abundance were discussed – salmon catches in Scotland have reached the lowest levels ever recorded and official catch figures for recent years, confirm this iconic species is now approaching crisis point. Similar trends can be seen across the North Atlantic. The threats to salmon survival were discussed, noting that these are complex and multifactorial, with no one single reason for the decline. How few of these pressures are under the direct control of fisheries managers was highlighted, emphasising the importance of a collective effort to address the problems. The question was posed – with marine survival down and pre-fisheries abundance down – what can be done to address impacts and where should we focus efforts?

In addition to the conservation value of the species, the economic and cultural value of wild fisheries was discussed. A study in 2014 concluded that wild fisheries contributed £79.9m to the rural economy and created 4,300 full time equivalent jobs – noting that declining rod catches can have and have had a significant impact on our fragile rural communities, reducing the ability of managers to raise money to support management and restoration activities.

In his final slide Alan referred to the following quote given by Nicola Sturgeon at the 2018 Scottish Forum on Natural Capital *“We are at an important moment. When countries now understand that protecting the environment is not something that is done at the expense of jobs and the economy but is essential to securing jobs and economy for the future.”*

The next speaker was **Dr Emma Hatfield**, Secretary of the North Atlantic salmon Conservation Organization, her presentation was entitled [“The State of North Atlantic Salmon”](#). This was an overview on what is happening internationally, with a focus on NASCO’s ‘State of North Atlantic Salmon’ report published in December 2019. The report shows declines in the numbers estimated to be at sea across the North Atlantic – between 1983-1990 salmon numbers fell from around 7 million to 5 million fish and whilst the rate of decline has slowed in recent years, in 2016 there were around 3.38 million wild Atlantic salmon.

It was noted that the problems regarding salmon survival are widespread and arise both in the rivers and at sea. In relation to marine survival it was noted that it now takes about double the number of eggs to produce a single salmon that will return to spawn than it did prior to 1990.

It was emphasised that the threats and challenges to wild salmon vary widely across jurisdictions. In 1998, NASCO and its Parties agreed to adopt and apply a Precautionary Approach to the conservation, management and exploitation of salmon in order to protect the resource and preserve the environments in which they live. To this end, NASCO Parties have adopted a number of resolutions, agreements and guidelines across three key theme areas: management of salmon fisheries; protection and restoration of Atlantic salmon habitat and management of aquaculture, introductions and transfers and transgenics. Uniquely and importantly, NASCO has 42 accredited NGOs, who attend meetings, sit on groups and are able to scrutinise and hold the Parties to account.

Finally, the Implementation Plan process was highlighted, through which Parties set out measures to be taken over five-year periods in relation to the three themes above. The implementation plans and annual progress reviews are available on the NASCO website.

Mark Bilsby, CEO of the Atlantic Salmon Trust (AST) spoke on [“Putting Wild Salmon First”](#). He welcomed the recognition that salmon are in crisis and highlighted the need for people to urgently and collectively prioritise issues where we can have an impact – acting with ambition and intensity.

He highlighted the need for us all to significantly enhance the approach being taken to tackle the decline in Atlantic salmon, outlining the need to focus not on what we can do, but on what we need to do to recover the species - the *status quo* is no longer an option. Mark reinforced the point made by others that it is only by working together and adapting our management that we can give salmon the best chance of having a future.

The Missing Salmon Alliance Likely Suspects Framework was discussed. This is a concept which was developed to provide coherent guidance on how future research on salmon survival can be targeted and prioritised. The Framework was used with success to help reverse the decline of cod stocks in the Irish Sea. Using information obtained from the Missing Salmon Alliance Likely Suspects Framework we need now have an opportunity to develop deliverable and effective management options – turning ideas from the framework into a reality.

