



[Jan Tore Sanner](#)

Minister of Finance

[The Government Pension Fund](#)

[The Asset Management Department](#)

Postboks 8008 Dep

0030 Oslo

Norway

[postmottak@fin.dep.no](mailto:postmottak@fin.dep.no)

29 November 2020

Dear Minister of Finance,

### **Unethical Investment in Salmon Farming Companies in Scotland - Please Divest Now!**

Scottish Salmon Watch writes to you with respect to the [Norwegian Government Pension Fund's](#) investments in salmon farming companies in Scotland. In view of ongoing welfare abuse, environmental pollution, mass mortalities, chemical contamination, infectious diseases, genetic impacts and escapes we call upon the Norwegian Government to divest from Mowi, Grieg Seafood, Scottish Sea Farms (Leroy & SalMar) and The Scottish Salmon Company (via Bakkafrost) as [unethical and irresponsible investments](#).

We understand that the [Ministry of Finance is responsible for the Fund via the Government Pension Fund Act and Folketrygdfondet carries out the operational management of the Fund](#). Scottish Salmon Watch notes that [Folketrygdfondet](#) is either the leading or the second largest shareholder in four companies which [control ca. 80% of salmon farming production in Scotland](#).

The Norwegian newspaper *Aftenposten* [reported in 2006](#) that Fritt Ord had sold off its holdings in Pan Fish (now Mowi) because of concerns over its salmon farming operations in Chile and Canada. "It's important for us to have an ethical evaluation of where our investments are placed," said [Fritt Ord](#). "At the same time, I think all companies will profit from maintaining clear ethical standards". Scottish Salmon Watch believes that the Norway's investment in salmon farming companies operating in Scotland is ethically and environmentally bankrupt - and far from a [responsible investment](#). Please divest now.

We understand that ['Ethical Guidelines' for the management of the Government Pension Fund Global have been in place since 2004](#) with the [Council on Ethics](#) giving advice on whether investments are inconsistent with the Fund's ['Ethical Guidelines'](#). Scottish Salmon Watch maintains that Mowi, Grieg Seafood, Scottish Sea Farms (Leroy & SalMar) and The Scottish Salmon Company (via Bakkafrost) should be added to the [Norwegian Government's list of excluded companies](#) based upon the following unacceptable risks identified in the ['Guidelines for observation and exclusion'](#):

### Section 3. Criteria for conduct-based observation and exclusion of companies

Companies may be put under observation or be excluded if there is an unacceptable risk that the company contributes to or is responsible for:

- c) severe environmental damage
- e) gross corruption
- f) other particularly serious violations of fundamental ethical norms.

Scottish Salmon Watch is seriously concerned that the [Chair of the Council on Ethics \(Johan Andersen\)](#) has a colossal conflict of interest in that his investment company Ferd is the [leading shareholder in Benchmark](#) - a company profiting from the import of millions of [potentially virus-laden salmon eggs \(ova\) from their subsidiary in Iceland \(Stofnfiskur\)](#) and [Salmobreed in Norway](#) and a company seeking to use the [toxic neonicotinoid insecticide Imidacloprid \(banned for use in terrestrial agriculture in the European Union in 2018\)](#) in salmon farming in Scotland despite [objections from the Scottish Greens](#) and [scientific opposition](#). Ferd is also a significant [shareholder in Leroy \(co-owner of Scottish Sea Farms via Norskott Havbruk\)](#) and a [shareholder in Grieg Seafood](#).

In terms of openness, Scottish Salmon Watch is [heartened to read on your web-site](#) that "transparency is a prerequisite for ensuring widespread confidence in the management of the Government Pension Fund" and that the Ministry of Finance gives an account of the management of the Fund in an annual report to the Storting (Parliament), as well as in the National Budget. However, there is no reference to the Norwegian Government's investments in Scottish salmon farming companies in the [2019/2020 report to the Storting](#).

Scottish Salmon Watch understands that Folketrygdfondet [reported in April 2020](#): "We are constrained from commenting on the investment case for a specific company". Whilst we have some sympathy for privacy, the salmon farming companies in question - namely Mowi, Grieg Seafood, Scottish Sea Farms (Leroy & SalMar) and The Scottish Salmon Company (via Bakkafrost) - [operate in public waters](#) with [ongoing welfare abuse](#) and [mass mortalities, disease and chemical use publicly reported by the Scottish Government](#) and by the [Scottish Environment Protection Agency](#).

Scottish Salmon Watch finds it difficult to believe that, as Folketrygdfondet [claimed in April 2020](#), the Ministry of Finance is "staying vigilant" with respect to the growing problems of your salmon farming investments in Scotland.

#### Staying vigilant

Folketrygdfondet's engagement with the salmon farming industry continues. Over roughly the past decade, the industry's share of the Oslo Stock Exchange grew from two to fourteen percent. We intend with this case to illustrate first what we view as the mutually reinforcing roles of active management and active ownership. Our goal for active ownership is for us to know the companies and for them to know us.

Although we are not able to comment publicly on specific cases, Folketrygdfondet's engagement with the salmon farming industry over the better part of a decade coincided with several examples of concrete improvements from individual companies. This case is also indicative of our active ownership work in that it can take time to reach solutions in accordance with our principles. It is not unusual for engagement processes to extend over several years, involving multiple challenges and dilemmas along the way.

As Folketrygdfondet [claimed in April 2020](#): "Salmon farmers face significant operational risk related to fish biological development. The financial impact of companies' handling of environmental issues is readily apparent, as survival rates directly affect the bottom line".



RESEARCH & REPORTS    INSIGHTS

## Salmon Farming – Active management & engagement, the Norwegian way

by NordSIP on April 24, 2020

by Ann Kristin Brautaset and Annie Bersagel, Folketrygdfondet

The bottom line is that survival rates - and mortality rates to look at the other side of the investment coin - in salmon farming in Scotland are rising beyond what Scottish Salmon Watch would consider to represent "[fundamental ethical norms](#)". You will see from the dossier below that photographs, video footage and data published by the Scottish Government graphically illustrates widespread welfare abuse on salmon farms in Scotland (including mortalities and physical damage via mechanical treatments such as the Thermolicer, Optilicer and Hydrolicer). Moreover, "severe environmental damage" has been reported in Scottish salmon farming for decades in terms of toxic chemical pollution, benthic contamination and genetic pollution via escapes and ova imports.

Scottish Salmon Watch will leave any charges of "gross corruption" to the appropriate authorities currently investigating Norwegian salmon farming companies operating in Scotland. Suffice to say here that [BBC News reported in February 2019](#):



The screenshot shows the BBC News website interface. At the top, there is a navigation bar with the BBC logo, a 'Sign in' button, and links for Home, News, Sport, Weather, and iPlayer. Below this is a red banner with the word 'NEWS' in white. Underneath the banner is a horizontal menu with links for Home, Coronavirus, US Election, UK, World, Business, Politics, Tech, Science, Health, and Family. A secondary menu lists regional news: Scotland, Scotland Politics, Scotland Business, Edinburgh, Fife & East, Glasgow & West, Highland, Alba, and Local News. The main headline reads 'Salmon farms raided as part of EU competition probe'. Below the headline, it says 'By Kevin Keane, BBC Scotland's environment correspondent' and '20 February 2019'. The first paragraph of the article states: 'Raids have been carried out at several salmon farming sites in Scotland in connection with an EU-wide probe into alleged illegal cartels.' The second paragraph says: 'Officials visited offices in Shetland, Stirling and Fife amid concerns they may have violated anti-trust rules.' The final paragraph states: 'The European Commission (EC) has said the investigation is at a preliminary stage.'

Before we outline specific "serious violations of fundamental ethical norms" and "severe environmental damage" in Scottish salmon farming, it is important to stress the significance of Norwegian investment in 'Scottish' salmon farming and the [specific role of the Norwegian Government's Ministry of Finance via the Government Pension Fund](#).

[Folketrygdfondet](#) is the [leading shareholder in Bakkafrost](#) (owner of The Scottish Salmon Company).



20 Largest Shareholders		Origin	No. of shares	Share
1	FOLKETRYGDFONDET	NOR	5,234,397	8.85%



[Folketrygdfondet](#) is second largest shareholder in Mowi.



### Shareholders

Investor	Number of shares	% of top 20	% of total	Type	Country
GEVERAN TRADING CO LTD	68,345,215	23.99%	13.22%	Comp.	CYP
FOLKETRYGDFONDET	51,622,826	18.12%	9.98%	Comp.	NOR

[Folketrygdfondet](#) is the [second largest shareholder in Leroy](#) (co-owner of Scottish Sea Farms via [Norskott Havbruk](#)) with [Johan Andresen's Ferd](#) ranked 7th.



## Largest shareholders

Investor	Number of shares	% of top 20	% of total	Type	Country
AUSTEVOLL SEAFOOD ASA	313,942,810	70.93%	52.89%	Comp.	NOR
FOLKETRYGDFONDET	34,790,371	7.85%	5.83%	Comp.	NOR
STATE STREET BANK AND TRUST COMP	9,487,191	2.14%	1.59%	Nom.	USA
BANQUE DEGROEF PETERCAM LUX. SA	7,948,207	1.80%	1.33%	Nom.	BEL
THE BANK OF NEW YORK MELLON SA/NY	7,316,241	1.65%	1.23%	Nom.	IRL
FARETO AKSJIE NORGE VERDIPAPIRFOND	7,205,409	1.63%	1.21%	Comp.	NOR
FERD AS	6,811,248	1.54%	1.14%	Comp.	NOR

[Folketrygdfondet](#) is the [second largest shareholder in SalMar](#) (co-owner of Scottish Sea Farms via [Norskott Havbruk](#)):



## 20 LARGEST SHAREHOLDERS

Name	Shares	%
KVERVA INDUSTRIER AS	59,436,137	52.46 %
FOLKETRYGDFONDET	7,217,679	6.37 %

[Folketrygdfondet](#) is the [second largest shareholder in Grieg Seafood](#) with [Johan Andresen's Ferd](#) in the top 20 shareholders.

Grieg Seafood®		SHAREHOLDERS				
Investor	Number of shares	% of top 20	% of total	Type	Country	
GRIEG AQUA AS	56,914,355	68.50%	50.17%	Comp.	NOR	
FOLKETRYGDFONDET	4,338,939	5.22%	3.82%	Comp.	NOR	
OM HOLDING AS	4,235,656	5.10%	3.73%	Comp.	NOR	
YSTHOLMEN FELLES AS	2,928,197	3.52%	2.58%	Comp.	NOR	
CLEARSTREAM BANKING S.A.	1,912,238	2.30%	1.69%	Nom.	LUX	
STATE STREET BANK AND TRUST COMP	1,513,925	1.82%	1.33%	Nom.	USA	
GRIEG SEAFOOD ASA	1,213,687	1.46%	1.07%	Comp.	NOR	
RONJA CAPITAL AS	1,200,000	1.44%	1.06%	Comp.	NOR	
UBS SWITZERLAND AG	928,832	1.12%	0.82%	Nom.	CHE	
JPMORGAN CHASE BANK, N.A., LONDON	915,596	1.10%	0.81%	Nom.	USA	
VERDIPAPIRFONDET PARETO INVESTMENT	890,000	1.07%	0.78%	Comp.	NOR	
SIX SIS AG	886,028	1.07%	0.78%	Nom.	CHE	
BANQUE DEGROOF PETERCAM LUX. SA	822,051	0.99%	0.72%	Nom.	BEL	
STATE STREET BANK AND TRUST COMP	776,968	0.94%	0.68%	Nom.	USA	
DNB NOR BANK ASA EGENHANDELSKONTO	709,724	0.85%	0.63%	Comp.	SWE	
FERD AS	688,453	0.83%	0.61%	Comp.	NOR	

In summary, Norwegian investments are fuelling the expansion of salmon farming in Scotland and contributing to environmental damage and welfare abuse. And the "multiple challenges and dilemmas" [alluded to by Folketrygdfondet in April 2020](#) are increasing not decreasing. Hence instead of ramping up investment in Scottish salmon farming, the Norwegian Government should be divesting. Sadly, common sense is not a currency Norwegian investors are used to dealing in.

TDN Direkt [reported in August 2020](#) that Johan Andresen was busy increasing Ferd's stake in Leroy (co-owner of Scottish Sea Farms) and Grieg Seafood. At the same time, mass mortalities, infectious diseases, welfare abuse, lice infestation and a mass escape was ravaging Scottish salmon farming.

Grieg Seafood's [announcement last week that it was pulling out of Scotland](#) due to rising costs and mortality levels is hard evidence of the financial fallout from salmon farming investments (read more via [Grieg's Exit Strategy for Disease-Ridden Scottish Salmon Farms](#)). Scottish Salmon Watch [saw at first-hand the devastating impacts of disease at Grieg Seafood on the Isle of Skye](#) where the [mortality rate was a staggering 78.3%](#).



The Herald on Sunday [reported \(22 November 2020\)](#):

# The Herald

## Norwegian salmon farm firm quitting Scotland got over £600,000 of taxpayer money



Exclusive by Martin Williams | [@MWilliamsHT](#)  
Senior News Reporter

**A NORWEGIAN salmon farming firm which is quitting Scotland putting at risk hundreds of jobs has received hundreds of thousands of pounds in taxpayer-funded support to develop operations, it has emerged.**

Grieg Seafood through a subsidiary got over £600,000 of public money in 2012.

The cash boost was to allow subsidiary company Hjaltland Hatcheries Ltd (HHL) to develop a state of the art Atlantic salmon smolt hatchery facility at Girlsta on Shetland, creating seven jobs.

The project received £314,734 from the Scottish Government's community development agency Highlan5s and Islands Enterprise (HIE) and an identical sum went from Shetland Islands Council. The European Fisheries fund also provided grant support towards the £3.7m project.

Intrafish [reported \(17 November 2020\)](#):



Aquaculture Fisheries Processing Markets Feed Opinion Species ▾

## Salmon farmer Grieg announces plans to pull out of Scotland

The pandemic has pushed the company to make "tough decisions" and prioritize its investments.

### RELATED NEWS

**Grieg Seafood issues profit warning; delays plans for parts of huge Eastern Canada salmon farming operation**

[Aquaculture](#)

23 October 2020 12:00 GMT

17 November 2020 7:32 GMT UPDATED 17 November 2020 15:04 GMT  
By [Rachel Mutter](#)

Salmon farmer Grieg Seafood has said it will divest its assets in Shetland, Scotland, "when the time is right" to focus on operations in Norway and Canada.

The company had previously announced it would be ceasing operations on the Isle of Skye, which come under Shetland's remit, but in its Capital Markets Day presentation released to the Oslo Stock Exchange on Tuesday, it said this will be expanded to include all operations in the region.

High mortality at Grieg's Skye farms impacted the Shetland operations in the third quarter, [dragging earnings before interest and taxation \(EBIT\) per kilo down to a loss of NOK 27.44 \(€2.50/\\$3.00\) from a loss of NOK 3.53 \(€0.33/\\$0.39\)](#). The group notified the stock exchange in September that it would be ceasing operations at its Skye farms, with final harvests to be made next year.

The Scottish Salmon Company is another [unethical investment](#) positively reeking with a stench of mass mortalities, welfare abuse and infectious diseases (read more via [Over 5 Million Dead 'Scottish' Salmon Since 2017 - Sponsored by Investors from Norway, the Faroes etc!](#)).

 Don Staniford  
@TheGAAIA

Over 5 Million Dead 'Scottish' Salmon Since 2017  
[@salmon\\_scottish](#) - sponsored by investors from Norway, Sweden, Faroes, USA, Denmark, Belgium & Luxembourg!  
[@Folketrygdfond](#) [@NorwayMFA](#) [@fiskeridir](#) [@NFdep](#)  
[@Try\\_Lochlander](#) [@SSPOsays](#) [@FergusEwingMSP](#)  
[@strathearnrose](#) [@marinescotland](#)



**Over 5 million dead 'Scottish' salmon since 2017**

12:20 PM · Nov 13, 2020

Something is [really rotten in the state of Norwegian investment in salmon farming in Scotland](#).



**Aquacalypse Now: "I Love the Smell of Farmed Salmon in the Morning"**  
from Don Staniford

01:23

The Mirror [reported on "putrid" Scottish salmon last weekend \(22 November 2020\)](#) naming and shaming The Scottish Salmon Company and Scottish Sea Farms in particular:

**M** News • UK News • Environment

## 'Putrid' salmon farms infested with flesh-eating lice threaten wildlife in oceans

Investigators for Viva! visited farms in the Highlands where they say fish are being kept in 'putrid' overcrowded sea pens – a breeding ground for diseases which can put oceans at risk

SHARE     5 COMMENTS

By [Nada Farhoud](#) Environment editor  
17:17, 22 NOV 2020

NEWS

**Mirror**

SHARE     5 COMMENTS



 Sea lice attached to Scottish salmon for sale on supermarket fresh fish counter (Image: DAILY MIRROR)

“The putrid conditions in which farmed fish are reared create a breeding ground for disease that not only causes serious animal welfare issues but also delivers widespread habitat destruction, water pollution and the development of life-threatening drug-resistant superbugs.”

The Scottish Salmon Company, which supplies Co-op, said: “The health and welfare of our stock is of paramount importance. As with any farming, there can be naturally occurring health challenges, such as sea lice, which are endemic in the wild.

“These treatments are specifically designed for the removal of sea lice.

“They are managed by a team of trained professionals and are assessed in terms of welfare by independent third-party organisations.”

Scottish Sea Farms, which supplies M&S, added: “Proactive health treatments such as these are carried out specifically to protect fish welfare, removing lice just as is done with other farmed livestock.”

Scottish Sea Farms (co-owned by Leroy & SalMar - whose second largest shareholder is [Folketrygdfondet](#)) has [hit the headlines recently for all the wrong reasons](#).



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Video Exposes Welfare Abuse at RSPCA Assured salmon farm sourced by M&S 'Lochmuir' [tinyurl.com/y44b9c3t](https://tinyurl.com/y44b9c3t)  
[@rspcaassured](#) [@SSPCA\\_Mike](#) [@APHAgovuk](#)  
[@marinescotland](#) [@scotseafarms](#) [@SSPOsays](#)  
[@SalmonTroutCons](#) [@FFFTmag](#) [@marksandspencer](#)  
[@onekindtweet](#) [@CIWF\\_EU](#) [@SSPCA\\_Kirsteen](#) [@RSPCAChris](#)

12:06 PM · Oct 31, 2020



Scottish Sea Farms  
Loch Creran Fish Farm  
20th October 2020

0:02 / 2:03

Scottish Salmon Scandal  
818 views · Oct 21, 2020

5 2 SHARE SAVE ...

Read more on Scottish Sea Farms via:  
[Locals Horse in Opposition to Scottish Sea Farms](#)  
[Herald: "Scottish salmon found in 'sickening' conditions across Scotland as sea lice problem escalates"](#)  
[Video Exposes Welfare Abuse at RSPCA Assured salmon farm sourced by M&S 'Lochmuir'](#)  
[Sick 'Scottish' Sea Farms](#)

The Herald newspaper reported (31 October 2020): "[Scottish salmon found in 'sickening' conditions across Scotland as sea lice problem escalates](#)" - featuring shocking video footage shot inside a salmon farm in Loch Creran 'Marine Protection Area' and 'Special Area of Conservation' operated by Scottish Sea Farms.

# The Herald

## Scottish salmon found in 'sickening' conditions across Scotland as sea lice problem escalates

By Caitlin Hutchison | [Caitlin Hutchison](#)



Fish found in 'sickening' conditions on Scottish salmon farms as sea lice problem escalates

Is the Norwegian Government proud to sponsor 'sickening' salmon farming which carries a "graphic warning"?



© Corin Smith

Loch Creran, footage taken Oct 2020 | Image credit Corin Smith



© Corin Smith

Loch Creran, footage taken Oct 2020 | Image credit Corin Smith

Scottish Sea Farms is facing growing opposition including in Wester Ross where local environmental groups [spoke out just last week on STV News](#) against plans to site a salmon farm within a 'Marine Protected Area'.

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STV News reporting on opposition to Scottish Sea Farms by Ullapool Sea Savers & Scottish Wildlife Trust [youtu.be/\\_p3b48\\_e-no](#)  
[@scotseafarms](#) [@ScotWildlife](#) [@SaversSea](#) [@STVNews](#)  
[@iainramage6](#) [@SealifeA](#) [@ScotSalmonTank](#) [@ScottishEPA](#)  
[@marinescotland](#) [@nickunderdown](#) [@TheOpenSeas](#) [@scotgp](#)



2:17 PM · Nov 16, 2020

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"The site proposed by [@scotseafarms](#) is entirely unsuitable due to its proximity to important protected habitats. These plans pose a serious threat to marine wildlife, stores of blue carbon & the local creel fishing industry" [@heraldscotland](#)  
[tinyurl.com/yy3dey26](#) [@ScotWildlife](#)



Salmon farm creates 'serious threat' to life in a protected Scottish sea zone  
CONSERVATIONISTS young and old are opposing a plan for a large fish farm which they say threatens to damage "fragile" marine habitats in a...  
[heraldscotland.com](#)

7:33 AM · Nov 4, 2020

Mowi, too, is [plagued by problems including mass mortalities and infectious diseases](#) even though it is a company (like Scottish Sea Farms and Grieg Seafood) which [boasts welfare certification via RSPCA Assured](#).



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@TheGAAIA



Mowi's Q3 2020 financial results make grim reading for Scotland with production down & costs up due to diseases such as Cardiomyopathy Syndrome, Pancreas Disease & Sea Lice [tinyurl.com/y5ctrlbv](https://tinyurl.com/y5ctrlbv) @MowiScotlandLtd

**ITS LIKE A BAD**  
**MOWI**®



6:18 AM · Nov 4, 2020



Please take time to look through some of the [photos published by the Scottish Government's Fish Health Inspectorate](#) (which [lawyers representing Scottish Sea Farms and The Scottish Salmon Company](#) and [Mowi's media adviser](#) desperately tried to block from publication):



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@TheGAAIA



Be Sure to Boycott RSPCA Assured Scottish Salmon!  
[tinyurl.com/srommob](https://tinyurl.com/srommob) Shocking new photos published of Mowi's disease-ridden North Shore feedlot in Loch Erisort  
[@marinescotland](#) [@MowiScotlandLtd](#) "visibly moribund fish"  
& "significant lice damage" [@sainsburys](#) [@rspcaassured](#)



5:00 PM · Apr 7, 2020



Is this welfare abuse and unhealthy situation really something that [Mowi's second largest shareholder](#) is willing to condone so long as the Norwegian people secure a healthy return on their investment?



Read more about Mowi in particular via:

[Disease Breaks Mowi's Heart in Scotland](#)

[Mowi Plagued by Gill Infections & Heart Disease](#)

[Mowi Plagued by Infectious Diseases & "Biological Issues" - Q2 2020 volume guidance reduced 8,000 tonnes for Scotland](#)

[RSPCA Assured Mowi Plagued by Mass Mortalities & Infectious Diseases on Skye](#)

[Be Sure to Boycott RSPCA Assured Scottish Salmon - Shocking New Photos Published of Mowi's North Shore Feedlot in Loch Erisort!](#)

[Deadly Mowi - the Horror Story Continues!](#)

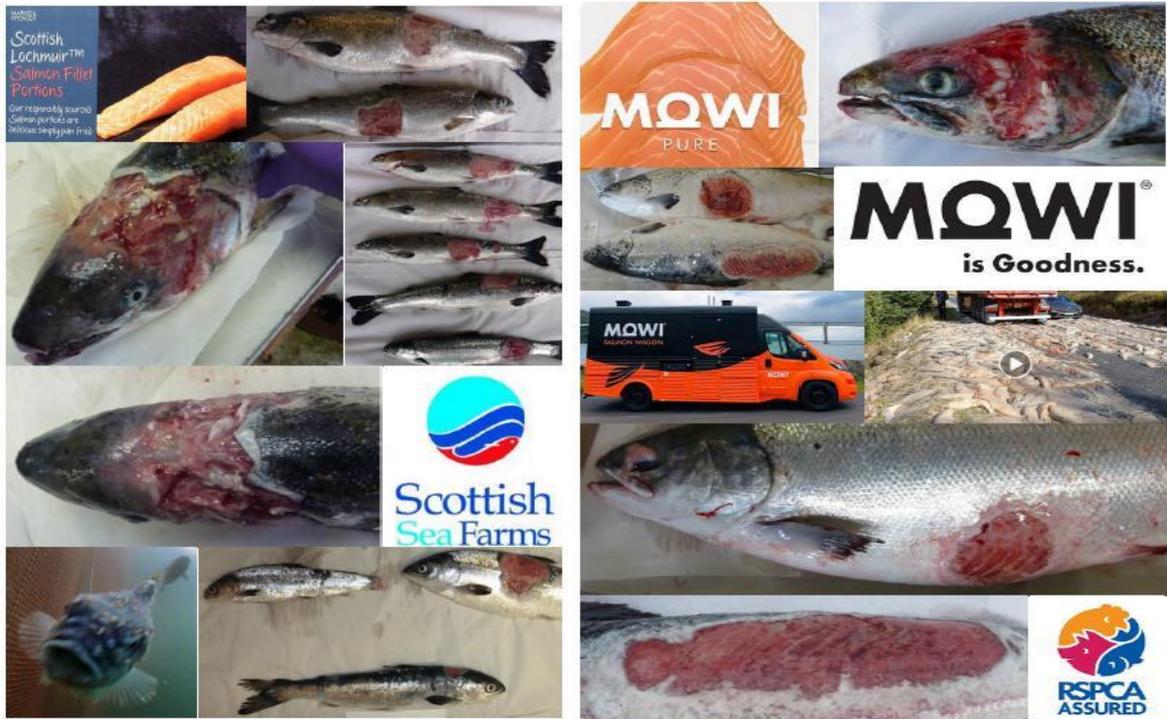
['Moribund' Mowi: Salmon Gill Poxvirus, Amoebic Gill Disease & Anaemia at Ardintoul](#)

[Mowi's Mass Mortalities Pile Ever Higher](#)

[Sunday National/Ferret: "Salmon company Mowi rapped over fish welfare after 700,000 deaths"](#)

[Mowi's Welfare Nightmare on Rum - "blind", "physical damage", "anorexic" & over 40,000 dead fish!](#)

Is this the [responsible investment](#) portfolio the Norwegian Government is happy with?



**About Folketrygdfondet**  
Our mission is to be a responsible manager of the Government Pension Fund Norway, secure strong financial returns over time and be a long-term investor.

The section includes a portrait of a woman on the left, a large blue letter 'F' in the center, and a portrait of a man on the right.



Or does the Norwegian Government have serious concerns that their investments in salmon farming companies is the antithesis of [responsible, ethical and environmental investment](#)?



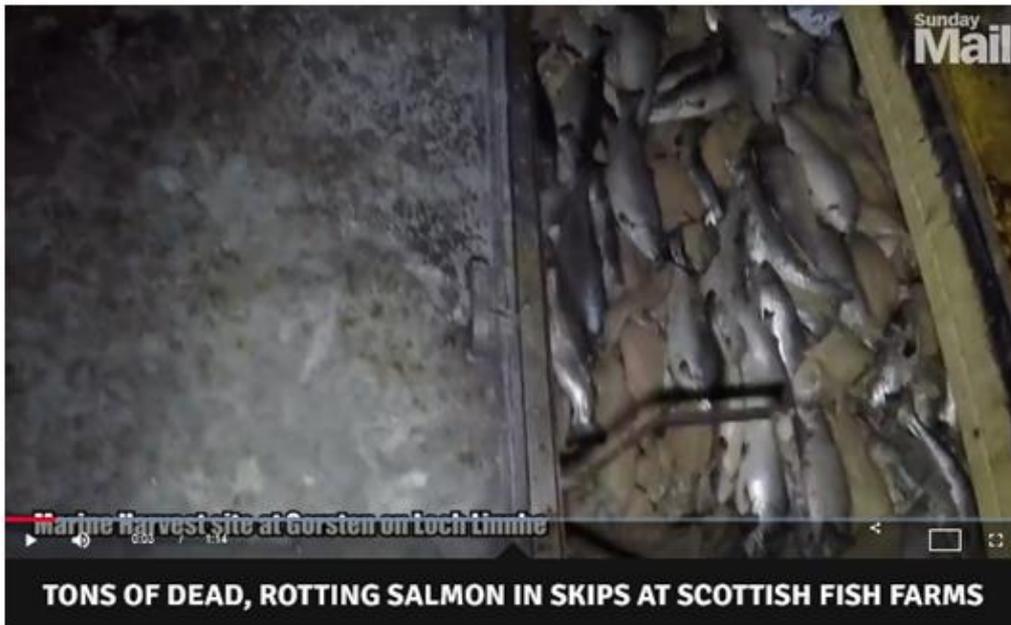
If so, surely the Norwegian Government should dump their salmon shares in the bin along with the [millions of farmed salmon disposed of each year](#)?

Here's more secret videos shot on salmon farms supported by the Norwegian Government's 'ethical' investments in Scottish salmon farming:

**R** News • Scottish News • Fishing

## Scottish salmon farms in disease hell row after tons of rotting fish dumped in skips

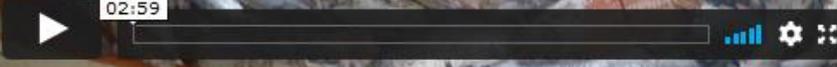
Campaigners have claimed the shocking pictures show disease is rife in Scotland's farmed salmon industry.



 **Lifting the Lid on Diseased & Deformed Scottish Salmon**  
from Don Staniford



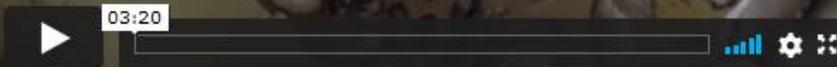
02:59



 **Undercover reporters shine light on mortalities at Marine Harvest (MOWI)**  
from Don Staniford



03:20



 **BBC One Show on Scottish salmon far...**  

Watch later Share



MORE VIDEOS

1:29 / 5:36

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## Specific Case for Exclusion ([Section 3 of 'Ethical Guidelines'](#)):

### 1) "Serious Violations of Fundamental Ethical Norms":

- **Mass Mortalities & Infectious Diseases:** Just last week (18 November 2020), [the Scottish Parliament tackled salmon farmers on rising mortality rates](#) with the convenor of the Rural Economy & Connectivity Committee (Edward Mountain MSP) asking the industry to explain the "difficult figures". Mowi Scotland's MD (Ben Hadfield) testified that the "most difficult conversations that I have with my bosses and board is about mortality increasing or staying stubbornly high" (official transcript available [online here](#)).



12:00 PM · Nov 18, 2020 · Twitter Web App



9:52 AM · Nov 19, 2020 · Twitter Web App

Last week's Scottish Parliament discussion on salmon farming (watch [online here](#) and official transcript [online here](#)) also hailed Norway as a shining example of data transparency. Even if data on the number of mortalities on salmon farms in Scotland has not been reported or published since 2012 - [the industry successfully lobbied the Scottish Environment Protection Agency back in 2013 that disclosure would be "commercially damaging"](#) - the incomplete data that does exist and is published [makes for grim reading](#) for shareholders in Mowi, Grieg Seafood, Scottish Sea Farms and The Scottish Salmon Company.

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In August 2020, nearly one million (996,329) farmed salmon were reported as dying due to Pancreas Disease, Anaemia, Cardiomyopathy Syndrome, complex gill disease, post treatment mortality, post-physical delicing, Sea lice (Caligus) grazing damage etc [tinyurl.com/yy38aefl](https://tinyurl.com/yy38aefl)



10:27 AM · Oct 29, 2020 

 **Don Staniford**  
@TheGAAIA

Over 1 Million dead salmon in September 2020!  
[tinyurl.com/y2ouqla7](https://tinyurl.com/y2ouqla7)  
Diseased Scottish salmon is piling up higher than Ben Nevis (Scotland's highest mountain!)  
[@rspcaassured](#) [@salmon\\_scottish](#) [@LeroySeafood](#)  
[@GreenerScotland](#) [@scotgp](#) [@onekindtweet](#) [@ciwf](#)  
[@ProfCMDwyer](#) [@PETAUK](#)

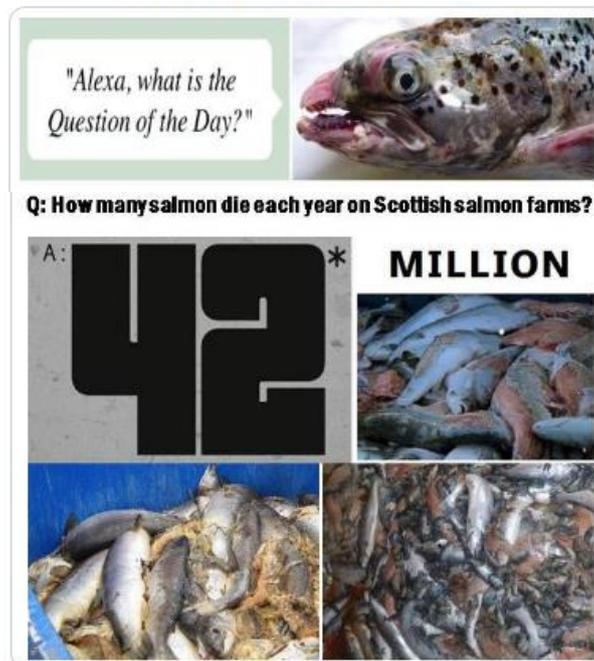


11:26 AM · Nov 9, 2020 

Scottish Salmon Watch [estimates that mortalities in Scottish salmon farming - in both freshwater via hatcheries and in seawater - could be over 40 million per year](#) (approximately 20 million in freshwater hatcheries and 20 million in sea cages).

 **Don Staniford**  
@TheGAAIA

Alexa, how many salmon die each year on Scottish salmon farms? 42 million\* [tinyurl.com/y3eox5dt](https://tinyurl.com/y3eox5dt)  
Sadly we don't know for sure as the answer is deemed "commercially damaging" by @sspo!  
Will @ScottishEPA & @marinescotland force disclosure? @salmon\_scottish @rspcaassured



Scottish Sea Farms and 9 others  
9:05 AM - Nov 11, 2020 - Twitter Web App

If [50 million farmed salmon die annually on salmon farms in Norway](#) then the death rate in Scotland is drastically higher ([Norwegian farmed salmon production is ca. 7 times higher](#)).



## Over 50 million farmed salmon died in Norway last year as sea lice, algal blooms take heavy toll

Despite a reduction in overall mortalities in the salmon farming sector, fish health continues to be a challenge in Norway.

28 February 2020 20:38 GMT UPDATED 27 February 2020 7:30 GMT  
By Ole Jacob Strønen Råse

More farmed salmon died in Norway's cages last year than the year prior, the result of an acute algal bloom attack in the Northern part of the country last summer and continuing challenges with sea lice management.

The annual "Fish Health Report" calculated over 52.8 million farmed salmon died in Norway last year. While the figure is significant -- and costly -- [the underlying trend was a positive one when taking out the losses of the algal bloom, which reached 8 million fish.](#)

The Norwegian Government is encouraged to perform a forensic audit of the mortality data - [published monthly by the Scottish Government's Fish Health Inspectorate](#) and [by the Scottish Salmon Producers Organisation](#) - in order to compare mortalities in Norway with Scotland. Are Norwegian-owned companies contributing significantly higher to deaths in Scotland than at home in Norway? If so, why are lower standards being ignored by investors?



**Don Staniford**  
@TheGAAIA



Shocking Scottish Salmon: 78.3% mortality rate reported at Grieg Seafood's Leinish salmon farm on the Isle of Skye - four out of five [@rspcaassured](#) fish died a horrible death!  
[@GriegShetland](#) [@SSPOsays](#) [@onekindtweet](#)  
[scottishsalmon.co.uk/reports](http://scottishsalmon.co.uk/reports)  
[@KateForbesMSP](#) [@IanBlackford\\_MP](#) [@WHFP1](#)

Monthly Mortality Rate: September 2020				Monthly Mortality Rate: August 2020			
Company	Farm	Monthly mortality (%)	Notes	Company	Farm	Monthly mortality (%)	Notes
Wm Company Ltd	Spian Dubh	31.8		Wm Company Ltd	Spian Dubh	31.8	Algal bloom/Environmental challenges/Gill health
Wm Company Ltd	Leinish	47.2	Gill Health/Infectious	Wm Company Ltd	Leinish	47.2	Gill Health/Infectious
Wm Company Ltd	Strone	45.8		Wm Company Ltd	Strone	45.8	Algal bloom/Environmental challenges/Gill health
Wm Company Ltd	Corranach	19.8 (Farm followed in Sep.)	Gill Health	Wm Company Ltd	Forres	2.9 (Farm followed in Aug.)	27.8
Wm Company Ltd	Strone	0.2 (Farm followed in Sep.)		Wm Company Ltd	Strone	2.8 (Farm followed in Aug.)	37.3
Wm Company Ltd	Spian Dubh	1.0 (Farm followed in Sep.)		Wm Company Ltd	Malcolm Ness	0.2 (Farm followed in Aug.)	38.7
Wm Company Ltd	Shulagh	0.0 (Farm followed in Sep.)		Wm Company Ltd	Stronach	35.4	Algal bloom/CMS
Wm Company Ltd	Via Mòr	5.5 (Farm followed in Sep.)	Environmental challenges/Gill Health/Treatment issues	Wm Company Ltd	Treilachan Mòr	33.1	Anaemia/CMS/CPD
Wm Company Ltd	Ardyne	0.2 (Farm followed in Sep.)		Wm Company Ltd	Scott East	9.1	Gill Health/Treatment issues
Wm Company Ltd	Vaichay	23.1	Gill Health/Treatment issues	Wm Company Ltd	Treilachan Mòr	7.0	Gill Health/Treatment issues
Wm Company Ltd	Treilachan Mòr	35.1	Anaemia/CMS/CPD	Wm Company Ltd	Stronach Bay	6.4	Algal bloom/Environmental challenges/Gill Health
				Wm Company Ltd	Muck	5.4	Treatment
				Wm Company Ltd	Stronach	4.1	Treatment issues

2:49 PM · Nov 6, 2020



**Don Staniford**  
@TheGAAIA



Mass mortality at Scottish Sea Farms in Shetland: "A fire in wellboat engine room caused a total power failure resulting in no oxygen supply to fish held in the well. All fish held on the vessel died" [@scotseafarms](#) [@marinescotland](#) [tinyurl.com/yj38ae1](http://tinyurl.com/yj38ae1) [@Shetnews](#) [@bbcshetland](#)

Mortality rate recorded (%)	Explained reasons	Total mortality event
15.9	Power outage during wellboat transfer; oxygen supply failure	Number of mortalities
1.03	Post-physical delicing	Number of mortalities
3.4	CMS	Number of mortalities



10:21 AM · Oct 29, 2020



Recent mortality data [published by the Scottish Salmon Producers Organisation](#) - which represents the [six foreign-owned companies who together account for 99%](#) of 'Scottish' salmon farming production - paints a shocking picture of diseased and dead Scottish salmon with cumulative mortality over the full production cycle as high as 78.3% (i.e. 4 out of 5 salmon are dying in the sea phase of production).

## Monthly Mortality Rate: September 2020



Company	Farm	Monthly mortality (%)	Notes	Cumulative mortality over full production cycle (%)
Grieg Seafood Shetland Ltd	Leinish	59.7 (Farm fallowed in Sep.)	Gill Health/Jellyfish	78.3
Grieg Seafood Shetland Ltd	Corliarach	19.8 (Farm fallowed in Sep.)	Gill Health	51.3
Scottish Salmon Company Ltd	Strone	0.2 (Farm fallowed in Sep.)		41.5
Scottish Salmon Company Ltd	Sgian Dubh	1.0 (Farm fallowed in Sep.)		39.4
Mowi Scotland Limited	Stulaigh	0.0 (Farm fallowed in Sep.)		36.8
Scottish Salmon Company Ltd	Vuia Mor	5.5 (Farm fallowed in Sep.)	Environmental challenges/ Gill Health/Treatment losses	26.4
Scottish Salmon Company Ltd	Ardyne	0.2 (Farm fallowed in Sep.)		20.5
Scottish Salmon Company Ltd	Vacasay	23.1	Gill Health/Treatment losses	In production
Scottish Salmon Company Ltd	Trilleachan Mor	10.1	Anaemia/CMS/PD	In production

## Monthly Mortality Rate: August 2020



Scottish Salmon Company Ltd	Sgian Dubh	51.8	Algal bloom/Environmental challenges/Gill Health	In production
Grieg Seafood Shetland Ltd	Leinish	47.2	Gill Health/Jellyfish	In production
Scottish Salmon Company Ltd	Strone	45.8	Algal bloom/Environmental challenges/Gill Health	In production
Grieg Seafood Shetland Ltd	Foraness	2.9 (Farm fallowed in Aug.)		17.8
Scottish Sea Farms Ltd	Vidlin	2.8 (Farm fallowed in Aug.)		17.3
Mowi Scotland Limited	Macleans Nose	0.0 (Farm fallowed in Aug.)		16.4
Mowi Scotland Limited	Stulaigh	15.6	Algal bloom/CMS	In production
Scottish Salmon Company Ltd	Trilleachan Mor	12.1	Anaemia/CMS/PD	In production
Grieg Seafood Shetland Ltd	Snizort East	9.1	Gill Health/Treatment losses	In production
Scottish Salmon Company Ltd	Taranaish	7.0	Gill Health/Treatment losses	In production
Scottish Salmon Company Ltd	Strondoir Bay	6.6	Algal bloom/ Environmental challenges/Gill Health	In production
Mowi Scotland Limited	Muck	5.4	Transfer	In production
Organic Sea Harvest Ltd	Invertote	4.1	Treatment losses	In production

Mortality data [published by the Scottish Government's Fish Health Inspectorate](#) earlier this month (6 November 2020) reveals shocking levels of mass mortality at Mowi, Grieg Seafood, The Scottish Salmon Company and Scottish Sea Farms:

Mortality Event No	Reporting Business Name	Site Name	Date reported	Mortality rate recorded (%)	Explained reasons	Total mortality during event	Additional information
MRT00964	Mowi Scotland Ltd	Lochailort Recirculation Hatchery	23/03/2019	50	Human error	1521479	All alevins in one of the hatcheries lost (2019 Q4 generation). Human error resulting in recirculation pump stopping. Other stocks on site unaffected (2019 Q3 parr and another batch of 1.5 million 2019 Q4 alevins in separate hatchery). Percentage loss across the whole site for w/b 18/3/19 is 28.54%, but 49.81% in Q4 generation
MRT00744	Marine Harvest (Scotland) Ltd	Inchmore	21/08/2018	28	Oxygen supply failure	520,171	Attempting to get in contact with company
MRT00684	Scottish Sea Farms Ltd	Knock	27/06/2018	13.12	Stress induced by high temperature	177,275	Transfer of fish to larger tanks to reduce stocking density. Oxygen increased
MRT00594	Scottish Sea Farms Ltd	Snararness	06/03/2018	57.34	Gill issues, O2 problems	163523	FVG investigated, accelerated harvesting to fallow site, fish incinerated in Shetland
MRT00659	Marine Harvest (Scotland) Ltd	Eilean Grianain	08/06/2018	16.69	Physical damage	140488	Physical damage following storm. Strong peak in easterly winds. Health team visited to check for 2ndy infections but not an issue. Any badly damaged fish were removed and dispatched. Mort levels fell to 0.171% week 15 9/4/18
MRT01754	Grieg Seafood Shetland Ltd	Leinish Taling of Railsbrough	18/08/2020	27.65	Complex gill disease and jellyfish	107700	
MRT01548	Grieg Seafood Shetland Ltd	Catfirth	19/02/2020	13.55	Bacterial infection (Moritella & Vibrio)	103614	Site harvesting out at the time. Has been fallow since this production cycle
MRT01784	The Scottish Salmon Company	Sgian Dubh	27/08/2020	39.55	Water quality/Plankton/Gill Health	102,344	Harvesting - fallow within 2 weeks
MRT00360	The Scottish Salmon Company	Vuiabeag	11/09/2017	10.37	AGD, PD, Treatment	97534	
MRT01319	Mowi Scotland Ltd	Bagh Dail Nan Cean	10/10/2019	19.65	Pasteurella skyensis	92140	Harvesting out site
MRT01010	The Scottish Salmon Company	Barvas Hatchery	29/04/2019	4.5	Poor ova quality	90,000	Poor quality batch of ova - costia, fungus, deformities - lowered survival rate
MRT00920	Mowi Scotland Ltd	Lochailort Recirculation Hatchery	05/02/2019	1.73	Water supply failure	89737	Accident due to new staff in training. Training continuing to reduce risk in future.
MRT00824	Scottish Sea Farms Ltd	Knock	04/10/2018	7.12	Water quality	86764	Also affected 2019 S1. High water temperatures with low water levels in the river.
MRT01622	The Scottish Salmon Company	Barvas Hatchery	28/04/2020	7.04	IPN	86573	Heaters deployed onsite to raise water temperature Week 16, mortality has reduced since S1's received a heat treatment for IPN, S0 transfer brought forward to week 22. Severely affected fish removed prior to transfer
MRT01647	The Scottish Salmon Company	Amhuinsuidhe Hatchery	02/06/2020	5.96	IPN in S1 fry, fungus in S0 smolt	86,072	Transfer fish to SW
MRT00578	Scottish Sea Farms Ltd	Loch Damp	11/01/2018	15.12	Saprolegnia infection	84,703	Transfer date brought forward - week 39
MRT01862	The Scottish Salmon Company	Loch Langavat	23/09/2020	10.76	Fungus	83413	
MRT01822	Grieg Seafood Shetland Ltd	Leinish	08/09/2020	39.11	Complex Gill Disease / Jellyfish	81247	Harvesting
MRT01648	The Scottish Salmon Company	Reibinish	02/06/2020	11.01	Human error wellboat treatment	80,026	O2 drop in wellboat, 1 pen affected. Increased mortality removal, and diver presence.
MRT01786	The Scottish Salmon Company	Strone Point	27/08/2020	32.84	Water Quality/Plankton/Gill Health	79,381	Harvesting - fallow with 2 weeks
MRT01400	Mowi Scotland Ltd	North Shore	12/11/2019	7.47	Complex gill disease with significant gill bleeding and resultant anaemia + CMS + PD + lice treatments	79019	Ongoing sea lice challenge, as such mechanical treatments have been carried out. Worst pens for mortality and sea lice have been harvested out
MRT01336	Mowi Scotland Ltd	Camas Glas	18/10/2019	11.72	Pasteurella skyensis	75827	Harvesting worst affected pens. In-feed antibiotic treatment for remaining pens
MRT01296	Mowi Scotland Ltd	Bagh Dail Nan Cean	07/10/2019	10.1	Pasteurella skyensis + complex gill disease	74060	Site is being harvested out
MRT00823	Scottish Sea Farms Ltd	Knock	03/10/2018	5.6	Water quality	72356	Also affected 2019 S1. High water temperatures with low water levels in the river.
MRT01393	Mowi Scotland Ltd	North Shore	12/11/2019	5.6	Complex gill disease with significant gill bleeding and resultant anaemia + CMS + PD + lice treatments	68917	Lice skirts lifted to optimise dissolved oxygen levels within pens. Above threshold lice numbers so lice treatments have continued despite compromised gill and cardiovascular health. Worst pens to be harvested out
MRT00179	The Scottish Salmon Company	Sgian Dubh	02/03/2017	6.1	treatment	68123	Post salmosan, complex gill issues, lice - accelerated harvest
MRT01075	The Scottish Salmon Company	Maaey	24/06/2019	13.84	PD	67,014	Site has been harvesting since 08/06/2019.
MRT01637	The Scottish Salmon Company	Amhuinsuidhe Hatchery	21/05/2020	4.18	IPN	65,597	
MRT00290	The Scottish Salmon Company	Loch Odhairn (Gravir)	11/08/2017	9.64	AGD, Complex gill issues, Treatment	64872	Severe gill issues with high levels of AGD present. H2O2 treatment at end of week 29. FW treatment planned for 12/08/17. Vet has been attending weekly and will attend FW treatment.
MRT00296	The Scottish Salmon Company	Loch Odhairn (Gravir)	11/08/2017	9.64	AGD, Complex gill issues, Treatment	64872	Severe gill issues with high levels of AGD present. H2O2 treatment at end of week 29. FW treatment planned for 12/08/17. Vet has been attending weekly and will attend FW treatment.
MRT01767	Mowi Scotland Ltd	Glenfinnan	21/08/2020	8.07	Probably Asterionella sp and Cyanobacteria bloom, plankton found out in water samples	61188	
MRT01649	The Scottish Salmon Company	Barvas Hatchery	02/06/2020	5.31	Fungus S0 smolt	59,947	transfer brought forward to week 22. Severely impacted fish removed prior to transfer.

Mortality data from SEPA ([published via Scotland's Aquaculture](#)) shows the biggest monthly deaths (by weight) on Scottish salmon farms since data was made available in January 2002 - headed by Grieg Seafood's Cole Deep salmon farm in December 2015 with 2019 mortalities at Mowi featuring prominently on the list of shame.

Report ID	Date	Mortalities Kilograms	Submitted By	Site Name
4240710	01-Dec-15	640812	Grieg Seafood Shetland Ltd	Cole Deep
4272634	01-Feb-10	564900	Rysa Farm Salmon	Pegal Bay
4282854	01-Oct-17	527936	Cooke Aquaculture Scotland	Stead of Aithness
4252746	01-Oct-19	518370.892	Mowi Scotland Ltd	Bagh Dail nan Ceann North and South
4252745	01-Sep-19	502069.0465	Mowi Scotland Ltd	Bagh Dail nan Ceann North and South
4273428	01-Oct-13	494652.3731	Marine Harvest (Scotland) Ltd	Portnalong
4249474	01-Apr-19	490418	The Scottish Salmon Company Ltd	Quarry Point
4236050	01-Nov-17	487622	The Scottish Salmon Company Ltd	Druimyeon Bay
4276134	01-Apr-02	423165	Scottish Sea Farms Ltd	Sand Sound, Bixter
4282855	01-Nov-17	422946	Cooke Aquaculture Scotland	Stead of Aithness
4278795	01-Oct-16	396461	The Scottish Salmon Company Ltd	Trilleachan Mor
4258756	01-Oct-14	392856.0973	Marine Harvest (Scotland) Ltd	Greshornish
4267611	01-Oct-14	361742.2665	Marine Harvest (Scotland) Ltd	Marulaig Bay
4234643	01-Oct-19	345563.4887	Mowi Scotland Ltd	Camus Glas
4279960	01-Oct-12	340000	Hjaltland Seafarms Ltd	Setterness South
4243969	01-Nov-14	330998.5855	Marine Harvest (Scotland) Ltd	Eilean Raineach
4265006	01-Aug-02	326520	Lewis Salmon Ltd	Arbhair
4249026	01-Sep-17	319615	The Scottish Salmon Company Ltd	Tuath (Rubha na Gall)
4256126	01-Aug-08	317940	Scottish Sea Farms Ltd	Fiunary
4258757	01-Nov-14	294281.1441	Marine Harvest (Scotland) Ltd	Greshornish
4245964	01-Oct-11	291056	The Scottish Salmon Company Ltd	St Molios
4283063	01-Sep-16	289180.2091	Marine Harvest (Scotland) Ltd	Soay Sound
4266895	01-Jun-19	287858	The Scottish Salmon Company Ltd	Maaney (East of Loch Uiskevagh)
4277022	01-Nov-14	285003.843	Marine Harvest (Scotland) Ltd	Scotasay
4270247	01-Oct-16	283830.0231	Marine Harvest (Scotland) Ltd	Noster
4226405	01-Sep-19	278670.1991	Mowi Scotland Ltd	Am Maol, Isle of Muck
4240755	01-Sep-19	276706	Grieg Seafood Shetland Ltd	Cole Deep
4287905	01-Aug-18	272522	The Scottish Salmon Company Ltd	Vuia Mor South
4270919	01-Jul-17	272236	The Scottish Salmon Company Ltd	Gravir Outer
4250335	01-Oct-19	271455.0295	Mowi Scotland Ltd	Poll na Gille
4239356	01-Nov-07	271358	Mainstream Scotland Ltd	Chalmers Hope
4243992	01-Oct-16	268508.1291	Marine Harvest (Scotland) Ltd	Eilean Raineach
4270227	01-Feb-15	266341.487	Marine Harvest (Scotland) Ltd	Noster
4265465	01-Feb-12	266000	Hjaltland Seafarms Ltd	Skewart Holm (Linga)
4284772	01-Aug-17	265069.1243	Marine Harvest (Scotland) Ltd	Tabhaigh
4241101	01-Oct-12	260000	Hjaltland Seafarms Ltd	Collafirth Delting Site 3
4238929	01-Dec-15	257964.7395	Marine Harvest (Scotland) Ltd	Caolas a Deas East
4270920	01-Aug-17	256601	The Scottish Salmon Company Ltd	Gravir Outer
4240709	01-Nov-15	254409	Grieg Seafood Shetland Ltd	Cole Deep
4237389	01-Oct-16	249559	The Scottish Salmon Company Ltd	Ardgaddan
4239007	01-Dec-15	248711.2032	Marine Harvest (Scotland) Ltd	Caolas a Deas West
4278796	01-Nov-16	247584	The Scottish Salmon Company Ltd	Trilleachan Mor
4282517	01-Sep-17	244634	Scottish Sea Farms Ltd	Snarraness Voe
4229007	01-Aug-06	241867.7818	Marine Harvest (Scotland) Ltd	Sconser, Balmeanach Bay
4257911	01-Oct-16	241800	Grieg Seafood Shetland Ltd	Gob na Hoe
4225481	01-Jul-07	239613.5303	Marine Harvest (Scotland) Ltd	An Camus
4278747	01-Oct-12	236581	The Scottish Salmon Company Ltd	Trilleachan Mor

Unfortunately, some salmon farming companies such as Scottish Sea Farms and The Scottish Salmon Company [appear to be systematically covering up damning data on mortalities](#).

