

**AP2/5/2015**

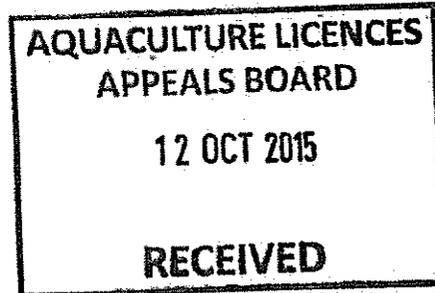
**BANTRY SALMON&TROUT  
ANGLERS ASSOCIATION**

**APPEAL**



# Bantry Salmon and Trout Anglers Association

Aquaculture Licences Appeals Board,  
Kilminchy Court,  
Dublin Road,  
Portlaoise,  
Co Laois.



09 October 2015

Ref: NOTICE OF APPEAL UNDER SECTION 40(1) OF FISHERIES (AMENDMENT) ACT 1997 (NO. 23). REFERENCE: T5/555 for the cultivation of Atlantic Salmon; *Salmo Salar* on a site on the foreshore at SHOT HEAD, BANTRY BAY, CO. CORK.

Dear Sir/Madam,

Please find attached copy of Appeal from Bantry Salmon & Trout Anglers Association, and other named groups, in relation to the licence granted at Shot Head, Bantry Bay.

I enclose cheque for €152.37 to cover fee.

Yours Sincerely,

*Con O'Leary*

Con O'Leary  
Chairman  
Bantry Salmon & Trout Anglers Association  
Baugorm  
Bantry  
Co Cork

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

Name and address of appellant:

Con O'Leary  
Chairman  
**Bantry Salmon & Trout Anglers Association**  
Baurgorm  
Bantry  
Co Cork

Email: [REDACTED]  
[REDACTED]

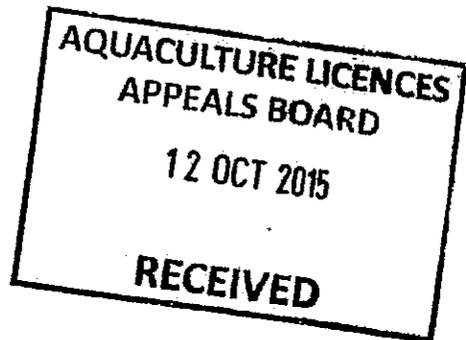
Bob Seward  
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Subject matter of the appeal:

FISHERIES (AMENDMENT) ACT, 1997 (NO. 23) & FORESHORE ACT, 1933 (NO. 12) NOTICE OF DECISION TO GRANT AQUACULTURE AND FORESHORE LICENCES. THE MINISTER FOR AGRICULTURE, FOOD AND THE MARINE HAS DECIDED TO GRANT AN AQUACULTURE LICENCE AND A FORESHORE LICENCE TO, BRADÁN FANAD TEO T/A MARINE HARVEST IRELAND, KINDRUM, FANAD, LETTERKENNY, CO. DONEGAL, REF: T5/555 FOR THE CULTIVATION OF ATLANTIC SALMON ; SALMO SALAR ON A SITE ON THE FORESHORE AT SHOT HEAD, BANTRY BAY, CO. CORK.

Site Reference Number: - T5/555

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

WE REQUEST THAT SALMON FARM LICENCE T5/555 IS WITHDRAWN, DUE TO DETRIMENTAL IMPACT OF SALMON FARMING ON WILD SALMON AND SEA TROUT IN THE AREA. THE DECISION TO GRANT THE LICENCE WAS GIVEN WITHOUT FULL CONSIDERATION OF ALL AVAILABLE RESEARCH.

