

AP2/10/2015

SALMON WATCH
IRELAND

APPEAL



SALMON WATCH IRELAND

RATHFIN • LISSASAGHY • COUNTY LIMERICK
AQUACULTURE IRELAND

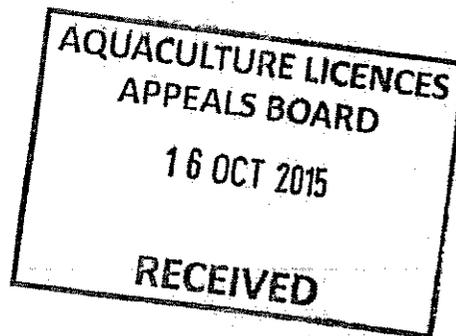
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15 October 2015

The Secretary
Aquaculture Licences Appeals Board
Kilminchy Court
Dublin Road
PORTLAOISE
Co Laois



Dear Secretary

I am enclosing:

1. A Notice of Appeal in respect of of the granting of aquaculture and foreshore licences reference T5/555;
2. Detailed grounds of our appeal;
3. A cheque for Euro 228.55.

As is implied by the amount of the cheque we wish to apply for an oral hearing of this appeal. We believe that this is warranted and in the public interest having regard to the gravity of the issues raised by the granting of these licences.

Yours faithfully

Niall Greene
Chair of the Board

**NOTICE OF APPEAL UNDER SECTION 40(1) OF
FISHERIES (AMENDMENT) ACT 1997 (NO. 23)**

Name and address of appellant:

Salmon Watch Ireland Limited, Registered address: 59 ~~xxxxxxxxxxxxxx~~
D01 P786 Correspondence address: Niall Greene, Rathreen, Eismagry, Co. Limerick
Telephone: ...061 330015..... Fax: 061 330019
Mobile Tel: ~~080 020 9222~~..... E-mail address: chairman@salmon.ie or
~~mailto:xxxxxxxxxx@xxxxxxxxxx~~

Subject matter of the appeal: The granting of aquaculture and foreshore licences by the Minister for Agriculture, Food and the Marine to Bradan Fanad Teo t/a Marine Harvest Ireland for the cultivation of Atlantic salmon at Shot Head Bantry Bay, Co Cork (Reference T5/555).

Site Reference Number:-

(as allocated by the Department of Agriculture, Food and the Marine)
T5/555

Appellant's particular interest
in the outcome of the appeal:

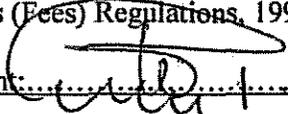
The appellant is an NGO concerned with the restoration of salmon abundance in Ireland. Open cage salmon farming is inherently inimical to migrating wild salmonids and, therefore, an additional threat to abundance.

Outline the grounds of appeal (and, if necessary,
on additional page(s) give full grounds of the
appeal and the reasons, considerations and
arguments on which they are based):

See attached submission of the grounds of appeal of Salmon Watch Ireland Limited

Fee enclosed:..... €228.55

(payable to the Aquaculture Licences Appeals Board in accordance with the Aquaculture Licensing Appeals (Fees) Regulations, 1998 (S.I. No. 449 of 1998))(See Note 2)

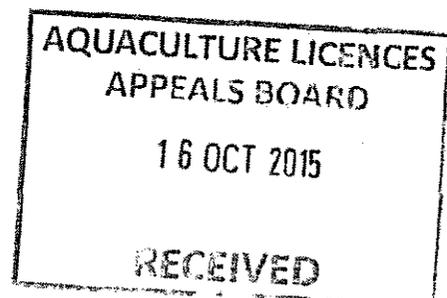
Signed by appellant: ..... Date: 15 October 2015

Note 1: This notice should be completed under each heading and duly signed by the appellant and be accompanied by such documents, particulars or information relating to the appeal as the appellant considers necessary or appropriate and specifies in the Notice.

Note 2: The fees payable are as follows:

Appeal by licence applicant.....	€380.92
Appeal by any other individual or organisation.....	€152.37
Request for an Oral Hearing (fee payable in addition to appeal fee).....	€76.18

In the event that the Board decides not to hold an Oral Hearing the fee will not be refunded.



SALMON WATCH IRELAND

Appeal by Salmon Watch Ireland Limited to the Aquaculture Licencing Appeals Board of the decision of the Minister for Agriculture, Food and the Marine to grant aquaculture and foreshore licences to Bradan Fanad Teo t/a Marine Harvest Ireland for the cultivation of Atlantic Salmon at Shot Head, Bantry Bay, Co Cork (Reference T5/555).

