



**A critique of the Scottish Government's new sea lice management policy  
for Scottish salmon farming**

**January 2018**

## **Executive Summary**

At the Thirty-Third Annual Meeting of the North Atlantic Salmon Conservation Organization (NASCO) in June 2016, the Scottish Government announced a new sea lice management policy for Scottish salmon farming, which required all salmon farmers to develop site specific escalation action plans to be implemented when sea lice levels rise above 3.0 average female lice per farmed fish. Furthermore, when levels exceeded 8.0 average female adult lice, the new policy was to result in enforcement action by Marine Scotland, including the potential to require reduction in biomass. This new policy was outlined in NASCO Council document CNL(16)47 and is included in full in the published report of a NASCO session focused on addressing impacts of salmon farming CNL(16)60.

As the levels at which action is indicated are set so high, considerably in excess of those used in other salmon farming countries, this policy does little to meet the international goal for NASCO members, that 100% of farms are to have effective sea lice management such that there is no increase in sea lice loads or lice-induced mortality of wild salmonids attributable to the farms.

Despite the announcement to NASCO in June 2016 that the changes were in effect, the new policy did not come into practical effect until July 2017.

Requests were made in 2016 and 2017 by S&TCS under the Environmental Information (Scotland) Regulations 2004, for details of: all fish farms which had exceeded the new 3 and 8 sea lice levels; the site-specific escalation plans; the enhanced monitoring plans and the data produced by that enhanced monitoring; and any interventions carried out under the new policy. These requests were refused by Scottish Ministers, on the basis that disclosure would cause substantial prejudice to the fish farmers concerned.

In response to a request from S&TCS to examine this refusal, the Scottish Information Commissioner found that Marine Scotland had unlawfully tried to prevent public scrutiny and therefore required Scottish Ministers to disclose the information.

The information ordered to be disclosed by the Scottish Information Commissioner confirms that a large number of Scottish salmon farms exceeded the new 3 and 8 trigger levels in 2016 and 2017.

The information also showed that there is almost no audit trail of documents recording the measures to be put in place by those fish farms exceeding the new triggers, with the typical

“site specific escalation action plan” held by the Fish Health Inspectorate consisting of a simple, often only one-word record of treatments carried out, or harvesting of fish.

Site specific escalation action plans appear to amount to considerably less than what was already required under the National Strategy for Sea Lice Treatment Control, annexed to the Code of Good Practice for Scottish Finfish Aquaculture (CoGP) and enforced under the Aquaculture and Fisheries (Scotland) Act 2007 and the 2008 Guidance to Fish Health Inspectors on enforcing the provisions of the 2007 Act in relation to the control of parasites.

The first Enforcement Notice served under the new policy in 2017 required no additional actions to those already required under the National Strategy and Code, or that an ordinary inspection or enhanced sea lice inspection, as already operated by FHI under the 2008 Guidance, would not have addressed.

Overall, the impression given to NASCO in June of 2016, of a new policy delivering a significant advance in the enforcement of sea lice control on Scottish fish farms, has not been delivered and, in practice, may have substantially undermined lice levels set under the National Strategy.

Despite the new policy, the increasing trend of salmon farms which have failed to control sea lice to levels below the thresholds stipulated in the CoGP of 1 and 0.5 adult female sea lice per farmed fish continues. In June 2017, regions accounting for 61.4% of the total farmed salmon production in Scotland experienced lice levels higher than the CoGP thresholds.

Despite the new policy wild salmonid fish in Scotland remain insufficiently protected from the impacts of sea lice. Scottish domestic law still needs amending to reflect international obligations, with the express purpose of protecting wild fish from damage caused by fish-farms, with Scottish Ministers being given a legal duty to control sea lice on fish-farms.

There is also an urgent need for a Government-led review of sea lice control on fish farms, leading to statutory sea lice limits, above which an immediate cull or harvest of farmed fish is mandated. The thresholds set in the voluntary CoGP would be a more appropriate basis for such enforcement actions, recognising that these thresholds need to take into account biomass production in individual farming areas. Those farms consistently failing to control sea lice should be considered for closure and / or relocation.

In order to achieve any long-term sustainable future for the farming of salmon in Scotland, there needs to be a renewed focus on moving the entire industry into full closed containment with complete 'biological separation' of wild and farmed fish being achieved as soon as possible.

## Introduction

1. The North Atlantic Salmon Conservation Organisation (NASCO) is an international organization, established by an inter-governmental Convention in 1984. The objective of NASCO is to conserve, restore, enhance and rationally manage Atlantic salmon through international cooperation taking account of the best available scientific information. NASCO has adopted a range of agreements relating to salmon farming which all Parties are required to implement.
2. In 2009, NASCO adopted expert 'Guidance on Best Management Practices to Address Impacts of Sea Lice and Escaped Farmed Salmon on Wild Salmon Stocks'<sup>1</sup>. This BMP Guidance was developed jointly with the International Salmon Farmers Association and adopted by ISFA. The Guidance established international goals for NASCO Parties and jurisdictions relating to containment and sea lice management. For sea lice, the international goal is *"100% of farms to have effective sea lice management such that there is no increase in sea lice loads or lice-induced mortality of wild salmonids attributable to the farms"*.
3. The best management practices specified to achieve the internationally agreed goal include setting *"trigger levels appropriate to effective sea lice control"* and employing *"strategic timing, methods and levels of treatment to achieve the international goal and avoid lice resistance to treatment"*.
4. In 2016, a special session of NASCO dealing with salmon farming concluded that: *"The wild stocks of Atlantic salmon are currently vulnerable because of reduced marine survival all around the North Atlantic. The Steering Committee believes that there is now sufficient evidence of significant adverse impacts from salmon farming having occurred that all Parties/jurisdictions with salmon farms must implement further, more stringent measures to protect the wild stocks from the impacts of salmon farming if they are to meet their obligations under the NASCO Convention. The Williamsburg Resolution states that where significant adverse impacts on wild salmon stocks are identified, the Parties should initiate corrective measures without delay and that these should be designed to achieve their purpose promptly"<sup>2</sup>.*

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<sup>1</sup> NASCO (2009) SLG(09)5 Guidance on Best Management Practices to address impacts of sea lice and escaped farmed salmon on wild salmon stocks (Adopted in June 2009 and Revised in June 2010)

<sup>2</sup> NASCO (2016) Addressing impacts of salmon farming on wild Atlantic salmon: Challenges to, and developments supporting achievement of NASCO's international goals. 2016. Report of a Theme-based Special Session of the Council of NASCO. NASCO Council document CNL(16)60. 196pp

## The Scottish Government's new sea lice management policy

5. At the Thirty-Third Annual Meeting of the North Atlantic Salmon Conservation Organization (NASCO) in June 2016, the Scottish Government announced a new sea lice management policy for Scottish salmon farming<sup>3</sup>:

