

**AP2/12/2015**

**FRIENDS OF THE IRISH  
ENVIRONMENT**

**APPEAL**



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

**Name and address of appellant:**

Friends of the Irish Environment,  
Kilcatherine, Eyeries, County Cork P75 CX53  
Telephone: 027 70771  
Mobile Tel: 087 2176396  
E-mail address: admin@friendsoftheirishenviornment.org

**Subject matter of the appeal:**

License T5/555 granted 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 for the cultivation of Atlantic Salmon; Salmo Salar on a site on the foreshore at SHOT HEAD, BANTRY BAY, CO. CORK.  
(as allocated by the Department of Agriculture, Food and the Marine)

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

National environmental organization established in 1997 with a long-standing interest in sustainable aquaculture aggrieved by a decision of the Minister.

**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):**

I: Inadequacies in the Environmental Impact Statement: Proper Planning, Poor water circulation and limited flushing in Bantry Bay, phytoplankton and nutrient inputs, failures in habitat, flora and fauna surveys, sea lice, stocking management, noise, sustainability and climate change issues

II: Inadequate monitoring and enforcement to ensure licence compliance, Failure of applicant to give reasonable assistance to an authorised officer, Failure to provide information on emissions to the environment

***Full grounds attached with grounds for Oral Hearing request***

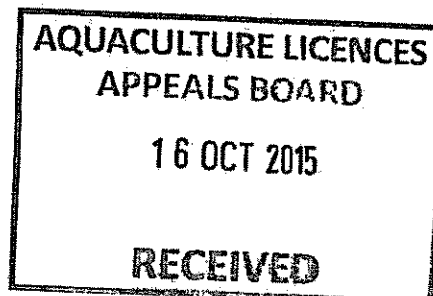
**Fee enclosed: €152.37 & €76.18 Oral Hearing Fee = €228.55**

(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:**

18 Oct 2015





Kilcatherine, Eyeries, County Cork  
<http://www.friendsoftheirishenvironment.org>

THE AQUACULTURE LICENCES APPEALS BOARD (ALAB)  
KILMINCHY COURT  
DUBLIN ROAD  
PORTLAOISE, CO LAOIS.  
15 OCTOBER 2015

APPEAL AGAINST LICENSE T5/555 GRANTED FOR THE  
CULTIVATION OF ATLANTIC SALMON; SALMO SALAR ON A SITE ON THE  
FORESHORE AT SHOT HEAD, BANTRY BAY, CO. CORK.

I: Request for Oral Hearing

II: Inadequacies in the Environmental Impact Statement:  
Proper Planning, Poor water circulation and limited  
flushing in Bantry Bay, phytoplankton and nutrient  
inputs, failures in habitat, flora and fauna surveys, sea  
lice, stocking management, noise, sustainability and  
climate change issues

III: Inadequate monitoring and enforcement to ensure  
licence compliance, Failure of applicant to give reasonable  
assistance to an authorised officer, Failure to provide  
information on emissions to the environment

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Friends of the Irish Environment is a non-profit company limited by guarantee registered in Ireland.  
It is a member of the European Environmental Bureau and the Irish Environmental Network.  
Registered Office: Kilcatherine, Eyeries, Co Cork, Ireland. P75 CX53 Company No. 326985.  
Tel & Fax: 353 (0)27 74771 Email: [admin@friendsoftheirishenvironment.org](mailto:admin@friendsoftheirishenvironment.org)  
Directors: Caroline Lewis, Tony Lowes

## **FRIENDS OF THE IRISH ENVIRONMENT**

Appeal against Licence T/05/555A

### **PART I**

#### **PART I: Request for Oral Hearing**

An Oral Hearing is critical for this long standing application's appeal because of the seriousness of the errors and inconsistencies in the applicants EIS and in their response to the Marine Institute's request for further information provided on 3 March, 2014.

In 2012 we identified significant errors in the EIS. This appeal lists these again as they have not been corrected in the intervening 3 years.

For example, we demonstrate (again) that the EIS significantly misrepresents the length of coastline and nominal sea area as well as the prevailing wind conditions on the Western Irish Coast.

Further, our examination of records released to us on an appeal to the Commissioner for Environmental Information after refusals by the Department of Agriculture, Food and Fisheries demonstrate that the applicant is not a fit person to hold such a licence, having failed to give reasonable assistance to authorised officers during inspections.

The examination of the records released to us indicate that a number of statements made by the applicant in relation to the usage of chemicals (particularly SLICE) in their response to the

Marine Institute inquiry demonstrate that the frequency of the use of SLICE is greater than that claimed.

Further records which were ordered released by the OEIC on 21 August 2015 are due to be provided to us on 21 October, 2015 if no Judicial Review is taken by any party. These records bear on this appeal and the applicant and may be relevant for an Oral Hearing.

As the issues are detailed, complex and very serious, we believe that only an Oral Hearing will ensure the Board can adequately assess the reasons, considerations, and arguments that we have advanced and so ensure natural justice for all parties.

We attach the additional fee of €76.18.

Tony Lowes & Caroline Lewis, Directors  
14 October, 2015

**PART II: Inadequacies in the Environmental Impact Statement: Proper Planning, Poor water circulation and limited flushing in Bantry Bay, phytoplankton and nutrient inputs, failures in habitat, flora and fauna surveys, sea lice, stocking management, noise, sustainability and climate change issues**

**Proper Planning**

**Bantry Bay Charter**

County Cork Development Plan specifically refers to the Bantry Bay Charter. This Charter gives a commitment to comprehensive public participation in relation to significant developments in Bantry Bay and was developed in part due to the over development of the bay including the extensive aquaculture in the area. . Its principle objective is to ensure that agreement is reached within local communities before any further development takes place. Such agreement has not been reached.

**Co-ordinated Local Area Management Scheme (CLAMS)**

Bantry Bay is yet to establish a Co-ordinated Local Area Management Scheme (CLAMS)<sup>1</sup> and until such time any further aquaculture development, particularly for salmon, is premature. This concept of management is designed to facilitate the development of plans for individual bays incorporating and extending the concept of Single Bay Management. It will also be integrated with Coastal Zone Management policy and County Development Plans.

**Poor water circulation and limited flushing in Bantry Bay**

Bantry Bay comprises of sea inlets and bays with estuaries where water courses enter the head of the bay.

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<sup>1</sup> EIS Vol. 1 page 220

The EIS states that '...the flood tide passes through Berehaven and through the Roancarrig site. It [the current] then turns south on the ebb tide, to pass south of Bere Island, to join the circulation travelling west from Shot Head . As a result any soluble or suspended wastes emanating from both the proposed Shot Head and MHI Roancarrig sites can be expected to pass from the sites, to the south of Bear and out into the Atlantic circulation , rather than to circulate within the bay area.'