Introduction

Salmon Watch Ireland Limited ('SWIRL') is a not-for-profit membership organisation dedicated to the restoration of wild salmon abundance. It is SWIRL's position that open-cage salmon farming is inherently damaging to sea-migrating wild salmonids, Atlantic salmon and sea trout, and has proved to be so in Norway, Scotland and Ireland; in addition there are other significant environmental threats associated with open-cage farming. In the view of SWIRL, and many others here and internationally, it is only through conversion to closed containment systems, whether on land or in the sea, that can fully mitigate the hugely negative impacts flowing from current systems of salmon farming. There are now marketable quantities of closed containment salmon being produced on both sides of the Atlantic and the Norwegian government has committed to closed containment for further expansion of its industry.

Nonetheless, Ireland has a salmon farming industry which the Government is intent on expanding using current, out-dated technology with all its' dangers. Without prejudice to its opposition to open-cage salmon farming, therefore, SWIRL is obliged to put forward observations designed to mitigate the damage caused, particularly to wild salmonids, by existing and new installations.

The observations that follow should be seen in that light.

The SWIRL appeal against the granting of a licence at Shot Head

In the light of the information and analysis set out below SWIRL submits that ALAB should refer the licencing of a new salmon farm in Bantry Bay back to the Department of Agriculture Food and the Marine ('DAFM') and that that a licence should not be issued until the true potential impact on wild salmonids of the new farm taken in conjunction with the impact of existing farms is determined and full mitigation measures put in place in full conformance with the precautionary principle and approach.

SWIRL bases its appeal of the Minister's decision on the grounds that:

1. The major threat to wild salmonids (Atlantic salmon and sea trout) posed by concentration of sea lice generated by the proposed salmon farm are inadequately described and analysed in Environmental Impact Statement ('the EIS') prepared by Bradan Fanad Teo ('Bradan') and the Environmental Impact Assessment ('EIA') prepared by the DAFM; as a consequence the measures needed to protect wild salmonids from sea lice infestation are inadequately specified;
2. The major threat to wild salmonids posed by potential escapes of farmed salmon from the proposed salmon farm are inadequately described and analysed in the EIS and the EIA;
3. Neither the EIS nor the EIA deal adequately with the threat posed to wild salmonids by the production schedule proposed by Bradan;
4. Both the EIS and EIA fail to take a precautionary approach to the sea lice and escapee threats to wild salmonids and fail to apply the 'best available scientific knowledge in the field' standard to the assessment of the threats, especially sea lice;
5. Neither the EIS nor the EIA address the issue of the cumulative effect of all the salmon farming activity in Bantry Bay on the salmonid rivers that feed into it;
6. There are serious conflicts of interest within the EIS/EIA process and the licence decision-making as it all takes place within the DAFM and its executive agencies, the Marine Institute ('MI') and Bord Iascaigh Mhara ('BIM') while the DAFM also has overall responsibility for the development of salmon farming.

1. SEA LICE

The EIS (Vol 1 – pages 219 to 242) treats the sea lice issue almost as a hearsay matter promulgated ‘in some circles’ and relies on the self-interest of farmers to ensure that ‘the precautionary principle’ is applied to ensure that (a) ‘they minimise any suspicion of impact on wild salmonids’ and (b) ‘ensure that their own stocks do not fall prey to severe lice infestation’.

This argument does not, of course, hold up as the farmed salmon can successfully withstand levels of sea lice many multiples of the average of 0.3 to 0.5 ovigerous sea lice per farmed salmon that are required for the protection of migrating wild smolts in the critical March – May period.

The EIS relies heavily on the mechanisms laid down for sea lice control in Protocol No 3¹ and describes it as ‘mandatory’ (page 219) and that monitoring is ‘under statute’ (page 220). In reality, the legal status of Protocol No 3 is ambiguous and has never been legally tested. More importantly, the issue is not just mandatory monitoring but mandatory treatment if sea lice are found to be over the trigger level. Farms can, in practice, avoid treating their stock if they are actually or about to harvest fish irrespective of the sea lice count (even leading up to or during the critical period) and, therefore, the potential damage to wild salmonids.