### ***“Government and Industry Commitment to Improved Management***

*The Aquaculture and Fisheries (Scotland) Act 2007 (AFSA) requires that satisfactory measures are in place for the prevention, control and reduction of sea lice. The Scottish Government committed to review the interpretation of ‘satisfactory measures’ under AFSA 2007 and, in cooperation with the industry, has created a new sea lice management policy.*

*This will work alongside the recommended treatment criteria in the CoGP with farms now being required to report to Marine Scotland’s Fish Health Inspectorate when set sea lice levels are reached.*

*All farms are now required to produce a site specific escalation action plan, to be triggered at levels above 3.0 average female lice. This reporting system will allow increased monitoring during any escalation in sea lice numbers and intervention where it is demonstrated that satisfactory measures to control sea lice are not in place. Exceeding a level of 8.0 average female adult lice will result in enforcement action, including the potential to require reduction in biomass.”*

6. In May 2016, the Chief Inspector at Marine Scotland’s Fish Health Inspectorate wrote to all fish farmers about the new policy, stating that:

*“Following extensive discussion, the following reporting measures have been agreed;*

*A reporting limit, where an average of three adult female sea lice per fish on any fish farming site would be required to be reported to Marine Scotland Science. Where the*

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<sup>3</sup> NASCO (2016) CNL(16)47 Supporting sustainable aquaculture growth alongside a thriving recreational fisheries sector Reducing the impacts from sea lice and escapes on wild fish in Scotland in parallel with NASCO’s international goals (Tabled By EU – UK (Scotland))

*reporting level is reached, increased monitoring would be implemented and continued until either; the average adult female count is reduced to below the reporting threshold of three, or the intervention limit of an average of eight adult female sea lice per fish on any fish farming site is reached - the exceeding of this limit would be deemed unacceptable and an enforcement notice would be served. Reporting would be to the Fish Health Inspectorate Duty Inspector by telephone (01224 295568) or by e-mail ([MS.FishHealth@gov.scot](mailto:MS.FishHealth@gov.scot))”<sup>4</sup>*

7. In August 2016, the Scottish Government wrote formally to the Petitions Committee of the Scottish Parliament, in response to S&TCS’s formal Petition to the Scottish Parliament<sup>5</sup>, reiterating that this new policy *“includes agreed reporting levels and increased monitoring and intervention. It also includes a backstop limit at which point enforcement action will be taken”<sup>6</sup>.*
  
8. At the same time, in a briefing to the Cabinet Secretary<sup>7</sup>, Marine Scotland confirmed that: *“Scottish Government have, over the last year worked cooperatively with the aquaculture industry to agree a new sea lice management policy, including a redefining of “satisfactory measures” for the prevention, reduction and control of sea lice on farms as required by the Aquaculture and Fisheries (Scotland) Act 2007. This includes agreed reporting levels and increased monitoring and intervention. It also includes a backstop limit at which point enforcement action will be taken. The new policy was introduced at the end of May [2016]”.*

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<sup>4</sup> Letter to Farm Correspondents from FHI - Changes in Interpretation of The Aquaculture and Fisheries (Scotland) Act 2007 With Regards to the Satisfactory Measures in Place For The Prevention, Control and Reduction of Parasites. Charles Allan, Fish Health Inspectorate Group Leader, 16<sup>th</sup> May 2016.

<sup>5</sup> The S&TCS Petition, PE1598, which seeks a change in Scottish law, firstly to require immediate culls or harvesting of farmed where sea lice numbers have effectively gone out of control and secondly to give fish farm inspectors the legal duty to control sea lice on fish farms, expressly to protect wild fish populations from juvenile sea lice infestation from marine cage fish farms, has been considered by the Scottish Parliament’s Rural Economy and Connectivity Committee, which has decided, as a result of S&TC Scotland’s work, to hold a Parliamentary Inquiry in 2018. <http://www.parliament.scot/GettingInvolved/Petitions/PE01598>

<sup>6</sup> Marine Scotland letter to Petitions Committee of Scottish Parliament 2<sup>nd</sup> August 2016 re: Petition 1598 : Salmon and Trout Conservation Scotland, from Willie Cowan, Head of Performance, Aquaculture and Recreational Fisheries, Marine Scotland

<sup>7</sup> Marine Scotland Briefing to PS/ Cabinet Secretary - Sea Lice Management and Impacts on Wild Salmonids. To provide background to the recent press release by Salmon and Trout Conservation Scotland (S&TCS). June 2016.

9. However, implementation of the new policy seems to have been confused and delayed, with significant fish-farmers failing to report breaches of the new trigger levels<sup>8</sup>.
10. In October 2016, contrary to what the Cabinet Secretary had been told in June 2016, the FHI wrote to all fish farmers stating that *“the enforcement regime will take effect from 1<sup>st</sup> April 2017”*<sup>9</sup>.
11. By January 2017, there was still uncertainty as to when the new policy would be brought into effect, with the industry press reporting that *“the new rules are due to be adopted wholeheartedly on April 1<sup>st</sup> [2017]”*<sup>10</sup>. However, more detail was given in a Marine Scotland Topic Sheet, which made it clear that the new policy did not actually come into effect until July 2017, despite the impression created by Marine Scotland in its announcement at NASCO that the policy had been implemented, a year earlier, in June 2016.
12. That Marine Scotland Topic Sheet also elaborated on the detail of what would be done by FHI when adult female sea lice numbers reach first 3 and then 8 per farmed fish. It stated that *“where the reporting level is reached, the FHI will increase the monitoring of that site and continue to do so until either the average adult female sea lice count per fish is reduced to below the reporting level of 3, or an intervention limit of an average of 8 adult female sea lice per fish on any fish farming site is reached.*
- Reaching the reporting level or intervention limit requires the implementation of an explicit action plan, agreed with the FHI, which will reduce and maintain the average number of adult female sea lice per fish at the site below the reporting level of 3”*<sup>11</sup>.

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<sup>8</sup> FHI inspection of Furnace Quarry, Loch Fyne, The Scottish Salmon Company, 28/02/17; “Site not below CoGP treatment thresholds from August 2016 through to harvest and at least one count of over 8 AF was recorded every week from the implementation of the new sea lice policy in October 2016 until harvest....**Lice numbers over 3 and 8 not reported to FHI**”.

<sup>9</sup> Letter to Farm Correspondents from FHI - Changes in Interpretation of The Aquaculture and Fisheries (Scotland) Act 2007 With Regards to the Satisfactory Measures in Place For The Prevention, Control and Reduction of Parasites. Charles Allan, Fish Health Inspectorate Group Leader, 25<sup>th</sup> October 2016.