This appears to imply that the tidal currents do not transport any waste products into the inner bay from the Roancarrig site or the shot head site.

However the Marine Institute publishes weekly Forecasts for HABs (harmful algae blooms). Two of these reports were accessed entirely at random - for week 30 and week 39 of 2015.

One of the transects upon which the model is based is located at Shot Head.

These reports show that 'very weak water flow expected' at Shot Head with the arrows showing that the flow is both **in and out of the inner bay**, with 'weak water flows' in and out of the Outter Bay.

The model makes it clear that is very unlikely that the wastes from the salmon farm will pass directly from the salmon farms 'out into the Atlantic Ocean' as is claimed by the applicant.

See the following Figures



# MARINE INSTITUTE MODEL SHOWING TIDAL FLOW IN AND OUT OF SHOT HEAD 2015

Forecast for next 3 days

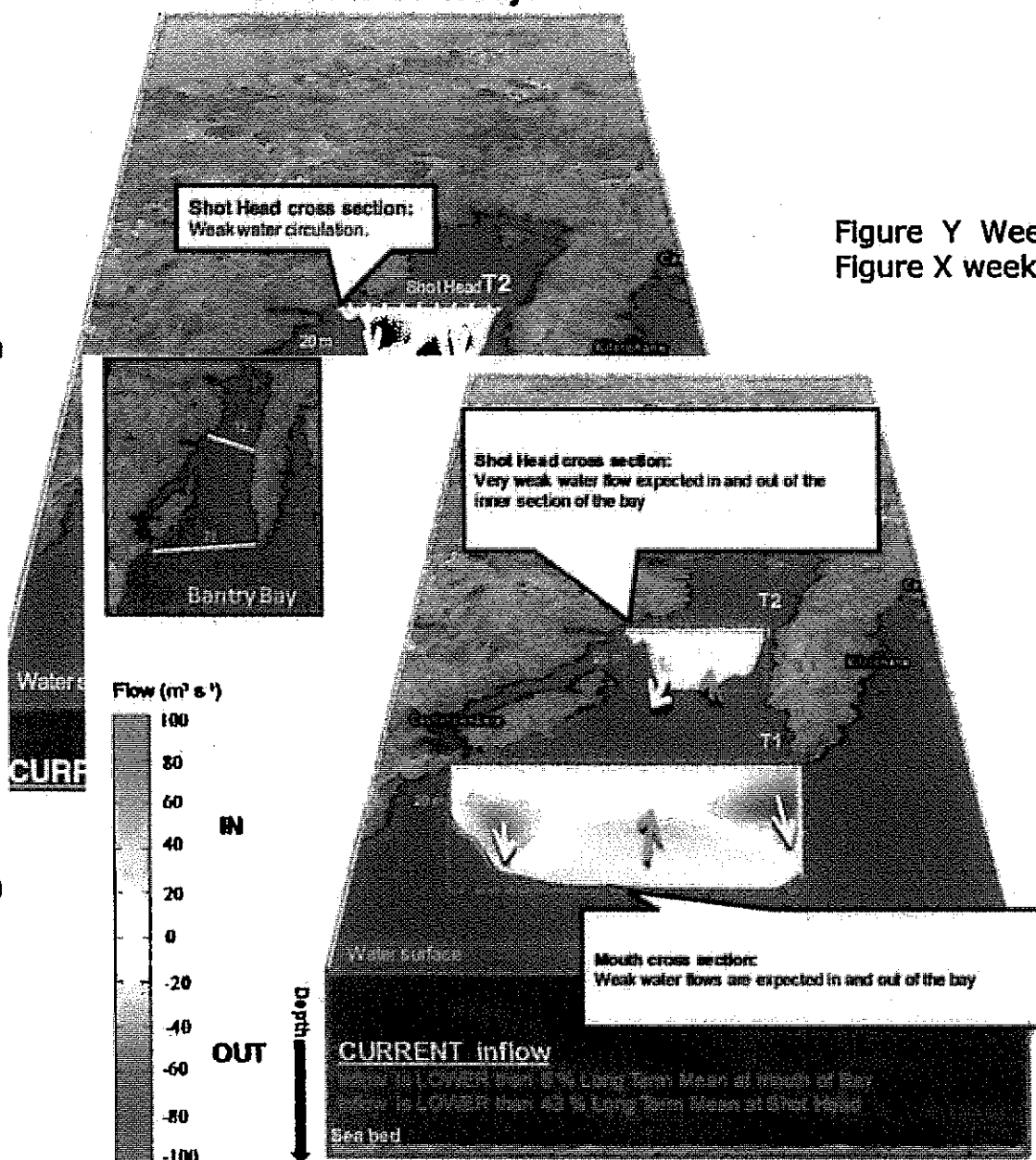


Figure Y Week 39  
Figure X week 30

[https://www.marine.ie/Home/sites/default/files/MIFiles/Docs/SeafoodSafety/2015\\_Week\\_30\\_Irish\\_HAB\\_Bulletin.pdf](https://www.marine.ie/Home/sites/default/files/MIFiles/Docs/SeafoodSafety/2015_Week_30_Irish_HAB_Bulletin.pdf)

We understand that detailed information relating to currents in Bantry Bay is available from the Harbour Master and yet these do not appear to have been investigated. From communications with the Harbour Master the currents in Bantry Bay are very slack and dispersal of pollutants is limited. This is borne out by the two screenshots of the Marine Institutes model,

In terms of eutrophication nitrogen (N) is the limiting nutrient in the marine environment.

The proposed salmon farm will emit 155 tonnes of N over a 22 month period. This is equivalent in terms of N to emissions from treated sewage from a population of 58 000 .

**We submit that the selected area is unsuitable due to poor water circulation and limited flushing in Bantry Bay.**

#### **Phytoplankton and nutrient inputs**

Phytoplankton blooms can have a significant impact have a significant negative impact on dissolved oxygen (DO) levels when sea temperatures are at their highest and DO at its lowest (less gas dissolves in water as temperature increases) . Certain types e.g. *Karenia mikimotoi* can kill finfish and shellfish.

