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SALMON WATCH IRELAND
"Dedicated to the restoration of salmon abundance in Ireland"

Application for a renewal and review of Aquaculture Licence by Ocean Farm Limited at Mc Swynes Bay, County Donegal
Extant Licence – T12-266

Dear Minister,

The documentation submitted by Ocean Farm Limited seeking a review and renewal of their extant aquaculture licence in Mc Swynes Bay, County Donegal falls far short of what is required pursuant to Article 6(3) of the Habitats Directive. Nor can there be reliance on Article 6 (4) thereof, as there are no stated 'imperative reasons of overriding public interest', (IROPI), which could ever justify locating a salmon farm at this sensitive location.

The site is within close proximity to the Oily and Bruckless River catchments which discharge into Mc Swynes Bay. The river Oily is categorised as a salmon river by Inland Fisheries Ireland and is only meeting 19% of its conservation limit with the latest advice from the Technical Expert Group on Salmon (TEGOS) [1] reporting that it is over five hundred and ten salmon (510) short of achieving its conservation limit of six hundred fish. The Bruckless river in all probability has a small unique population of Atlantic salmon which has not been adequately addressed or described by the EIAR presented by Ocean Farm Limited. Other rivers in the area north of the site and which may be impacted by sea lice and disease include the Eany which is also a salmon river (26% of CL). These rivers are not within SAC's which have Atlantic salmon as a qualifying interest but do have protection under the recently passed Nature Restoration Law. **The sea trout which inhabit these catchments and indeed all Irish catchments now enjoy protection and are included along with Atlantic salmon as annex 111 species with specific protection under Article 5. (Restoration of marine ecosystems).** [2]

Our main concerns regarding the renewal and review of this extant licence relate to Atlantic salmon, *margaritifera margaritifera* (Pearl Mussel) and near coastal pollution.

The transmission of sea lice and disease to the wider environment from this site currently harms wild salmonids and will continue if this licence is renewed. The prospect of escape of farmed salmon which may interbreed with wild salmon is certainly increased by climate change which will result in ever increasing challenging weather conditions including storms of severe magnitude.

The ongoing issues with sea lice and disease mediated mortality of wild juvenile salmonids has a direct effect on pearl mussel populations in the area. This will certainly increase with climatic

[1] Report of the Technical Expert Group on Salmon to the North-South Standing Scientific Committee for Inland Fisheries-The Status of Irish Salmon Stocks in 2023 with Catch Advice for 2024. https://www.fisheriesireland.ie/sites/default/files/2023-12/the-status-of-irish-salmon-stocks-in-2023-with-catch-advice-for-2024_0.pdf

[2] Nature Restoration Law – Article 5/5 - https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32024R1991&qid=1722240349976

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change resulting in warmer sea surface temperatures resulting in a shorter generational period for sea lice and more disease proliferation.

The prospect of declining water quality cannot be ruled out with modelling of BOD, DIN AND Phosphorus all being viewed as a myriad of notional values with little effort by applicant to present data which were entered into the model thus not allowing any independent evaluation. We would also assume that DAFM are not in possession of this data and thus cannot form an independent appraisal. It is not even remotely good enough to accept a model as presented by applicant without independent and appropriate appraisal. We would also have similar misgivings on the modelling of sea lice dispersal.

This specific point concerning modelling of data[3] was recently raised in a judgement by the High Court which noted that experts should effectively "show their workings" or "at least stating the facts or assumptions upon which their opinion was based." We certainly would suggest that the competent authority should have stated how they appraised the data as presented for hydrological modelling in the area under review. This point is particularly relevant when viewed against modelling presented in a study by the Marine Institute [4] which suggests that there are significant differences to dispersal models presented in the NIS.

All documentation presented by the applicant requires an independent and concise appraisal by your department in order to renew and review this extant licence and this cannot be achieved in view of the standard of assessment documents presented by Ocean Farm Limited.

Special Areas of Conservation

The site under review is also within the expected zone of influence to a number of Special Areas of Conservation (SAC) which have Atlantic salmon as a qualifying species and thus have added protection requiring appropriate assessment of impacts. There are also a number of Natura sites which have *margaritifera margaritifera* as a qualifying interest which also require appropriate assessment. The Natura Impact Statement as presented does not adequately address concerns regarding Atlantic salmon and *Margaritifera margaritifera*.

The following special areas of conservation, Cloghernagore Bog and Glenveagh National Park SAC [002047], Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC [000627], Lough Eske and Ardnamona Wood SAC [(000163], Lough Gill SAC [001976], Lough Melvin SAC [000428, River Finn SAC [00230], River Moy SAC [002298], West of Ardara/Maas Road SAC [000197] have Atlantic salmon as a qualifying interest and as such are required to be appropriately assessed.