<sup>10</sup> Fishfarming Expert (2017) Uncertainty lingers over lice laws  
<https://www.fishfarmingexpert.com/news/uncertainty-lingers-over-lice-laws/> 19<sup>th</sup> January 2017

<sup>11</sup> Marine Scotland (2017) The regulation of sea lice in Scotland. Topic Sheet Number 71. Revised Policy from July 2017

## **S&TCS' requests for information and the Decision of the Scottish Information Commissioner**

13. Towards the end of 2016, and into 2017, S&TCS made formal requests for information to Marine Scotland under the Environmental Information (Scotland) Regulations 2004, seeking details of which fish farms had exceeded the new 3 and 8 sea lice levels and what notifications had been made, and requesting copies of site-specific escalation plans, enhanced monitoring plans, data produced by that enhanced monitoring and any interventions carried out under the new policy.
14. Marine Scotland refused to disclose the names of farms affected, what levels of lice those farms had experienced, and also refused to provide copies of the site specific escalation plans and the results of any enhanced monitoring by FHI.
15. In doing so, Marine Scotland argued that the site specific escalation plans they held were incomplete and, therefore, were exempt from the duty to provide copies, and that any farm-specific data (the names of farms and the sea-lice levels reached) was also exempted from disclosure in terms of Regulation 10(5)(b) (substantial prejudice to the course of justice) and Regulation 10(5)(f) (substantial prejudice to the interests of the person providing the information) of the 2004 Regulations.
16. In short, Marine Scotland declined to name the farms involved and give any details on the severity of the sea lice problems being experienced, on the basis that to do so would cause substantial prejudice to the interests of the fish farmers. This approach completely ignored the fact that the impacts of failures to control sea lice on salmon farms would be having a serious negative effect on wild salmonids, which is a matter of clear and obvious public interest.
17. S&TCS referred this refusal to provide the information to the Scottish Information Commissioner's office, to which Marine Scotland argued that there was nothing in the Aquaculture and Fisheries (Scotland) Act 2007 or related legislation which compelled aquaculture companies to submit sea lice data to any part of the Scottish Government.
18. However the Commissioner agreed with S&TCS that Marine Scotland did have the legal powers to require the information from salmon farming companies, even though



they have repeatedly chosen not to use those powers, and found that the information they had received from fish farmers had been incorrectly and unlawfully withheld from S&TCS. In essence, the Scottish Information Commissioner found that Marine Scotland had unlawfully tried to prevent public scrutiny and the Commissioner required Scottish Ministers to disclose the requested information<sup>12</sup>.

19. It was abundantly clear to S&TCS that Scottish Ministers sought to shield the poor performance of the Scottish salmon farming industry from proper public scrutiny. Indeed, Scottish Ministers were candid that they supported the industry in wanting to avoid the public being able to identify poorly-managed fish farms because this could result in consumers avoiding buying fish from those farms and nature conservation NGOs exerting pressure on regulatory bodies to relocate poorly sited farms.

20. The Commissioner's Decision confirmed that Scottish Ministers had tried to protect fish-farms from proper public scrutiny:

*"33. The Ministers stated that the companies providing this information had significant concerns relating to operational sensitivities and commercial confidentiality regarding sea lice numbers. In particular, they feared information on the performance of individual sites could be used to influence contract values through undue media pressure, or to call for local authorities and other regulators to revoke consent for sites reporting higher sea lice levels. They argued that this would lead to the loss of production and, therefore, revenue.*

*34. The Ministers noted that public pressure has previously been put on supermarkets not to stock salmon from farms with above average sea lice counts, referring to a campaign by S&TCS. In the Ministers' view, any perception of lice problems, however incomplete the picture provided, had the potential to impact seriously on the company concerned".*

21. Following the Commissioner's Decision, the requested information was finally provided to S&TCS by way of an emailed Excel spreadsheet provided on 19<sup>th</sup> October 2017. The full database is available from [guy@linley-adams.co.uk](mailto:guy@linley-adams.co.uk) or on the Marine Scotland disclosure log at <https://beta.gov.scot/publications/foi-17-02315/>.

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<sup>12</sup> Scottish Information Commissioner Decision 142/2017: Salmon and Trout Conservation Scotland and the Scottish Ministers - Control and reduction of sea lice on fish farms Reference No: 201700453 and 201700777 Decision Date: 4 September 2017  
<http://www.itspublicknowledge.info/ApplicationsandDecisions/Decisions/2017/201700453.aspx>

22. The information consisted of a single Excel spreadsheet on which information had been recorded by FHI. An extract of the spreadsheet, by way of example, is shown below:

Site No	Site Name	Business Name	Business No	Week 1		Week 2		Week 3		Week 4		Week 5	
				Count	Treatment/FHI Action	Count	Treatment/FHI Action	Count	Treatment/FHI Action	Count	Treatment/FHI Action		
FS0698	Quarry Point	The Scottish Salmon Company	FB0169	19.95	MECHANICAL	2.94		2.32	BATH	2.85	MECHANICAL	2.7	
FS0818	Arcastle Bay	The Scottish Salmon Company	FB0169	7.13		9.89	BATH	2.9	BATH	7.85	MECHANICAL	7.92	BATH
FS1019	Stronddoir Bay	The Scottish Salmon Company	FB0169	2.95		2.82	BATH	2.94	BATH	2.42	MECHANICAL	2.1	
FS1256	Plocrapol	The Scottish Salmon Company	FB0169	4.3	CLEANERFISH	4.1		5.1		5.75		4.98	BATH
FS1277	Reibinish	The Scottish Salmon Company	FB0169	4.7		no count		6.91		1.92	BATH	6.23	
FS1293	Scadabay	The Scottish Salmon Company	FB0169			3.78		no count	HARVESTING	4.04		5.7	BATH
FS0091	Meall Mhor Loch Fyne	The Scottish Salmon Company	FB0169										

23. Annex 3 provides a list of all those Scottish salmon farms that have breached the 3 and/or 8 trigger levels during the period extending from week 43 (November) in 2016 to week 35 (end August) in 2017.

24. Annex 4 provides details of those Scottish salmon farms that breached the 3 and/or 8 trigger levels between week 36 (end August) and week 42 (mid-October) in 2017, supplied following a subsequent request for information to FHI made in October 2017, and Annex 5 for those farms covering weeks 42 to 50 of 2017.

25. No further information was provided. In particular, almost no email or correspondence records were provided, as would have been expected, including letters or emails from fish farmers to FHI reporting high lice figures, or letters or emails back from FHI to fish-farmers indicating that the site specific escalation plans were considered adequate (or not). Nor were there any internal emails from within the FHI indicating that any internal discussions had occurred between inspectors. It appears that the much of the implementation of the new policy has been conducted only verbally, which would mean that information would not be available under the law on freedom of information.

26. S&TCS sought clarification from both Marine Scotland and the Scottish Information Commissioner concerning the “*site specific escalation action plans*” which Marine Scotland officials had advised NASCO would be drawn up for each farm exceeding the trigger levels.

27. During an internal<sup>13</sup> review of S&TCS’ information request<sup>13</sup>, and prior to the Decision of the Commissioner in September 2017, the issue of the treatment plans had been dealt with at some length. Marine Scotland staff stated, variously, that “*I have looked*

<sup>13</sup> Second internal review, carried out by Paul McCarthy for Marine Scotland on 21<sup>st</sup> April 2017.

