

Comments from:
Salmon and Trout Association
Association of Salmon Fishery Boards
Rivers and Fisheries Trusts of Scotland

on:

Salmon Aquaculture Dialogue; Draft indicators for environmentally, socially and economically responsible salmon farming.

1. A Salmon Aquaculture Accreditation Scheme must include the following:

- 1.1 A strengthened industry code of practice. As a baseline standard, the COP must reflect agreements made within the NASCO Salmon Aquaculture Task Force, in conjunction with the ISFA, and to which all NASCO countries are signatories. (Section 2.3)
- 1.2 The acknowledgement of certified companies that salmon aquaculture can create significant impacts on wild fisheries, particularly from sea-lice and hybridisation between wild fish and farm escapees. There must be a signed commitment to improve operating practices towards environmental sustainability, with a built in review process. (Section 2.3)
- 1.3 An effective lice dispersal model must be developed in order to assess acceptable maximum farm/area lice levels (Section 2.7)
- 1.4 Farm accreditation should only run for one year and must be renewed annually against results of review process (Section 2.4)
- 1.5 The standards' document must be restructured, so that the list of indicators is split into those required at individual farm level, and those required at an area level, taking account of the accumulative effect of several farms in a given area (Section 2.5)
- 1.6 The industry must draw up a list of sensitive aquaculture sites and economically important catchments. Farms sited within these areas cannot be certified. (Section 2.6)
- 1.7 The indicators must include the environmental impact on sea trout (*Salmo trutta*) populations, referring to the lice dispersal model, taking into account the coastal habitat of sea trout (Sections 2.7 and 2.8)
- 1.8 Certified farms must only stock smolts produced in enclosed units, or from farms on river systems that have no significant wild salmon populations. (Section 2.9)

2. General comments

- 2.1 The Steering Committee must define 'environmental sustainability'
- 2.2 In its current form, the indicators' document threatens to standardise current flawed operating procedures, rather than tackling the deep rooted problems associated with salmon aquaculture. In

order to achieve environmentally sustainable aquaculture, the impacts of escapees, disease and parasite transfer, and water pollution through waste material, must be addressed. We believe the only way to ultimately achieve this is via enclosed aquaculture systems. However, in the short to medium term, the standards within industry codes of practice must be significantly strengthened and adhered to, otherwise any accreditation scheme is in danger of giving a completely false impression to consumers as to the sustainability of salmon farming.

- 2.3 In Scotland, the Government and industry still officially deny the impact of salmon farms on native salmonids and the surrounding environment. In order to create a level playing field, the final standards should include a declaration by individual companies, acknowledging that salmon aquaculture can create significant impacts on wild fisheries, particularly in the context of impacts by sea-lice and hybridisation between wild fish and escapees, and their commitment to improve operating practices towards environmental sustainability, within agreed timescales and with an annual review process. As a baseline standard, the accreditation scheme must reflect agreements made within the NASCO Salmon Aquaculture Task Force, in conjunction with the ISFA, and to which all NASCO countries are signatories. These objectives can be found by linking to <http://www.nasco.int/pdf/aquaculture/BMP%20Guidance.pdf> - 'Guidance on Best Management Practices to address impacts of sea lice and escaped farmed salmon on wild salmon stocks'
- 2.4 We strongly support annual certification, and believe that farms must be required to show yearly operational improvements, beyond the set standards, to continue being accredited.
- 2.5 The standards' document must be restructured, so that the list of indicators is split into those required at individual farm level, and those required at an area level. Area level standards are necessary to tackle the cumulative impacts of farms within a given management area. Therefore, in order for this certification process to assess the impact on wild salmonids, the industry must be required to invest in independent monitoring at an area level. It is therefore unlikely that an individual farm would be accredited within a farming area unless all other units are included in the relevant Area scheme.
- 2.6 The location of farms is vital in determining their impact on native salmonids. This is lost within the current indicators. It must be explicit that certain farms, such as those located close to wild salmonid migration paths, cannot be certified, because it is impossible to eliminate escapes and disease transfer within open system aquaculture. The precautionary principle must be enforced in two ways:
 - ❖ The industry, in conjunction with wild fish interests (including Rivers and Fisheries Trusts where appropriate), must draw up a list of sensitive aquaculture sites where farms cannot be certified, both now or in the future, because of their potential impact on wild salmonid stocks.
 - ❖ The industry, in conjunction with wild fish interests (including Rivers and Fisheries Trusts where appropriate), must draw up a list of economically important catchments where there should be a presumption against future aquaculture development (where there is currently none) or a presumption in favour of relocation and restoration (where farm units already exist)

