



4th June 2013

Colin Wishart,
Planning and Development Services,
Highland Council,
Glenurquhart Road,
Inverness
IV3 5NX

Email to colin.wishart@highland.gov.uk

Dear Mr Wishart,

Application for alteration of existing fish farm to 46 square steel pens at Loch Kanaird, eastern side of Isle Martin - reference 13/01494/FUL

The Salmon & Trout Association Scotland (S&TAS) wishes to register an objection to the above application by Wester Ross Fisheries Limited for an expansion in Loch Kanaird.

Existing fish-farms in Two Brooms

There is ample evidence from farm inspections carried out by the Fish Health Inspectorate (of Marine Scotland Science) and from both self-reported and audit monitoring carried out by the Scottish Environment Protection Agency (SEPA) of the failure of Wester Ross Fisheries Limited to adequately contain the environmental impact of its existing farms in the Two Brooms area, including on Loch Kanaird.

The S&TAS notes that the Highland Council has been supplied with very great detail by other objectors, much of it derived from freedom of information requests made by the S&TAS, concerning what is known of the impact of the Wester Ross Fisheries Limited's existing farms in Two Brooms, including that in Loch Kanaird. The record of those farms is not good.

Relevant reports, including farm-specific information, into breaches of sea-bed lice treatment residue Environmental Quality Standards, breaches of the Code of Good Practice sea-lice thresholds and unsatisfactory benthic pollution under fishfarms can be found on www.standupforwildsalmon.org

If the Highland Council wishes to see any of the original information requested and supplied by the Fish Health Inspectorate, the Scottish Environment Protection or others to the S&TAS concerning the existing Loch Kanaird site, please do not hesitate to contact guy@linley-adams.co.uk.

However, as a bare minimum, the S&TAS believes the Highland Council should require the submission and publication of weekly sea-lice count data from Wester Ross Fisheries Limited farms, including that on Loch Kanaird, going back over the last 6 years, against which any ambition the applicant may express now to farm in accordance with the Code of

Rear Second Floor Offices, 12 Castle Street, Hereford HR1 2NL
Telephone: 01432 379093
guy@linley-adams.co.uk
www.linley-adams.co.uk

Good Practice can properly be judged by those wishing to examine the application and comment upon it.

The S&TAS would also refer the Highland Council to reports produced by the Wester Ross Fisheries Trust concerning the impact of sea-lice on wild fish in Two Brooms and the strong link between sea-lice epizootics on wild fish and the second year of production cycles within fish farms.

There can be no doubt that an expansion of this farm, in this location, will increase the threat to wild salmonids in Two Brooms.

MIAP

The Marine Scotland-funded Managing Interactions Project (MIAP), carried out by RAFTS, has shown the area in question to be in a highly sensitive area for wild fish, such that fish farms should ideally not be sited in the area and from where existing farms should be considered for relocation.

The S&TAS would like to remind the Council that the impact upon wild fish is not taken into account by either Marine Scotland Science or the Scottish Environment Protection Agency in their responses to this or any fish-farm planning application.

The recent debates at the Scottish Parliament during Stage 2 of the Aquaculture and Fisheries Bill confirmed that it is not the role of the Fish Health Inspectorate or Marine Scotland to control fish farms in order to protect wild fish (their role being limited to the health of the farmed fish under the Aquaculture Act 2007). SEPA has also confirmed on many occasions that sea-lice numbers on farmed fish and the subsequent impact upon wild fish is NOT taken into account in the Controlled Activities Regulations (CAR) licencing process.

It therefore falls to the Highland Council, acting on the advice of the Wester Ross Area Salmon Fishery Board and others, to consider how best to use the planning system to protect wild fisheries from the wider environmental impact of fish-farms in Two Brooms.

The MIAP work is a planning tool specifically and precisely designed to assist local authorities plug the gaps in their knowledge and understanding of the likely impacts of aquaculture on wild fish populations which has in the past made local authority decisions on fish-farms so problematic.

As applied to Loch Kanaird, MIAP would certainly not support an expansion of the existing farm in Loch Kanaird.

Two Brooms Coastal Plan

Quite apart from what MIAP concludes about Loch Kanaird, the 2006 Coastal Plan for the Two Brooms Area recommended, some time ago, the relocation of existing fish farms within Two Brooms to less sensitive areas.

Specifically, page 18 of the Coastal Plan *“encourages measures to relocate existing finfish farms away from inner sea loch areas and the mouths of rivers, where possible, to suitable more seaward locations identified in this plan”*.

Page 46 of the Plan suggests that *“relocation of finfish production away from the mouth of the River Kanaird to sites further out towards the Summer Isles may be possible using more robust and self-contained installations”* and that the finfish farm sites in Loch Kanaird *“are obvious candidates for relocation should alternative sites become available”*.

While the Plan does, somewhat counter-intuitively given the above statements, reach a policy of a presumption in favour of aquaculture on the west side of Loch Kanaird, the plan also states that finfish production elsewhere in Loch Kanaird should be relocated if possible to safeguard and help rebuild the wild salmonid stocks of the nearby River Kanaird.

Attached to this letter is a recent summary of fisheries science proceed by the S&TAS together with a naturally cautious Marine Scotland Science paper summarising the state of knowledge with respect to wild salmonids and the impact of aquaculture, both of which strongly suggest that Loch Kanaird is not a good location for salmon farming.

In the view of the S&TAS, massively increased knowledge, since the Plan was written in 2006, concerning the impact of sea-lice epizootics on wild sea-trout, and the sheer size of installation now proposed, would suggest the proposed farm, sited anywhere in Loch Kanaird, would if granted increase unacceptably the threat to the River Kanaird wild salmonid stocks, and indeed those on other nearby rivers.

