



## Joint Fisheries Management Scotland – Atlantic Salmon Trust response to the proposed changes to the ASC Freshwater Trout and ASC Salmon Standard



October 2017

### Introduction

Fisheries Management Scotland was established in November 2016 and is now the representative body for Scotland's network of District Salmon Fishery Boards, the River Tweed Commission and Rivers and Fisheries Trusts. Fisheries Management Scotland was formed from the Association of Salmon Fishery Boards (ASFB) and has replaced some of the functions of Rivers and Fisheries Trusts of Scotland (RAFTS). Both ASFB and RAFTS have engaged previously with the ASC process of developing salmon and freshwater trout standards.

The Atlantic Salmon Trust was established in 1967. It is a registered charity in Scotland, England and Wales with the primary objective "To promote the conservation, protection and improvement of wild Atlantic salmon and sea trout stocks in the countries bordering the North Atlantic Ocean for the public benefit". With this aim the Trust works with partners throughout the Atlantic salmon's range, to conduct, assist in conducting and stimulate laboratory and field research; and develop and refine principles and methods for the management of salmon and sea trout stocks and fisheries.

The Atlantic Salmon Trust (AST) and Fisheries Management Scotland (FMS) jointly convened a workshop to discuss the Aquaculture Stewardship Council salmon standards and their relevance to interactions between salmon farming and wild salmon and sea trout. Attendees included representatives from District Salmon Fishery Boards and Fisheries Trusts, International Sustainability Unit, Aquaculture Stewardship Council, Marine Harvest, SSPO, Marine Scotland, Local Authority Planners, SEPA, Acoura Marine, Fidra and Sainsburys. A note of that meeting is now available<sup>1</sup>.

### General Comments

We welcome the opportunity to respond to this consultation. We would have liked to have contributed at an earlier stage in the process, but were not aware that such changes were proposed. We are therefore responding for the first time, and hope that the earlier aspects of this process are viewed with this in mind.

The Association of Salmon Fishery Boards and Rivers and Fisheries Trusts of Scotland strongly supported the inclusion of Indicator 8.24 in version 1.0 of the ASC Salmon Standard, on the basis that freshwater escapes in water bodies with native salmonids carry unacceptable environmental risk.

The Norwegian Scientific Advisory Committee for Atlantic Salmon is appointed by the Norwegian Environment Agency to evaluate the status of salmon and the relative importance of different threat factors. We would highlight that the 2017 report of the committee<sup>2</sup> has identified escaped farmed salmon as the greatest threat to Norwegian wild salmon. The Committee makes the following points:

*"Genetic changes due to farmed salmon introgression - because escaped farmed salmon have spawned with wild salmon in the rivers - are documented in many rivers. Such genetic changes may be irreversible. Several studies indicate that wild and farmed salmon hybrids are less adapted to life in nature. Large-scale*

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<sup>1</sup> [http://fms.scot/wp-content/uploads/2017/10/170913-ASC-Workshop-Note-of-meeting\\_Final-v3.pdf](http://fms.scot/wp-content/uploads/2017/10/170913-ASC-Workshop-Note-of-meeting_Final-v3.pdf)

<sup>2</sup> English summary at:

<http://vitenskapsradet.no/Portals/vitenskapsradet/Pdf/Status%20of%20wild%20Atlantic%20salmon%20in%20Norway%202017.pdf>

*experiments in natural rivers have shown that genetic introgression from farmed salmon can result in reduced production and survival, and thus reduced adult returns to the rivers. A new study has also shown that gene flow from escaped farmed salmon alters the life history of wild salmon in Norwegian rivers. Individuals with high levels of introgression had altered age and size at maturation, and the proportion of large salmon that had been at sea for more than two years was reduced among these fish."*

With regard to the freshwater trout standard, in 2011 ASFB and RAFTS highlighted the disparity between the approach taken for salmon smolts and that taken towards trout and saw no clear rationale for the allowance of trout being reared in net pens in areas of freshwater containing native salmonids. Whilst we consider that the potential for genetic introgression is much lower for other species, we also made the following points to ASC with regard to the trout standard:

*"Many freshwater trout facilities have very poor records of fish containment. For example over a period of 15 months between 2008 and 2009 over 15,000 rainbow trout escaped from trout farms into Loch Awe and Loch Etive. These escaped fish caused a substantial nuisance to the local salmon and brown trout fisheries.*

*In addition there are serious questions regarding the impact of such large numbers of escapees on the local fisheries ecology. There is evidence to suggest that rainbow trout will predate upon young salmonids (including salmon smolts, sea trout and brown trout). More worryingly these fish represent a very real competitive threat to salmonids. Because Scottish Lochs are generally nutrient poor and hold only small populations of wild salmonids it is easy to see that even small escapes may have a large impact.*

*Whilst there is no evidence at the moment of rainbow trout populations breeding in the wild in Scotland, this has occurred in England on the Derbyshire Wye. Given the enormous potential impact of a naturalised population on the indigenous ecology of Scotland we would argue that this is a risk that is not worth taking.*

*Finally the issues of uneaten food being ingested by young sea trout and discouraging them from going to sea, as well as issues of nutrient release into relatively small enclosed water bodies, are the same for trout pens as they are for salmon smolt pens in freshwater.*

*We believe there must be a similar prohibition of the use of net pens in freshwater in the FTAD standards to that contained in the SAD standards."*

On the basis of the above, the proposal to lift the prohibition on production of smolts in areas of freshwater containing wild salmonids is of concern to many fisheries managers in Scotland. This is exacerbated by the fact that the proposed change does not appear to have been justified in relation to the previous rationale expressed in v1.0 of the salmon standard – indeed the rationale has yet to be updated in the version of the salmon standard currently open for consultation.