The Report of the Technical Expert Group on Salmon to the North-South Standing Scientific Committee for Inland Fisheries-The Status of Irish Salmon Stocks in 2023 with Catch Advice for 2024 reports that the following rivers within the Ballyshannon district are categorised as follows, Drowse above conservation limit, and the Eske below its conservation limit (56 % Conservation

[3] High Court Judgement - Salmon Watch Ireland CLG -v- The Aquaculture Licences Appeals Board & Ors, Inland Fisheries Ireland -v- The Aquaculture Licences Appeals Board & Ors, Sweetman & Ors -v- The Aquaculture Licences Appeals Board & Ors – Para 1273-1274-
https://www.courts.ie/acc/alfresco/b4f7916e-69aa-4bee-bb93-a81126fbad83/2024_IEHC_421.pdf/pdf#view=fitHhttps://www.courts.ie/acc/alfresco/b4f7916e-69aa-4bee-bb93-a81126fbad83/2024_IEHC_421.pdf/pdf#view=fitH

[4] AQUAPLAN - Health Management for Finfish Aquaculture
https://drive.google.com/file/d/1GtbIvtDyFksK6pGd-zYQw5iBwvsV5y38/view?usp=sharing

Limit Achieved). Both these rivers are close to the extant licence site but other Natura sites with Atlantic salmon as a QI also require assessment through the Source-Pathway-Receptor methodology especially where there is a hydrological connection. There appears to be a reluctance to stray outside the 15km zone of influence which may be frequent practice but is not legally defined or indeed relevant where migratory fish are concerned. We would strongly argue that sea lice are a strong factor in the Eske not reaching its CL.

As the objective for Atlantic salmon in the Lough Eske and Ardnamona SAC is to restore the favourable conservation condition, it is imperative that the existing farms be closed to help in this restoration. It is helpful now to remind DAFM that it would not be legally permissible to renew the licence under review due to scientific doubt existing.

There are many minor rivers within the SAC's mentioned above which enjoy the same protection as designated salmon rivers. The designation of a river as a salmon river is more aligned with management rather than any biological or ecological status. Caution must always be to the forefront of any decision regarding the continuation of aquaculture at this site.

In addition, the natura sites with *Margaritifera margaritifera* include the Lough Eske and Ardnamona Wood SAC [000163] , West of Ardara/Maas Road SAC [000197], and the Lough Melvin SAC [000428]. Again, the Source – Pathway – Receptor method must be used rather than a strict adherence to the 15km zone as appears to have been utilised here.

We certainly are concerned with the recent escape of farmed salmon in Killary harbour and we consider that the large number of SAC's with salmon and pearl mussel populations as a Q1 near the Mc Swynes farm or indeed remote catchments up to 100 km from this farm may be at risk as demonstrated by the migration of farmed salmon into rivers up to 100 km from the Killary escape. (Source Inland Fisheries Ireland)

Sea Lice

In regard to wild salmon, we are not satisfied with the level of scrutiny of peer reviewed material concerning the impact of sea lice on wild salmon. While the NIS does discuss the different interpretation of data, it totally ignores the effect on returning adults. We have prepared a document which outlines the various peer reviewed papers concerning the impact of sea lice on adult salmon returns.[5] This clearly reflects the loss of adult returnees across a myriad of studies and the interpretation of the Marine Institute is clearly flawed as the most important issue is returning adults and not focussing on a one percent differential in overall survival. It is also clearly admitted that in years of poor survival indices at sea of wild salmon, wild smolts treated with Slice had a very substantial increase in survival against their wild untreated smolts. Conditions at sea are expected to be challenging due to climate and changing distribution of prey thus exacerbating issues surrounding the impact of sea lice originating from salmon farming areas.

The European Court of Justice (ECJ) [6]in several judgments have ruled that the test to be applied must be based on the 'best available scientific knowledge in the field.' We take issue, therefore,

[5] Smolt Loss Aquaculture Bays – Salmon Watch Ireland https://docs.google.com/spreadsheets/d/1EuepvI1wJKDoGUFFd-vKzgr4APL2q8-B/edit?usp=sharing&ouid=111338563308166601523&rtpof=true&sd=truehttps://docs.google.com/

[6] C-258/11 - Sweetman and Others v ABP (Galway Bypass)
C-258/11 - AG opinion, Sweetman and Others v ABP (Galway Bypass)
C-127/02 - Waddenzee

with the failure of the application to have regard to independent peer reviewed scientific reports and their interpretation of the effect of sea lice on wild salmonids and which challenge the conclusions of the small and select number of reports which are the only ones that have been consistently considered by DAFM and indeed the industry.

It is unacceptable that the Natura Impact Assessment as presented ignores the ECJ jurisprudence and only considers a narrow range and indeed interpretation of scientific literature concerning the impact of sea lice from salmon farms on wild salmonids.