In conclusion, the S&TAS urges the Highland Council to reject this application. The S&TAS will want to examine the decision-making process in relation to this application closely, particularly in respect of the cumulative impact of fish-farms within Two Brooms upon wild fish, which is a highly relevant planning matter and how that is taken into account by the Council.

Yours sincerely,

Guy Linley-Adams
Solicitor to the S&TAS Aquaculture Campaign

Summary of information relating to impacts of sea lice from fish farms on Scottish sea trout and salmon.

Sea lice infest both farmed and wild salmonids to the potential detriment of aquaculture and angling interests. Several reviews have recently considered information concerning interactions between salmon farms and wild salmonids (e.g. Revie *et al.* 2009; Costello 2009; Whelan, 2010). Here, the evidence available to assess the likelihood and scale of impact of sea lice from salmon farms on Scottish wild salmonids is summarised. The aim is not to repeat extensive review but to focus on key issues relevant to locating fish farms in the Scottish coastal zone.

Are salmon farms a significant source of lice?

Yes, salmon farms have been shown to be a more important contributor than wild fish to the total lice in the environment (Penston & Davies, 2009; Revie *et al.*, 2009).

Is there an association between levels of lice on salmon farms and in the surrounding environment?

Yes, there is a strong correlation between levels of lice on fish farms and in the local environment (Penston *et al.*, 2008).

Is there an association between levels of lice on salmon farms and on sea trout?

Yes, stage of farm cycle relates to level of lice infestation on sea trout with higher levels of infestation during the second year of production (Butler 2002; Hatton-Ellis *et al.* 2006; Middlemas *et al.* 2010), when lice numbers are known to be greater on farms (Revie *et al.* 2002; Lees *et al.* 2008). Examination of data collected throughout the West Coast during 2003-2009 showed that the proportion of individual sea trout with louse burdens above a level known to cause major physiological stress increased with the mean weight of salmon on the nearest fish farm (a measure of where they are in their production cycle), and decreased with distance from that farm (Middlemas *et al.* in press).

Is there an effect of sea lice on wild trout at the individual level?

Yes, individual wild trout sampled on the west coast of Scotland have been shown to have infestations above a level known to cause major physiological stress (Well *et al.* 2006; Middlemas *et al.* 2010, in press).

Is there evidence of the scale of effect of sea lice on wild trout at the population level?

No. It is difficult to extrapolate from lice levels of the wild sea trout examined as sampling may not be representative of the whole population. Therefore, the scale of any impact at a population level cannot be determined from existing published information.

Rod catches of sea trout on the west coast are currently at historically low levels. This is also the case for the Moray Firth and North East region of Scotland, while catches in the East and North Regions are both at historically high level. The underlying causes of these regional differences are not known and the influence of aquaculture, if any, is unclear.

Is there an association between levels of lice on salmon farms and on wild salmon?

Although this has been shown in Norway no information is available for Scotland.

Is there an effect of sea lice on salmon at the individual level?

No information is available for Scotland.

Is there an effect of sea lice on wild salmon at the population level?

Experiments undertaken in Norway and Ireland have shown that sea lice caused a loss of on average 39% of adult salmon recruitment (Krkosek *et al.* in press). No such direct information exists for Scotland.

There is evidence that declines in catches of wild salmon have been steeper on the Scottish west coast than elsewhere in Scotland and Norway (Vollestad *et al.* 2009) although the authors stressed that this did not prove a causative link. Ford & Myers (2008) compared indices of salmon abundance on the East and West coasts of Scotland together with farm production data. They found a reduction in the catches and counts of salmon associated with increased production of farmed salmon. In addition Butler & Watt (2003) showed that rivers with farms had significantly lower abundances of juvenile salmon than those without farms.

Over what distance do farms influence lice levels?

Gillibrand & Willis (2007) produced a general sea lice dispersal model that showed that infective sea lice levels peaked 7 to 12km seawards of the source. However, it is clear that site specific factors such as prevailing wind and currents, and local topography can have a large impact on the direction and distance of lice dispersal (Amundrud & Murray 2009).

Middlemas *et al.* (in press) found a significant relationship between sea lice infestations on sea trout and the distance to the nearest salmon farm. Infestation levels were highest when sea trout were sampled close to a salmon farm and dropped off as the distance to the nearest farm increased. There is considerable scatter around the general relationship found by Middlemas *et al.* which likely reflects unknown site specific factors.

Do we understand the dispersal patterns of sea trout and salmon?

Salmon smolts depart rapidly from home rivers but there is no knowledge of their subsequent distribution in relation to the Scottish coast. In general sea trout remain near shore for their first two months at sea and then disperse more widely, although some move further afield after entering the sea. There is no understanding of the scale of dispersal or whether it is uniform in direction relative to the home river.

SUMMARY

Scientific evidence from Norway and Ireland indicates a detrimental effect of sea lice on sea trout and salmon populations. There is increasing scientific evidence that this is also the case for sea trout in Scotland although scientific studies investigating the case for Scottish salmon are lacking. Salmon aquaculture results in elevated numbers of sea lice in open water and hence is likely to have an adverse effect on populations of wild salmonids in some circumstances. The magnitude of any such impact in relation to overall mortality levels is not known. However, concerns that there may be a significant impact of aquaculture have been raised due to declines in catches of both salmon and sea trout on the Scottish west coast.