Raine et al. (Raine et al., 1993b) suggested that the sudden appearance and rapid increase in the concentration of *K. mikimotoi* levels in Bantry Bay during a bloom event in 1991 resulted from the advection of an established offshore population from the adjacent shelf into the Bay. The physical mechanism by which these populations were transported into the Bay was through wind-induced, strong oscillatory residual flows in a stratified (two-layer) water column (Edwards et al., 1996). The strength of these flows resulted from the axial alignment of Bantry Bay to the prevailing southwesterly winds.<sup>2</sup>

There are frequent closures of mussel farms particularly in inner Bantry bay due to the presence of significant levels of toxicity. At the present time 'The Biotxin Sample Frequency for Mussels from

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<sup>2</sup> Source <http://plankt.oxfordjournals.org/content/32/1/99.full> Accessed 11th February 2012)

Kenmare, Bantry and Dunmanus Bays will remain weekly until further notice due to continued observed toxicity in Mussel Samples from these bays.<sup>3</sup>

Some of the most important factors include water temperature, density, and salinity, hydrography of the region, availability of nutrients, what species and the amount of phytoplankton biomass that is present, what types of zooplankton are grazing on the phytoplankton, and available sunlight levels.

Sea temperature changes in the Northeast Atlantic are predicted to rise by 2–4°C by the end of the century (Houghton, 2003). A number of studies have indicated that increases in sea temperature and changes in seasonal stratification are already influencing the biogeography, abundance and seasonality of plankton assemblages (Beaugrand et al., 2002; Edwards and Richardson, 2004).<sup>4</sup>

Increasing the nutrient levels in Bantry Bay will therefore increase one of the factor linked to such blooms. The cumulative impact of nutrient inputs from all sources has not been assessed as the EIS has assumed it will all discharge into the Atlantic Ocean. As demonstrated by the information on currents presented above this is clearly not the case.

### **Habitats**

Marine habitats present in Bantry Bay are sea inlets and bays (MW2), and estuaries (MW4)

Bantry Bay is the largest of the marine inlets in the south-west of Ireland. The southern shore is approximately 35 km long, while the northern shore out as far as Dursey Island is 55 km. The bay is 10 km wide at its broadest point and up to 70 m deep. The seabed is covered in a predominantly muddy substrate, although coarse sand, gravels and rock do occur e.g. close to the north shore of Whiddy.

In outer Bantry Bay, maerl beds are located off Bere Island. Small estuaries are associated with the watercourses entering the head of the bay. A rare sea squirt (*Phallusia mammillata*), the largest found in Britain or Ireland, has been found in Bantry Bay. Indeed, this is the only known location of the species in Ireland (BioMar). The bay

<sup>3</sup>

Source

<http://www.marine.ie/home/publicationsdata/data/Habs+Search+Database/PhytoplanktonShellfishToxicitySummary.htm> Accessed 10th February 2012

<sup>4</sup> Source <http://plankt.oxfordjournals.org/content/32/1/99.full> Accessed 10th February 2012

is a known spawning ground for autumn-spawning herring *Clupea harengus*. Other fish occurring include Mackerel, Pollack, Dog Fish, Mullet and Ballan Wrasse. Commercially caught species include Dublin bay prawn.<sup>5</sup>

### Flora and Fauna

The survey carried out using the Remotely Operated Vehicle (ROV) failed to identify a number of species e.g. unidentified sea anemones<sup>6</sup>; Burrows, probably of bivalves or annelids in background<sup>7</sup>; small unidentifiable sea anemone<sup>8</sup>; unidentifiable branched hydroids and sea anemones<sup>9</sup>.

No assessment is given on the impact the development will have on benthic fauna and flora including the rare *Phallusia mammillata* - as noted above Bantry Bay is the only known location of the species in Ireland.

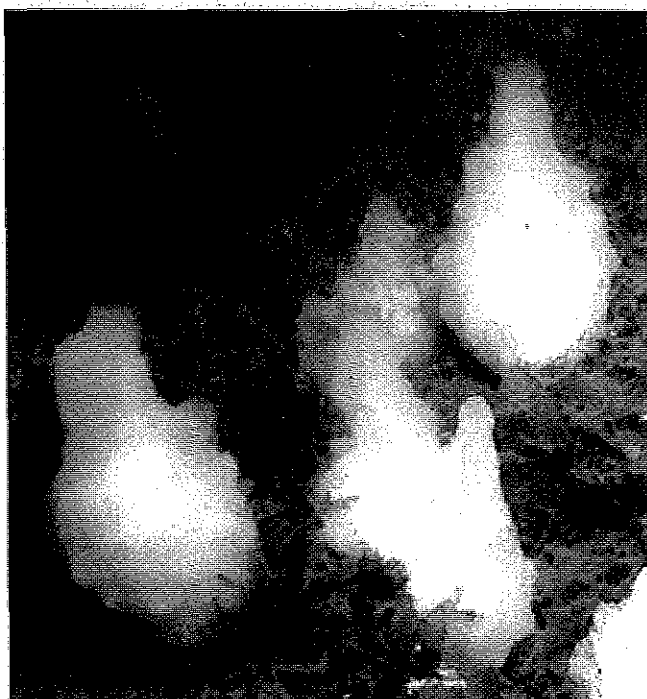


Figure 2 The sea squirt *Phallusia mammillata* recorded from Bantry Bay - currently the only site in Ireland for this species.

<sup>5</sup> Source [http://bantry.ie/site42/images/stories/heritage/downloads/BantryBiodiversityPlan-Section3a-Marine\\_and\\_coastal.pdf](http://bantry.ie/site42/images/stories/heritage/downloads/BantryBiodiversityPlan-Section3a-Marine_and_coastal.pdf) Accessed 9<sup>th</sup> February 2012

<sup>6</sup> EIS Vol 1 Plate 7 page 131

<sup>7</sup> EIS Vol 1 Plate 13 page 134

<sup>8</sup> EIS Vol. 1 Plate 14 page 134

<sup>9</sup> EIS Vol. 1 Plate 15 page 135

The survey of marine mammals and protected birds was inadequate – e.g. do they use this area for feeding or the coastline for breeding? See Noise, below.)

It should be noted that Orthon's Island (pNHA Site Code: 001028) in Adrigole Harbour supports a nationally important Arctic Tern colony. Arctic Terns are on Annex I of the EU Birds Directive. The site synopsis states that 'Formerly these birds were associated with Roancarrigbeg, east of Bear Island'<sup>10</sup> There is a possibility that activities and noise relating to the salmon farm at Roancarrig disturbed the colony.

In addition the island is used by the Common Seal that frequent Adrigole Harbour. No assessment has been made on the impact of the development on the seals listed on Annex II of the EU Habitats Directive and we note that the EIS refers to the use of seal scarers.<sup>11</sup>

An assessment is required to ascertain if any of the species of interest use the proposed development area for feeding or nesting and also whether it offers a suitable nesting location which may allow them to extend their range.