*carefully at the treatment plans and I am content that the data held on treatment plans is not complete....” , “the planned publication of complete plans at the end of the production cycle”, and of “having reviewed the treatment plans”.*

28. Marine Scotland also stated that *“escalation plans refer to what is proposed to be done by farming companies to address the issue of elevated sea lice numbers – these could be the administration of veterinary medicines, the use of other physical control measures such as the use of fresh or warm water, hydrogen peroxide or the harvesting of the whole or part of a population of fish on-site. Details of these measures are included in the spreadsheet of information which you have”*<sup>14</sup>.
29. However, subsequent to the Commissioner’s Decision in September 2017 that the requested information should be disclosed, Marine Scotland has not provided anything other than the single word entries in the Excel database. As the Commissioner is content that there has been no failure to comply with Decision 142/2017, the only other conceivable explanation is that the single word contained within the columns on the Excel spreadsheet, headed “Treatment” – for example, “Mechanical”, “Bath”, “Harvesting”, “In feed” – represents the entirety of the site specific escalation action plans held by Marine Scotland.
30. It appears, therefore, that there is almost no audit trail of documents recording the measures to be put in place by those fish farms exceeding the new triggers, otherwise Marine Scotland would have been bound to provide that audit trail to S&TCS under the Decision of the Scottish Information Commissioner. The typical “site specific escalation action plan” held by FHI consists of fewer words than the rather grand title these plans were given in the Scottish Government’s announcement made to NASCO in June 2016.
31. Marine Scotland has given the impression both to NASCO and, in responding to S&TCS’ information requests, that significant plans had been drawn up and submitted and that these had been examined and *“looked carefully at”*. However, no plans, that could reasonably be considered as site specific escalation action plan are, in fact, held by the Fish Health Inspectorate.

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<sup>14</sup> Marine Scotland Response to request for review of original response Ref FOI/17/02315 21<sup>st</sup> November 2017

## What is 'new' about the new policy?

32. Importantly, S&TCS' freedom of information requests show that a "*site specific escalation action plan*" appears to amount to considerably less than what was already required under the National Strategy for Sea Lice Treatment Control, annexed to the Code of Good Practice for Scottish Finfish Aquaculture<sup>15</sup> and enforced under the Aquaculture and Fisheries (Scotland) Act 2007, as explained in the 2008 Guidance to Fish Health Inspectors Enforcing the Provisions in Relation to the Control of Parasites.
33. The National Strategy requires that "*Lice numbers on all the farms should be counted weekly in accordance with scientific and statistical advice...weekly monitoring is necessary throughout the year*" which, in practical effect, is no different to the monitoring requirements on fish farmers when the 3 and 8 levels are exceeded: "*With regard to the increased monitoring plans, what we would expect to receive from companies who have noted an elevated sea lice count is either a) a following count which notes a sea lice number remaining above the reporting level, b) a following count which crosses to the intervention level, or c) a following count which has dropped below the reporting level. All of these counts are post reporting monitoring carried out by the farms in question and the result, where relevant, are included in the information provided in the spreadsheet*".
34. The National Strategy also states: "*The aim of non-therapeutic management practice and treatment with veterinary medicines is to disrupt the life cycle of *L. salmonis* and minimise the quantity of lice present on farms throughout the year... In general, treatments should be guided by the build-up of pre-adults as indicated by weekly counts, the objective being to prevent the development of gravid females. Suggested criteria for other treatments on individual farm sites are as follows:*
- *During the period 1st February to 30th June inclusive, the criterion for treatment is an average of 0.5 adult female *L. salmonis* per fish.*
  - *During the period 1st July to 31st January inclusive, the criterion for treatment is an average of 1.0 adult female *L. salmonis* per fish*".

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<sup>15</sup> National Strategy for Sea Lice Treatment Control, annexed to the Code of Good Practice for Finfish Aquaculture. <http://thecodeofgoodpractice.co.uk/wp-content/uploads/2015/02/cogp-annexes-feb-15.pdf>

35. The Code (and annexed National Strategy) could, if Scottish Ministers so desired, be made statutory under the Aquaculture and Fisheries (Scotland) Act 2007, which S&TCS has been urging Ministers to do for many years.
36. In any event, in 2008, the *Guidance to Fish Health Inspectors Enforcing the Provisions in Relation to the Control of Parasites*<sup>16</sup> effectively sets the Code and National Strategy as the benchmark against which fish-farms would be inspected and regulated under the 2007 Act. That Act grants Scottish Ministers powers in relation to the measures in place for the prevention, control and reduction of parasites on fish farms. The Guidance document provides guidance to the Fish Health Inspectorate (FHI) on how to act when enforcing the provisions of the Act in relation to regulation concerning the control of parasites.
37. The Guidance states that *“The Code represents the standard against which inspections will be conducted. It will be the responsibility of all seawater fish farm businesses to comply to the standards in the section of the code relating to the control of sea lice, whether these businesses are signed up to the Code or not”*.
- “Throughout the period that the records are inspected and where elevated sea lice levels are recorded (i.e. >CoGP trigger level), the inspector will consider what actions have been (or are going to be) taken by the farmer. The inspector will consider what treatment strategies are in place on site and within the wider Management Area. They will consider if veterinary advice has been acquired, taken and if treatments have been conducted”*.
- “In some situations enforcement action may be necessary. Advice will be given in relation to complying with the Act and meeting the required standards of the CoGP. However, where a site has been advised to make amendments or improvements and has failed to do so, an enforcement notice instructing this action may be issued”*.
38. Further, section 6 of the 2007 Act had already granted Scottish Ministers the necessary powers to serve an enforcement notice on a person who carries on the business of fish farming. Such notices could have been served since 2007 where it was deemed that satisfactory measures were not in place for the prevention, control

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<sup>16</sup> [www.gov.scot/.../Sea%20Lice%20Guidance%20website%20update%2012--08.doc](http://www.gov.scot/.../Sea%20Lice%20Guidance%20website%20update%2012--08.doc)

and reduction of parasites. Indeed, a draft enforcement notice is provided in the 2008 Guidance (see Annex 1 below)

39. The Guidance also gave examples to illustrate situations “*where advice has been given and may be followed up by an Enforcement Notice*”. These include:

Issue	Advice	Follow up action / comments
Sea lice counts above threshold for treatment and failure to act on veterinary advice.	Instruction to follow veterinary advice with a view to controlling sea lice	Inspection/audit to verify that appropriate action has been taken.

40. Therefore, the remedies for poor sea lice control under the ‘new’ 2016/2017 sea lice treatment policy announced to NASCO do not appear to strengthen in any way existing measures to control sea lice already available in the 2007 Act, the Code of Good Practice and the 2008 Guidance.