References

- Amundrud, T.L. & Murray, A.G. 2009 Modelling sea lice dispersion under varying environmental forcing in a Scottish sea loch. *Journal of Fish Diseases* **32**, 27-44.
- Butler, J.R.A. 2002 Wild salmonids and sea louse infestations on the west coast of Scotland: sources of infection and implications for the management of marine salmon farms. *Pest Management Science* **58**, 595-608.
- Butler JRA & Watt J. 2003. Assessing and managing the impacts of marine salmon farms on wild Atlantic salmon in western Scotland: identifying priority rivers for conservation. Pp. 93-118 in: Mills D (ed.), *Salmon at the Edge*. Blackwell Science, Oxford.
- Costello, M.J. 2009 How sea lice from salmon farms may cause wild salmonid declines in Europe and North America and be a threat to fishes elsewhere. *Proc. R. Soc. B* **276**, 3385-3394 .
- Ford, J. S., & Myers, R. A. 2008. A global assessment of salmon aquaculture impacts on wild salmonids. *PLoS biology*, 6(2), e33..
- Gillibrand P.A. & Willis K.J. 2007 Dispersal of sea louse larvae from salmon farms: modelling the influence of environmental conditions and larval behaviour. *Aquatic Biology* **1**, 63-85, doi: 10.3354/ab00006.
- Hatton-Ellis, M., Hay, D., Walker, A.F. & Northcott, S.J. 2006 Sea lice *Lepeophtheirus salmonis* infestations of post-smolt sea trout in Loch Shiel, Wester Ross, 1999-2003. In: *Sea Trout: Biology, Conservation and Management* (ed. by G.S. Harris & N.J. Milner), pp. 372-376. Blackwell Publishing, Oxford.
- Krkosek, M., C. Revie, P. Gargan, O. Skilbrei, B. Finstad, & C. Todd. In press. Impact of parasites on salmon recruitment in the Northeast Atlantic Ocean. *Proceedings of the Royal Society B*.
- Lees F., Gettinby, G. & Revie, C.W. 2008 Changes in epidemiological patterns of sea lice infestation on farmed Atlantic salmon (*Salmo salar* L.) in Scotland between 1996 and 2006. *Journal of Fish Diseases* **31**, 251-262
- Middlemas, S. J., Raffell, J.A., Hay, D.W., Hatton-Ellis, M. and Armstrong, J.D. 2010 Temporal and spatial patterns of sea lice levels on sea trout in western Scotland in relation to fish farm production cycles. *Biology Letters* **6**, 548-551
- Middlemas, S.J., Fryer, R.J., Tulett, D. & Armstrong, J.D. in press Relationship between sea lice levels on sea trout and fish farm activity in western Scotland. *Fisheries Management & Ecology*.
- Penston, M.J. and Davies, I.M. 2009 An assessment of salmon farms and wild salmonids as sources of *Lepeophtheirus salmonis* (Krøyer) copepodids in the water column in Loch Torridon, Scotland. *Journal of Fish Diseases* **32**, 75-88.
- Penston, M.J., Millar, C.P., Zuur, A. & Davies, I.M. (2008) Spatial and temporal distribution of *Lepeophtheirus salmonis* (Krøyer) larvae in a sea loch containing Atlantic salmon, *Salmo salar* L., farms on the north-west coast of Scotland. *J. Fish Dis.* **31**, 361-371.
- Revie C.W., Gettinby G., Treasurer J.W., Rae G.H. & Clark N. (2002) Temporal, environmental and management factors influencing the epidemiological patterns of sea lice (*Lepeophtheirus salmonis*) infestations on farmed Atlantic salmon (*Salmo salar* L.) in Scotland. *Pest Management Science* **58**, 576-584.
- Revie, C., Dill, L., Finstad, B., and C.D. Todd. 2009 "Salmon Aquaculture Dialogue Working Group Report on Sea Lice" commissioned by the Salmon Aquaculture Dialogue available at <http://www.worldwildlife.org/site/PageNavigator/SalmonSOIForm>.
- Whelan, K. 2010 *A Review of the impacts of the Salmon Louse, Lepeophtheirus salmonis (Krøyer, 1837) on Wild Salmonids*. Atlantic Salmon Trust, Perth.
- Vøllestad, L. A. et al. 2009 Divergent trends in anadromous salmonid populations in Norwegian and Scottish rivers. *Proc. Roy. Soc. B* **276**, 1021-1027.



Recent research and findings on the impact of salmon aquaculture on wild salmonids

1) Sea lice levels on wild sea trout are linked to fish-farm activity in western Scotland¹

"The relationship between aquaculture and infestations of sea lice on sea trout, *Salmo trutta* L., is controversial. Here, the association between sea lice infestations on wild sea trout and characteristics of local Atlantic salmon, *Salmo salar* L., farms were investigated using data collected on the Scottish west coast.....**The results support a link between Atlantic salmon farms and sea lice burdens on sea trout in the west of Scotland....**".

2) Sea-lice can have a significant impact on wild salmonids².

Between 18% and 55% of adult salmon in the Northeast Atlantic Ocean are lost to parasites each year.... parasites can have a significant impact on fisheries and conservation. Data from 24 trials, which tagged 283,347 young Atlantic salmon between 1996 and 2008 were analysed. Paired groups of control and anti-parasite treated salmon were released into ten areas of Ireland and Norway. All experimental fish were infection free when released and a proportion of each group were recovered as adults returning to coastal waters one or more years later. Treatment had a significant positive effect on survival. The untreated salmon were 1.29 times more likely to die. **The parasites were probably acquired during migration in areas that host large populations of domesticated salmon, which elevate local abundances of parasites. The concern is not only for a loss in salmon abundance, but also the loss of genetic variability and its associated potential for adaptation to other environmental changes.**

¹ SJ Middlemas, RJ Fryer, D Tulett, JD Armstrong (2012) Relationship between sea lice levels on sea trout and fish farm activity in western Scotland. Fisheries Management and Ecology Volume 20, Issue 1, pages 68–74, February 2013

² Martin Krkošek, Crawford W. Revie, Patrick G. Gargan, Ove T. Skilbrei, Bengt Finstad and Christopher D. Todd (2012) Impact of parasites on salmon recruitment in the Northeast Atlantic Ocean, Proceedings of the Royal Society B, 7th November 2012.