### **Local Impacts**

The reason given for a second salmon farm is to enable annual harvesting from a production area<sup>12</sup>. However there is no justification given for this approach and it would appear that this is not essential for the effective production and continuity of supply. The fish are processed centrally at Marine Harvests processing plant in County Donegal which takes in fish from all of Marine Harvest's Irish production areas.

Bantry Bay contains a significant proportion of developments: a large coastal quarry, an oil terminal on Whiddy Island, a significant number of mussel lines, tradition inshore fisheries operations, four fish farming sites and a number of marine tourism ventures. Part of the requirements for an EIS is to assess alternative sites – but due to the number of existing developments there are no alternative sites<sup>13</sup>. This suggests that Bantry Bay is already overdeveloped and that further large scale aquaculture is inappropriate. This is particularly relevant for the tourist industry as tourism depends upon the preservation of unspoilt areas (See Appendix 1).

<sup>10</sup> EIS Vol2 page 317

<sup>11</sup> EIS Vol. 1 page 172

<sup>12</sup> EIS Volume 1 page 22

<sup>13</sup> EIS Vol. 1 page 27

The EIS states that '...it is normal practice for inshore fishing activities to continue within the seabed mooring.'<sup>14</sup> In practice this does not take place due to the risk of entanglement with mooring ropes/chains and due to the presence of the feeding pipes which run from the feed barge to each stocked cage. This is an important fishing/potting ground for a number of local fishermen. The EIS has totally understated this.

### **Wild Salmon**

There are five main salmon rivers in Bantry Bay - the Clashduff/Adrigole River, the Glengarriff River, the Coomhola River, the Owvane River and the Mealagh River. The main impacts on wild salmon stocks are from sea lice, disease and genetic alteration through inbreeding with escaped farmed salmon.

### **Sea Lice**

The EIA states that

'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.' (page 47 EAI)

However the number of sea lice permitted before treatment is triggered is very high when looked at in context of large scale industrial salmon farming.

The harvest weight of a salmon is 4.5 to 5.6kg. (EIS page 143) If we take the average harvest weight per fish as 5kg and the total fish harvested as 3,500 tonnes then number of fish is calculated to be 700,000 (3500/0.005).

Ovigerous female sea lice are those which produce the infective larvae. Trigger levels are 0.5 ovigerous sea lice per fish in spring and 2 per fish at other times of year. The lower level means that a fish farm can have as many as 350,000 ovigerous female sea lice and at other times of year almost 1.5 million (1,400,000.)

It is difficult to see how such numbers could not have a significant impact on marine mortality.

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<sup>14</sup> EIS Vol. 1 page 29

The latest research would support this conclusion. The extract below summarising the findings is from Inland Fisheries Ireland website

'Previously research was based on individually published studies but this new review reached its conclusions based on comprehensive studies of the effects of salmon lice from over 300 scientific publications. The project was funded by the Norwegian Seafood Research Fund which provides investment in Norwegian seafood industry-based R&D with the objective of creating added value for the seafood industry.

The study also examined the potential effect of sea lice on salmon and concluded that sea lice have a potential significant and detrimental effect on marine survival of Atlantic salmon with potentially 12-44% fewer salmon spawning in salmon farming areas. Chairman Brendan O'Mahony commented, "These conclusions concur with previously published Inland Fisheries Ireland research on the potential impact of sea lice from marine salmon farms on salmon survival." [source <http://www.fisheriesireland.ie/fisheries-research-1/459-effects-of-salmon-lice-on-sea-trout-a-literature-review-nina-report-1044-september-2014/file> accessed 04 October 2015]

Sea Lice build rapid resistance to treatments and increases in sea temperatures tends to increase sea lice populations. Sea temperatures are forecast to increase due to climate change.

March to May is the sensitive time for wild smolt. The mean seawater temperatures are given <sup>15</sup> but the minimums and maximums are not given. However it may be assumed that sea water temperatures may well breach the treatment threshold for Hydrogen Peroxide in April and May, and possibly in March. It clearly states in the SOP for Hyrdogen Peroxide 'Do Not treat if the seawater temperature is greater than 12 °C'. <sup>16</sup>

There are three treatments listed for sea lice:

1. Hydrogen Peroxide: a proven carcinogen for animals, may cause cancer in humans; Mutagenic for mammalian somatic cells Mutagenic for bacteria Contains material that may cause damage to the blood, upper respiratory tract, skin, eyes and central nervous system. Products of biodegradation are possibly hazardous short/long term degradation products are to be expected. Waste must be disposed of in accordance

<sup>15</sup> EIS Vol. 1 Figure 18 page 50

<sup>16</sup> EIS, Vol. 2, page 149)

with federal, state and local environmental control regulations;<sup>17</sup>

2. AlphaMax: toxic to crustaceous animals and must not be used close to where crabs and lobsters are kept (<200m) or where local sea currents leads to risk of exposure;<sup>18</sup>
3. SLICE: may cause effects to the nervous system very toxic to aquatic organisms, may cause long term adverse affects in the aquatic environment. This product contains material that are harmful to the environment This product and its container must be disposed of in a hazardous waste facility (EIS Vol. 2 page 120) Slice is used as an in-feed lice treatment.<sup>19</sup>

MHI's typically use bath treatments which are generally applied using well boat tanks. This reduces the quantity and cost of medication required and also greatly reduces the release of spent medication into the wider environment on completion of the treatment<sup>20</sup>. The volume of the well boat is 1,250m<sup>3</sup>.<sup>21</sup>

While the EIS states that hydrogen peroxide's breakdown products, water and oxygen, have 'no environmental impact whatever'<sup>22</sup> the data sheet states that 'Products of biodegradation are possibly hazardous short/long term degradation products are to be expected. 'The possible effects have been mentioned above and do appear to be significant - carcinogenic, mutagenic to bacteria etc. So while hydrogen peroxide is not persistent in the environment it would appear that there is a potential for an impact on the environment in particular due to the large volumes discharged. This impact has not been assessed. There is neither a mention of the impact of SLICE if consumed directly or indirectly by birds etc nor any reference to the impact of Deltamethrin on fauna. Again due to the volumes and repeated use of these products some kind of assessment should be made particularly on listed or rare species.

To effectively control sea lice here must be co-operation between different operators.<sup>23</sup>. No records of any co-operation or sea lice monitoring data have been provided from the other three salmon farm sites in Bantry Bay.