41. In fact, the CoGP / NTS sea lice thresholds of 0.5 and 1 adult female lice per fish have, in effect, been watered down to 3 and 8, with FHI now re-focussing its regulatory effort at fish farm sites that breach the new trigger levels. The risk is that routine breaches of the CoGP / NTS thresholds of 1 and 0.5 are effectively de-prioritised and this does not seem consistent with the internationally agreed goals and may well have consequences for the conservation and restoration of wild salmon stocks required under the NASCO Convention. In common parlance, the goalposts have been widened. The regulatory regime under the 2007 Act now appears to have little implication for sea lice control at fish farms running at somewhere between the CoGP/ NTS threshold and 3 adult female lice per fish, with occasional breaches of up to 8 lice per fish.

42. There is certainly little reputational damage to be concerned about from regulatory action. The arguments raised against S&TCS’ information requests show the Scottish Government is willing to do what it can, even if that breaches European law on the

freedom of information<sup>17</sup>, to protect the industry from what is considered to be the 'substantial prejudice' of having individual fish farms' performance being shown as a threat to wild salmon and sea trout, species protected under international, European and domestic law.

### **The first Enforcement Notice served under the new policy**

43. Up to November 2017, there has been only one Enforcement Notice served as a result of the new policy. It is worth examining whether the new policy led to an improvement or major alteration in farm practices in this case.
44. In mid-2017, Grieg Seafood Shetland Ltd submitted weekly counts for average adult female sea lice per fish above the intervention limit of  $\geq 8.0$  on four consecutive weeks (calendar weeks 30 – 33) at two of its Shetland farms, Spoose Holms and Score Holms.
45. Grieg was advised by FHI that, if the weekly average adult female sea lice count per fish was not brought below 8.0 in two weeks, an Enforcement Notice would be issued as the operator would not have demonstrated that satisfactory measures were in place for the prevention, control and reduction of parasites at these sites<sup>18</sup>.
46. Grieg then submitted weekly counts for average adult female sea lice per fish at Spoose Holm, which showed that the average adult female sea lice numbers per fish at this site had not been below the intervention limit of  $\geq 8.0$  on six consecutive weeks (calendar weeks 30 – 35).
47. Although Scottish Government policy was to undertake enforcement action due to Grieg being unable to demonstrate that satisfactory measures were in place for the prevention, control and reduction of parasites at Spoose Holm, Grieg was told that "*as the site is due to be fallow of farmed fish on the 11<sup>th</sup> September 2017, following the removal of the stock, the Scottish Government has decided not to issue an enforcement notice in this instance*"<sup>19</sup>.

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<sup>17</sup> EC Directive 2003/4/EC of 28 January 2003 on public access to environmental information and repealing Council Directive 90/313/EEC, implemented in Scotland by the Environmental Information (Scotland) Regulations 2004

<sup>18</sup> Warning Letter: Satisfactory Measures in Place for the Prevention, Control and Reduction of Parasites, Ron Smith, Fish Health Inspectorate Technical Manager, 18<sup>th</sup> August 2017

<sup>19</sup> Advisory Letter Regarding Sea Lice Regulation: Satisfactory Measures in Place for the Prevention,

48. Despite this assurance, Scottish Environment Protection Agency data show that in September 2017, Spoose Holm still held 528 tonnes of farmed fish<sup>20</sup>.

49. An Enforcement Notice was served in relation to Grieg's Score Holms site on 8<sup>th</sup> September, due to similar very poor sea lice control as at Spoose Holm, but the requirements of the Notice were nothing exceptional (see Annex 2):

*"3. The execution of the following works and the taking of the following steps are considered necessary for the purpose of ensuring that satisfactory measures are in place for the purposes of the prevention, control and reduction of parasites at the site known as Score Holms (FS0948).*

*i. Undertake the most appropriate works or steps, where necessary following veterinary advice, which may include (but not limited to):*

- a. medicinal treatment for sea lice;*
- b. topical bath treatment for sea lice;*
- c. mechanical removal of sea lice;*
- d. use of biological sea lice interventions; or*
- e. reduction of the biomass held on the site.*

*to ensure that the weekly average adult female sea lice count per fish is below the Scottish Government reporting level of 3.0 by 28 days after the date of this notice.*

*4. The requirements specified in paragraph 3 of this notice must be fulfilled by 6<sup>th</sup> October 2017".*

50. Indeed, it is difficult to see what this Enforcement Notice requires Grieg to achieve at Score Holms that the CoGP / NTS did not already require, or that an ordinary inspection or enhanced sea lice inspection, as already operated by FHI under the 2008 Guidance, would not have addressed.

51. Grieg had indicated to the FHI that their 'plan', as required under the new policy, was to treat at Score Holms with azamethiphos and deltamethrin between 29<sup>th</sup> August and 1<sup>st</sup> September 2017<sup>21</sup>. Indeed, in September 2017, Score Holms is reported as using 2040 grammes of azamethiphos to treat sea lice. However, it is worth noting that as

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Control and Reduction of Parasites, Ron Smith, Fish Health Inspectorate Technical Manager, 8<sup>th</sup> September 2017

<sup>20</sup> [http://aquaculture.scotland.gov.uk/data/fish\\_farms\\_monthly\\_biomass\\_and\\_treatment\\_reports.aspx?sepa\\_site\\_id=SPO1](http://aquaculture.scotland.gov.uk/data/fish_farms_monthly_biomass_and_treatment_reports.aspx?sepa_site_id=SPO1)

<sup>21</sup> Treatment Plan as emailed 21<sup>st</sup> August 2017 to FHI by Grieg's vet.



the table below shows, in the run-up to the service of the Enforcement Notice, Grieg had already regularly been treating at Score Holms with azamethiphos, in 6 of the previous 8 months, and with deltamethrin and emamectin, all to inadequate effect.

**Sea lice treatment chemicals (grammes) used at Score Holms (per SEPA data published on Scotland’s Aquaculture website)**

Month	Deltamethrin	Azamethiphos	Emamectin
Sept	0	2040	0
Aug	32	1560	0
Jul	14	680	0
Jun	14	680	470
May	0	1785	0
Apr	0	1620	0
Mar	39.6	0	0
Feb	0	0	0
Jan	0	1350	0

52. An FHI inspection of Score Holms on 14<sup>th</sup> March 2017 recorded that sea lice record levels were already not below the suggested criteria for treatment in the CoGP during the period that records were inspected<sup>22</sup> and a further inspection on 4<sup>th</sup> April 2017, recorded that Grieg had treated the site with Alphamax (deltamethrin) and hydrogen peroxide between 3<sup>rd</sup> -13<sup>th</sup> March, with some mortalities attributed to post treatment losses, but that sea lice levels had increased since the treatment and were still above the suggested criteria for treatment<sup>23</sup>.