**Scientific evidence shows the impact salmon farms have on wild salmon and sea trout stocks.**

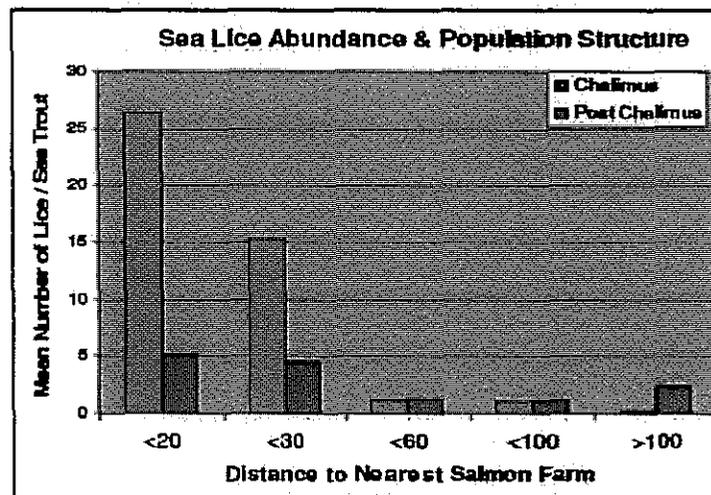
**Background to the impact of sea lice emanating from salmon farms on wild Atlantic Salmon and Sea Trout populations in the Bantry Bay area**

In the wild, salmon are perfectly adapted to cope with sea lice concentrations found in natural open ocean environments. However, in salmon farms sea lice build up to such an extent that fish have to be treated with pesticides in order to prevent them from suffering severe damage, which would result in devastating infections and ultimately death.

In areas with many salmon farms, young wild salmon (smolts) must migrate, unprotected, past farms and the associated sea lice and sea lice larvae. It is widely accepted that this is having a negative impact on wild salmon and sea trout populations. It is only the extent of the negative impact that is in dispute today.

Three recent scientific papers, including three meta-analysis, show that sea lice emanating from salmon farms cause anything from a 39%, 44% or even 50% reduction in wild salmon populations.<sup>1,2,3,4</sup>

Research conducted in Ireland revealed that the highest levels of sea lice were recorded at sites less than 20km from salmon farms, with total lice infestation lower at sites less than 30km from farms.<sup>5,6</sup>



This research highlights the need to separate salmon farms from wild salmon rivers to ensure wild salmon populations are not at risk of collapsing. It is for these reasons, that in 1994 a Report commissioned by the Minister of the Marine from the Sea Trout Working Group stated that until the precise nature of the relationship between sea lice and sea trout is understood 'a precautionary approach dictates that it would be prudent to avoid siting new fish farms or increased salmon farm production...within 20km of a sea trout river mouth'.<sup>7</sup> Meanwhile, in Scotland the 'rule of thumb' is that salmon farms should be located at least 18km from salmon river mouths.<sup>8</sup>

More recently, as part of the Strategic Environmental Assessment [SEA] of the Irish Seafood National Program 2007 – 2013 published under the National Development Plan in July 2010 it was determined that 'The targets for increased productive capacity for salmon will now have to be deferred until after 2013 at the earliest as a result of the amendments made to this

*Programme... during the SEA process*'.<sup>9</sup> The concerns again related to the negative impact of sea lice, and were submitted by the former Central and Regional Fisheries Boards and supported by the Department of Communication, Energy and Natural Resources (DCENR).<sup>9</sup>

Today, the situation is far from resolved. Salmon farms continue to be located much too close to wild salmon rivers, resulting in the devastation of local and migrating salmon and sea trout populations.