- 2.7 An effective lice dispersal model must be developed as part of this accreditation scheme in order to assess acceptable maximum farm/area lice levels. Where wild salmonid migration routes are known using both current and future data - farms should only be established if the lice dispersal model shows minimal impact on salmonids using these routes. This model will also be relevant in determining the impact of lice from offshore farms.
- 2.8 The indicators must include the environmental impact on sea trout (*Salmo trutta*) populations, as they remain in coastal waters throughout most of the marine phase of their life cycle, and therefore may be more vulnerable to local parasite and disease transfer. The lice dispersal model must therefore inform potential to impact sea trout populations, taking into account current research being undertaken into the habits and movements of sea trout in their marine phase.
- 2.9 All certified farms must be required immediately to stock smolts produced in enclosed freshwater systems, or in systems that have no significant wild salmon populations – either present or historical. Smolt producing units in freshwater pose a greater risk of introgression, due to serial escapes, than from marine cage sites, given the life stage at which escapes will occur. Norway already prohibits smolt units on rivers containing wild salmonids. This should be the basic standard for certificated farms.

3. Comments on Principle 3: Protect the health and genetic integrity of wild populations.

3.1.1. This documentation must be publically available. This should be extended to require the certified companies to make publically available information on their internal research programmes.

3.1.2. If non-endemic notifiable diseases are detected on a farm, it should lose its certification until the cause of disease can be scientifically established, and the threat removed.

3.1.4. This should be changed to: 'Maximum on-farm lice levels, related to a maximum agreed area lice level'. An effective lice dispersal model must be developed as part of this accreditation scheme in order to assess acceptable maximum farm/area lice levels. We support a baseline genetic standard, such as the current Norwegian standards, but in some locations the lice dispersal model may indicate where lower standards are necessary to protect wild fish populations.

3.1.7c. There is a need for specialists to create a standardised protocol for recording numbers of lice on wild fish (e.g. photographic images from counting stations), and a requirement for farms to invest in area/regional monitoring structures.

3.1.8c. We have serious concerns about defining a 'minimum safe distance'. It is impossible to make a generic prediction of a safe distance, given the site specific nature of these impacts. As stated above, a lice dispersal model must be established to determine, as far as possible, the potential impact on wild salmonids. Knowledge of migration routes should also be taken into account as it becomes available, as should the list of sensitive and economically important inshore sites.

3.2.1. The draft suggests that non native species can be introduced if they are assessed to pose an 'acceptable level of risk'. We question how an 'acceptable' level of risk can be determined when we do not understand the ecosystem level impacts of non-native species, and when open systems allow full interactions with the surrounding environment. The impacts of non-natives can be very complex and take time to become apparent. We believe non-native salmon aquaculture should not be permitted for accreditation, unless within closed systems - where stricter control can be exercised and environmental impact genuinely minimised.

3.3. We support prohibiting transgenic salmon on farms, and recommend that the Steering Committee seeks a clear legal definition of 'transgenic' from the technical specialists involved.

3.4. The NASCO Aquaculture Task Force recommendations should be included in the Accreditation scheme. The current indicators state; 'they seek only to minimise escapes from a farm'. It is important that funds are also made available to advance work on the impact of escapees on wild salmonids. The accreditation body must establish a mechanism for collecting area level funds from accredited farms for an independent body (such as local River/Fisheries Trusts in the UK) to genetically sample adult and parr salmonids in local river systems to determine the impact of farm escapees. This data should be used in the future to set standards on 'acceptable' impact.

3.5. It must be explicit that certain farms cannot be certified due to their location, as indicated through the list of environmentally sensitive and economically important sites, the use of the lice dispersal model and any known – and future - information on migration routes.

4. Summary

We believe that the above are basic principles that must be applied to a certification initiative. The greatest danger of seeking only to set standards on limited criteria – on merely the sustainability of feed sources, for instance – is that the public will perceive the whole of the farming operation to be environmentally sustainable when, in reality, significant impact on wild fish stocks and marine and freshwater habitats could still be occurring.

Meanwhile, further research is required into measures necessary to move the industry towards environmental sustainability, with objectives for achieving a high degree of certainty in the following:

- ❖ Minimising escapes
- ❖ Minimising transfer of disease and parasites between farmed and wild fish
- ❖ Minimising pollution from food and faecal waste
- ❖ Inshore Migration routes of wild salmonids, coordinating data with known offshore routes established through such initiatives as the SALSEA Project.

We make no suggestion as to how such research should be funded, except to note that the company set up to process the accreditation scheme would seem to be a logical coordination point.