<sup>17</sup> EIS Vol. 2 page 131 – 136

<sup>18</sup> EIS Vol. 2 page 126

<sup>19</sup> EIS Vol. 1 page 224

<sup>20</sup> EIS Vol. 1 page 171

<sup>21</sup> EIS Vol. 1 page 160

<sup>22</sup> EIS Vol. 1 page 231

<sup>23</sup> EIS Vol. 1 page 222



To summarise increasing numbers of farmed salmon in Bantry Bay by 700 000 which could host as many as 350,000 to 1,400,000 ovigerous female sea lice is likely to put wild salmon and sea trout stocks at risk. It is but common sense to implement the precautionary principle.

### **Stocking Management**

The proposed stocking regime of annual alternate site stocking (as opposed to biennial synchronous stocking) does not comply with Best Practice as determined by the Strategy for improved pest control on Irish salmon farms published by the Department of Agriculture Fisheries and Food.<sup>24</sup>

Best practice recommends synchronous stocking and fallowing. The EIS states that 'Therefore, since synchronous stocking results in the greatest discharges, combined discharges resulting from the synchronous stocking of all salmon farms sites in Bantry Bay must be investigated (see section 4.6)'.<sup>25</sup> Such an investigation should have formed part of the EIS as alternatives should have been fully examined.

### **Noise**

Noise assessment is an integral part of an Environmental Impact Assessment yet the impact of noise from the proposed development has not been assessed.

Noise from fish farms is generated from three sources:

1. The cages – continuous noise
2. The boats servicing the fish farm – intermittent but often
3. The feeding barge - continuous

Noise can have a significant negative impact on the amenity of an area and on human health. The noise impacts on humans are well documented. Studies indicate that wildlife, principally birds, can be negatively affected by noise.

The EIS is defective in this area.

<sup>24</sup> Source:

<http://www.agriculture.gov.ie/media/migration/fisheries/aquacultureforeshoremanagement/SeaLiceControlStrategy%20230210.pdf> Accessed 10<sup>th</sup> February 2012

<sup>25</sup> EIS Vol. 1 page 151

## **Sustainability**

EU policy is also strongly in favour of increasing aquaculture output from within the member states of the Union so as to begin to address the huge current seafood trade deficit and for reasons of food security as more and more seafood supply is being attracted to the increased purchasing power of the middle income earners of the Asia-Pacific region.

The vast majority of fish farms worldwide are small-scale, rely on few inputs, and are often closely integrated with crop or livestock production. As a result, these traditional operations make a critical contribution to farmer livelihoods, incomes, and food security. "The great bulk [of aquaculture] is based on animals feeding low on the food chain," says Sena De Silva with the Network of Aquaculture Centres in Asia-Pacific in Bangkok, Thailand. "It provides an affordable, good-quality animal protein supply to the poor. We feel very perturbed when the Western press talks about aquaculture as totally based on salmon and shrimp."

Raising these predatory species is an exercise in "reducing" fish to produce fish—that is, in turning certain fish, usually smaller species such as anchovy, herring, capelin, and whiting, into feed for other, typically larger, species. Increasingly, we are fishing down the ocean chain so we can move up the fish-farming chain. Fish farmers around the world are also increasingly feeding fish that were traditionally herbivorous with small amounts of fishmeal. Aware of this predicament, the United Nations Food and Agriculture Organization (FAO), in its Code of Conduct for Responsible Fisheries, calls on countries to "encourage the use of fish for human consumption" and discourage its use for feeding animals or other fish.<sup>8</sup> (Page 17  
<http://www.worldwatch.org/system/files/176%20Farming%20Fish%20for%20the%20Future.pdf> )

If Ireland is serious about feeding people it would promote the farming of fish low down on the the trophic scale. Piscivores high up the trophic scale such as salmon and tuna are not a sustainable food source as the fish required to feed them could and should go directly to feeding human beings or indeed other animals and birds that depend upon them. Some 795 million people in the world do not have enough food to lead a healthy active life. That's about one in nine people on earth. (<http://www.wfp.org/hunger/stats>)

## **Climate change**

With regard to climate change any development that results in an increase in emissions of greenhouse gases should be refused.

Salmon farming if it must be practiced should be in contained systems adjacent to the processing plants and operated using renewable energy. The ideal location would be adjacent to large population centres where the majority of the products should be consumed.

**The EIS is inaccurate in a number of points.**

On page 19 the EIS refers to Bantry Bay's 'eastern end at Ballycrovane'. Ballycrovane is in Kenmare Bay to the east of the Inishfarnard Salmon Farm Site (EIS Volume 1 Figure 2 page 24). If this has been taken to be part of the Bantry Bay it will significantly misrepresent the length of coastline and nominal sea area.

In section 2.1.5 Tourism (EIS Vol 1 page 44) the visibility of the site is referred to in Figure 9. However Figure 9 (on page 42) is of the Whiddy Island Oil Terminal. This section also mentions the Sheep's Head Way and refers to a Figure. However there is no Figure.

On page 54 the EIS states that the prevailing wind conditions on the Western Irish Coasts is westerly. In fact the 'prevailing wind direction is between south and west'.<sup>26</sup>

Page 151 Figure 56.3 (page 121) does not show standing stocks for synchronously stocked sites but Magelefs Species Richness Index.

There are a number of other examples which unfortunately affect the overall quality of the EIS and it is difficult to understand why these have not been corrected despite being highlighted in our submission to the original EIS.

Caroline Lewis, BSc (Hons), DipPollCon.  
13 October, 2015

<sup>26</sup> Source <http://www.met.ie/climate/wind.asp> Accessed 10<sup>th</sup> February 2012

**FRIENDS OF THE IRISH ENVIRONMENT**  
**Appeal against Licence T/05/555A**

**PART III: Licensing Objections**

- 1. Inadequate monitoring and enforcement to ensure licence compliance during Operational Conduct**
- 2. Failure of applicant to give reasonable assistance to an authorised officer during Inspections**
- 3. Failure to provide information on emissions to the environment**

In these reasons, considerations and arguments we refer the Board to the legislation establishing the Aquaculture regulation in Ireland and the draft licence<sup>27</sup> with the obligations it imposes on the applicant to ensure that its operations are not injurious to the environment.

**1) Operational Conduct 3.9.**  
**Inadequate monitoring and enforcement to ensure licence compliance**

Operational Conduct 3.9.

'The Licensee shall conduct its operations in a safe manner and with regard for other persons in the area and the environment and shall ensure that the operations are not injurious to adjacent lands or the public interest (including the environment) and do not interfere with navigation or other lawful activity in the vicinity of the licensed area, and shall comply with any lawful directions issued by the Minister and any other competent State authority in that regard.'