While some progress has been made in the control of sea lice on some farms, these are often thwarted. Increasing disease incidence has recently been seen with the widespread outbreak of amoebic gill disease (AGD). This has affected fish appetite resulting in decreased ingestion of in-feed medication to control sea lice. Indeed, AGD has been a regularly occurring problem at many of Marine Harvest's salmon farms in recent years. Furthermore, increased resistance to treatment and warming seas are also favouring lice breeding. The result is persistent breaches of the Treatment Trigger Level (TTL), the accepted level of lice per fish, beyond which immediate treatment is required. The number of salmon farms exceeding the TTL in 2010, 2011, and 2012 show that the sea lice levels have not been controlled and in some cases are worse than at the time of the publication of the 'Irish Seafood National Program 2007 – 2013' in July 2010.<sup>10,11,12</sup> Stocks of one winter salmon farms, exceeded the treatment trigger limit in 25% of salmon farms between 2009 and 2011. The number of sites with lice levels above the TTL in two-winter salmon farms has risen continually since 2009 when 24% exceeded limits, to 40% in 2010, to 50% in 2011.

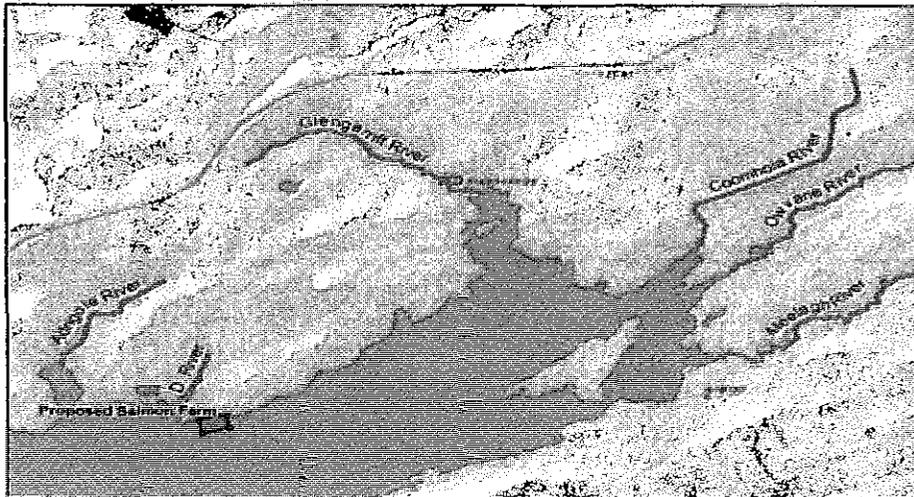
A recently published large scale Norwegian research study noted that in the case of sea lice '*increased intervention efforts have been unsuccessful in controlling elevated infection levels*'.<sup>13</sup> In particular the paper notes that where there is an increased number of farmed salmon, either through a greater number of farms or greater farm size in an area, sea lice control becomes more difficult. It is suggested this is due to sea lice gaining resistance to available treatments.

It is this experience that has led government bodies in other countries to take action to protect their valuable wild salmon populations. The recent Cohen Report published in Canada, has recommended that all expansion of salmon farming be banned, with a view to possible closure of existing salmon farms should the issue not be resolved.<sup>14</sup> Meanwhile in Norway, 29 fjords and 52 rivers, have been designated as salmon protection areas, in which the development of salmon farming is banned.

**Our issue with the granting of a licence at Shot Bay Bantry Co. Cork.**

There are six wild salmon rivers within 15km of the proposed Shot Head salmon farm site – a distance far less than the recommended threshold distance of 20km. The Dromogowlane river is a mere 0.5km away. Ironically, this river was not mentioned in Marine Harvest's Environmental Impact Statement for the proposed salmon farm, a serious omission of fact, raising serious questions as to the quality of the entire document.

### Salmon Rivers Near the Proposed Salmon Farm



The North Atlantic Salmon Conservation Organisation noted in 2010 that three of these rivers, the Coomhola, Owvane and Meelagh are already suffering impacts of harm and face potential further risks from marine salmon farming.<sup>15</sup> Given their proximity to the site, there can be no doubt that wild salmon from these rivers will be put at yet further risk by the granting of the licence for Shot Head. The negative impact would be far greater for the Glengarriff and Adrigole rivers and catastrophic for the Dromogowlane river that lies a mere 500m away.