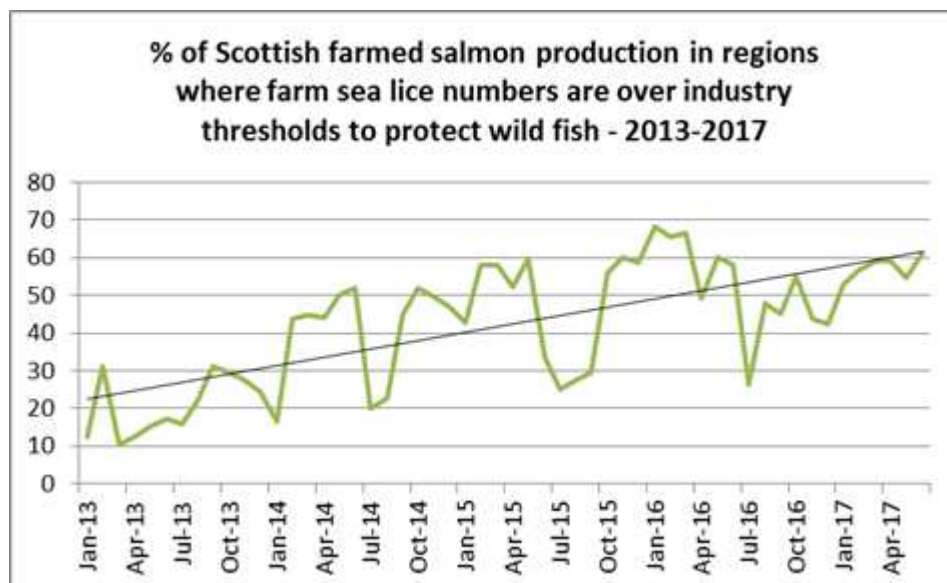
53. The new policy does not appears to have prevented Score Holms breaching the CoGP threshold for several months on end including during the period 1<sup>st</sup> February to 30<sup>th</sup> June when the criterion for treatment is an average of 0.5 adult female *L. salmonis* per fish, supposedly to protect wild salmonids, and has made no discernible difference to how that farm treated its fish for sea lice.

<sup>22</sup> <http://www.gov.scot/Resource/0052/00523143.pdf>

<sup>23</sup> <http://www.gov.scot/Resource/0052/00526950.pdf>

## The Scottish sea lice problem is getting worse

54. Despite the new policy, across the industry as a whole, the upward trend in failure of salmon farms to control sea lice and stay below the CoGP threshold of 1 or 0.5 adult female sea lice per farmed fish continues. Although analysis of the actual control of sea-lice on Scottish fish-farms is severely hampered by the lack of farm-specific sea lice data, S&TCS has analysed data published by the Fish Health Inspectorate, the Scottish Environment Protection Agency and the Scottish Salmon Producers' Organisation covering 2013 to 2017.
55. In much of the production of farmed salmon in Scotland and the Western Isles, adult female sea lice counts per farmed fish have risen often to levels well above industry thresholds, where they can remain for many months. The graph below, drawn up using published SSPO data<sup>24</sup>, shows that regions covering 61.4% of total farmed salmon production in Scotland were over CoGP thresholds in June 2017.



56. It is also worth noting that the 0.5 and 1 thresholds set within the CoGP are set at an arbitrary level that takes no account of the number of fish held on a farm. Even for that 1/3 or so of the industry that does remain below CoGP thresholds for sea lice, Marine Scotland scientists recognise "*that adherence to the suggested criteria for treatment*

<sup>24</sup> SSPO Fish Health Reports <http://scottishsalmon.co.uk/publications/>

*of sea lice stipulated in the industry CoGP may not necessarily prevent release of substantial numbers of lice from aquaculture installations”.*

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## Discussion and conclusions

57. Fisheries scientists are increasingly clear that sea lice produced on fish-farms harm wild salmonids, both at an individual and at a population level. In a recent peer reviewed publication<sup>25</sup>, fisheries scientists from Norway, Scotland and Ireland reviewed over 300 scientific publications on the damaging effects of sea lice on sea trout stocks in salmon farming areas, and examined the effect of sea lice on salmon, concluding that sea lice have a significant and detrimental effect on marine survival of Atlantic salmon with potentially 12-29% fewer salmon spawning in salmon farming areas.

*"Salmon lice in intensively farmed areas have negatively impacted wild sea trout populations by reducing growth and increasing marine mortality. Quantification of these impacts remains a challenge, although population-level effects have been quantified in Atlantic salmon by comparing the survival of chemically protected fish with control groups, which are relevant also for sea trout. Mortality attributable to salmon lice can lead to an average of 12–29% fewer salmon spawners. Reduced growth and increased mortality will reduce the benefits of marine migration for sea trout, and may also result in selection against anadromy [migration of fish between freshwater and seawater] in areas with high lice levels. Salmon lice-induced effects on sea trout populations may also extend to altered genetic composition and reduced diversity, and possibly to the local loss of sea trout, and establishment of exclusively freshwater resident populations".*

58. However, the warnings from fisheries scientists are not being translated into effective control of sea-lice on fish-farms to protect wild fish.

59. It is clear that the Scottish Government's new sea lice policy makes no effective additional contribution to the protection of wild salmonids for fish-farm derived sea lice, and, as previously stated, may take the focus of the FHI away from the stricter 0.5 and 1 adult female lice thresholds laid down in the CoGP. The policy risks merely 'widening the goalposts' when it comes to sea lice control on fish farms.

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<sup>25</sup> Thorstad, Eva Bonsak; Todd, Christopher D.; Uglem, Ingebrigt; Bjørn, Pål Arne; Gargan, Patrick G.; Vollset, Knut Wiik; Halttunen, Elina; Kålås, Steinar; Berg, Marius; Finstad, Bengt (2015) *Effects of salmon lice Lepeophtheirus salmonis on wild sea trout Salmo trutta—a literature review* Aquaculture Environment Interactions 2015, 7:91-113

60. Marine Scotland has already recognised that it may need to take further action, indicating to the Cabinet Secretary that *“there is the option to regulate further and potentially introduce legislative sea lice limits. We may need to consider this option seriously if the industry performance in managing sea lice does not improve as a result of the revised measures we are implementing”*<sup>26</sup>.
61. S&TCS believes that Scottish Government should now accept that it needs to go down the legislative route. It must now acknowledge that wild fish are not sufficiently protected in domestic law and that it needs to urgently amend legislation with the express purpose of protecting wild fish from damage from sea lice, giving Scottish Ministers a legal duty to control sea lice on fish-farms, again expressly in order to protect wild fish populations.
62. There also needs to be an urgent Government-led review of sea lice control on fish farms, leading to statutory sea lice limits, to protect wild salmonid populations from potential harm caused by marine cage fish farming.
63. S&TCS has suggested that an ‘upper-tier’ sea lice threshold should be introduced, above which an immediate cull or harvest of farmed fish is mandated, and also considers that those farms consistently failing to control sea lice should be considered for closure and / or relocation, to move the worst performing farms away from salmonid rivers and migration routes. There are international precedents for such an approach.
64. Finally, in order to achieve a long-term sustainable future for the fish farming of salmon in Scotland, S&TCS believes the evidence overwhelmingly supports the need for a renewed focus on moving the entire industry into full closed containment in Scotland, with complete ‘biological separation’ of wild and farmed fish being achieved as soon as possible. Until this is achieved, the approach outlined in the paragraph above is required as a matter of urgency if wild salmonids are to be protected from impacts of sea lice from salmon farms.