In relation to sea lice, the EIA relies for authority on just one scientific paper written by MI scientists (and published by the MI) for the contention that ‘the observed level of marine mortality attributable to sea lice infestation is very small, both in absolute terms (approximately 1%) and as a proportion of the overall marine mortality. At these

¹ Monitoring Protocol No. 3 for Offshore Finfish Farms: Sea Lice Monitoring and Control, DAFF (Dublin, 11 May 2000).

levels it is unlikely to influence the conservation status of stocks and is not a significant driver of marine mortality’.

They fail to mention that there is voluminous literature from scientists and institutions at least as eminent as the MI which assess the same or similar data to that available to the MI in a very different way. A recent article with authors led by the Norwegian Institute for Nature Research (within which is discussed literature which compared the survival level of salmon smolts that had been chemically treated to withstand anti-sea lice with those which had not been treated prior to all being released into estuaries where there were salmon farms) concluded that ‘within any given release group, a risk ratio of 1.14 to 1.41:1 reflects the 12% - 29% fewer unprotected than protected fish ultimately are captured as adults’². The literature reviewed in coming to that conclusion included four articles written by MI scientists.

The conclusion in the Thorstad article is hardly surprising. The return rate of wild smolts to their native rivers is now, at best, of the order of 5% of migrating smolts. If sea lice cause a 1% mortality among outgoing smolts, as the MI paper quoted in the EIS contends, then that constitutes a 20% impact on the return rate. A similar point was made by Krkosek *et al*³ in response to a series of papers by Jackson *et al*⁴ in which they said: ‘According to interpretations used by Jackson *et al* (2013) that is a change of 2% which we agree is a small number. However, the realized effect is that it reduces the abundance of adult

² Thorstad, E B et al, *Effects of salmon lice Lepeophtheirus salmonis on wild sea trout Salmon Trutta – a literature review*. Aquaculture Environment Interactions Vol 7 91-113 at 107 (2015). NOTE: While primarily about the impact of sea lice on sea trout the article also referenced those on salmon.

³ Krkosek et al, *Short communication – Comment on Jackson et al ‘Impact of Lepeophtheirus Salmonis infestations on migrating Atlantic salmon, Salmo salar L smolts at eight locations in Ireland with an analysis of sea-lice induced mortality’*. Journal of Fish Diseases (2013).

⁴ (a) Jackson et al. *An evaluation of the impact of early infestation with the salmon louse Lepeophtheirus salmonis on the subsequent survival of outwardly migrating Atlantic salmon, Salmon salar L smolts*. Aquaculture 320 (2011).

(b) Jackson et al. *Impact of early infestation with the salmon louse Lepeophtheirus salmonis on the subsequent survival of outwardly migrating Atlantic salmon smolts from a number of rivers on Ireland’s south and west coasts*. Aquaculture 319 (2011).

(c) Jackson et al *‘Impact of Lepeophtheirus Salmonis infestations on migrating Atlantic salmon, Salmo salar L smolts at eight locations in Ireland with an analysis of sea-lice induced mortality’*. Journal of Fish Diseases (2013).

spawners returning to a river from say, 6000 down to 4000; this one third loss of salmon returns could have significant conservation or fishery implications’.

The literature reviewed in the Thorstad paper included one by Krkosek *et al*⁵ which considered the results of surveys in Norway and Ireland (the latter including that examined by the Marine Institute scientists) and concluded that parasite associated mortality of Atlantic salmon was of the order of ‘39% of salmon abundance, but also loss of genetic variability and its associated potential for adaption to other environmental changes’.

The Thorstad paper further noted that

‘the implications of our results may be most acute for small populations in small river systems. Due largely to the fidelity to their natal river systems, populations of Atlantic salmon typically show substantial genetic structuring and variability that is considered adaptive. Small river systems that support salmon populations of low effective population size will be especially vulnerable. The concern, therefore, is not only for a 39 per cent loss in salmon abundance, but also the loss of genetic variability and its associated potential for adaptation to other environmental changes’.

This issue of small salmon populations in small river systems is, as the EIA points out (page 44), precisely one of the key common characteristic of the five rivers that flow into Bantry Bay and one which dictates that extreme caution be exercised in the introduction of any further stresses into their environment.

The existence of these papers (and numerous other papers with similar conclusions) and their findings are not acknowledged in either document other than as ‘in some circles’.

⁵ Krkosek, M *et al*, *Impact of parasites on salmon recruitment in the North East Atlantic Ocean*. Proceedings of the Royal Society B20122359 (2012)

It is submitted to ALAB that neither of the EIS nor the EIA documents adequately evaluate the threat of sea lice and, therefore, cannot be considered an adequate basis on which to issue licences to Bradan.