#### **Dispute with advice given to Minister Coveney**

Inadequate information and inaccuracies within the advice given to Minister Coveney regarding sea lice, when making his determination on granting a licence to Marine Harvest for a salmon farm at Shot Head in Bantry Bay.

The report given to Minister Coveney, which recommended the approval of the licence at Shot Head fails to address all issues fully. Instead information is incomplete, and ignores key scientific data.

Firstly, no consideration is given to the growing problem of treatment resistance. This has become so serious that, in other salmon farming countries it has been said to be the greatest threat to the industry. To award a licence for salmon farming by Marine Harvest at Shot Head without giving due consideration to how treatment resistance will be addressed, is inappropriate and puts local wild salmon and sea trout populations at serious risk.

The report recommending the approval of the licence also states:

*"Long-term studies in Ireland show that sea lice are a minor and irregular component in marine mortality of wild salmon and 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 levels it is unlikely to influence the*

*conservation status of stocks and is not a significant driver of marine mortality. Norwegian studies have shown broadly similar results."*

This conclusion is based on one research study, led by Dr David Jackson of the Marine Institute, which goes against the consensus. His studies have been the cause of considerable controversy within scientific circles and have been much criticised by international experts in the field.

Meanwhile, the Norwegian study drew a very different conclusion to Dr Jackson's study despite his claims of similar results. This is discussed on the next page.

To date, the most conclusive research studies examining the impact of sea lice emanating from salmon farms on wild salmon populations have been based on the same model. A research team will release pesticide treated smolts, alongside ordinary smolts, and monitor differing return rates. Dr Jackson's team used this precise model for their research study, and in turn published three papers using the data gathered. These papers concluded '*that infestation of outwardly migrating salmon smolts with the salmon louse was a minor component of the overall marine mortality in the stocks studied*'.<sup>16, 17, 18</sup>

The Marine Institute's conclusion was quickly picked up and quoted by Simon Coveney, Minister for Agriculture, Food and the Marine; Bord Iascaigh Mhara; and the Irish Farmers Association and government bodies when promoting the current salmon farming agenda.<sup>19,20,21</sup> They all claimed the study was definitive and unequivocal; while suggesting it showed sea lice from salmon farms did not negatively impact wild salmon populations.

There was outcry amongst the international research community. One key player, Prof Costello, wrote directly to Minister Simon Coveney, to inform him that he was being misled.<sup>22</sup> Inland Fisheries Ireland wrote a public statement, as did the internationally renowned Prof Ken Whelan on behalf of the Association of Salmon Fishery Boards in Scotland.<sup>23,24</sup>

Not long after, in August 2013, a devastating critique of the Marine Institute's work was published in *The Journal of Fish Diseases*. The international team of experts from Scotland, Norway and Canada re-analysed the Marine Institute's data. It noted that the Marine Institute's team '*incorrectly lead the reader to a conclusion that sea lice play a minor, perhaps even negligible, role in salmon survival*' and that '*such conclusions can be supported only if one is prepared to accept at least three methodological errors*'.<sup>25</sup>

Having re-analysed the data, using the standard statistical methods, the international team highlighted that rather than sea lice emanating from salmon farms causing a 1% mortality of salmon smolts, as David Jackson of the Marine Institute concluded, they in fact cause a one third reduction in adult salmon returns. The research team concluded that this '*has implications for management and conservation of wild salmon stocks*'.