 **Don Staniford**  
@TheGAAIA

Out of 1709 'Mortality Events' published since 2017 there are still 281 cases with missing figures (16%)  
[@salmon\\_scottish](#) has 106 & [@scotseafarms](#) has 140 with numbers not disclosed [tinyurl.com/y2ouqla7](https://tinyurl.com/y2ouqla7)  
Why? [@marinescotland](#) [@SSPOsays](#) [@MairiGougeon](#)  
[@FergusEwingMSP](#) [@scotgov](#)



 Mark Ruskell MSP and 9 others

11:57 AM · Nov 9, 2020 · Twitter Web App

If data transparency is much greater in Norway - [as claimed in the Scottish Parliament earlier this month](#) (18 November 2020) - why are Norwegian-owned companies allowed to operate to lower standards in Scotland?

### Mike Rumbles:

In the SSPO's submission for the committee meeting today, in your update, you said:

"The sector has complied with the provision of mandatory data to all regulators."

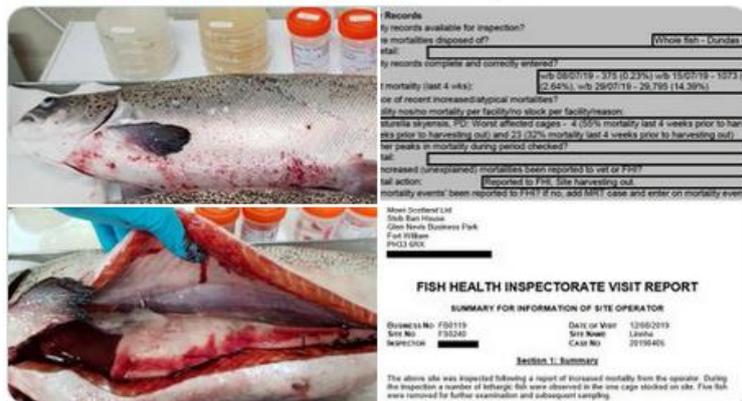
I would expect you to do that, of course. That is absolutely right. As I understand it, member companies of the SSPO that also operate in Norway publish far more detailed data on a farm-by-farm basis and in a shorter timescale than we do in Scotland. First, am I correct in making that statement? Secondly, if I am correct in making it, why can the member organisations that are doing that in Norway not do it in Scotland voluntarily?

**Ben Hadfield:** The progress that was made to the present mortality rate was good, but the data is not as well presented as it is in Norway. Norway has a system called BarentsWatch, which presents climatic and oceanographic data. It presents wild capture fisheries data and it presents disease mortality, sea lice and aquaculture data. We are willing to undertake and push for the development of that here, so that the data is more easily read and accessible.

'Case Information' [published monthly by the Scottish Government's Fish Health Inspectorate](#) is also a must-read if the Norwegian Government is serious about 'staying vigilant' over its salmon farming investments (although the 'Goldilocks environment' referred to by [Folketrygd](#) is more of a horror story rather than a fairy tale in Scotland).

 **Don Staniford**  
@TheGAAIA

Revealed: Mowi's Nightmare in Loch Linnhe - 55% mortality, Cardiomyopathy Syndrome, Pancreas Disease, Pasteurella skyensis & Heart & Skeletal Muscle Inflammation [tinyurl.com/y6b7hzvb](https://tinyurl.com/y6b7hzvb) @marinescotland @MowiScotlandLtd @APHAgovuk @onekindtweet @PETAUK @ciwf @scotgp @SSPOsays



9:42 AM · Oct 18, 2019 · Twitter Web App

 **Don Staniford**  
@TheGAAIA

Photos slipped out last month @marinescotland provide yet more damning evidence of welfare abuse on salmon farms - please boycott Scottish salmon! [tinyurl.com/yymayjz](https://tinyurl.com/yymayjz) @salmon\_scottish @Try\_Lochlander @Folketrygdfond @GreenerScotland @scotgp @coopuk @rspcaassured @SSPCA\_Mike



2:07 PM · Nov 4, 2020



The Scottish Salmon Company, in particular, is an insult to the Scottish environment.

 **Don Staniford**  
@TheGAAIA

"Environmental Insult": 79,381 dead farmed salmon (32.8% mortality) in one week in August at one farm (Strone Point) in Loch Striven @salmon\_scottish  
Scottish salmon is an insult to the environment!  
@marinescotland @coopuk @SSPOsays @Try\_Lochlander @Folketrygdfond @LidIGB

Case No:	2020-0341	Date of visit:	21/08/2020
Time spent on site:	n/a	Main Inspector:	
Site No:	FS1056	Site Name:	Strone Point
Business No:	FBU169	Business Name:	The Scottish Salmon Company

Mortality information (last 4 weeks)

Week 33 - 79381 - 32.84%
Week 32 - 8182 - 3.09%
Week 31 - 8627 - 2.17%
Week 30 - 3287 - 0.82%
Week 28 - 6682 - 1.48%

Dinoflagellate combined with solids in water after heavy rainfall resulted in environmental insult. Mortality is now back at normal levels and appetite are doing well.

Fish have been doing really well but have succumbed to an environmental insult caused by a multitude of factors in the loch. Environmental event lasted only a few days and mortality levels are back to normal. Harvesting procedures have commenced and fallow is expected within the month. Environmental insult combined with historic PGD is thought to have been the main source of high mortality.

Health status and Results of Surveillance

1. Any disease on site? (since last inspection)		Y
If yes, detail:	Low levels of AGD before mortality event	
2. Has any animal health surveillance been carried out by, or on behalf of, the business?		Y
3. Any significant results?		Y
If yes, detail:	Low levels of AGD noted last month	

2:23 PM · Nov 3, 2020

Read more about The Scottish Salmon Company via:

[Over 5 Million Dead 'Scottish' Salmon Since 2017 - Sponsored by Investors from Norway, the Faroes etc!](#)

[The Norwegian, Faroese, Swedish\\*, Ukrainian & Swiss Salmoey Behind the 'Scottish' Salmon Company](#)

[The Camera Never Lies About Scottish Salmon!](#)

["No Unauthorised Access - Keep 15m Away" warn Scottish Salmon Company. Nothing to See Here \(Honest\)!](#)

[Dead in the Water - New Data Reveals Mass Mortalities & Disease on Scottish Salmon Farms](#)

[Waitrose Challenged on "Complete Traceability" of Native Hebridean Salmon](#)

[Secret Filming Lifts Lid on Sickening Scottish Salmon](#)

[Maaey Day for The Scottish Salmon Company](#)

[The Severely Damaged Scottish Salmon Company - For Sale Now!](#)

[Mmmm Blind Scottish Salmon with Boils, Anyone?](#)

[Ground-Truthing Disease-Ridden Scottish Salmon](#)

[‘Sick’ salmon film prompts government probe into Scottish fish farm](#)

[Sick salmon at Scottish fish farm revealed on film](#)

[Disease-ridden Scottish Salmon](#)

Mowi, Scottish Sea Farms and Grieg Seafood fare no better according to the 'Case Information' [published in 2018, 2019](#) and in [2020](#) (inspections by the [Scottish Government's Fish Health Inspectorate](#) and [RSPCA Assured](#) were suspended in March due to Covid-19 so there is an absence of recent photos and disease testing).

 **Don Staniford**  
@TheGAAIA

Welcome to The Killing Farms - another horror story from Scottish salmon [tinyurl.com/tlrq33y](https://tinyurl.com/tlrq33y) New data on mass mortalities & culls [@marinescotland](#) 376,000 dead in Loch Spelve [@scotseafarms](#) 199,000 cull on Lewis [@salmon\\_scottish](#) 25,966 Thermoliced [@MowiScotlandLtd](#) [@rspcaassured](#)



 Fergus Ewing MSP and 8 others

9:53 AM · Feb 13, 2020 · Twitter Web App

 **Don Staniford**  
@TheGAAIA

New data finally reveals 192 tonnes of mortalities were reported in Oct 2019 [@scotseafarms](#) in Loch Spelve [@ScottishEPA](#) [tinyurl.com/tofv3rt](https://tinyurl.com/tofv3rt) How many lorry loads did it take to dispose of all the dead bodies? [@APHAgovuk](#) [@Ferguson\\_TPT](#) [@GogarServices](#) [@BBTankers](#) [@marinescotland](#)

Fish Farm Monthly Biomass and Treatments	
Year	2019
Month	October
Submitted By	Scottish Sea Farms Ltd
Licence Number	CAR/L/1008861/V7
Licence active at time of report	CAR/L/1008861
Report for Site	FFMC22 Spelve B (Dalnaha)
Max licensed biomass on site (tonnes)	1578
Actual biomass on site (tonnes)	509
Biomass Exceedance (tonnes)	0
Feed (kg)	0
Mortalities (kg)	191937

Telephone inspection of [@scotseafarms](#) by [@marinescotland](#) in Loch Spelve - 366,000+ fish die '199,124 culled & 177,588 morts). Fish start dying on 16 Sept & site is followed on 29 Oct yet 'Mortality Event Reports' are dated 14 Nov with zero 'inspection' until phone call on 15 Nov



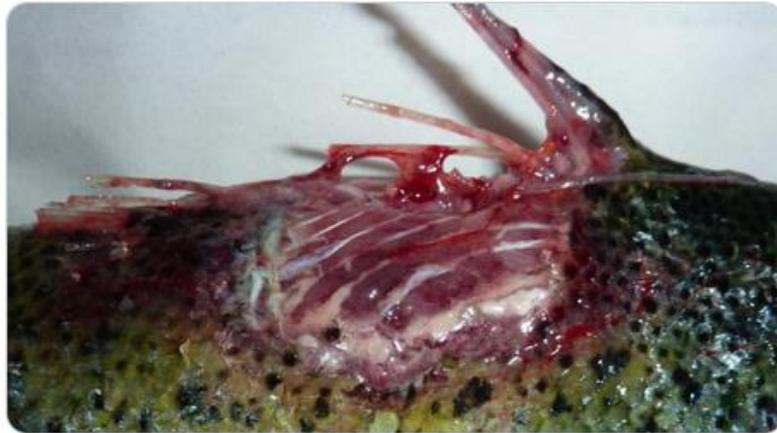
11:17 PM · Feb 12, 2020 · Twitter Web App

11:19 AM · Mar 11, 2020 · Twitter Web App

 **Don Staniford**  
@TheGAAIA

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RSPCA Assured Mowi Plagued by Mass Mortalities & Infectious Diseases [tinyurl.com/yaykxc8d](https://tinyurl.com/yaykxc8d) Boycott disease-ridden Scottish salmon treated with antibiotics @MowiScotlandLtd @rspcaassured @sainsburys @LidlGB @AldiUK Enteric Redmouth Disease (Yersiniosis) is like the Black Death!



 Fergus Ewing MSP and 8 others

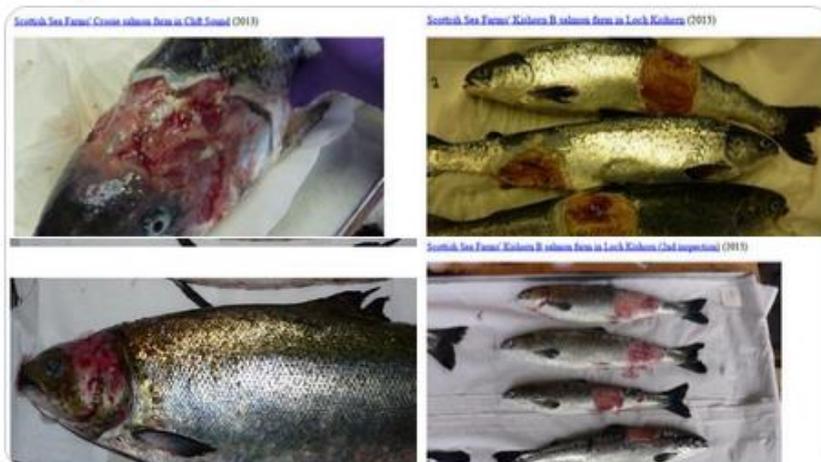
8:46 AM · May 27, 2020 · Twitter Web App

 **Don Staniford**  
@TheGAAIA

...

Replying to @scotseafarms and @sundaytimes

Do you seriously think @rspcaassured promotes high standards of animal welfare? Photographic evidence from your farms supports the view that salmon farming is a welfare nightmare @onekindtweet @SalmonFeedlots @SSPOsays @HamishMacdonell @FergusEwingMSP @marinescotland



6:33 PM · Feb 9, 2020 · Twitter Web App

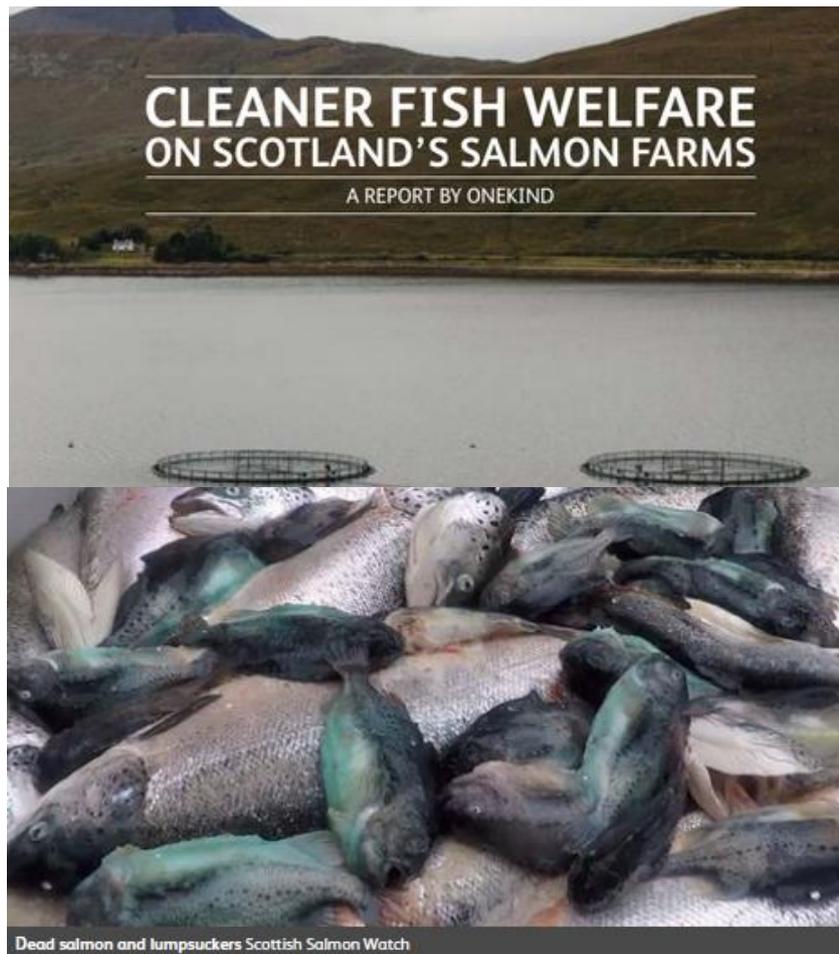
Whilst there is at least some public scrutiny of farmed salmon mortalities, deaths of 'cleaner fish' on salmon farms [continue to slip through the net with a total absence of reporting](#) despite [increasing welfare concerns](#). Video evidence obtained by Scottish Salmon Watch lifts the lid on [mortalities of wrasse at The Scottish Salmon Company](#) and [mortalities of lumpsuckers at Scottish Sea Farms](#).



In August 2018, Scottish Salmon Watch [filmed lice-infested lumpsuckers](#) swimming inside a ['Very Poor'](#) salmon farm [operated by Scottish Sea Farms in Loch Spelve](#) on the Isle of Mull:



Read more on the welfare problems of cleaner fish use on salmon farms via:



Science Norway [reported in January 2020](#) that 50 million 'cleaner fish' die each year on salmon farms in Norway (150,000 every day) - how many die on Scottish salmon farms?

Data on infectious diseases on salmon farms is published in Norway via an annual report by the Norwegian Veterinary Institute - the latest report for 2019 was [published in February 2020](#) and the 2018 report [published in June 2019](#). The Norwegian annual reports includes data on chemical use (a useful indicator of pathogen problems, bacterial challenges and lice infestations) as well as various infectious diseases prevalent on salmon farms.

Table 4.1 Prevalence of various viral diseases in farmed salmonids during the period 2009-2019. For non-notifiable diseases, the data is based solely on diagnoses made by the Norwegian Veterinary Institute.

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
ISA	10	7	1	2	10	10	15	12	14	13	10
PD	75	88	89	137	99	142	137	138	176	163	152
CMS	62	49	74	89	100	107	105	90	100	101	82
HSMI	139	131	162	142	134	181	135	101	93	104	79
IPN	223	198	154	119	56	48	30	27	23	19	23

Table 2.5 Pharmaceutical products prescribed for farmed fish (kg active substance). Figures from the Norwegian Institute for Public Health.

Antibacterial substance	2014	2015	2016	2017	2018	2019
Florfenicol	403	194	138	270	858	147
Oxolinic acid	108	82	74	346	55	66
Oxytetracycline	0	(25)	0	10	20	0
Enrofloxacin						263g**
Total antibiotics	511	276	212	626	933	213
Anti-salmon lice medication						
Azamethiphos	4630	3904	1269	204	160	154
Cypermethrin	162	85	48	8	0	0
Deltamethrin	158	115	43	14	10	10
Diflubenzuron	5016	5896	4824	1803	622	1296
Teflubenzuron	2674	2509	4209	293	144	183
Emamectin	172	259	232	128	87	114
Hydrogen peroxide (tons)*	31577	43246	26597	9277	6735	4523
Anti-tapeworm medication						
Praziquantel	625	942	518	380	171	50

\*Total consumption of hydrogen peroxide, includes both treatment against salmon lice and amoebic gill disease (AGD).

\*\*Data based on data from VetReg (Veterinary Medicines register) January 2020.

Table 3.2. Diagnoses awarded in cases related to thermal delousing of salmon submitted to the Norwegian Veterinary Institute in 2018

Diagnosis	Number cases	Comments
CMS	8*	
HSMI	17*	
PD	2**	
Gill disease	22***	Includes both detection of gill-agents and other pathological conditions

\* co-infection CMS and HSMI in two cases.

\*\* co-infection PD and CMS in one case.

\*\*\* Diagnosed most commonly together with other disease conditions

Comparable disease data is simply not available for Scottish salmon farms with information on diseases such as Gill Disease, Pancreas Disease, Cardiomyopathy Syndrome and Heart & Skeletal Muscle Inflammation buried within '[mortality](#)' data published by the [Scottish Government's Fish Health Inspectorate](#). Of 1349 'Mortality Event Reports' submitted by Grieg Seafood, Mowi/Marine Harvest, Scottish Sea Farms and The Scottish Salmon Company since reporting started in January 2017 over 15 million mass mortalities were reported ([note that only mortalities above a certain threshold trigger a report](#)) - including cases reporting the following: Amoebic Gill Disease, Pancreas Disease, Heart & Skeletal Muscle Inflammation, Anaemia, Cardiomyopathy Syndrome, Fungus, Infectious Pancreatic Necrosis, Proliferative Gill Disease, Enteric Redmouth Disease (Yersiniosis), Vibriosis, Moritella viscosa (Winter ulcer), Costia, Complex Gill Issues, Pasteurella skyensis, Haemorrhagic smolt syndrome and Saprolegnia infection. Here's some examples:

Mortality Event No	Reporting Business Name	Site Name	Date reported	Mortality rate recorded (%)	Explained reasons	Total mortality during event	Additional information
MRT01200	Mowi Scotland Ltd	Tabhaigh	06/09/2019	1.56	PD, Gill Issues, Anaemia	Not provided	Remaining Q3 fish to be harvested
MRT01059	Scottish Sea Farms Ltd	Holms Geo	11/06/2019	1.19	Complex gill syndrome and post-treatment losses	Not provided	Increased health surveillance, intervention review, mortality returned to below reporting threshold.
MRT01186	Scottish Sea Farms Ltd	Bight of Bellister, Dury Voe	30/08/2019	1.21	CMS	Not provided	Increased health surveillance & biosecurity measures.
MRT01251	Scottish Sea Farms Ltd	Loch Spelve (B)	26/09/2019	1.99	AGD, Post H2O2 tarp treatment	Not provided	Intervention review, environmental monitoring
MRT00687	The Scottish Salmon Company	Taranaish	10/07/2018	1.3	Clinical AGD	Not provided	Ongoing issue, diagnosed with clinical AGD and treated with peroxide week 25
MRT00692	The Scottish Salmon Company	Kinlochmoidart Hatchery	10/07/2018	2.46	ERM, stress from spikes in water temperatures	Not provided	Treated with antibiotics
MRT00792	The Scottish Salmon Company	Vuiabeag	12/09/2018	3.75	Anaemia	Not provided	
MRT01548	Grieg Seafood Shetland Ltd	Taing of Railsbrough Catfirth	19/02/2020	13.55	Bacterial infection (Moritella & Vibrio)	103614	Site harvesting out at the time. Has been fallow since this production cycle
MRT01319	Mowi Scotland Ltd	Bagh Dail Nan Cean	10/10/2019	19.65	Pasteurella skyensis	92140	Harvesting out site
MRT01647	The Scottish Salmon Company	Amhuinsuidhe Hatchery	02/06/2020	5.96	IPN in S1 fry, fungus in S0 smolt	86,072	S1's received a heat treatment for IPN, S0 transfer brought forward to week 22. Severely affected fish removed prior to transfer
MRT00578	Scottish Sea Farms Ltd	Loch Damp	11/01/2018	15.12	Saprolegnia infection	84,703	Transfer fish to SW
MRT01400	Mowi Scotland Ltd	North Shore	12/11/2019	7.47	Complex gill disease with significant gill bleeding and resultant anaemia + CMS + PD + lice treatments	79019	Ongoing sea lice challenge, as such mechanical treatments have been carried out. Worst pens for mortality and sea lice have been harvested out
MRT01336	Mowi Scotland Ltd	Camas Glas	18/10/2019	11.72	Pasteurella skyensis	75827	Harvesting worst affected pens. In-feed antibiotic treatment for remaining pens
MRT01296	Mowi Scotland Ltd	Bagh Dail Nan Cean	07/10/2019	10.1	Pasteurella skyensis + complex gill disease	74060	Site is being harvested out
MRT01075	The Scottish Salmon Company	Maaey	24/06/2019	13.84	PD	67,014	Site has been harvesting since 08/06/2019.
MRT01637	The Scottish Salmon Company	Amhuinsuidhe Hatchery	21/05/2020	4.18	IPN	65,597	
MRT01348	Mowi Scotland Ltd	Poll na Gille	23/10/2019	10.11	Anaemia, suspected Pasteurella skyensis	49795	Site due to be fallow by end of October
MRT00177	The Scottish Salmon Company	Meall Mhor Loch Fyne	02/03/2017	4.1	PD, Treatment	49116	Post h2O2 treatment, complex gill issues and PD runts 2 treatments in period one bath and one hydrolicer
MRT01062	The Scottish Salmon Company	Maaey	07/06/2019	8.65	PD	48,500	Site has been harvesting since 08/06/2019.

Mortality Event No	Reporting Business Name	Site Name	Date reported	Mortality rate recorded (%)	Explained reasons	Total mortality during event	Additional information
MRT01340	Mowi Scotland Ltd	Bagh Dail Nan Cean	18/10/2019	27.54	Complex gill disease/ Pasteurella skyensis	43000	Site now fallow
MRT00512	The Scottish Salmon Company	Strone Point	13/11/2017	5.45	Vibrio anguillarum, low dissolved oxygen,AGD	30064	FVG advising, site continuing to monitor
MRT01142	Mowi Scotland Ltd	Linnhe	07/08/2019	14.39	CMS, Pasteurella skyensis	29795	Site is harvesting out, 2 cages remain stocked. Low numbers of fish on site. Site due to be fallow by 14/08/2019
MRT01847	The Scottish Salmon Company	Trilleachan Mor	17/09/2020	7.44	CMS/PD/Anaemia	26428	Accelerated harvest
MRT01278	Mowi Scotland Ltd	Muck	03/10/2019	3.54	PD and compromised gill health, with suspect recent environmental gill insult involving gill bleeding	24850	Harvesting of site ongoing, reducing overall biomass levels.
MRT01044	Mowi Scotland Ltd	MacLean's Nose	01/05/2019	3.75	CMS	24726	
MRT01048	Mowi Scotland Ltd	MacLean's Nose	01/05/2019	4.73	CMS	24670	

Pre-2017 disease data was accessed via Freedom of Information and is available [online here](#)

## Types of Disease Identified on Scottish Salmon Farms 1980 - 2006

*Over 70 different diseases and disease agents were reported on Scottish salmon farms*

**The top 5 (by # of occurrence) since 1980 are:**

- Vibrio spp (occurred in 21 years)
- Pseudomonas spp (19 years)
- Aeromonas salmonicida (17 years)
- Infectious Pancreatic Necrosis (17 years)
- Yersinia ruckeri (12 years)

Read more via "[Fish Farmageddon: The Infectious Salmon Aquacalypse](#)"

Further data on diseases on salmon farms is buried within ['Case Information' published by the Scottish Government's Fish Health Inspectorate](#) - including [case information for 2013 to 2017](#); [2018](#), [2019](#) and [2020](#) (currently available up to September). Scottish Salmon Watch has summarised various 'Case Information' reports - including ['The State of Scottish Salmon Farming in 2018'](#).



The 'Case Information' [published by the Scottish Government for 2018](#) included:

- 159,000 morts at the Scottish Sea Farms hatchery at Knock (Isle of Mull) in June 2018 due to *Candidatus Clavochlamydia Salmicicola*
- Proliferative Gill Disease, "heavy lice loads" and Fungus at Scottish Sea Farms in Loch Creran with 7,000 morts in September 2018 ("many fish with white heads and some fish with red heads" and "High morts on input in AquaGen cages attributed to fungus")
- "Some fish observed with damage to head, this is being attributed to 'cage furniture' injuries" reported at the Scottish Salmon Company's North Uiskevagh site in October 2018
- 140,000+ morts due to Enteric Redmouth (Yersinosis) at The Scottish Salmon Company's Kinlochmoidart Hatchery in June and July 2018 and 22,000 morts in September and October 2018 with "Formalin flushed through a number of tanks for Costia"
- 50,000+ morts at the Scottish Sea Farms Loch Nevis salmon farm in October and November 2018 due to Salmon Gill Poxvirus and "complex gill pathology" ("Heart disease of an inflammatory nature from fish pen 1. low grade Heart & Skeletal Muscle Inflammation possible")

- 58,000 morts at Grieg Seafood's Score Holms site in September and October 2018 due to Cardiomyopathy Syndrome (Amoebic Gill Disease and *Aeromonas salmonicida* - Furunculosis - and *Paranucleospora theridion* also reported)
- 10,000 'morts' "attributed to inventory loss since input" ("these are a discrepancy between input counts and output counts") cited at Marine Harvest's Port Na Cro site in November 2018 inspection report
- 4% mortality on input due to Fungus and 1.96% mortality in August 2018 "due to concussion (jumping)" at Scottish Sea Farms Kerrera B site
- "Increased morts post input fish from Clacbreac. Fungus in fw. Lost 27,000 in first few weeks" (cited in the November 2018 inspection report for the Scottish Sea Farms site at Dunstaffnage)
- 32,000+ morts at Marine Harvest's Inchmore Hatchery due to "gill and gut fungus" and *Saprolegia* in October and November 2018 (28% mortality event in August 2018)
- 20,000 morts at The Scottish Salmon Company's Plocrapol site between January and March 2018 with "evidence of lice damage and signs of Proliferative Gill Disease and Amoebic Gill Disease" and "sub clinical anaemia"
- 19,000 morts due to a Thermolicer treatment at Marine Harvest's Ornish Island site in August 2018 and 6,500 morts in November 2018 due to Amoebic Gill Disease and Proliferative Gill Disease
- 80,000 morts at The Scottish Salmon Company's Russel Burn Hatchery in November 2018 due to fungus ("reportedly from vaccination") and "quality cull" (61,000 euthanized "as they were deformed or not feeding")
- 231,000 morts (13.6% of stock) at Marine Harvest's Eilean Grianain (Carradale) site due to "abrasion and scale loss" following the 'Beast from the East' storm in March and April 2018



- 46,000 morts at The Scottish Salmon Company's site at Vuia Mor in Loch Roag in July and August 2018 due to anaemia and "high lice load" (*Salmonid Alphavirus*, Anaemia, Infectious Pancreatic Necrosis Virus, Amoebic Gill Disease and Salmon Gill Poxvirus were all reported along with "cranial lice damage")
- 6,904 morts at Scottish Sea Farms Lismore North site in September 2018 with Piscine Reovirus (Heart & Skeletal Muscle Inflammation) cited in report along with Amoebic Gill Disease, *Paranucleospora theridion*, Salmon Gill Pox, *Moritella* toxaemia, Infectious Pancreatic Necrosis virus, *Candidatus Branchimonas cysticola*, *Candidatus Syngamydia salmonis* and *Candidatus Piscichlamydia salmonis*

- Losses due to "physical damage (scrubbed fish)" at Grieg Seafood's Setterness North (Bomlo) cited during inspection (3,000+ morts in March and April 2018) and 15,000+ morts in July 2018 due to an "algal bloom". "Sea lice skirts had been trialled in the area, however, it was found that during algal blooms the counts from water samples were much higher within the cages with the skirts than samples taken outside of the cages," stated the report. "Due to this the decision was taken to remove the skirts to improve water exchange."

- 70,000+ morts at Marine Harvest's Invasion Bay site between October and December 2017 due to Cardiomyopathy Syndrome, physical damage/post treatment (eye damage "considered to be caused by large wrasse") and "high lice counts"

- 23,000 morts at Marine Harvest's Camas Glas site in November and December 2017 due to *Pasteurella Skyensis* (Cardiomyopathy Syndrome and Proliferative Gill Disease also reported)

- "Recent veterinary reports suggest signs of Pancreas Disease and PCR results positive for Piscine Reovirus," stated the report for The Scottish Salmon Company's Ardcastle Bay site in Loch Fyne in May 2018

- 8,156 morts at Marine Harvest's Maol Ban site "mostly attributed to lesions, thought to be caused by fish being transported onto site with fungus" (salmon sourced from Marine Harvest's Lochailort hatchery) stated the May 2018 report

- Salmon which were "performing poorly" at Shuna Castle Bay and had "cataract issues" at Bagh Dail Nan Ceann were moved by wellboat to Marine Harvest's Muck site in October 2017

- "Haemorrhagic necrosis of skeletal muscle", "marked red skeletal muscle degeneration" and lesions on the flank including "a lesion on the ventral surface through which the heart was exposed" reported at The Scottish Salmon Company's Tarbert South site in Loch Fyne in March 2018 (positive tests reported for Piscine Reovirus, *Moritella vicosa*/Winter Ulcer disease and *Vibrio*).



- 160,000+ morts at Marine Harvest's Eilean Grianain site (Carradale) in March 2018 "resulting from physical damage following a storm" (*Piscirickettsia* and bacterial septicemia also reported in November/December 2017)

- 105,000+ morts at Marine Harvest's Loch Greshornish site between January and March 2018 due to lice skirts causing poor gill health and Anaemia (Proliferative Gill Disease, Cardiomyopathy Syndrome and Amoebic Gill Disease also reported)

- 24,822 morts (4.5% of stock) at Marine Harvest's Groatay site "attributed to infection with *Pasteurella skyensis*" between December 2017 and March 2018 ("severe Amoebic Gill Disease" also reported in 2017)

Scottish Salmon Watch [reported in January 2020](#):

Scottish Salmon Watch, 6 January 2020



### The Case Against Scottish Salmon

- Newly published inspection reports make mockery of 'healthy' marketing claims
  - Gruesome photos of welfare abuse, pathogens, bacteria & infectious diseases
- Anaemia, *Pasteurella skyensis*, Cardiomyopathy Syndrome & Gill Disease plague sites
  - Lice loads of 50 reported at Scottish Sea Farms in Loch Kishorn
- Mowi's disease-ridden salmon farm in Loch Ainort revealed as origin of A86 roadspill
  - Use of the antibiotic Oxytetracycline by Mowi in Loch Sunart
  - Early harvesting to mask mortalities, diseases & welfare problems
    - Call for unannounced & more rigorous inspections of farms
- 'Case Information' [now published on a monthly basis by Scottish Government](#)



Mowi - Poll na Gille: Lice loads of 15 with 80,000+ mortalities (*Pasteurella skyensis*)  
Mowi - Bagh Dail na Ceann: 100,000+ lumpfish mortalities (crator disease cited as cause)  
Mowi - Loch Ainort: PRV (HSMI), PMCV (CMS), Paranucleospora, Anaemia and Yersinia  
Mowi - Camas Glas: 120,000+ mortalities (*Pasteurella skyensis*, CMS & AGD)



Mowi - Port na Cro: *Pasteurella skyensis*, Anaemia & lice loads of 20 causing head damage



Scottish Sea Farms - Kishorn: Lice load of 50 with "red and white head lice damage"  
Grieg - Bight of Foraness: Azamethiphos treatment caused 7,183 morts  
The Scottish Salmon Company - Loch na Keal: Failed to carry out lice counts  
Grieg - Olna South: Salmon Gill Poxvirus, AGD and Paranucleospora theridion  
Grieg - Cole Deep: 100,000+ morts, Piscine Reovirus, AGD, bleeding gills and lesions



Mowi - Loch Erisort - High cleaner fish mortality (*Pasteurella skyensis*) & antibiotics used  
Mowi - Poll na Gille: Anaemia, HSMI, bleeding gills, lesions and haemorrhaging



Read more via:

[The Case Against Scottish Salmon Continued - new data for January 2020](#)

[The Case Against Scottish Salmon in 2019](#)

[The State of Scottish Salmon Farming in 2018](#)

The increasing incidence of infectious diseases, pathogens, bacteria and viruses was [raised earlier this month by the Norwegian Veterinary Institute](#).

 **Don Staniford**  
@TheGAAIA

"Norwegian experts fear a 'new' farmed salmon disease is on the rise" [tinyurl.com/yy3szpdw](https://tinyurl.com/yy3szpdw) In Scotland, Pasteurellosis "has caused great losses to the industry". "Scotland has battled the disease for some time"  
[@IntraFishNorge](#) [@marinescotland](#) [@MowiScotlandLtd](#) [@FergusEwingMSP](#)



The screenshot shows the IntraFish website with a main article titled "Norwegian experts fear salmon disease is on the rise being underestimated". The article text includes: "More research is needed on fish health to usual suspects, veterinary expert told Intra". There are several related news items and live updates visible on the page.

9:44 PM · Nov 12, 2020 · Twitter Web App

Sadly, in the absence of comprehensive data on diseases and mortalities, the public often has to rely on the media or Freedom of Information requests to read more fully about Norwegian-owned salmon farming companies in Scotland.



The screenshot shows the BBC News website with a headline: "125,000 salmon die in disease outbreak at Lewis fish farms". The article is by Andrew Thomson, BBC Scotland, dated 19 October 2017. The page includes navigation links for Home, News, Sport, and Weather, and a list of categories like Coronavirus, UK, World, Business, etc.

**About 125,000 salmon have died due to a disease outbreak at two fish farms on the Isle of Lewis, BBC Scotland has learned.**

Marine Harvest confirmed that the sites in Loch Erisort have been hit by the bacterium *Pasturella Skyensis*.

The company has apologised to local people concerned about the smell of decay in the area and the sight of lorries carrying away dead fish.



Deadly outbreak: Tons of salmon are dumped on to a lorry at Loch Erisort on Lewis to be transported hundreds of miles for incineration

Occasionally, the company transporting diseased salmon is [careless enough to spill tonnes of dead fish onto a main road](#) opening up lines of investigation.

## Disease-Ridden Mowi Revealed as Source of A86 Roadspill in September



**- Lice Infestation:** Salmon farms in Scotland have been plagued by lice infestation for decades. Salmon & Trout Conservation Scotland [reported in October 2017](#):

The worst performing company in the Scottish Islands and overall worst performing company in Scotland was **Grieg Seafood Shetland Ltd**. Its farms' figures were – North Papa (14 & 12), North Havra (14 & 6), Spoose Holm (17 & 8), Leinish (13 & 6), Score Holms (18 & 11), Gob na Hoe (17 & 6), Corlarach (12 & 5), West of Burwick (13 & 5), Langa Isle (East) (10 & 8).

Mr Graham-Stewart commented:

*"Grieg Seafood's lamentable record exemplifies the very widespread failure to control sea lice in the Shetlands. It is no wonder that mature wild sea trout are being wiped out in these islands."*

The worst performing company in the West Highlands was **The Scottish Salmon Company**. Its concentration of farms in Loch Fyne (Argyll) include figures of – Quarry Point (6 & 5), Ardcastle Bay (15 & 6), Strondoir Bay (3 & 3), Gob a Bharra (6 & 0) and Furnace Quarry (0 & 7).

Furnace Quarry farm was allowed by Scottish Government inspectors to continue to operate despite an astonishing sequence of seven weeks, with adult female lice numbers ranging from 15 to 23 per farmed fish.

Salmon & Trout Conservation Scotland [reported in August 2019](#):



Data recently published by the Scottish Salmon Producers Organisation (SSPO) shows that the average adult female sea lice count per fish on salmon farms increased from 0.25 in April 2018 to 0.49 in April 2019 – an increase of 96%.

Month	Year						
	2013	2014	2015	2016	2017	2018	2019
January	0.54	0.64	2.26	2.25	1.15	0.57	0.70
February	0.51	0.66	1.75	1.77	1.18	0.42	0.47
March	0.31	0.60	1.39	1.49	1.00	0.34	0.60
April	0.21	0.50	0.81	1.07	0.89	0.25	0.49
May	0.24	0.66	0.87	1.06	1.04	0.31	0.43
June	0.26	0.93	0.80	1.25	1.01	0.32	
July	0.29	0.89	0.85	0.84	0.64	0.31	
August	0.54	1.28	0.87	1.09	0.67	0.56	
September	0.90	1.59	1.22	1.33	0.84	0.61	
October	0.98	1.76	1.65	0.70	0.92	0.63	
November	1.06	2.48	1.77	0.79	0.81	0.62	
December	1.02	2.14	1.92	0.85	0.61	0.61	

Source: <http://scottishsalmon.co.uk/monthly-sea-lice-reports/>

Salmon & Trout Conservation Scotland [reported in November 2020](#):



## Shocking photos show sea lice rampant on salmon farms in Scotland

Shocking footage passed to Salmon & Trout Conservation Scotland reveals horrendous sea lice parasite problems currently occurring on salmon farms in Argyll & Bute, Skye and the Outer Hebrides.

The appalling conditions documented on Vacasay salmon farm on the Isle of Lewis in September 2018 (<https://theferret.scot/sick-salmon-scottish-fish-farm-film/>) are now being repeated at numerous locations.

One of the most severely affected salmon farms, in Loch Creran, is owned by Scottish Sea Farms Ltd. The company is the exclusive supplier of farmed salmon to Marks & Spencer. Recent treatments at the farm, including Thermolicing (passing the farmed salmon through heated water to shock the sea lice off the salmon) and bathing the fish in Hydrogen Peroxide, appear to have had minimal effect. Indeed, large numbers of mature sea lice are clearly visible in the footage which was shot on 22 October, shortly after these treatments.



Data on lice infestation is [published monthly](#) by the Scottish Salmon Producers Organisation (which includes [Mowi](#), [The Scottish Salmon Company](#), [Grieg Seafood](#) and [Scottish Sea Farms](#) as members):



High lice infestation in [September 2020](#) (the latest data currently available) was reported for salmon farms operated by Grieg Seafood, Mowi, The Scottish Salmon Company and Scottish Sea Farms (the [current limit set by the Scottish Government in June 2019 is 2 lice per fish](#)).

### September 2020

Company	Farm	Adult female lice (Average per fish)
Grieg Seafood Shetland Ltd	Setterness North	2.55 (Farm fallowed in Sep.)
Grieg Seafood Shetland Ltd	Setterness South	3.97
Grieg Seafood Shetland Ltd	Snizort East	4.37
Mowi Scotland Limited	Carradale	2.32
Mowi Scotland Limited	Carradale North	2.54
Mowi Scotland Limited	Colonsay	5.18
Mowi Scotland Limited	Grey Horse Channel	3.37
Mowi Scotland Limited	Groatay	4.90
Scottish Salmon Company Ltd	Plocrapool	3.03
Scottish Salmon Company Ltd	Scadabay	2.58
Scottish Sea Farms Ltd	Slocka Ronas Voe	4.19

Lice infestation in [August 2020](#) was reported at Grieg Seafood and Mowi:

### August 2020

Company	Farm	Adult female lice (Average per fish)
Grieg Seafood Shetland Ltd	Corlarach	6.41
Grieg Seafood Shetland Ltd	Leinish	3.38
Grieg Seafood Shetland Ltd	Setterness North	3.23
Grieg Seafood Shetland Ltd	Setterness South	2.67
Grieg Seafood Shetland Ltd	Snizort East	3.78
Grieg Seafood Shetland Ltd	South of Linga	4.02
Mowi Scotland Limited	Carradale	1.38
Mowi Scotland Limited	Carradale North	1.52
Mowi Scotland Limited	Colonsay	2.82

Lice infestation in [July 2020](#) was reported for Grieg Seafood, Scottish Sea Farms and Mowi with Mowi's salmon farms at Noster and Seaforth [breaching the lice limit of 6 requiring intervention/enforcement measures set by the Scottish Government in June 2019](#)):

### July 2020

Company	Farm	Adult female lice (Average per fish)
Grieg Seafood Shetland Ltd	Leinish	2.65
Grieg Seafood Shetland Ltd	Snizort East	3.02
Grieg Seafood Shetland Ltd	South of Linga	2.23
Grieg Seafood Shetland Ltd	Swining 3	3.33
Grieg Seafood Shetland Ltd	Uig Bay	2.98
Mowi Scotland Limited	Duich	2.35
Mowi Scotland Limited	Greshornish	4.32 (Farm followed in Jul.)
Mowi Scotland Limited	Hellisay	2.46
Mowi Scotland Limited	Macleans Nose	3.53
Mowi Scotland Limited	Noster	7.40 (Farm followed in Jul.)
Mowi Scotland Limited	Seaforth	8.25 (Farm followed in Jul.)
Scottish Sea Farms Ltd	Vidlin	3.36

Lice infestation in [June 2020](#) was reported for Grieg Seafood, Scottish Sea Farms and Mowi:

### June 2020

Company	Farm	Adult female lice (Average per fish)
Grieg Seafood Shetland Ltd	Foraness	3.25
Grieg Seafood Shetland Ltd	Gob na Hoe	2.18
Grieg Seafood Shetland Ltd	Snizort East	3.17
Grieg Seafood Shetland Ltd	South of Linga	2.83
Grieg Seafood Shetland Ltd	Swining 3	2.30
Grieg Seafood Shetland Ltd	Uig Bay	3.63
Mowi Scotland Limited	Duich	2.26
Mowi Scotland Limited	Greshornish	3.02
Mowi Scotland Limited	Macleans Nose	2.72
Mowi Scotland Limited	Noster	2.92
Mowi Scotland Limited	Rum	4.52 (Farm followed in Jun.)
Mowi Scotland Limited	Scotasay	2.52 (Farm followed in Jun.)
Mowi Scotland Limited	Seaforth	2.52
Scottish Sea Farms Ltd	Vidlin	4.41

Download more lice data via the SSPO web-site:



Lice & Survival



The [lice data published monthly by the SSPO](#) shows that limits have been breached repeatedly by Norwegian-owned companies throughout 2020 - especially by Grieg Seafood and Mowi:

### March 2020

Company	Farm	Adult female lice (Average per fish)
Grieg Seafood Shetland Ltd	Setterness South	3.01
Grieg Seafood Shetland Ltd	Snizort East	3.63
Grieg Seafood Shetland Ltd	South of Linga	3.19
Grieg Seafood Shetland Ltd	Swining 3	1.84
Grieg Seafood Shetland Ltd	Uig Bay	5.32
Grieg Seafood Shetland Ltd	East of Papa Little	2.20 (Farm followed in Mar.)
Grieg Seafood Shetland Ltd	Foraness	2.58
Mowi Scotland Limited	Ardintoul	2.51
Mowi Scotland Limited	Camas Glas	3.30
Mowi Scotland Limited	Caolas a Deas East	2.19
Mowi Scotland Limited	Caolas a Deas West	2.01
Mowi Scotland Limited	Noster	3.14
Mowi Scotland Limited	Rum	2.85
Scottish Sea Farms Ltd	Vidlin	3.03

### February 2020

Company	Farm	Adult female lice (Average per fish)
Grieg Seafood Shetland Ltd	East of Papa Little	2.58
Grieg Seafood Shetland Ltd	Foraness	2.34
Grieg Seafood Shetland Ltd	Setterness North	3.52
Grieg Seafood Shetland Ltd	Setterness South	2.59
Grieg Seafood Shetland Ltd	South of Linga	4.62
Grieg Seafood Shetland Ltd	Swining 3	2.47
Grieg Seafood Shetland Ltd	Uig Bay	4.01
Mowi Scotland Limited	Macleans Nose	2.51
Mowi Scotland Limited	Noster	4.68
Mowi Scotland Limited	Rum	3.08
Mowi Scotland Limited	Seaforth	3.80
Scottish Salmon Company Ltd	Trilleachan Mor	2.75
Scottish Sea Farms Ltd	Mangaster	3.17

### January 2020

Company	Farm	Adult female lice (Average per fish)
Mowi Scotland Limited	Rum	5.42
Scottish Sea Farms Ltd	Mangaster	5.44
Scottish Sea Farms Ltd	Vidlin	4.17
Scottish Salmon Company Ltd	Vacasay	2.87
Scottish Salmon Company Ltd	Vuia Mor	2.88

Lice infestation of wild fish near salmon farms is a [significant problem for Norwegian-owned salmon farming companies operated in Scotland](#). BBC Panorama [reported in May 2019](#):



In Scotland's rivers, the wild salmon is considered the king of fish.

For millennia, it has made an extraordinary journey. It migrates thousands of miles out to sea before returning - upriver - to its exact place of origin.

But catches of wild salmon are at their lowest level since records began.

- **Scotland's wild salmon stocks 'at lowest ever level'**

Their decline is blamed on climate change but there are concerns too about the potential impact of sea lice as wild salmon swim past fish farms.

In the summer of last year biologist Paul Hopper was alerted to concerns about wild salmon in the Blackwater River in Lewis, in the Outer Hebrides.

The fish making the journey back to spawn were dead or dying.



“

To have this sort of epidemic in a wild population was really quite unusual

Paul Hopper  
Biologist with the Outer Hebrides Fisheries Trust

They were covered in sea lice - a naturally occurring parasite that can breed in huge numbers on salmon farms.

Mr Hopper says: "Most of them were showing a lot of physical damage.

"That's what happens with the sea lice, they are attached to the fish's gills and then they spread to the back of the fish's head and sort of down the fish's back."

Earlier this week (23 November 2020) [Viva launched a new campaign against Scottish salmon farming highlighting the parasitic lice issue:](#)

## FLESH-EATING PARASITIC SEA LICE INVADE SCOTTISH FISH FARMS

Alarming scenes captured at Scottish salmon farms supplying Co-op, Sainsbury's, Lidl, Aldi, Morrisons and M&S reveal putrid conditions that lead to invasions of parasitic sea lice. Painful non-medicinal lice management systems that breach basic animal welfare standards on the treatment of farmed animals were also filmed – one of which was operating in a designated **Special Area of Conservation** and **Marine Protected Area** famous for its rare flame shell bed.

Around 70 per cent of Scottish salmon farms are RSPCA Assured, while the remainder conform to other supposedly 'high welfare' certification schemes such as Best Aquaculture Practices, Marin Trust, GGN Certified Aquaculture and GlobalG.A.P.



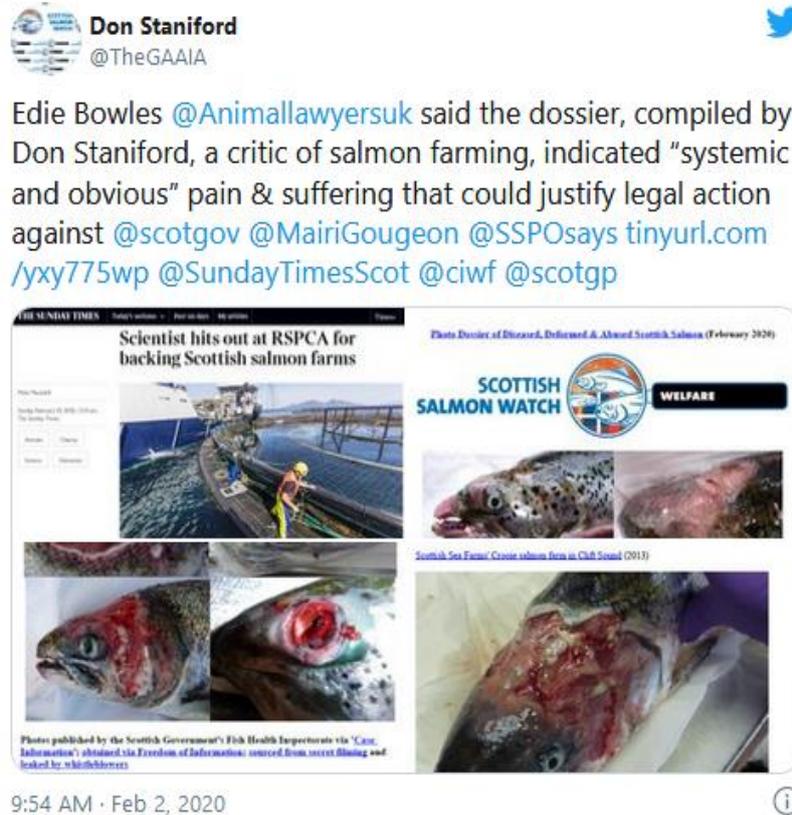
## CATASTROPHIC SEA LICE INVASIONS CAUSED BY OVERCROWDING

Whilst adult wild salmon are well adapted to coping with the odd sea louse – a parasite that naturally occurs in the sea – the intensification of salmon farming has led to fundamental changes in the density and occurrence of lice in coastal waters. Although one or two lice per salmon may not sound like a real threat, when you multiply that by hundreds of thousands within a sea cage, the consequences are catastrophic.

The lice reproduce rampantly, feeding on skin, mucus and blood, which produces white 'death crowns' of exposed flesh on the salmon. Clearly suffering, the infected fish are regularly seen jumping up to 30 centimetres in the air and skimming along the water surface with their tails in attempts to dislodge the bugs. Large numbers of these lice can be devastating, causing skin lesions, loss of scales, secondary infection and ultimately death.

As if that wasn't bad enough, huge numbers of juvenile sea lice also escape to the local marine environment, causing significant damage to wild salmon and sea trout smolts, whose fragile skin is not yet adapted to coping with parasites on this level.

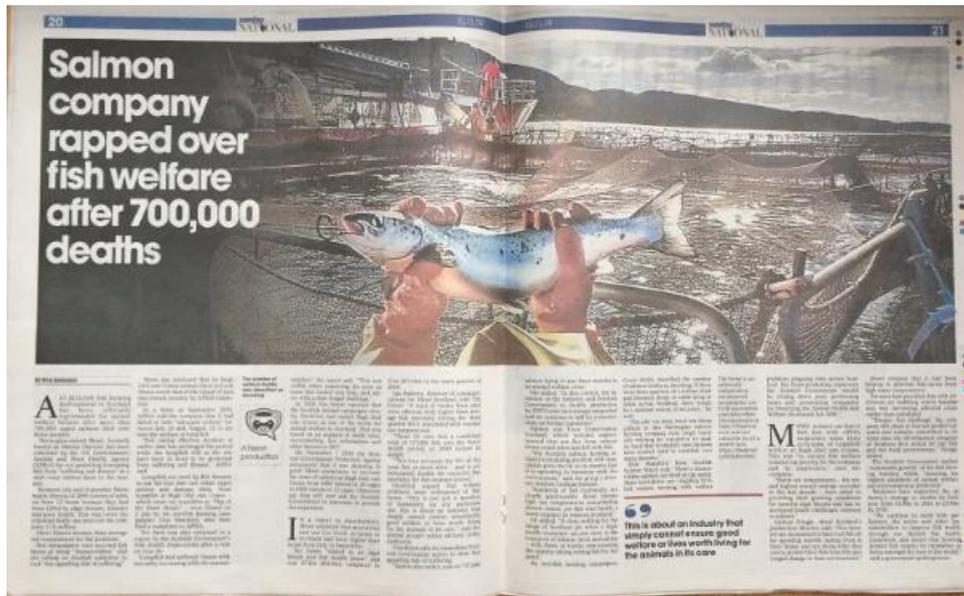
- **Welfare Abuse:** Scottish Salmon Watch believes that [ongoing welfare abuse and unnecessary suffering on salmon farms in Scotland](#) - including companies invested in by the Norwegian Government - constitutes [systematic breaches of the Animal Health & Welfare \(Scotland\) Act 2006](#).