We would emphasise that many fisheries managers in Scotland see clear potential in ASC certification in helping to address some of the current and historic impacts of the salmon farming industry in the marine phase of production. In particular, some of the standards go much further than the current regulatory regime in Scotland, and this is viewed as a very positive development. However, there is also a perception that the use of variance requests has the potential to 'water down' these benefits and if such variation requests were routinely granted in Scotland it is clear that support for the ASC salmon standard would dissipate very quickly. Indeed, in some jurisdictions, variation requests have been granted which have resulted in some indicators simply reflecting the current regulatory regime – this would not be acceptable to the wild fisheries sector in Scotland. We consider that more open and transparent information on these variation requests is urgently required – we have had significant difficulty in accessing this information through the ASC website.

We also seek further clarity on which of the indicators (both salmon and freshwater trout) would constitute a 'minor' or 'major' non-compliance. A clear, transparent explanation of this is required for stakeholders to fully understand the standards.

We recognise that the proposed addition of section 8 to v1.1 of the Freshwater Trout standard is an attempt to mitigate some of the issues highlighted above. This is a welcome first step, but it is vital that we get more clarity on the proposals in question, and crucially, on what is expected to happen if the monitoring required under section 8 demonstrates new or ongoing impacts. On that basis, some of our members consider that any such change to the standard should be time-limited or not taken forward at all.

Given the concerns expressed above, and in particular the Norwegian assessment of threat from escaped farmed salmon, we believe that there is a strong case on placing the burden of evidence on the salmon farming industry to demonstrate the sustainability of smolt production in freshwater cages. We are therefore of the view that, should the proposed changes be taken forward, that there should be a 'sunset clause' whereby after an agreed period the standards would revert back to the original version **unless** clear evidence of no impact was demonstrated.

The comments offered on the feedback submission form should be viewed in the light of the comments above.

***Comments for inclusion on Page 2 of the feedback submission form:***

**Scope:**

We note that on page 14 of the v1.1 of the Freshwater Trout Standard defines the 'grow out' phase of trout farming as production facilities for fish weighing more than 10 grams. However, Appendix IV on page 61, which we understand is based on the Scottish Technical Standard, requires a minimum stocking weight of 15 grams to eliminate 'leakage' escapes. At our Scottish workshop on the ASC standards, Marine Harvest Scotland committed to a minimum stocking weight of 15g, and we consider that this should be clearly embedded within the standard. 'Leakage' or 'drip' escapes are a significant and ongoing issue in Scotland, most recently identified in Loch Shin. Marine Scotland Science recently screened 220 fish of unknown origin, caught during the operation of rotary screw traps. Despite there being no reported escapes from either of the two smolt farms operating on Loch Shin, between 25 and 37 percent of the fish were classified as originating from one or other of the farmed strains. Of the unassigned fish some showed evidence of being of a non-wild origin including one with a vaccination mark. The fish identified are thus likely to be an underestimation of those present of a non-wild origin.

We also consider that the risk of escapes of non-salmon species on native salmonids, either through predation or competition for resources is sufficient to mean that the 15g minimum stocking weight should be adopted for all species, at least in lochs/lakes where native salmonid populations are present.

**Criteria 2.5: Escapes from culture facilities:**

We are concerned about the lack of clarity in relation to an escape event of more than 300 fish. In the case of production of either trout or salmon in a system containing native salmonids, we do not consider that the exception under footnote 24 (100% sterile fish) should apply. Whilst we accept that this will mitigate the potential for genetic introgression, the potential for other impacts on native salmonids (through competition or predation) would still exist. Whilst we understand the basis for footnote 26, we have struggled to come up with examples of events that might lead to such an outcome. Rather than only allowing one such exceptional episode in a 10-year period we consider that the standard should only allow such a dispensation to occur once. If such circumstances were to occur on more than one occasion (and depending on the circumstances, arguably even on one occasion) we would suggest that the farm in question is located inappropriately and should be moved.

We consider, subject to our comments above, that any escape of more than 300 fish should result in an immediate loss of certification and we would like this to be stated clearly in the standard. We cannot foresee any circumstance where loss of certification should not be automatic.