Friends of the Irish Environment has examined the Department of Agriculture's 'Inspection Checklist for Marine Fish Farms 2010 -

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<sup>27</sup><http://www.agriculture.gov.ie/media/migration/fisheries/aquacultureforeshoremanagement/aquaculturelicensing/aquaculturelicencedecisions/cork/t5555supportingdocuments/DraftAquacultureLicence150915.pdf>

2014' and the 'Veterinary Inspection Reports' of the Marine Institute (in so far as they have been released to us either by the Department or on appeal to the Commissioner for Environmental Information<sup>28</sup>) including three accident reports 2010 – 2014.

91 Fin Fish Farm Inspection Reports were released<sup>29</sup>. 19 of the Inspections sites were 'open sea' and had no cages or moorings. Of the remaining 70 records

23 showed failures in the required lighting of the cages, from relatively minor to complete absence of any lights or radar reflectors, both detailed requirements under the licences.

16 of the Inspections showed the farms were located outside their Licence areas, almost all in spite of repeated requests to relocate some or all of the cages. (In 4 further cases the GPS was out of batteries or not operating.) In some cases repeated request have been ignored, with one Report noting cages located outside the boundaries for 'a number of years'.

44 Inspections Reports left the space for checking of the Shackles (which are key components for the structure of the installations) blank.

3 records gave the condition of the cages as so poor as to require their removal at the earliest opportunity.

In one case, the Inspector expressed concern that an exposed site was now being used to grow the salmon from smolt to harvest at one location as recommended by the Marine Institute. However this location had been selected only for summer smolt use, and the Inspector suggested that 'rigorous and frequent inspections' must be put in place if the fish were left in their exposed position all year long. There is no record of any action.

7 Inspections showed sites overstocked.

Beginning at least in 2010, the Engineering Division of the Department of the Marine placed on record its views that the

<sup>28</sup> CEI/13/0001 on chemical usage was determined on 21 August 2015 but because of the requirement to allow two months for any party to judicially review a decision, the documentation has not yet been released at this time of writing. While the earlier CEI/13/0015 was released, documents generated after the date of the request in March 2014 were not included and have had to be the subject of a further request.

<sup>29</sup> [http://www.friendsoftheirishenvironment.org/images/pdf/MARINE\\_FISH\\_FARMS\\_INSPECTIONS\\_REPORT.pdf](http://www.friendsoftheirishenvironment.org/images/pdf/MARINE_FISH_FARMS_INSPECTIONS_REPORT.pdf). This version of the Report includes the subsequent written parliamentary questions from April 2014 and June 2015.

current monitoring regime of marine salmon farms was inadequate and did not meet the standards required by the legislation.

A 2010 accident report on the escape of 80,000 salmon in Clew Bay in 2010 stated

*'If a more rigorous/frequent mooring inspections programme had been in place it is possible – even likely – there would have been earlier detection which would therefore have avoided the November 2010 failures. While the Department has no capability itself of mounting its own inspections of underwater equipment it does have a role to play in ensuring that licensing conditions to the effect that licences shall take all necessary steps to prevent the escape of fish are complied with. We did not to my knowledge actually check that there was an adequate monitoring system in place at this site.'*

A note by an Assistant Secretary on that Report states:

*'This Report clearly points to the fact that adequate systems in relation to certification, maintenance, inspection, repairs and records need to be in place for this type of installation'.*

A Report on a subsequent disaster in Inver Bay where 20,000 salmon were lost made it quite clear what is required:

*'An adequate regime for monitoring moorings on marine fish farms which is designed and implemented in order to help identify any early signs of degradation of mooring components in situ and help reduce the probability of such structural failures in the future needs to be put in place for all farms, systematic and frequent. I recommend quarterly inspections be required of every operating farm where every item of the mooring system including bridles is visually checked by diver (cleaned down where necessary to allow such inspections) and its conditions recorded. Spot checks following heavy storm events are also advised. The significant scale of the Inver Bay escape and **Department's responsibility as a licensing authority to ensure preventative measures are in place in future** [emphasis added] justifies strong action on the moorings inspection issue.'*

The Marine Fish Farm Inspection Report form has not changed materially since its introduction under a 2000 Protocol. It is known at the highest levels in the Department that the current protocol is entirely inadequate to assure the structural safety for these

installations as it comprises a visual inspection from a vessel only. Further, the existing (inadequate) Reports were in almost all cases not fully completed. The few Divers' Reports provided by operators were concerned with mortality records and the cleanliness of the nets and did not seek any information on any structural elements.

The failure of the Department to issue Orders when licence infringements were identified is shown clearly in the overstocking issue. Marine Harvest's Castletownbere's main site was overstocked in 2011, 2012, and 2013. While figures have been redacted, one Report mentions 'three times the permitted tonnage'.

Overstocking not only impacts on the capacity of the site to sustain production at the higher level through potential unassessed adverse environmental impacts, but it also affects the total biomass in any bay and so undermines any cooperative commitments.

In the case of Marine Harvest's operations in Castletownbere, after the site was overstocked for 3 consecutive years in spite of instructions to destock, in 2014 the operator - the current applicant - refused to give their stocking figures to the Department's Inspector, as did Marine Harvest management of the Deenish Island site in County Kerry.

Overstocking in spite of repeated warnings is also recorded for successive years at Marine Harvest's Tievetooey (Pettigo) site where the current applicant advanced spurious legal grounds for their continued defiance of the Department's instructions to destock: Autumn smoults were not envisaged at the time of the licence issue in 1997 so the limit applied only to spring smolts, therefore autumn smoults stocks were not limited by the Licence.

According to a subsequent written Parliamentary clarification, 'the operator's interpretation of the relevant licence provisions differed from that of my Department. The operator was advised that it must accept my Department's interpretation of the licence conditions.'<sup>30</sup>

Published peer reviewed research shows that between 1996-2004, 415,000 salmon escaped from Irish salmon farms<sup>31</sup>. No current

<sup>30</sup> For WRITTEN answer on Tuesday, 9th June, 2015. RefNo: 21491/15

<sup>31</sup> *Monitoring the incidence of escaped farmed Atlantic salmon, *Salmo salar* L., in rivers and fisheries of the United Kingdom and Ireland: current progress and recommendations for future programmes*, Alan M. Walkera,\*, Malcolm C.M. Beveridgeb, Walter

National Aquaculture Sector Overview (NASO) is provided by Ireland for aquaculture to the Food and Agricultural Organisation of the United Nations which would update these figures, the only one of 106 nations to fail to supply an Overview.<sup>3233</sup>

In the case of the loss of 232,780 salmon in Bantry Bay in February 2014, the cages had been identified as requiring replacement since the transfer of licence in 2007. Ten years is given by the Engineering Division of the Department as the normal life span of the structures. Further inspections in 2008 and 2010 repeated the warnings with the licensee at one point telling the Authorised Officer that were 'visiting Dingle to look at new cages'. The subsequent major accident in Bantry Bay took place on Saturday 1 February 2014. Clare Daly, TD, submitted a written parliamentary question drafted by this organisation on Tuesday 4 February, 2014. The licence holder did not report the accident until 5.35 PM on Friday 7 February, contrary to the terms of his licence which require an immediate response to ensure recapture of escapees, etc. The Department records show no knowledge of the accident until Monday 10 February 2014 – ten days after the escape/death of the 232,780 salmon and six days after the Department had received the Parliamentary Question, raising questions as to the communications within the Department.