Video footage captured by photographer Corin Smith (featured on [BBC Panorama](#) and the [BBC One Show](#)) and [Scottish Salmon Watch](#) has highlighted damning evidence of welfare abuse at salmon farms operated by [Mowi](#), [Scottish Sea Farms](#), [Grieg Seafood](#) and [The Scottish Salmon Company](#).



Mowi was [found guilty of welfare abuse at their aptly-named 'Bay of Dead Heads' salmon farm in 2019.](#)



In view of Mowi's appalling track record in Scotland it is not surprising that this company is being [named and shamed on social media](#).



### Inside Scottish Salmon Feedlots



November 18 at 5:46 AM · 🌐

FIT AND PROPER? | Billionaire tax exile wants more polluting salmon feedlots in Scotland.

Surely Scotland can dream bigger than being a sewer for John Fredriksen's salmon feedlots? Even if there are a few jobs for those who want to work in the waste. [https://en.wikipedia.org/wiki/John\\_Fredriksen](https://en.wikipedia.org/wiki/John_Fredriksen)

With headlines like these should MOWI really be operating another salmon farm in Scotland or just fixing the ones they already have?

MOWI in the news 2018 - 2020

MOWI Scotland failure lets 50,000 farmed salmon escape  
<https://www.bbc.co.uk/news/uk-scotland-glasgow-west-53913708>  
<https://www.scotsman.com/.../anglers-told-kill-escaped...>  
<https://thefishsite.com/.../nearly-50-000-salmon-escape...>  
<https://www.dailymail.co.uk/.../Nearly-50-000-salmon...>

70,000 factory salmon escape from MOWI Scotland salmon farm near Colonsay

<https://thefishsite.com/.../mowi-reports-mass-salmon...>  
<https://www.bbc.co.uk/news/uk-scotland-glasgow-west-51191270>  
<https://www.sundaypost.com/.../wild-salmon-threatened-by.../>

MOWI Scotland under investigation "for possible misreporting of chemical use"

<https://www.bbc.co.uk/news/uk-scotland-48334029>  
<https://theferret.scot/mowi-fish-farms-sepa/>

Toxic fish farm pesticide polluted ten lochs across Scotland

<https://theferret.scot/formaldehyde-pesticide-fish-farms.../>

APHA told MOWI Scotland: 'You have not been able to show that adequate actions were taken in the period between 10/7/19 to the 12/08/19 in order to promote the welfare of the lumpfish under your responsibility.'

<https://www.fishfarmermagazine.com/.../rising-sea.../>

MOWI Scotland forced to close salmon farm that failed environmental standards for over a decade

<https://www.independent.co.uk/.../uk-scotland-scotland...>

Scottish island community says NO to MOWI Scotland's advances

<https://www.heraldscotland.com/.../18127447.isle-eigg.../>

MOWI Scotland has problems with sea lice

<https://www.bbc.co.uk/.../uk-scotland-scotland-business...>

MOWI Scotland rapped over fish welfare after 700,000 deaths

<https://www.thenational.scot/.../18026340.salmon-company.../>

Salmon producer MOWI Scotland sees profits hit by lice, disease and escapes

<https://www.bbc.co.uk/.../uk-scotland-scotland-business...>

Record Deaths on salmon farms

<https://theferret.scot/farmed-salmon-deaths-disease.../>  
<https://theferret.scot/salmon-deaths-farms-nine-million/>

Mowi may have been [forced to change their name from Marine Harvest due to negative consumer perception](#) but it still [ranks as one of the worst salmon farming companies in terms of welfare abuse](#).

**OneKind** Ending cruelty to Scotland's animals **New report highlights worst and best salmon farms in Scotland for animal welfare**

Table 1. The top 7 worst performing salmon farms for animal welfare in 2017.

Rank	Farm	Company	Mortality score	Escape score	Biomass score	Seal score	Sea lice score	Welfare score
1	Poll na Gille	Marine Harvest	0	3	3	3	2	11
2	MacLean's Nose	Marine Harvest	3	3	0	3	0	9
=	Bagh dail nan Cean	Marine Harvest	0	0	3	3	3	9
=	Vuia Beag	The Scottish Salmon Co.	3	3	0	3	0	9
3	Inch Kenneth	The Scottish Salmon Co.	3	0	0	3	2	8

Mowi has strong competition from other Norwegian-owned companies.

Table 4. Number of times monthly mortality was greater than or equal to 10% of biomass by company in 2017.

Company	No. of times monthly mortality was $\geq$ 10%	Average/farm
The Scottish Salmon Co. Ltd.	23	0.53
Scottish Sea Farms Ltd.	12	0.3
Marine Harvest (Scotland) Ltd.	11	0.31

Table 8. Sites that breached trigger levels the most in 2017.

Farm	Company	Number of times trigger levels (>3 average female sea lice) were breached in 2017
Score Holms	Grieg Seafood Shetland Ltd.	28
Spoose Holm	Grieg Seafood Shetland Ltd.	25
North Papa	Grieg Seafood Shetland Ltd.	22
Dury Voe	Scottish Sea Farms Ltd.	20
North Havra	Grieg Seafood Shetland Ltd.	20



In view of the [ongoing welfare abuse on Scottish salmon farms](#) it is disappointing that [lawyers representing Scottish Sea Farms and The Scottish Salmon Company](#) and [representatives from Mowi tried desperately to prevent disclosure](#). Thanks to [powerful Freedom of Information laws in Scotland](#), however, investors, shareholders and the public are now able to view photos [published by the Scottish Government's Fish Health Inspectorate](#).

[Mowi's Tabaigh salmon farm in Loch Erisort](#) (12 November 2019)



[Mowi's Rum salmon farm off the Isle of Rum](#) (9 July 2019)



If farmed salmon could talk (or scream), Scottish Salmon Watch thinks they would be asking investors to stop supporting such flagrant welfare abuse. Were these photos included in the [Government Pension Fund's annual reports to the Norwegian Parliament](#) (Storting)?

[The Scottish Salmon Company's Maaey salmon farm in the Outer Hebrides](#) (27 June 2019)



[Grieg Seafood's North Papa salmon farm in Shetland](#) (28 March 2019)



[The Scottish Salmon Company's Ardgadden salmon farm in Loch Fyne](#) (2016)



[Mowi's Raineach salmon farm in East Loch Tarbert \(2016\)](#)



[Scottish Sea Farms' Kishorn B salmon farm in Loch Kishorn \(2015\)](#)



[Scottish Sea Farms' Crooie salmon farm in Clift Sound \(2013\)](#)



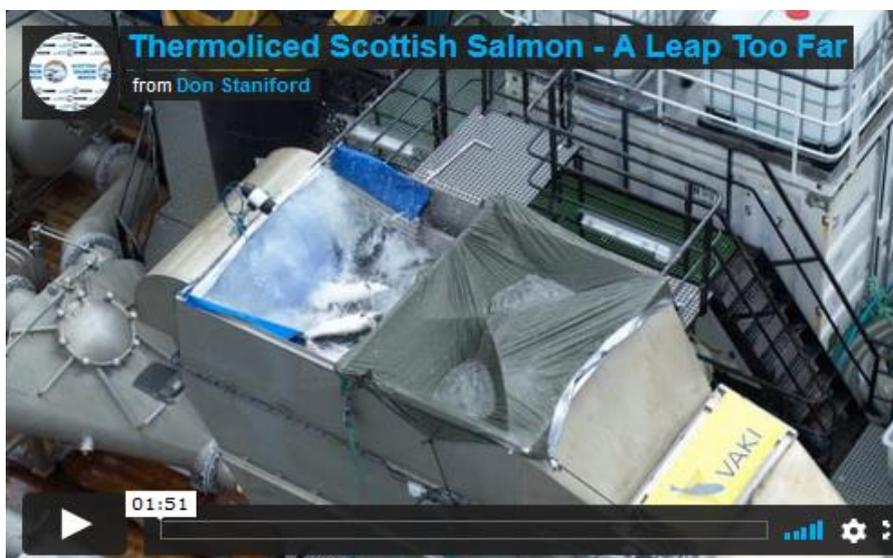
**- Torture via 'Thermolicer' (and other mechanical treatments):**

Poor fish welfare - [widespread in Scottish salmon farming](#) - can impact not only on the reputation of companies but also on profits. As Folketrygdfondet [reported in April 2020](#): "As buyers pay a premium for the largest salmon, operational measures that negatively affect salmon growth, such as the stress from harsh lice treatments, have a corresponding negative impact on company earnings."

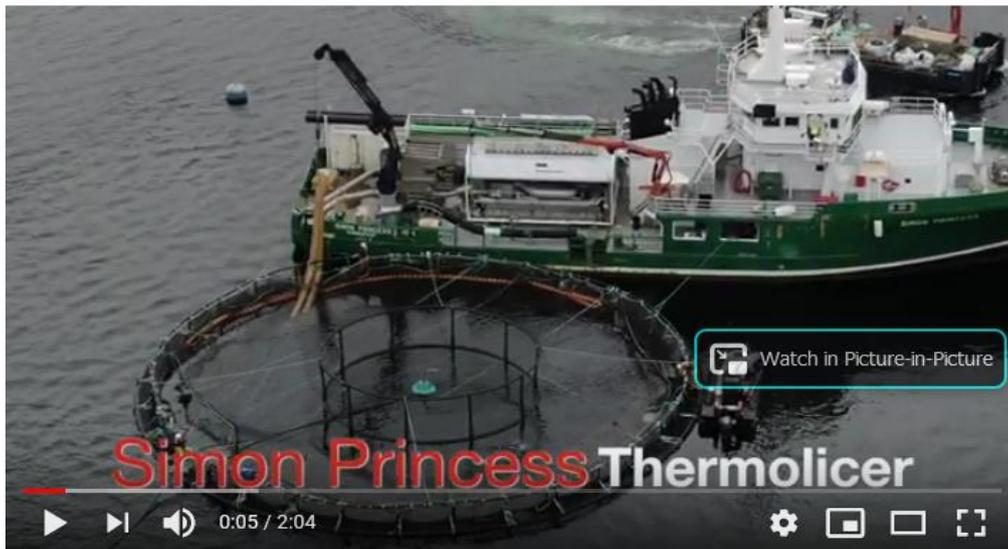
'Harsh' lice treatments include the Thermolicer, Optilicer and Hydrolicer which have [caused huge mortalities on Scottish salmon farms](#).



Here's [video footage from a Mowi salmon farm in Loch Leven](#):



And [video footage from a Scottish Sea Farms operation in Loch Creran 'Special Area of Conservation' and 'Marine Protected Area'](#):



SCOTLAND

Simon Princess, Thermolicer. Welfare nightmare for Scottish Salmon.

Scientific research from Norway is raising alarm bells at the use of the Thermolicer.



**Don Staniford**  
@TheGAAIA



Norwegian institute casts doubts on salmon welfare under thermal de-lousing [bit.ly/2JbwBTU](https://bit.ly/2JbwBTU) @Animallawyersuk @marinescotland @CIWF\_EU @philip\_ciwf @rspcaassured @SSPCA\_Mike @SSPOsays @InfoMattilsynet @onekindtweet @scotgp @LynneUSneddon



Norwegian institute casts doubts on salmon welfare under thermal de-lou...  
Research from the Norwegian veterinary institute showed that fish exposed to hot water for delousing purposes suffered from fin damage caused by ...  
[undercurrentnews.com](https://undercurrentnews.com)

6:08 PM · Oct 27, 2020



 Don Staniford  
@TheGAAIA

Scottish Salmon Watch said it plans to challenge @scotgov "on the lawfulness of the thermalicer under animal welfare legislation". "The weight of scientific and damning case evidence demands an immediate ban" [tinyurl.com/tsd8tkv](https://tinyurl.com/tsd8tkv) @Animallawyersuk @ciwf @PETAUK @rspcaassured



9:41 AM · Mar 9, 2020 · Twitter Web App

 Don Staniford  
@TheGAAIA

"You are advocating the use of thermal treatment because the industry have invested heavily financially" @LynneUSneddon to @marinescotland "Using money to justify the use of an inhumane treatment is not ethically or morally right" @ProfCMDwyer @rspcaassured @onekindtweet @scotgp



 Scottish Salmon Producers Organisation and 9 others

9:11 AM · Mar 9, 2020 · Twitter Web App

 **Eva B. Thorstad**  
@EvaThorstad

Exposing fish to warm water (28–34°C, sometimes higher) has become a common method to reduce lice levels in fish farms. Two new studies show instant behavioural responses of salmon from 28°C and tissue injuries at 34–38°C (72–140 s) [sciencedirect.com/science/articl...](https://www.sciencedirect.com/science/article/...) [sciencedirect.com/science/articl...](https://www.sciencedirect.com/science/article/...)



 Havforskningsinstituttet and Veterinærinstituttet

6:16 PM · Oct 21, 2019 · Twitter Web App

 **Lynne Sneddon**  
@LynneUSneddon

Exposing salmon to hot temperatures causes pain - casts doubt on the humaneness of using hot water to get rid of parasites #fishwelfare #fishsci

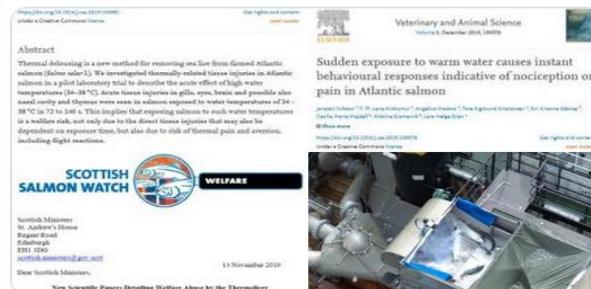


Sudden exposure to warm water causes instant behavioural re...  
Thermal treatment has become the most used delousing method in salmonid aquaculture. However, concerns have ...  
[sciencedirect.com](https://www.sciencedirect.com)

2:25 PM · Nov 12, 2019 · Twitter Web App

 **Don Staniford**  
@TheGAAIA

New Veterinary Science Papers Turn Up Heat on Thermolicer [tiny.cc/tze7fz](https://tiny.cc/tze7fz) @ProfCMDwyer @MairiGougeon @strathearnrose @FergusEwingMSP @EvaThorstad @scotgov @ciwf @onekindtweet @PETAUK @HSIUKorg @FishEG4A @LynneUSneddon @suslyb @FishVetSociety @SSPOsays @MowiScotlandLtd



**Abstract**  
Thermal delousing is a new method for removing sea lice from farmed Atlantic salmon (Salmo salar L.). We investigated thermally-related tissue injuries in Atlantic salmon in a pilot laboratory trial to describe the acute effect of high water temperatures (28–38 °C). Acute tissue injuries in gills, eyes, brain and possibly also neural activity and response times were observed in salmon exposed to water temperatures of 28–38 °C for 72 to 140 s. This implies that exposing salmon to such water temperatures is a welfare risk, not only due to the direct tissue injuries that may also be dependent on exposure time, but also due to risk of thermal pain and distress, including fight reactions.

**Sudden exposure to warm water causes instant behavioural responses indicative of nociception or pain in Atlantic salmon**  
Jensen, T. & D. Staniford. *Veterinary and Animal Science*, Vol. 4, December 2019, 100719. <https://doi.org/10.1016/j.vas.2019.100719>  
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**SCOTTISH SALMON WATCH WELFARE**  
Scottish Ministers  
Dr. Andrew Hession  
Piper Road  
Edinburgh  
EH11 1DA  
[scs@scotland.nhs.uk](mailto:scs@scotland.nhs.uk)  
13 November 2019  
New Scientific Papers Detailing Welfare Abuse by the Thermolicer

11:58 AM · Nov 13, 2019 · Twitter Web App

Norwegian-owned salmon farms operating in Scotland [should carry an environmental health and welfare warning](#).

<p><b>Salmon Farming is a Welfare Nightmare</b></p> 	<p><b>Smoked Salmon is Farmed &amp; Deformed</b></p> 	<p><b>Skinless Scottish Salmon is Flayed Alive</b></p> 
<p><b>WARNING</b> Skinless Scottish Salmon Has Health Problems</p> 	<p><b>Salmon Farming Kills With Cruelty</b></p> 	<p><b>Salmon Farming Causes Harm</b></p> 
<p><b>Farmed Salmon Contains Cancer-Causing Chemicals</b></p> 	<p><b>Salmon Farming Causes Nasty Headaches</b></p> 	<p><b>You Must be Blind to Eat Scottish Salmon</b></p> 
<p><b>Scottish Salmon is Diseased</b></p> 	<p><b>Farmed Salmon is Fattier Than Pizza</b></p>  <p>Swimming in fat</p>	<p><b>Skinless Scottish Salmon is Flayed Alive</b></p> 

## 2) "Severe Environmental Damage":

- **Genetic Pollution via Imported Ova:** Norway has the good sense to prohibit imports of Scottish salmon eggs (ova) due to environmental and ecological risks. In February 2018, [Norway's Ministry of Climate & Environment](#) banned the import of Scottish salmon eggs from Landcatch (Hendrix Genetics) citing risks of disease and genetic impacts of escapes under the Norwegian [Nature Diversity Act](#).

"Farmed salmon with partial Scottish origin increases the likelihood of a negative impact on Norwegian wild populations above negative effects with Norwegian farmed strains," [stated the 22-page letter of refusal by the Norwegian Government](#). "There is a high probability that genetic mixing between Norwegian wild salmon and farmed salmon of partly Scottish origin will increase the loss of genetic diversity."



Hendrix Genetics Aquaculture AS  
w/ Even Søfteland  
Bontelabo 2  
5003 Bergen

Deres ref

Vår ref  
13/3163

Dato  
9. februar 2018

**Avgjørelse av klage på avslag på søknad om tillatelse til innførsel av rogn av atlantisk laks (*Salmo salar*) med delvis skotsk og delvis norsk opphav fra Skottland til akvakulturformål**

Klima- og miljødepartementet viser til klage fra Hendrix Genetics Aquaculture AS (heretter omtalt som "klager") 11. april 2016. Klagen gjelder Miljødirektoratets avslag 16. mars 2016 på søknad 15. mars 2016 etter forskrift om fremmede organismer om tillatelse til innførsel av rogn av atlantisk laks (*Salmo salar*) av delvis skotsk og delvis norsk opphav fra Skottland til Norge til akvakulturformål. Miljødirektoratet avslo søknaden av hensyn til norsk villaks. Miljødirektoratet opprettholdt 24. juni 2016 sitt tidligere vedtak, og oversendte klagesaken til Klima- og miljødepartementet for en endelig avgjørelse.

"This speaks for the Ministry's view that concern for biodiversity and wild salmon should be given significant weight in the case," [continued Norway's Ministry of Climate & Environment](#). "The Ministry also refers to the value of Norwegian wild salmon as an ecosystem service, or a natural good."

Norway's Deputy Director General at the Ministry of Climate & Environment ([Torbjørn Lange](#)) cited a 2017 report by the Norwegian Institute of Nature Research (NINA). "[Risk assessment of imports of partly Scottish salmon from Scotland to aquaculture in Norway](#)" - authored by NINA scientists [Sten Karlsson](#) and [Kjetil Hindar](#) - concluded: "Based on proven genetic distances and that Scottish wild salmon is a separate genetic group different from that

found in Norway, fished salmon with partly Scottish origin is considered to have an increased negative effect on wild salmon stocks in Norway."

However, since the late 1990s Norwegian companies (including [Norwegian-owned Benchmark via Iceland's Stofnfiskur](#)) have flooded Scottish salmon farms with tens of millions of salmon eggs (ova) despite [a ban on exports from Norway in May 2019 \(lifted in March 2020\)](#) due to the [risks of Infectious Salmon Anaemia](#).

 Don Staniford  
@TheGAAIA

Norwegian Salmon Egg Exports Banned Due to Disease Risks [tinyurl.com/r383gqr](https://tinyurl.com/r383gqr) @EFTAscretariat @InfoMattilsynet @marinescotland @fiskeridir @NFdep @WeAreBenchmark @scotseafarms @MowiScotlandLtd @HGSalmonUK @FergusEwingMSP @DefraGovUK @SSPOsays #ISA #Norway #ScottishScamon



9:41 AM · Feb 24, 2020 · Twitter Web App

 Don Staniford  
@TheGAAIA

Norwegian Salmon Ova Slip Back Into Scotland (as Infectious Salmon Anaemia plagues salmon farms in Norway) [tinyurl.com/yyrzs6m](https://tinyurl.com/yyrzs6m) @GreenerScotland @marinescotland @APHAgovuk @DefraGovUK @InfoMattilsynet @FergusEwingMSP @HGSalmonUK @EWNutritionGmbH @WeAreBenchmark @scotseafarms



6:13 AM · Aug 26, 2020

Last month (1 October 2020), [Scottish Salmon Watch reported](#):



Scottish Salmon Watch, 1 October 2020

[Massive Attack on 'Scottish' Salmon](#)  
["Norwegian interests risk bringing the whole rotten edifice of 'Scottish Salmon' crashing down" warns Hendrix MD in email to Scottish Ministers](#)



- Scottish Ministers warned by Hendrix in 2019 of "an absurdly flawed bio-security self certification policy that risks the import of further Norwegian disease, a threat capable of destroying Scotland's entire salmon industry"
- Hendrix rails against "this Scottish Government's abject failure to defend Landcatch from the dubious tactics of the Norwegian salmon farming industry and the blatantly unlawful actions of their government" in email to Scottish Ministers in 2019
- AquaGen is "one of the companies who had most to gain by destroying the Scottish competition from Landcatch, and were undoubtedly instrumental in the Norwegian ban on Landcatch salmon ova" writes Hendrix to Scottish Ministers in 2019
- "That Norwegian interests should risk bringing the whole rotten edifice of 'Scottish Salmon' crashing down, and with it the risk of collateral damage to the integrity and provenance of the wider Scottish Food and Drink brand, should be of an immediate concern," warned Hendrix in an email to Scottish Ministers in 2019

Data on ova imports from Norway to fuel the expansion of 'Scottish' salmon farming was finally obtained by Scottish Salmon Watch from the Scottish Government ([who argued that disclosure "would cause substantial harm to commercial interests" - in relation to Scottish Sea Farms](#)) in [December 2019](#), [February 2020](#) and [September 2020](#).

Published: 3 Sep 2020

Imports of Salmon eggs and Infectious Salmon Anaemia...



[FOI-202000058422 - Information released - Import data](#)

XLSX | 14.5 kB

[Download](#)

Published: 17 Feb 2020

Salmon Ova imports data: EIR release



[Fol-19-02663 - Salmon ova imports 2016](#)

XLSX | 16.7 kB

[Download](#)



[Fol-19-02663 Salmon ova imports 2018 to April 2019](#)

XLSX | 17.8 kB

[Download](#)



[Fol-19-02663 Salmon ova imports April 2019 to December 2019](#)

XLSX | 13.6 kB

[Download](#)

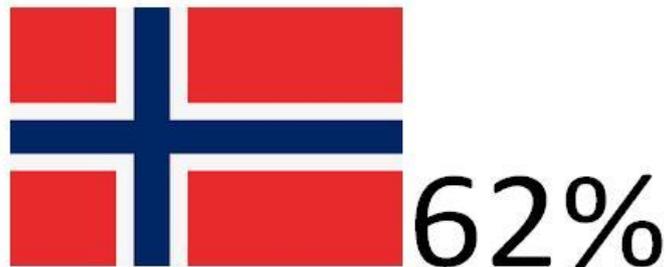
An [analysis of the data available since 2016 \(i.e. 1 January 2016 to 2 July 2020\) by Scottish Salmon Watch](#) reveals that 9 of the 10 highest consignments of imported ova originated from Mowi/Marine Harvest in Norway (Marine Harvest [changed their name to Mowi in January 2019](#) due to "negative consumer perception" despite [objections from the Mowinkel family](#)).

Date consignment due	Destination site name	Destination business name	Number in consignment	Source Country	Import consignor
01/12/2016	Lochailort Recirculation Unit	Marine Harvest (Scotland)	4,000,000	Norway	Marine Harvest (Norway)
16/02/2017	Lochailort Recirculation Hatchery	Marine Harvest (Scotland) Ltd	4,000,000	Norway	Marine Harvest Norway
16/05/2018	Lochailort Recirculation Hatchery	Marine Harvest (Scotland) Ltd	3,800,000	Norway	Marine Harvest Norway
16/11/2017	Lochailort Recirculation Hatchery	Marine Harvest (Scotland) Ltd	3,600,000	Norway	Marine Harvest Norway
18/04/2018	Lochailort Recirculation Hatchery	Marine Harvest (Scotland) Ltd	3,500,000	Norway	Marine Harvest Norway
22/05/2019	Lochailort Recirculation Hatchery	Mowi Scotland Ltd	3,200,000	Norway	Mowi Norway
22/03/2017	Inverpollly	Finfish Ltd	3,150,000	Norway	Marine Harvest Norway
21/01/2016	Lochailort Recirculation Unit	Marine Harvest (Scotland)	3,000,000	Norway	Marine Harvest (Norway)
09/11/2017	Tullich Hatchery	The Scottish Salmon Company	2,714,250	Iceland	Stofniskur
29/03/2017	Lochailort Recirculation Hatchery	Marine Harvest (Scotland) Ltd	2,664,900	Norway	Marine Harvest Norway

Of 234.7 million salmon ova imported into Scottish salmon farms via 213 consignments since 1st January 2016 (data up to 2 July 2020), 146.3 million (62%) via 125 consignments were sourced from Norway, 60.2 million (26%) via 60 consignments were sourced from Iceland and 28.2 million (12%) via 28 consignments were sourced from Ireland.

## 'Scottish' Salmon

- Sourced from Norway, Iceland & Ireland



Ova Imports (2016 to July 2020) in millions	Country of Origin	%
146.3	Norway	62
60.2	Iceland	26
28.2	Ireland	12

The list of companies importing the most ova was headed by Mowi Norway followed by Stofnfiskur in Iceland ([owned by Norway's Benchmark - controlled via Johan Andresen's Ferd](#)), AquaGen in Norway (owned by [German-based EW Group](#)), Mowi Ireland, Salmobreed in Norway ([owned by Norway's Benchmark](#)) and then Grieg Rogaland in Norway (Grieg Seafood has [reported ISA in Norway during 2020](#)).

Source Company	Total imported ova (2016 to July 2020) in millions
Mowi Norway	87.2
Stofnfiskur (Iceland)	60.6
AquaGen (Norway)	33.2
Mowi Ireland	28.2
Salmobreed (Norway)	14.6
Grieg Rogaland (Norway)	6.3

The list of companies importing ova since 1 January 2016 (data up to 2 July 2020) was headed by Mowi with 41 consignments totalling 74.8 million followed by The Scottish Salmon Company with 45 consignments totalling 37.7 million; Scottish Sea Farms with 30 consignments totalling 36 million; Grieg Seafood with 16 consignments totalling 25 million and Cooke Aquaculture with 24 consignments totalling 16.9 million.

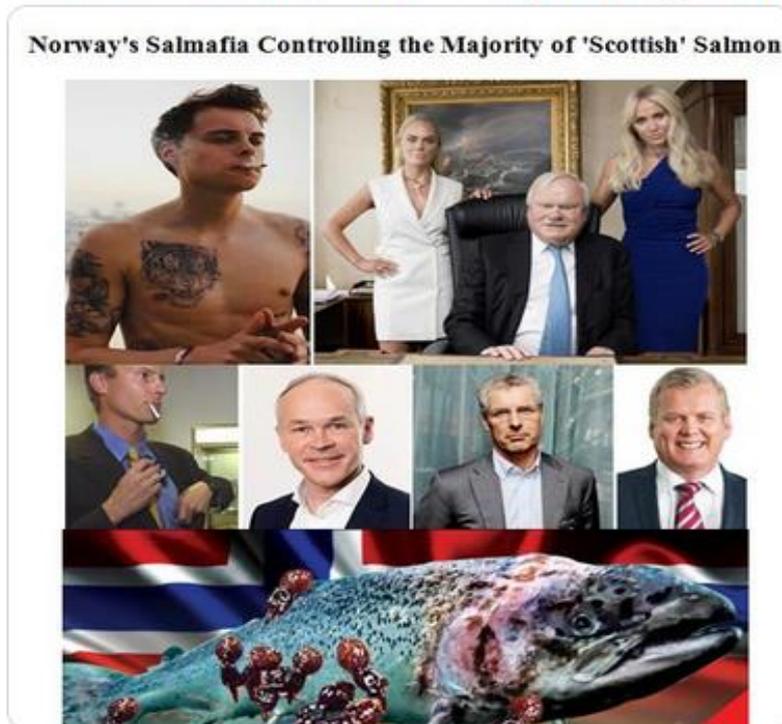
Destination of Ova Imports	Total (2016 to July 2020) in millions
Mowi	74.8
The Scottish Salmon Company	37.7
Scottish Sea Farms	36
Grieg Seafood	25
Cooke Aquaculture	16.9

Download collated ova import data (2016 to July 2020) [online here](#)

Read more via [Salmonopoly: How Norway's Salmafia Control 'Scottish' Salmon - Follow the Salmoney!](#)

 **Don Staniford**  
@TheGAAIA

Meet Norway's Salmafia who control the majority of 'Scottish' salmon farming. Follow the Salmoney to reveal the Norwegian Salmonopoly!  
[@MowiScotlandLtd](#) [@scotseafarms](#) [@LeroySeafood](#)  
[@GriegShetland](#) [@salmon\\_scottish](#) [@Folketrygdfond](#)  
[@WeAreBenchmark](#) [@FerdOwner](#) [tinyurl.com/yyzhck3](https://tinyurl.com/yyzhck3)



 Fergus Ewing MSP and 9 others

1:21 PM · Nov 17, 2020 · Twitter Web App

The ecological and financial risks of importing diseases and pathogens is all too real. [Benchmark's Stofnfiskur was named](#) as the source of the ova infected with Piscine Reovirus leading to the cull 800,000 salmon in Washington State in 2018.

## **Fish farmer destroys 800,000 juvenile Atlantic salmon due to disease; second purge in past year**

Originally published December 18, 2018 at 7:11 pm | Updated December 18, 2018 at 7:38 pm

**The Washington Department of Fish and Wildlife considers the exotic strain of PRV to be an unacceptable risk to native stocks of Pacific salmon. Under the conditions of its permit, Cooke Aquaculture Pacific was required to destroy the fish.**

By [Lynda V. Mapes](#) 

*Seattle Times environment reporter*

For the second time, Cooke Aquaculture Pacific has destroyed 800,000 juvenile Atlantic salmon after testing required by the Washington Department of Fish and Wildlife (WDFW) determined the fish were infected with an exotic strain of Piscine Orthoreovirus (PRV.)

The strain is essentially the same strain of virus found at the Iceland hatchery from which Cooke receives Atlantic salmon eggs.

## **Washington state finds virus in Cooke Atlantic salmon, plans expanded testing**

Originally published May 19, 2018 at 6:00 am | Updated May 19, 2018 at 12:22 pm

**Washington state tested smolt in a Cooke Aquaculture incubator and found the Atlantic salmon had a strain of Icelandic virus. The state denied permission for the company to move the 800,000 fish to an open-water net pen.**

By [Lynda V. Mapes](#) 

*Seattle Times environment reporter*

After identifying an exotic virus in fish raised by Cooke Aquaculture, Washington state is planning to test at other sites where the pathogen from Atlantic salmon may have been spread.

In June 2019, [Scottish Salmon Watch revealed that over 50% of farmed salmon tested by the Scottish Government's Marine Scotland Science laboratory was infected with Piscine Reovirus](#) (the causal agent in Heart & Skeletal Muscle Inflammation).

Scottish Salmon Watch, 5 June 2019

**Virus-Laden Farmed Salmon**

- FOI reveals over half of samples test positive for Piscine Reovirus



A FOI reply by the Scottish Government [published online yesterday](#) reveals that over half of all farmed salmon from Scotland (and other unnamed countries) tested positive for Piscine Reovirus (PRV) during 2018 and 2019. In advance of [today's Ministerial Statement on 'sustainable aquaculture' in the Scottish Parliament \(1.30pm\)](#), campaigners are challenging Scottish Ministers to test all salmon farms and are calling on supermarkets to inform shoppers what infectious diseases, pathogens and viruses are hiding in 'healthy' Scottish salmon.

Data disclosed via [FOI/19/00882](#) reveals that during 2018 and 2019 there were 399 positive samples out of 774 samples tested (i.e. 52% of farmed salmon samples tested positive for PRV) [1] - including 63 tests out of 113 with 100% positive results:

Date of Testing	Pathogen	Test	Result (Positive)
27/02/2018	PRV	QPCR	10 of 10
18/09/2018	PRV	QPCR	10 of 10
19/12/2018	PRV	QPCR	10 of 10
29/11/2018	PRV	QPCR	13 of 13
29/11/2018	PRV	QPCR	19 of 19
08/01/2019	PRV	QPCR	6 of 6
22/01/2019	PRV	QPCR	6 of 6
05/02/2019	PRV	QPCR	5 of 5
12/02/2019	PRV	QPCR	5 of 6
12/02/2019	PRV	QPCR	6 of 6
19/02/2019	PRV	QPCR	10 of 10
16/04/2019	PRV	QPCR	5 of 9
25/04/2019	PRV	QPCR	5 of 5
25/04/2019	PRV	QPCR	6 of 7
21/05/2019	PRV	QPCR	6 of 6
21/05/2019	PRV	QPCR	9 of 9

In April 2020, [Scottish Salmon revealed that the Scottish Government is allowing imported ova and potentially infected farmed salmon smolts to slip through the testing net](#). Whilst salmon farming in Scotland continues to escape from surveillance, Infectious Salmon Anaemia and other deadly diseases [plague Norwegian salmon farms](#).



**Don Staniford**  
@TheGAAIA



Infectious Salmon Anaemia "horror show" plagues  
#Norway @InfoMattilsynet @fiskeridir  
@seafoodnorway @EFTAsecretariat @LeroySeafood  
@vetinst\_no @IntraFishNorge



Expert fears new ISA 'horror show' on Norway's salmon farms | Intrafish  
Norway's Veterinary Institute fears the salmon disease may be a greater threat than first thought.  
[intrafish.com](http://intrafish.com)

6:48 AM · Aug 20, 2020 · Twitter Web App



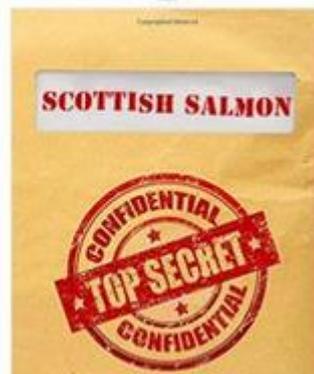
**Don Staniford** @TheGAAIA · Aug 20



In April 2020 @GreenerScotland admitted that imported salmon eggs (ova) are not tested for Infectious Salmon Anaemia or Piscine Reovirus [tinyurl.com/yxu64rve](https://tinyurl.com/yxu64rve) Is 'Scottish' salmon infected with deadly viruses? @DefraGovUK @marinescotland @FergusEwingMSP @strathearnrose @scotgp

### FOI Reveals Virus-Laden Salmon Slip Net & Into Scottish Waters

A Freedom of Information [reply from the Scottish Government](#) reveals an abject lack of testing of viruses, pathogens and infectious



1. How many salmon eggs imported into Scotland were tested for PRV pathogens and infectious diseases such as ISA?

No testing of salmon eggs, imported into Scotland, has been undertaken in relation to the pathogens and diseases you specify.

2. Has Marine Scotland Science conducted screenings of ova for PRV to avoid vertical transmission?

No screening of ova for PRV has been undertaken by Marine Scotland

3. What % of ova used by 'Scottish' salmon farms are infected with PRV pathogens and viruses?

We hold no information on the percentage of ova, used by 'Scottish' salmon farms, with PRV, ISA and other diseases, pathogens and viruses.

4. What % of imported ova were screened prior to entry into Scotland for pathogens and viruses?

Marine Scotland holds no information on the screening of ova (testing in relation to ova imported into Scotland).



**Don Staniford** @TheGAAIA · Aug 20

Is deadly Infectious Salmon Anaemia already lurking in Scottish salmon farms & hatcheries? @FergusEwingMSP @marinescotland @strathearnrose @KateForbesMSP @MowiScotlandLtd @WeAreBenchmark @EWNutritionGmbH @scotseafarms @GriegShetland @salmon\_scottish @HGSalmonUK @SSPOsays #ISA ...

Another outbreak of ISA in Scotland would be costly for investors in Scottish salmon farming. The last officially reported ISA outbreak in Scotland in 2009 [cost Grieg Seafood dearly](#).

**The Shetland Times** May 15, 2009

## Disease costs Grieg dearly

The problems with infectious salmon anaemia (ISA) in Shetland cost the Norwegian multinational Grieg Seafoods over £810,000 in the first three months of the year.

The company, which owns Hjaltland Seafarms, had to harvest salmon early and for a lower price from two sites due to the policy of culling affected fish.

Other Norwegian companies appreciate the financial risks of ISA.

 **IntraFish** Aquaculture

## ISA disease suspected at Marine Harvest Farm

London, UK: The Scottish Executive has confirmed that the presence of Infectious Salmon Anaemia (ISA) is suspected at Marine Harvest's Loch Sheilavaig salmon farm in South Uist.

---

22 November 2004 9:48 GMT    *UPDATED 10 July 2012 5:34 GMT*

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FRS Fish Health Inspectors are currently investigating the affected farm. In a statement, the Scottish Executive confirmed that statutory restrictions are in place controlling the movement into and out of the farm of all fish.

ISA is notifiable under European and domestic fish health legislation, which requires measures to eradicate rather than control the disease. Scotland last saw an outbreak of ISA, which is characterised by high mortality rates, darkening of the liver, severe anaemia and internal haemorrhage in 1998.

The ISA outbreak in Scotland in 1998-1999 - [traced back to Scottish Sea Farms \(when named Hydro Seafoods GSP\)](#) - [cost £100 million](#) with potentially far greater costs to wild salmon.

## Report details disease links



ISA is said to have cost Scotland £100m

A disease which ravaged several Scottish salmon farms spread from a single outbreak in Loch Nevis, according to a new report.

The outbreak of infectious salmon anaemia cost £100m and led to the loss of 200 jobs.

## SCOTLAND

Thursday, November 4, 1999 Published at 15:29 GMT

### UK: Scotland

## Lethal fish infection spreads



Millions of salmon have been destroyed because of the disease

A deadly fish disease is believed to have spread for the first time to wild salmon in Scotland and has been detected on another six salmon farms.

The new scare involving Infectious Salmon Anaemia in the Shetland Isles, the Western Isles and Orkney has prompted the Scottish Executive to embark on an urgent review of the present controls.

Intrafish [warned in February 2019](#):

## ISA the 'biggest threat' to salmon farming

Experts warn that the deadly virus is not just a danger to netpens, but land-based salmon facilities as well.

22 February 2019 8:53 GMT    UPDATED 22 February 2019 13:33 GMT  
By Anders Furuset

Infectious Salmon Anemia (ISA) is currently the largest threat to the salmon farming industry, with both the Norwegian Food Safety Authority and the Veterinary Institute warning against potential infection in hatcheries and RAS facilities.

During the recent Norwegian Research Institute (Sintef) conference in Trondheim, Norway, Ole Bendik Dale, veterinarian and section leader at the Veterinary Institute, said the salmon farming industry needs to carefully guard against ISA, and take high precautions.

"We must be extremely careful not to let this virus spread. It is a willing virus that quickly becomes 'greedy' in dense fish farms," Dale said.

Norwegian companies know full well the risks of importing ISA.

### The New York Times

## *Norwegians Concede a Role in Chilean Salmon Virus*

By Alexei Barrionuevo

July 27, 2011



SÃO PAULO, Brazil — A virus that has killed millions of salmon in Chile and ravaged the fish farming industry there was probably brought over from Norway, a major salmon producer has acknowledged.

Cermaq, a state-controlled Norwegian aquaculture company that has become one of the principal exporters of salmon from Chile, has endorsed a scientific study concluding that salmon eggs shipped from Norway to Chile are the “likely reason” for the outbreak of the virus in 2007, according to Lise Bergan, a company spokeswoman.

Read more via: "[A Primer: The Spread of Infectious Salmon Anaemia via Infected Eggs](#)"

Just last month a [new scientific paper showcased the real risks of salmon farms spreading infectious diseases to wild salmon.](#)

## New study suggests fish farms raise risk of exposure to infectious disease for wild B.C. salmon

Researchers looked for DNA from pathogens at active and inactive aquaculture operations



[Bethany Lindsay](#) · CBC News · Posted: Oct 21, 2020 3:00 AM PT | Last Updated: October 21

A new study suggests that the presence of active fish farms in B.C. waters can more than double the chance of finding genetic material from pathogens that cause disease in wild salmon.

In research conducted over three years, scientists discovered that the likelihood of finding DNA from viruses, bacteria and other microscopic organisms that infect salmon was 2.72 times higher near active aquaculture operations.

"This suggests that the management of salmon farms and the conservation of wild salmon are absolutely not distinct issues," said the lead author on the new paper, University of Toronto PhD candidate Dylan Shea.

"Wild salmon conservation should be taken into account when making decisions related to salmon aquaculture."

The authors of the study, published Wednesday in the journal Proceedings of the Royal Society B, also include scientists from Fisheries and Oceans Canada.

Last week (18 November 2020), [Paul Manly MP presented a petition in the Canadian Parliament](#) calling on the Canada Pension Plan (CPP) to divest in foreign-owned salmon farming companies (including [Mowi where the CPP Investment Board is currently the fifth largest shareholder - up from 8th largest in 2018](#)).



**Sean Wood**

November 20 at 3:39 AM · 



WATCH: Paul Manly presents my petition to divest over \$200 million from Canada Pension Plan currently invested in foreign-owned open net fish farms.

Thanks to all of you who took the time to sign, and thanks to all who continue to fight for the wild salmon.

PARLVU.PARL.GC.  
CA  
**HoC Sitting**  
**No. 31**



The [Parliament of Canada's web-site reports](#):

## Petition to the Government of Canada

Whereas:

- The Canada Pension Plan Investment Board (CPPIB) manages over \$400 billion of Canadians' pension savings;
- The CPPIB currently invests over \$200 million in foreign open-net pen aquaculture for imported Atlantic salmon;
- Open-net pen salmon farms contaminate wild salmon habitat with chemicals, parasites, viruses and diseases - all of which threaten the health of wild Pacific salmon runs;
- Piscine orthoreovirus (PRV) is a common virus, found in over 80% of farmed Atlantic salmon;
- PRV can cause heart and skeletal muscle inflammation (HSMI), which is a deadly viral fish disease. PRV and HSMI both threaten the survival of wild salmon;
- For years, Fisheries and Oceans Canada have been aware that both PRV and HSMI are detected in Atlantic open-net pen salmon farms in B.C.;
- To protect their wild salmon populations, Washington state passed legislation banning PRV-infected farmed salmon in 2018; and
- Divesting Canadians' pensions from PRV-infected open-net pen aquaculture operations is an important step in protecting wild salmon.

We, the undersigned, **citizens and residents of Canada**, call upon the **Government of Canada** to request the CPPIB to divest from any open-net pen aquaculture investment opportunities, foreign-owned or otherwise.

### Presented to the House of Commons

Paul Manly (Nanaimo—Ladysmith)

November 18, 2020 (Petition No. 432-00244)

Scottish Salmon Watch is now looking into filing a similar petition.



Norwegian salmon farming companies have patently failed to quarantine imported ova and even smolts. BBC News [reported in 2014](#):

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## Industry body expels Shetland salmon producer Hjaltland

© 30 April 2014

**Shetland's largest salmon producer has been expelled from the Scottish Salmon Producers Organisation (SSPO).**

The industry body said it had taken the decision to expel Hjaltland Sea Farms because it had been importing smolts from Norway without putting them in quarantine.

The SSPO said the practice was legal but against the voluntary code for the industry.

Hjaltland is owned by Norwegian firm Grieg Seafood.

Scottish Salmon Watch [reported last month \(1 October 2020\)](#) - quoting from [an email sent in March 2019 to Scottish Ministers from the MD of Hendrix Genetics Aquaculture](#):

The Norwegian dominated Scottish Salmon Producers Organisation (SSPO) recently announced their intention to alter the Scottish Code of Practice, to allow the import of

Norwegian Smolts into Scotland to then be passed off as 'Scottish Salmon', as Scottish produce continues to sell at a premium over Norwegian. The SSPO intend that such imports of live Norwegian salmon should only require a 'risk assessment' by the receiving (Norwegian owned) customer, an absurdly flawed bio-security selfcertification

policy that risks the import of further Norwegian disease, a threat capable of destroying Scotland's entire salmon industry. The Norwegian salmon companies in Scotland have long been abusing the terms of the Protected Geographical Indicator (PGI) and the associated French Label Rouge, previously our own attempts to have the Scottish Government look into the matter, resulted in the then Minister's officials breaching all confidence and to brief the Norwegian controlled SSPO. Again matters entirely in the Scottish Government's remit.

That the European Commission and other parties are again taking a close interest in the lawfulness or otherwise of Norwegian salmon companies operating in Scotland, should come as no surprise; the Norwegian salmon industry has a long track record of scant regard for the law - fully backed by the Norwegian Government. That Norwegian interests should risk bringing the whole rotten edifice of 'Scottish Salmon' crashing down, and with it the risk of collateral damage to the integrity and provenance of the wider Scottish Food and Drink brand, should be of an immediate concern to our Government and our food and farming industry.



Don Staniford  
@TheGAAIA

...

#COVID19 has taught us that closing borders is vital in stemming the spread of infectious diseases, viruses & pathogens [tinyurl.com/yyrzsa6m](https://tinyurl.com/yyrzsa6m) Salmon farms using imported eggs should be quarantined until they can prove they're free of deadly viruses! @GreenerScotland #ISA #PRV



Fergus Ewing MSP and 9 others

11:09 AM · Aug 26, 2020 · Twitter Web App



- **Genetic Pollution via Mass Escapes:** In view of the Norwegian genetic material flooding into Scottish salmon farms it is not surprising that genetic pollution of wild Atlantic salmon has already occurred. The Sunday Times [reported in March 2013](#):

## Invasion of the Viking salmon

Scotland's wild stocks 'tainted' by Norwegian strains used in fish farms, writes Mark Macaskill

ca 3.3.13

AS MANY as one in four wild Atlantic salmon from Scotland has been genetically "tainted" by Norwegian fish, a study suggests. Analysis of almost 1,500 wild salmon from the west coast found 369 possessed genetic markers unique to the Scandinavian fish.

The findings have provoked a fresh row between environmentalists and Scotland's aquaculture industry.

Opponents argue fish farmers, who depend heavily on imported eggs from Norway to build up stocks, are primarily to blame — millions of escapees over the past decade are thought to have "polluted" the gene pool by cross-breeding with their wild cousins.

Last night, however, the Scottish Salmon Producers' Organisation (SSPO) said there was no evidence fish farming was responsible.

It is known, for example, that Norwegian fish have been used to boost salmon stocks in east coast rivers such as the Spey and the Shin. It is possible, said SSPO, that these fish have migrated and bred with west coast populations.

For the study, carried out by Rivers and Fisheries Trusts of Scotland (Rafts), 1,472 Atlantic salmon across more than 50 locations, including rivers such as the Awe, Lochy and



A salmon farm on Loch Linnhe; inset, a wild Atlantic salmon

Laxford, were sampled between 2005 and 2011.

A particular set of genetic markers unique to Norwegian fish enabled scientists to identify hybrids but it was not possible to determine if a Scottish salmon had bred with a wild fish from Norway or a farmed one. Nevertheless, it found much higher levels of hybridisation than expected in wild salmon on the west coast, home to more than 400 fish farms. Since 2002, according to Scottish government figures, about 2.4m farmed Atlantic salmon have escaped into the sea.

"Most sites had a signature

of hybridisation that was significantly higher than expected by chance," states the study. "Across all sites, 369 out of 1,472 (25.1%) individuals were identified as hybrids, which is significantly higher than that seen for the east coast 'wild' baseline."

Callum Sinclair, from Rafts, added: "The main focus of the report is the detection of introgression between Norwegian aquaculture strains and Scottish fish. [It] indicates significant levels of hybridisation of wild Scottish salmon in the West Highlands and Islands with genetic strains com-

monly in use in the Norwegian-owned salmon aquaculture industry."

Salmon are known to travel vast distances. A study that tracked the movements of fish released from a Scottish fish farm in 2007 found them as far afield as Norway and Sweden.

It is conceivable that farmed and wild fish from Norway have made the same trip to Scottish waters and bred successfully with native Atlantic salmon. However, Tony Andrews, chairman of the Atlantic Salmon Trust, said there was a "prima facie case" for salmon farming's role in creating hybrid fish.

A spokesman for SSPO said: "It is disappointing that so much public money has been spent on this non-peer-reviewed project that revealed no real differences between wild and farmed fish."

Read more via:

[Invasion of the Viking Salmon Hits Scotland!](#)

['Norwegian' genes found in wild salmon populations in Wester Ross](#)

Since 2013 [even more farmed salmon have escaped](#) from Scotland's foreign-owned salmon farms with Norwegian-owned Mowi [responsible for two mass escapes in 2020 totalling over 120,000 fish](#) - that's [over twice the entire 'wild' catch of salmon in Scotland in 2019!](#)

Data [published online by the Scottish Government via 'Scotland's Aquaculture'](#) details mass escapes for companies invested in by the Norwegian Government - with 3.2 million escapees from salmon farms since 2000 in 276 reported incidents:

Escape ID	Operator at Time of Escape	Date of Escape	# Escaped	# Recovered	Site Name
2000507	Mowi Scotland Ltd	21-Feb-20	73,684	0	Colonsay
2000519	Mowi Scotland Ltd	09-Sep-20	48,834	0	Eilean Grianain
2000063	Scottish Sea Farms Ltd	10-Feb-05	43,453	600	Kishorn B (North)
2000245	Scottish Sea Farms Ltd	22-Sep-09	34227	2889	Loch Frisa
2000293	Scottish Sea Farms Ltd	01-Feb-12	33,755	0	South Sound
2000481	Mowi Scotland Ltd	18-Dec-18	24,752	0	Hellisay
2000498	Mowi Scotland Ltd	14-Nov-19	23,970	0	Hellisay
2000182	Marine Harvest (Scotland) Ltd	24-Dec-07	23,805	15	Isle Ewe
2000469	Grieg Seafood Shetland Ltd	02-Mar-18	21,712	0	Loch Snizort East
2000062	Marine Harvest (Scotland) Ltd	09-Feb-05	20,928	0	Gousam
2000153	Marine Harvest (Scotland) Ltd	23-Apr-07	18,500	1,900	Scotasay
2000452	Scottish Sea Farms Ltd	21-Apr-17	17398	0	Bloody Bay
2000161	Scottish Sea Farms Ltd	20-Jul-07	16,989	0	Brunaness
2000422	Marine Harvest (Scotland) Ltd	09-Jun-15	16,000	0	Eilean Grianain
2000505	The Scottish Salmon Company	20-Feb-20	13,952	None	Geasgill
2000061	Marine Harvest (Scotland) Ltd	09-Feb-05	12,943	0	Vuiabeag
2000138	Marine Harvest (Scotland) Ltd	17-Jan-07	11,900	0	Seaforth
2000456	The Scottish Salmon Company	11-Sep-17	11040	Unkonwn	Geasgill
2000256	Marine Harvest (Scotland) Ltd	24-Mar-10	10,775	1,000 ongoing	Loch Lochy
2000232	Marine Harvest (Scotland) Ltd	07-Jul-09	10534	0	Marulaig Bay

BBC News [reported in January 2020](#):



## Colonsay farmed salmon escape after Storm Brendan damage

© 21 January

Norwegian fish farming giant Mowi has revealed that tens of thousands of salmon have escaped from one of its sites off Colonsay.

The company said a cage was damaged when Storm Brendan passed through the area last week.

Almost 74,000 fish escaped through a tear in the cage netting.

The incident is the third major escape from Mowi's new generation of high capacity offshore sites in Scotland in just over a year.

Last October and in November 2018 more than 48,000 salmon escaped from the firm's Hellisay site in the Western Isles.

Escapes have an economic impact on fish farming companies.

Conservationists and angling groups also have concerns that breeding between farmed and wild salmon harms wild fish stocks.

BBC News [reported in August 2020](#):

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## Nearly 50,000 salmon escaped from storm-damaged fish farm



Nearly 50,000 salmon escaped when a fish farm in Argyll broke free from its moorings, it has been revealed.

The North Carradale farm, near Campbeltown, suffered damaged to four of its 10 fish pens during Storm Ellen.

Owner Mowi said inspections by divers revealed the breakage of mooring ropes attached to the farm's seabed anchors was the cause.

Just over 30,000 of the farmed salmon also died as a result of the incident.

BBC News [reported in September 2020](#):

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## Escaped salmon from Argyll farm appearing in west coast rivers

© 10 September

Mowi took a battering in the media including the [BBC One Show in October 2020](#):



In Norway, [the Norwegian Government take escapes seriously in view of genetic pollution](#).