- 3) The typical planning response of Marine Scotland Science, the Government's fisheries scientists recognises the problem with sea lice from fish-farms³

"There is evidence of an effect of lice from fish farms on sea trout, although the extent to which the fish populations are affected is not clear. It appears that the range of effect of lice is at least 14km from farm source. This range will depend on both movements of lice and trout, which are not well understood. **There is no published evidence of an effect of lice on trout at a population level, however, such an effect would be expected in view of the high infestation intensities observed near farms in the second years of salmon production cycles....**the behaviour of sea trout differs from salmon in that they remain in the area of origin for considerable time after migrating to sea leading to increased chance of exposure to infective stages of sea lice....there is evidence that stage of farm cycle relates to level of lice infestation on sea trout with higher levels of infestation during the second year of production when lice numbers are known to be greater on farms."

- 4) There is a marked decline in Scottish wild Atlantic salmon stocks confirmed in salmon farming areas⁴

A comprehensive new analysis by the Rivers and Fisheries Trusts of Scotland (RAFTS) of official catch statistics demonstrates definitively that wild salmon catches in the salmon farming areas of the West Highlands and Islands have declined significantly compared with catches on the east coast, where there are no salmon farms. Despite the issues with marine survival, the east coast rod catches have in fact increased by over 20% between 1970 and 2009. In the same period, the rod catch on the aquaculture coast has decreased by over 40%.....**a clear trend of declining wild salmon catches in areas where the Scottish salmon farming industry operates, compared with catches on the East coast.**

³ Orkney Council Planning and Protective Services Committee, Report by Director of Development and Environmental Services – proposed fish farm at South Cava, Scapa Flow, Orkney, 6th July 2011

⁴ Rivers and Fisheries Trusts of Scotland (RAFTS) (2012) Marked decline in Scottish wild Atlantic salmon stocks confirmed in salmon farming areas. June 2011

- 5) One quarter of wild salmon sampled in Scotland's aquaculture zone have Norwegian genes⁵

This RAFTS study, funded by the Scottish Government, looked for Norwegian genes in wild salmonid populations in the 'aquaculture zone' of the west coast of Scotland, the 'signature' of hybridization found was significantly higher than expected by chance. Across all sites, 369 out of 1472 (25.1%) individuals were identified as hybrids, which is significantly higher than that seen for the east coast 'wild' baseline, where there is no aquaculture.

The data - which was reviewed by Marine Scotland Science, the Scottish Government's fisheries scientists - shows that over ¼ of west coast wild salmon are in fact Norwegian hybrids. In the last ten years over 2 million farmed fish, overwhelmingly of Norwegian origin, have been reported as escaped from Scottish salmon farms. It is generally accepted many more unreported escapes occur.

⁵ RAFTS Managing Interactions Aquaculture Project (2013) Report on Genetic Tool Development for Distinguishing Farmed vs. Wild Fish in Scotland, February 2013



Association of Salmon Fishery Boards

Capital Business Centre, 24 Canning Street, Edinburgh, EH3 8EG
Tel: 0131 272 2797 | www.asfb.org.uk

12th June 2013

Colin Wishart,
Planning and Development Services,
Highland Council,
Glenurquhart Road,
Inverness
IV3 5NX

Application for alteration of existing fish farm to 46 square steel pens at Loch Kanaird, eastern side of Isle Martin - reference 13/01494/FUL

Dear Mr Wishart,

The Association of Salmon Fishery Boards is the representative body for Scotland's 41 District Salmon Fishery Boards (DSFBs) including the River Tweed Commission (RTC), which have a statutory responsibility to protect and improve salmon and sea trout fisheries. The Association and Boards work to create the environment in which sustainable fisheries for salmon and sea trout can be enjoyed. Conservation of fish stocks, and the habitats on which they depend, is essential and many DSFB's operate riparian habitat enhancement schemes and have voluntarily adopted 'catch and release' practices, which in some cases are made mandatory by the introduction of salmon conservation regulations. ASFB creates policies that seek where possible to protect wider biodiversity and our environment as well as enhancing the economic benefits for our rural economy that result from angling.

We fully support the submission by the Wester Ross Area Salmon Fishery Board. We wish to register our formal objection to this development. In addition to the comments by WRASFB we would make the following points.

Whilst we recognise that the application in question will result in a slight reduction in biomass, we do not believe that significant investment (both private and public money) should be devoted to a site which is poorly located from the perspective of migratory fish. This conclusion is based on the relative sensitivity of the site (as demonstrated by the recently developed RAFTS locational guidance tool) and concerns at the current regime of sea lice management.

We are concerned that the application states that no change from the currently employed treatment techniques will be required. The applicant also makes reference to the WRF Ltd being bound by the requirements of the Industry Code of Good Practice. However, treatment thresholds as set out in the Code are not binding, and the applicant makes no commitment to maintain sea lice levels at any particular level. Aggregated sea lice levels for the area in question, as published by the SSPO show that sea lice levels have consistently been significantly over the CoGP treatment thresholds since February 2011 (Table 1). In addition, the most recent data for the Kennart to Gruinard region¹ demonstrates that the average number

¹ Available at: http://www.scottishsalmon.co.uk/repo/SC0154_SSPO_Health_Management_FINAL.pdf

of adult female lice was never below 4 for the first three months of 2013. In the absence of farm-specific, weekly sea lice data, we have no alternative but to assume that sea lice levels at the existing Kanaird site were consistent with these levels. If the applicant does not believe this to be the case, then site-specific sea lice data should be made available to Highland Council for the last three production cycles, in order that performance in relation to the Code of Good Practice can be assessed.