**Indicator 8.1:**

We seek further clarity on the wording of indicator 8.1. It is important to understand whether the intention is to simply 'draw a line' under any previous genetic introgression arising from farmed escapes or whether the extent of any such historic introgression will be taken into account in determining whether a site should be certified. Previous work undertaken by RAFTS<sup>3</sup> to develop and apply genetic tools to support the identification of wild and aquaculture origin fish from west coast catchments in Scotland suggested that 25.1% of individuals sampled were identified as hybrids. Whilst we recognise that it may not be possible to identify whether such escapes originated from freshwater production units, we consider that this possibility must be fully considered as part of the certification process.

**Indicator 8.2:**

We seek more clarity as to the nature and purpose of this monitoring. Does this relate to introgression alone, or is it wider? Even if it relates to introgression, we consider that assessment of overall stock health will be required alongside assessing rates of introgression. We believe that any such monitoring, consistent with the salmon standard, should encompass sea trout (and therefore brown trout in freshwater, as they are the same species) and possible arctic charr. As highlighted earlier, we consider that there are a number of potential impacts which might affect native salmonids in addition to genetic introgression. These include:

- There are serious questions regarding the impact of large numbers of escapees on local fisheries ecology. There is evidence to suggest that rainbow trout will predate upon young salmonids (including salmon smolts, sea trout and brown trout).
- Escaped fish also represent a very real competitive threat to salmonids. Because Scottish Lochs are generally nutrient poor and hold only small populations of wild salmonids it is easy to see that even small escapes may have a large impact.
- Whilst there is no evidence at the moment of rainbow trout populations breeding in the wild in Scotland, this has occurred in England on the Derbyshire Wye. Given the enormous potential impact of a naturalised population on the indigenous ecology of Scotland we would argue that this is a risk that is not worth taking.
- Migrating salmon and sea trout appear to imprint on the smell conspecifics within a river system as they leave the river. One of these homing cues is known to be the pheromone from other (perhaps familial) salmon within the natal sub catchment. Holding large numbers of non-native fish, which may change during the marine phase of the native salmonids, within the freshwater environment has the potential to upset the homing instinct of these fish.
- Uneaten food being ingested by native trout can lead to large trout, or a higher proportion of large trout in a loch, which can compete with migratory fish for spawning grounds and potentially decrease smolt production rates.
- Finally, the issues of uneaten food being ingested by young sea trout and discouraging them from going to sea, as well as issues of nutrient release into relatively small enclosed water bodies, are the same for trout pens as they are for salmon smolt pens in freshwater.

As can be seen above these impacts are not unique to salmon farming, and therefore we consider that this element of the standard should be broadened to all species of trout farmed in freshwater. We recognise that some of these potential impacts can be addressed by the indicators (e.g. 3.3. and 8.7.). However, some

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<sup>3</sup> [http://www.rafts.org.uk/wp-content/uploads/2013/02/MIAP\\_Genetic\\_report\\_final.pdf](http://www.rafts.org.uk/wp-content/uploads/2013/02/MIAP_Genetic_report_final.pdf)

of these other impacts emphasise the importance of monitoring for escaped fish and large trout for both salmon smolt production and freshwater trout production. Whilst we recognise that there is uncertainty as to the extent or likelihood of such impacts, and therefore it may not be possible to specifically address these within the standards themselves, we do consider that the rationale for this indicator should make clear that the scope of any monitoring should be discussed and agreed with local wild fisheries managers. This element should also form part of the CAB audit. From a wild fish perspective, it is also vital to understand the consequences for operators and certification if such monitoring demonstrates negative impacts on wild fish. It is our view that the results of such monitoring should be reviewed on an annual basis, and that this review should involve wild fish interests in order that the results can be discussed, addressed and we can be sure that an appropriate response is undertaken where necessary. This point stands for the ASC salmon standard as well.

**Indicator 8.3:**

Whilst we welcome the inclusion of this indicator, and consider that such ongoing sampling is crucial, we urgently require clarity on what will happen if such monitoring demonstrates new introgression. In the light of the Norwegian assessment of threat from escaped farmed salmon we consider that there should be no allowance within the standard for any new introgression whatsoever. On that basis, if such introgression is detected, certification should be removed and ultimately the standard should revert to a presumption against freshwater cage production of smolts.

**Indicator 8.4:**

Whilst we understand the basis for this indicator, we also understand that this might not be practical in some lochs/lakes due to low visibility. That said, we are keen to explore alternative mechanisms for sensing or capturing uneaten pellets, and we consider that these should apply equally to freshwater cage production for all species. We would like to see the basis of this indicator expressed in a more meaningful and measurable manner. Even if it is possible to install and use cameras, the indicator should be drafted in such a way that the operator demonstrates that waste food loss is minimised through the effective use of such technology

**Indicator 8.5:**

Whilst we support the need for fallow periods, given the concerns raised above about large predatory trout, we consider that some consideration should be given to ensuring that such fallow periods do not coincide with the wild smolt run.

**Appendix IV:**

Please see our earlier comments relating to the minimum stocking weight of 15g.

We support the inclusion of the containment plan, but we consider that the Conformity Assessment Body should assess compliance with all elements of the plan, rather than the simple presence of a plan. Consideration should be given to including additional indicators in order to deliver this.

We consider that the containment plan is a useful approach and that consideration should be given to developing and adopting a similar approach in the Salmon standard.