Fish Farmer [reported last month \(8 October 2020\)](#):

### Minister tells salmon firms 'polluters must pay'

By Vince McDonagh - 8th October 2020



Odd Emil Ingebrigtsen, Norway Seafood Minister

Norway's fish farmers have been told they will have to shoulder a larger share of the bill for recovering escaped salmon in future.

Fisheries and Seafood Minister Odd Emil Ingebrigtsen has announced a crackdown following a large number of escapes in the last two years.

Companies have been accused by politicians on all sides of not doing enough to prevent salmon and trout from leaving their cages. He said:

'The farmers will now have pay when fish escape. We are tightening the requirements to ensure they pick up a large part of the bill.'

Companies will now be required to report to the Directorate of Fisheries as soon as they suspect an escape. They will also have a legal duty to implement measures to catch any escaped salmon.

The statement pointed out that escaped farmed salmon, if they find their way up-river, can cross with wild salmon, which can affect breeding.

In Scotland, however, Mowi is permitted to pollute with impunity and precipitate "severe environmental damage". Peer-reviewed science [published by the Royal Society of London in 2003](#) reported that escapes could precipitate "an extinction vortex" in wild salmon.



**Don Staniford**  
@TheGAAIA



Official Scottish Government figures show Mowi has recovered zero out of 48,834 escapees (i.e. 0%)

[@MowiScotlandLtd](#) [tinyurl.com/yxq8eefr](https://tinyurl.com/yxq8eefr)

How much will [@GreenerScotland](#) fine Mowi for failing to recapture escapees? [@fms\\_scotland](#) [@FergusEwingMSP](#)

[@strathearnrose](#) £0.00? #Mowi

Site Details	
Site ID	FS1115
Site Name	Eden Orkney
Address	Water Island, Scotland, UK The Salt Shed Lanarose Ingh PH20 1BB
Telephone Number	01237 75502
Date Registered	23/03/19
Operator	Wm Scotland Ltd
Agriculture Type	FM
Water Type	Seawater
Species	Atlantic Salmon, Lumpfish, Wrasse
Health Surveillance Frequency	Low
Production expected to take place within next 7 years?	Yes
National Grid Reference	NO2164 02
County	Highland
Ward	941282
Marine Scotland Management Area	10a - 1 Orkney
Local Authority	Argyll and Bute
Region	Highland
View on Map	<a href="#">View on Map</a>
Data supplied by Marine Scotland on 01/10/2020	

10:46 AM · Oct 9, 2020





Don Staniford  
@TheGAAIA



Here's what Mowi's @rspcaassured salmon looked like after 300,000 died in the Beast from the East in 2018 at their Carradale farm (the same site hit yesterday by Storm Ellen) [tinyurl.com/rdr8azn](https://tinyurl.com/rdr8azn) Skinless Scottish salmon anyone? @MowiScotlandLtd @sainsburys @LidlGB @AldiUK



11:53 AM · Aug 21, 2020



Don Staniford  
@TheGAAIA



"The science is already in - escapes from farms kill wild salmon" @ardrossanherald "Mowi should be fined & have their licence to operate rescinded" @MowiScotlandLtd @FergusEwingMSP @fms\_scotland @SalmonTroutCons @stratearnrose @marinescotland

10 NEWS [www.ardrossanherald.com](http://www.ardrossanherald.com)

## Study begins into the full impact of escaped fish farm salmon

BY GIANNI MARINI [gmarini@ardrossanherald.com](mailto:gmarini@ardrossanherald.com)

THE owner of the farm from which thousands of salmon escaped is funding a study into how it will impact on the wild population.

In August, Mowi Scotland confirmed 48,834 farm-raised fish escaped from its facility off the coast of Arran. The salmon, which are identifiable by deformities, have since been found across Ayrshire.

Last month, it was reported that anglers in Girvan caught 30 of the escapes, with 10 in a single mile stretch.

Fisheries Management Scotland previously warned anglers to kill any suspected farmed salmon they caught and send scale samples to them.

The study, launched in response to the mass escape, will be managed by FMS and supported by Government scientists.

The multi-year study of 110 sites aims to confirm wild salmon's current genetic profile and to track for the potential of genetic changes should interbreeding of farmed and wild salmon occur.

Ben Hatfield, COO of Mowi Scotland said: "I would like to thank Fisheries Management Scotland and their member District Salmon Fishery Boards and Fisheries Trusts for their efforts to remove these fish from rivers across the Firth of Clyde, and apologise for any disruption and concern this escape has caused.

"We have learned the root cause of the escape and acknowledge our responsibility to quickly learn from this event to prevent it from occurring again."

Don Staniford, a campaigner against fish farms, said: "The science is already in - escapes from farms kill wild salmon. precipitate an 'extinction vortex'. Instead of more research, Mowi should be fined and have their licence to operate rescinded."

A farmed salmon caught in Ayrshire. Credit: Jacqueline Rogers Boyd.



3:45 PM · Oct 23, 2020 · Twitter Web App

Read more via:

["Mowi should be fined & have their licence to operate rescinded"](#)  
[Zero Escapees Recovered by Mowi Out of 48,834 - That's Officially 0%!](#)  
[Far from Fine: Mowi Recaptures Less Than 1% of Escapees in Scotland!](#)  
[Scottish Salmon's Great Escape](#)

The Norwegian Government is well aware of the genetic impacts of salmon farms with [researchers in Norway leading the way in peer-reviewed science and hard evidence.](#)

# BioScience

## Fugitive Salmon: Assessing the Risks of Escaped Fish from Net-Pen Aquaculture FREE

Rosamond Naylor, Kjetil Hindar, Ian A. Fleming, Rebecca Goldberg, Susan Williams, John Volpe, Fred Whoriskey, Josh Eagle, Dennis Kelso, Marc Mangel [Author Notes](#)

*BioScience*, Volume 55, Issue 5, May 2005, Pages 427–437, [https://doi.org/10.1641/0006-3568\(2005\)055\[0427:FSATRO\]2.0.CO;2](https://doi.org/10.1641/0006-3568(2005)055[0427:FSATRO]2.0.CO;2)

**Published:** 01 May 2005

**NINA Special Report 36**

### Incidence and impacts of escaped farmed Atlantic salmon *Salmo salar* in nature

Eva B. Thorstad, Ian A. Fleming, Philip McGinnity, Doris Soto, Vidar Wennevik & Fred Whoriskey



Eva B. Thorstad  
@EvaThorstad

...

A large part of wild Atlantic salmon populations in Norway are now impacted by spawning of escaped salmon from fish farms. Genetic impacts from farmed salmon are found in wild fish in 150 of 225 monitored rivers. New report by @DiserudOla [brage.nina.no/nina-xmlui/han...](http://brage.nina.no/nina-xmlui/han...) @NINAForskning



Kjetil Hindar

8:26 AM · Jun 19, 2019 · Twitter Web App

The genetic pollution and potential extirpation the Atlantic salmon - [protected via European legislation](#) and [UK law](#) - obviously constitutes "severe environmental damage". Scottish Salmon Watch maintains that other environmental impacts associated with salmon farming has resulted in severe ecological damage including waste pollution, chemical contamination, feed impacts and marine impacts.

**- Waste Pollution:** The scale of salmon farming in Scotland has certainly led to "unsatisfactory" waste impacts on the sea-bed under salmon farms. Data is published online via Scotland's Aquaculture web-site with ['Fish Farm Annual Emissions' data detailing discharges of Nitrogen, Phosphorus, Carbon, Copper from feed and nets and Zinc from feed](#) and ['Sealice In-Feed Treatment Residues' detailing benthic contamination](#).

The [largest annual emissions of zinc, nitrogen, phosphorus and organic carbon since 2005](#) are dominated by Mowi-owned salmon farms with discharges highest in more recent years.

Report ID	Year	Zinc from feed kg	Nitrogen kg	Phosphorus kg	Total organic carbon kg	Licence Site Name	Operator
204640	2017	682.6629019	241786.4389	33389.55585	775731.4915	Creag an Sagairt West	Mowi Scotland Ltd
202852	2019	658.8895555	233366.364	32226.7836	748717.0845	Am Maol, Isle of Muck	Mowi Scotland Ltd
204919	2019	640.135127	226723.896	31309.4904	727405.833	MacLeans Nose	Mowi Scotland Ltd
203709	2016	621.2741584	220043.6935	30386.98624	705973.5166	Carradale (South)	Mowi Scotland Ltd
203706	2013	619.6193091	219457.5768	30306.04632	704093.0589	Carradale (South)	Mowi Scotland Ltd
204224	2019	612.5165469	216941.9112	29958.64488	696021.9651	Bagh Dail nan Ceann North and South	Mowi Scotland Ltd
204222	2017	611.1563012	216460.1376	29892.11424	694476.2748	Bagh Dail nan Ceann North and South	Mowi Scotland Ltd
203271	2016	603.9840778	213919.8701	29541.3154	686326.25	Camas an Leim (Torrison)	Mowi Scotland Ltd
203747	2013	593.5320208	210217.9469	29030.09743	674449.2464	Erisort, North Shore West	Mowi Scotland Ltd
204493	2017	588.4492056	208417.7088	28781.49312	668673.4824	Gometra	The Scottish Salmon Company Ltd
203711	2018	586.9819033	207898.0178	28709.72626	667006.1403	Carradale (South)	Mowi Scotland Ltd
203715	2018	586.4016954	207692.519	28681.34786	666346.8317	Carradale (North)	Mowi Scotland Ltd
203604	2018	583.4256576	206638.462	28535.78761	662965.0656	Colonsay	Mowi Scotland Ltd
203266	2011	577.6575188	204595.4951	28253.66361	656410.5467	Camas an Leim (Torrison)	Mowi Scotland Ltd
204913	2018	569.991188	201880.224	27878.6976	647699.052	Marulaig Bay	Mowi Scotland Ltd
203602	2016	565.7120847	200364.6456	27669.40344	642836.5713	Colonsay	Mowi Scotland Ltd
203264	2009	560.9441808	198675.9432	27436.20167	637418.651	Camas an Leim (Torrison)	Mowi Scotland Ltd
202885	2011	559.1571775	198043.02	27348.798	635388.0225	Ardgour (Linnhe)	Mowi Scotland Ltd
202883	2009	551.5170905	195337.044	26975.1156	626706.3495	Ardgour (Linnhe)	Mowi Scotland Ltd
203315	2017	547.4215542	193886.4816	26774.79984	622052.4618	Druimyeon Bay	The Scottish Salmon Company Ltd
205633	2016	536.2194136	189918.8928	26226.89472	609323.1144	Stulaigh Island	Mowi Scotland Ltd
204642	2019	534.7107462	189384.551	26153.10466	607608.7678	Creag an Sagairt West	Mowi Scotland Ltd
205635	2018	522.7332158	185142.3336	25567.27464	593998.3204	Stulaigh Island	Mowi Scotland Ltd
202929	2010	517.2502642	183200.3747	25299.09936	587767.8687	Ardintoul	Mowi Scotland Ltd

Waste discharges are not a drop in the ocean - [scientific evidence submitted by the Scottish Association of Marine Science to the Scottish Parliament's salmon farming inquiry in 2018](#) estimated that Scotland's salmon farms discharge the waste equivalent of "about half of Scotland's human population of 5.3 million":

## **THE DISCHARGE OF WASTE NUTRIENTS AND THEIR INTERACTION IN THE WIDER MARINE ENVIRONMENT**

An early study of Norwegian salmon farming (Seymour & Bergheim, 1991) estimated that in 1989 the organic waste input into fjords from the production of 150,000 tonnes of fish was equivalent to 60% of the waste emissions generated by Norway's total human population (4.7 million people). Thirty years later, salmon farming is more efficient, but Scotland's target of producing 200,000 tonnes salmon in 2020 will likely emit organic waste equivalent to that of about half of Scotland's human population of 5.3 million.

The scientific evidence prompted [The Herald newspaper to report in March 2018](#):

15th March 2018

### **One fish farm produces waste equivalent to 'all of Scotland's west coast towns'**

By Alistair Grant | [@alistairgrant](#)  
Political Correspondent

**ONE fish farm produces the same amount of waste as all of Scotland's west coast towns put together, an expert has said.**

Dr Richard Luxmoore, senior nature conservation adviser at the National Trust for Scotland, said a moderately-sized farm dumped the same amount of sewage as a town twice the size of Oban.

It comes as a string of experts warned salmon farming was having a deadly impact on the environment.

Dr Luxmoore said fish farms were pumping "huge quantities" of organic waste into the sea, making up around 80 per cent of all sewage.

He told a **Holyrood** committee: "A single fish farm, which currently has a maximum size at the moment of 2,500 tonnes, produces the sewage equivalent of a town twice the size of Oban.

"So if you added up all of the towns on the west coast, virtually, they are producing the same amount of sewage as one fish farm – a moderately large fish farm.

"Now of course, you're not allowed to discharge waste from a single septic tank into the sea without it being treated.

A report - "[Scotland's Secret? Aquaculture, nutrient pollution, eutrophication and toxic blooms](#)" - published by WWF Scotland in 2000 (when salmon farming production was 125,000 tonnes compared to [204,000 tonnes in 2019](#)) calculated phosphorus discharges from salmon farms as equivalent to almost twice the sewage discharges of Scotland's human population.

## **Scotland's Secret?**

### **Aquaculture, nutrient pollution eutrophication and toxic blooms**

Nutrients are serious marine pollutants. Scottish Highland and Island salmon farming has grown dramatically over the last fifteen years, and is predicted to reach 125,000 metric tonnes this year. Until now, its overall contribution to nutrient pollution has been unquantified. On the 31<sup>st</sup> August 2000, OSPAR, the responsible international inter-governmental body, published guidelines for calculating nutrient losses for aquaculture. The application of these guidelines in this report indicates for the first time the full extent of nutrient pollution from Scottish aquaculture: this year some 7,500 tonnes of nitrogen, comparable to the annual sewage inputs of some 3.2 million people; and 1,240 tonnes of phosphorous, comparable to that from 9.4 million people. In 1997 Scotland's population was 5.1 million.

[Video evidence of waste pollution and benthic impacts](#) have illustrated the lethal legacy of Norwegian-owned companies operating in Scotland.



Biomass exceedances - which can be seen as an indicator of excessive and unauthorised pollution - were dominated by Mowi with Scottish Sea Farms also featuring in the worst cases:

Year	Biomass Exceedence Tonnes	Site Name	Operator
01-Jul-19	942.8497487	Am Maol, Isle of Muck	Mowi Scotland Ltd
01-Jul-02	827	East of Hildasay	Scottish Sea Farms Ltd
01-Mar-14	800	Poll na Gille	Mowi Scotland Ltd
01-Aug-19	779.6071707	Am Maol, Isle of Muck	Mowi Scotland Ltd
01-Feb-14	778	Poll na Gille	Mowi Scotland Ltd
01-Oct-17	707	Poll na Gille	Mowi Scotland Ltd
01-Jan-14	682	Poll na Gille	Mowi Scotland Ltd
01-Feb-20	609.6462778	Grey Horse Channel	Mowi Scotland Ltd
01-Sep-17	586.4059673	Poll na Gille	Mowi Scotland Ltd
01-Jan-02	581	Mid Loch Shell / Pairc - West (A & B cage groups)	Mowi Scotland Ltd
01-Jun-03	573	Dales Voe (South)	Hunter Salmon
01-Jun-19	570.0859908	Am Maol, Isle of Muck	Mowi Scotland Ltd
01-Apr-10	569	Maol Ban	Mowi Scotland Ltd
01-Aug-07	565	Erisort, North Shore West	Mowi Scotland Ltd
01-Sep-19	549.394223	Am Maol, Isle of Muck	Mowi Scotland Ltd
01-Dec-12	549	Callert (Leven)	Mowi Scotland Ltd
01-Jun-02	517	East of Hildasay	Scottish Sea Farms Ltd
01-Nov-07	514	Erisort, North Shore West	Mowi Scotland Ltd
01-Jun-07	508	Ardgour (Linnhe)	Mowi Scotland Ltd
01-Aug-02	505	East of Hildasay	Scottish Sea Farms Ltd
01-Oct-07	495	Erisort, North Shore West	Mowi Scotland Ltd
01-Feb-02	491	Mid Loch Shell / Pairc - West (A & B cage groups)	Mowi Scotland Ltd
01-Sep-19	486.5900563	Bagh Dail nan Ceann North and South	Mowi Scotland Ltd

2020 is expected to be the worst on record [with the Scottish Environment Protection Agency announcing in March 2020](#) that biomass limits could be breached during the Covid-19 crisis (although [SEPA proposed lifting biomass limits back in 2017](#)). Data is currently only available up to July 2020 with Q3 2020 not published until December.



Don Staniford  
@TheGAAIA

...

As Scottish salmon farmers shamelessly seek to exploit #Coronavirus - @SSPOsays are lobbying @ScottishEPA @marinescotland to increase biomass limits - here's salmon farms breaching biomass limits in 2019 @MowiScotlandLtd Where's there's Muck there's Mowi money! @HamishMacdonell

Year	Submitted By	Biomass Exceedence Tonnes	Site Name
01-Jul-19	Mowi Scotland Ltd	942.8497487	Am Maol, Isle of Muck
01-Aug-19	Mowi Scotland Ltd	779.6071707	Am Maol, Isle of Muck
01-Jun-19	Mowi Scotland Ltd	570.0859908	Am Maol, Isle of Muck
01-Sep-19	Mowi Scotland Ltd	549.394223	Am Maol, Isle of Muck
01-Sep-19	Mowi Scotland Ltd	486.5900563	Bagh Dail nan Ceann North and South
01-Jul-19	Mowi Scotland Ltd	463.5125434	Bagh Dail nan Ceann North and South
01-Aug-19	Mowi Scotland Ltd	433.4627656	Bagh Dail nan Ceann North and South
01-May-19	Mowi Scotland Ltd	355.0536291	Am Maol, Isle of Muck
01-Sep-19	Mowi Scotland Ltd	305.3136406	MacLeans Nose
01-May-19	Mowi Scotland Ltd	301.5320431	Bagh Dail nan Ceann North and South
01-Oct-19	Cooke Aquaculture Scotland	219	Vest Ness
01-Sep-19	Cooke Aquaculture Scotland	219	Vest Ness
01-Aug-19	Cooke Aquaculture Scotland	207	Vest Ness
01-Feb-19	Mowi Scotland Ltd	197.6667414	Skipport Outer (Ornish)
01-Dec-19	Mowi Scotland Ltd	189.5474753	Grey Horse Channel
01-Jun-19	Cooke Aquaculture Scotland	171	Vest Ness
01-May-19	Cooke Aquaculture Scotland	171	Vest Ness
01-Jan-19	Mowi Scotland Ltd	170.3520848	Skipport Outer (Ornish)
01-Jul-19	Cooke Aquaculture Scotland	152	Vest Ness
01-Apr-19	Cooke Aquaculture Scotland	137	Vest Ness
01-Jun-19	Mowi Scotland Ltd	134.2341719	Bagh Dail nan Ceann North and South
01-Sep-19	Kames Fish Farming Ltd	104	Kames Bay
01-Dec-19	Cooke Aquaculture Scotland	82	Vee Taing

Fergus Ewing MSP and 8 others

5:52 PM · Mar 12, 2020 · Twitter Web App

 **Don Staniford**  
@TheGAAIA

...

SEPA recognise "challenges for operators to stay within biomass limits" during Covid-19 outbreak [tinyurl.com/qql5dl](https://www.tinyurl.com/qql5dl) @ScottishEPA With @MowiScotlandLtd routinely breaching limits in 2019 how much welfare abuse & non-compliance will be tolerated in 2020? @SSPOsays @APHAgovuk

By	Biomass Exceedence Tonnes	Site Name
and Ltd	942.8497487	Am Maol, Isle of f
and Ltd	779.6071707	Am Maol, Isle of f
and Ltd	570.0859908	Am Maol, Isle of f
and Ltd	549.394223	Am Maol, Isle of f
and Ltd	486.5900563	Bagh Dail nan Ce
and Ltd	463.5125434	Bagh Dail nan Ce
and Ltd	433.4627656	Bagh Dail nan Ce
and Ltd	355.0536291	Am Maol, Isle of f
and Ltd	305.3136406	MacLeans Nose
and Ltd	301.5320431	Bagh Dail nan Ce
iculture Scotland	219	Vest Ness
iculture Scotland	219	Vest Ness
iculture Scotland	207	Vest Ness
and Ltd	197.6667414	Skipport Outer (C
and Ltd	189.5474753	Grey Horse Chan
iculture Scotland	171	Vest Ness
iculture Scotland	171	Vest Ness
and Ltd	170.3520848	Skipport Outer (C
iculture Scotland	152	Vest Ness
iculture Scotland	137	Vest Ness
and Ltd	134.2341719	Bagh Dail nan Ce
Farming Ltd	104	Kames Bay
iculture Scotland	82	Vee Taing

Terry A'Hearn and 9 others

6:46 PM · Mar 26, 2020 · Twitter Web App

BBC's investigative show 'Panorama' [raised the issue of biomass breaches in May 2019](#).



Mowi's waste impacts across Scotland have resulted in rafts of "Unsatisfactory" benthic monitoring surveys - including [Loch Ewe salmon farm which Mowi has been forced to close down along with another salmon farm in Loch Duich](#). The Ross-shire Journal [reported](#) (22

[November 2020](#)) that the Scottish Environment Protection Agency will "implement a post closure monitoring programme to continue to assess the health of the marine environment" under Mowi's Loch Ewe salmon farm.



Regulatory laissez-faire.  
The benthic monitoring at Isle of Ewe hasn't exactly shown salmon farming as a huge success story. But it was "profit loss" that eventually made [@MowiScotlandLtd](#) to move. Not before permission to expand was granted, of course

[fishfarmingexpert.com/article/mowi-c...](https://fishfarmingexpert.com/article/mowi-c...)

[1] Please provide a comprehensive update as to the status of the Isle Of Ewe MCFE CAR License and Benthic Monitoring Surveys.

Please see the following table:

MONITORING subform for PRE-INSPECTION FORM - master			
Survey Date	Classification	Type	Biomass
05/12/2018	Unsatisfactory	Benthic	59
15/01/2017	Unsatisfactory	Benthic	306
16/04/2015	Unsatisfactory	Benthic	1235
20/05/2013	Unsatisfactory	Benthic	789
12/04/2011	Unsatisfactory	Benthic	1135
14/07/2009	Unsatisfactory	Audit	1356
21/05/2009	Unsatisfactory	Benthic	1150
13/04/2007	Unclassified	Benthic	1667
13/09/2006	Unsatisfactory	Benthic	700
06/06/2005	Borderline	Benthic	1076

Fergus Ewing MSP and 9 others

7:15 PM · Nov 21, 2020 · Twitter for iPhone

BBC's Panorama show [featured video footage of the waste impacts of Mowi in May 2019](#):



The [video footage from diver David Ainsley](#) was captured under Mowi's Poll Na Gille salmon farm - [ranked by OneKind in 2018 as the worst salmon farm in Scotland](#).

Analysis of the benthic data [published by the Scottish Environment Protection Agency via 'Scotland's Aquaculture'](#) reveals over 1,000 'Unsatisfactory' Environmental Monitoring Surveys for salmon farms - including the most recent surveys dominated by Mowi, The Scottish Salmon Company, Scottish Sea Farms and Grieg Seafood:

Survey Date	Monitoring Method	SEPA Classification	Submitted By	Site Name	Operator
06-Nov-19	Fauna and Residues	Unsatisfactory	Mowi Scotland Ltd	Bagh Dail nan Ceann North and South	Mowi Scotland Ltd
20-Sep-19	Benthic	Unsatisfactory	Mowi Scotland Ltd	Tabhaigh	Mowi Scotland Ltd
02-Sep-19	Benthic	Unsatisfactory	Mowi Scotland Ltd	Portnalong	Mowi Scotland Ltd
26-Aug-19	Benthic	Unsatisfactory	The Scottish Salmon Company	St Mollios	The Scottish Salmon Company Ltd
31-Jul-19	Benthic	Unsatisfactory	The Scottish Salmon Company	Petersport North	The Scottish Salmon Company Ltd
01-May-19	Benthic	Unsatisfactory	Mowi Scotland Ltd	Kingairloch (Loch a Choire)	Mowi Scotland Ltd
25-Mar-19	Benthic	Unsatisfactory	Mowi Scotland Ltd	Groatay	Mowi Scotland Ltd
27-Feb-19	Benthic	Unsatisfactory	Scottish Sea Farms Ltd	Puldrite Bay	Scottish Sea Farms Ltd
27-Feb-19	Benthic	Unsatisfactory	The Scottish Salmon Company	Eport Outer (Sgeir n Lolla)	The Scottish Salmon Company Ltd
30-Jan-19	Benthic	Unsatisfactory	Mowi Scotland Ltd	Hellisay	Mowi Scotland Ltd
23-Jan-19	Benthic	Unsatisfactory	The Scottish Salmon Company	Meall Mhor	The Scottish Salmon Company Ltd
10-Jan-19	Benthic	Unsatisfactory	Scottish Sea Farms Ltd	Eday Sound (Noust Geo)	Scottish Sea Farms Ltd
05-Dec-18	Benthic	Unsatisfactory	Mowi Scotland Ltd	Isle of Ewe	Mowi Scotland Ltd
26-Nov-18	Benthic	Unsatisfactory	Scottish Sea Farms Ltd	Veantrow Bay	Scottish Sea Farms Ltd
09-Oct-18	Benthic	Unsatisfactory	The Scottish Salmon Company	Vacasay, Roag	The Scottish Salmon Company Ltd
28-Sep-18	Benthic	Unsatisfactory	Grieg Seafood Shetland Ltd	Linga (South of Linga)	Grieg Seafood Shetland Ltd
27-Sep-18	Benthic	Unsatisfactory	Scottish Sea Farms Ltd	Vidlin North	Scottish Sea Farms Ltd
08-Jun-18	Benthic	Unsatisfactory	Scottish Sea Farms Ltd	Fishnish A	Scottish Sea Farms Ltd
06-Jun-18	Benthic	Unsatisfactory	Grieg Seafood Shetland Ltd	Setterness South	Grieg Seafood Shetland Ltd
06-Jun-18	Benthic	Unsatisfactory	The Scottish Salmon Company	Kyles Vuia East	The Scottish Salmon Company Ltd
04-Apr-18	Benthic	Unsatisfactory	Scottish Sea Farms Ltd	Bring Head, Hoy	Scottish Sea Farms Ltd
21-Feb-18	Benthic	Unsatisfactory	Scottish Sea Farms Ltd	Bellister	Scottish Sea Farms Ltd
31-Jan-18	Benthic	Unsatisfactory	The Scottish Salmon Company	Inch Kenneth	The Scottish Salmon Company Ltd
30-Jan-18	Benthic	Unsatisfactory	The Scottish Salmon Company	Gometra	The Scottish Salmon Company Ltd

Data for 2020 will be [available in 2021](#) assuming environmental monitoring surveys have actually been conducted [under the relaxed rules introduced by SEPA in March 2020](#).

Salmon farmers in Scotland are engaged in 'shifting cultivation of the sea' with a slash-and-burn style of aquaculture which leaves a lasting legacy of pollution and contamination. The pollute and move on policy is inherently unsustainable and an indicator of the severe environmental damage precipitated by salmon farming not just in Scotland but also in Norway where [Leroy has been caught killing off the sea-bed](#).



Scottish Sea Farms ([co-owned by Leroy & SalMar via Norskott Havbruk AS since 2001](#)) has caused "[Unsatisfactory](#)" waste pollution at salmon farms across Scotland including in the Sound of Mull, Loch Creran 'Special Area of Conservation' and [within the Wester Ross Marine Protected Area](#) at Eilean Fada Mor and Tanera.

Survey Date	Monitoring	SEPA Classification	Site Name	Operator
08-Jun-18	Benthic	Unsatisfactory	Fishnish A	Scottish Sea Farms
05-Jul-16	Benthic	Unsatisfactory	Fishnish A	Scottish Sea Farms
05-Dec-12	Benthic	Unsatisfactory	Eilean Fada Mor	Scottish Sea Farms
23-Jul-09	Benthic	Unsatisfactory	Creran B	Scottish Sea Farms
14-Apr-09	Benthic	Unsatisfactory	Tanera 1	Scottish Sea Farms
10-Feb-09	Benthic	Unsatisfactory	Tanera 2	Scottish Sea Farms
09-Feb-09	Benthic	Unsatisfactory	Eilean Fada Mor	Scottish Sea Farms
10-Jun-08	Audit	Unsatisfactory	Tanera 1	Scottish Sea Farms
05-Oct-07	Benthic	Unsatisfactory	Creran A	Scottish Sea Farms
01-May-07	Benthic	Unsatisfactory	Tanera 1	Scottish Sea Farms
30-Apr-07	Benthic	Unsatisfactory	Tanera 2	Scottish Sea Farms
29-Jun-06	Benthic	Unsatisfactory	Fishnish A	Scottish Sea Farms
27-Jun-06	Benthic	Unsatisfactory	Fishnish B	Scottish Sea Farms
09-Nov-05	Visual - Video	Unsatisfactory	Creran A	Scottish Sea Farms
13-Oct-05	Benthic	Unsatisfactory	Creran B	Scottish Sea Farms
12-May-05	Benthic	Unsatisfactory	Tanera 1	Scottish Sea Farms
12-May-05	Benthic	Unsatisfactory	Tanera 2	Scottish Sea Farms
21-Apr-05	Benthic	Unsatisfactory	Tanera 1	Scottish Sea Farms
21-Apr-05	Benthic	Unsatisfactory	Tanera 2	Scottish Sea Farms
12-Aug-03	Benthic	Unsatisfactory	Creran A	Scottish Sea Farms
03-Jul-03	Benthic	Unsatisfactory	Tanera 1	Scottish Sea Farms
02-Jul-03	Benthic	Unsatisfactory	Tanera 2	Scottish Sea Farms
24-Sep-02	Benthic	Unsatisfactory	Tanera 1	Scottish Sea Farms
24-Sep-02	Benthic	Unsatisfactory	Tanera 2	Scottish Sea Farms

The Press & Journal [reported \(4 November 2020\)](#):

**The Press and Journal** by [Rita Campbell](#) November 4, 2020, 7:43 am

## Fish farm proposal in Wester Ross Marine Protected Area causes controversy



© Supplied by Scottish Wildlife Trust  
 Scottish Wildlife Trust has objected to plans for a large fish farm in the Wester Ross MPA. Picture shows; Octopus on maerl bed by Howard Wood.. Summer Isles.

Video footage shot under a salmon farm operated by Scottish Sea Farms at Tanera in the Summer Isles (within the Wester Ross Marine Protected Area) is [online here](#)



Read more via [Sea Change Wester Ross](#) and [Locals Horse in Opposition to Scottish Sea Farms](#)

When Scottish Salmon Watch [filmed at the Scottish Sea Farms owned salmon farm at Tanera in 2018 the stomach-churning stench of rotting corpses and maggot-infested salmon nearly knocked us over.](#)

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Mmmmm Maggot-Infested Scottish Salmon

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Dead farmed salmon infested with maggots at Scottish Sea Farms's site at Tanera in the Summer Isles (1st September 2018)



Waste pollution from salmon farms operated by Mowi, The Scottish Salmon Company, Grieg Seafood and Scottish Sea Farms have polluted lochs around the Highlands & Islands of Scotland. Data on '[Sealice In-Feed Treatment Residues](#)' in sediments under salmon farms shows Teflubenzuron contamination by Marine Harvest (re-named Mowi in 2019) and Scottish Sea Farms in 2012 and 2013 [leading to a ban on the use of Teflubenzuron in 2015](#).

Submitted By	Treatment	Active Ingredient	Sample Date	Cage Replicate 1	Site Name
Marine Harvest	Calicide	Teflubenzuron	10-Jan-12	3210	Mid Loch Shell / Pairc - West (A & B cage groups)
Scottish Sea Farms	Calicide	Teflubenzuron	11-Jun-13	1783	Teisti Geo
Scottish Sea Farms	Calicide	Teflubenzuron	11-Jun-13	529	Holms Geo (Site 3)
Scottish Sea Farms	Calicide	Teflubenzuron	22-Jan-13	288	Slocka (Site C)

The Guardian [reported in 2013](#):

## Fish company investigated after salmon farm pollutes Scottish loch

**Marine Harvest, one of the largest fish-farming companies, is under investigation after polluting loch with pesticide**

**Severin Carrell, Scotland correspondent**

[@severincarrell](#)

Fri 10 May 2013 12.08 BST



34



▲ Caged Scottish Salmon. Photograph: Alamy

Marine Harvest, one of the world's largest fish-farming companies, is under investigation after its salmon farms polluted a Scottish loch with toxic pesticide residues hundreds of times above environmental limits.

Sampling tests around salmon cages on Loch Shell in the Outer Hebrides by the Scottish Environment Protection Agency (Sepa) found that levels of **Teflubenzuron**, used to kill sea lice parasites which affect hundreds of thousands of caged fish each year, were up to 450 times higher than recommended levels.

The agency could now cut back **Marine Harvest's** operations on Loch Shell where the firm has three fish farms, including one which was already under Sepa investigation, after it launched a review of its operations there.

The Sunday Herald [reported in 2013](#):

### Revealed: the dirty dozen salmon farms that contaminate lochs with pesticides

from Sunday Herald, 05 May 2013

Pesticides from 12 salmon farms have contaminated lochs around Scotland's coast in breach of safety limits, according to the **Scottish Environment Protection Agency (Sepa)**.

Environmental monitoring by the government watchdog over the last three years has discovered high levels of toxic chemicals in sediments from the Firth of Lorn, the Isle of Lewis, the northwest Highlands and Shetland. Fish farmers use the chemicals to kill the lice that eat away at salmon.

By far the worst pollution was found in Loch Shell on the east of Lewis near a fish farm operated by the Norwegian-owned company, **Marine Harvest**. There, levels of a pesticide called teflubenzuron, were up to 455 times higher than Sepa's environmental quality standards in 2012.

Sepa is now reviewing the operating licence for the Loch Shell fish farm with a view to imposing restrictions on the volume of pesticides that can be used, and the mass of salmon that can be kept in cages. In 2011 **fishermen blamed pollution** from the farm for killing off a valuable prawn fishery in the loch.



#### Pollution breaches: the dirty dozen salmon farms

fish farm / date / pesticides

Loch Shell, Isle of Lewis / Feb 2012 / teflubenzuron, emamectin, deltamethrin  
Vacasay, East Loch Roag, Isle of Lewis / July 2012 / teflubenzuron, emamectin  
Gousam, West Loch Roag, Isle of Lewis / July 2012 / emamectin  
Sgeir Bhuidhe, Loch Erisort, Isle of Lewis / July 2012 / deltamethrin  
Torgawn, Loch a Chairm Bhain, northwest Highlands / July 2012 / emamectin  
Reintraid, Loch a Chairm Bhain, northwest Highlands / July 2012 / emamectin  
Port Na Cro, Firth of Lorne / May 2010 / emamectin  
Poll Na Gile, Firth of Lorne / May 2010 / emamectin  
Bagd Dail nan Ceann, Firth of Lorne / May 2010 / emamectin  
Holm, Gruting Voe, Shetland / July 2011 / emamectin  
Taing of Railsborough, Cat Firth, Shetland / July 2011 / emamectin  
Laxfirth Voe East, Shetland / July 2011 / emamectin

source: **Scottish Environment Protection Agency**

The Sunday Herald [reported in 2011](#):

#### 'Pesticides killed my business'

Donald Macleod knew he had a problem when he found dead prawns in his **creels**. "There's something very wrong here," he thought.

Since then, his 20-year-old fishing business has collapsed, and he's sold his boat. Two months ago, he left his native Isle of Lewis to go and try and make a new life in Wales.

Macleod (43) used to fish prawns in Loch Shell on Lewis. But in 2009 he noticed that they were starting to die, and began asking questions.

Scientists from the **Scottish Environment Protection Agency (Sepa)** came to investigate, and detected traces of two fish farming pesticides in the loch sediments. At his suggestion, they also took away some dead prawns to analyse.

Unfortunately Sepa's Stornoway office was unable to analyse them, and they were thrown away. In response to a request under freedom of information law in September, Sepa said that's why it didn't have any analysis results from the dead prawns.

"The worst thing is not knowing for sure, not being able to prove anything," Macleod says. "But I'm convinced that the prawns were killed by the chemicals used by fish farmers to treat sea lice."

There's hardly any prawns to be found in Loch Shell any more unless you go some distance from the salmon cages, he claims. And prawns aren't that different from the sea lice that the chemicals are designed to kill.

"It has become obvious that fish farmers can do almost anything they want and no-one has the ability to deal with the mess they can create," Macleod says. "My income dropped by half because the prawns weren't there, so I had to give up."

Chemical contamination of Scottish lochs has continued with Emamectin benzoate (Slice) pollution of lochs. Here's data supplied by the Scottish Environment Protection Agency [published via 'Scotland's Aquaculture'](#) (7.63 is the 'Environmental Quality Standard' - i.e. anything above that is a pollution breach):

Submitted By	Treatment	Active Ingredient	Sample Date	Cage Replicate 1	Site Name
Hjaltland Seafarms Ltd	Slice	Emamectin Benzoate	13-Mar-15	85.46	Gob na Hoe
Scottish Sea Farms Ltd	Slice	Emamectin Benzoate	30-Oct-14	44	Pobie Sukka (Site A)
Scottish Sea Farms Ltd	Slice	Emamectin Benzoate	20-Apr-09	37.02	Spelve A (Balure)
Scottish Sea Farms Ltd	Slice	Emamectin Benzoate	17-Mar-15	30.54	Kempie Bay
Scottish Sea Farms Ltd	Slice	Emamectin Benzoate	30-Oct-14	26.8	Crying Taing (Site B)
Scottish Sea Farms Ltd	Slice	Emamectin Benzoate	08-Sep-08	24.06	Fishnish A
Marine Harvest (Scotland)	Slice	Emamectin Benzoate	25-Nov-14	23.28	Marulaig Bay
Scottish Sea Farms Ltd	Slice	Emamectin Benzoate	03-Mar-08	21.75	Seli Voe (Trouts Ness)
Scottish Sea Farms Ltd	Slice	Emamectin Benzoate	07-Feb-06	21.61	Sound of Hoy
Marine Harvest (Scotland)	Slice	Emamectin Benzoate	21-Apr-08	20.44	Portnalong
Scottish Sea Farms Ltd	Slice	Emamectin Benzoate	07-May-04	19.9	Allt a Chois (Kishorn North Shore)
Marine Harvest (Scotland)	Slice	Emamectin Benzoate	28-Feb-18	19.77	Invasion Bay
Scottish Sea Farms Ltd	Slice	Emamectin Benzoate	27-Jul-07	16.83	Shuna
Marine Harvest (Scotland)	Slice	Emamectin Benzoate	27-Aug-09	16.46	Gorsten
Marine Harvest (Scotland)	Slice	Emamectin Benzoate	13-Apr-07	16.3	Isle of Ewe
Marine Harvest (Scotland)	Slice	Emamectin Benzoate	18-Nov-14	15.79	Duich
Marine Harvest (Scotland)	Slice	Emamectin Benzoate	30-Nov-17	15.4	Duich
Scottish Sea Farms Ltd	Slice	Emamectin Benzoate	20-Jun-07	15.24	Tanera 2
Marine Harvest (Scotland)	Slice	Emamectin Benzoate	03-Feb-16	15.16	Duich
Marine Harvest (Scotland)	Slice	Emamectin Benzoate	03-Dec-14	14.22	Camus Glas
Marine Harvest (Scotland)	Slice	Emamectin Benzoate	10-Feb-16	13.85	Invasion Bay
Scottish Sea Farms Ltd	Slice	Emamectin Benzoate	10-Oct-06	13.47	Ardintigh (Nevis C)
Marine Harvest (Scotland)	Slice	Emamectin Benzoate	13-Nov-14	13.23	Invasion Bay
Scottish Sea Farms Ltd	Slice	Emamectin Benzoate	06-Jul-05	13.1	Spelve B (Dalnaha)
Marine Harvest (Scotland)	Slice	Emamectin Benzoate	20-Jan-14	12.78	Sgeir Bhuidhe
Scottish Sea Farms Ltd	Slice	Emamectin Benzoate	15-Jul-05	12.7	Allt a Chois (Kishorn North Shore)
Scottish Sea Farms Ltd	Slice	Emamectin Benzoate	14-Jun-07	12.59	Dubh Sgeir (Lismore North)
Marine Harvest (Scotland)	Slice	Emamectin Benzoate	02-Dec-15	12.03	Maol Ban
Marine Harvest (Scotland)	Slice	Emamectin Benzoate	21-Jun-12	11.83	Camus Glas
Scottish Sea Farms Ltd	Slice	Emamectin Benzoate	05-Nov-04	11.26	Ardintigh (Nevis C)
Marine Harvest (Scotland)	Slice	Emamectin Benzoate	21-May-13	11.21	Gorsten
Scottish Sea Farms Ltd	Slice	Emamectin Benzoate	01-Jul-05	11.16	Achnacroish (Walters,Lismore East)
The Scottish Salmon Comp	Calicide	Teflubenzuron	15-Jan-14	11	Tuath (Rubha na Gall)
Scottish Sea Farms Ltd	Slice	Emamectin Benzoate	14-Jun-06	10.89	Allt a Chois (Kishorn North Shore)
Marine Harvest (Scotland)	Slice	Emamectin Benzoate	27-Sep-06	10.77	Portnalong
Marine Harvest (Scotland)	Slice	Emamectin Benzoate	31-May-06	10.38	Invasion Bay
Marine Harvest (Scotland)	Slice	Emamectin Benzoate	23-Jan-14	9.99	Mid Loch Shell / Pairc - East (C & D cage groups)
Marine Harvest (Scotland)	Slice	Emamectin Benzoate	20-Nov-12	9.97	Camus Glas
Marine Harvest (Scotland)	Slice	Emamectin Benzoate	24-May-05	9.93	Ardnish
Marine Harvest (Scotland)	Slice	Emamectin Benzoate	13-May-17	9.65	Maol Ban
Mowi Scotland Ltd	Slice	Emamectin Benzoate	19-Mar-19	9.63	Maol Ban
Mowi Scotland Ltd	Slice	Emamectin Benzoate	10-Oct-18	9.59	Skipport Outer (Ornish)
Marine Harvest (Scotland)	Slice	Emamectin Benzoate	23-Jan-14	9.48	Mid Loch Shell / Pairc - East (C & D cage groups)
Marine Harvest (Scotland)	Slice	Emamectin Benzoate	22-May-13	9.3	Ardgour (Linnhe)
Scottish Sea Farms Ltd	Slice	Emamectin Benzoate	14-Jun-07	9.18	Port na Moralachd (Lismore A)
Hjaltland Seafarms Ltd	Slice	Emamectin Benzoate	01-Aug-13	9.16	Punds Voe
Marine Harvest (Scotland)	Slice	Emamectin Benzoate	21-Mar-07	9.13	Gorsten
Marine Harvest (Scotland)	Slice	Emamectin Benzoate	30-Jun-15	9.11	Gorsten
Scottish Sea Farms Ltd	Slice	Emamectin Benzoate	15-Apr-11	9.09	Shuna
Marine Harvest (Scotland)	Slice	Emamectin Benzoate	08-May-07	8.95	Gorsten
Hjaltland Seafarms Ltd	Slice	Emamectin Benzoate	02-Sep-09	8.9	Linga (South of Linga)
Marine Harvest (Scotland)	Slice	Emamectin Benzoate	11-Dec-07	8.66	An Camus
Hjaltland Seafarms Ltd	Slice	Emamectin Benzoate	26-Nov-12	8.58	Setterness South

[\[Hjaltland Seafarms is Grieg Seafood\]](#)

The front page of [The Sunday Herald](#) reported in 2017:



Here's The Sunday Herald's [table of contaminated lochs](#) (sourced from data published by the Scottish Environment Protection Agency) which is dominated by salmon farms operated by Norwegian-owned salmon farming companies:

THE 45 CONTAMINATED LOCHS		
Inner Sound, Highland	Kilbrannan Sound, Argyll and Bute	Lax Firth, Shetland
Loch a Chairn Bhain, Highland	Loch Craignish, Argyll and Bute	Off Lunaness, Shetland
Loch Alsh, Highland	Loch Creran, Argyll and Bute	Olnafirth, Shetland
Loch Bracadale, Highland	Loch Fyne, Argyll and Bute	Ronas Voe, Shetland
Loch Broom, Highland	Loch Spelve, Argyll and Bute	Swarbacks Minn, Shetland
Loch Duich, Highland	Loch Tuath, Argyll and Bute	The Deeps, Shetland
Loch Ewe, Highland	Shuna Sound, Argyll and Bute	East Loch Tarbert, Eilean Siar
Loch Kishorn, Highland	Sound of Gigha, Argyll and Bute	Loch Boisdale, Eilean Siar
Loch Laxford, Highland	Sound of Jura, Argyll and Bute	Loch Erisort, Eilean Siar
Loch Linnhe, Highland	Sound of Mull, Argyll and Bute	Loch Roag, Eilean Siar
Loch Nevis, Highland	Cat Firth, Shetland	Loch Seaforth, Eilean Siar
Loch Sunart, Highland	Clift Sound, Shetland	Loch Shell, Eilean Siar
Loch Torridon, Highland	Clousta Voe, Shetland	Loch Skipport, Eilean Siar
Sound of Raasay, Highland	Colla Firth, Shetland	Lamlash Bay, North Ayrshire
Firth of Lorn, Argyll and Bute	Dury Voe, Shetland	

Source: Scottish Environment Protection Agency

The environmentally hazardous nature of salmon farming is also illustrated by 'Compliance Assessments' published annually by the Scottish Environmental Protection Agency. Data [published by Scottish Salmon Watch in July 2018](#) revealed that there were 51 fish farms in Scotland which failed SEPA's compliance assessment in 2016 - with Scottish Sea Farms assessed as the worst operator with 10 fish farms (9 farms assessed as "Poor" and one as "Very Poor").

SEPA Reference #	Operator	LOCATION DESCRIPTION
CAR/L/1003929	GRIEG SEAFOOD SHETLAND LIMITED	Collafirth Ness MCFF, Swining Voe (Site 3)
CAR/L/1004031	GRIEG SEAFOOD SHETLAND LIMITED	Bight Of Foraness MCFF, Yell Sound
CAR/L/1015763	GRIEG SEAFOOD SHETLAND LIMITED	South Linga MCFF, Yell Sound
CAR/L/1000810	MARINE HARVEST (SCOTLAND) LIMITED	Port Na Cro MCFF, Shuna Sound
CAR/L/1001816	MARINE HARVEST (SCOTLAND) LIMITED	Creag an Sagairt MCFF, Loch Hourn, Kyle
CAR/L/1095612	MARINE HARVEST (SCOTLAND) LIMITED	Hellisay, Sound of Hellisay, Isle of Barra
CAR/L/1105276	MARINE HARVEST (SCOTLAND) LIMITED	Creag an Sagairt (West), Arnisdale, Glenelg
CAR/L/1129789	MARINE HARVEST (SCOTLAND) LIMITED	North Shore East MCFF, Loch Erisort
CAR/L/1009162	MARINE HARVEST (SCOTLAND) LTD	Invasion Bay MCFF, Loch Sunart
CAR/L/1009962	MARINE HARVEST (SCOTLAND) LTD	Callert MCFF, Loch Leven
CAR/L/1010433	MARINE HARVEST (SCOTLAND) LTD	Letterfearn MCFF, Loch Duich
CAR/L/1011922	MARINE HARVEST (SCOTLAND) LTD	Groatay MCFF, Cheese Bay, Isle of North Uist
CAR/L/1002178	SCOTTISH SEA FARMS LIMITED	Couldoran Hatchery
CAR/L/1003928	SCOTTISH SEA FARMS LIMITED	Vidlin Ness North MCFF, Vidlin Voe
CAR/L/1003113	SCOTTISH SEA FARMS LTD	Loura Voe MCFF, Dury Voe (Site 3)
CAR/L/1003493	SCOTTISH SEA FARMS LTD	Fishnish West MCFF, Sound of Mull (Site A)
CAR/L/1003494	SCOTTISH SEA FARMS LTD	Fishnish East MCFF, Sound of Mull (Site B)
CAR/L/1003931	SCOTTISH SEA FARMS LTD	Veantraw Bay MCFF, Shapinsay
CAR/L/1003943	SCOTTISH SEA FARMS LTD	South Sound MCFF, Mangaster Voe
CAR/L/1003954	SCOTTISH SEA FARMS LTD	Puldrite MCFF, Wide Firth
CAR/L/1004209	SCOTTISH SEA FARMS LTD	Laxo MCFF, Dury Voe (Site 2)
CAR/L/1008860	SCOTTISH SEA FARMS LTD	Balure MCFF, Loch Spelve (Site A)
CAR/L/1000809	THE SCOTTISH SALMON COMPANY LTD	Inch Kenneth MCFF, Loch na Keal
CAR/L/1001791	THE SCOTTISH SALMON COMPANY LTD	Kyles Vuia East MCFF, West Loch Roag
CAR/L/1002202	THE SCOTTISH SALMON COMPANY LTD	Barvas Hatchery, Isle of Lewis
CAR/L/1002942	THE SCOTTISH SALMON COMPANY LTD	Baigh Chlann Neill MCFF, North Uist
CAR/L/1015852	THE SCOTTISH SALMON COMPANY LTD	Vuia Beag MCFF, West Loch Roag
CAR/L/1102386	THE SCOTTISH SALMON COMPANY LTD	Gometra MCFF, Loch Tuath, Isle of Mull

Marine Harvest's salmon farm in Loch Duich - [a Special Area of Conservation supposedly protected under EU Law](#) - was ranked "Poor" by SEPA due to a significant failure for contamination of sediments with residues of the [toxic chemical Emamectin benzoate](#).

Two of Scottish Sea Farms' 10 salmon farms rated as "Very Poor" or "Poor" were located at Fishnish in the Sound of Mull - the site of the [killing a humpback whale in 2014](#) and [exceedance of lice limits in January 2018](#). Fishnish A salmon farm "failed repeatedly" according to SEPA with "6 consecutive unsatisfactory surveys since 2006" and Fishnish B had "3 consecutive unsatisfactory surveys since 2010" leading to SEPA imposing a conditional reduction in biomass on both sites.

Another Scottish Sea Farm site in [Loch Spelve at Balure on the Isle of Mull](#) was rated "Very Poor" due to exceedance of the Environmental Quality Standard for residues of Emamectin benzoate ([a toxic chemical known to kill lobsters](#)) and evidence of drug over-dosing.

Read more via "[Failing Fish Farms: Scotland's Worst Salmon Farms Named & Shamed](#)"

Compliance in 2018 ([the latest year available](#)) was worse with 54 failing fish farms - including 35 assessed by SEPA as 'Poor' and 2 as 'Very Poor'. Finfish aquaculture as a sector was [ranked by SEPA](#) as worst of the all industry sectors along with the landfill sector.