Discussion

An open discussion took place on the presentations from session 1. The following points were discussed:

- What is the evidence for the effects of climate change on salmon declines? The effects of climate change are of grave concern for salmon and it appears to be the case that feeding grounds are moving further north. We still do not fully understand everything that is happening at sea and the true effects of climate change on salmon stocks is not yet completely understood.
- Is the decline in salmon stocks in our rivers the same across Scotland? There is a general sense that rivers in the far north of Scotland are doing slightly better than those in the south, with declines less pronounced. However, it was noted this is may be related to a number of factors (land use, size of salmon population, climate etc).
- Are Conservation regulations using the best available science to make recommendations on the number of fish allowed to be killed? Are we playing catch up with this reliance on science? The best available science is being used - trends show a continual decrease of salmon coming back to Scotland’s coast. There is no longer a buffer and any reduction in fish arriving from the sea contributes to a reduced number of fish spawning.
- The Scottish Salmon Producers’ Organisation (SSPO) emphasised input from the private sector has a key part to play in addressing salmon declines and highlighted its desire to work more collaboratively with organisations such as NASCO. This approach was welcomed, and there followed a discussion about the most effective geographical scale for this engagement to take place. It was thought that input from SSPO might be better placed at a national level, perhaps through the likely suspects framework.
- Are there areas where collaborative work can be better targeted, perhaps in relation to the catchment-based approach? It was noted that significant levels of collaboration are already taking place but there are areas where collaboration and underpinning funding mechanisms can be increased and/or improved - riparian tree planting was used as an example where incentives/grant schemes could be improved to incentivise land managers. The crucial importance of planting the right tree in the right place for the right purpose, particularly in the riparian zone was noted, in the light of on-going water quality issues relating to commercial forestry. There also needs to be better

resourcing to protect habitats and species and it was noted that there is potential for grant schemes to better reflect Scotland's priorities for environmental improvement and restoration.

The following key messages arose from the discussion:

The current funding mechanism for fisheries management is essentially based on catch. This has the consequence that areas with the biggest problems have the least resource to take action. This situation, which appears to be unique to Scotland, was referred to as flawed and illogical.

The threats to salmon survival are complex and multifactorial. Since few of these pressures are under the direct control of fisheries managers a collective effort to address the problems is required and this must be reflected in the forthcoming salmon strategy.

The declines in salmon are such that salmon conservation must become a national priority. The forthcoming salmon strategy is an opportunity to set out the role that all regulatory authorities must play to protect and enhance our iconic salmon – the *status quo* is no longer an option.

Session Two – Pressures Facing Salmon

Dr Alan Wells of Fisheries Management Scotland provided a presentation on the [“Management of interactions between aquaculture and wild salmonids”](#), discussing the potential hazards aquaculture may pose to wild fish (sea lice, escapes and disease transfer). A key principle highlighted was to ensure the right development, using the right technology, is in the right location.

He highlighted the NASCO International Goals for aquaculture:

- 100% of farms to have effective sea lice management such that there is no increase in sea lice loads, or lice-induced mortality of wild salmonids attributable to sea lice; and
- 100% farmed fish to be retained in all production facilities

The Scottish Government is required to report to NASCO management measures to ensure consistency with these goals and to set out the timescale in which these goals will be achieved.

Wild fishery managers are working to develop a world leading regulatory and planning system that protects wild migratory fish – a system that proactively seeks to address any local negative impacts. Concerns about the current regulatory regime for aquaculture in Scotland, recognised by the two Scottish Parliamentary inquiries, were discussed. It was emphasised that there is now a widespread view that the *status quo* was not an option and that the current consenting and regulatory framework is spread across several regulatory bodies making it confusing and poorly coordinated.

The importance of adaptive management, particularly in relation to sea lice and fish farm escapees was discussed, and the work being taken forward in Scotland to develop techniques to sample wild fish and assess local impacts was highlighted. Cooperation between wild fisheries and the aquaculture industry, underpinned by an appropriate regulatory regime, is vital to ensure that a consistent approach to this principle is adopted in Scotland.

Dr Lorraine Hawkins, Director for the River Dee Trust and **Dr David Summers** Director for Tay District Salmon Fisheries Board spoke on [“Water Quality, Water Quantity and Fish Passage”](#). It was noted that riparian land is key to keeping rivers healthy. As well as the importance of riparian corridors, the role that

healthy, well-functioning upland habitats play in protecting water quality and regulating water flow was also highlighted.

To achieve improved habitat and water quality the need for continued land manager/landowner engagement was outlined alongside recognising and incentivising positive land management activities. The development of attractive funding packages that deliver multiple public benefits along with an improved forestry grant scheme which better incentivises land managers to undertake riparian planting were also considered a key requirement. Where bad land management practices are taking place, there is a need to better educate and enforce current legislation.