SWIRL is not asking the ALAB to adjudicate on the correctness or otherwise of any of the scientific positions that have been arrived at but to acknowledge that an 'equal or better' situation⁶ exists which requires the application of a precautionary approach in the awarding of the Bradan licences. Some legal authorities on the application of the precautionary approach emphasise that in the event of doubt regarding environmental impacts, or as to the ability to mitigate such impacts, that consents should simply be withheld.

2. Escapes

The EIA statement (page 44) that 'Prevention of escapees is of paramount importance to the applicant' is obvious and uncontentious. But escapes have occurred and do occur (even if sometimes disguised as 'losses') and often through poor management of the farm and/or poor enforcement of regulations by DAFM.

The issue of escapees has to be seen in the context of the fact that only about 350,000 mature salmon now return to Irish rivers each year. They are spread over some 120 river systems some of which, such as the salmonid rivers in the Bantry Bay area as the EIA points out (page 44), hold very small stocks. Against that background, the 2014 'fish loss' in Bantry Bay referred to the EIA and which involved some 230,000 fish could have had catastrophic consequences for wild stocks over a considerable area; it is still not understood how this huge mass escape occurred or what happened to the stock.

⁶ See 'Section 4 – 'Precautionary principle' below.

The threats posed by escaped farmed fish are not trivial: A 2008 study⁷ prepared for the Salmon Aquaculture Dialogue (which includes salmon farming interests) and the World Wild Life Fund concluded that

'Numbers of farmed salmon escaping to the wild are large relative to the abundance of their wild conspecifics.....[There are] two important implications regarding escaped farmed salmon: 1) potential effects of escaped farmed salmon on population size and production are difficult to separate from other factors, and 2) wild salmon populations are likely to be more vulnerable to effects of escaped farmed salmon because of the synergistic effect of other negative pressures'.

The EIA offers little comfort in this area and falls short of saying that the design, installation and maintenance plans for pens and moorings are considered adequate. The EIA reliance on some future protocol covering these matters and the recovery of escaped fish from fresh water is not sufficient.

3. Production schedule

The draft licence authorises a 24 month cycle of production but does not specifically indicate the age of the smolts that will be stocked and the months in which smolts will be permitted to be stocked. The licence application by Bradan does, however, indicate biennial November stocking with biennial fallowing of the site in September and October.

The DAFM protocol for fallowing⁸ of high energy smolt sites designates best practice being to fallow during the winter months of January/February.

With smolts being stocked on site in November the critical period for wild salmonid smolt migration (March/April/May) is affected the following Spring (grower fish onsite, large biomass) as well as one year later (largest biomass). The main harvest is scheduled to take place

⁷ Thorstad et al. *Incidence and impacts of escaped farmed Atlantic salmon Salmo Salar in nature*. Norwegian Institute for Nature Research (2008).

⁸ Monitoring Protocol No 5: Fallowing at Offshore Finfish Farms, DAFF (Dublin, 11 May 2000).

over the critical period and throughout the summer months, a critical period for wild salmonid migration and for inshore feeding of sea-trout. The treatment for sea lice infestation during the harvest period is substantially reduced or indeed eliminated and this will further negatively impact on wild salmonid smolt migration.

Stocking smolts in March would facilitate fallowing in January and February immediately prior to smolt migration and leave the site fallow in January and February immediately prior to smolt migration.

Synchronised production in Bantry Bay would be necessary to optimise the value of fallowing.

The EIS and the EIA are at loggerheads on the issue of whether synchronised management is in place in Bantry Bay.

The EIS describes (pages 220 and 286) the need Single Bay Management ('SBM') and Coordinated Local Area Management Schemes ('CLAMS') but notes that 'CLAMS has yet to be established in Bantry Bay' (page 220) and that synchronous whole bay management would be 'subject to agreement with the other salmon farm operator in the bay' (page 286).

The EIA on the other hand says (page 47) that 'Since 1997, Single Bay Management (SBM) arrangements involving separation of generations and appropriate fallowing sites have been in place in all salmon farming areas in Ireland, including Bantry Bay'.

The ALAB needs to establish who is right here and to impose a stocking and fallowing regime that maximises the value of the critical period protections for wild salmonids.

4. Precautionary principle

The application of the precautionary principle is well enshrined not just in international law but in EU environmental law. The precautionary

approach to risk management holds that if an action or policy has a suspected risk of causing harm to the public or the environment, in the absence of scientific consensus that the action or policy is not harmful, the burden of proof that it is not harmful falls on those taking or authorising the action.