Sectors	Excellent	Good	Broadly Compliant	At Risk	Poor	Very Poor	Grand Total	% satisfactory by sector
Leather	3	2	0	0	0	0	5	100.0%
Nuclear power generation and decommissioning	17	2	0	0	0	0	19	100.0%
Oil and gas decommissioning	1	0	0	0	0	0	1	100.0%
Scotch Whisky	137	23	2	2	3	0	167	97.0%
Crops production	589	37	2	16	20	0	664	94.6%
Water supply and waste water	1160	118	1	21	120	20	1440	88.8%
Tyres	85	50	7	2	15	2	161	88.2%
Metals	122	69	15	4	16	8	234	88.0%
Dairy processing	4	3	0	0	1	0	8	87.5%
Finfish aquaculture	245	72	3	17	35	2	374	85.6%
Landfill	119	31	4	6	16	4	180	85.6%

The two salmon farms [assessed as 'Very Poor' by SEPA in 2018](#) were both operated by Grieg Seafood in Shetland at [South Linga](#) and [Setterness South](#):

Auth No.	Year	Regime	Site Name	Compliance Band	Regulatory Category	Team Area	<a href="#">View Details</a>	<a href="#">View Reports</a>
CAR/L/1005092	2018	CAR	Setterness South (Formerly West) MCFF	Very Poor	Aquaculture	Northern Isles	<a href="#">View Details</a>	<a href="#">View Reports</a>
CAR/L/1015763	2018	CAR	South Linga MCFF, Yell Sound	Very Poor	Aquaculture	Northern Isles	<a href="#">View Details</a>	<a href="#">View Reports</a>

The 35 fish farms assessed as 'Poor' by SEPA in 2018 included salmon farms operated by Mowi (Ardnish, Camus an Leim, Hellisay, Invasion Bay, Kingairloch, North Shore), The Scottish Salmon Company (Gometra, Inch Kenneth, Kinlochmoidart Hatchery, Kyles Vuia), and Scottish Sea Farms (Fishnish, Scallastle Bay, Bring Head, Bellister, Shuna):

Auth No.	Year	Regime	Site Name	Compliance Band	Regulatory Category	Team Area	<a href="#">View Details</a>	<a href="#">View Reports</a>
CAR/L/1002887	2018	CAR	Ardnish MCFF, Loch Ailort	Poor	Aquaculture	West Highlands & Argyll	<a href="#">View Details</a>	<a href="#">View Reports</a>
CAR/L/1002202	2018	CAR	Barvas Hatchery, Isle of Lewis	Poor	Aquaculture	Hebrides and Central Highland	<a href="#">View Details</a>	<a href="#">View Reports</a>
CAR/L/1111048	2018	CAR	Bastaness MCFF, Mid Yell, Shetland	Poor	Aquaculture	Northern Isles	<a href="#">View Details</a>	<a href="#">View Reports</a>
CAR/L/1034670	2018	CAR	Bellister, Dury Voe, Shetland	Poor	Aquaculture	Northern Isles	<a href="#">View Details</a>	<a href="#">View Reports</a>
CAR/L/1003874	2018	CAR	Bow of Hascosay MCFF, Hascosay Sound	Poor	Aquaculture	Northern Isles	<a href="#">View Details</a>	<a href="#">View Reports</a>
CAR/L/1015854	2018	CAR	Bring Head MCFF, Bring Deeps	Poor	Aquaculture	Northern Isles	<a href="#">View Details</a>	<a href="#">View Reports</a>
CAR/L/1010002	2018	CAR	Camus an Leim MCFF, Loch Torridon, Shieldaig	Poor	Aquaculture	Hebrides and Central Highland	<a href="#">View Details</a>	<a href="#">View Reports</a>
CAR/L/1010455	2018	CAR	East of Langa MCFF, Bur Wick	Poor	Aquaculture	Northern Isles	<a href="#">View Details</a>	<a href="#">View Reports</a>
CAR/L/1010606	2018	CAR	Fish Farm, Scallastle Bay, Mull	Poor	Aquaculture	West Highlands & Argyll	<a href="#">View Details</a>	<a href="#">View Reports</a>
CAR/L/1003493	2018	CAR	Fishnish West MCFF, Sound of Mull (Site A)	Poor	Aquaculture	West Highlands & Argyll	<a href="#">View Details</a>	<a href="#">View Reports</a>

CAR/L/1102386	2018	CAR	Gometra MCFF, Loch Tuath, Isle of Mull	Poor	Aquaculture	West Highlands & Argyll	<a href="#">View Details</a>	<a href="#">View Reports</a>
CAR/L/1095612	2018	CAR	Hellisay, Sound of Hellisay, Isle of Barra	Poor	Aquaculture	Hebrides and Central Highland	<a href="#">View Details</a>	<a href="#">View Reports</a>
CAR/L/1000809	2018	CAR	Inch Kenneth MCFF, Loch na Keal	Poor	Aquaculture	West Highlands & Argyll	<a href="#">View Details</a>	<a href="#">View Reports</a>
CAR/L/1009162	2018	CAR	Invasion Bay MCFF, Loch Sunart	Poor	Aquaculture	West Highlands & Argyll	<a href="#">View Details</a>	<a href="#">View Reports</a>
CAR/L/1003887	2018	CAR	Kingairloch MCFF, Loch A Choire	Poor	Aquaculture	West Highlands & Argyll	<a href="#">View Details</a>	<a href="#">View Reports</a>
CAR/L/1001840	2018	CAR	Kinlochmoidart Hatchery	Poor	Aquaculture	West Highlands & Argyll	<a href="#">View Details</a>	<a href="#">View Reports</a>
CAR/L/1001791	2018	CAR	Kyles Vuia East MCFF, West Loch Roag	Poor	Aquaculture	Hebrides and Central Highland	<a href="#">View Details</a>	<a href="#">View Reports</a>
CAR/S/1003967	2018	CAR	Lochailort Smolt Rearing Unit	Poor	Aquaculture	West Highlands & Argyll	<a href="#">View Details</a>	<a href="#">View Reports</a>
CAR/L/1002214	2018	CAR	Mingarry Hatchery	Poor	Aquaculture	Hebrides and Central Highland	<a href="#">View Details</a>	<a href="#">View Reports</a>
CAR/L/1004085	2018	CAR	North Shore MCFF, Loch Erisort	Poor	Aquaculture	Hebrides and Central Highland	<a href="#">View Details</a>	<a href="#">View Reports</a>
CAR/L/1008751	2018	CAR	Point of Burkwell MCFF (Site 5), Uyea Sound	Poor	Aquaculture	Northern Isles	<a href="#">View Details</a>	<a href="#">View Reports</a>
CAR/L/1009032	2018	CAR	Shuna MCFF, Loch Linnhe	Poor	Aquaculture	West Highlands & Argyll	<a href="#">View Details</a>	<a href="#">View Reports</a>
CAR/L/1002966	2018	CAR	South Ford MCFF, Loch Carnan	Poor	Aquaculture	Hebrides and Central Highland	<a href="#">View Details</a>	<a href="#">View Reports</a>
CAR/L/1136531	2018	CAR	Uyea Isle MCFF, Uyea Sound, Unst, Shetland	Poor	Aquaculture	Northern Isles	<a href="#">View Details</a>	<a href="#">View Reports</a>
CAR/L/1003931	2018	CAR	Veantraw Bay MCFF, Shapinsay	Poor	Aquaculture	Northern Isles	<a href="#">View Details</a>	<a href="#">View Reports</a>
CAR/L/1003928	2018	CAR	Vidlin Ness North MCFF, Vidlin Voe	Poor	Aquaculture	Northern Isles	<a href="#">View Details</a>	<a href="#">View Reports</a>
CAR/L/1008750	2018	CAR	Wick of Belmont North MCFF (Site 1)	Poor	Aquaculture	Northern Isles	<a href="#">View Details</a>	<a href="#">View Reports</a>

In [SEPA's 2017 'Compliance Assessment'](#), The Scottish Salmon Company's Kinlochmoidart Hatchery was assessed by SEPA as 'Very Poor' [leading to Scottish Salmon Watch calling in 2019 for the site to be closed down](#).



BBC News [reported in October 2018](#):

## One in five Scottish fish farms 'not meeting standards'

By Kevin Keane  
BBC Scotland's environment correspondent

5 October 2018



**Almost one in five salmon farms in Scotland failed to meet statutory environmental standards, according to the Scottish Environment Protection Agency (Sepa).**

The regulator has published its annual assessment of whether environmental licence conditions have been met.

It said 56 of the country's 297 licensed fish farms were rated "poor", "very poor" or "at risk".

The figures come despite increased scrutiny on the sector.

Two parliamentary inquiries are currently looking at the impact of fish farming.

The Scottish Salmon Producers Organisation (SSPO) insists the issues haven't led to any environmental deterioration.

The total of fish farms which failed to meet the standards has risen slightly from 50 in 2016, but represents a much greater percentage of the total number of licences issued, which fell from 352 to 297.

Reasons for the worst ratings include excessive levels of ammonia being released into the sea and unregulated quantities of fish food and faeces discovered on the sea bed.

Norwegian-owned salmon farming companies are fouling not only their own nest but also Scotland's. Such a policy is inherently unsustainable and morally repugnant. Inside Scottish Salmon Feedlots [reported this week \(25 November 2020\)](#):



Inside Scottish Salmon Feedlots

7h · 🌐



VICTORY | MOWI Scotland admits defeat and announces closure of salmon farm which failed environmental standards for over a decade. Campaigners and community organisations have welcomed the news that following years of pressure a salmon farm operated by MOWI Scotland in a Marine Protected Area has been forced to close and has relinquished its site lease with the Crown Estate Scotland. The company failed environmental standards continuously since 2006 at its Isle Ewe site.

MOWI bosses had claimed that,

"The site will be closed conditional to the support from our regulatory system to transfer the biomass to other locations and to sustainably expand our production...."

But this was firmly rebutted by [www.issf.org.uk](http://www.issf.org.uk) at the time,

Mr Smith said this stance was "ridiculous".

"It's a thoroughly empty statement because the idea the law would permit the unilateral transferring of biomass from one farm to another on the basis of the original farm failing its environmental standards is ridiculous," he added.

He said he believed the "idea that Mowi could take non-compliant biomass and dump it somewhere else is an absolute nonsense."

"Mowi, the Norwegian salmon farming giant, appears to be attempting to hold communities, fishery boards and the Scottish Government to ransom as a result of their own failings. The Loch Ewe farm has failed the required environmental standards for nearly 15 years. Mowi, despite virtually unlimited resources, were apparently unwilling or unable to make the necessary changes.

The Loch Ewe farm is non-compliant, and it should close. The notion that Mowi insists some 'backroom' deal needs to be done first is an insult to the integrity of Scotland and those making tough decisions to protect Scotland's environment and rural communities."

<https://www.independent.co.uk/.../salmon-farming-scotland...>

<https://www.whfp.com/.../mowi-holding-communities-to.../>

This analysis has been proven to be entirely correct. There was no legal basis, let alone moral, for MOWI Scotland to attempt to make closure conditional. Hence, MOWI Scotland announced the unconditional closure of the Isle Ewe site in Nov 2020.

The reality is that the site had failed to comply with Scottish Environmental Protection Agency (SEPA) standards for sea floor impacts for over a decade and a half. Finally SEPA were forced to act and imposed a dramatic reduction of licensed biomass. This decision was initially appealed by MOWI Scotland, but they subsequently withdrew and conceded.

- **Chemical Contamination:** Since 2017 salmon farming companies have continued to spread chemical pollution - as [reported by The Ferret](#).



Animal Welfare, Environment

### Fury as fish farm pesticide pollution rises 72% in a year

Pollution of Scotland's lochs from a toxic fish farm pesticide has leapt 72 per cent in a year, according to the Scottish Environment Protection Agency

Rob Edwards - October 7, 2020



Environment

### Salmon farm rapped for toxic pesticide breaches

A salmon farming company has been reprimanded for feeding a toxic pesticide to fish twice as often as permitted and breaching a safety limit.

Rob Edwards - August 13, 2020



Environment, Conservation, Health

### More toxic pesticides to be used by salmon farmers

Rules on the use of toxic pesticides by the fish farming industry have been relaxed because of the coronavirus emergency, prompting fears for marine wildlife.

Rob Edwards - April 12, 2020



Environment, Conservation

### Fish farm companies 'bidding to use bee-harming pesticide'

Scotland's salmon farming industry is planning to start using a toxic pesticide that has been banned in terrestrial agriculture because of dangers to bees, campaigners are warning.

Rob Edwards - March 17, 2020



Environment

### Fish farming industry bids to relax limits on toxic pesticide

The multinational salmon farming industry has been pushing behind the scenes for environmental limits on a toxic pesticide to be 100 times weaker than government regulators recommend.

Rob Edwards - June 9, 2019



Environment

### Wildlife widely damaged by fish farm pesticides, says Sepa

Pollution from fish farm pesticides is more widespread than thought and is harming marine wildlife, according to the Scottish Government's green watchdog.

Rob Edwards - November 7, 2018



Environment

### How the Scottish Government 'nuanced' away fish farm pesticide ban

The Scottish Government put pressure on its environmental watchdog to drop a plan to ban a toxic pesticide so as not to upset the fish farming industry.

Rob Edwards - November 7, 2017



Environment

### Fish farm industry 'lashes out' on pesticide controls

The Scottish Environment Protection Agency is under angry attack from the fish farming industry over new controls on toxic pesticide.

Rob Edwards - July 5, 2017



Environment

### Scottish Government under fire for helping block pesticide ban

The Scottish Government has been accused of intervening to block a ban on a toxic pesticide after pressure from the fish farming industry.

Rob Edwards - June 19, 2017



Environment

### Revealed: secret role of US drug company in fish farm pesticide row

The Scottish Government allowed a US drug company to secretly rubbish a scientific study blaming one of its pesticides for killing wildlife.

Rob Edwards - June 5, 2017



Environment

### Ban on polluting pesticide dropped after complaint from fish farmers

The Scottish Environment Protection Agency secretly ditched a plan to ban a toxic pesticide after pressure from the fish farming industry.

Rob Edwards - March 21, 2017



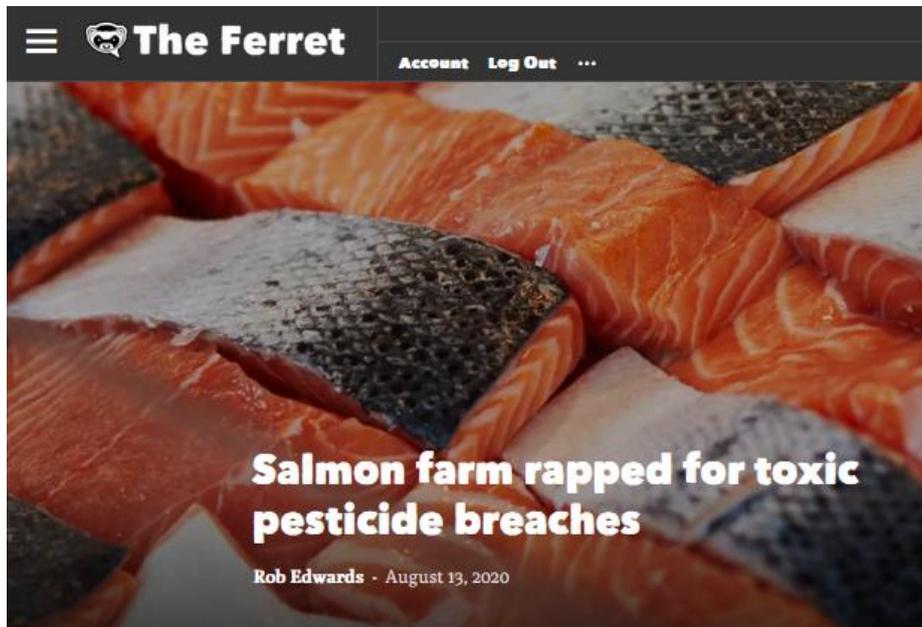
Environment

### Government watchdog bowed to industry pressure on fish farm pollution

The Scottish Government's green watchdog suppressed a critical report on pollution after private lobbying by the fish farming industry.

Rob Edwards - March 6, 2017

In August 2020, [The Ferret reported](#) how The Scottish Salmon Company had been "reprimanded for feeding a toxic pesticide to fish twice as often as permitted and breaching a safety limit, according to documents released by the Scottish Government".



This is not the first time The Scottish Salmon Company has been caught out overdosing on Emamectin benzoate in Loch Roag. The Daily Mail [reported in March 2017](#):

## MailOnline

### The toxic chemicals in farmed salmon straight from the loch: Substance used to control sea lice can harm human health

- Sea lice and toxic chemicals are threatening Scottish salmon and human health
- Chemical emamectin benzoate, used to kill the lice, is a potential risk to humans
- Scottish Salmon Company sites in Loch Roag, off the Isle of Lewis, were affected

By SEAN POULTER, CONSUMER AFFAIRS EDITOR FOR THE DAILY MAIL  
PUBLISHED: 00:13, 14 March 2017 | UPDATED: 01:03, 14 March 2017

Share icons for Facebook, Twitter, Pinterest, RSS, Messenger, Email, and a generic share icon. 903 shares. 49 View comments.

Salmon farming is under threat from an epidemic of sea lice and the use of toxic chemicals to control them, say campaigners.

In a bid to kill the lice, which feed on captive fish raised in cages off the coast of Scotland, salmon have been given an overdose of chemicals which can also harm humans.

Scottish Salmon Watch [reported in March 2017](#) that "Emamectin contamination of Scottish farmed salmon has now occurred at least eight times with other cases reported by the VMD in 2012 (Scottish Salmon Company), 2010 (Lakeland Marine), 2009 (Skelda Salmon), 2006 (Scottish Sea Farms) and 2005 (Marine Harvest)."

BBC Panorama [reported in May 2019](#):

**BBC** | Sign in

**NEWS** 20 May 2019

## Salmon farming giant Mowi probed over chemical use

By Lucy Adams  
BBC Panorama

The world's biggest salmon farming company is one of a number of firms under investigation for possible misreporting of chemical use.

The BBC can reveal Mowi, formerly known as Marine Harvest, is among those being investigated by Scottish regulators.

Farmed salmon are treated with medications to ward off disease and infestations, such as sea lice, but there are limits on how much is used.

Mowi denied any wrongdoing and said it used medications sparingly.

Chemicals such as hydrogen peroxide, used to wash the fish, and emamectin benzoate, which is put in the salmon's feed, are used across the industry to tackle problems such as sea lice, which has become a major issue for producers.

The Ferret [reported in October 2020](#):

 **The Ferret**  
@FerretScot

Discharges from fish farms of two sea lice pesticides known to harm marine wildlife rose in 2019, reversing declines in earlier years.



**Fury as fish farm pesticide pollution rises 72% in a year**  
Pollution of Scotland's lochs from a toxic fish farm pesticide has leapt 72 per cent in a year, according to the Scottish Environment Protection Agency.  
[theferret.scot](https://www.ferret.scot)

7:59 AM · Oct 7, 2020

Sepra's latest data, published as part of the [Scottish Pollution Release Inventory](#), reveals that discharges of azamethiphos and emamectin from fish farms increased in 2019, after falling in 2018 and 2017.

### Pesticides discharged from Scottish fish farms

	2015	2016	2017	2018	2019
Azamethiphos	285 kg	439 kg	385 kg	166 kg	286 kg
Emamectin	71.4 kg	55.9 kg	48.4 kg	36.2kg	45.5 kg

Source: Scottish Environment Protection Agency

The [five biggest discharges](#) of azamethiphos in 2019 were from salmon farms in Loch Sunart, Loch Alsh, Loch Hourn, and two in Loch Erisort, on the Isle of Lewis. The [biggest discharges](#) of emamectin were into Loch Striven, Loch Portree, Loch Greshornish, Loch Odhairn and Loch Roag.

According to the '[Scottish Pollutant Release Inventory](#)' published by [SEPA](#), here's the top 20 salmon farms discharging the toxic chemical Azamethiphos in 2019 (dominated by Mowi/Marine Harvest):

Year	Registered Company Name (Site Name)	Azamethiphos
2019	Mowi Scotland Limited. Macleans Nose MCFF Loch Sunart	19.11
2019	Mowi Scotland Ltd. Ardintoul MCFF Loch Alsh	16.97
2019	Mowi Scotland Limited. Creag an Sagairt (West) Arnisdale Glenelg	13.19
2019	MARINE HARVEST (SCOTLAND) LIMITED. Tabhaigh MCFF Loch Erisort Isle of Lewis	12.92
2019	MARINE HARVEST (SCOTLAND) LIMITED. North Shore East MCFF Loch Erisort	11.28
2019	Kames Fish Farming Limited. Castle Bay MCFF Shuna	11.16
2019	Mowi Scotland Ltd. North Shore MCFF Loch Erisort	10.54
2019	Mowi Scotland Ltd. Greshornish MCFF Loch Greshornish	10.09
2019	Grieg Seafood Shetland Limited. Burwick West MCFF Bur Wick	9.45
2019	Mowi Scotland Ltd. Soay Sound MCFF West Loch Tarbert	8.74
2019	Mowi Scotland Ltd. Sron MCFF Loch Alsh	8.66
2019	Marine Harvest (Scotland) Ltd. Caolas a Deas (East) Isle of Lewis	8.26
2019	Mowi Scotland Limited. Grey Horse Channel MCFF	7.83
2019	Mowi Scotland Limited. Port Na Cro MCFF Shuna Sound	7.6
2019	Mowi Scotland Ltd. Groatay MCFF Cheese Bay Isle of North Uist	7.54
2019	Mowi Scotland Ltd. Camas Glas MCFF Loch Sunart	7.33
2019	Mowi Scotland Limited. Bagh Dail nan Ceann MCFF	6.14
2019	Mowi Scotland Ltd. Invasion Bay MCFF Loch Sunart	5.765
2019	Mowi Scotland Ltd. Poll na Gille MCFF Shuna	5.75
2019	Mowi Scotland Ltd. Letterfearn MCFF Loch Duich	5.55
2019	MARINE HARVEST (SCOTLAND) LTD. Caolas a Deas (West) Isle of Lewis	5.42

According to the ['Scottish Pollutant Release Inventory' published by SEPA](#), here's the top 24 salmon farms discharging the toxic chemical Deltamethrin in 2019 (again dominated by Mowi/Marine Harvest but also featuring The Scottish Salmon Company and Grieg Seafood):

Year	Registered Company Name (Site Name)	Deltamethrin
2019	Mowi Scotland Limited. Port na Moine North Loch Craignish Argyll	0.76
2019	MARINE HARVEST (SCOTLAND) LIMITED. Isle of Rum MCFF	0.6
2019	Mowi Scotland Limited. Colonsay MCFF Isle of Colonsay	0.36
2019	Mowi Scotland Ltd. Portnalong MCFF Loch Harport	0.268
2019	MARINE HARVEST (SCOTLAND) LIMITED. Muck MCFF Isle of Muck	0.263
2019	Mowi Scotland Ltd. Isle of Ewe MCFF Loch Ewe	0.218
2019	MARINE HARVEST (SCOTLAND) LIMITED. North Shore East MCFF Loch Erisort	0.135
2019	Marine Harvest (Scotland) Ltd. Seaforth MCFF Loch Seaforth Isle of Harris	0.12
2019	MARINE HARVEST (SCOTLAND) LIMITED. Noster MCFF Loch Seaforth Isle of Harris	0.094
2019	The Scottish Salmon Company Ltd. Greanamul MCFF Isle of Benbecula	0.077
2019	Mowi Scotland Ltd. North Shore MCFF Loch Erisort	0.075
2019	Marines Harvest (Scotland) Ltd. Caolas a Deas (East) Isle of Lewis	0.063
2019	MARINE HARVEST (SCOTLAND) LTD. Caolas a Deas (West) Isle of Lewis	0.063
2019	Mowi Scotland Ltd. Greshornish MCFF Loch Greshornish	0.06
2019	The Scottish Salmon Company Ltd. Uiskevagh MCFF Loch Uiskevagh	0.06
2019	The Scottish Salmon Company Limited. Loch Eport Outer MCFF Isle of North Uist	0.04
2019	The Scottish Salmon Company Ltd. Scadabay MCFF Loch Grosebay Isle of Harris	0.031
2019	The Scottish Salmon Company Ltd. Druimyeon Bay MCFF Isle of Gigha	0.03
2019	The Scottish Salmon Company Limited. Kileravagh MCFF Loch Kileravagh	0.023
2019	Mowi Scotland Limited. Bagh Dail nan Ceann MCFF	0.02
2019	The Scottish Salmon Company Ltd. Crarae Quarry Point MCFF Loch Fyne	0.015
2019	MARINE HARVEST (SCOTLAND) LIMITED. Tabhaigh MCFF Loch Erisort Isle of Lewis	0.015
2019	Grieg Seafood Shetland Limited. Cole Deep MCFF Cole Deep	0.014
2019	The Scottish Salmon Company Ltd. Reibinish MCFF East Loch Tarbert	0.013

Data for 2020 is partially [available via Scotland's Aquaculture web-site](#) up to the end of June but does not include toxic chemical use via wellboats.

The screenshot shows the 'Scotland's aquaculture' website header with the 'part of Scotland's environment' logo. The navigation menu includes Home, Our Aquaculture, Map, Data, Resources, Glossary, and Help. The breadcrumb trail is 'Home > Data Search > Fish Farms Monthly Biomass and Treatment Reports'. The main heading is 'Search Results'. Below this is a search filter interface for 'Monthly Biomass & Treatment Reports > Report Month'. The filters are: 'From date: 01/01/1900', 'To date: 23/11/2020', 'Water Type: --All--', 'Local Authority: --All--', and 'Sealice Treatment Used: --All--'. At the bottom of the filter section are buttons for 'Apply Current Filters', 'Show All Results', 'Clear All Filters', and 'CSV Export'.

NB This dataset does not include treatments carried out on wellboats. The full annual SPRI data returns inclusive of wellboat information can be found [here](#)

Here's data for the first six months of 2020 [published via Scotland's Aquaculture](#) with Mowi salmon farms dominating the top 10 sites using Deltamethrin and Azamethiphos and The Scottish Salmon Company dominating the top 10 salmon farms using Emamectin benzoate:

Date	Submitted By	Deltamethrin (g)	Site Name
01-Apr-20	Mowi Scotland Ltd	120	Scotasay
01-Mar-20	Mowi Scotland Ltd	70	Invasion Bay
01-Mar-20	Mowi Scotland Ltd	66.8	Eilean Raineach
01-Mar-20	Mowi Scotland Ltd	50	Scotasay
01-Jun-20	The Scottish Salmon Company	37.5	Plocrapol
01-Jan-20	The Scottish Salmon Company	22.5	Vacasay, Roag
01-May-20	Kames Fish Farming Ltd	18.75	Rubh an Trilleachain
01-Feb-20	Mowi Scotland Ltd	17.5	Invasion Bay
01-Feb-20	The Scottish Salmon Company	15	Vuia Mor South
01-May-20	Kames Fish Farming Ltd	12	Kames Bay

Date	Submitted By	Azamethiphos (g)	Site Name
01-Jun-20	Mowi Scotland Ltd	7280.000014	Greshornish
01-Jun-20	Mowi Scotland Ltd	7200.00006	Creag an Sagairt West
01-May-20	Mowi Scotland Ltd	4080.000043	Soay Sound
01-Jun-20	Grieg Seafood Shetland Ltd	4000	Ru Chorachan
01-Mar-20	Mowi Scotland Ltd	3379.999936	Soay Sound
01-Apr-20	Mowi Scotland Ltd	3200.000048	Scotasay
01-Apr-20	The Scottish Salmon Company	3200	Trilleachan Mor
01-May-20	Grieg Seafood Shetland Ltd	3200	Ru Chorachan
01-Apr-20	Mowi Scotland Ltd	3149.999946	Soay Sound
01-Jun-20	The Scottish Salmon Company	3040	Taranaish

Date	Submitted By	Emamectin Benzoate (g)	Site Name
01-May-20	The Scottish Salmon Company	544	Ardgaddan
01-Feb-20	The Scottish Salmon Company	525.28	Eughlam South
01-Feb-20	The Scottish Salmon Company	508.6	Eughlam North
01-May-20	The Scottish Salmon Company	504	Strondoir Bay
01-May-20	Mowi Scotland Ltd	479.88	Sconser Quarry
01-Jun-20	The Scottish Salmon Company	463.3	Scadabay
01-May-20	Cooke Aquaculture Scotland	459.08	Cloudin
01-Feb-20	The Scottish Salmon Company	451.92	Trilleachan Mor
01-Feb-20	The Scottish Salmon Company	446.74	Vuia Mor South
01-Feb-20	The Scottish Salmon Company	442.8	Kyles Vuia East

Expect 2020 chemical use to increase yet further [since SEPA opened the floodgates in April 2020](#). The Ferret [reported in April 2020](#):



**Rules on the use of toxic pesticides by the fish farming industry have been relaxed because of the coronavirus emergency, prompting fears for marine wildlife.**

The Scottish Environment Protection Agency (Sepa) is permitting safety limits on one pesticide to be breached, and allowing another to be used more intensely. It accepts that both changes could cause environmental damage.

Now it has allowed an estimated 14 salmon farms to breach safety limits on the use of emamectin. Marketed as Slice, this is fed to salmon to kill the lice that plague them.

Sepa has tried to ban emamectin because it also kills crabs, lobsters and other crustaceans but this has so far been fought off by the industry. Instead in October 2017 Sepa introduced tougher environmental standards on the chemical.

The new standards only applied to new or expanding farms. These are the ones that are now being permitted to breach the limits and discharge more emamectin into sea lochs.

Sepa did not name the farms, but reckoned there could be around 14 of them depending on circumstances. The use of more emamectin than authorised "will result in an increased extent of local impact on the seabed," Sepa said.

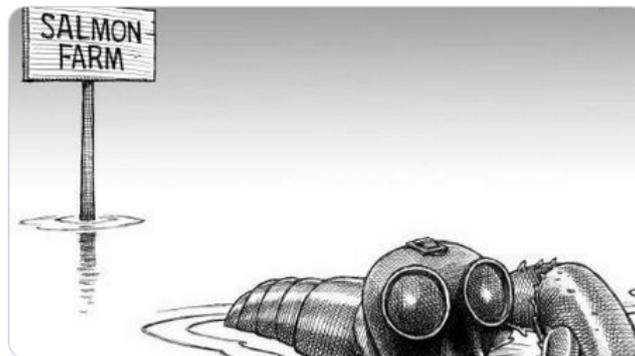
Scottish Salmon Watch [Tweeted](#) in April 2020:



Don Staniford  
@TheGAAIA



Under the Cloak of #Coronavirus - SEPA open floodgates to lobster-killing chemicals! [tinyurl.com/tjjuou7](https://tinyurl.com/tjjuou7) @ScottishEPA Emamectin benzoate is so toxic to shellfish it should be banned not used at higher concentrations & at unlicensed sites @TerryAHearn @SSPOsays @marinescotland

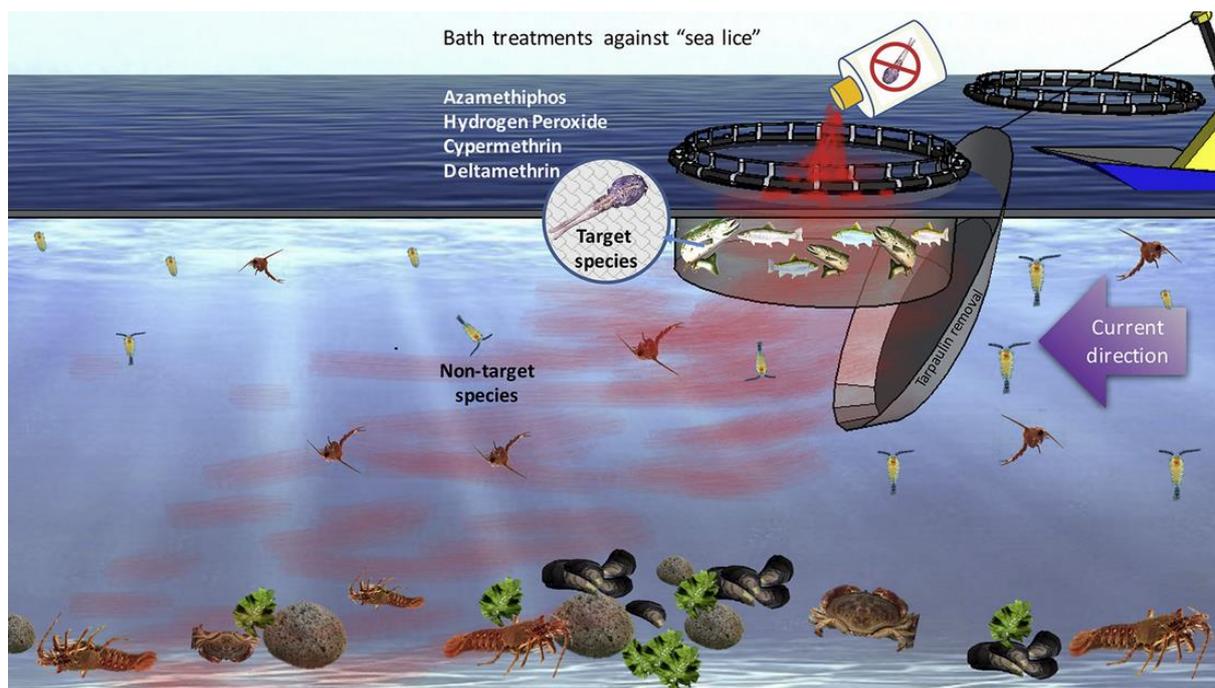


Roseanna Cunningham and 8 others

9:29 AM · Apr 9, 2020 · Twitter Web App

Data [published via Scotland's Aquaculture](#) (sourced return submitted by salmon farms to the Scottish Environment Protection Agency) detail how Norwegian-owned companies dominate the use of toxic chemicals. Here's the top 20 monthly uses of Deltamethrin headed by Mowi/Marine Harvest and The Scottish Salmon Company - with 2075 monthly uses reported since Deltamethrin was first used in September 2008 (Deltamethrin replaced the [equally toxic Cypermethrin](#) which was [used in Scotland from the late 1990s](#) - [often illegally](#) - and phased out on Scottish salmon farms in 2011):

Date	Submitted By	Deltamethrin (g)	Site Name
01-Mar-19	Mowi Scotland Ltd	480	Port na Moine Site 2 (North)
01-Jul-14	The Scottish Salmon Company	400	Vuia Beag
01-Aug-11	Marine Harvest (Scotland) Ltd	385	Camas an Leim (Torrison)
01-Feb-15	Marine Harvest (Scotland) Ltd	357.5	Camas an Leim (Torrison)
01-Jul-14	The Scottish Salmon Company	337.5	Kyles Vuia East
01-Sep-11	Marine Harvest (Scotland) Ltd	332.5	Camas an Leim (Torrison)
01-Jul-14	The Scottish Salmon Company	312.5	Taranaish
01-Jul-14	The Scottish Salmon Company	287.5	Vacasay, Roag
01-Oct-15	Marine Harvest (Scotland) Ltd	285	Poll na Gille
01-Sep-12	The Scottish Salmon Company	280	Vuia Beag
01-Oct-13	Marine Harvest (Scotland) Ltd	275	Cairidh
01-Mar-16	Marine Harvest (Scotland) Ltd	270	Sron
01-Aug-12	The Scottish Salmon Company	270	Vuia Beag
01-Jul-15	Marine Harvest (Scotland) Ltd	262.5	Hellisay
01-Apr-15	Marine Harvest (Scotland) Ltd	262.5	Camas an Leim (Torrison)
01-Sep-18	Marine Harvest (Scotland) Ltd	255	Isle of Rum
01-Jun-15	Marine Harvest (Scotland) Ltd	255	Camas an Leim (Torrison)
01-Mar-15	Marine Harvest (Scotland) Ltd	255	Camas an Leim (Torrison)
01-Dec-15	The Scottish Salmon Company	250	Gravir Outer
01-Nov-15	Kames Fish Farming Ltd	250	Rubh an Trilleachain

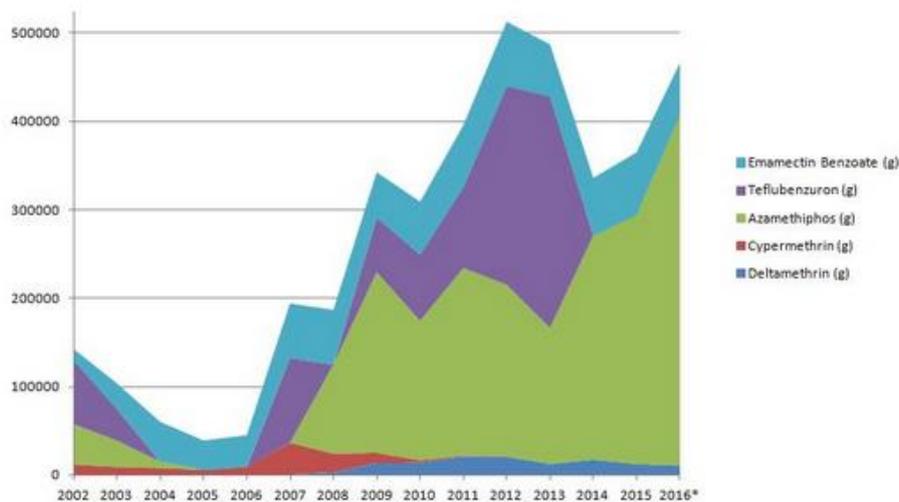


The top 20 monthly reported uses of the toxic chemical Azamethiphos (according to data [published via Scotland's Aquaculture](#)) are dominated by Mowi/Marine Harvest with Grieg Seafood (Hjaltland), Scottish Sea Farms and The Scottish Salmon Company also featuring. There has been 2038 monthly reported uses of the [toxic organophosphate Azamethiphos](#) - like Deltamethrin and Cypermethrin, used as a bath treatment - since it was first used in Scotland in 2002.

Date	Submitted By	Azamethiphos (g)	Site Name
01-Dec-15	Marine Harvest (Scotland) Ltd	13649.99952	Ardintoul
01-Sep-16	Marine Harvest (Scotland) Ltd	10329.99983	Soay Sound
01-Jun-14	The Scottish Salmon Company	7600	Gousam
01-Feb-15	Marine Harvest (Scotland) Ltd	7349.999875	Camas an Leim (Torridon)
01-Jun-20	Mowi Scotland Ltd	7280.000014	Greshornish
01-Jun-20	Mowi Scotland Ltd	7200.00006	Creag an Sagairt West
01-Jul-08	Scottish Sea Farms Ltd	7200	Brei Geo Offshore
01-Dec-10	Hoganess Salmon Ltd	7000	Burrastow
01-Nov-16	Marine Harvest (Scotland) Ltd	6949.999893	Soay Sound
01-Sep-08	Marine Harvest (Scotland) Ltd	6674.5	Camas an Leim (Torridon)
01-Dec-16	Marine Harvest (Scotland) Ltd	6400.000244	Gorsten
01-Sep-16	Marine Harvest (Scotland) Ltd	6340.000063	Carradale (North)
01-Jan-16	Marine Harvest (Scotland) Ltd	6174.999774	Ardintoul
01-Apr-19	Mowi Scotland Ltd	6060.000092	MacLeans Nose
01-Jun-15	Marine Harvest (Scotland) Ltd	5949.999899	Camas an Leim (Torridon)
01-Jul-11	Hjaltland Seafarms Ltd	5920	Papa, East Head of Scalloway
01-Jun-16	Marine Harvest (Scotland) Ltd	5850	Ardintoul
01-Aug-16	The Scottish Salmon Company	5800	Vuia Mor South
01-May-17	Grieg Seafood Shetland Ltd	5720	West of Burwick
01-Oct-16	Marine Harvest (Scotland) Ltd	5719.999909	Soay Sound

Rampant use of Azamethiphos [drove a ten-fold increase \(932%\) in toxic chemical use on salmon farms between 2006 and 2016](#).

**Ten-fold Increase in Toxic Chemical Use in Ten Years!**



Increases in the use of Teflubenzuron ([marked purple in the graph above](#)) - a chemical which [caused huge controversy in Norway due to impacts on shellfish](#) and [environmental contamination](#) - were halted in Scotland in 2013 and the toxic chemical [withdrawn from the market in 2015](#). According to data [published via Scotland's Aquaculture](#) here's the top 20 monthly reported uses of [Teflubenzuron](#) headed by Scottish Sea Farms ([MJM Salmon was acquired by Scottish Sea Farms in 2007](#)).

Date	Submitted By	Teflubenzuron (g)	Site Name
01-May-13	Scottish Sea Farms Ltd	90000	Teisti Geo
01-Jul-12	Scottish Sea Farms Ltd	90000	Slocka (Site C)
01-Dec-10	MJM Salmon Ltd	75000	Slocka (Site C)
01-May-13	Scottish Sea Farms Ltd	68000	Holms Geo (Site 3)
01-Dec-12	Scottish Sea Farms Ltd	59999	Slocka (Site C)
01-Dec-11	Marine Harvest (Scotland) Ltd	54000	Mid Loch Shell / Pairc - West
01-Dec-13	Scottish Sea Farms Ltd	47000	Tuath (Rubha na Gall)
01-Dec-09	Scottish Sea Farms Ltd	42700	Fishnish A
01-Feb-07	Fjord Seafood Scotland Farming	39970	Kyles Vuia East
01-Jan-03	Marine Harvest (Scotland) Ltd	36000	Camas an Leim (Torridon)
01-May-02	Lighthouse Highland Ltd	26000	Loch Portree (Torvaig)
01-Sep-02	Marine Harvest (Scotland) Ltd	25900	Eishort
01-Jul-07	Fjord Seafood Scotland Farming	22100	Kyles Vuia East
01-Dec-09	Scottish Sea Farms Ltd	17300	Fishnish B
01-Dec-02	Marine Harvest (Scotland) Ltd	16000	Callert (Leven)
01-May-12	Loch Duart Ltd	14280	Badcall Site 11 (Eilean Riabhach)
01-May-12	Loch Duart Ltd	14280	Calbha Site 5 (Calbha Beag)
01-Feb-11	Wester Ross Fisheries Ltd	14000	Ardmair (Isle Martin)
01-Nov-12	Loch Duart Ltd	11250	Calbha Site 5 (Calbha Beag)
01-Jun-07	Scottish Sea Farms Ltd	11079	Teisti Geo



Scottish Sea Farms also heads the list of the biggest user of Emamectin benzoate - [another shellfish-killing chemical labelled as a 'Marine Pollutant' by the chemical manufacturers](#) - followed by Mowi/Marine Harvest. According to data [published via Scotland's Aquaculture](#) here's the top 20 largest monthly uses of [Emamectin benzoate](#) since it was first used in Scotland in 2002 (a staggering 4605 times in total).

Date	Submitted By	Emamectin Benzoate (g)	Site Name
01-Dec-11	Scottish Sea Farms Ltd	1474.2	Vidlin North
01-Jun-04	Marine Harvest (Scotland) Ltd	1312.5	Scallastle Bay
01-Jan-13	Marine Harvest (Scotland) Ltd	1272.048014	Camas an Leim (Torridon)
01-Dec-19	Mowi Scotland Ltd	1269	Greshornish
01-Dec-11	Scottish Sea Farms Ltd	1200	Bellister
01-Dec-03	Slett Salmon Ltd	1190.16	Binna Ness
01-May-12	Marine Harvest (Scotland) Ltd	1174.999952	Invasion Bay
01-Mar-11	Marine Harvest (Scotland) Ltd	1088	Ardgour (Linnhe)
01-Feb-13	Marine Harvest (Scotland) Ltd	1064.000034	Ardgour (Linnhe)
01-Jun-04	Marine Harvest (Scotland) Ltd	1055.25	Greshornish
01-Jul-04	Marine Harvest (Scotland) Ltd	1050.645	Eishort
01-Dec-04	Marine Harvest (Scotland) Ltd	1048.5	Skipport Outer (Ornish)
01-Aug-11	Marine Harvest (Scotland) Ltd	1045	Ardgour (Linnhe)
01-Oct-09	Lighthouse Caledonia Ltd	1007	Druimyeon Bay
01-Nov-11	Marine Harvest (Scotland) Ltd	1001	Maol Ban
01-Dec-04	Marine Harvest (Scotland) Ltd	996.2	Gorsten
01-Aug-04	Marine Harvest (Scotland) Ltd	977.65	Duich
01-Mar-09	Marine Harvest (Scotland) Ltd	975	Gorsten
01-Dec-04	Marine Harvest (Scotland) Ltd	974.7	Ardgour (Linnhe)
01-Jun-04	Marine Harvest (Scotland) Ltd	969.275	Skipport Outer (Ornish)

SEPA [reported in 2019](#): "Following its use as an in-feed treatment for sea lice, emamectin benzoate residues are more widely distributed in the benthic environment than previously thought, and have a statistically significant effect on benthic ecology at the concentrations observed in this study" (a study conducted in Shetland where Scottish Sea Farms and Grieg Seafood operate).



Science of The Total Environment

Volume 669, 15 June 2019, Pages 91-102



## Negative effects of the sea lice therapeutant emamectin benzoate at low concentrations on benthic communities around Scottish fish farms

J.W. Bloodworth <sup>a</sup> , M.C. Baptie <sup>a</sup>, K.F. Preedy <sup>b</sup>, J. Best <sup>a</sup>

Repeat uses of Emamectin benzoate ([recently shown to be genotoxic with an impact on human health](#)) is a huge problem with some salmon farms using multiple doses during a growing cycle ([including The Scottish Salmon Company who used Emamectin benzoate six times in a year at a salmon farm in Loch Roag](#)). Here's some salmon farms which have a lethal legacy of Emamectin benzoate use:

Date	Submitted By	Emamectin Benzoate (g)	Site Name
01-Jun-20	Scottish Sea Farms Ltd	163.2	Achnacroish (Walters,Lismore East)
01-Apr-20	Scottish Sea Farms Ltd	82.8	Achnacroish (Walters,Lismore East)
01-Mar-20	Scottish Sea Farms Ltd	46.2	Achnacroish (Walters,Lismore East)
01-Feb-20	Scottish Sea Farms Ltd	28	Achnacroish (Walters,Lismore East)
01-Oct-18	Scottish Sea Farms Ltd	369.6	Achnacroish (Walters,Lismore East)
01-Aug-18	Scottish Sea Farms Ltd	240.9	Achnacroish (Walters,Lismore East)
01-Jun-18	Scottish Sea Farms Ltd	113.42	Achnacroish (Walters,Lismore East)
01-May-18	Scottish Sea Farms Ltd	91.42	Achnacroish (Walters,Lismore East)
01-Mar-18	Scottish Sea Farms Ltd	44.02	Achnacroish (Walters,Lismore East)
01-Jan-18	Scottish Sea Farms Ltd	34.02	Achnacroish (Walters,Lismore East)
01-Sep-16	Scottish Sea Farms Ltd	302.2	Achnacroish (Walters,Lismore East)
01-Jun-16	Scottish Sea Farms Ltd	138.6	Achnacroish (Walters,Lismore East)
01-Apr-16	Scottish Sea Farms Ltd	4.16	Achnacroish (Walters,Lismore East)
01-Feb-16	Scottish Sea Farms Ltd	16.74	Achnacroish (Walters,Lismore East)
01-Sep-14	Scottish Sea Farms Ltd	185.6	Achnacroish (Walters,Lismore East)
01-Jun-14	Scottish Sea Farms Ltd	40	Achnacroish (Walters,Lismore East)
01-Dec-12	Scottish Sea Farms Ltd	368.74	Achnacroish (Walters,Lismore East)
01-Sep-12	Scottish Sea Farms Ltd	150	Achnacroish (Walters,Lismore East)
01-Jun-12	Scottish Sea Farms Ltd	42	Achnacroish (Walters,Lismore East)
01-Nov-10	Scottish Sea Farms Ltd	120	Achnacroish (Walters,Lismore East)
01-Mar-09	Scottish Sea Farms Ltd	190	Achnacroish (Walters,Lismore East)
01-Mar-07	Scottish Sea Farms Ltd	88.82	Achnacroish (Walters,Lismore East)
01-Jul-05	Scottish Sea Farms Ltd	345	Achnacroish (Walters,Lismore East)
01-Feb-05	Scottish Sea Farms Ltd	220	Achnacroish (Walters,Lismore East)
01-Dec-04	Scottish Sea Farms Ltd	145	Achnacroish (Walters,Lismore East)
01-Oct-04	Scottish Sea Farms Ltd	2.88	Achnacroish (Walters,Lismore East)
01-Sep-04	Scottish Sea Farms Ltd	50.02	Achnacroish (Walters,Lismore East)
01-Jun-04	Scottish Sea Farms Ltd	25	Achnacroish (Walters,Lismore East)
01-Aug-03	Scottish Sea Farms Ltd	345	Achnacroish (Walters,Lismore East)
01-Mar-03	Scottish Sea Farms Ltd	270	Achnacroish (Walters,Lismore East)
01-Nov-02	Scottish Sea Farms Ltd	129.98	Achnacroish (Walters,Lismore East)
01-Aug-02	Scottish Sea Farms Ltd	47.5	Achnacroish (Walters,Lismore East)



**Environmentally hazardous  
substance mark**

The Scottish Salmon Company's salmon farm at Aird Ardheslaig in Loch Shieldaig (Torrifon) has [used Emamectin benzoate a staggering 35 times since 2002](#).

Date	Submitted By	Emamectin Benzoate (g)	Site Name
01-May-20	The Scottish Salmon Company	134.4	Aird Ardheslaig
01-Mar-20	The Scottish Salmon Company	61.74	Aird Ardheslaig
01-Jan-20	The Scottish Salmon Company	14.4	Aird Ardheslaig
01-Dec-18	The Scottish Salmon Company	470.16	Aird Ardheslaig
01-Sep-18	The Scottish Salmon Company	611.8	Aird Ardheslaig
01-Jul-18	The Scottish Salmon Company	358.8	Aird Ardheslaig
01-May-18	The Scottish Salmon Company	203.36	Aird Ardheslaig
01-Mar-18	The Scottish Salmon Company	105.6	Aird Ardheslaig
01-Apr-17	The Scottish Salmon Company	553.8	Aird Ardheslaig
01-Feb-17	The Scottish Salmon Company	403.2	Aird Ardheslaig
01-Dec-16	The Scottish Salmon Company	283.4	Aird Ardheslaig
01-Sep-16	The Scottish Salmon Company	379.2	Aird Ardheslaig
01-Jun-16	The Scottish Salmon Company	170.2	Aird Ardheslaig
01-Apr-16	The Scottish Salmon Company	95	Aird Ardheslaig
01-Feb-16	The Scottish Salmon Company	52.8	Aird Ardheslaig
01-Dec-14	The Scottish Salmon Company	338	Aird Ardheslaig
01-Oct-14	The Scottish Salmon Company	340.4	Aird Ardheslaig
01-Aug-14	The Scottish Salmon Company	145.2	Aird Ardheslaig
01-Jun-14	The Scottish Salmon Company	80	Aird Ardheslaig
01-Apr-14	The Scottish Salmon Company	38.28	Aird Ardheslaig
01-May-13	The Scottish Salmon Company	408.7	Aird Ardheslaig
01-Jan-13	The Scottish Salmon Company	402.5	Aird Ardheslaig
01-Oct-12	The Scottish Salmon Company	296.24	Aird Ardheslaig
01-Jul-12	The Scottish Salmon Company	240	Aird Ardheslaig
01-Apr-12	The Scottish Salmon Company	44.64	Aird Ardheslaig
01-Mar-11	The Scottish Salmon Company	380.8	Aird Ardheslaig
01-Dec-10	The Scottish Salmon Company	245.7	Aird Ardheslaig
01-Mar-09	Lighthouse Caledonia Ltd	344	Aird Ardheslaig
01-Aug-08	Lighthouse Caledonia Ltd	168	Aird Ardheslaig
01-Feb-07	Pan Fish Scotland Ltd	450	Aird Ardheslaig
01-Jul-06	Pan Fish Scotland Ltd	73	Aird Ardheslaig
01-Jul-05	Pan Fish Scotland Ltd	193.4	Aird Ardheslaig
01-Mar-05	Pan Fish Scotland Ltd	328	Aird Ardheslaig
01-Jun-04	Pan Fish Scotland Ltd	37.4	Aird Ardheslaig
01-Apr-03	Pan Fish Scotland Ltd	0.7	Aird Ardheslaig



Marine Harvest (re-named Mowi in 2019 [despite objections from the Mowinckel family who did not want their good name dragged into the gutter](#)) only [established a new salmon farm at Am Maol on the Isle of Muck in 2014](#) (in 2018 Mowi [announced they wanted to expand the biomass](#)). Yet they reported a dozen doses of Emamectin benzoate between 2014 and 2018:

Date	Submitted By	Emamectin Benzoate (g)	Site Name
01-Oct-18	Marine Harvest	27.628	Am Maol, Isle of Muck
01-Sep-18	Marine Harvest	141.3724	Am Maol, Isle of Muck
01-Aug-18	Marine Harvest	48	Am Maol, Isle of Muck
01-Sep-16	Marine Harvest	396.8	Am Maol, Isle of Muck
01-Aug-16	Marine Harvest	4.7684	Am Maol, Isle of Muck
01-Jul-16	Marine Harvest	202.4316	Am Maol, Isle of Muck
01-Jun-16	Marine Harvest	65.6412	Am Maol, Isle of Muck
01-May-16	Marine Harvest	40.758	Am Maol, Isle of Muck
01-Jun-15	Marine Harvest	116.127	Am Maol, Isle of Muck
01-May-15	Marine Harvest	653.873	Am Maol, Isle of Muck
01-Mar-15	Marine Harvest	201.5999908	Am Maol, Isle of Muck
01-Sep-14	Marine Harvest	105	Am Maol, Isle of Muck

- Mowi's aptly named Muck salmon farm ([certified as welfare friendly via RSPCA Assured](#)) which was the subject to an anonymous tip-off regarding mortalities due to disease and a failed Hydrolicer treatment and [biomass breaches](#) in August 2019 (including [video footage](#) of a fatty oil slick and photos of dead fish).



Mowi's salmon farm at Camas an Leim in Loch Torridon has [reported 28 monthly uses of Emamectin benzoate since 2010](#).

Date	Submitted By	Emamectin Benzoate (g)	Site Name
01-Apr-20	Mowi Scotland Ltd	357.2	Camas an Leim (Torridon)
01-Feb-20	Mowi Scotland Ltd	209	Camas an Leim (Torridon)
01-Aug-18	Marine Harvest (Scotland) Ltd	558	Camas an Leim (Torridon)
01-Apr-18	Marine Harvest (Scotland) Ltd	126.707854	Camas an Leim (Torridon)

01-Mar-18	Marine Harvest (Scotland) Ltd	20.692	Camas an Leim (Torridon)
01-Feb-18	Marine Harvest (Scotland) Ltd	7.52328	Camas an Leim (Torridon)
01-Jan-18	Marine Harvest (Scotland) Ltd	64.4766912	Camas an Leim (Torridon)
01-Aug-16	Marine Harvest (Scotland) Ltd	739.8199838	Camas an Leim (Torridon)
01-Mar-16	Marine Harvest (Scotland) Ltd	205.2	Camas an Leim (Torridon)
01-Jan-16	Marine Harvest (Scotland) Ltd	158.3999823	Camas an Leim (Torridon)
01-Dec-15	Marine Harvest (Scotland) Ltd	94.996	Camas an Leim (Torridon)
01-Dec-14	Marine Harvest (Scotland) Ltd	2.743642067	Camas an Leim (Torridon)
01-Nov-14	Marine Harvest (Scotland) Ltd	513.2563226	Camas an Leim (Torridon)
01-Oct-14	Marine Harvest (Scotland) Ltd	401.5999735	Camas an Leim (Torridon)
01-Aug-14	Marine Harvest (Scotland) Ltd	176.399929	Camas an Leim (Torridon)
01-Jul-14	Marine Harvest (Scotland) Ltd	23.57710631	Camas an Leim (Torridon)
01-Jun-14	Marine Harvest (Scotland) Ltd	68.22489135	Camas an Leim (Torridon)
01-Jun-13	Marine Harvest (Scotland) Ltd	858	Camas an Leim (Torridon)
01-Jan-13	Marine Harvest (Scotland) Ltd	1272.048014	Camas an Leim (Torridon)
01-Nov-12	Marine Harvest (Scotland) Ltd	410.7530744	Camas an Leim (Torridon)
01-Oct-12	Marine Harvest (Scotland) Ltd	69.27890036	Camas an Leim (Torridon)
01-Aug-12	Marine Harvest (Scotland) Ltd	110.082	Camas an Leim (Torridon)
01-Jul-12	Marine Harvest (Scotland) Ltd	36.918	Camas an Leim (Torridon)
01-Jun-12	Marine Harvest (Scotland) Ltd	110	Camas an Leim (Torridon)
01-Mar-11	Marine Harvest (Scotland) Ltd	924.8000259	Camas an Leim (Torridon)
01-Dec-10	Marine Harvest (Scotland) Ltd	605	Camas an Leim (Torridon)
01-Sep-10	Marine Harvest (Scotland) Ltd	108.355	Camas an Leim (Torridon)
01-Jun-10	Marine Harvest (Scotland) Ltd	108	Camas an Leim (Torridon)



The Scottish Salmon Company's Ardgaddan salmon farm in Loch Fyne has [reported 23 monthly doses of Emamectin benzoate since 2010](#).