Analysis of sea lice data collected through sweep netting of sea trout post smolts has been carried out 1.5km from the Kanaird site for the past two years as part of the RAFTS Managing Interactions Aquaculture Project. Sea lice epizootics (mass fatal parasite infestations of the earliest life-stages of salmon lice) were observed at this site in both 2011² and 2012³. Epizootics are characterised by fish being infected at the same time as they entered the sea and epizootics have only been reported in locations with salmon farms. In addition, in both years, more than 10% of fish sampled carried adult sea lice loads which were likely to be detrimental to the fish (33% in 2011 and 48% in 2012).

Whilst we do not support the application as it stands, should Highland Council elect to grant planning consent, we believe that a number of planning conditions are fundamentally important:

1. Sea lice data should be made publically available as a condition of consent.
2. It is notable that whilst the current application does not include an increase in biomass, there is significant scope within the cage layout for future biomass increases to be sought from SEPA. SEPA do not consider the possible negative effects of sea lice in their deliberations and therefore we are concerned at the potential for future expansion at the site, outwith the parameters of Highland Council's decision that an EIA was not required. As a consequence we believe that a formal planning condition should be that no future increase in biomass is permitted without undergoing further screening and scoping for EIA and application for variation of planning consent to Highland Council.
3. No fish should be transferred between existing farm management areas.

	N. Mainland
Dec-Feb '11	Below/9%
Mar-May '11	32%
Jun-Aug '11	138%/149%
Sep-Nov '11	284%
Dec-Feb '12	Data no longer available from SSPO
Mar-May '12	152%
Jun-Aug '12	458%/233%
Sep – Dec '12	263%

Table 1: Aggregated sea lice data for the 'North Mainland' region collected from the SSPO website. Where two values are presented, these represent the percentage above the 0.5 lice per fish and 1.0 lice per fish thresholds, as set out by the Industry Code of Good Practice.

Please do not hesitate to contact ASFB if you require any further information or clarification.

Yours sincerely,



Dr Alan Wells
ASFB Policy and Planning Director

² <http://www.rafts.org.uk/wp-content/uploads/2012/04/RAFTS-Regional-Monitoring-Report-2011.pdf>

³ <http://www.rafts.org.uk/wp-content/uploads/2013/01/RAFTS-Regional-Monitoring-Report-2012.pdf>



Wester Ross Fisheries Trust

**Harbour Centre, Gairloch,
Wester Ross, IV21 2BQ**

tel: 01445 712 899

fax: 01445 712899

e-mail: admin@wrft.org.uk

web site: www.wrft.org.uk

Mr James Bromham
Planning and Development Services
Highland Council
Glenurquhart Road
Inverness
IV2 5NIV

Dear Mr Bromham,

Re: Application for alteration of existing fish farm to 46 square steel pens at Loch Kanaird, eastern side of Isle of Martin – Reference 13/01494/FUL

Wester Ross Fisheries Trust (WRFT) supplied the majority of the data used in the Wester Ross Area Salmon Fishery Board's response to this planning application and wishes, therefore, to record its support of the board's objection and their suggested conditions.

Yours sincerely,

Peter Jarosz
WRFT Administrator

Board of Trustees		Board of Trustees	
Mr John Mackenzie (Chairman)	01349 861 101	Dr Melanie Smith	01463 273 080
Professor Dave Barclay (Vice Chairman)	01445 731 620	Mr Nigel Pearson	01954 719 351
Mr Richard Greene	01445 712 048	Mr Mark Williams	01244 408 777
Mr Richard Wilson	01520 766 222	Mr Henry Dalgety	01520 722 965
Mr Bob Kindness	01520 733 300		

Biologist Peter Cunningham	Tel: 01445 712 899	Fax: 01445 712 899	Email: info@wrft.org.uk
Biologist Peter Minting	Tel: 01520 722 882		Email: westerrossbiologist@gmail.com
Administrator Peter Jarosz (part-time)	Tel: 01445 712 899	Fax: 01445 712 899	Email: admin@wrft.org.uk

Mr Callum Sinclair (RAFTS Response Letter)