The results of the reanalysis concur with other international studies, as well as Irish studies,<sup>1,2,3,25</sup> which indicate that sea lice emanating from salmon farms have a devastating impact on wild Atlantic salmon populations. Inland Fisheries Ireland, national and

international angling and environment groups, as well as international research teams have all welcomed the clarification. Inland Fisheries Ireland stated *'In this context, the location of salmon farms in relation to salmon rivers and the control of sea lice prior to and during juvenile salmon migration to their high seas feeding ground is critical if wild salmon stocks are not to be impacted. The development of resistance to chemical treatment of sea lice and other fish husbandry problems, such as pancreas disease and amoebic gill disease, are likely to make effective sea lice control even more difficult in future years.'*<sup>26</sup>

Since the controversy regarding Dr Jackson's research, a definitive review of over 300 scientific publications has been published by a team of international scientists from Norway, Scotland and Ireland. It too concluded that sea lice have negatively impacted wild salmon and sea trout stocks in salmon farming areas in Ireland, Scotland and Norway.<sup>4</sup>

As mentioned on the previous page, the report to the Minister recommending licence T5/555 be approved also claimed that a Norwegian study had similar results to Dr Jackson's. This is a misrepresentation of the published scientific research. While, it is true there are similarities in the design and data gathered in the two studies, the conclusions were quite different. Authors of the Norwegian study, Skilbrei et al., state that *'...salmon lice appeared to impose an average additional marine mortality of ~ 17% (odds ratio of 1.17 for recapture of treated/control fish). According to the considerations by Norwegian expert groups aiming to quantify the impact of salmon lice, this level of influence would be expected to represent a moderate regulatory effect on a salmon population.'*<sup>27</sup>

In other words, the Norwegian's findings indicate quite the opposite to the results of Dr Jackson's study.

Given the vast amount of evidence, which indicates that sea lice emanating from salmon farms have a devastating impact on wild salmon populations, it is extraordinary that the panel who have recommended the Shot Head salmon farm licence be approved, can claim that there will be minimum impact. Furthermore, they state:

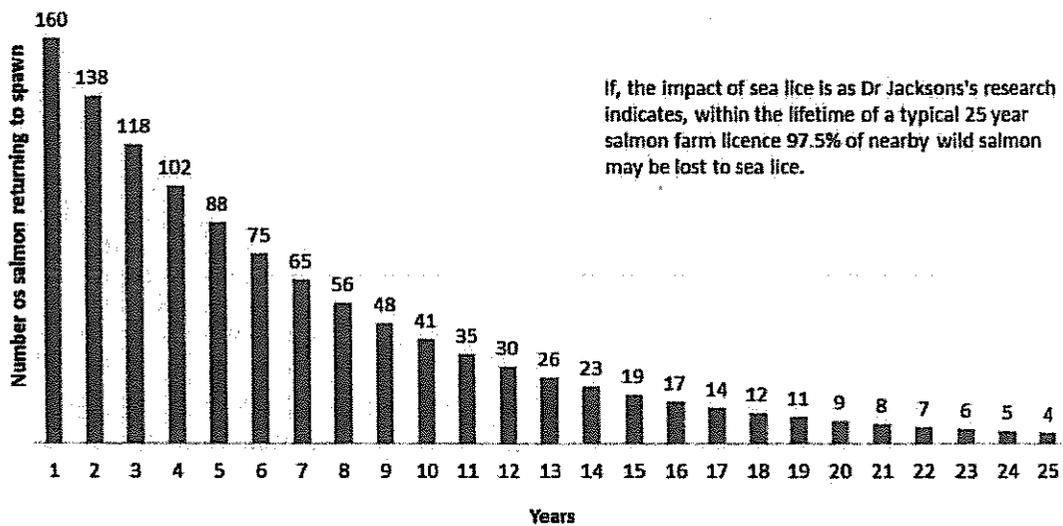
*"The applicant's track record in maintaining low levels of lice on the farmed fish at their existing licenced site in Bantry Bay has been good. Continued mitigation efforts - including full implementation of the national Pest Control Strategy (including Single Bay Management), rotation of treatment methods to avoid resistance and the applicant's commitment to co-operation with the other salmon farm operator in the Bay - should allow this record to be maintained, and minimise the lice burden on the farm and any potential impact on wild salmon and sea trout populations."*

None of these methods have solved the problems of treatment resistance in other salmon farming areas. Indeed, treatment resistance is one of the greatest problems facing the salmon aquaculture industry today.