Date	Submitted By	Emamectin Benzoate (g)	Site Name
01-May-20	The Scottish Salmon Company	544	Ardgaddan
01-Mar-20	The Scottish Salmon Company	272	Ardgaddan
01-Dec-19	The Scottish Salmon Company	95	Ardgaddan
01-Nov-19	The Scottish Salmon Company	59.4	Ardgaddan
01-May-18	The Scottish Salmon Company	301.7	Ardgaddan
01-Feb-18	The Scottish Salmon Company	145.2	Ardgaddan
01-Dec-17	The Scottish Salmon Company	60	Ardgaddan
01-Nov-17	The Scottish Salmon Company	21.6	Ardgaddan
01-Jun-16	The Scottish Salmon Company	235.88	Ardgaddan
01-Apr-16	The Scottish Salmon Company	125.4	Ardgaddan
01-Feb-16	The Scottish Salmon Company	63.7	Ardgaddan
01-Dec-15	The Scottish Salmon Company	10.8	Ardgaddan
01-Nov-15	The Scottish Salmon Company	14.04	Ardgaddan
01-Dec-14	The Scottish Salmon Company	648.96	Ardgaddan
01-May-14	The Scottish Salmon Company	171.92	Ardgaddan
01-Feb-14	The Scottish Salmon Company	119.6	Ardgaddan
01-Dec-13	The Scottish Salmon Company	45.08	Ardgaddan
01-Aug-12	The Scottish Salmon Company	453.72	Ardgaddan
01-Jun-12	The Scottish Salmon Company	285.6	Ardgaddan
01-Mar-12	The Scottish Salmon Company	129.2	Ardgaddan
01-Dec-11	The Scottish Salmon Company	42.6	Ardgaddan
01-Dec-10	The Scottish Salmon Company	512.3	Ardgaddan
01-Aug-10	The Scottish Salmon Company	342	Ardgaddan

[The Scottish Salmon Company's Ardgaddan salmon farm in Loch Fyne \(2016\)](#)



Grieg Seafood's [disease-ridden Cole Deep salmon farm](#) in Shetland has [reported the monthly use of Emamectin benzoate 37 times since 2002](#) (Grieg [rebranded from Hjaltland in 2015](#)).

Date	Submitted By	Emamectin Benzoate (g)	Site Name
01-Aug-19	Grieg Seafood Shetland	224	Cole Deep
01-Apr-19	Grieg Seafood Shetland	348.6	Cole Deep
01-Feb-19	Grieg Seafood Shetland	278.96	Cole Deep
01-Dec-18	Grieg Seafood Shetland	118.8	Cole Deep
01-Sep-18	Grieg Seafood Shetland	79.2	Cole Deep
01-Feb-17	Grieg Seafood Shetland	279	Cole Deep
01-Sep-16	Grieg Seafood Shetland	59.4	Cole Deep
01-Aug-15	Grieg Seafood Shetland	349.2	Cole Deep
01-May-15	Hjaltland Seafarms Ltd	350	Cole Deep
01-Dec-14	Hjaltland Seafarms Ltd	70	Cole Deep
01-Nov-14	Hjaltland Seafarms Ltd	50	Cole Deep
01-Oct-14	Hjaltland Seafarms Ltd	25	Cole Deep
01-Sep-14	Hjaltland Seafarms Ltd	16	Cole Deep
01-Nov-13	Hjaltland Seafarms Ltd	570.4	Cole Deep
01-Sep-13	Hjaltland Seafarms Ltd	222	Cole Deep
01-Aug-13	Hjaltland Seafarms Ltd	234	Cole Deep
01-May-13	Hjaltland Seafarms Ltd	280	Cole Deep
01-Dec-12	Hjaltland Seafarms Ltd	83.2	Cole Deep
01-Oct-12	Hjaltland Seafarms Ltd	72	Cole Deep
01-Feb-12	Hjaltland Seafarms Ltd	350	Cole Deep
01-Aug-11	Hjaltland Seafarms Ltd	448	Cole Deep
01-Mar-11	Hjaltland Seafarms Ltd	190	Cole Deep
01-Mar-10	Hjaltland Seafarms Ltd	342.4	Cole Deep

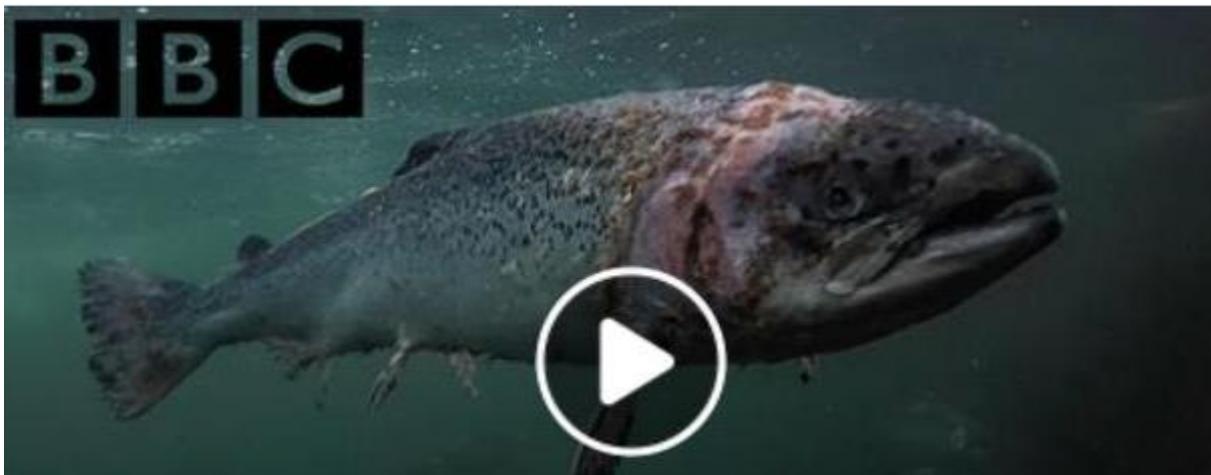
2019-0558 Cole Deep



Fish 1 – lesions and abrasions on flank

The Scottish Salmon Company's Eughlam North salmon farm in [lice-infested Loch Roag](#) has [reported the monthly use of Emamectin benzoate 20 times since 2011 with five doses since May 2019](#) with [another six doses at Eughlam South since April 2019](#).

Date	Submitted By	Emamectin Benzoate (g)	Site Name
01-Feb-20	The Scottish Salmon Company	508.6	Eughlam North
01-Nov-19	The Scottish Salmon Company	296.8	Eughlam North
01-Sep-19	The Scottish Salmon Company	164.4	Eughlam North
01-Jul-19	The Scottish Salmon Company	70.4	Eughlam North
01-May-19	The Scottish Salmon Company	31.02	Eughlam North
01-Feb-16	The Scottish Salmon Company	474.1	Eughlam North
01-Nov-15	The Scottish Salmon Company	380.8	Eughlam North
01-Oct-15	The Scottish Salmon Company	304.72	Eughlam North
01-Aug-15	The Scottish Salmon Company	120.2	Eughlam North
01-Jun-15	The Scottish Salmon Company	55.6	Eughlam North
01-May-15	The Scottish Salmon Company	22.4	Eughlam North
01-Jun-14	The Scottish Salmon Company	518.1	Eughlam North
01-Mar-14	The Scottish Salmon Company	331.2	Eughlam North
01-Dec-13	The Scottish Salmon Company	609.84	Eughlam North
01-Oct-13	The Scottish Salmon Company	436.48	Eughlam North
01-Aug-13	The Scottish Salmon Company	224	Eughlam North
01-May-13	The Scottish Salmon Company	89.9	Eughlam North
01-Jun-12	The Scottish Salmon Company	437.64	Eughlam North
01-Dec-11	The Scottish Salmon Company	324.5	Eughlam North
01-Sep-11	The Scottish Salmon Company	117.6	Eughlam North

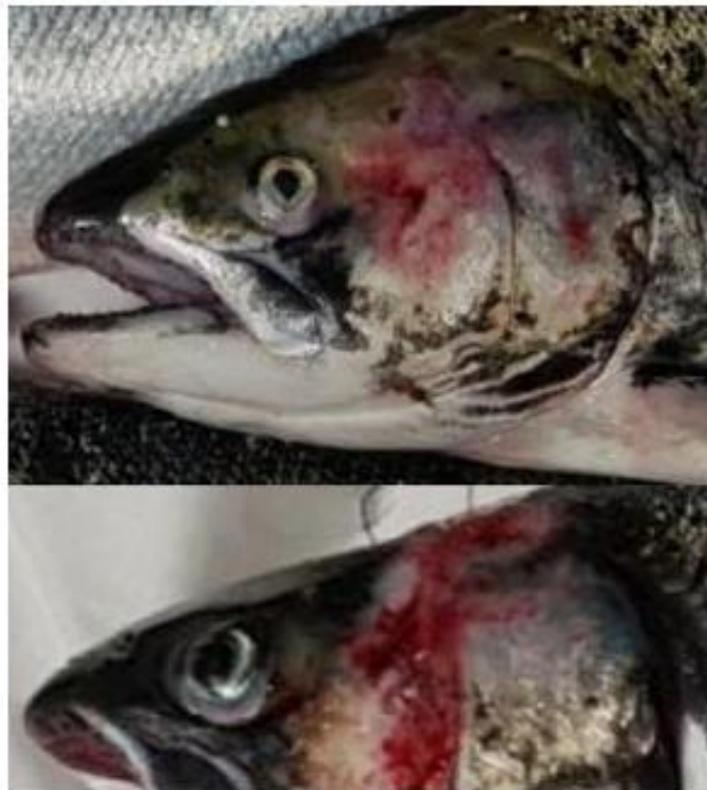


Date	Submitted By	Emamectin Benzoate (g)	Site Name
01-Feb-20	The Scottish Salmon Company	525.28	Eughlam South
01-Nov-19	The Scottish Salmon Company	282.8	Eughlam South
01-Sep-19	The Scottish Salmon Company	139.6	Eughlam South
01-Jul-19	The Scottish Salmon Company	58.8	Eughlam South
01-May-19	The Scottish Salmon Company	26.5	Eughlam South
01-Apr-19	The Scottish Salmon Company	3.96	Eughlam South

The Scottish Salmon Company's Maragay Mor salmon farm [reported 7 doses of Emamectin benzoate between December 2016 and October 2018 with 4 doses in 2018.](#)

Date	Submitted By	Emamectin Benzoate (g)	Site Name
01-Oct-18	The Scottish Salmon Company	345.6	Maragay Mor
01-Jul-18	The Scottish Salmon Company	164.4	Maragay Mor
01-Jun-18	The Scottish Salmon Company	58.88	Maragay Mor
01-Mar-18	The Scottish Salmon Company	17.02	Maragay Mor
01-Apr-17	The Scottish Salmon Company	624.78	Maragay Mor
01-Feb-17	The Scottish Salmon Company	301	Maragay Mor
01-Dec-16	The Scottish Salmon Company	136	Maragay Mor

[The Scottish Salmon Company's Maragay Mor salmon farm in the Outer Hebrides \(27 June 2019\)](#)



The Scottish Salmon Company's salmon farm at Meall Mhor in Loch Fyne salmon has [reported 32 doses of Emamectin benzoate since 2004 with 4 doses since November 2019.](#)

Date	Submitted By	Emamectin Benzoate (g)	Site Name
01-May-20	The Scottish Salmon Company	296.4	Meall Mhor
01-Mar-20	The Scottish Salmon Company	179.2	Meall Mhor
01-Dec-19	The Scottish Salmon Company	65.1	Meall Mhor
01-Nov-19	The Scottish Salmon Company	33	Meall Mhor

01-May-18	The Scottish Salmon Company	249.4	Meall Mhor
01-Feb-18	The Scottish Salmon Company	120.24	Meall Mhor
01-Dec-17	The Scottish Salmon Company	63.7	Meall Mhor
01-Oct-17	The Scottish Salmon Company	27.44	Meall Mhor
01-Jun-16	The Scottish Salmon Company	167.96	Meall Mhor
01-Apr-16	The Scottish Salmon Company	134.4	Meall Mhor
01-Feb-16	The Scottish Salmon Company	65	Meall Mhor
01-Nov-15	The Scottish Salmon Company	21.44	Meall Mhor
01-Oct-15	The Scottish Salmon Company	9.6	Meall Mhor
01-Jan-15	The Scottish Salmon Company	295.96	Meall Mhor
01-May-14	The Scottish Salmon Company	118.72	Meall Mhor
01-Feb-14	The Scottish Salmon Company	62	Meall Mhor
01-Nov-13	The Scottish Salmon Company	13.76	Meall Mhor
01-Aug-12	The Scottish Salmon Company	186.18	Meall Mhor
01-Jun-12	The Scottish Salmon Company	121.8	Meall Mhor
01-Mar-12	The Scottish Salmon Company	51.6	Meall Mhor
01-Dec-11	The Scottish Salmon Company	13.6	Meall Mhor
01-Dec-10	The Scottish Salmon Company	196	Meall Mhor
01-Aug-10	The Scottish Salmon Company	210.6	Meall Mhor

[The Scottish Salmon Company's Meall Mhor salmon farm in Loch Fyne \(2018\)](#)

2018-0113 Meall Mhor Loch Fyne  
F1 external



The Scottish Salmon Company's salmon farm at Plocrapol - [labelled as a 'vipers nest' by the company in leaked emails](#) and a site which the [company wants to expand further](#) - has [reported 26 doses of Emamectin benzoate since 2012 with 5 reported in 2018 and another 5 doses since November 2019](#):

Date	Submitted By	Emamectin Benzoate (g)	Site Name
01-Jun-20	The Scottish Salmon Company	313.2	Plocrapol
01-Apr-20	The Scottish Salmon Company	206.4	Plocrapol
01-Feb-20	The Scottish Salmon Company	159	Plocrapol
01-Dec-19	The Scottish Salmon Company	110.32	Plocrapol
01-Nov-19	The Scottish Salmon Company	72	Plocrapol
01-Sep-18	The Scottish Salmon Company	288.96	Plocrapol
01-Jul-18	The Scottish Salmon Company	156.6	Plocrapol
01-May-18	The Scottish Salmon Company	270.28	Plocrapol
01-Mar-18	The Scottish Salmon Company	250.8	Plocrapol
01-Jan-18	The Scottish Salmon Company	135	Plocrapol

The Scottish Salmon Company's [disease-ridden Quarry Point](#) salmon farm in Loch Fyne [reported 4 doses of Emamectin benzoate between November 2019 and May 2020 \(data for July to September will be published next month\)](#):

Date	Submitted By	Emamectin Benzoate (g)	Site Name
01-May-20	The Scottish Salmon Company	159.8	Quarry Point
01-Mar-20	The Scottish Salmon Company	92.8	Quarry Point
01-Dec-19	The Scottish Salmon Company	110.5	Quarry Point
01-Nov-19	The Scottish Salmon Company	27.2	Quarry Point
01-May-18	The Scottish Salmon Company	183.6	Quarry Point
01-Feb-18	The Scottish Salmon Company	110.88	Quarry Point

Scottish Sea Farms has [reported 18 monthly doses of Emamectin benzoate at their Lismore B salmon farm since 2010 with 9 doses between March 2018 and May 2020](#):

Date	Submitted By	Emamectin Benzoate (g)	Site Name
01-May-20	Scottish Sea Farms Ltd	71.76	Port nan Ledaig (Lismore B)
01-Apr-20	Scottish Sea Farms Ltd	45.92	Port nan Ledaig (Lismore B)
01-Mar-20	Scottish Sea Farms Ltd	28	Port nan Ledaig (Lismore B)
01-Oct-18	Scottish Sea Farms Ltd	388.08	Port nan Ledaig (Lismore B)
01-Sep-18	Scottish Sea Farms Ltd	240.12	Port nan Ledaig (Lismore B)
01-Jun-18	Scottish Sea Farms Ltd	111.86	Port nan Ledaig (Lismore B)
01-May-18	Scottish Sea Farms Ltd	91.4	Port nan Ledaig (Lismore B)
01-Mar-18	Scottish Sea Farms Ltd	38.7	Port nan Ledaig (Lismore B)
01-Feb-18	Scottish Sea Farms Ltd	37.28	Port nan Ledaig (Lismore B)
01-Aug-16	Scottish Sea Farms Ltd	124.2	Port nan Ledaig (Lismore B)
01-Jul-16	Scottish Sea Farms Ltd	54	Port nan Ledaig (Lismore B)
01-May-16	Scottish Sea Farms Ltd	32.4	Port nan Ledaig (Lismore B)
01-Aug-14	Scottish Sea Farms Ltd	156	Port nan Ledaig (Lismore B)
01-Jun-14	Scottish Sea Farms Ltd	42.5	Port nan Ledaig (Lismore B)
01-Dec-12	Scottish Sea Farms Ltd	481.26	Port nan Ledaig (Lismore B)
01-Sep-12	Scottish Sea Farms Ltd	165	Port nan Ledaig (Lismore B)
01-Jun-12	Scottish Sea Farms Ltd	36	Port nan Ledaig (Lismore B)
01-Nov-10	Scottish Sea Farms Ltd	220	Port nan Ledaig (Lismore B)

The Scottish Salmon Company's Reibinish salmon farm in East Loch Tarbert [reported 15 doses of Emamectin benzoate since November 2015 with 4 doses between December 2019 and June 2020](#):

Date	Submitted By	Emamectin Benzoate (g)	Site Name
01-Jun-20	The Scottish Salmon Company	270.6	Reibinish
01-Apr-20	The Scottish Salmon Company	176.4	Reibinish
01-Feb-20	The Scottish Salmon Company	100.2	Reibinish
01-Dec-19	The Scottish Salmon Company	48.6	Reibinish
01-Sep-18	The Scottish Salmon Company	485.94	Reibinish
01-Jul-18	The Scottish Salmon Company	348.44	Reibinish
01-May-18	The Scottish Salmon Company	241.24	Reibinish
01-Mar-18	The Scottish Salmon Company	130.68	Reibinish
01-Jan-18	The Scottish Salmon Company	62.1	Reibinish
01-Nov-16	The Scottish Salmon Company	485	Reibinish
01-Aug-16	The Scottish Salmon Company	386.1	Reibinish
01-Jun-16	The Scottish Salmon Company	250.3	Reibinish
01-Mar-16	The Scottish Salmon Company	140.8	Reibinish
01-Jan-16	The Scottish Salmon Company	90	Reibinish
01-Nov-15	The Scottish Salmon Company	26	Reibinish

Scottish Sea Farms has [reported the use of Emamectin benzoate 11 times since it took over the Scallastle Bay salmon farm in the Sound of Mull from the Scottish Salmon Company in 2015 with 5 doses in 2019](#).

Date	Submitted By	Emamectin Benzoate (g)	Site Name
01-Nov-19	Scottish Sea Farms Ltd	240.52	Scallastle Bay
01-Sep-19	Scottish Sea Farms Ltd	188.2	Scallastle Bay
01-Jul-19	Scottish Sea Farms Ltd	94.08	Scallastle Bay
01-May-19	Scottish Sea Farms Ltd	43.56	Scallastle Bay
01-Mar-19	Scottish Sea Farms Ltd	31.2	Scallastle Bay
01-Oct-17	Scottish Sea Farms Ltd	283	Scallastle Bay
01-Jun-17	Scottish Sea Farms Ltd	85.62	Scallastle Bay
01-May-17	Scottish Sea Farms Ltd	38.3	Scallastle Bay
01-Mar-17	Scottish Sea Farms Ltd	32.6	Scallastle Bay
01-Dec-15	Scottish Sea Farms Ltd	468	Scallastle Bay
01-Aug-15	Scottish Sea Farms Ltd	122.6	Scallastle Bay
01-Jun-15	The Scottish Salmon Company	56	Scallastle Bay
01-May-15	The Scottish Salmon Company	40	Scallastle Bay
01-Aug-13	The Scottish Salmon Company	81.44	Scallastle Bay
01-Jun-13	The Scottish Salmon Company	25	Scallastle Bay
01-Jun-12	The Scottish Salmon Company	945.02	Scallastle Bay
01-Dec-11	The Scottish Salmon Company	400	Scallastle Bay
01-Sep-11	The Scottish Salmon Company	95	Scallastle Bay
01-Jun-11	The Scottish Salmon Company	30	Scallastle Bay
01-Aug-09	Lighthouse Caledonia Ltd	60	Scallastle Bay
01-Mar-06	Marine Harvest (Scotland) Ltd	658	Scallastle Bay
01-Dec-05	Marine Harvest (Scotland) Ltd	472.8	Scallastle Bay

The Scottish Salmon Company has [reported the use of Emamectin benzoate 20 times at Sgian Dubh salmon farm in Loch Striven since 2014 with a staggering 7 doses reported in 2019](#):

Date	Submitted By	Emamectin Benzoate (g)	Site Name
01-Dec-19	The Scottish Salmon Company	849.6	Sgian Dubh
01-Oct-19	The Scottish Salmon Company	805.8	Sgian Dubh
01-Jul-19	The Scottish Salmon Company	407.9	Sgian Dubh
01-May-19	The Scottish Salmon Company	172.4	Sgian Dubh
01-Apr-19	The Scottish Salmon Company	21	Sgian Dubh
01-Mar-19	The Scottish Salmon Company	40.2	Sgian Dubh
01-Feb-19	The Scottish Salmon Company	14.4	Sgian Dubh
01-Dec-18	The Scottish Salmon Company	11.4	Sgian Dubh
01-Oct-17	The Scottish Salmon Company	580.16	Sgian Dubh
01-Aug-17	The Scottish Salmon Company	406.2	Sgian Dubh
01-Jun-17	The Scottish Salmon Company	166.4	Sgian Dubh
01-Apr-17	The Scottish Salmon Company	61.16	Sgian Dubh
01-Mar-17	The Scottish Salmon Company	11.04	Sgian Dubh
01-Feb-17	The Scottish Salmon Company	28.8	Sgian Dubh
01-Jan-16	The Scottish Salmon Company	542.8	Sgian Dubh
01-Oct-15	The Scottish Salmon Company	511	Sgian Dubh
01-Aug-15	The Scottish Salmon Company	228.62	Sgian Dubh
01-Jun-15	The Scottish Salmon Company	43.2	Sgian Dubh
01-May-14	The Scottish Salmon Company	885.28	Sgian Dubh
01-Feb-14	The Scottish Salmon Company	642.96	Sgian Dubh



Revealed: 102,344 dead salmon (40% mortality) in one week at one farm @salmon\_scottish in August [tinyurl.com/y55lp6jn](https://tinyurl.com/y55lp6jn)

Please boycott Scottish salmon! @coopuk @Try\_Lochlander @sainsburys @LidlGB @waitrose @marksandspencer @Morrisons @asda @Tesco [salmonpledge.org](https://salmonpledge.org)

Case No:	2020-0142	Date of visit:	21/08/2020
Time spent on site:	7:3	Main Inspector:	[REDACTED]
Site No:	PS1251	Site Name:	Sgian Dubh
Business No:	FBU159	Business Name:	The Scottish Salmon Company

Mortality information (last 4 weeks)

Week 33 - 102344 - 30.55%  
 Week 32 - 11582 - 2.12%  
 Week 31 - 5107 - 1.46%  
 Week 30 - 7464 - 1.82%

Week 49 (2019) - 13048 - 1.58%  
 Week 46 (2019) - 15695 - 1.76%

Sgian dubh has been one of the worst affected sites in loch striven due to historic levels of PD and AGD levels, higher biomass may have exacerbated effects of environmental insult, site is also closest to the freshwater run off and therefore would have been the most exposed to suspended solids in the loch after the extreme recent downpour.

Dinoflagellate combined with solids in water after heavy rainfall resulted in environmental insult. Mortality is now back at normal levels and appetite are doing well.

Fish have been doing really well but have succumbed to an environmental insult caused by a multitude of factors in the loch. Environmental event lasted only a few days and mortality levels are back to normal. Harvesting procedures have commenced and fallow is expected within the month. Environmental insult combined with historic PGD is thought to have been the main source of high mortality.

**Health status and Results of Surveillance**

1. Any disease on site? (since last inspection)  Y

If yes, detail:  low level AGD, SAV detected with elevated biomarkers, PD infection in part of population. WK2

2. Has any animal health surveillance been carried out by, or on behalf of, the business?  Y

3. Any significant results?  Y

If yes, detail:  See above - Mortality has not been attributed to PD - ill health has been main issue

Scottish Sea Farms has [reported 27 doses of Emamectin benzoate at their salmon farm at South Sound in Mangaster Voe in Shetland since 2009](#):

Date	Submitted By	Emamectin Benzoate (g)	Site Name
01-Oct-19	Scottish Sea Farms	309.6	South Sound, Mangaster Voe
01-Sep-19	Scottish Sea Farms	257.3	South Sound, Mangaster Voe
01-Jun-19	Scottish Sea Farms	125.42	South Sound, Mangaster Voe
01-Mar-19	Scottish Sea Farms	42.6	South Sound, Mangaster Voe
01-Jan-19	Scottish Sea Farms	25.44	South Sound, Mangaster Voe
01-Jun-17	Scottish Sea Farms	375	South Sound, Mangaster Voe
01-Jan-17	Scottish Sea Farms	75	South Sound, Mangaster Voe
01-Nov-16	Scottish Sea Farms	26.7	South Sound, Mangaster Voe
01-Aug-15	Scottish Sea Farms	578.008	South Sound, Mangaster Voe
01-May-15	Scottish Sea Farms	253	South Sound, Mangaster Voe
01-Feb-15	Scottish Sea Farms	59.98	South Sound, Mangaster Voe
01-Jan-15	Scottish Sea Farms	15.42	South Sound, Mangaster Voe
01-Nov-14	Scottish Sea Farms	12.7	South Sound, Mangaster Voe
01-Feb-14	Scottish Sea Farms	479.992	South Sound, Mangaster Voe
01-Dec-13	Scottish Sea Farms	455	South Sound, Mangaster Voe
01-Oct-13	Scottish Sea Farms	325.012	South Sound, Mangaster Voe
01-Jun-13	Scottish Sea Farms	80	South Sound, Mangaster Voe
01-Apr-13	Scottish Sea Farms	35	South Sound, Mangaster Voe
01-May-12	Scottish Sea Farms	525	South Sound, Mangaster Voe
01-Feb-12	Scottish Sea Farms	525	South Sound, Mangaster Voe
01-Dec-11	Scottish Sea Farms	630	South Sound, Mangaster Voe
01-Sep-11	Scottish Sea Farms	385	South Sound, Mangaster Voe
01-May-11	Scottish Sea Farms	13.498	South Sound, Mangaster Voe

In 2019, a scientific paper authored by staff at SEPA detailed the "[Negative effects of the sea lice therapeutant emamectin benzoate at low concentrations on benthic communities around Scottish fish farms](#)" with research conducted at salmon farms in Shetland.

#### 4.1. Sea lice medicines in the environment

The results demonstrated a widespread detection (97% of samples) of EmBz in the sediments sampled from the survey. Such ubiquitous distribution across multiple sample locations at various distances from the cages (including reference stations) has not been documented in previous studies and surveys (e.g. [Black, 2005](#); [Telfer et al., 2006](#)). This finding suggests that, at least in the study area, EmBz is distributed much more widely in the environment than previously observed. Such a finding is potentially attributable to a number of factors.

EmBz has been licensed for use in Scotland as a treatment for sea lice in caged finfish for almost 20 years ([SEPA, 1999](#)). Over this time, usage has increased ([Murray, 2015](#)), which suggests accumulation in sediment is likely given its known persistence. This has been demonstrated with other persistent sea lice medicines e.g. Tef ([Samuelsen et al., 2015](#); this survey). In addition, the areas surveyed in Shetland are predominantly representative of dynamic hydrographic conditions, with a high likelihood of sediment dispersal and entrainment across large areas. As a result, sediments with bound EmBz may be distributed more widely under these conditions than in areas with more sluggish flow.

The [scientific paper concluded](#): (EmBz = Emamectin benzoate; and Tef = Teflubenzuron):

## 5. Conclusions

EmBz was detected at almost every location sampled in the survey and Tef was detected in half of the locations surveyed nearly 5 years after the cessation of use. Such widespread occurrence of EmBz in the environment has not been observed in previous studies and suggests residues may be distributed more widely than previously thought. In addition, analysis of the data demonstrates an effect of EmBz on abundance, diversity and community structure of [benthic ecology](#) at the concentrations observed during the survey. Within crustaceans, low mobility taxa with a burrowing and detritivorous lifestyle were identified as particularly vulnerable to EmBz. These findings demonstrate effects on crustacea below the level of the current EQS (0.763 µg/kg wet weight).

The Ferret [reported in June 2019](#):

**The multinational salmon farming industry has been pushing behind the scenes for environmental limits on a toxic pesticide to be 100 times weaker than government regulators recommend.**

The Ferret can reveal that the pesticide's US manufacturer, Merck, and the [Scottish Salmon Producers' Organisation \(SSPO\)](#) funded an unpublished study arguing that wildlife in sea lochs could withstand high concentrations of the pesticide.

The industry's move to relax the limits has been condemned as "beyond belief" by community groups, while environmentalists have urged fish farmers to protect wildlife by ceasing to use the pesticide. But the industry insists that it has confidence in its science.

And the article continued:

Then a [2018 survey by Sepa](#) around eight fish farms in Shetland found emamectin had spread more widely than previously thought. "The existing approaches do not adequately protect marine life," Sepa concluded, and introduced interim restrictions.

Sepa also asked the [UK Technical Advisory Group \(UKTAG\)](#), which brings together scientists from all the UK's environmental regulators, to recommend safety limits for the pesticide. On 24 May it made its findings [available for consultation](#).

Whilst SEPA delays acting on the science - [and in fact relaxes rules even further](#) - Norwegian-owned salmon farming companies are flooding Scottish lochs with toxic chemicals. The Scottish Salmon Company has [reported 26 doses of Emamectin benzoate at their St. Molios salmon farm in Lamlash Bay since 2011](#) (with 6 doses in 2016 and 7 doses in 2014):

Date	Submitted By	Emamectin Benzoate (g)	Site Name
01-Apr-20	The Scottish Salmon Company	30.8	St Molios
01-May-19	The Scottish Salmon Company	289.8	St Molios
01-Jan-19	The Scottish Salmon Company	350	St Molios
01-Sep-18	The Scottish Salmon Company	275.1	St Molios
01-Jul-18	The Scottish Salmon Company	142.5	St Molios
01-May-18	The Scottish Salmon Company	52.8	St Molios
01-Mar-18	The Scottish Salmon Company	29	St Molios
01-Feb-17	The Scottish Salmon Company	351.12	St Molios
01-Oct-16	The Scottish Salmon Company	351	St Molios
01-Sep-16	The Scottish Salmon Company	224.76	St Molios
01-Jul-16	The Scottish Salmon Company	107.02	St Molios
01-May-16	The Scottish Salmon Company	39.26	St Molios
01-Apr-16	The Scottish Salmon Company	13.6	St Molios
01-Mar-16	The Scottish Salmon Company	10	St Molios
01-Dec-14	The Scottish Salmon Company	299.2	St Molios
01-Nov-14	The Scottish Salmon Company	226.3	St Molios
01-Aug-14	The Scottish Salmon Company	131.1	St Molios
01-Jul-14	The Scottish Salmon Company	56	St Molios
01-May-14	The Scottish Salmon Company	5.44	St Molios
01-Apr-14	The Scottish Salmon Company	11.4	St Molios
01-Jan-14	The Scottish Salmon Company	90.1	St Molios

The Scottish Salmon Company [withdrew an application to expand in Lamlash Bay - a 'Marine Protected Area' - on the Isle of Arran in 2017.](#)



## No salmon farm expansion in Arran's MPA

### Scotland's inshore fisheries management not fit for purpose

The Scottish Salmon Company (SSC) has withdrawn its application to expand the St Molios salmon fish farm in Lamlash Bay. This follows SEPA admitting to [errors in their ecological appraisal](#) which wrongly predicted the expansion would lead to a decrease instead of an increase of toxic Emamectin Benzoate going into the South Arran Marine Protected Area.

The Scottish Salmon Company has [reported 14 doses of Emamectin benzoate at their disease-ridden salmon farm at Strondoir Bay in Loch Fyne since October 2015:](#)

Date	Submitted By	Emamectin Benzoate (g)	Site Name
01-May-20	The Scottish Salmon Company	504	Strondoir Bay
01-Mar-20	The Scottish Salmon Company	268.8	Strondoir Bay
01-Dec-19	The Scottish Salmon Company	96.8	Strondoir Bay
01-Oct-19	The Scottish Salmon Company	42	Strondoir Bay
01-May-18	The Scottish Salmon Company	407	Strondoir Bay
01-Feb-18	The Scottish Salmon Company	237.3	Strondoir Bay
01-Dec-17	The Scottish Salmon Company	90	Strondoir Bay
01-Nov-17	The Scottish Salmon Company	20.4	Strondoir Bay
01-Oct-17	The Scottish Salmon Company	19.2	Strondoir Bay
01-Jun-16	The Scottish Salmon Company	264.88	Strondoir Bay
01-Apr-16	The Scottish Salmon Company	163.8	Strondoir Bay
01-Feb-16	The Scottish Salmon Company	109.2	Strondoir Bay
01-Nov-15	The Scottish Salmon Company	31.16	Strondoir Bay
01-Oct-15	The Scottish Salmon Company	20.56	Strondoir Bay



Additional comments:

F1 matured male in poor condition, fins very damaged. Damage to the head and snout, 18 lice of different stages observed. F2 with damage to the eyes and some damage to the snout. F3 damage to fins and head. Matured male. F4 dorsal fin reduced to cartilage, caudal fins severely damaged. Damage to snout. F5 mature male in general good condition. Some fin damage but not significant. Damage to snout.



The Scottish Salmon Company has [reported 26 doses of Emamectin benzoate since 2011 at Strone Point salmon farm in Loch Striven including 5 doses in 2017 and 6 in 2015:](#)

Date	Submitted By	Emamectin Benzoate (g)	Site Name
01-Dec-19	The Scottish Salmon Company	481.8	Strone Point
01-Oct-19	The Scottish Salmon Company	360.8	Strone Point
01-Jul-19	The Scottish Salmon Company	166	Strone Point
01-May-19	The Scottish Salmon Company	55.1	Strone Point
01-Apr-19	The Scottish Salmon Company	24	Strone Point
01-Oct-17	The Scottish Salmon Company	426.3	Strone Point
01-Aug-17	The Scottish Salmon Company	246	Strone Point
01-Jun-17	The Scottish Salmon Company	100.8	Strone Point
01-Apr-17	The Scottish Salmon Company	44	Strone Point
01-Mar-17	The Scottish Salmon Company	9.2	Strone Point
01-Jan-16	The Scottish Salmon Company	502.9	Strone Point
01-Oct-15	The Scottish Salmon Company	441	Strone Point
01-Aug-15	The Scottish Salmon Company	221.76	Strone Point
01-Jun-15	The Scottish Salmon Company	11.88	Strone Point
01-May-15	The Scottish Salmon Company	26.7	Strone Point
01-Apr-15	The Scottish Salmon Company	9	Strone Point
01-Mar-15	The Scottish Salmon Company	10.56	Strone Point
01-May-14	The Scottish Salmon Company	413.4	Strone Point
01-Feb-14	The Scottish Salmon Company	403.2	Strone Point
01-Sep-13	The Scottish Salmon Company	147	Strone Point
01-Jul-13	The Scottish Salmon Company	43.18	Strone Point
01-Jun-13	The Scottish Salmon Company	20.52	Strone Point
01-Feb-12	The Scottish Salmon Company	296.7	Strone Point



The Scottish Salmon Company - which may be one of the companies [investigated by SEPA for breaches of chemicals reporting](#) - has [reported 25 doses of Emamectin benzoate at Taranaish salmon farm in Loch Roag since 2011 including 6 doses between April 2019 and February 2020](#):

Date	Submitted By	Emamectin Benzoate (g)	Site Name
01-Feb-20	The Scottish Salmon Company	405.72	Taranaish
01-Nov-19	The Scottish Salmon Company	260.28	Taranaish
01-Sep-19	The Scottish Salmon Company	383.18	Taranaish
01-Jul-19	The Scottish Salmon Company	156	Taranaish
01-May-19	The Scottish Salmon Company	65.32	Taranaish
01-Apr-19	The Scottish Salmon Company	33.6	Taranaish
01-Dec-17	The Scottish Salmon Company	577.8	Taranaish
01-Oct-17	The Scottish Salmon Company	427.14	Taranaish
01-Aug-17	The Scottish Salmon Company	189	Taranaish
01-May-17	The Scottish Salmon Company	71.4	Taranaish
01-Feb-16	The Scottish Salmon Company	399.3	Taranaish
01-Dec-15	The Scottish Salmon Company	592.5	Taranaish
01-Oct-15	The Scottish Salmon Company	516	Taranaish
01-Aug-15	The Scottish Salmon Company	207.04	Taranaish
01-Jun-15	The Scottish Salmon Company	72.2	Taranaish
01-May-15	The Scottish Salmon Company	42	Taranaish
01-Jun-14	The Scottish Salmon Company	503.12	Taranaish
01-Mar-14	The Scottish Salmon Company	510.72	Taranaish
01-Dec-13	The Scottish Salmon Company	476.16	Taranaish
01-Oct-13	The Scottish Salmon Company	288.8	Taranaish
01-Aug-13	The Scottish Salmon Company	153	Taranaish
01-May-13	The Scottish Salmon Company	44.16	Taranaish



The Scottish Salmon Company has [reported 22 doses of Emamectin benzoate at Tarbert South salmon farm in Loch Fyne since 2011 including 5 doses between October 2019 and May 2020](#):

Date	Submitted By	Emamectin Benzoate (g)	Site Name
01-May-20	The Scottish Salmon Company	335.8	Tarbert South
01-Mar-20	The Scottish Salmon Company	222.3	Tarbert South
01-Dec-19	The Scottish Salmon Company	158.4	Tarbert South
01-Nov-19	The Scottish Salmon Company	39	Tarbert South
01-Oct-19	The Scottish Salmon Company	14.3	Tarbert South
01-May-18	The Scottish Salmon Company	156	Tarbert South
01-Feb-18	The Scottish Salmon Company	66.36	Tarbert South
01-Dec-17	The Scottish Salmon Company	24	Tarbert South
01-Jun-16	The Scottish Salmon Company	154	Tarbert South
01-Apr-16	The Scottish Salmon Company	93.84	Tarbert South
01-Feb-16	The Scottish Salmon Company	64.8	Tarbert South
01-Nov-15	The Scottish Salmon Company	20.8	Tarbert South
01-Oct-15	The Scottish Salmon Company	4.5	Tarbert South
01-Jan-15	The Scottish Salmon Company	307.72	Tarbert South

Scottish Sea Farms has been heavy-handed with the use of Emamectin benzoate at Vidlin North salmon farm in Shetland with [26 reported doses since 2009 including 4 doses in 2019 and 5 doses in 2017](#) (Vidlin Outer salmon farm shows a similar pattern of use).

Date	Submitted By	Emamectin Benzoate (g)	Site Name
01-Dec-19	Scottish Sea Farms	248	Vidlin North
01-Oct-19	Scottish Sea Farms	171.2	Vidlin North
01-Aug-19	Scottish Sea Farms	91.52	Vidlin North
01-Apr-19	Scottish Sea Farms	16.3	Vidlin North
01-Dec-17	Scottish Sea Farms	285.12	Vidlin North
01-Oct-17	Scottish Sea Farms	184.62	Vidlin North
01-Aug-17	Scottish Sea Farms	80.27	Vidlin North
01-May-17	Scottish Sea Farms	34.22	Vidlin North
01-Apr-17	Scottish Sea Farms	14.8	Vidlin North
01-Jun-16	Scottish Sea Farms	262.8	Vidlin North
01-Jan-16	Scottish Sea Farms	294.8	Vidlin North
01-Oct-15	Scottish Sea Farms	212.8	Vidlin North
01-Sep-15	Scottish Sea Farms	88	Vidlin North
01-May-15	Scottish Sea Farms	36.066	Vidlin North
01-Oct-13	Scottish Sea Farms	720	Vidlin North
01-May-13	Scottish Sea Farms	350.3	Vidlin North
01-Feb-13	Scottish Sea Farms	143.46	Vidlin North
01-Nov-12	Scottish Sea Farms	24.182	Vidlin North
01-Dec-11	Scottish Sea Farms	1474.2	Vidlin North
01-Sep-11	Scottish Sea Farms	772	Vidlin North
01-Jul-11	Scottish Sea Farms	581.6	Vidlin North
01-Apr-11	Scottish Sea Farms	336.98	Vidlin North
01-Jan-11	Scottish Sea Farms	181.308	Vidlin North

Whilst some site specific data on the use of toxic chemicals is available in Scotland, the availability of data in Norway is [more transparent and publicly accessible](#).

## Trends in de-lousing of Norwegian farmed salmon from 2000–2019—Consumption of medicines, salmon louse resistance and non-medicinal control methods

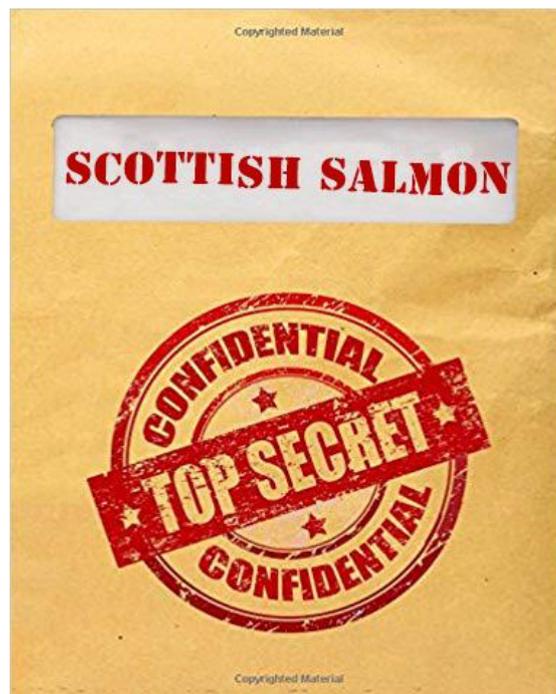
Elena Myhre Jensen , Tor Einar Horsberg, Sigmund Sevatdal, Kari Olli Helgesen

Published: October 29, 2020 • <https://doi.org/10.1371/journal.pone.0240894>

Substance	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Azamethiphos	0	0	0	0	0	0	0	0	66	1,884	3,346	2,437	4,059
Hydrogen peroxide	0	0	0	0	0	0	0	0	0	308,000	3,071,000	3,144,000	2,538,000
Diflubenzuron	12	0	0	0	0	0	0	0	0	1,413	1,839	704	1,611
Teflubenzuron	62	28	0	0	0	0	0	0	0	2,028	1,080	26	751
Cypermethrin	73	69	62	59	55	45	49	30	32	88	107	48	232
Deltamethrin	23	19	23	16	17	16	23	29	39	62	61	54	121
Emamectin benzoate	30	12	20	23	32	39	60	73	81	41	22	105	36

Substance	2013	2014	2015	2016	2017	2018	2019
Azamethiphos	3,037	4,630	3,904	1,269	204	160	154
Hydrogen peroxide	8,262,000	31,577,000	43,246,000	26,597,000	9,277,000	6,735,000	4,523,000
Diflubenzuron	3,264	5,016	5,896	4,824	1,803	378	1,296
Teflubenzuron	1,704	2,674	2,509	4,209	293	144	183
Cypermethrin	211	162	85	48	8	0	0
Deltamethrin	136	158	115	43	14	10	10
Emamectin benzoate	51	172	259	232	128	87	114

A [public register of toxic chemicals](#) - including the use of Formaldehyde, Hydrogen peroxide, Imidacloprid and antibiotics - is still a long way off for Scotland. Why are Norwegian-owned salmon farming companies operating to lower standards of transparency in Scotland compared to back home in Norway?



The absence of data on chemical use via wellboats is an issue that [Scottish Salmon Watch has questioned the Scottish Environment Protection Agency](#) who earlier this month took over the regulation of discharges of toxic chemicals via wellboats from Marine Scotland.

**Scottish Environment Protection Agency** @Sc... · Nov 9, 2020

SEPA takes on new powers to regulate chemical treatment residues from wellboats, adding to existing regulation of in-pen treatments, streamlining regulation and making it easier to ensure discharges meet environmental standards.

Read more [bit.ly/3k9GWMJ](https://bit.ly/3k9GWMJ)



**Don Staniford** @TheGAAlA

During "streamlining" will you please publish data on the use of Azamethiphos, Deltamethrin, Hydrogen Peroxide & Imidacloprid via wellboats? Data for use on salmon farms is published up to July 2020 but wellboat data is still not available for 2019! [tinyurl.com/y4ymc872](https://tinyurl.com/y4ymc872)

SEPA's [FOI disclosure \(F0192092\) in October 2020](#) detailed use of the toxic chemical Azamethiphos via wellboats during 2018 - here's the Top 10 biggest users of this [toxic organophosphate](#) headed by Grieg Seafood:

Site Name	Licence	Company name	Azamethiphos (kgs)
Setterness North	CAR/L/1078468	Grieg Seafood Shetland Ltd	12.2
Colonsay	CAR/L/1110925	Marine Harvest (Scotland) Ltd	3.19
Plocrapol	CAR/L/1016553	The Scottish Salmon Company Ltd	2.66
Linga (South of	CAR/L/1015763	Grieg Seafood Shetland Ltd	2.3
Taranaish	CAR/L/1017374	The Scottish Salmon Company Ltd	1.1
Vacasay, Roag	CAR/L/1005041	The Scottish Salmon Company Ltd	1
Leinish Bay	CAR/L/1002991	Grieg Seafood Shetland Ltd	1
Greshornish	CAR/L/1002890	Marine Harvest (Scotland) Ltd	0.8
Setterness South	CAR/L/1005092	Grieg Seafood Shetland Ltd	0.72
Vuia Beag	CAR/L/1015852	The Scottish Salmon Company Ltd	0.7

Deltamethrin - a toxic chemical [shown by a recent scientific paper](#) to be "a significant risk to lobster larvae living near fish farms" - was used by the following sites in 2018 via wellboats.