In the investigation that took place subsequently, the DAFF Regional Engineer (Southern Region) wrote:

*'It is recommended that the company be requested to carry out a detailed structural inspection of the cages, equipment and moorings and a follow up report be submitted to the Department before the introduction of additional stock to the cages.'*

This proposed inspection by divers of the critical components (including those which had failed) was cancelled when the price rose from the anticipated €3000 which the Department said could be funded through a DAFF 'contingency fund' but was cancelled when the estimate rose to €20,000.

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Croziere, Niall Ó Maoiléidigh and Nigel Milner, ICES Journal of Marine Science: Journal du Conseil, (2006) 63 (7): 1201-1210. doi: 10.1016/j.icesjms.2006.04.018

<sup>32</sup> <http://www.fao.org/fishery/naso/search/en>

<sup>33</sup> Aside from the accidents detailed here in 2010, an Inspection Report on a fish farm in Mulroy Bay reported that 'It is clear from Reports to this office that there has been an escape of farmed rainbow trout in late 2011 in Mulroy Bay and this farm is the likely origin. The fish, caught by anglers in the Drowse River, were between 1.5 kg and 2 kg.' The operator denied any knowledge of any escape.



It is unexplained why DAFF authorised any payment for an inspection and in fact why such a 'contingency fund' existed for this purpose when the records shows that the Department's engineers (supported at Assistant Secretary level) recommended that 'quarterly inspections be required of every operating farm where every item of the mooring system including bridles is visually checked by diver (cleaned down where necessary to allow such inspections) and its conditions recorded.'

Subject to the release of further information from DAFF, the records indicate the cages were restocked without any divers check. It would appear that the same equipment - now 20 years old and due for replacement - has neither had its sub-surface structure inspected or replaced, in spite of the increase in frequency and severity of extreme marine weather events.

Our examination of the limited records made available demonstrates that the recommendations of the Inspector and the Assistant Secretary of DAFF after the 2010 Clew Bay and 2011 Inver Bay disasters have been entirely ignored.

There is inadequate monitoring and enforcement during operational conduct to ensure compliance with licence conditions intended to ensure that the licensee takes all steps to prevent the escape of fish (Condition 4), does not use any substance or thing or do anything, which has a deleterious effect on the environment of the licensed area (Condition 8), and co-operates in the audit from time to time of its aquaculture operations and licensed area and facilities and premises (Condition 12).

## **2. Inspection 3.13.**

*Inspection 3.13. The Licensee shall give all reasonable assistance to an authorised officer or a Sea Fisheries Protection Officer or any person duly appointed by any competent State authority to enable the person or officer enter, inspect, examine, measure and test the licensed area and any equipment, structure, thing or premises used in connection with the operations carried out in the licensed area and to take whatever samples may be deemed appropriate by that person or officer.*

The applicant for this licence failed to cooperate with the Authorised Officer who sought to see if the overstocking recorded in 2010-2012 had been addressed at Marine Harvest's two sites in the south west. The applicant refused to provide the figures at the 2013 Inspection as he is required to do under the legislation and argued he was not bound by the licensed capacity at Marine Harvest's Tievetooey site as detailed above.

The applicant for this Licence also refused to cooperate with the Veterinary Inspection carried out under statute by the Marine Institute during the 2013 Ahabeg Inspection by refusing to provide information on sea lice levels and treatment as well as ignoring warnings to renew a 2009 prescription for an anaesthetic at both Roancarrig and Ahabeg sites.<sup>34</sup>

The applicant is not a fit person to hold a licence as it is established that he failed to give all reasonable assistance to the authorised officer.

It is the responsibility of the Board to ensure that any operation for which approves the licence shall conform to the terms of the relevant legislation. The applicant has demonstrated that he is not willing to do so and the records demonstrate that the Department has been unable to enforce such compliance.

Furthermore for the absence of doubt it is worth noting that the Minister has repeatedly expressed his satisfaction with the 'current inspection regime':

*'Engineering reports form a very important part of the regulatory function. The aquaculture industry is heavily regulated and subject to complex and detailed national and EU legislation. Operators are required at all times to keep cages and ancillary equipment in good repair. I am satisfied that the current inspection regime is satisfactory.'*<sup>35</sup>

In these circumstances, we argue that the Board should remit the licence to the Department until they are satisfied that the

<sup>34</sup> Inspections Report Marine Harvest Ireland – Ahabeg 16 Jul 13.

<sup>35</sup> Simon Coveney, Minister for Agriculture, Fisheries, and Food, written parliamentary replies, 3 April 2014. [15940/14]

monitoring, inspection, and enforcement regime is capable of ensuring the protection of the environment and that the applicant undertakes to give all reasonable assistance and bear all necessary costs to ensure the protection of the environment required by the legislation.

### **3. Access to Information**

The inability of individuals and organisation to obtain the records of the application of chemicals to control the main diseases/parasites is preventing the public from protecting its environment.

Without this information, nor can the Board can not fulfil its duties under S61(e) to assess 'the likely ecological effects of the aquaculture or proposed aquaculture on wild fisheries, natural habitats and flora and fauna' of the proposed opeation.

As the Information Commissioner noted in its decision overturning DAFF's refusal to release the draft report on the 2014 Gerahies disaster:

*'It is not enough to interpret AIE by national law alone but must be interpreted in the light of the Directive and indirectly the Aarhus Convention.' ... 'I also consider', he concluded, 'that there is a very strong public interest in maximising openness and accountability in relation to how the Department of Marine and the Marine Institute carry out their functions under the relevant legislation governing the aquaculture industry.'*

The operators involved, including the subject applicant, refused to agree to the release of the fish health information and treatment on the grounds that it would have negative consequences for their business and adversely affect their interest, invoking 'commercial confidentiality.'