Comment submitted Fri 14 Jun 2013

Formed in 2005, Rivers and Fisheries Trusts of Scotland (RAFTS) is an independent freshwater conservation charity representing Scotland's national network of 25 rivers and fisheries Trusts and Foundations. Our members work across over 90% of Scotland's freshwaters to protect and develop our native fish stocks and populations by undertaking a range of activities including freshwater and river habitat restoration, fish and fisheries monitoring, research and education programmes. RAFTS is the membership organisation of the fisheries and rivers trusts operating in Scotland and is, itself, a charity and company limited by guarantee. In recent years RAFTS and members have worked closely with Government and its agencies and advisors, particularly Scottish Natural Heritage (SNH), Scottish Environment Protection Agency (SEPA) and Marine Scotland Science (MSS), on a number of freshwater, marine, fishery, aquaculture and biodiversity issues. This has allowed fishery and river trusts, with RAFTS, to make a positive contribution to the conservation and management of Scotland's native fish populations and fisheries through work on fishery and biosecurity planning, invasive non-native species management, education, salmon genetics, habitat restoration, work on non-salmonid fish species and in aquaculture in particular through the Managing Interactions Aquaculture Project (MIAP) which it has managed and led in partnership with six participating fishery trusts and Marine Scotland since April 2011. In respect of the above application for alterations to the current farm at Loch Kaniard RAFTS would wish to object to the proposal lodged by Wester Ross Fisheries Limited and to endorse the response submitted by the Wester Ross District Salmon Fishery Board confirming its own objection to the proposals made and including input from Wester Ross Fisheries Trust and using outputs from the RAFTS led MIAP activities. Within the MIAP, RAFTS has developed a Locational Guidance mapping output which has sought to identify areas across the West coast of Scotland which are most sensitive to aquaculture development by aquaculture from the perspective of wild fish and fisheries. The location of the current farm and proposed revised development is in a zone of the highest sensitivity derived from this model. As such we are of the view that aquaculture production in this area is inappropriate and should be avoided. Clearly, in this situation at this site there is already an operational farm active and in place. In such circumstances it would seem reasonable to consider the recent or current performance of the farm within the context of this sensitivity analysis. We are particularly concerned as to the performance of the site in respect of control of sea lice numbers and with the proposition by the applicant that no change from the currently employed treatment techniques would be required and that the Wester Ross Fisheries Limited would be bound by the requirements of the Industry Code of Good Practice (COGP). When lice counts reported by the Scottish Salmon Producers Organisation (SSPO) are considered over the period December 2010 to December 2012 (see Table 1, below) it is clear that lice counts in the region of the site location have significantly and consistently exceeded the thresholds required to comply with the industry CoGP. As data is not reported on a farm by farm basis it is not possible to confirm lice counts for the site itself and so the average figures reported must be assumed to apply in the absence of any contrary information being available publicly or being offered by Wester Ross Fisheries Limited. Within this context it is not clear how it can be reasonable for the applicant to confirm that no change to current practice is required or that they would be bound to the CoGP standards as neither would seem to be the case at present. Table 1: Aggregated sea lice data for 'North Mainland' region (published on SSPO website) North Mainland* Dec-Feb 11 Below / 9% Mar-May 11 32% Jun-Aug 11 138% / 149% Sep-Nov 11 284% Dec-Feb 12 Data no longer available from SSPO Mar-May 12 152% Jun-Aug 12 458% / 233% Sep Dec 12 263% * Where two values are presented, these represent the percentage above the 0.5 lice per fish and 1.0 lice per fish thresholds, as set out by the Industry Code of Good Practice. We also note that the site at Ardmair is due to be subject to consideration within the Audit and Review process being undertaken by the Scottish Government / Marine Scotland of sites previously consented for use by the Crown Estate. Within that process there is the opportunity to consider the need for a full Environmental Impact Assessment (EIA) of the site before permanent planning consent is provided. RAFTS is of the view, given the sensitivity of the location and the poor environmental performance of the site at present, that an EIA should be required to determine whether this site is appropriate for continued aquaculture use. We are aware that the application before Highland Council seeks to secure alterations to the current operations and note that the production tonnage presented in the application is proposed to be reduced from current levels. However, the new cage layout and capacity proposed would seem to secure and provide significant additional opportunity to expand the biomass of production at the site outwith the current planning process and through application to SEPA for such increases. As SEPA do not consider the potential

negative effects of sea lice within their decision making processes we are concerned that such increases are possible without any further screening or consideration of the need for EIA by Highland Council or of due consideration of the consequences of such an increase to wild fish and fisheries. If Highland Council are not minded to require an EIA of the site at this stage then we would contend that; - The application should be rejected so as to allow the opportunity for an EIA to be undertaken as part of the Scottish Government / Marine Scotland Audit and Review process; OR - If the application is approved that planning conditions are attached to that decision that do not permit an increase in biomass production on the site without a planning variation being sought and which allows Highland Council to reconsider the necessity for an EIA following an appropriate screening and scoping process. Should you require clarification or further information on any aspect of this submission please do not hesitate to contact me.

PLANNING & DEVELOPMENT SERVICE
DATE RECEIVED: 17 JUN 2013



Please quote the reference number below when contacting the office:

Our ref: RY S/277

Colin Wishart
Planning and Development Services
The Highland Council
Glenurquhart Road
Inverness
IV3 5NX

14 June 2013

Dear Mr Wishart

Planning Application 13/01494/FUL

Fish Farm located at Loch Kanaird eastern side of Isle of Martin

Fish Legal wishes to object to the above application for the reasons set out below.

The Impacts of the Fish Farm

The fish farm is located within 2km of the river Kanaird. The river Kanaird was described by Derek Mills in his book 'The Salmon Rivers of Scotland' as a typical west coast spate river that historically supported good runs of salmon and sea trout over the summer months. Mills described the Kanaird as a "good river for angling" with "many interesting runs and holding pools where the angler may spend many peaceful hours fishing in some of the most beautiful scenery that the west coast of Scotland can produce".¹ Unfortunately, like many sea trout rivers on the west coast it has suffered a precipitous collapse in its sea trout populations since those comments were written in 1981.

Fish Legal believes that the available evidence strongly points to fish farming activity in Loch Kanaird over the last three decades being the significant cause in the collapse of the river Kanaird sea-trout fishery. Highland Council will be familiar with the 'Sea Louse hypothesis' and this is set out in relation to the river Kanaird in the appendix. Furthermore we believe that so long as the fish farm remains in Loch Kanaird there is little prospect of sea trout numbers recovering in the river Kanaird.

¹ Mills, D and Graesser, N. 1981 The Salmon Rivers of Scotland p194

The decline of the west coast sea trout fisheries ² has had economic ramifications with the loss of many high quality jobs in recreational fisheries. The rivers supporting these fisheries also drew fishermen nationally and internationally, which helped boost other elements of the local economy.

It is fair to conclude that the collapse of the river Kanaird fishery has caused economic loss not just to its owners but also to the local Wester Ross economy.