Site Name	Licence	Company name	Deltamethrin (kgs)
Swining Voe Site 3 (C)	CAR/L/1003929	Grieg Seafood Shetland Ltd	18.96
Taranaish	CAR/L/1017374	The Scottish Salmon Company Ltd	4.432
Plocrapol	CAR/L/1016553	The Scottish Salmon Company Ltd	2.75
North Voe	CAR/L/1002998	Grieg Seafood Shetland Ltd	1.28
Eughlam North	CAR/L/1082027	The Scottish Salmon Company Ltd	1.2
Vuia Mor	CAR/L/1011812	The Scottish Salmon Company Ltd	0.832
Gorsten	CAR/L/1009968	Marine Harvest (Scotland) Ltd	0.0072

Further information was [disclosed in November 2019 by the Scottish Government via FOI-19-02442](#) - including well boat data [disclosed via Dropbox](#) (Alphamax is the trade name of Deltamethrin and Salmosan is Azamethiphos):

2018 The Scottish Salmon Company						
Site	MCMS No.	Date	Time	Duration	Product	Amount
Vuia Beag	No Licence	14/07/2018	09:34	30 Mins	Salmosan Vet	200g
Vuia Beag	No Licence	15/07/2018	09:46	30 Mins	Salmosan Vet	200g
Vuia Beag	No Licence	21/07/2018	09:46	30 Mins	Salmosan Vet	200g
Vuia Beag	No Licence	22/07/2018	09:34	30 Mins	Salmosan Vet	200g
Vuia Beag	No Licence	03/08/2018	12:00	30 Mins	Salmosan Vet	200g
Vuia Beag	No Licence	04/08/2018	12:10	30 Mins	Salmosan Vet	200g
Vuia Beag	No Licence	05/08/2018	12:02	30 Mins	Salmosan Vet	200g
Taranaish	06397	03/10/2018	02:35	40 Mins	Azasure/AMX	400g and 400ml
Taranaish	06397	04/10/2018	03:20	40 Mins	Azasure/AMX	400g and 400ml
Taranaish	06397	04/10/2018	08:20	40 Mins	Azasure/AMX	400g and 400ml
Taranaish	06397	04/10/2018	18:50	40 Mins	Azasure/AMX	400g and 400ml
Procrapol	06199	15/06/2018	00:23	1 Hour	Salmosan	180g
Procrapol	06199	15/06/2018	20:38	1 Hour	Salmosan	180g
Procrapol	06199	22/06/2018	01:25	1 Hour	Salmosan	180g
Procrapol	06199	22/06/2018	23:25	1 Hour	Salmosan	180g
Procrapol	06199	21/06/2018	17:22	1 Hour	Salmosan	180g
Procrapol	06199	22/06/2018	21:28	1 Hour	Salmosan	180g
Procrapol	06199	22/06/2018	15:45	1 Hour	Salmosan	180g
Procrapol	06199	16/06/2018	08:05	1 Hour	Salmosan	180g
Procrapol	06199	09/06/2018	21:22	1 Hour	Salmosan	180g
Procrapol	06199	09/06/2018	12:36	1 Hour	Salmosan	180g
Procrapol	06199	08/12/2018	14:00	1 Hour	Azasure	100g
Procrapol	06199	08/12/2018	15:05	30 Mins	AMX	125ml
Procrapol	06199	08/12/2018	17:00	1 Hour	Azasure	100g
Procrapol	06199	08/12/2018	18:00	30 Mins	AMX	125ml
Procrapol	06199	08/12/2018	20:20	1 Hour	Azasure	100g
Procrapol	06199	09/12/2018	21:25	30 Mins	AMX	250ml
Eport	06202	18/08/2018	10:08	1 Hour	Salmosan	120g
Trenay	06668	18/08/2018	14:30	1 Hour	Salmosan	120g
Eport	06202	18/08/2018	17:30	1 Hour	Salmosan	120g
Trenay	06668	19/08/2018	08:30	1 Hour	Salmosan	120g
Eport	06202	19/08/2018	11:30	1 Hour	Salmosan	120g
Trenay	06668	19/08/2018	16:15	1 Hour	Salmosan	120g
Eport	06202	20/08/2018	10:30	1 Hour	Salmosan	120g
Trenay	06668	20/08/2018	15:20	1 Hour	Salmosan	120g
Ardcastle	06375	20/10/2018	12:30	1 Hour	Salmosan	200g
Eughlam	06395	22/09/2018	12:09	45 Mins	AMX	600ml
Vuia Mor	06401	25/08/2018	11:26	39 Mins	Salmosan Vet & AMX	200g and 208ml
Vuia Mor	06401	26/08/2018	11:40	40 Mins	Salmosan Vet & AMX	200g and 208ml
Taranaish	06397	08/09/2018	23:34	40 Mins	Azasure & AMX	200g and 200ml
Vacasay	06402	15/10/2018	15:00	1 Hour	Salmosan Vet	400g
Vacasay	06402	17/10/2018	14:30	1 Hour	Salmosan Vet	400g

**2018****Grieg Seafood Ltd**

<u>Site</u>	<u>MCMS No.</u>	<u>Date</u>	<u>Time</u>	<u>Duration</u>	<u>Product</u>	<u>Amount</u>
Swinning 3	08131	15/01/2018	09:30	20 Mins	Peroxide and AMX	9940L and 720ml
Swinning 3	08131	15/01/2018	15:00	20 Mins	Peroxide and AMX	9940L and 720ml
Swinning 3	08131	16/01/2018	09:20	20 Mins	Peroxide and AMX	9790L and 720ml
Swinning 3	08131	16/01/2018	15:40	20 Mins	Peroxide and AMX	9790L and 720ml
Swinning 3	08131	16/01/2018	17:30	20 Mins	Peroxide and AMX	9790L and 720ml
Swinning 3	08131	18/01/2018	08:40	20 Mins	Peroxide and AMX	9640L and 720ml
Swinning 3	08131	18/01/2018	13:25	20 Mins	Peroxide and AMX	9640L and 720ml
Swinning 3	08131	19/01/2018	08:45	20 Mins	Peroxide and AMX	9640L and 720ml
Swinning 3	08131	19/01/2018	14:00	20 Mins	Peroxide and AMX	9640L and 720ml
Settemess South	08121	23/01/2018	10:00	20 Mins	Salmosan	720g
Settemess South	08121	23/01/2018	16:30	20 Mins	Salmosan	720g
Settemess North	08122	18/01/2018	10:20	20 Mins	Salmosan	360g
Settemess North	08122	19/01/2018	09:00	20 Mins	Salmosan	180g
Settemess North	08122	20/01/2018	09:00	20 Mins	Salmosan	720g
Settemess North	08122	20/01/2018	14:40	20 Mins	Salmosan	720g
Settemess North	08122	21/01/2018	09:55	20 Mins	Salmosan	360g
Settemess North	08122	22/01/2018	10:20	20 Mins	Salmosan	720g
Settemess North	08122	22/01/2018	19:40	20 Mins	Salmosan	720g
Swinning 3	08131	14/05/2018	15:30	20 Mins	Peroxide and AMX	2921L and 200ml
Swinning 3	08131	15/05/2018	10:00	20 Mins	Peroxide and AMX	5374L and 400ml
Swinning 3	08131	15/05/2018	13:00	20 Mins	Peroxide and AMX	5374L and 400ml
Swinning 3	08131	15/05/2018	16:00	20 Mins	Peroxide and AMX	5374L and 400ml
Swinning 3	08131	16/05/2018	12:00	20 Mins	Peroxide and AMX	5072L and 400ml
Swinning 3	08131	16/05/2018	16:00	20 Mins	Peroxide and AMX	5072L and 400ml
Swinning 3	08131	17/05/2018	10:00	20 Mins	Peroxide and AMX	4417L and 400ml
Swinning 3	08131	17/05/2018	15:30	20 Mins	Peroxide and AMX	4417L and 400ml
Settemess North	08122	18/05/2018	10:05	20 Mins	Peroxide and Salmosan	5400L and 360g
Settemess North	08122	19/05/2018	09:25	20 Mins	Peroxide and Salmosan	10800L and 720g
Settemess North	08122	19/05/2018	15:40	20 Mins	Peroxide and Salmosan	10800L and 720g
Settemess North	08122	20/05/2018	10:00	20 Mins	Peroxide and Salmosan	8100L and 540g
Settemess North	08122	20/05/2018	15:30	20 Mins	Peroxide and Salmosan	8100L and 540g
Settemess North	08122	21/05/2018	19:00	20 Mins	Peroxide and Salmosan	5400L and 360g
Settemess North	08122	22/05/2018	11:00	20 Mins	Peroxide and Salmosan	8800L and 720g
Settemess North	08122	22/05/2018	18:00	20 Mins	Peroxide and Salmosan	8800L and 720g
Settemess North	08122	23/05/2018	18:00	20 Mins	Peroxide and Salmosan	5400L and 360g
Settemess North	08122	24/05/2018	19:05	20 Mins	Peroxide and Salmosan	5400L and 360g
Settemess North	08122	25/05/2018	19:00	20 Mins	Peroxide and Salmosan	5400L and 360g

**2018****Marine Harvest/Mowi**

<u>Site</u>	<u>MCMS No.</u>	<u>Date</u>	<u>Time</u>	<u>Duration</u>	<u>Product</u>	<u>Amount</u>
Colonsay	05998	15/06/2018	22:00	4 Hours	Azamethiphos	220g
Colonsay	05998	16/06/2018	06:00	4 Hours	Azamethiphos	220g
Colonsay	05998	16/06/2018	23:30	4 Hours	Azamethiphos	220g
Colonsay	05998	16/06/2018	16:00	6 Hours	Azamethiphos	220g
Colonsay	05998	17/06/2018	08:00	4 Hours	Azamethiphos	220g
Colonsay	05998	17/06/2018	21:00	3 Hours	Azamethiphos	220g
Colonsay	05998	17/06/2018	12:23	4 Hours	Azamethiphos	220g
Colonsay	05998	18/06/2018	05:40	4 Hours	Azamethiphos	220g
Colonsay	05998	18/06/2018	19:02	4 Hours	Azamethiphos	220g
Colonsay	05998	18/06/2018	16:36	4 Hours	Azamethiphos	220g
Colonsay	05998	19/06/2018	03:07	4 Hours	Azamethiphos	220g
Colonsay	05998	19/06/2018	20:56	4 Hours	Azamethiphos	220g
Colonsay	05998	19/06/2018	11:07	4 Hours	Azamethiphos	220g
Colonsay	05998	20/06/2018	11:37	4 Hours	Azamethiphos	220g
Colonsay	05998	20/06/2018	17:44	4 Hours	Azamethiphos	110g
Gorsten	06004	18/08/2018	15:55	30 Mins	Deltametrin	2.7g
Gorsten	06004	18/08/2018	15:55	30 Mins	Deltametrin	0.9g
Gorsten	06004	18/08/2018	11:50	30 Mins	Deltametrin	3.33g
Gorsten	06004	18/08/2018	11:50	30 Mins	Deltametrin	0.27g
Greshomish	06005	21/02/2018	13:28	1 Hour	Azamethiphos	200g
Greshomish	06005	23/02/2018	14:05	45 Mins	Azamethiphos	200g
Greshomish	06005	15/03/2018	20:53	1 Hour	Azamethiphos	200g
Greshomish	06005	21/03/2018	20:05	1 Hour	Azamethiphos	200g

Read more via "[The Devil is in the Data - why no published figures on use of toxic chemicals via wellboats?](#)" and "[Closing the Net on Salmon Farming's Use of Toxic Chemicals](#)"

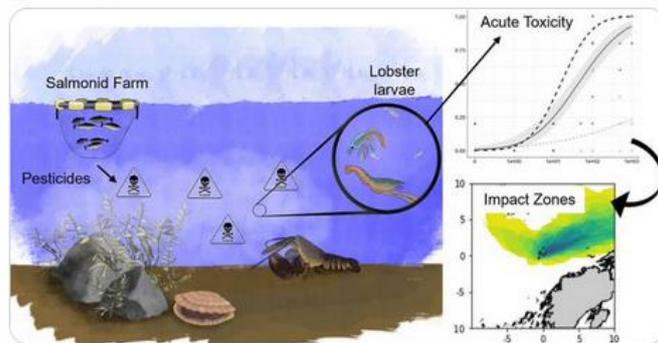
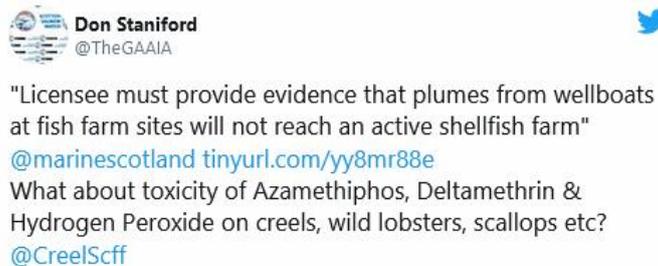
The licensing of wellboat discharges has attracted considerable attention during 2020 with Marine Scotland [issuing dozens of 'Temporary Marine Licence Variations' to salmon farming companies in July and April 2020.](#)



Your search for "Temporary Marine Licence Variations - Wellboat Discharge" gave back 25 results.

- [Temporary Marine Licence Variations \(03 July 2020\) - Wellboat Discharge - Various Sites - Cooke Aquaculture Scotland Ltd](#)
- [Temporary Marine Licence Variations \(03 July 2020\) - Wellboat Discharge - Various Sites - Dawnfresh Farming Ltd](#)
- [Temporary Marine Licence Variations \(03 July 2020\) - Wellboat Discharge - Various Sites - Kames Fish Farming Ltd](#)
- [Temporary Marine Licence Variations \(03 July 2020\) - Wellboat Discharge - Various Sites - MOWI Scotland Ltd](#)
- [Temporary Marine Licence Variations \(03 July 2020\) - Wellboat Discharge - Various Sites - Scottish Sea Farms](#)
- [Temporary Marine Licence Variations \(03 July 2020\) - Wellboat Discharge - Various Sites - The Scottish Salmon Company](#)
- [Temporary Marine Licence Variations \(03 July 2020\) - Wellboat Discharge - Various Sites - Grieg Seafood Shetland Ltd](#)
- [Temporary Marine Licence Variations \(08 April 2020\) - Wellboat Discharge - Various Sites - Cooke Aquaculture Scotland Ltd](#)
- [Temporary Marine Licence Variations \(08 April 2020\) - Wellboat Discharge - Various Sites - The Scottish Salmon Company](#)
- [Temporary Marine Licence Variations \(08 April 2020\) - Wellboat Discharge - Various Sites - Scottish Sea Farms Ltd](#)
- [Temporary Marine Licence Variations \(08 April 2020\) - Wellboat Discharge - Various Sites - MOWI Scotland Ltd](#)
- [Temporary Marine Licence Variations \(08 April 2020\) - Wellboat Discharge - Various Sites - Grieg Seafood Shetland Ltd](#)
- [Temporary Marine Licence Variations \(08 April 2020\) - Wellboat Discharge - Various Sites - Dawnfresh Farming Ltd](#)
- [Temporary Marine Licence Variations \(16 April 2020\) - Wellboat Discharge - Various Sites - Cooke Aquaculture Scotland Ltd](#)
- [Temporary Marine Licence Variations \(16 April 2020\) - Wellboat Discharge - Various Sites - Dawnfresh Farming Ltd](#)
- [Temporary Marine Licence Variations \(16 April 2020\) - Wellboat Discharge - Various Sites - Grieg Seafood Shetland Ltd](#)
- [Temporary Marine Licence Variations \(16 April 2020\) - Wellboat Discharge - Various Sites - The Scottish Salmon Company](#)
- [Temporary Marine Licence Variations \(16 April 2020\) - Wellboat Discharge - Various Sites - Scottish Sea Farms Ltd](#)
- [Temporary Marine Licence Variations \(16 April 2020\) - Wellboat Discharge - Various Sites - MOWI Scotland Ltd](#)
- [Temporary Marine Licence Variations - Wellboat Discharge - Various Sites - Cooke Aquaculture Scotland Ltd](#)
- [Temporary Marine Licence Variations - Wellboat Discharge - Various Sites - Dawnfresh Farming Ltd](#)
- [Temporary Marine Licence Variations - Wellboat Discharge - Various Sites - Grieg Seafood Shetland Ltd](#)
- [Temporary Marine Licence Variations - Wellboat Discharge - Various Sites - MOWI Scotland Ltd](#)
- [Temporary Marine Licence Variations - Wellboat Discharge - Various Sites - Scottish Sea Farms Ltd](#)
- [Temporary Marine Licence Variations - Wellboat Discharge - Various Sites - The Scottish Salmon Company](#)

A ['Schedule to Notification of Variation' for Mowi dated 3 July 2020](#) included the statement that: "the Licensee must provide evidence to the Licensing Authority that plumes from wellboats at fish farm sites will not reach an active shellfish farm".



Read more via [SEPA: "Regulation of Fish Farms Streamlined" - err isn't streamline a euphemism for 'reduce to the bare bones'?](#)

Recent peer-reviewed scientific research has added to the [weight of evidence against the use of Azamethiphos, Deltamethrin, Emamectin benzoate, Hydrogen peroxide and Imidacloprid in salmon farming](#).

In September 2020, the [Institute of Marine Research in Bergen reported:](#)



INSTITUTE OF MARINE RESEARCH

New lab experiments show anti-sea lice agent deltamethrin is highly toxic to lobster larvae

When researchers simulated anti-sea lice treatments, the plume of chemicals that can be dangerous to the larvae typically spread out 5 to 15 kilometres as it diluted.

The findings have been presented in a new scientific article based on a two-part study. The marine scientists started by documenting how toxic the anti-sea lice pesticides azamethiphos and deltamethrin are to lobster larvae in laboratory experiments.

### Both chemicals were acutely toxic in low doses

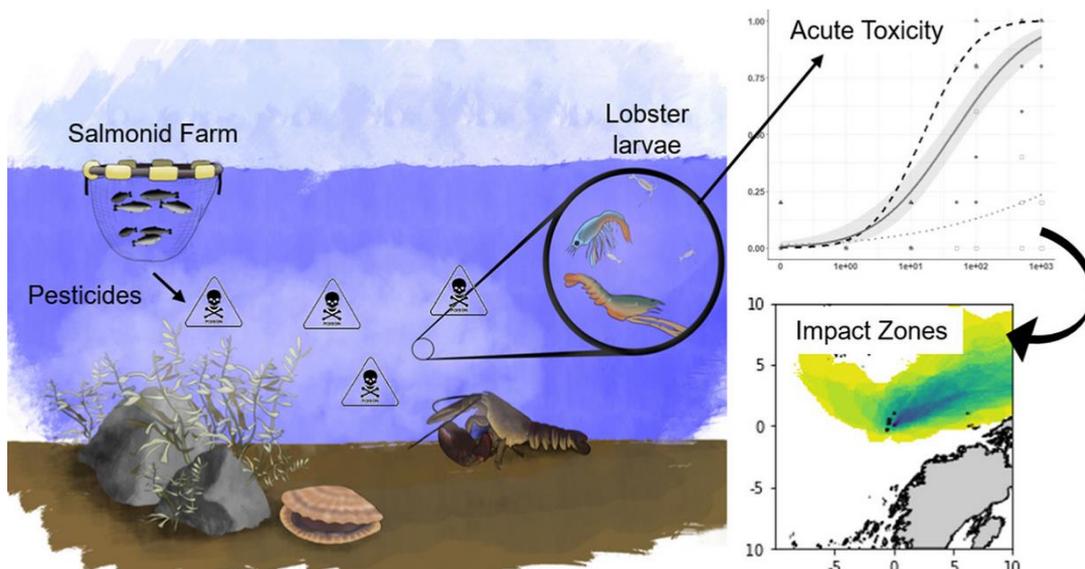
"The delousing agents azamethiphos and deltamethrin are acutely toxic to lobster larvae even in small concentrations", says marine scientist Aoife Parsons.

The results for deltamethrin were particularly striking, with the deadly dose after an hour's exposure being 800 times weaker than the concentration that salmon are bathed in.

The researchers consider one hour to be a short period of exposure.



Read more via the scientific paper: "[The impact of anti-sea lice pesticides, azamethiphos and deltamethrin, on European lobster \(\*Homarus gammarus\*\) larvae in the Norwegian marine environment](#)"



In 2016 the Scottish Aquaculture Research Forum [published a damning report on the impact of Emamectin benzoate on shellfish](#) (re-published in 2017 [online here](#)). The Sunday Herald [reported in March 2017](#):

A major scientific study had found “unexpected” links between “very low” levels emamectin and the loss of crabs, lobsters and other crustaceans, Sepa said. The agency is now reviewing its environmental safety limits for the pesticide to check they provide “adequate environmental protection”.

The study, commissioned by Sepa from the Scottish Aquaculture Research Forum, concluded that the use of emamectin at fish farms “was associated with substantial, wide-scale reductions in both the richness and abundance of non-target crustacea”.

It said that “toxic effects occur at levels much lower than those that are currently detectable”, and suggested that there was no threshold below which emamectin would be harmless.

“The evidence suggests that benthic crustacea may not be adequately protected by the current regulation of emamectin use in Scottish salmon farms,” the study warned.

A [proposed ban on the use of Emamectin benzoate on salmon farms in Scotland was stymied by industry lobbying](#) in a scandal dubbed '[Slicegate](#)'. The Ferret [reported in June 2019](#):

**The multinational salmon farming industry has been pushing behind the scenes for environmental limits on a toxic pesticide to be 100 times weaker than government regulators recommend.**

The Ferret can reveal that the pesticide's US manufacturer, Merck, and the [Scottish Salmon Producers' Organisation \(SSPO\)](#) funded an unpublished study arguing that wildlife in sea lochs could withstand high concentrations of the pesticide.

The industry's move to relax the limits has been condemned as “beyond belief” by community groups, while environmentalists have urged fish farmers to protect wildlife by ceasing to use the pesticide. But the industry insists that it has confidence in its science.

A [2016 study](#) by the Scottish Association for Marine Science warned that emamectin was harming crabs, lobsters and other crustaceans around fish farms. As a result the [Scottish Environment Protection Agency \(Sepa\)](#) proposed a ban.

But in [a series of investigations in 2017 and 2018](#) The Ferret reported that both Sepa and the Scottish Government secretly bowed to pressure from SSPO and Merck – and withdrew the proposed ban. Critics dubbed the affair “[Slicegate](#)”.

Sadly, neither SEPA's 'Scottish Pollutant Release Inventory' nor Scotland's Aquaculture database include data on the use of the toxic chemical Hydrogen Peroxide, antibiotics or the carcinogenic chemical Formaldehyde.



Data on the use of Hydrogen peroxide was [obtained in 2017 via Freedom of Information](#) revealing sky-rocketing use at salmon farms around Scotland - spearheaded by Mowi (then named Marine Harvest) and Grieg Seafood.

Here's the top 20 salmon farms using Hydrogen Peroxide in 2015 - including over 1 million litres at one [lice-infested Marine Harvest salmon farm in Loch Torridon](#):

Site Name	Operator (at date of submission)	Local Authority	Hydrogen Peroxide (litres)
Camas an Leim (Torridon)	Marine Harvest (Scotland) Ltd	Highland	1018616
Ardintoul	Marine Harvest (Scotland) Ltd	Highland	753450
Creag an Sagairt West	Marine Harvest (Scotland) Ltd	Highland	464529
North Havra	Grieg Seafood Shetland Ltd	Shetland Islands	424000
Easter Score Holm	Grieg Seafood Shetland Ltd	Shetland Islands	417700
East of Langa	Grieg Seafood Shetland Ltd	Shetland Islands	398600
Greanamul	The Scottish Salmon Company Ltd	Eilean Siar	394091
Poll na Gille	Marine Harvest (Scotland) Ltd	Argyll and Bute	387150
Sgeir Dughall	The Scottish Salmon Company Ltd	Highland	382272
Rubh an Trilleachain	Kames Fish Farming Ltd	Argyll and Bute	376000
Isle of Ewe	Marine Harvest (Scotland) Ltd	Highland	369250
Spoose Holm (Oxna)	Grieg Seafood Shetland Ltd	Shetland Islands	368600
Aird Ardheslaig	The Scottish Salmon Company Ltd	Highland	343548
West of Burwick	Grieg Seafood Shetland Ltd	Shetland Islands	335700
Soay Sound	Marine Harvest (Scotland) Ltd	Eilean Siar	287455
Sron	Marine Harvest (Scotland) Ltd	Highland	281700
Papa, East Head of Scalloway	Grieg Seafood Shetland Ltd	Shetland Islands	277000
Stulaigh Island	Marine Harvest (Scotland) Ltd	Eilean Siar	276959
Ardmaddy South	Marine Harvest (Scotland) Ltd	Argyll and Bute	271903
Erisort, North Shore East	Marine Harvest (Scotland) Ltd	Eilean Siar	271215

Download the SEPA data (2002-2015) as an Excel spreadsheet [online here](#)

## Mortality and reduced photosynthetic performance in sugar kelp *Saccharina latissima* caused by the salmon-lice therapeutant hydrogen peroxide

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**ABSTRACT:** Sugar kelp *Saccharina latissima* is one of the dominating kelp species on sheltered sublittoral sites along the Norwegian coastline, providing important habitats and ecosystem services. In finfish aquaculture in Norway, infections caused by salmon lice *Lepeophtheirus salmonis* are one of the biggest challenges the industry is currently facing, and presently the most-used therapeutant is hydrogen peroxide ( $H_2O_2$ ). Commonly, this treatment involves bathing the fish in a solution of approximately  $1700 \text{ mg } H_2O_2 \text{ l}^{-1}$  seawater before releasing the solution into the surrounding waters. The present study was conducted to increase the knowledge on how these  $H_2O_2$  emissions from farm operations could impact juvenile *S. latissima*. This was achieved by determining the effects of a 1 h exposure to realistic  $H_2O_2$  levels on *S. latissima* mortality and photosynthesis. Effects on photosynthesis were determined by incubating plants at 3 time intervals post-exposure. Toxicity potentials including lethal concentration for 50% of the population ( $LC_{50}$ ) and effective concentration ( $EC_{50}$ ) for photosynthetic capacity ( $P_{MAX}$ ) and efficiency ( $\alpha$ ) were determined based on these data. Juvenile *S. latissima* was highly sensitive, having an  $LC_{50}$  of  $80.7 \text{ mg } H_2O_2 \text{ l}^{-1}$ , which is less than 5% of the dose commonly used at farms and emitted to the environment. A concentration of  $85 \text{ mg l}^{-1}$  caused an immediate 90% reduction in both  $P_{MAX}$  and  $\alpha$ . The  $EC_{50}$  was found to be 27.8 and  $35.4 \text{ mg l}^{-1}$  for  $P_{MAX}$  and  $\alpha$ , respectively. This may indicate that natural *S. latissima* populations in the vicinity of fish farms can be negatively affected by  $H_2O_2$  bath treatments.



Ecotoxicology and Environmental Safety

Volume 180, 30 September 2019, Pages 473-482



## Gill damage and delayed mortality of Northern shrimp (*Pandalus borealis*) after short time exposure to anti-parasitic veterinary medicine containing hydrogen peroxide

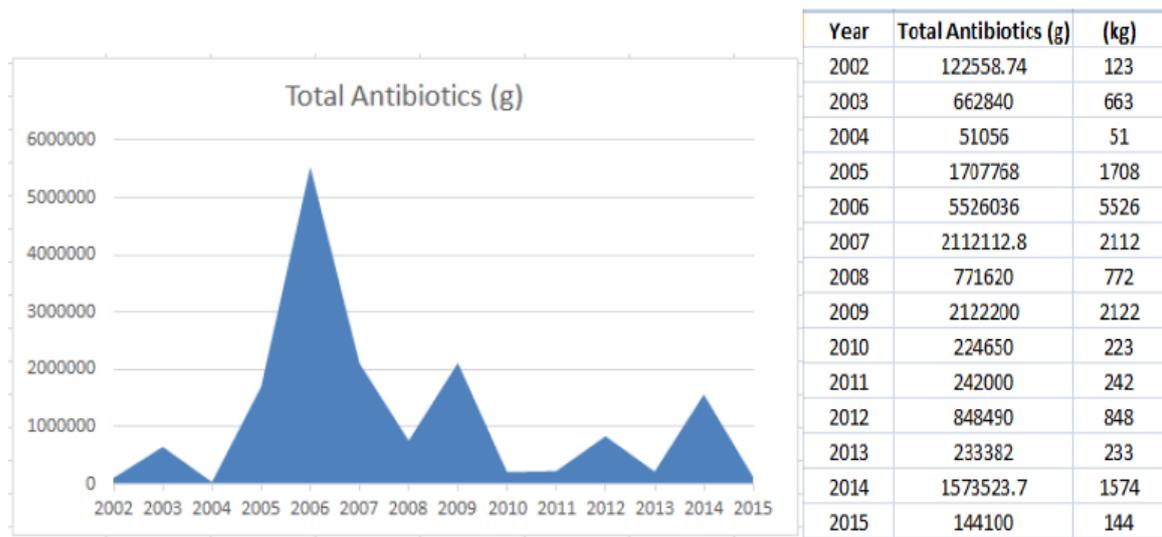
Renée Katrin Bechmann <sup>a, R, ES</sup>, Maj Arnberg <sup>a, 1 ES</sup>, Alessio Gomiero <sup>a ES</sup>, Stig Westerlund <sup>a, 2 ES</sup>, Emily Lyng <sup>a ES</sup>, Mark Berry <sup>a, 1 ES</sup>, Thorleifur Agustsson <sup>a ES</sup>, Tjalling Jager <sup>b ES</sup>, Les E. Burridge <sup>c ES</sup>

### Highlights

- The anti-parasitic hydrogen peroxide product PARAMOVE<sup>®</sup> negatively affected shrimp.
- Negative effects at 1000 times diluted salmon treatment concentration of PARAMOVE<sup>®</sup>.
- Gill damage after 1 h exposure to 1.5 mg/L hydrogen peroxide.
- Mortality after 2 h exposure to 1.5 mg/L hydrogen peroxide for 3 consecutive days.

Norwegian-owned salmon farming companies have also been in the vanguard in terms of the use of antibiotics in Scotland. Data [obtained via Freedom of Information in 2017](#) revealed ongoing antibiotic use at salmon farms with Mowi (then named Marine Harvest) accounting for 87% of all antibiotics used between 2002 and 2015:

Exclusive data obtained via Freedom of Information (FOI) from the Scottish Environment Protection Agency (SEPA) reveals that Scottish salmon farms are still using significant quantities of antibiotics - with drug use higher in 2015 than in 2002 and 2004. Antibiotic use on Scottish salmon farms peaked at over 5,500 kilograms in 2006 but still stood at over 1,500 kilograms in 2014. The drugs used at over 130 salmon farms since 2002 were Oxytetracycline, Florfenicol, Amoxicillin, Fenbendazole, Oxolinic acid and Sarafloxacin hydrochloride [1].



Marine Harvest accounted for 87% of all antibiotics used (2002-2015) with Kames, Loch Duart, Grieg Seafood, Scottish Seafarms and Cooke Aquaculture using lesser quantities (the Scottish Salmon Company and Wester Ross Fisheries reported zero use of antibiotics):

	<b>Total Antibiotic Use (g)</b>
<b>Marine Harvest</b>	<b>14,153,064</b>
<b>Kames</b>	<b>379,404</b>
<b>Loch Duart</b>	<b>284,166</b>
<b>Grieg Seafood</b>	<b>248,830</b>
<b>Scottish Seafarms</b>	<b>123,411</b>
<b>Cooke Aquaculture</b>	<b>123,050</b>

The Press & Journal [reported in February 2017](#):

22 NEWS

THE PRESS AND JOURNAL  
Monday, February 20, 2017

# Fish 'hooked on chemicals'

**Farmed salmon:** Antibiotics are risk to public health, warns campaigner

FAVOURITE DISH: Salmon can become dependent on a 'cocktail of chemicals', it is claimed

Data on antibiotic use in Scottish salmon farming from 2017 to 2019 was [published earlier this month by the Veterinary Medicines Directorate](#):

## 2.3.6.1 Salmon

### 2.3.6.1.1 Results

In 2019, 2.8 tonnes of active ingredient of antibiotics were used, representing 13.5 mg/kg (Table 2.12), which is 6.8 mg/kg higher than the use reported in 2018, but 2.6 mg/kg lower than usage reported in 2017. Under the new AMEG advice published in January 2020, the quinolone oxolinic acid is now considered an HP-CIA, although this was not the case in 2019.

**Table 2.12:** Active ingredient in mg/kg of antibiotics used on Scottish salmon farms; from 2017 to 2019

Antibiotic	2017	2018	2019	Change 2017 to 2019
Oxytetracycline	13.8	3.9	10.2	-26%
Florfenicol	2.2	2.7	3.3	+51%
Oxolinic acid	0.12	0.08	0.02	-79%
Amoxicillin	0.004	0	0	-100%
<b>Total</b>	<b>16.1</b>	<b>6.7</b>	<b>13.5</b>	<b>-16%</b>

The use of the [carcinogenic chemical Formaldehyde \(Formalin\)](#) has already [evaded public reporting](#) but at least some data has been accessed via Freedom of Information revealing how Mowi leads the way.



More than 22 tonnes of formaldehyde, which causes cancer, were poured into cages to disinfect salmon in Loch Ness, Loch Sheil, Loch Lochy and seven other lochs over nine months in 2019.



Toxic fish farm pesticide polluted ten lochs across Scotland  
Ten lochs across Scotland have been polluted by a toxic pesticide used by fish farms to control fungus, parasites and disease.  
[theferret.scot](#)

11:08 AM - May 24, 2020 - Twitter Web App



REVEALED: Carcinogenic Chemical Formaldehyde Flooding Scottish Lochs [tinyurl.com/ybttjabj](https://tinyurl.com/ybttjabj)  
[@ScottishEPA](#) [@marinescotland](#) [@GreenerScotland](#)  
[@vmdgovuk](#) [@MowiScotlandLtd](#) [@scotseafarms](#)  
[@salmon\\_scottish](#) [@SSPOsays](#) [@ASC\\_aqua](#)  
[@SoilAssociation](#) [@HGSalmonUK](#) [@WeAreBenchmark](#)  
[@hirst\\_official](#)

Scottish Salmon Watch, 24 May 2020

[REVEALED: Carcinogenic Chemical Formaldehyde Flooding Scottish Lochs](#)



- FOI reveals over 22 tonnes of carcinogenic chemical used in freshwater lochs including Ness, Lochy, Tralig, Arkaig, Shin, Damph, Avich, Fresa & Garry in 2019
  - Video footage reveals use of Formaldehyde in Loch Tralig
  - Mowi named as the biggest user of Formaldehyde followed by Kames
- Aquaculture Stewardship Council set to certify Mowi's salmon farms in Loch Lochy, Loch Arkaig & Glenfinnan (Loch Shiel) despite Formaldehyde use
  - Campaigners call for ban on Formaldehyde & public register of toxic chemicals

10:59 AM - May 24, 2020 - Twitter Web App

Scottish Salmon Watch [reported in May 2020](#):

Here's the top twenty biggest reported uses of Formaldehyde in 2019 (April to December) - the top ten is monopolised by [Norwegian salmon farming giant Mowi](#) who [BBC Panorama reported in May 2019](#) was "one of a number of firms under investigation for possible misreporting of chemical use":

Site Name	Operator	Licence	Month	Formaldehyde (active ingredient in grams)
Loch Lochy	Mowi Scotland Ltd	CAR/L/1002140	Sep-19	3525000
Loch Lochy	Mowi Scotland Ltd	CAR/L/1002140	Oct-19	2606000
Invermallie, Loch Arkaig	Mowi Scotland Ltd	CAR/L/1002071	Apr-19	2195625
Loch Lochy	Mowi Scotland Ltd	CAR/L/1002140	Dec-19	1743750
Loch Lochy	Mowi Scotland Ltd	CAR/L/1002140	Aug-19	1612500
Camas na Mult, Loch Ness	Mowi Scotland Ltd	CAR/L/1001886	Oct-19	1294000
Loch Lochy	Mowi Scotland Ltd	CAR/L/1002140	Jul-19	1087500
Glenfinnan	Mowi Scotland Ltd	CAR/L/1008960	Nov-19	1057500
Invermallie, Loch Arkaig	Mowi Scotland Ltd	CAR/L/1002071	Nov-19	1012500
Glenfinnan	Mowi Scotland Ltd	CAR/L/1008960	Oct-19	825000
Loch Tralaig	Kames Fish Farming Ltd	CAR/L/1000233	Nov-19	624000
Camas na Mult, Loch Ness	Mowi Scotland Ltd	CAR/L/1001886	Sep-19	618700
Loch Tralaig	Kames Fish Farming Ltd	CAR/L/1000233	Dec-19	526000
Glenfinnan	Mowi Scotland Ltd	CAR/L/1008960	Dec-19	450000
Loch Lochy	Mowi Scotland Ltd	CAR/L/1002140	Nov-19	393750
Glenfinnan	Mowi Scotland Ltd	CAR/L/1008960	Sep-19	337500
Loch Garry	Mowi Scotland Ltd	CAR/L/1008962	Aug-19	312375
Camas na Mult, Loch Ness	Mowi Scotland Ltd	CAR/L/1001886	Nov-19	281250
Loch Tralaig	Kames Fish Farming Ltd	CAR/L/1000233	Oct-19	253000
Corrie Kinloch, Loch Shin	Migdale Smolt Ltd	CAR/L/1003918	Nov-19	247500

Mowi is [owned/controlled](#) by [Norway's richest man John Fredriksen](#) - [ranked 20th on The Sunday Times 2020 Rich List with £6.63 billion \(\\$10 billion according to Forbes\)](#).

The locations with the biggest use of Formaldehyde were Loch Lochy (11 tonnes); Loch Arkaig (3.2 tonnes); Glenfinnan on Loch Shiel (2.8 tonnes); Loch Ness (2.2 tonnes) - all Mowi; and Loch Tralaig (1.4 tonnes) - Kames. [Norwegian-owned giant Mowi \(who changed their name from Marine Harvest in 2019 due to negative consumer perception\)](#) accounted for the vast majority of use with 19.6 tonnes (88%) followed by [Kames](#) with 2.2 tonnes.

Last year, [data disclosed by SEPA](#) for the use of Formaldehyde reported that only one company (Marine Harvest, [who became Mowi on 1 January 2019](#)) had used 26.4 tonnes in 2017 and 24.3 tonnes in 2018 at only four salmon farms in 30 monthly reports to SEPA (although 184 fish farms in Scotland are licensed to use it). Here's the top 10 biggest uses in 2017 and 2018:

Site Name	Operator	Licence	Month	Formaldehyde (active ingredient in grams)
Loch Lochy	Marine Harvest (Scotland) Ltd	CAR/L/1002140	Mar-18	4443750
Loch Lochy	Marine Harvest (Scotland) Ltd	CAR/L/1002140	Aug-17	4200000
Loch Lochy	Marine Harvest (Scotland) Ltd	CAR/L/1002140	Feb-18	3712500
Glenfinnan	Marine Harvest (Scotland) Ltd	CAR/L/1008960	Oct-17	3226875
Loch Lochy	Marine Harvest (Scotland) Ltd	CAR/L/1002140	Jan-18	3093750
Loch Lochy	Marine Harvest (Scotland) Ltd	CAR/L/1002140	Sep-17	2831250
Loch Lochy	Marine Harvest (Scotland) Ltd	CAR/L/1002140	Dec-17	2525000
Invermallie, Loch Arkaig	Marine Harvest (Scotland) Ltd	CAR/L/1002071	Feb-18	2456250
Invermallie, Loch Arkaig	Marine Harvest (Scotland) Ltd	CAR/L/1002071	Jan-18	2325000
Loch Lochy	Marine Harvest (Scotland) Ltd	CAR/L/1002140	Jul-18	2231250

Public pressure is building against the use of Formaldehyde on salmon farms with a petition signed by 10,000 people [submitted to the Scottish Government in August 2020](#):



people. power. change.

[Start a Campaign](#) | [News](#) | [Donate](#) | [More](#)

---

**To: Roseanna Cunningham: Cabinet Secretary for Environment, Climate Change and Land Reform**

## Stop Toxic Salmon Farm Chemicals Polluting Scottish Lochs

Campaign created by  Corin Smith



10,007 of 15,000 signatures

### Sign the petition

First Name \* ?

Last Name \*

Email \*

Postcode \*


**Don Staniford**  
@TheGAAIA
...

Call to ban fish farm use of formaldehyde @obantimes  
[tinyurl.com/y3swhpbs](https://tinyurl.com/y3swhpbs) @SaveOurLochs  
 @FergusEwingMSP @strathearnrose @GillianMSP  
 @SP\_ECCLR @ScottishEPA @SSPOsays  
 @MowiScotlandLtd @markruskell @scotgp  
 @ewangkennedy @TheSoundOfJura @vmdgovuk  
 @nature\_scot @H\_S\_E @argyllandbute

The Oban Times

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No 8525 Thursday 20 August 2020 www.obantimes.co.uk 95p



**Lochnell youngsters have fun at skillorama**



**MMC launches new youth project**



**INSIDE 12-page motoring special**

## Campaigners call for ban on fish farm formaldehyde

**By Don Staniford**

Pressure is growing on the Scottish Government to stop and ban the use of formaldehyde fish water fish farms in Scotland.

Campaigners are leading a petition drive to call for a total ban on the chemical as fish farms used a larger public consultation on the use of formaldehyde in fish farms.

It follows a Freedom of Information request earlier this year to the Scottish Environment Protection Agency (SEPA). It revealed that 22 tonnes of formaldehyde had been granted consents at 11 fish farms across Scotland last year.

With farming companies increasingly concerned about the use of formaldehyde in fish farms, campaigners are calling for a total ban on the chemical used for disinfecting. Ministers have yet to formally respond to SEPA's letter on the public petition.

However, the Scottish Government said it is committed to the 'One Thing' plan and formaldehyde is strictly regulated by the national and Scottish Environment Protection Agency (SEPA). It said it can be safely used in fish farming.

Formaldehyde use in fish farming, as regulated, does not pose a risk to food safety.

SEPA has encouraged people to make their local fish farms safer by using chlorine bleach, chlorine groups, chlorine containers, chlorine tablets and fish water testing groups.

Chris Smith, founder of SEPA, based in Perthshire, said a national formaldehyde ban would be a step forward for water safety and that it takes time to get formaldehyde use reduced rapidly in water.

The concern is the quantities being used and their impact.

Formaldehyde use in fish farming, as regulated, does not pose a risk to food safety.

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The concern is the quantities being used and their impact.

### Volunteers go extra mile for RNLI



Volunteers 1014 launched a total 400-ton boat but made with volunteers of all ages taking part in a live radio challenge.

More than 10,000 were asked from the event, during which volunteers walked, ran, cycled or rowed the equivalent of the distance between Oban and a 100-mile distance.

The biggest challenge was to complete 1,710 miles in 10 days.

12:55 PM - Aug 20, 2020 - Twitter Web App

A [public register on ALL toxic chemicals by salmon farms](#) - [as is understood to be already the case in Norway](#) - would help in naming and shaming the worst offenders.

 **Don Staniford**  
@TheGAAIA



A public register of ALL toxic chemicals used on salmon farms in Scotland could be in the pipeline according to a FOI reply from [@vmdgovuk](#) [tinyurl.com/yag7kmyk](#) [@ScottishEPA](#) [@marinescotland](#) [@nature\\_scot](#) [@SSPOsays](#) [@FergusEwingMSP](#) [@strathearnrose](#) [@WeAreBenchmark](#) [@MowiScotlandLtd](#)



12:51 PM · Jul 2, 2020



 **Don Staniford**  
@TheGAAIA



Track & trace which salmon farms are applying to discharge toxic chemicals such as Azamethiphos, Cypermethrin, Deltamethrin & Hydrogen Peroxide via [tinyurl.com/ydgyxnpz](#) [@marinescotland](#) [@MowiScotlandLtd](#) [@GriegShetland](#) [@scotseafarms](#) [@salmon\\_scottish](#) [@SSPOsays](#) [@FergusEwingMSP](#)



marine scotland  
INFORMATION  
govt of Scotland

Menu Selection: Home, About, Contact Us, Marine Licence Details, Documents

Marine Licence documentation

Title
Marine Farm Application - Without Discharge - Harris Glen Shetland - 07228
Marine Licence Application - Without Discharge - Troch Sea Shetland - 07227
Marine Licence Application - Without Discharge - Looch Sea Shetland - 07226
Marine Licence - Fish Farm - Colonsay, Isle of Skye - 07224
Marine Licence Variation - Marine Farm - Arbroath Loch Abert - 07223
Marine Licence - Marine Farm - Bellislet, Shetland - 07222
Marine Licence Application - Marine Farm - Kermore, Loch Torridon - 07240
Marine Licence Application - Without Discharge - Taranah, Loch Rann - 07242
Marine Licence Application - Without Discharge - Fochra, Isle of Skye - 07241
Marine Licence Application - Marine Farm - Bight of Bellislet, Shetland - 07239
Marine Licence Application - Marine Farm - Looch Sea, Shetland - 07247
Marine Licence Application - The Scottish Salmon Commission - Without Discharge - Gravel Street, Loch Doona of Harris - 07232
Marine Licence Variation - Without Discharge - Bay of Dalhan, Ceann Loch Sheu - 06697
Marine Licence Variation - Marine Farm - Arbroath Loch Abert - 07223
Marine Licence Application - Without Discharge - Kermore, Loch Torridon - 07224
Marine Licence Application - Without Discharge - Aral, Loch Torridon - 07233
Marine Licence - Marine Farm - South Hebrides - 07212
Marine Licence Variation - Marine Farm - An Carna, Loch Boidh - 06637
Marine Licence Variation - Marine Farm - Torroch Firth - 06662
Marine Licence Variation - Marine Farm - Torroch Firth - 06662
Marine Licence Application - Without Discharge - Dinnis Bay, Loch Fyne - 07225

MARINE POLLUTANT

SALMON FARM

10:22 AM · Jun 26, 2020



Salmon farming companies - including Mowi - are [seeking to use the toxic neonicotinoid Imidacloprid](#) despite it being [banned for use in terrestrial agriculture in 2018](#) and [growing scientific opposition](#).

## Mowi asks to trial new lice drug in Scotland



Don Staniford  
@TheGAAIA

...

Scottish Greens "deeply concerned" at Mowi's field trial of Neonicotinoid [@markruskell](#) [@strathearnrose](#) [@scotgp](#) [@FergusEwingMSP](#) [@SP\\_ECCLR](#) [@ScottishEPA](#) "Imidacloprid has been classed as an environmental hazard" [@WeAreBenchmark](#) [@MowiScotlandLtd](#) [@vmdgovuk](#) [tinyurl.com/yb3u3ds8](https://tinyurl.com/yb3u3ds8)



The Scottish Parliament  
Pàrlamaid na h-Alba

Don Staniford MSP  
Secretary for Environment, Climate Change, and Land Reform

20<sup>th</sup> May 2020  
MP Secretary,

**Proposed trial of Ectosan at Ardnish salmon farm**

I would like to raise my concerns over recent reports that Imidacloprid (brand name Ectosan), a neonicotinoid pesticide, may be trialled in Scottish Fish Farms. Following initial informal discussions with Mowi I learned that Mowi is planning to trial Ectosan at their salmon farm at Ardnish.

I am deeply concerned at this proposal and would like clarification over how this request for a trial of Ectosan will be handled, and if there have been any other requests to trial this chemical in Scotland. I would also ask that you share any information the Scottish Government have received over the safety of Ectosan in the marine environment, including trials in other countries.

Furthermore, I would like to remind you of the recommendations of the joint inquiry into salmon farming in Scotland, conducted in 2018 by the Rural Economy and Environment, Climate Change and Land Reform Committees. Their recommendations included stronger measures on the use of medicines and chemicals in salmon farms, including addressing the data and analysis gaps related to the discharge of medicines and chemicals into the environment; the call on Sapa and the Scottish Government to consider the environmental impact of medicines used by the industry; and recommendation to make information and data on medicine use by the industry publicly available. I would like to ask how these recommendations are being taken into account in the handling of this request to trial Ectosan in Scotland.

I need not remind you that the European Commission previously banned the use of neonicotinoids on plants in 2018 due to its risk to bees. Imidacloprid has been classed as an 'environmental hazard' by US government scientists, who have warned that it could be 'very toxic to aquatic life with long lasting effects'. I also understand that the Broom's Trust - which represents river management bodies in Scotland - has expressed concerns over the potential impact of neonicotinoids on the environment.

The experience of emamectin in Scotland reinforced the importance of the precautionary principle, and ensuring that new chemicals do not have a detrimental impact on marine ecosystems or animal welfare prior to their use in Scotland's waters. Allowing widespread use of a chemical, only to roll back on it at a later stage, does not only cause untold damage to our seas and wildlife, but also makes it extremely difficult to effectively bring about change in the industry.

The global biodiversity crisis we face means it has never been more important that Scotland faces up to its responsibility to protect wildlife and habitats, if there is any evidence at all that Ectosan has a detrimental impact on our marine ecosystems, it is not acceptable for on-site trials to take place in Scotland's waters.

I would appreciate any update you are able to provide on this issue, in addition to responding to my questions above.

Yours Sincerely,  
MRS

6:32 PM · May 21, 2020 · Twitter Web App

 **Dave Goulson**  
@DaveGoulson

There is now a plan to use neonicotinoid insecticides in salmon farming.....

 **Don Staniford** @TheGAAIA · Jun 8

"Imidacloprid has been banned from use by farmers because of the widespread environmental harm it caused" @DaveGoulson "It would be the height of foolishness to start using this potent, broad-spectrum neurotoxin in salmon farming" tinyurl.com/ycc43zmp @WeAreBenchmark

Scottish Salmon Watch, 8 June 2020

[Scientific Opposition to Neonicotinoid Use in Salmon Farming](#)

**SCOTTISH SALMON WATCH**  **CHEMICALS**

- [Peer-reviewed science details significant impacts on aquatic ecosystems](#)
- Professor Dave Goulson of the University of Sussex: "It would be the height of foolishness to start using this potent, broad-spectrum neurotoxin in salmon farming"
- Imidacloprid is "very toxic to aquatic life.....hazardous to the aquatic environment"
- VMD approached re. Imidacloprid use in salmon farming in 2016 but deny FOI claiming disclosure would "prejudice the commercial interests of the business involved"
- Campaigners call for ban on use of Imidacloprid (BMK08/Ectosan) on Scottish salmon

Scientific research detailing significant impacts on aquatic ecosystems is being cited by

9:15 AM · Jun 8, 2020 · Twitter Web App

 **Don Staniford**  
@TheGAAIA



Sunday Times: "Outlawed insecticide may be used on Scottish salmon" @SundayTimesScot tinyurl.com/y8nycok8 @WeAreBenchmark @FerdOwner @scotseafarms @MowiScotlandLtd @Bayer @HamishMacdonell @markruskell @strathearnrose @ScottishEPA @vmdgovuk @FOIScotland @scotgp @bugsymac1

**SUNDAY TIMES** Today's website · Past six days · My articles

## Outlawed insecticide on Scottish salmon

Scientific experts fear 'catastrophe' if Norwegian firm on fish farms in Scotland

Philip Hill and Jonathan Lister-Jones

8 June 14 2020, 12:31pm, Sunday Times



Some scientists oppose the use of the chemical at Scottish salmon farms which change in statements (photo: iStock)

A deadly insecticide banned after being blamed for the mass dieback of Britain's bees and butterflies could be deployed in UK salmon farms to clear fish of parasites, despite warnings it could kill many other forms of sea life.

The chemical is a neonicotinoid, a group of chemicals recently banned on land because they attack almost every form of insect life when deployed by farmers.

However, the ban does not apply to the sea, raising concerns that it could be studied – and eventually deployed – on farmed fish farms.

Benchmark, a Norwegian company behind the treatment, believes it could be a game-changer for aquaculture, and has lobbied the Scottish government to support a trial.

The fish would be treated with enough of the insecticide to kill sea lice, after which the fish would be washed back out and replaced in their tanks.

Benchmark claims the waste water will then be treated to ensure the chemical before being pumped back into the sea. Scientists disagree, however, warning that it is impossible to clean, and that concentrations of only one part in a billion can kill marine life.

Scotland's salmon farms generate about 100tn a year, employ 12,000 people and are one of the country's top sources of export revenue. Production has increased by 50,000 tons per year since 2015.

However, conservationists say the waste food, faeces and chemicals deployed by such farms devastate other marine life. The prospect of a neonicotinoid used in salmon farming has prompted an outcry from international scientists after the

8:12 AM · Jun 14, 2020



 **Don Staniford**  
@TheGAAIA



Jean-Marc Bonmatin, from the French National Centre for Scientific Research, was quoted @SundayTimesScot warning "the use of Imidacloprid as it is presented for salmon farming will be catastrophic for aquatic invertebrates, and even for fishes" @undercur



Insecticide banned in UK may be used on Scottish salmon  
Benchmark believes the treatment, banned for use on land, could be a game-changer for aquaculture and has lobbied the Scottish government t...  
[undercurrentnews.com](https://www.undercurrentnews.com)

11:04 AM · Jun 15, 2020

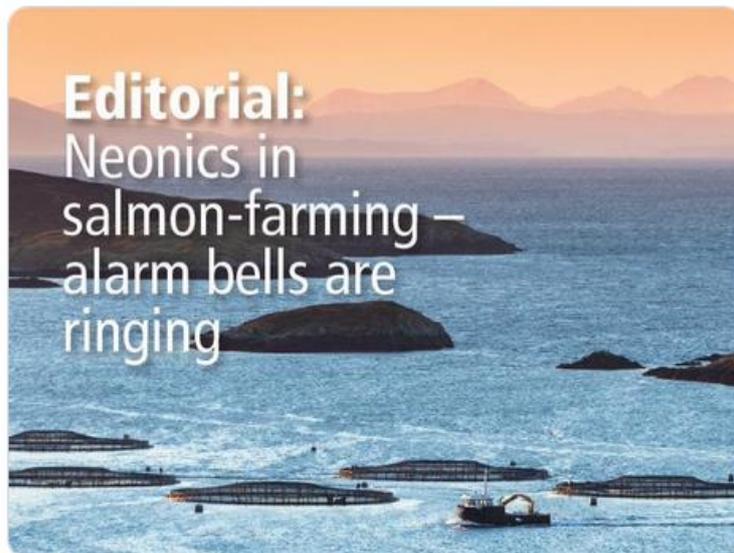


In August 2020, [an Editorial in British Wildlife raised alarm bells:](#)

 **Don Staniford**  
@TheGAAIA



Editorial in British Wildlife: "Neonics in Salmon Farming - Alarm Bells Are Ringing" @britwildlife @DaveGoulson [tinyurl.com/y6tlq68g](https://tinyurl.com/y6tlq68g) @FerdOwner @WeAreBenchmark @FergusEwingMSP @stratheatnrose @salmonfarming1 @IntraFishNorge @thefishsite @nature\_scot @MasumiYamamuro @scotgp



2:32 PM · Aug 24, 2020



The company behind plans to use Imidacloprid in salmon farming - [at least five salmon farms in Norway totalling 35,000 tonnes of farmed salmon have already been doused in this toxic insecticide](#) - is [Norwegian-owned Benchmark](#) whose largest shareholder is Johan Andresen's Ferd AS ([Chair of the Council on Ethics](#)). The Financial Times [reported in May 2020](#):

FINANCIAL TIMES Richard Milne in Oslo MAY 11 2020

## Johan Andresen, chair of Norway's Ferd, arbitrates on ethical investments for conglomerate and wealth fund

Decades after family exited tobacco, business owner seeks creative response to pandemic



Johan Andresen, billionaire owner of Ferd, outside his company headquarters in Oslo, Norway © Bloomberg

Mr Andresen's focus on responsible investing led the Norwegian government to appoint him chairman of the Council of Ethics in 2014. This independent body looks into whether individual companies should be banned from Norway's \$1tn oil fund, the world's largest sovereign wealth fund. The council looks for the companies that are the worst violators of international ethical norms on human rights, corruption, and environmental damage.

Many of the [biggest exclusions](#) from the sovereign wealth fund are determined by Norway's parliament, which stops it owning companies that produce tobacco, nuclear weapons and cluster bombs as well as big users of coal and some oil and gas exploration companies. The Council of Ethics can recommend divesting companies for not abiding by the fund's ethical guidelines.

Scottish Salmon Watch struggles to find any reasoning how the use of a banned toxic neonicotinoid in salmon farming is anything other than unethical and irresponsible.

 **Don Staniford**  
@TheGAAIA

Meet the filthy rich Norwegian tobacco billionaire @FerdOwner desperate to 'CleanTreat' parasite-infested farmed salmon with the toxic neonicotinoid insecticide Imidacloprid (BMK08/Ectosan) @WeAreBenchmark [tinyurl.com/s3fohsb](https://tinyurl.com/s3fohsb) #Salmoney #Salmonopoly [tinyurl.com/ryqfh26](https://tinyurl.com/ryqfh26)



WHO WE ARE WHAT WE DO INVEST

### SIGNIFICANT SHAREHOLDERS

SIGNIFICANT SHAREHOLDERS	% OF ISSUED S
FERD AS	25.98
Kiøna Finans AS	14.14
Lansdowne Partners	9.23
JNE Partners LLP	6.91
The Royal Bank of Scotland Group plc	5.80

**Johan H. Andresen Jr.**  
Chairman of the Board of Ferd

Johan Henrik Andresen is a Norwegian industrialist and investor. Since 1998, Andresen has been the owner of Ferd, one of the largest privately held companies in Norway. He served in the position of CEO from 1998 to 2012, and has been the chairman of the board since 2012. Wikipedia

**Born:** 25 July 1961 (age 58 years), Oslo, Norway

**Professional career**

Andresen was Product Manager in International Paper Co., USA from 1989 to 1991. In 1992 he became a Partner in the Norwegian group. He succeeded his father as the sole owner and CEO in 1993, and then became the 5th generation of the Andresen family to own the firm. Andresen bought the tobacco company J. Tiedemanns Tobaksfabrik in 1998. In 2000 the company Tobaksfabrik was merged with the Scandinavian Tobacco Company and in 2003 Andresen sold all his shares in the company. Tiedemanns Gruppen changed its name to Ferd in 2007. Today, Ferd owns Elgakt, Akter (20%), NetComputing, Internet and computers, in addition to substantial portfolios of stock, hedge fund investments, Private Equity and property. The company's 2018 revenue was 200 million NOK, 20 million net of profit in 2018.

In September 2008, Andresen formally attempted to acquire the Swiss packaging and former weapons producer SIG, by purchasing 50.01% of the shares in the company. Andresen's plan was to merge SIG with Ferd-owned Elgakt, making it the world's second manufacturer of SIG. However, instead of buying SIG, and in March 2007 Ferd announced that it would no longer be pursuing being one of the largest companies in Norwegian history.