Assessment of applications for grants of licences, and grants of renewal of licences, by the Minister for Agriculture Food and the Marine, have in the past relied exclusively on a limited number of scientific papers from the Marine Institute in respect of sea lice impacts on wild salmonids in the marine setting.

Salmon Watch Ireland strongly asserts that DAFM must consider the application by Ocean Farm Limited as flawed and thus not in compliance with Article 6 subsections (3) and (4) of the Habitats Directive.

The Jackson et al,[7] studies have been relied upon by Ocean Farm Limited in their NIS associated with this application and are once again at considerable variance with both national and international studies in relation to the impact of salmon farming and the impacts of sea lice emanating from these farms on wild salmonid stocks. The Marine Institute papers imply falsely in their interpretation that the impact of sea lice emanating from salmon farms are a minor and irregular component of wild salmon survival. This has been relied upon by the applicant in this case to minimize the effects caused by salmon farming.

These studies have been subject to much criticism[8] and overall scientific consensus indicates a significant effect on wild salmon survival.

While other peer reviewed papers concerning sea lice appear in the NIS it is obvious that a bias is towards the Marine Institute papers and that the Competent Authority in its examination of same is not independent in this matter as the resources of the Marine Institute were utilised to carry out the Jackson studies.

Salmon Watch Ireland strongly suggests that an independent review be considered to examine the studies carried out by Jackson which have already been widely dismissed as defective . Simply put there is an impact on vulnerable salmon stocks and to licence open cage farming is effectively ignoring the inevitable outcome of this practice, **less adult returns**.

C-521/12 - T.C. Briels and Others v Minister van Infrastructuur en Milieu
C-323/17 - People Over Wind and Sweetman v. Coilte Teoranta

[7] Jackson et al. 2013. Impact of Lepeophtheirus salmonis infestations on migrating Atlantic salmon, Salmo salar L., smolts at eight locations in Ireland with an analysis of lice-induced marine mortality.
https://oar.marine.ie/bitstream/handle/10793/849/Impact%20of%20Lepeophtheirus%20Salmonis%20on%20Migrating%20Atlantic%20Salmon%20(Jackson,%20D.%20et%20al.).pdf?sequence=1

Jackson et al. 2011. An evaluation of the impact of early infestation with the salmon louse Lepeophtheirus salmonis on the subsequent survival of outwardly migrating Atlantic salmon, Salmo salar L., smolts.
https://www.sciencedirect.com/science/article/pii/S004484861100247X

[8] M Krkosek et al. (2013) 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 lice-induced marine mortality'
https://drive.google.com/file/d/1TtsD1Ra3R7bczcNtJZ2IMT6LS3BUpD1G/view?usp=sharing

It is alarming to note the dependence of the applicant on sea lice treatments and the recent transfer over to the use of cleaner fish to mitigate the effects of sea lice on farmed salmon, as most of the studies concerning impacts on wild salmonids were carried out while mitigation strategies were in place and while biomass was generally lower on farms.

It is also a rapidly changing temperature regime in the majority of bays in Ireland where salmon farming is taking place. The recent study[9] by the Marine Institute, Marine Environmental Characterisation of Irish Inshore Aquaculture Regions, **certainly notes that the longest running SST timeseries, based at Malin Head and submitted to ICES annually, has showed a steady increase in positive anomalies, suggesting a general trend of rising SST, particularly in the Northwest region. These anomalously high-water temperatures have been linked to salmon survivability in farms.**

This factor will make sea lice more problematic and disease more prevalent as indicated by the extraordinary mortalities experienced by the Mc Swynes Bay farm which alone on a welfare basis should not be allowed to continue. The application for this review and renewal states that up to 84% mortality took place in 2020 while nearly 60% mortality was reported in 2022. This could equate to up to one million farmed salmon mortalities, surely a grave indictment of welfare regulations associated with salmon farming in this country.

We again strongly reiterate that trigger levels for treatment on farms are arbitrary and have no scientific basis to suggest that background natural levels are ever maintained in the presence of salmon farms.

It is essential to note that there is a substantial difference in impact aligned with biomass, period fish are in farms and environmental conditions. There are significant differences in impacts if farms in bays are recently stocked with smolts during spring, grower fish in second year of production and bays that are fallowed. The situation in Mc Swnes and Inver Bay presently has fish in second year of production at all times in that both areas are in production in alternate years. There is **no whole-bay (Donegal)** fallowing and there is a consistent source of sea lice larval distribution 12 months per year.

The impacts are readily recognisable from Passive Integrated Transponder (PIT) studies carried out by Inland Fisheries Ireland on the Erriff river in County Mayo. These studies clearly demonstrate that there is a substantial effect on salmon and sea trout survival and all times but is substantially greater when farms are in second year of production and biomass is large.[10]

It is also mentioned that sea lice densities rapidly decrease away from the farm. There has been no concerted study to indicate larval sea lice densities or copepod densities in areas where no salmon farms are, so to suggest that background levels are achieved is entirely without merit.