The laboratory reports on disease incidents were refused to us, as were any other disease treatment records, on the grounds that no disease listed in the relevant EU Directive were present in Ireland.

However, *Salmonid alphavirus* [pancreatic disease, PD], which Marine Harvest's annual reports show is present on a number of

occasions in their Irish operations<sup>36</sup>, is a Reportable Fish disease to the OIC World Organisation for Animal Health<sup>37</sup> of which Ireland is a member. We can find no report made to the OIC<sup>1</sup> but in view of that obligation, the refusal to make available to the public the information on the occurrence of this highly contagious virus can not be sustained.

Eleven 'Section 4: Veterinary Medicines' Reports' were released to FIE by the Marine Institute covering the period 2012 – 2014 on foot the OEIC decision in CEI/13/0001. These Reports were designed to determine if the operator held the necessary records of authorisation, purchase, storage and usage but in themselves do not record the any data. Thus, the State does not 'hold' the information sought<sup>38</sup>.

The Veterinary record examined were minimal, sloppy, and inconsistent, with both 'yes' and 'no' boxes ticked on many occasions, almost illegible comments, and certain years missing.

As with the Inspection Checklist for Marine Fin Fish Farms reports undertaken by the Department itself, the same persistent infringements went unanswered year after year. Examples from the Marine Harvest Reports are: 'No record supplied showing Maracycline<sup>39</sup> used to treat [...redacted] in December 2011 supplied' [Deenish 2012], No Animal Remedy Record on premises/No prescription provided [Roancarrig 2013]. No prescriptions since 2009 for anaesthetics, a failure to provide locked cabinets for storage [Roancarrig 2014]. No Name of persons/administers AR [Animal Remedy], no Name of prescribing vet, no Name of supplier [Deenish 2012].

The Marine Institute highlighted the importance of one of these treatments and their discharges in its request for further information from the applicant during the course of this application. In their submission of 27 January, 2014, they wrote:

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<sup>36</sup> 2014 Annual Report p 60 <file:///C:/Users/Tony/Downloads/684760.pdf>.

2013 Annual Report, p 62 <file:///C:/Users/Tony/Downloads/609198.pdf>

<sup>37</sup> <http://www.oie.int/en/animal-health-in-the-world/oie-listed-diseases-2015/>

<sup>38</sup> FIE's request for these records was granted by DAFF who then said they held no records.

<sup>39</sup> An antibiotic.

*B. With respect to Issue 3, it is the opinion of the Marine Institute that before a final determination can be made on this application the applicant should be required to provide additional information on the discharge, including quantity and frequency, of dangerous substance intended for use as sea lice treatments — and to demonstrate that the requirements of SI 466 of 2008 (Regulation 4) are met<sup>40</sup>.*

The Advice Summary adds:

*'Note — Additional licence conditions may be required following consideration of the additional information referred to in B (above).'*

The Information Commissioner dismissed the argument that in-food medicine (in-food treatment by SLICE for sea lice) did not constitute a discharge and release into the environment:

*'In this case, even if one was to take the view that the feeding/medicating of the fish was a controlled activity and therefore, not an emission, the fact that (a) not all of the feed/medication will be ingested; (b) there is no control over the extent to which the material will be ingested; and (c) that feed generates waste over which there is also no control, leads me to the view that the information can be said to relate to emissions.'*

Even though the OCEI determined that DAFF 'should hold some records indicating compliance or otherwise with the standards as set out in the European Communities (Control of Dangerous Substances in Aquaculture) Regulations 2008 (SI 466 of 2008)', after repeated requests from the Information Commissioner, the Department still failed to produce any records it held of the use of any Dangerous Substances.

The OEIC concluded.

*'In the circumstances, I have no basis on which to find that information within the scope of Item 3 [records indicating*

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<sup>40</sup><http://www.agriculture.gov.ie/media/migration/fisheries/aquacultureforeshoremanagement/aquaculturelicensing/aquacultureliceneedecisions/cork/t555supportingdocuments/Tab25140915.pdf>

*compliance or otherwise with the European Communities (Control of Dangerous Substances in Aquaculture) Regulations 2008 (SI 466 of 2008] is held by the Department, nor have I been able to determine any further reasonable steps I might take to investigate this issue further'.*

The applicant's response to the Marine Institute's concerns states:

'The monitoring record for 2008 to 2013 shows that sea lice levels on MHI's Bantry Bay Sites have remained extremely low. In consequence, very few treatments have been required. Much the same applies to other sites in the southwest of Ireland, both belonging to MHI and other operators in the area. In fact there have only been three SLICE treatments since 2008, the largest of these requiring 45kg SLICE to treat 260 tons of transferred SO stock in December 2008.'

While the sea lice records for the south west do not show anything like the level of infestation in the Galway/Connemarra area, the applicant's claims that between the application described in 2008 and 2013 there have only been two other treatments of SLICE in the south west for a total of three treatments ['130 tonnes of fish were treated with 23kg of Slice® in February 2008, 260 tonnes were treated with 45kg of Slice® in December 2008 a and 160 tonnes of fish were treated with 27.5kg of Slice® in December 2010'] is contradicted by the few Marine Institute Reports released to us.

We have not examined the records for 2008 - 2010, but the 21 Veterinary Reports for the South West we have examined 2011 - 2013 alone record five further treatments, including the applicant's at Deenish 28/9/12 - 11/10/12 and at their Roancarrig operation in 2013 of which the author of the response to the Marine Institute in 2014 could hardly have been unaware.

The State records alone thus contradict the applicant's statement to the Board that 'There have been no treatments at all on MHI sites in Bantry Bay since April 2011' - without considering the applicants refusal to supply information about any treatment to the authorised officer mentioned above at their Ahabeg site in 2013.

The claim that there have been 'no treatments at all' is also contradicted by the applicants own statement that 'In addition to this statutory regime, MHI conducts its own lice surveys up to once

per week, depending on season, and will respond with treatment at lower levels than those set by the MI'.

Such treatments outside the Protocol below the trigger level without records and statistics could undermine the national monitoring records and increase resistance, the reason that organic standards do not allow prophylactic treatment.

The real time publication about the release of chemicals into the environment must form part of the licensing conditions, including public notice in advance to ensure the concerns of the public are properly addressed and their rights under Access to Information on the Environment and the Aarhus Convention allow them to ascertain for themselves on the basis of verified data verified by a comprehensive inspection regime that can ensure the applicant in its operations is not injurious to the environment.

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Tony Lowes  
13 October, 2015

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