To make matters worse, the location of the licence granted is a mere 5km across the Bay at Gearhies, a distance so small it is considered 'high risk' for cross transfer of parasites and disease.

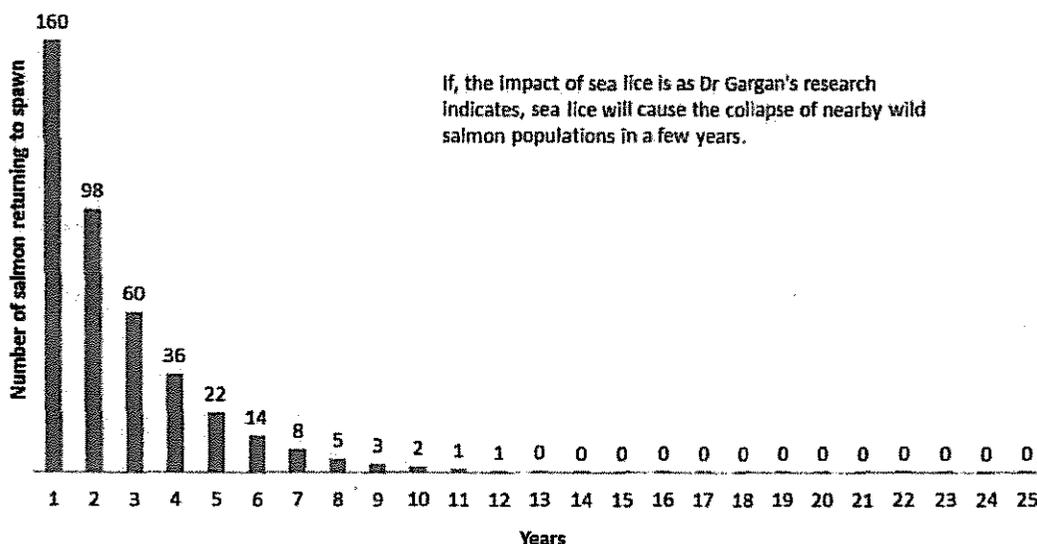
The granting of this third salmon farm licence in Bantry Bay, -which we assume runs for 25 years though that detail is omitted from the copy available from the DAFM website - has placed wild salmon and sea trout populations at serious risk of extinction. This is likely to occur within the timeframe for which the licence has been granted. Consequently, based on Jackson's highly controversial and conservative data, salmon will be almost wiped out by the licence renewal date.

Dr Jackson -  
Cumulative impact of sea lice



A more typical finding, such as the study by Dr Gargan of Inland Fisheries Ireland, which reported a 39% decrease in wild salmon returns, would mean local Atlantic salmon and sea trout populations are wiped out in a mere 12.5 years – or half the time which we assume the licence has been given permission to operate for.

**Dr Gargan -  
Cumulative impact of sea lice**



**The impact of escaped farmed salmon in Bantry Bay**

A further threat to wild salmon comes from escaped farmed salmon. For a long time it has been known that escapees can have detrimental genetic and ecological effects, and effects on wild populations is regarded as a serious problem for the future sustainability of sea-cage aquaculture.<sup>28</sup>

They spread disease and parasites, compete for food, and over-run redds.<sup>29</sup>

Hybridisation, or cross breeding, also occurs which results in genetic dilution. In the wild, salmon are loyal to a particular river returning each year to spawn. Each river's salmon population has adapted over thousands of years to be perfectly in tune with that very environment. If escaped farmed salmon cross breed with wild populations they pose a significant threat to their gene pool. Farmed fish are designed to be aggressive feeders that grow fast. But, they're not used to dealing with predators, and don't have carefully attuned strategies for growth, maturity, timing of migration and resisting disease that relate to their local river.