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<sup>26</sup> PS/ Cabinet Secretary (2016) Sea Lice Management and Impacts on Wild Salmonids - Purpose - The Cabinet Secretary requested background on stakeholder views in relation to sea lice management following the publication of the 1<sup>st</sup> quarter 2016 industry fish health management report.



## **Annex 1 – precedent Enforcement Notice as per the 2008 Guidance**

Aquaculture and Fisheries (Scotland) Act 2007

### **ENFORCEMENT NOTICE**

In accordance with Section 6(2) of the Aquaculture and Fisheries (Scotland) Act 2007 this enforcement notice has been served upon the person(s) specified below in relation to the practice of fish farming conducted at the Business specified below. Part 2 of this notice details the reasons why this has been served. The necessary corrective actions are detailed in Part 3.

Reference number: ..... **Insert number** .....

1. To: ..... **Insert name** ..... Position: ..... **Insert position** .....

Issued at: ... **Insert site name and address or address notice issued at** .....  
..... **Specify address** .....

Name of fish site: ..... **Insert site name** .....

Name of fish business: ..... **Insert business name** .....

Address of fish business (if different to above): ..... **Insert business address** .....

2. This notice has been served because: ..... **Insert reason for the serving of the notice** .....

3. The following actions must be taken: ..... **Insert action(s) to be completed** ...

4. These actions must be completed by: ..... **Insert date** .....

5. Specific requirements: ..... **Insert any specific requirements of the notice as necessary** .....

Signed: ..... (Authorised Officer)

Name in capitals: .....

Date: .....

Address: .....

.....

Tel: ..... Fax: .....

E-mail: .....

**Please read the following notes carefully. If you are not sure of your rights or the implications of this notice, you should seek legal advice.**

#### NOTES

1. The person upon which this notice has been served has the right to appeal to the sheriff against the notice. A period of 7 days, beginning on the day the notice is served, is granted for any appeal. Under such circumstances the notice is of no effect until the appeal is withdrawn or finally determined.
2. In an appeal the sheriff may make such an order as the sheriff thinks fit; and the decision of the sheriff in the appeal is final.
3. It is an offence if, without reasonable excuse, the person(s) named above contravenes this enforcement notice. In such circumstances the person(s) may be subject to a summary conviction to a fine not exceeding level 4 on the standard scale.
4. Where the Scottish Ministers are satisfied that an enforcement notice is contravened in respect of the prevention, control and reduction of parasites, they may (whether or not proceedings have been taken for an offence) authorise an inspector to take any

action they consider necessary in fulfillment of the requirements of the notice in that regard.

5. Any expenses reasonably incurred by an inspector in taking action authorised (as detailed above) may be recovered by the Scottish Ministers from the person on whom the enforcement notice was served.
6. The Scottish Ministers may publicise the serving of an enforcement notice and may do so to such an extent, in such manner and in such form as they think fit.

**WARNING**  
**FAILURE TO COMPLY WITH THIS NOTICE IS AN OFFENCE**



## **Annex 2 – Enforcement Notice as served on Grieg in 2017**

Aquaculture and Fisheries (Scotland) Act 2007

### **ENFORCEMENT NOTICE**

In terms of section 6(1), as read with section 6(2) of the Aquaculture and Fisheries (Scotland) Act 2007 (“the 2007 Act”), the Scottish Ministers –  
(a) being satisfied that the person(s) specified in paragraph 1 below (“the relevant person(s)”) – carries on a business of fish farming, and  
(b) being satisfied that the relevant person(s) does not have satisfactory measures in place for the purposes of the prevention, control and reduction of parasites in respect of the site(s) specified at paragraph 1 below;  
Hereby serve this enforcement notice on the relevant person(s) in respect to the fish farming business specified in paragraph 1 below.

In terms of section 6(4) and (6) of the 2007 Act the Scottish Ministers require the relevant person(s) to undertake the execution of the works and taking of the steps specified in paragraph 3 below by the date specified in paragraph 4 below.

1. Relevant person(s):

Grieg Seafood Shetland Limited (company number SC093192)

at the registered office address

Issued at: Marine Scotland Science,

Marine Laboratory,

375 Victoria Road,

Aberdeen,

AB11 9DB

Name of fish site: Score Holms (FS0948)

Name of fish farming business: Grieg Seafood Shetland Limited (FB0440)

Registered office address of fish farming business (if different to above):

Grieg Seafood Shetland Limited

13 Albyn Terrace

Aberdeen

AB10 1YP

(also operating from Gremista, Lerwick, Shetland, ZE1 0PX, the correspondence address provided to the Scottish Government for the authorisation granted under regulation 6(1) of the Aquatic Animal Health (Scotland) Regulations 2009)

2. This enforcement notice is served because:

The measures in place for the prevention, control and reduction of parasites at the site known as Score Holms (FS0948) are not currently deemed satisfactory, following reports of weekly average adult female sea lice counts per fish to Marine Scotland.

3. The execution of the following works and the taking of the following steps are considered necessary for the purpose of:

Ensuring that satisfactory measures are in place for the purposes of the prevention, control and reduction of parasites at the site known as Score Holms (FS0948).

i. Undertake the most appropriate works or steps, where necessary following veterinary advice, which may include (but not limited to):

a. medicinal treatment for sea lice;

b. topical bath treatment for sea lice;

c. mechanical removal of sea lice;

d. use of biological sea lice interventions; or

e. reduction of the biomass held on the site.

to ensure that the weekly average adult female sea lice count per fish is below the Scottish Government reporting level of 3.0 by 28 days after the date of this notice.

4. The requirements specified in paragraph 3 of this notice must be fulfilled by:

06 October 2017

Inspector's name: Ronald Smith

Signed:

On behalf of the Scottish Ministers

Date: 08 September 2017

**FAILURE TO COMPLY WITH THIS NOTICE IS AN OFFENCE UNDER SECTION 6(10) of the 2007 ACT, PUNISHABLE UPON SUMMARY CONVICTION BY A FINE NOT EXCEEDING LEVEL 4 ON THE STANDARD SCALE**

**Please read the following notes carefully. If you are unsure of the implications of this notice, you should seek legal advice.**

## NOTES

1. In terms of section 6(7) of the 2007 Act, the relevant person(s) upon whom this notice is served may appeal by summary application to the sheriff against the notice, before the expiry of the period of 7 days, beginning on the day upon which the notice is served. And where such an appeal is made, the notice is of no effect until the appeal is withdrawn or finally determined.