The impact of water abstraction (relating to hydro, water supply, irrigation and fish farms) and fish passage (both upstream passage of adults and downstream passage of smolts and kelts) were discussed with a specific focus on the impacts of these activities on Atlantic salmon. It was noted that we are now in a situation where pressures, that salmon might have been able to withstand in the past, may become unsustainable due to the declines in the number of fish returning to Scottish waters.

[*“Predation of Atlantic Salmon: Suggestions for Future Management”*](#) was the title of the next talk by **Roger Knight**, Director of Spey Fisheries Board. The impact of predation primarily by cormorants, mergansers, goosanders and seals was discussed, and the importance of finding a balance between the conservation needs of the salmon and other species was highlighted.

On some Scottish rivers, some of the predators of Atlantic salmon are protected species, which can make protection of wild fish difficult. Despite this, there are things which can be done to actively reduce predation pressure – including the use of scare tactics (under licence) to move birds away from rivers. The licensing system is currently under review and the Scottish Government was urged to encourage SNH to complete this review in a timely manner.

Work is ongoing to better understand predation impacts and support information needs of the licensing process; however, this work requires significant resource and investment and many District Salmon Fishery Boards simply do not have the resource to undertake this work. This was highlighted as an area where the Scottish Government can help - *de minimis* licences would allow District Salmon Fisheries Boards who lack the resources to undertake counts, to access licenses scaring - an important management tool. The potential for inferring count data from adjacent rivers was raised in relation to this.

Roger spoke about the work of the Fisheries Management Scotland Predation Committee which consists of DSFBs and Fisheries Trusts, Marine Scotland (policy), Marine Scotland Science, SNH Licensing, Centre for Ecology & Hydrology, and Science and Advice for Scottish Agriculture. These organisations are working together to better understand the impact of avian and seal predation and to develop effective management outcomes.

Three ways in which the Scottish Government can assist were highlighted:

- (i) the completion of the revision of the piscivorous bird licensing process;
- (ii) *de minimis* licences for piscivorous bird control by DSFBs; and
- (iii) development of effective Acoustic Deterrent Devices to prevent seals from entering salmon rivers.

The presentation ended with the conclusion that while the decline in Atlantic salmon is multi-factorial and predation is one of those causes. There has never been a more pressing need to protect the Atlantic salmon and protection of salmon from predation is one area that we can control.

The final speaker in the session was **Dr John Armstrong** of Marine Scotland Science whose subject was [*“Summary of the Issues & Possible Solutions”*](#). John showed that estimated returns of salmon to the

Scottish coasts had followed a trend of general decline at least since the 1970s. This decline had been offset by reduction in coastal netting to stabilise trends in rod catches and numbers of spawning fish. However, now that coastal netting has ceased, we can expect any continuation of the downward trend in returns to the coast to result in diminishing numbers of spawners. The timeframe in which we must meaningfully act for salmon is short. At current rates of decline, wild Atlantic salmon would be largely lost from Scotland within the next few decades. Whilst climate change seems to be a general driver of decline there are multiple other factors affecting salmon that might be addressed to compensate for losses of salmon at sea. He also noted that we may not have identified all of the factors actually causing the decline and emphasised that conditions in fresh water can strongly influence subsequent survival at sea.

It was highlighted that sea temperatures will continue to change, and that the outcome of this change is too complicated to predict accurately. Consequent changes in the marine ecosystem may continue to act against salmon or may change to a more favourable scenario. It was noted that salmon are very adaptable and that management strategies to 'buy time' for salmon to adapt to further changes in the marine ecosystem will be an important consideration.

A general strategy which focused on protection and enhancement of numbers and quality of salmon smolts leaving Scottish Waters was highlighted, in addition to developing a better understanding of the causes of mortality and poor growth on the high seas.

The following key areas were identified:

- (i) The benefit of trees as 'living parasols' – the need to continue to apply mapping tools already developed at Marine Scotland Science to identify priority areas for tree planting, and the importance of the right trees in the right place next to rivers. Planting large numbers of such trees will require coordination and planning with appropriate incentives and supporting funding.
- (ii) Increase the baseline production of salmon smolts – need to continue to build coordinated teams of scientists, regulators and local biologists; field trials to optimise approaches and broad scale action.
- (iii) Predators, parasites and pollution can all be managed, and we need to work in partnership to address these impacts.

We need to improve riparian habitats, protecting them from the impacts of climate change and increasing the nutrient status of rivers where such action will be beneficial. We need to reduce losses from predators and parasites and increase baseline production of salmon in fresh water.