Research has shown that escaped farmed salmon are just as fertile as their wild cousins, and warns of 'a clear threat of farm salmon reproduction with wild fish'.<sup>30</sup> Indeed, Prof Gage stated there is 'ample evidence that escaped farmed salmon can survive at sea and get into spawning rivers. In some Norwegian rivers, big numbers of farmed fish have been recorded – accounting for as much as half of the salmon. There is also evidence that farmed fish have successfully mated with wild populations: the genetic signatures of salmon in some Norwegian rivers now exhibit significant changes that are entirely consistent with wild/farmed hybridisation'.<sup>31</sup>

The result of such inbreeding is reduced homing precision, survival, life span, and productivity of wild salmon populations.<sup>32</sup>

Research in Norway showed escapees resulted in a 28% reduction in smolts due to resource competition and competitive displacement.<sup>33</sup>

A further, and ironic impact of salmon farm escapes is they may inflate catch based spawning stock estimates to such an extent that the stock appears either to be healthy or recovering, the consequences of which are that conservation measures are either relaxed or not strengthened, or new measures not being introduced.<sup>34</sup>

On 1 February 2014, severe storms in Bantry Bay resulted in disappearance of 230,000 farmed salmon from damaged nets at Murphy's salmon farm at Gearhies. There is no evidence that these salmon did not escape alive. The obvious conclusion is that this event was the largest escape of farmed salmon in Irish history. What is more this took place a mere 5km from site where Marine Harvest has been granted its new licence at Shot Head.

The sheer scale of the escape in 2014 in Bantry Bay, means that the already depleted wild salmon stocks in local rivers could be swamped posing yet another threat to their survival as the Dromogowlane, Coomhola, Owvane, Meelagh, Glengarriff and Adrigole rivers are less than 20km from the escape site.

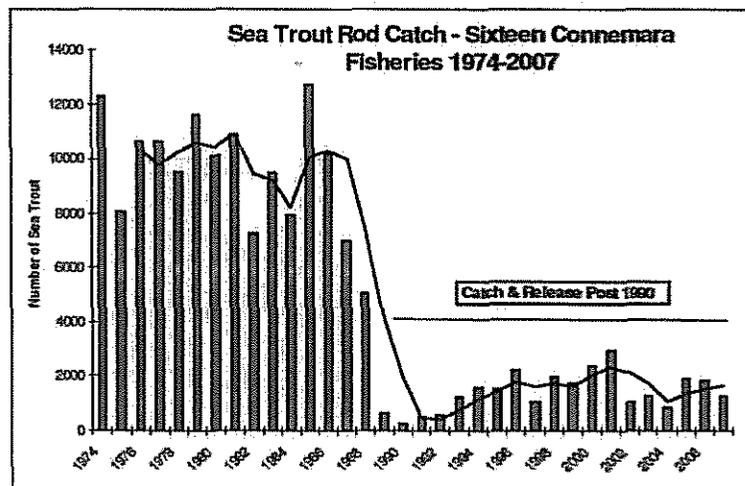
The Shot Head site where the salmon farm has been given the licence is far more exposed than the existing salmon farm at Gearhies and is subject to far greater wave heights and more extreme weather conditions.<sup>35</sup> Predictions also suggest more extreme winter storms are now likely to occur due to climate change. Therefore the site cannot be considered suitable. Its exposure to severe weather and sea conditions, place it at far greater risk of storm damage which would result in further escapes. It is recommended the licence is immediately withdrawn.

### **The impact of the Shot Head salmon farm licence on angling and related industries**

What would the collapse of wild salmon numbers mean for the local community and economy? A study commissioned by Inland Fisheries Ireland and published in 2013 found angling to be worth €750 million to the Irish economy.<sup>36</sup> Another study found preferred locations for angling to be predominantly rural areas, particularly in the West and South West.<sup>37</sup> The very area where this licence has been granted.