The Lisbon Treaty states that 'Union policy on the environment shall aim at a high level of protection [and] shall be based on the precautionary principle and on the principle that preventive action should be taken.....'⁹

It is well enshrined in the jurisprudence of the European Court of Justice ('ECJ') and the Court of First Instance ('CFI') that in considering risk and whether the precautionary principle should be applied that the best available scientific knowledge and information^{10 11} should be invoked and that in the event of conflict of evidence the 'equal or better' rule applies¹².

The 'equal or better' standard is designed to ensure that there is genuine scientific uncertainty about the effect of a particular course of action. Neither the EIS nor the EIA sets out the range of differing scientific views on the matters of sea lice and escapees which are known to exist and, therefore, but from the foregoing references in the case of sea lice and escapees it should not be difficult for the ALAB to assess whether the 'equal or better' rule applies.

From its own knowledge of the scientific literature SWIRL submits that the application of the 'equal or better' standard to the sea lice issue requires that a precautionary approach be taken to the issuing of a licence for a further salmon farming licence for Bantry Bay and that the ALAB should attach to the licence.

⁹ Consolidated version of the Treaty on the Functioning of the European Union, art 191, para 2.

¹⁰ Jiang, P, A uniform precautionary principle under EU Law, PKU Transnational Law Review (2014) 491-518 at 506

¹¹ Case 258/2011; Sweetman v An Bord Pleanala

¹² Case C-331/88 ex parte Fedesa, 1990 ECR I-04023

5. Cumulative effects

The Habitats Directive¹³ in Article 6.3 requires that any 'plan or project' be considered 'individually and in combination with other plans and projects'. Although there are references in both the EIS and the EIA to other salmon farming projects in Bantry Bay there has been no attempt to assess the cumulative effect on the bay of the totality of this activity.

SWIRL considers that this is a major deficiency in the EIS/EIA process for the Bradan project. The attention of the ALAB is drawn to the decision in the Waddensee case in which the ECJ held¹⁴:

'None the less, according to the wording of that provision, an appropriate assessment of the implications for the site concerned of the plan or project must precede its approval and take into account the cumulative effects which result from the combination of that plan or project with other plans or projects in view of the site's conservation objectives'.

Such an assessment therefore implies that all the aspects of the plan or project which can, either individually or in combination with other plans or projects, affect those objectives must be identified in the light of the best scientific knowledge in the field. Those objectives may, as is clear from Articles 3 and 4 of the Habitats Directive, in particular Article 4(4), be established on the basis, inter alia, of the importance of the sites for the maintenance or restoration at a favourable conservation status of a natural habitat type in Annex I to that directive or a species in Annex II thereto and for the coherence of Natura 2000, and of the threats of degradation or destruction to which they are exposed.

There has been no attempt to assess the cumulative effects of all salmon farming activity following the addition of the new Bradan farm.

¹³ Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora (21 May 1992)

¹⁴ Case C-127/2002; Waddensee

5. Conflicted interests

DAFM both directly and through its executive agency BIM is tasked by the Government with the development of aquaculture, including salmon farming¹⁵. It is advised in these matters by the MI, another executive agency of DAFM.

DAFM is also responsible for advising the Minister for Agriculture, Food and the Marine ('MAFM') on whether and on what terms licences are to be issued for the carrying on of aquaculture activities including the carrying out of the Appropriate Assessment of licence applications.

Finally, DAFM are the authority for the enforcement of the conditions under which licences are issued.

It is submitted that there are massive conflicts of interest built into this structure and that the entire decision making process is tainted by these conflicting functions within the DAFM and its agencies. The well demonstrated unwillingness or inability of DAFM to hold operators to account for meeting their licence obligations is evidence of their being heavily weighted towards their development and growth objectives rather than their regulatory obligations.

The content of the EIA reflects this bias. The membership of the review group is composed entirely of people who, however worthy they may be as individuals, are employed by DAFM and its agencies and include at least one person whose role is to promote aquaculture – a person who might usefully have been invited to give evidence to such a review but whose presence as a member is entirely inappropriate.

**Salmon Watch Ireland
15 October 2015**

¹⁵ Cf Seafood development programme 2014-2020, DAFM (Dublin, March 2015) and National Strategic Plan for Sustainable Aquaculture Development, DAFM (Dublin, June 2015).