Finally, John reinforced the point made by other speakers that we have the potential to make a meaningful difference, but we need to act now.

General discussion

An open discussion took place on the presentations from session 2. The following points were discussed:

- A ghillie on the River Spey, commented that wild fishing is as vital to Scotland and the rural economy as aquaculture, however, it receives only a small percentage of attention/ funding – is this fair? The point was made that it would be useful to have figures on ghillie loss/ redundancy in order to better establish the effect declines in salmon stocks are having on our rural communities.
- Concern regarding the lack of on the ground resource was also highlighted noting that vital functions were now being undertaken by volunteers rather than paid staff due to funding cuts.

- It was highlighted that Scottish Enterprise had commissioned two reports on declines in rod catches and what this means for rural Scotland, with two reports published in November 2019 (can be found [here](#)).
- SSPO noted the importance of information sharing, as often the impacts affecting wild salmon will also have negative impacts on farmed salmon. Farm management zones often include several companies working in a shared space – it is important these companies work collaboratively.
- It was noted that generally regulation won't fix all the problems and pressures facing Atlantic salmon; however, it is important that actions to address the problems occur within an appropriate regulatory framework and that the existing regulations are adequately enforced.
- The work of the Interactions Working Group was discussed, and it was noted this working group will reach a conclusion in the near future with an aim of publishing meaningful and long-term recommendations. The constructive engagement from both SSPO and Fisheries Management Scotland was highlighted by the John Goodland, the chair of the group.
- Collaborating with land managers to improve riparian habitats was highlighted as being key, but with attractive funding packages likely to take time to come through Scottish Government policies what pro-active action can land managers be taking now to help address declines? It was suggested organisations such as Scottish Land & Estates (SLE) have a key role to play in helping rivers and fisheries trusts connect and interact with landowners to encourage collaborative projects.
- SLE agreed and extended an offer to help facilitate walk & talk type events with fisheries trusts and work with others to develop best practice land management guidance for riparian habitat. There is also the opportunity to explore the role of Wildlife Estates Scotland and looking to see if it is possible to better embed some of the best practice guidance in this initiative.
- The role of forestry grants schemes was discussed and their application for riparian tree planting. Stakeholders in the room provided an update on discussions taking place with Scottish Forestry, work is ongoing but there is a desire to make the grant scheme riparian 'friendly'.
- The point was made that there is the potential to direct future funding to what everyone round the table wants to achieve – public money for public goods. Landowners can get things done very quickly if they are incentivised to do so, and it may be useful to send a list of asks to Scottish Ministers on this subject.
- There was a discussion on water quality in Scottish rivers. Whilst SEPA emphasised that water quality has improved on a Scotland scale, a number of examples were discussed where diffuse pollution, acidification and combined sewage outfalls remain problematic. SEPA emphasised that they are continuing to work on reducing diffuse pollution and taking compliance action where appropriate.
- The extent to which monitoring of some pollutants and pharmaceuticals is occurring was discussed, particularly in the light of detection of high levels of cypermethrin in the River Deveron. Whilst it is not possible to test for the suite of pollutants in Scottish rivers SEPA highlighted that their approach focusses on index sites, coupled with assessment of invertebrate health, with further investigation where impacts are detected. There was a strong view that there should be a greater emphasis on enforcement of existing regulations, noting that engagement and discussion doesn't always work.

- The importance of engaging with the future generation on wild fisheries and aquaculture was highlighted as being key.

The following key messages arose from the discussion:

There is an urgent need for funding mechanisms to better reflect Scotland's priorities for environmental improvement and restoration. For example, it does not make sense to use public money to plant the wrong trees in the wrong place.

The salmon strategy should place an emphasis on protecting rural communities in addition to prioritising salmon conservation.

It is important that actions to address the issues impacting on salmon occur within an appropriate regulatory framework, and crucially that the existing regulations are adequately enforced.

Conclusion

Closing the meeting Michelle Ballantyne touched on the economic importance of Atlantic salmon and the importance of working together to take action to protect population numbers. She highlighted that for the next steps it was essential for everyone in the room to continue talking about salmon with others and each other and to start implementing and continue implementing projects, education in schools and help the wider world understand the importance of this species. Atlantic salmon is a keystone species and we cannot just let it disappear for future generations. She thanked everyone who had contributed to the meeting, which she had been honoured to sponsor.