The economic value of the wild salmon in the six recognised salmon rivers in Bantry Bay is considerable. Recently these rivers have witnessed a recovery from drift net over fishing, and anglers are returning. However, if the proposed salmon farm goes ahead, wild salmon populations would be at risk of collapse once again, which in turn would result in closure of rivers to anglers. The result would be a decline in anglers visiting the area, and consequently a decline in overall tourist numbers.

Such a situation has already been seen with the collapse of sea trout stocks in Connemara during the 1980s which coincided with the introduction salmon farming in the area.



To again witness the closure of wild salmon and sea trout rivers, would be detrimental to tourism particularly in the areas of Bantry, Ballylickey, Glengarriff, and Adrigole, where numerous anglers visit each year. Many of these angling tourists stay in bed and breakfast, hotels and lodges, and the monetary income, which remains in the community, is extremely important to the local economy.

Open cage salmon farms such as has been granted, are simply not environmentally or economically compatible with the angling tourism industry. The negative economic impact has not been considered adequately within the EIS or in the recommendation to the Minister to grant the licence. We therefore ask you to reconsider and withdraw the licence following the appeal process.

#### **Lack of Strategic Environmental Assessment**

EU legislation (Directive 2001/42/EC) requires that a Strategic Environmental Assessment (SEA) is completed, even when there is a minor modification or amendment to national policy that may impact the environment.

A SEA was completed on the Irish Seafood National Program 2007 – 2013, published under the National Development Plan in July 2010. As mentioned earlier it determined that *'The targets for increased productive capacity for salmon will now have to be deferred until after 2013 at the earliest as a result of the amendments made to this Programme... during the SEA process'*.<sup>9</sup>

Since this date various national government policies and papers have been published promoting the expansion of salmon farming. Including Food Harvest 2020, and Harnessing Our Ocean Wealth – An Integrated Marine Plan for Ireland. Despite policy objectives within

these documents significantly expanding scale of salmon farming in Ireland, which would greatly increase negative environmental impacts, neither document has been subject to SEA.

The granting of a salmon farm licence at Shot Head by DAFM has almost certainly been done in order to reach their policy targets to increase salmon farming. However, this very policy is unlawful due to not having been subject to an SEA. We therefore again ask that this licence is withdrawn until an SEA is complete.

This situation is extremely curious, when one considers that there are numerous existing licences not being utilised. If all existing licences were to be utilised, in addition to many more being awarded, Ireland would suddenly find itself in a situation where salmon farming has doubled or tripled in size with no SEA to determine the impacts of such a policy. This would be wholly neglectful.

### **Summary**

The reports recommending the Minister approve this licence and back ground information are based on:

- select scientific information that ignores common consensus of expert opinion,
- inadequate information that fails to examine the key issue of treatment resistance,
- inadequate information on latest escape records in Bantry Bay which are already putting wild salmon at risk
- lack of an analysis of the impact on angling and associated industries, upon which many locals depend financially
- Lack of Strategic Environmental Assessment

We therefore ask that this licence be withdrawn.

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  35. Marine Harvest (2011) Environmental Impact Statement for a proposed salmon farm site at Shot Head, Bantry Bay, County Cork, Ireland
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  37. Board of Inland Fisheries Ireland make a statement on proposed offshore salmon farm Press Release November 23rd, 2012 <http://www.fisheriesireland.ie/Press-releases/board-of-inland-fisheries-ireland-make-a-statement-on-proposed-offshore-salmon-farm.html>

Fee enclosed:..... € 152.37  
(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)

*Tom Lillis*

Tom Lillis  
Chairman  
Angling Council Ireland

*Der Casey*

Der Casey  
Chairman  
National Coarse Fishing Federation of Ireland

*Robert Seward*

Robert Seward  
Hon Secretary  
Salmon & Sea Trout Recreational Anglers Ireland  
AND  
Munster Blackwater Salmon & Trout Anglers Assoc.

Signed by appellant: *Con O'Leary, Chairman*

Date: 9-10-2015

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**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.