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Ms Bridget Kelly
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Area 1-B North
Victoria Quay
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21st June 2013

Dear Ms Kelly,

Scottish Government Review Process
Scottish Sea Farms. Fada, Tanera 1 and Tanera 2 (the Summer Isles Farms)

The Wester Ross Area Salmon Fisheries Board (WRASFB) has a statutory duty under s.45 of the Salmon and Freshwater Fisheries (Consolidation) (Scotland) Act 2003 for the protection and improvement of fisheries within their district.

WRASFB submits that the Summer Isles farms, which are now to be reviewed under the Scottish Government Review Process (the Review Process), have had and are having a significant impact upon the environment and therefore must be the subject to full Environmental Impact Assessment (EIA).

The significant impact that we wish to highlight is the interactions with wild salmonids, which falls within the remit of the Board. Our submission is backed by the scientific expertise of the Wester Ross Fisheries Trust (the Trust), which has spent many years studying the interactions between fish farming and wild salmonids in the Wester Ross area.

We would like to emphasize that aquaculture/wild salmonid impacts are not taken into account by either Marine Scotland Science or the Scottish Environmental Protection Agency and therefore must be dealt with through the planning system. An EIA is vital to provide a sound basis upon which the use of planning conditions can be used to mitigate some of these impacts.

We understand that it is the objective of the Review Process to treat a farm under review as if it is being screened for EIA. Accordingly under the Town & Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2011 we will describe the impacts of the Summer Isles farms as follows:

Characteristics of the development.

The three farms under review are substantial finfish farms with a maximum tonnage of 1800 tonnes. Studies have shown that lice egg production *(Lepeophtheirus salmonis)* in farming areas can be more than 50 times greater than in pre-farming conditions and that in certain conditions large production of lice larvae can lead to lice epidemics on wild sea trout in farming areas.[1]

Location of the development

The WRASFB wishes to draw attention to the forth-coming publication of the Managing Interaction Aquaculture Project 3 Report: Locational Guidance and Zones of Sensitivity analysis, (MIAP). The Rivers and Fisheries Trusts of Scotland (RAFTS) on behalf of a number of project partners with wild fisheries interests undertook a study to produce spatial models and guidance on the interactions of aquaculture and wild fisheries on the west coast of Scotland[2]. This work has been presented to the WRASFB on a number of occasions, most recently on the 30th of April 2013. The preliminary findings of this work, as presented to WRASFB, are indicative that the Summer Isles area would fall within a high sensitivity classification for the rivers and fisheries within this area.

Impacts on Wild Salmonids

The Board believes that that sea lice emanating from Summer Isles farms may having a significant impact (both on their own and cumulatively with lice from other farms in the area) on important local salmonid fisheries. These impacts are set out in detail below:

<u>Summer Isles farms are a significant source of sea lice to the marine environment</u>
The Board estimates that the combined biomass of the three farms is over 1800 tonnes. Even if the farms are managed at or below Aquaculture Code of Good Practice advisory levels of 0.5 gravid lice per fish there will still be the release of several million sea lice into local waters leading to a much greater likelihood of infection of wild salmonids than if no farms were present.

<u>Summer Isles farms may be infecting wild sea trout over a very wide area</u>
We now know that sea lice emanating from a salmon farm can infect sea trout up to 30km away[3]. The nearby river systems that support salmon and sea trout comprise the rivers Kanaird, Ullapool, Broom, Dundonnell, Gruinard, Little Gruinard and River Ewe – Loch Maree systems. Salmon and sea trout smolts from these rivers are likely to pass within 30km of the farm, and their migration routes may take them much closer.

Lice counts on wild salmonids performed by the Trust from the two closest rivers the Kanaird and the Dundonell suggests a high level of louse infection from local fish farms.

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[1] Heuch, P.A. & Mo, T.A. (2001) A model of salmon louse production in Norway: Effects of increasing salmon production and public management measures

[2] http://www.rafts.org.uk/aquaculture/ This work is currently being finalised and the project report will be available shortly, Please contact Callum Sinclair Director of RAFTS for further details on this project.

[3] Middlemas, S.J. et al (2010) Temporal and spatial patters of sea lice level son sea trout in western Scotland in relation to fish farm production cycles

River Kanaird: The Fada salmon farm is within 20 km of the mouth of the River Kanaird. During the years 2010 – 2012, sea trout sampled in the estuary of the nearby River Kanaird consistently had some of the highest levels of louse infection of any site in the west of Scotland. A high proportion of the post-smolt sea trout were infected with over 50 lice.[4]

WRASFB believes that the lice that infect sea trout sampled by the Trust in the River Kanaird estuary in 2011 and 2012 emanated from salmon farms in nearby waters. Without access to information about sea lice levels on farms in the area, we have been unable to identify the sources of sea lice on sea trout at the River Kanaird but the Summer Isles farms may be one source.