Scottish and Local Planning Policy

Scottish Planning Policy ³ states: *"there is potential for conflict between fish farming and local interests, including ..recreational fishing. The effects on ..angling interests should be considered."*

The Highland Council's policy guidance for the marine area in Loch Kanaird is contained in the Coastal Plan for the Two Brooms Area published in 2006. The plan also recognizes the inherent conflict between aquaculture and salmon fisheries we consider the following policy statements highly pertinent:

"The Coastal plan ..supports the responsible development of aquaculture on sites and at a scale which is compatible with other interests.." and

"The Coastal plan encourages measures to relocate existing finfish farms away from inner sea loch areas and the mouths of rivers, where possible to more seaward locations".

The Coastal Plan recognizes that fish farms placed near mouths of rivers pose a danger to the local salmonid populations and in fairness to the affected interests should be moved to a less damaging location. The Plan even discusses the possibility of moving farms from Loch Kanaird *'further out towards the Summer Isles'*.

The Kanaird farm has not yet undergone the Scottish Government Review Process, which will consider the grant of full planning permission. Whilst this application is only for a change in configuration, the planning permission as sought would amount to a permanent planning permission. This would send an inappropriate signal that the farm as configured is sustainable. The evidence strongly suggest that it is not. The grant of permanent planning permission to a site that is very close to a river mouth that would permanently damage the prospects for recovery of the Kanaird fishery could not be considered compatible with those interests and would be a clear breach of both national and local policy.

Mitigation of Impacts

Is there any prospect that the damaging interactions between farming activity in Loch Kanaird could be minimised through better farm management? It should first be stated that this farm has one of

² see RAFTS 2011, Comparison of the decline of Scottish East and West Coast Salmon Fisheries

³ Scottish Planning Policy paragraph 109

the worst records for lice management in the west of Scotland such that it poses a threat not only to the Kanaird but also to many of the other important river systems in the area. Given the record of consistently high numbers of sea lice on the farm, and continued lack of synchronisation with the nearby farms, there is no basis for predicting any improvement in management of sea lice and thus any reduction in impacts to wild salmonid populations.

We would urge the Council to consider the use of planning conditions to mitigate impacts from this farm (so far as possible) pending the consideration of full planning permission under the Scottish Government Review process. The conditions required to help safeguard wild salmonid populations should include:

- a binding condition to ensure that there is full transparency regarding lice numbers on the farm. Interested local bodies such the Wester Ross Area Salmon Fishery Board should be allowed to regularly monitor the site;
- a condition to ensure that the farmer synchronises both lice treatments and fallowing of all farms within the area;
- the introduction of lower thresholds for the treatment of sea lice than those suggested by the Aquaculture Code of Good Practice. For example Marine Harvest has been using a strategic treatment threshold of 0.2 female ovigerous sea lice during critical smolt migration periods. Such a reduction will not necessarily resolve the problem but the results could be monitored to assess if impacts are being reduced and then levels can be reviewed accordingly; and
- powers to reduce on-farm biomass or to review the planning consent after an allocated period of time should the salmon farm operator fail to control lice to the levels required.

Conclusions

The Council must balance the commercial interests of aquaculture with those of recreational angling. In the light of the foregoing, Fish Legal believe the following conclusions can be drawn:

1. The available evidence strongly suggests that the collapse and ongoing suppression of recovery of the local sea trout population in the river Kanaird is a direct result of the continuing presence of the Loch Kanaird fish farm. The mechanism of the observed collapse is fully explained by the sea louse hypothesis.
2. The collapse of the river Kanaird sea trout fishery and its failure to recover has caused and is causing ongoing financial loss to its owners and others in the community who depend on income from recreational sport fisheries.
3. Planning policy, both local and national, recognises the conflict between aquaculture and recreational fisheries and that these must be balanced in a fair way. The council recognize this within their own local plan with policy that farms should be moved away from river mouths. The grant of any sort of permanent planning permission would be inconsistent with this.

4. Pending the consideration of full planning permission under the Scottish Government's Review process, the Council should consider the imposition of planning conditions to mitigate the impacts .

Yours sincerely,



Robert W Younger

Solicitor Fish Legal Scotland | 15 Eildon Street Edinburgh EH35JU | Tel:01315564462

E-mail: robert.younger@fishlegal.net



APPENDIX Fish farming activity in Loch Kanaird as a significant cause of collapse and ongoing suppression of the recovery sea trout populations in the River Kanaird.

There is now increasing evidence that sea lice emanating from fin-fish aquaculture have been a significant causative factor in the decline of west coast salmonid populations, particularly of sea trout. The evidence that aquaculture can damage and sometimes collapse local wild salmonid populations is known as 'the sea louse hypothesis'. It depends upon five distinct propositions: that salmon farms are a significant source of lice (*Lepeophtheirus salmonis*); that there is an association between the levels of lice on salmon farms and their surrounding environment; that there is an association between levels of lice on salmon farms and observed lice numbers on salmonids; that sea lice have an effect on salmonids at individual level and finally that louse induced mortality is sufficient to explain observed regional declines in wild salmonid populations. This hypothesis is now examined in relation to the impact aquaculture in Loch Kanaird on the salmonid populations of the nearby River Kanaird:

1. Is the Kanaird farm a significant source of lice into the surround marine environment?

The Kanaird farm is consented for a biomass of over 1000 tonnes. This biomass represents a possible farmed salmon population of over 500,000 individuals. Even if the farm is managed at Aquaculture Code of Good Practice (CoGP) advisory levels of 0.5 gravid lice per fish then this will result in several million sea lice being released into what is a very self-contained area of water. CoGP levels are designed to protect the health of fish on the farm and not wild fish. However the farmer has demonstrated an inability even to maintain these levels, especially at the Kanaird farm. Data released by FOI demonstrates that this site is one of the most problematic sites for sea lice management in the West of Scotland. The Fish Health Inspectorate inspected the farm on 10th November 2009 and recorded that adult female sea lice counts were above the suggested CoGP threshold. It is clear that the Kanaird site is a significant source of lice into the receiving waters of Loch Kanaird and that the farmer has been unable to control levels of lice on the farm.