2. In an appeal the sheriff may make such an order as the sheriff thinks fit; and the decision of the sheriff in the appeal is final.

3. In terms of section 6(9) of the 2007 Act, it is an offence if, without reasonable excuse, the relevant person(s) named above contravenes this enforcement notice. A person who commits an offence is liable on summary conviction to a fine not exceeding level 4 on the standard scale.

4. In terms of section 6(11) of the 2007 Act, where the Scottish Ministers are satisfied that an enforcement notice is contravened in respect of the prevention, control and reduction of parasites, they may (whether or not proceedings have been taken for an offence) authorise an inspector to take any action they consider necessary in fulfillment of the requirements of the notice in that regard.

5. Under section 6(12) of the 2007 Act, any expenses reasonably incurred by an inspector in taking action authorised (as detailed in paragraph 4 of the enforcement notice) may be recovered by the Scottish Ministers from the relevant person(s) on whom the enforcement notice was served.

6. In terms of section 6(13) of the 2007 Act, the Scottish Ministers may publicise the serving of an enforcement notice and may do so to such an extent, in such manner and in such form as they think fit.

**Annex 3 – list of Scottish fish farms that have breached the 3 and/or 8 trigger levels during the period extending from week 43 in 2016 (November) to week 35 in 2017(end August)**

Quarry Point	The Scottish Salmon Company
Ardcastle Bay	The Scottish Salmon Company
Strondoir Bay	The Scottish Salmon Company
Plocrapol	The Scottish Salmon Company
Reibinish	The Scottish Salmon Company
Scadabay	The Scottish Salmon Company
Meall Mhor Loch Fyne	The Scottish Salmon Company
Gob a Bharra Loch Fyne	The Scottish Salmon Company
Greanamul	The Scottish Salmon Company
Bagh Chlann Neill	The Scottish Salmon Company
Kilerivagh / Petersport	The Scottish Salmon Company
Sgeir Dughall	The Scottish Salmon Company
Kenmore Loch Torridon	The Scottish Salmon Company
North Uiskevagh	The Scottish Salmon Company
Maragay Mor	The Scottish Salmon Company
Loch Odhairn	The Scottish Salmon Company
Strome	The Scottish Salmon Company
Geasgill	The Scottish Salmon Company
Dury Voe	Scottish Sea Farms Ltd
Nevis B	Scottish Sea Farms Ltd
Loura Voe	Scottish Sea Farms Ltd
Teisti Geo	Scottish Sea Farms Ltd
Foreholm	Scottish Sea Farms Ltd
Holms Geo	Scottish Sea Farms Ltd
Sian Bay	Scottish Sea Farms Ltd
Kempie Bay	Scottish Sea Farms Ltd
Snaranness	Scottish Sea Farms Ltd
South Sound	Scottish Sea Farms Ltd
Kingairloch	Marine Harvest (Scotland) Ltd
Cairidh	Marine Harvest (Scotland) Ltd
Stulaigh	Marine Harvest (Scotland) Ltd
Eilean Grianain	Marine Harvest (Scotland) Ltd
Soay	Marine Harvest (Scotland) Ltd
Ornish Island	Marine Harvest (Scotland) Ltd
Linnhe	Marine Harvest (Scotland) Ltd
Groatay	Marine Harvest (Scotland) Ltd
Hellisay	Marine Harvest (Scotland) Ltd
Maol Ban	Marine Harvest (Scotland) Ltd
North Shore	Marine Harvest (Scotland) Ltd
Clashnessie Bay	Loch Duart Ltd
Loch Laxford	Loch Duart Ltd
Loch Carnan	Loch Duart Ltd
Badcall Bay	Loch Duart Ltd
Shuna SW (Rubh'an Trilleachain)	Kames Fish Farming Ltd
North Papa	Grieg Seafood Shetland Ltd
North Havra	Grieg Seafood Shetland Ltd
Spoose Holm	Grieg Seafood Shetland Ltd
Leinish	Grieg Seafood Shetland Ltd
Score Holms	Grieg Seafood Shetland Ltd



**Annex 4 – list of Scottish fish farms that have breached the 3 and/or 8 trigger levels during the period extending from week 36 of 2017 (end August) to week 42 of 2017 (mid October)**

Greanamul	The Scottish Salmon Company
North Uiskevagh	The Scottish Salmon Company
Loch Odhairn	The Scottish Salmon Company
Strome	The Scottish Salmon Company
Geasgill	The Scottish Salmon Company
East Tarbert Bay	The Scottish Salmon Company
Aird	The Scottish Salmon Company
Hellisay	Marine Harvest (Scotland) Ltd
North Shore	Marine Harvest (Scotland) Ltd
Bagh Dail Nan Cean	Marine Harvest (Scotland) Ltd
Port Na Cro	Marine Harvest (Scotland) Ltd
Shuna SW (Rubh'an Trilleachain)	Kames Fish Farming Ltd
Cole Deep	Grieg Seafood Shetland Ltd
East of Papa Little	Grieg Seafood Shetland Ltd
Kishorn B (North)	Scottish Sea Farms Ltd
Kishorn West	Scottish Sea Farms Ltd
Kishorn A (South)	Scottish Sea Farms Ltd
Caolas A Deas	Marine Harvest (Scotland) Ltd
Invasion Bay	Marine Harvest (Scotland) Ltd
Tabhaigh	Marine Harvest (Scotland) Ltd
Poll Na Gille	Marine Harvest (Scotland) Ltd
Loch Alsh (Sron)	Marine Harvest (Scotland) Ltd

**Annex 5 – list of Scottish fish farms that have breached the 3 and/or 8 trigger levels during the period extending from week 42 of 2017 (mid October) to week 42 of 2017 (mid December)**

Loch Odhairn	The Scottish Salmon Company
Strome	The Scottish Salmon Company
North Uiskevagh	The Scottish Salmon Company
Greanamul	The Scottish Salmon Company
Gometra	The Scottish Salmon Company
Kishorn B (North)	Scottish Sea Farms Ltd
Kishorn West	Scottish Sea Farms Ltd
Loch Alsh (Sron)	Marine Harvest (Scotland) Ltd
Invasion Bay	Marine Harvest (Scotland) Ltd
Poll Na Gille	Marine Harvest (Scotland) Ltd
Bagh Dail Nan Cean	Marine Harvest (Scotland) Ltd
Port Na Cro	Marine Harvest (Scotland) Ltd
North Shore	Marine Harvest (Scotland) Ltd
Caolas A Deas	Marine Harvest (Scotland) Ltd
Tabhaigh	Marine Harvest (Scotland) Ltd
Camas Glas	Marine Harvest (Scotland) Ltd
Shuna Castle	Kames Fish Farming Limited
Shuna SW (Rubh'an Trilleachain)	Kames Fish Farming Limited
Cole Deep	Grieg Seafood Shetland Ltd
East of Papa Little	Grieg Seafood Shetland Ltd