The recent paper by Morton *et al*. [11] clearly demonstrates that removal of farms reduces sea lice infestation pressure to background levels.

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[9] Marine Institute "Marine Environmental Characterisation of Irish Inshore Aquaculture Regions https://drive.google.com/file/d/1C0meEnLHD6h9-okD_OSbh-8seWqkvwqk/view?usp=sharing

[10] Page 66- Annual Report and Financial statements – Inland Fisheries Ireland https://opac.oireachtas.ie/Data/Library3/Documents%20Laid/2023/pdf/DECCdoclaid290623_102523.pdf

[11] Effect of government removal of salmon farms on sea lice infection of juvenile wild salmon in the Discovery Islands - https://drive.google.com/file/d/1C0meEnLHD6h9-okD_OSbh-8seWqkvwqk/view?usp=sharing

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It is noteworthy that the applicant has gone to considerable lengths to demonstrate that studies carried out in Killary Harbour are not reflective of conditions in Mc Swynes Bay. However, it is still obvious that studies carried out are over a greater geographic range demonstrate a significant reduction in returning adults. The interpretation of data by the competent authority is flawed.

The following peer reviewed papers although not exhaustive demonstrate the impact of sea lice on wild salmon and must be considered in order to comply with the standards required what is required pursuant to Article 6(3) of the Habitats Directive. [12]

Mortalities in Farmed Salmon
Another aspect which requires more scrutiny is the abject record of Ocean Farm in relation to mortalities on their farms. Mortality rates are running at up to 84% and it is objectionable that such events are allowed to continue. While climatic change may negatively affect their operation it is indefensible that DAFM should continue to allow open cage farms which offer little if any protection from changing oceanic conditions which may amplify further harmful algal blooms, jellyfish infestations, sea lice and a myriad of pathogenic diseases. Permitting such ongoing mortality in the farmed stocks raises fundamental questions regarding regulatory commitment to animal welfare.

Amoebic Gill Disease
With warming oceanic temperatures, it is evident that AGD will continue to increase in both intensity and indeed over longer periods and as such there is a consistent negative effect on both salmon and sea trout in areas where AGD is present on salmon farms. It is also important to note that the Marine Institute does note that wild salmon smolts may be affected by AGD dependant on temperatures during spring. The treatment of this topic in the documentation presented is not sufficient and falls far short of what is required. The juvenile wild migrating salmon from the Lough Eske and Ardnamona SAC are certainly at risk on their migration route.

Freshwater Pearl Mussel
The issue of Freshwater Pearl Mussel populations in the Lough Eske and Ardnamona Wood SAC [000163] , West of Ardara/Maas Road SAC [000197] and the Lough Melvin SAC [000428] has not been effectively addressed in the EIAR and NIS. The negative effect of farm origin lice on both Wild Atlantic salmon and sea trout is well established. As the FPM requires a healthy population of juvenile salmonids to ensure that reproduction capacity is not inhibited and if this renewal is granted it will continue to deteriorate.

Alternative Technologies
Alternative technologies as usual have again not been in any way addressed. There are many technologies available to rear salmon to market on land and this should have been addressed.
Conclusion

In conclusion, it has to be accepted that salmon farming in open cage technology is significantly harmful to juvenile wild salmon and sea trout. The prospect of escapee salmon from farms breeding with wild salmon is certainly an issue which may continue to increase as a result of climatic change causing more intense storms and expected damage to farm infrastructure.

The legal requirement for consent for this licence is contained in the following judgements:

[12] Sea Lice Papers -https://drive.google.com/drive/folders/14pkmp_eiA4zA_yE-_w1wXrXJCyWdPQNr?usp=sharing

Kelly (Eamon) v An Bord Pleanála [2014] IEHC 400 [13]***and Connelly v An Bord Pleanála [2018] IESC 31. In Connelly, the Supreme Court explained that the 'overall conclusion' which must be reached before the competent authority will have jurisdiction to grant development consent following an appropriate assessment 'is that all scientific doubt about the potential adverse effects on the sensitive area have been removed'.***

Accordingly, we state that consent cannot be given as scientific doubt exists concerning the impact of sea lice on wild salmon smolts originating in the Lough Eske and Ardnamona SAC as well as the escape of salmon which may impact on other SAC's which have pearl mussel or Atlantic salmon as qualifying interest.

Signed

John Murphy
Chairperson
Salmon Watch Ireland
18 November 2024

[13] http://www.europeanrights.eu/public/sentenze/Irlanda-25luglio2014-High_Court.pdf