2. Is there an association between levels of lice on the farm and local sea trout?

The Loch Kanaird salmon farm is located within 2km of the mouth of the River Kanaird, and within 20km of the mouth of the Ullapool, Broom, Little Gruinard and Gruinard salmon and sea trout rivers. There is increasing evidence that a fish farm may infect fish within a thirty mile radius. For example in July 2012, sea trout taken in the River Ewe carrying heavy burdens of lice were believed to have been infected by lice shed by salmon farms out with Loch Ewe. The Loch Kanaird farm was considered by the Wester Ross Fisheries Trust to be the most likely source of these lice as other nearby farms (including Loch Ewe) were in the first year of their two year production cycle.

There has been important recent work carried out by louse experts such as Mark Costello of Auckland University showing how louse larvae may be transported to intercept migrating salmonid hosts. The larvae swim to the surface where under typical coastal conditions they tend to

be blown and washed into river estuaries. The proximity of the River Kaniard farm make it highly likely that smolts arriving in Loch Kanaird from the river in the months of late spring and early summer will be vulnerable to infection from the millions of lice released into Loch Kanaird by the farm as set out in 1. above. This is backed by empirical evidence. Samples of sea trout collected in the estuary of the River Kanaird in 2011 and 2012 by the Wester Ross Fisheries Trust were amongst the most heavily infected with parasitic sea lice of any samples recorded in the West of Scotland in 2012.

3. Is there an affect of sea lice on wild sea trout at the individual level

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. Monitoring work carried out by the Wester Ross Fisheries Trust in Loch Kanaird showed that in 2011 33% of the sea trout post smolts were carrying detrimental lice loadings and in 2012 this number rose to 48%.⁴

4. Is there evidence of impact at population levels?

The sea trout fishery of the River Kanaird collapsed in the 1980s and has not recovered. The collapse of the local sea trout fishery on the River Kanaird happened shortly after the advent of aquaculture in Loch Kanaird. There is thus a strong inference that aquaculture may have been a contributing or causative factor both in its collapse and its failure to recover. The hypothesis is further strengthened by the fact that there is no body evidence showing any other significant causative factors. Other causes have been suggested such as climate change, commercial fishing, seal predation however there is very little supporting evidence for any of these unlike for the sea louse hypothesis which has been greatly strengthened in recent years. Whilst the proposition probably cannot or would be extremely difficult to prove scientifically we can say that it is supported by inference and association and a strong understanding of the causal agent (ie louse infection). It is simply understood relying as it does on three straight forward concepts: a reservoir of farmed hosts amplifying infective pressure, transport of larvae to areas where wild fish become infected and some heavily infected fish dying. Furthermore an analysis of alternative hypotheses would almost certainly require even more untested assumptions. It therefore seems reasonable to us for the validity of the hypothesis to be accepted on the balance of probabilities.

⁴ RAFTS 2012 Managing Interactions Aquaculture Project 1: Strategic programme of post smolt sweep netting and analysis

From: [Colin Wishart](#)
To: [James Bromham](#)
Cc: [Epc](#)
Subject: FW: Loch Kanaird: RAFTS Planning Submission
Date: 17 June 2013 14:38:40
Attachments: [RAFTS Loch Kaniard 140613.pdf](#),
[Loch Kanaird Fish Farm.doc](#),
[WRASFB draft response to KaniardR.DOC](#)
Importance: High

From: tony [redacted]
Sent: 15 June 2013 08:10
To: Colin Wishart
Cc: James Bromham
Subject: FW: Loch Kaniard: RAFTS Planning Submission
Importance: High

Mr Colin Wishart
Planning and Development Services
Highland Council
INVERNESS

Dear Mr Wishart

Atlantic Salmon Trust comments on Application 13/01494/FUL

I apologise for this late submission by e-mail, which is because I am currently abroad.

Normally AST does not comment on local matters such as the Loch Kanaird application. In this case however, because of the regional and national implications of the proposal, we feel that our views should be taken into account.

The Atlantic Salmon Trust is a United Kingdom charity based in Perth, Scotland. The Trust is recognised nationally and internationally as a leader in promoting practical research-based strategies for the conservation of wild Atlantic salmon and sea trout. AST works closely with a wide range of national and international salmon conservation and management organisations to achieve its goals and objectives.

The development of Managing Interactions with Aquaculture Project (MIAP) by RAFTS with support from Marine Scotland Science has demonstrated the risks associated with locating high density salmon farms in Scottish west coast inshore waters. AST accepts that there is more work to be done before a fully detailed map identifying risks of all potential and existing salmon farm sites becomes available. We recognise that the existing mapping exercise has revealed an unacceptable level of risk in the area being proposed for the Loch Kanaird salmon farm. On that basis, and abiding by the precautionary principle, we have decided to submit our objection to the Loch Kanaird proposal.

I have attached the responses to the consultation made by Rivers and Fisheries Trusts Scotland (RAFTS), the Association of Scottish Salmon Fishery Boards (ASFB) and the Wester Ross Salmon Fishery Board (WRASFB).

We wish to submit our support for and general endorsement of them on the grounds that the science supporting them is sound. AST also recognises the national importance of the Loch Kanaird

application, and its potential implications for future planning applications.

I should be grateful if you would acknowledge this objection.

Yours sincerely

Tony Andrews

Tony Andrews
Chief Executive Atlantic Salmon Trust
Mobile: [REDACTED]
Website: WWW.Atlanticsalmontrust.org