Dundonnell: The Summer Isles Salmon Farms are located approximately 25km from the mouth of the Dundonnell River. Fyke netting by the Trust in the Dundonnell River has demonstrated post-smolt sea trout with very high levels of sea lice. This data can be found in the Trust Sea Lice Monitoring Report for 2012[5] and in earlier sea trout monitoring reports on the Trust website.

In June 2013, lice levels of sea trout taken at the mouth of the Dundonnell River in Little Loch Broom were even higher than in 2012, and several fish had over 200 lice[6], several times higher than the levels considered to be potentially lethal to the fish[7]. Given the proximity of the Summer Isles salmon farms to the Dundonnell River, we believe that a proportion of these lice are from the Summer Isles farms. However without access to these farms or to their figures on sea lice levels we are not able to assess the extent to which lice may have originated from Summer Isles farms rather than other salmon farms within the local area. This underlines the importance of establishing regular sea lice monitoring and real time exchange of information from all farms in the area to ensure accountability and transparency.

Local monitoring has show levels of louse infection that could be detrimental to salmonids

There is ample evidence from laboratory studies and from fish farms that lice infection has the potential to cause disease and mortality in their hosts. Wells et al (2006) established that a lice loading of 13 mobile lice per fish could trigger abrupt physiological changes that could be highly detrimental to the fish host especially for smaller fish.

Monitoring work carried out by the Trust in the local area has shown some very high levels of lice infection on wild fish. For example monitoring work carried out by the Trust in Loch Kanaird in 2011 found that 33% of sea trout post smolts were carrying detrimental lice loadings and in 2012 this number rose to 48%. (Further information is available from the Trust on request)

Sea lice emanating from the Summer Isles are very likely to have contributed to the collapse and failure to recover of local wild sea trout populations.

The statement in the SSF application form that these sites do not negatively impact upon *salmonids* within the area, and have not done so in the past, is incorrect. We agree with the applicant that rod

[4] The results of the RAFTS post-smolt monitoring project are presented in a report which can be found at http://www.rafts.org.uk/wp-content/uploads/2013/01/RAFTS-Regional-Monitoring-Report-2012.pdf.

[5] on-lineat: http://www.wrft.org.uk/files/wrft%20sea%20trout%20monitoing%20report%20April%202013%20v5.pdf

[6] Alasdair MacDonald pers. comm. (2013)

[7] Wells, A. et al (2006) The physiological effects of simultaneous, abrupt seawater entry and sea lice infestation of wild, sea-run brown trout smolts

catches for ***wild salmon*** in nearby rivers within 30km of the farm are higher in the past 4 years than during the late 1990s and early 2000s when both rod and net fisheries for ***salmon*** collapsed in local waters. We believe that the decline in salmon catches within the WRASFB area in the 1990s was, in part, a consequence of salmon farming within the local area. However, ***sea trout*** populations, including those that supported the economically important Loch Maree sea trout fishery remain in a state of collapse. Rod catches of sea trout from nearby rivers were the lowest on record during the years 2010 to 2012. Catch graphs for sea trout for the Gruinard River can be seen in the Wester Ross Fisheries Trust Review July 2012. Reported catches of sea trout in the Gruinard River and River Ewe system for 2012 were the lowest on record.

These economically significant fisheries collapsed shortly after the establishment and expansion of salmon farms within the Wester Ross area. Epizootics of sea lice, associated with the salmon farming industry, affecting sea trout are regarded as a principle factor associated with the decline of sea trout in Loch Maree[8]. We therefore believe that there is at least a significant likelihood that the Summer Isles farms have had and are having a significant negative impact on the health of wild sea trout and salmon populations in the area, and would request that this impact is evaluated as part of an Environmental Impact Assessment.

Conclusions

The decision maker must have regard to the precautionary principle and make a reasonable assessment as to the degree of uncertainty with regard to the environmental impact of the Summer Isles farms. WRASFB urges the Scottish Government to recognize that there is now a broad and consistent evidential base showing the impact of aquaculture on wild salmonids in general BUT also a strong body of local expert evidence showing the impacts on local salmonid populations of fish farming in the area including the Summer Isles farms. In such circumstances there is an overwhelming need for an EIA to allow for a proper basis for those impacts to be managed in the best possible way through the planning system with the use of appropriate planning conditions to mitigate impacts. These might include conditions to promote transparency in lice monitoring, synchronisation of production, reductions in strategic lice treatment levels etc.

WRASFB urges the Scottish Government that an EIA is necessary to assess and manage the risks posed to local salmonid populations by the Summer Isles farms.

Yours faithfully

W. Whyte
Chairman

[8] Butler, J.R.A. & Walker, A.F. (2006) Characteristics of the Sea Trout Salmo trutta Stock Collapse in the River Ewe (Wester Ross, Scotland) in 1988-2001