1:31 PM · Mar 18, 2020 · Twitter Web App

 **Don Staniford**  
@TheGAAIA

"It's the tasty one," said a cigarette ad for Tiedemanns Tobaksfabrik (biggest tobacco company in Norway) @FerdOwner [tinyurl.com/sq8vr24](https://tinyurl.com/sq8vr24) "Setting a new standard in environmental care for sea lice bath treatments," claims CleanTreat @WeAreBenchmark #BlowingSmoke #Imidacloprid



 Terry A'Hearn and 8 others

10:17 AM · Mar 19, 2020 · Twitter Web App

 **Don Staniford**  
@TheGAAIA

...

How much of the toxic neonicotinoid Imidacloprid (BMK08/Ectosan) has been used in Scottish salmon farming (either legally or illegally) since  
[@WeAreBenchmark](#) registered a patent in 2011?  
[@SSPOsays](#) [@MowiScotlandLtd](#) [@marinescotland](#)  
[@vmdgovuk](#) [@scotseafarms](#)  
[tinyurl.com/y2vwpdkd](https://tinyurl.com/y2vwpdkd)



 Fergus Ewing MSP and 9 others

12:38 PM · Oct 26, 2020 · Twitter Web App

 **Don Staniford**  
@TheGAAIA



SEPA refuse to disclose information on the use of the toxic neonicotinoid insecticide Imidacloprid in salmon farming citing commercial confidentiality [tinyurl.com/y82dkstur](https://tinyurl.com/y82dkstur)  
[@ScottishEPA](#) [@FOIScotland](#) If disclosed it would prejudice economic interests [@WeAreBenchmark](#) [@FerdOwner](#)



environmental history to projects, or progress and completion rates have been previously released, under Formal Review references F0191045 and F0191052. In accordance with the terms of Regulation 11(1)(b) of the EIRs, please refer to SEPA's disclosure log <https://www.sepa.org.uk/foi/foi-log>.

As previously advised information has been withheld from the released information. Additionally information was previously withheld for formal review F0191110 and subsequently for site scope of request F0191065. This information also continues to be withheld at this time under the terms of Regulation 10(3)(a) of the EIRs, the text of which is reproduced below:

(2) A Scottish public authority may refuse to make environmental information available to the extent that its disclosure would, or would be likely to, prejudice substantially:

(a) the confidentiality of commercial or industrial information where such confidentiality is provided for by law to protect a legitimate economic interest;

The Public Interest Test was carried out in relation to the information which is to be withheld under Regulation 10(3)(a) of the EIRs.

It is acknowledged that there are public interest arguments in favour of disclosure of the subject information. However, there is a stronger public interest in withholding information that if disclosed, would prejudice substantially the third party's current and future commercial and economic interests. It was noted that the commercial interests would put at risk by disclosing proprietary details. Withholding the information would provide competitors with a commercial advantage and could further risk associated.

**SEPA**  
Scottish Environmental Protection Agency  
01753 500000  
www.sepa.org.uk

Refer to: SEPA homepage

**SEPA Disclosure Log**

SEARCH: SEPA - Charles JAMES EMMETT (1948-2020)

1 Results

(1) The above public interest test was carried out in relation to the subject request of information F0191110 in order to determine if the public interest in releasing environmental information outweighs the public interest in withholding the information. The information requested was withheld under Regulation 10(3)(a) of the EIRs. It is noted that the commercial interests would put at risk by disclosing proprietary details. Withholding the information would provide competitors with a commercial advantage and could further risk associated.

14 Jun 2020

1 Result(s) shown

11:36 AM · Jun 30, 2020



Scottish Salmon Watch simply does not believe that the toxic interests of companies such as Mowi (controlled by Norway's richest man John Fredriksen who is [ranked 141st on the Forbes Billionaires List with a fortune of \\$10.2 billion](#)) should be permitted to kill off marine life and traditional fisheries.



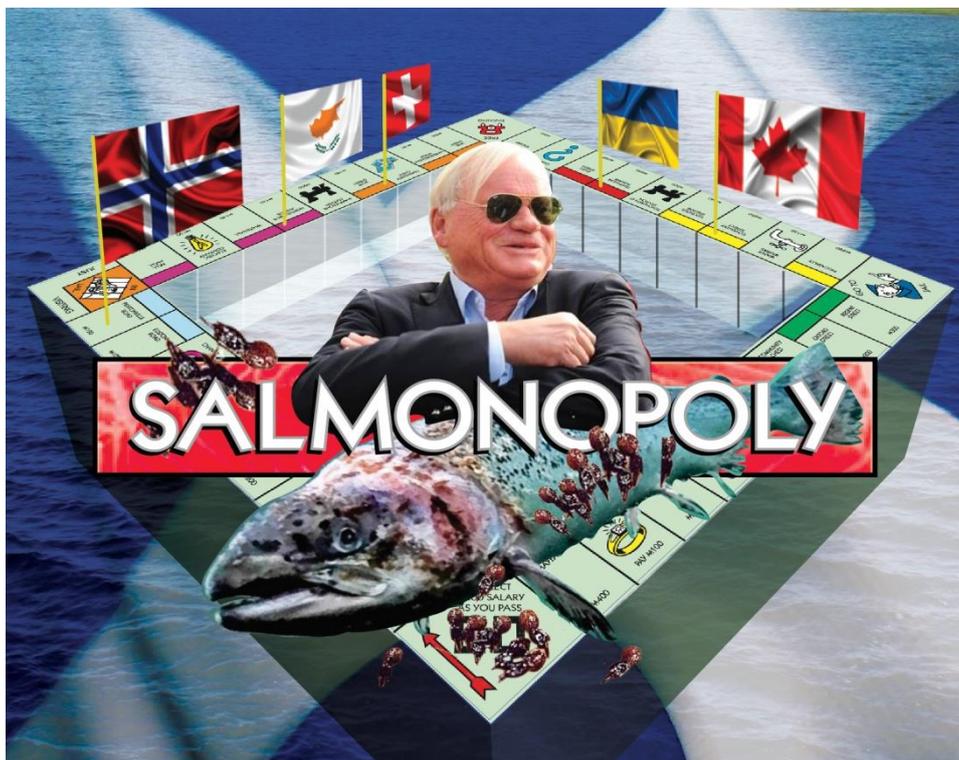
To kill the sealice the industry uses a poison that kills crustaceans such as lobsters, so you kill off a traditional, sustainable industry to promote a new, unsustainable one. Makes sense if you want to help this fellow to make money!



Don Staniford @TheGAAIA · 1h

Putrid salmon farms infested with flesh-eating lice threaten wildlife in oceans [mirror.co.uk/news/uk-news/p...](https://www.mirror.co.uk/news/uk-news/p...) @vivacampaigns @SSPOsays

7:21 AM · Nov 23, 2020 from Scotland, United Kingdom · Twitter for iPad





Sustainable Salmon Research  
@salmonresearch



"A Norwegian salmon farming giant paid just 1p per kg of salmon to protect the environment from its pollution, but sent nearly one hundred times that amount back to its billionaire shareholders":

[issf.org.uk](http://issf.org.uk)

[facebook.com/53336470041327...](https://facebook.com/53336470041327...)



Angus MacDonald MSP and 9 others

7:38 AM · Nov 24, 2020 · Twitter for iPhone

Read more on the toxic nature of salmon farming via:

## Chemical seas: the rise and fall of salmon pharming in Scotland



By Lottie Limb

15 Sep 2020



[Chemically Embalmed Scottish Salmon](#)

[Salmon farming in crisis: 'We are seeing a chemical arms race in the seas'](#)

[Silent Spring of the Sea](#)

- **Feed Impacts:** Salmon farming's [dependence upon wild caught fisheries as a source of feed](#) has long been a cause of concern and controversy - whether it is via chemical contamination of the sea-bed via [copper, zinc or cadmium](#) or [PCBs and other cancer-causing contaminants](#); or via [contamination of the flesh of farm salmon](#) or via the ['net loss' on fisheries](#) and [impacts on forest ecosystems via deforestation due to the increasing use of soy](#). Data [published via Scotland's Aquaculture web-site \(sourced from SEPA\)](#) show the biggest feed users since 2002 - here's the largest monthly feed users as reported by Norwegian-owned companies with Mowi leading the way with Scottish Sea Farms and Grieg Seafood also featured:

Date	Feed (kg)	Site Name	Operator
01-Oct-16	800092	Camas an Leim (Torridon)	Mowi Scotland Ltd
01-Oct-11	764902	Maol Ban	Mowi Scotland Ltd
01-Oct-18	733371	Marulaig Bay	Mowi Scotland Ltd
01-Jun-20	729135	Colonsay	Mowi Scotland Ltd
01-Oct-19	727315	MacLeans Nose	Mowi Scotland Ltd
01-Aug-13	703847	Crooie (Site 1)	Scottish Sea Farms Ltd
01-Jul-19	694786	Isle of Rum	Mowi Scotland Ltd
01-Oct-13	678644	Erisort, North Shore West	Mowi Scotland Ltd
01-Jul-19	676136	Am Maol, Isle of Muck	Mowi Scotland Ltd
01-Sep-11	675825	Maol Ban	Mowi Scotland Ltd
01-Oct-10	669334	Grey Horse Channel	Mowi Scotland Ltd
01-Oct-18	665273	Stulaigh Island	Mowi Scotland Ltd
01-Sep-13	662008	Erisort, North Shore West	Mowi Scotland Ltd
01-Nov-16	656108	Colonsay	Mowi Scotland Ltd
01-Oct-16	653456	Colonsay	Mowi Scotland Ltd
01-Oct-17	652942	Creag an Sagairt West	Mowi Scotland Ltd
01-Jul-17	649832	Creag an Sagairt West	Mowi Scotland Ltd
01-Aug-17	629125	Bagh Dail nan Ceann N & S	Mowi Scotland Ltd
01-Oct-03	627922	West of Burwick	Grieg Seafood Shetland Ltd
01-Oct-12	621083	Greshornish	Mowi Scotland Ltd
01-Aug-19	615039	Isle of Rum	Mowi Scotland Ltd
01-Jun-16	614739	Carradale (South)	Mowi Scotland Ltd
01-Sep-16	610003	Gorsten	Mowi Scotland Ltd
01-Aug-16	609489	Camas an Leim (Torridon)	Mowi Scotland Ltd
01-Nov-18	609402	Marulaig Bay	Mowi Scotland Ltd
01-Jul-13	609069	Carradale (South)	Mowi Scotland Ltd
01-May-20	604345	Colonsay	Mowi Scotland Ltd
01-Aug-19	594678	Am Maol, Isle of Muck	Mowi Scotland Ltd
01-Sep-19	593744	MacLeans Nose	Mowi Scotland Ltd
01-Sep-11	592283	Camas an Leim (Torridon)	Mowi Scotland Ltd
01-Sep-18	592107	Carradale (South)	Mowi Scotland Ltd
01-Sep-10	590135	Grey Horse Channel	Mowi Scotland Ltd
01-Sep-16	578100	Camas an Leim (Torridon)	Mowi Scotland Ltd
01-Aug-09	577343	Camas an Leim (Torridon)	Mowi Scotland Ltd
01-Nov-19	576451	MacLeans Nose	Mowi Scotland Ltd
01-Aug-19	576158	Bagh Dail nan Ceann North	Mowi Scotland Ltd
01-Aug-18	575097	Colonsay	Mowi Scotland Ltd
01-Nov-16	570651	Carradale (North)	Mowi Scotland Ltd
01-Jul-19	569431	Bagh Dail nan Ceann North	Mowi Scotland Ltd
01-Jul-10	568195	Cole Deep	Grieg Seafood Shetland Ltd



Feedback [reported in June 2020:](#)



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## CUT 'WASTEFUL' SCOTTISH FARMED SALMON AND EAT A MORE DIVERSE RANGE OF FISH FOR A SUSTAINABLE SEAFOOD DIET

25th Jun 20  
by Jessica Sinclair Taylor

Farmed salmon industry challenged to overhaul feed practices to protect wild fish

Feedback [reported in July 2019:](#)



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## 310K TONNES OF WILD FISH A YEAR WILL BE NEEDED TO FEED SCOTTISH SALMON INDUSTRY'S AMBITIONS TO DOUBLE IN SIZE BY 2030

1st Jul 19  
by Feedback

The salmon industry uses roughly the same quantity of wild-caught fish to feed its salmon as is purchased by entire UK population.

Read more via:



# UNCOVERING THE TRUTH BEHIND SCOTTISH FISH FARMING

The [unpaltability and consumer unacceptability of the substitution of wild caught fish with Land Animal Protein \(LAP\)](#) is an obvious financial risk for Norwegian-owned salmon farming companies operating in Scotland.

By Dawn Thompson

**SUPERMARKET** salmon could be fed a 'revolting' mix of abattoir waste under plans that have renewed the debate over food standards in fish farming.

The proposals would see farmed salmon fed 'avian protein' - made up of poultry by-products including offal and blood, as well as ground up bone and feathers.

Supermarket giant Morrisons is taking part in a £68,000 project - involving scientists and feed companies - to discuss the idea and test the possible reaction of consumers.

The move would save fish farmers a fortune by turning a readily available waste product into a cheap food source. Researchers also say it will be more environmentally friendly and provide cheaper salmon.

Guidelines already permit the use of avian protein in feed but although it is widely used in other parts of the world, fears that consumers would find it unacceptable have always prevented its use in the UK.

That could change if the six-month study - part-funded by the Scottish Aquaculture Innovation Centre, which has contributed £41,000 - finds public opinion has altered.

But critics condemned the idea. Don Staniford, director of the Global Alliance Against Industrial Aquaculture, said: 'Feeding chicken parts to farmed salmon is revolting. It's completely unnatural, a nutritional nightmare and compromises salmon welfare.'

'Consumers will be appalled to learn that Scottish salmon could be fed on chicken waste. If I wanted to eat chicken, I'd go to KFC.'

The project is led by feed company BioMar, in partnership with Morrisons, the Institute of Aquaculture at Stirling University and raw material producer SARL.

An institute press release said: 'Adopting avian protein could significantly reduce feed costs and, in doing so, overall production costs.'

If consumer perception around avian proteins is found to be positive, later phases of the project could comprise nutritional and fish quality analysis.

The institute admitted that, while Chilean and Australian salmon farmers have used poultry by-products for more than a decade, there are still some challenges around consumer acceptance of introducing these products into the UK.

Avian proteins are also used throughout Europe in feeds for other farmed fish species, including sea bream, sea bass and trout.

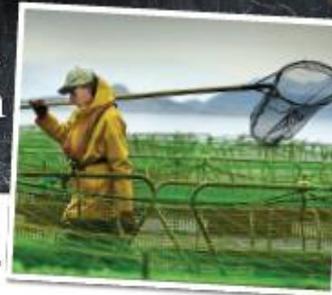
Brett Glenacross, Professor of Aquaculture Nutrition at Stirling University, said: 'Australian salmon feeds are a lot cheaper than in the UK. Most of it is made of avian protein and it works really well.'

'Salmon's a carnivore. It's destined

# Coming soon to a fish counter near you, the salmon that's truly fowl...



## Backlash over plan to feed farmed favourite on 'avian protein' to save money



It's about having a grown-up conversation. We don't want to force consumers to do anything.

'The British people, Europeans in general, have feed some of the most prolific of eaters through history - black pudding, haggis.'

He said avian protein would only come from birds destined for human

birds not wanted for human consumption - including bones, feathers, blood and the guts - could be ground down and dried before further processing. The protein could then be incorporated into the pellets used to feed farmed salmon.

Farmed salmon is Scotland's biggest food export, with an annual retail value of £1 billion. Scottish Government estimates suggest 5,000 jobs rely on the industry.

Morrisons said: 'Our role on this project is to advise on research with consumers. All of our salmon is fed on soya protein and fish meal and

**NET VALUE:** Farmed salmon is worth £11m a year to Scotland

expert Professor Hugh Pennington said: 'We eat enormous amounts of chicken. There's a fair amount of waste from that and it's a good idea if it was used for something else.'

But Phil Brooke of Compassion in World Farming said: 'Salmon farming is problematic. The problem

such as chicken, but salmon wouldn't naturally eat chicken as they are in the sea. I think we should be asking whether we should be farming salmon at all.'

Writer Bruce Sandison, founder of the Salmon Farm Protest Group said: 'Salmon farming is an abomi-

**'I wouldn't feed it to my cat'**

Not to mention the risks of being associated with a protein source which [drains the oceans and steals precious food from the mouths of starving people in Latin America and Africa.](#)

**Farming Salmon is Stealing Food from Poor People!**

No one can...  
Aquaculture will feed the world...

It takes 3.5-9.9kg of wild fish to produce 1kg of farmed salmon

FARMED SALMON  
WILD FISH

The use of soy in salmon farming, in particular, is fraught with financial risk with the danger of a consumer backlash and [boycott of farmed salmon](#). Intrafish [reported earlier this week](#) (23 November 2020):

## NGO calls on Norwegian salmon farmers, retailers to boycott Cargill over Amazon deforestation

The group says despite Cargill's efforts in Norway, the parent company's activities still should put it in the crosshairs.

### RELATED NEWS

**ADM partners with insect protein producer InnovaFeed for its US facility**

[Feed](#)  
19 November 2020 18:23 GMT

**BioMar, Segun joint venture names new managing director**

[People](#)  
20 November 2020 9:12 GMT

23 November 2020 20:21 GMT UPDATED 24 November 2020 12:43 GMT

By [Bent-Are Jensen](#) [✉](#) in [Bode](#)

NGO Rainforest Foundation Norway is urging salmon producers and retailers to boycott Cargill and animals raised with the US agri-giant's feed because of the company's continued links to deforestation in Brazil through its soy purchases.



**Here's how much salmon farming giants earned for every kilo they produced in the third quarter**

[Read more](#)

Although Cargill's subsidiary Cargill Aqua Nutrition in Norway certifies soy from the same producers in Brazil as the other salmon feed suppliers and producers including Biomar, Skretting and Mowi, the NGO said that since the parent company continues to be linked to Amazon deforestation, the boycott is warranted.

"The time for dialogue is over," Rainforest Foundation senior advisor Ida Breckan Claudi told **IntraFish**. "Customers need to send a message that they aren't satisfied with the company's actions in Brazil."

Read more via:



[Home](#) / [News](#)

# The murky waters of soy fed salmon

New report reveals: The Norwegian salmon industry is linked to illegal deforestation, violent land conflict and plantations on indigenous lands through its Brazilian soy suppliers.

*Published: 31.10.2018*

Feed use by salmon farming is generating gas emissions and impacting on climate change. The Scotsman [reported in August 2020](#):

**THE SCOTSMAN**

## Fish farms are source of 0.5 per cent of CO2 emissions

- New study finds climate impact of fish and shellfish similar to sheep

Ecology · Climate Change · Food Industry · Industries · Agriculture · Livestock Industry · Business · Health

14 Aug 2020 [+1 more](#) By ILONA AMOS Environment Correspondent [iamos@scotsman.com](mailto:iamos@scotsman.com)

<p>Fish farming around the world generates around the same amount of greenhouse gas emissions as the sheep industry, according to new international research.</p> <p>Cultivation of fish and shellfish has reached record levels globally, with about 115 million tonnes produced annually.</p> <p>Now, for the first time, researchers have calculated the impact of worldwide aquaculture on</p>	<p>the climate.</p> <p>The study, led by scientists from Scotland's Rural College (SRUC), found the sector generates 263 million tonnes of carbon dioxide equivalent.</p> <p>This amounts to almost 0.5 per cent of total man-made greenhouse gas emissions.</p> <p>Analysis showed production of feed for farmed fish is one of the biggest sources of emissions in</p>	<p>the process.</p> <p>Beef and dairy cattle have the biggest environmental footprint across the livestock industry as a whole, responsible for around 5.0 gigatonnes of carbon dioxide equivalent each year. Sheep farming generates about 254 million tonnes.</p> <p>Sruc's <a href="#">sdrmichaelmacleod</a>, who led the project, said: "Global aquaculture makes an important contribution to food security and is also</p>	<p>a driver of economic development.</p> <p>"But to enable sustainable expansion of aquaculture, we need to understand its contribution to global greenhouse gas emissions and how it can be mitigated.</p> <p>"While the emissions from fish farming are unlikely to reach the levels of, for example, beef farming, it is important for the industry to consider ways to reduce emissions, which can also improve financial performance."</p>
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Scotland's Rural College reported in August 2020:

## Scale of fish farm emissions revealed

Published Thursday, 13th August 2020 in **Research news**

Global aquaculture generates around the same amount of greenhouse gas (GHG) emissions as the sheep industry, according to new research.

In the first study of its kind, researchers from Scotland's Rural College (SRUC), FAO\*, Cargill and WorldFish found that, in 2017, the fish farming sector generated 0.49 per cent of anthropogenic GHG emissions, or 263 million tonnes of carbon dioxide equivalent (MtCO<sub>2</sub>e).

The research, which has been published by **Nature.com**, was carried out to raise awareness of how and why GHG emissions arise in aquaculture supply chains.

It found that, while GHGs in aquaculture vary by system, the emissions from feed production generally dominate. Some systems, especially shrimps, also use a lot of energy for pumping water

**Dr Michael MacLeod**, who led the research, said: "Global aquaculture makes an important contribution to food security and is also a driver of economic development. But to enable sustainable expansion of aquaculture, we need to understand its contribution to global greenhouse gas emissions and how it can be mitigated.

"While the emissions from fish farming are unlikely to reach the levels of, for example, beef farming, it is important for the industry to consider ways to reduce emissions, which can also improve financial performance.

"There are lots of ways to reduce emissions, including developing genetically improved breeds suitable for lower feed conversion rates, improving health, using more precise feeding methods, and improving on-farm energy efficiency. Feed is the main source of emissions in most systems, so some of the reduction can be achieved before we even get to the fish farm, in the production of feed materials."

The paper can be viewed at **Nature.com**

Read via Nature: "[Quantifying greenhouse gas emissions from global aquaculture](#)"

The Herald [reported in October 2019](#):

# The Herald

15th October 2019

## Demand for farmed salmon is 'causing an ecological disaster'



By David Leask | [@leaskyHT](#)  
Journalist

**The seas of some of the world's poorest nations are being plundered to feed an unsustainable global appetite for farmed salmon and prawns, according to a major report.**

International investigators today allege that meal made from seafood illegally or unethically caught in the Gambia, Vietnam and India is ending up in fish farmed and sold in Scotland, Norway and, especially, China. Scottish producers vociferously deny the findings of the Netherlands-based Changing Markets Foundation, the body that last year exposed links between polluting Third World sweat shops and cheap high street fashion.

Read more via [Changing Markets](#):



### Fishing for Catastrophe

October 2019

Based on findings from undercover investigations in Vietnam, India and The Gambia, this report presents damning evidence that the production of fishmeal and fish oil (FMFO) for use in the growing global aquaculture industry is destroying fish stocks, marine ecosystems and traditional livelihoods as well as undermining the food security of vulnerable communities. Our findings reveal that demand for FMFO is fuelling overfishing, exacerbating other pressures on wild fish stocks such as climate change, and that the species being taken to produce FMFO are often food grade fish. Through in-depth supply chain research we trace the tainted supply



MARKET BRIEF

NOVEMBER 2020



## The Hidden Cost of Farmed Salmon

Exploring why Sainsbury's farmed salmon supplier Mowi doesn't live up to its sustainable image and what Sainsbury's needs to do about it

### KEY TAKEAWAYS

- Supermarket Sainsbury's describes itself as 'leading the way in sustainable fish'. However, its farmed salmon – one of its major seafood sellers – fails to match up to its own sustainability claims. This is because among other things the feed the salmon is fed has damaging environmental and social impacts.
- Sainsbury's key salmon supplier is the Norwegian-owned Mowi. We calculated that Mowi used 880,000 tonnes of wild fish, sourced from countries such as Mauritania and Peru, to produce just 436,000 tonnes of farmed salmon – more wild fish than the total fisheries capture of Canada, at 720,000 tonnes in 2018. This is an inefficient use of marine resources.
- Both Sainsbury's and Mowi have failed to adopt policies to phase out wild fish in salmon feed. Their reliance on wild-caught fish exacerbates pressure on our oceans. We are calling on Sainsbury's to commit to completely phasing out the use of FMFO sourced from whole wild caught fish in its aquaculture supply chain, including setting a date to achieve this target of no later than 2025.

FEED  
BACK

## The Hidden Cost of Farmed Salmon

November 2020

UK supermarket Sainsbury's describes itself as 'leading the way in sustainable fish'. However in our retailer scorecard, Sainsbury's ranked below Tesco, Co-op, Waitrose, M&S and Lidl in an assessment of supermarket chains' sustainability policy on farmed seafood, obtaining a lowly score of 20%. Sainsbury's farmed salmon packaging states that "the salmon are fed a bespoke diet designed to protect our natural resources from overfishing", but in reality the retailer's farmed salmon, one of its biggest seafood sellers, is fed a diet of wild caught fish with detrimental environmental and social impacts. In addition, the briefing takes a closer look at the performance of Norwegian aquaculture giant Mowi,

Sainsbury's main salmon supplier, and finds that the company is plagued by environmental damage caused by fish escapes and worrying animal welfare issues, reflected in high salmon mortality rates, high use of antibiotics and other chemicals. It calls on Mowi to take rapid action to reform its farming practices and calls on Sainsbury's and Mowi to commit to eliminating the use of wild-caught fish in its feed. Failing this, it urges Sainsbury's to reconsider its seafood sourcing strategy with a view to potentially removing Mowi from its supplier list.

Sign the petition

SUMOFUS PETITION

- **Killing of Seals:** Norwegian-owned salmon farming companies have killed hundreds of seals [since the Scottish Government was forced to publish data in 2015](#) (thanks to a ruling by the Scottish Information Commissioner, seal killing data for 2011 to 2018 is available [online here](#)).

The Sunday Herald [reported in March 2018:](#)



Scottish Salmon Watch [reported in March 2018:](#)

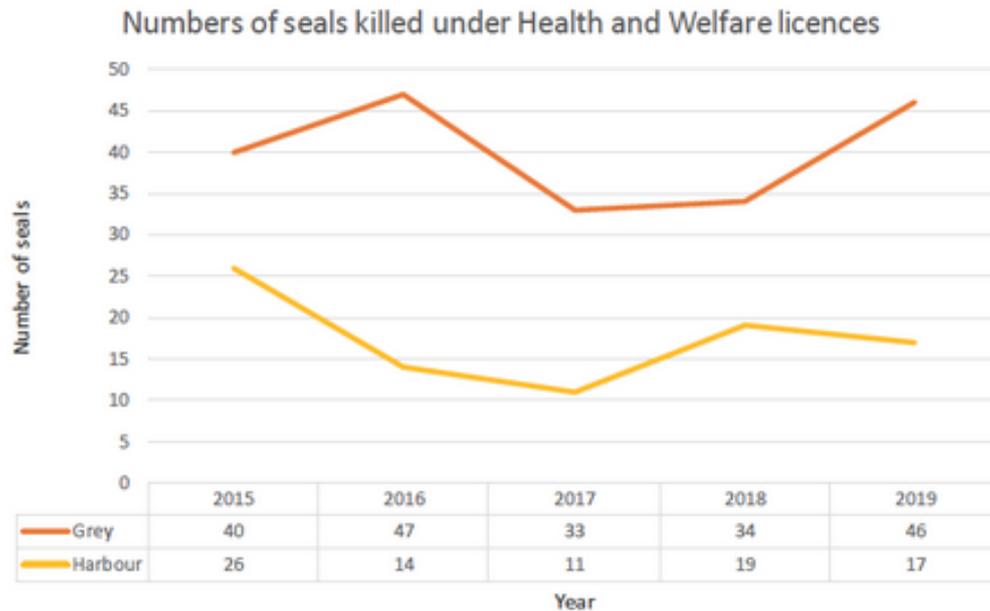
Here's a table detailing all the seals killed by salmon farms since 2011 - with Scottish Sea Farms, the Scottish Salmon Company, Hjaltland Seafarms (Grieg Seafood), Marine Harvest and Loch Duart leading the way:

Seal Killing Salmon Farms (2011-2017)								
Operator	2017	2016	2015	2014	2013	2012	2011	Total
Scottish Sea Farms	12	14	15	33	33	45	37	189
The Scottish Salmon Company	7	2	11	14	14	38	54	140
Hjaltland Seafarms (Grieg Seafood)	1			7	32	50	50	140
Marine Harvest	13	26	20	7	5	16	34	121
Loch Duart	15	12	9	13	11	20	10	90
Northern Isles Salmon						16	21	37
Balta Island Seafare		1	7	6	4	2	6	26
Dawnfresh			3	4	4	7	6	24
Meridian				1	8	12		21
Lakeland							18	18
Bound Skerries Salmon				3	4	5	4	16
Wester Ross Fisheries		2	2	4	3	1	1	13
Cooke Aquaculture	1	8	3					12
Kames Fish Farming			2		1			3
Thompson Brothers			1					1
<b>Total</b>	<b>49</b>	<b>65</b>	<b>73</b>	<b>92</b>	<b>119</b>	<b>212</b>	<b>241</b>	<b>851</b>

Download as an Excel spreadsheet [online here](#)

Data [published by the Scottish Government in September 2020](#) shows that 63 seals were killed by salmon farms in 2019 (an increase on 2017 when 44 seals were reported killed and in 2018 when 53 seals were reported as killed):

Figure 5: Number of seals killed under licences to Protect Health and Welfare of Farmed Fish, 2015-2019.



The Ferret [reported in June 2020](#):

### Seals killed by Scottish fish farms 2011-2019

2019	42
2018	54
2017	49
2016	65
2015	73
2014	92
2013	119
2012	212
2011	241
<b>Total</b>	<b>947</b>

Source: Scottish Government licences [here](#) and [here](#).

Scottish Salmon Watch [reported in June 2020](#):

"According to data collected from salmon farming companies and [published by the Scottish Government](#) salmon farms killed 42 seals in 2019 ([data currently only available up to the end of Q3 2019](#)) with Marine Harvest ([re-named Mowi in 2019 due to "negative consumer perception"](#)) and certified as 'welfare friendly' via [RSPCA Assured](#)) leading the way with 18 dead seals followed by The Scottish Salmon Company with 11, Scottish Sea Farms with 6, Loch Duart with 5 (2 were killed at Calbha - a Loch Duart salmon farm - via the Northern Salmon Management Group) and Cooke with 2 dead seals":

2019 Licence Name:	Site (date)	Quarter 1		Site (date)	Quarter 2		Site (date)	Quarter 3	
		Grey	Common		Grey	Common		Grey	Common
The Scottish Salmon Company	Vula Mor (05/04)	2	0	Vula Mor (02/07)	3	0	Kyles Vula (23/08, 23/08)	4	1
	Vula Mor (05/04)			Vula Mor (11/07) Vula Mor (11/07)			- Grey Vula Mor (01/09, 03/09) - Grey Vula Mor (05/09) - Common		
The Scottish Salmon Company		0	0	Portree Outer (01/05)	1	0		0	0
Scottish Sea Farms Ltd	Teiss Geo (05/03)	2	0		0	0	Vidin North (03/09, 27/09)	2	0
Scottish Sea Farms Ltd	Holms Geo (05/04)	0	0		0	0	Flunary (09/10) Kishom West (12/10)	0	2
Northern Salmon Management Group	NWSMG (25/04) - grey								
	Calbha (30/04) - com	1	1		0	0		0	0
	Tabhaigh (18/02) - grey								
	Tabhaigh (19/02) - grey								
	North Shore (15/03) - com								
North Shore (16/03) - com									
North Shore (15/03) - grey									
North Shore (17/03) - com				North Shore (07/05)	0	1		0	0
Marine Harvest (Scotland) Ltd	BDNC (11/03)	0	1		0	0		0	0
Marine Harvest (Scotland) Ltd		0	0		0	0	Isle Ewe (04/09)	1	0
Marine Harvest (Scotland) Ltd		0	0		0	0	Greshomish (01/10) Colonsay (18/10) Muck (30/10)	0	3
Marine Harvest (Scotland) Ltd	Ardintoul (05/02) - grey	3	1	Ardintoul (05/05) Greshomish (09/05)	2	0			
	Sconser (05/03) - grey								
	Maol Ban (11/03) - com								
	Muck (26/03) - grey								
Loch Duart Ltd		0	0	Sound of Harris (27/01)	1	0	Sound of Harris (12/08, 01/09)	2	0
Cooke Aquaculture Scotland		0	0		0	0	Pegal Bay (02/08)	1	0
Cooke Aquaculture Scotland		0	0		0	0	Bow of Hascosay (05/09)	1	0

"According to [official data published by the Scottish Government](#) there were 54 seals killed by salmon farming companies in 2018 - with Marine Harvest (re-named Mowi in 2019) leading the way with 24 followed by Scottish Sea Farms with 9, Cooke with 9, The Scottish Salmon Company with 6 and Wester Ross (via the Northern Salmon Management Group) with 4":

2018 Licence Name:	Site (date)	Quarter 1		Site (date)	Quarter 2		Site (date)	Quarter 3		Quarter 4		
		Grey	Common		Grey	Common		Grey	Common	Site (date)	Grey	Common
The Scottish Salmon Company	Quarry Point (18/02)	0	2		0	0		0	0			
The Scottish Salmon Company	Taranais (15/02)	3	0		0	0		0	0			
	Taranais (04/04)											
The Scottish Salmon Company	Taranais (30/04)											
Scottish Sea Farms Orkney and Eriboll	Geasail (26/03)	1	0		0	0		0	0			
Scottish Sea Farms Ltd		0	0	Sian Bay (30/07)	1	0		0	0			
Scottish Sea Farms Ltd	Stocka Ronas Voe (16/02)	4	0		0	0		0	0			
	Stocka Ronas Voe (22/02)											
	South Sound (26/02)											
	Vidin North (23/03)											
Scottish Sea Farms Ltd	Flunary (07/02)	0	2		0	0	Nevis C (Ardnigh) (13/09)	0	3			
	Loch Spelveil (15/02)						Kishom B (North) (28/10) Kishom B (North) (28/10)					
Northern Salmon Management Group		0	0		0	0	Wester Ross (31/10)	0	1			
										Wester Ross (07/11) - Com Calbha (12/12) - Com Oidhny (20/12) - Grey	1	2
Marine Harvest (Scotland) Ltd	Greatay (19/03)	1	0		0	0	Tabhaigh (22/09) Tabhaigh (18/10)	2	0	Tabhaigh (26/11) - Com North Shore (05/12) - Grey North Shore (23/12) - Com	1	2
Marine Harvest (Scotland) Ltd	Isle Ewe (05/03)	1	0		0	0		0	0	Isle Ewe (16/01)	1	0
Marine Harvest (Scotland) Ltd	Ardintoul (07/03)	1	0	Camas Glas (19/05) - Com Camas Glas (17/05) - Grey Ardish (25/07) - Grey	2	1	Linthe (10/06) - Com Maol Ban (10/08) - Grey Gorsten (25/08) - Com Levan (04/08) - Com Gorsten (13/09) - Com Maol Ban (21/09) - Grey	2	5	Kingsfioch (22/11) - Com Camas Glas (06/12) - Com Sconser (18/12) - Grey Muck (28/12) - Grey Sconser (28/01) - Com	2	3
Cooke Aquaculture Scotland		0	0		0	0		0	0	Lyrava Bay (29/1)	1	0
Cooke Aquaculture Scotland	Cloudn (09/04)	1	0		0	0	Durbawick (02/08) Durbawick (02/08) Durbawick (05/08) Durbawick (05/08)	4	0	Burkwell (13/12) Burkwell (13/12) Casper (17/12)	3	0



Don Staniford  
@TheGAAIA

...

Scottish Salmon's Slaughter of Seals Has Not Stopped!  
[tinyurl.com/ybafc9ep](https://tinyurl.com/ybafc9ep) Data published @marinescotland shows @MowiScotlandLtd killed 18 seals in 2019 (data up to Q3) & 24 in 2018 with @salmon\_scottish killing 11 seals in 2019 & @scotseafarms killing 11 seals in 2018 @NOAA



Chris Sherwood and 9 others

12:40 PM · Jun 4, 2020 · Twitter Web App



The Ferret [reported in June 2020](#):



The number of seals shot by the fish farming industry has doubled ahead of a proposed government ban, prompting fears of a “killing spree”.

New [official figures](#) reveal that salmon farmers killed 31 seals in the first three months of 2020, compared to 15 in the same period in 2019. They are shot under licence to prevent them from attacking salmon cages and eating the fish.



Don Staniford  
@TheGAAIA

...

"Salmon farms must hang up their guns and stop killing seals in lochs across Scotland," said Scottish Salmon Watch. "Trigger happy salmon farmers are going on a killing spree before the US rules kick in" [tinyurl.com/yas8oj8v](https://tinyurl.com/yas8oj8v) @FerretScot @NOAA @NOAAComms @FergusEwingMSP



Seal shooting at fish farms doubles before ban

The number of seals shot by the fish farming industry has doubled ahead of a proposed government ban, prompting fears of a "killing spree".

[theferret.scot](https://theferret.scot)

Data [published by the Scottish Government in September 2020](#) shows that far from shooting seals as a "last resort" salmon farmers are failing to use anti-predator nets and seal blinds.

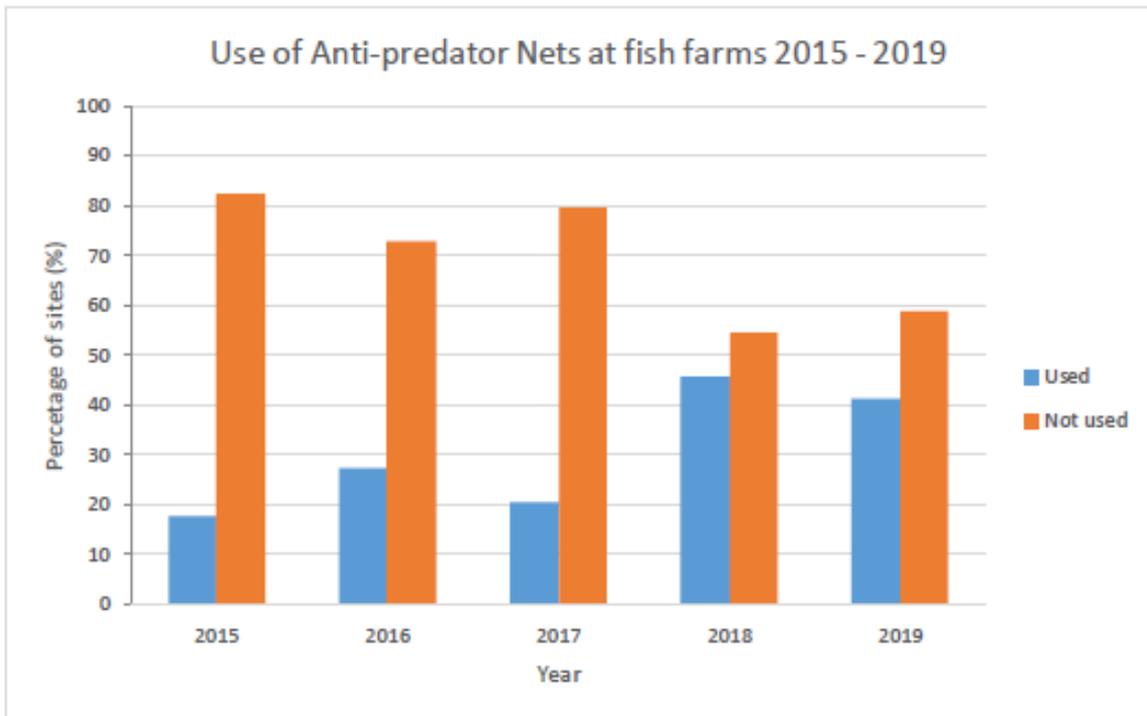


Figure 1: Percentage of sites reporting anti-predator net usage at fish farms, as stated in seal licence applications, 2015-2019<sup>1</sup>.

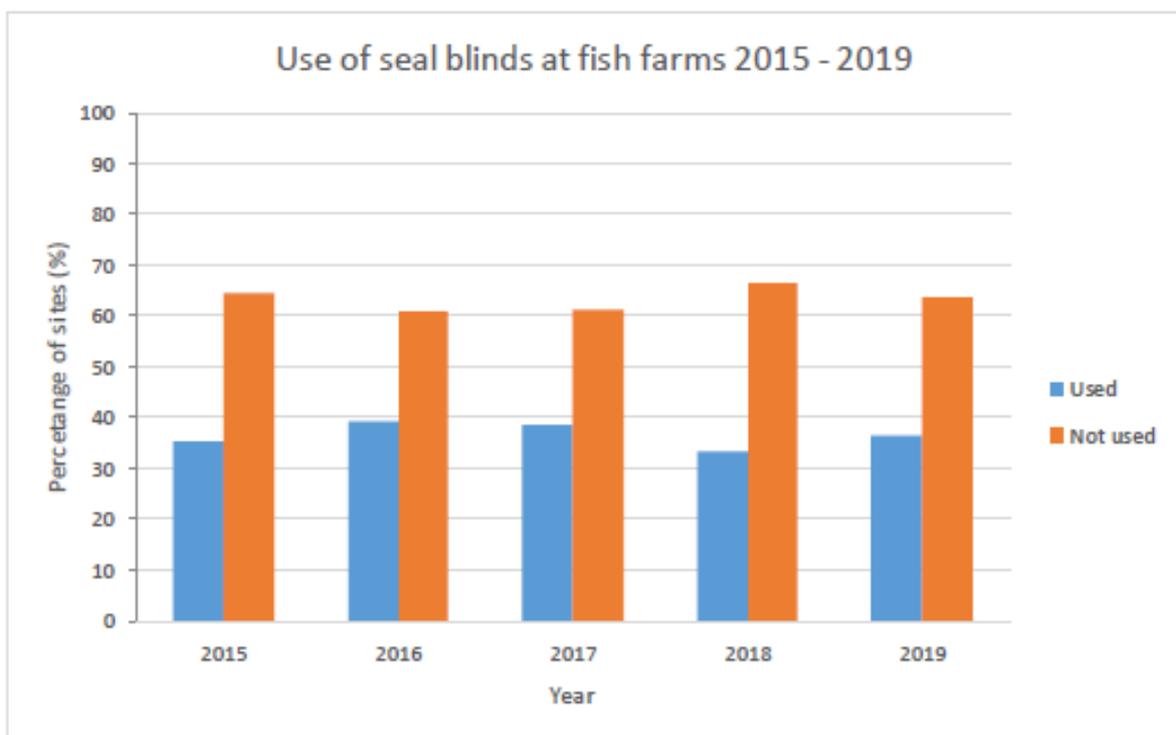


Figure 2: Percentage of sites reporting use of seal blinds at fish farms, as stated in applications, 2015-2019<sup>1</sup>.

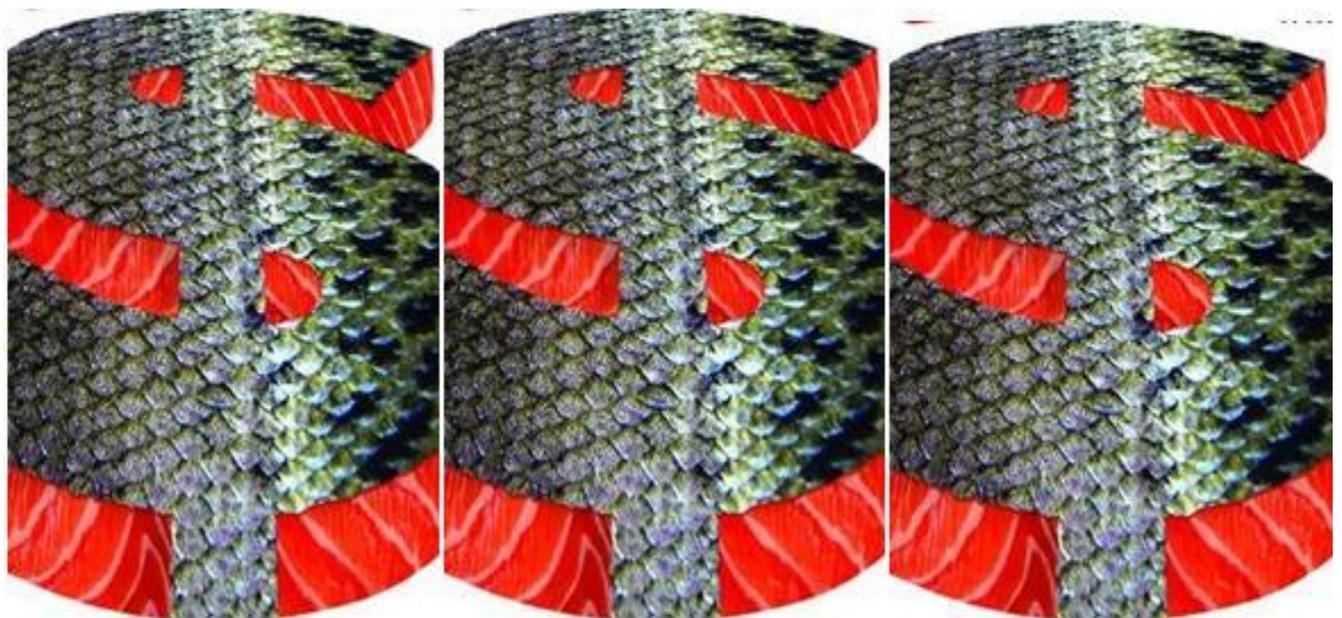
In June 2019, Folketrygdfondet's Senior Analyst - Responsible Investments (Annie Bergasel) was thanked for sharing insights and expertise for an [ESG report on risks and opportunities in aquaculture](#). The [FAIRR report \(June 2019\)](#) cited how Grieg Seafood and Scottish Sea Farms were "investing in enhanced nets" which "follows public outcry against seal shooting".

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### Case study: Improved nets

Producers such as Cooke Aquaculture, Grieg Seafood and Scottish Sea Farms are investing in enhanced nets that aim to prevent mammals, such as seals, accessing farmed salmon. This follows public outcry against seal shooting and pressure from proposed US legislation (see Appendix for further information). As of February 2019, Scottish Sea Farms said it had installed new nets at 21 out of 45 salmon farms in Scotland at a cost of £4.2 million and aimed to install them at nine more farms in 2019. Cooke Aquaculture states that it invested £4.7 million in similar nets. Grieg Seafood reports that it invested "several million pounds" in new nets in Scotland and has consequently not shot any seals in 2018 (Shetland News, 2019).

The use of anti-predators nets is surely a price worth paying for seal-friendly salmon - and unless salmon farming companies invest in non-lethal predator control measures they will [lose billions because of lost markets](#).



- **Acoustic Deterrent Devices Impacting on Cetaceans:** [Peer-reviewed science](#) has shown the impact of Acoustic Deterrent Devices (ADDs) used on salmon farms in Scotland.

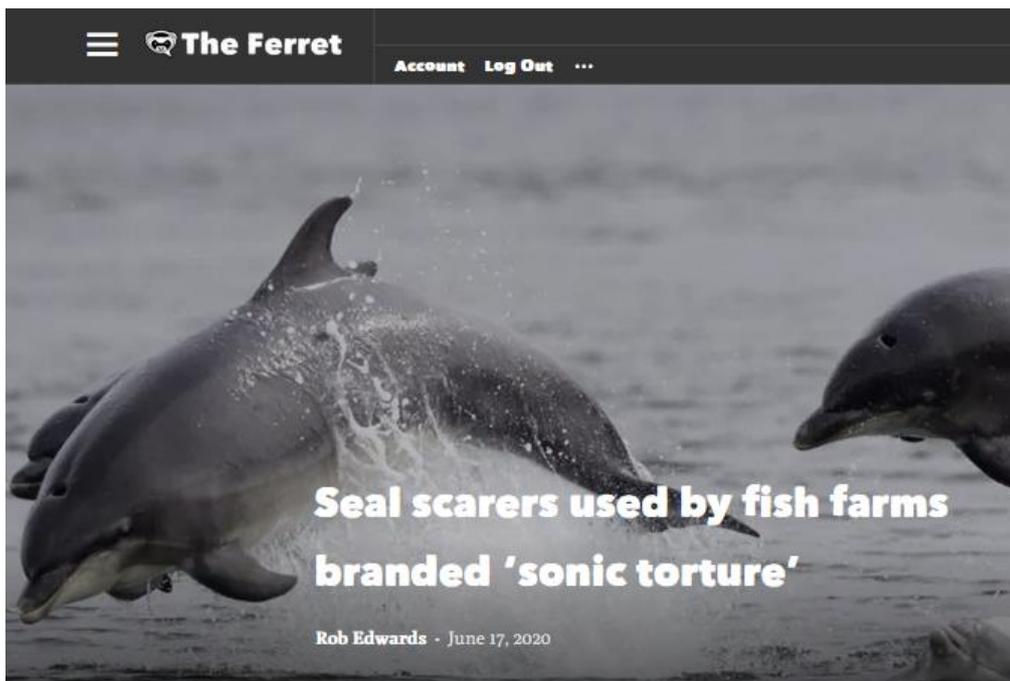
 **Sarah Dolman**  
@dolmansarahj

"A single exposure to a seal scarer (ADD) can lead to hearing impairment in harbour porpoises at hundreds of metres" - used on fish farms (unregulated) in Scotland to deter seals & on offshore wind farms, to scare marine mammals away [pubmed.ncbi.nlm.nih.gov/31893707/](https://pubmed.ncbi.nlm.nih.gov/31893707/)



Marine Scotland and 9 others  
10:39 AM - Nov 16, 2020 - Twitter for Android

The Ferret [reported in June 2020:](#)



The Mail On Sunday [reported last month \(25 October 2020\)](#):

 **Don Staniford**  
@TheGAAIA

Noise pollution from salmon farms tortures porpoises  
[@MailOnline](#) [tinyurl.com/y5xjpp2s](https://tinyurl.com/y5xjpp2s) "Salmon farmers use underwater high-pitched noise devices to protect stock...But the underwater equipment has been branded 'sonic torture' by campaigners"  
[@ClydePorpoise](#) [@SealifeA](#) [@ScotLINK](#)

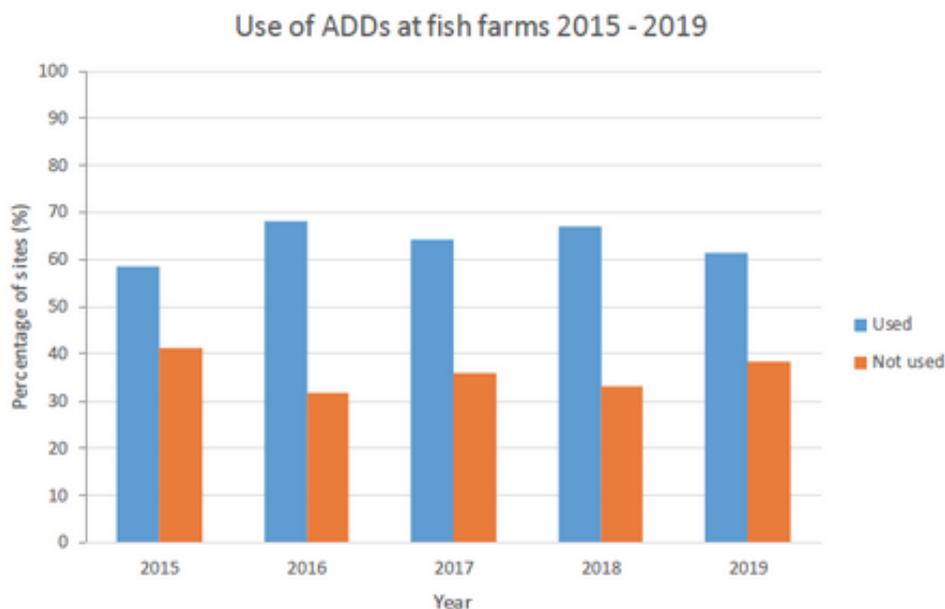


 Scottish Salmon Producers Organisation and 9 others

8:23 AM - Oct 25, 2020 - Twitter Web App

The Scottish Government [reported in September 2020](#) that just over 60% of fish farms used ADDs in 2019 (slightly higher than in 2015 but lower than in 2016, 2017 and 2018):

Figure 3: Percentage of sites reporting use of ADDs at fish farms, as stated in applications, 2015-2019 <sup>1</sup>.



The Daily Record [reported in August 2020](#):



6:54 AM · Aug 4, 2020 · Twitter Web App

The latest figures show that 142 fish farms in Scotland currently use the ADDs with the Scottish Salmon Company listed as the biggest user with 45 alone.

The latest figures were revealed in a written response to a question lodged in the Scottish Parliament by Green MSP Mark Ruskell.

The statistics cover the period from October 2018 to September 2019, as reported in the most recent seal licensing applications.

Read more via:

**The Herald**

3rd August

**More than 140 fish farms in Scotland using controversial noise devices**

The [Scottish Parliamentary reply dated 15 July 2020](#) detailed The Scottish Salmon Company as the biggest user of ADDs followed by Scottish Sea Farms and then Mowi:

**Question S5W-30448: Mark Ruskell, Mid Scotland and Fife, Scottish Green Party, Date Lodged: 03/07/2020**

To ask the Scottish Government what information it has on how many acoustic deterrent devices (ADD) are used by the aquaculture sector in Scotland, broken down by (a) company, (b) model of ADD and (c) whether the ADD is continually turned on.

**Answered by Mairi Gougeon (15/07/2020):**

The following table provides a breakdown of the number of sites using ADDs, by company, including the device model and whether it is always on, for the period October 2018 to September 2019, as reported in the most recent seal licensing applications. Furthermore, Scottish Ministers are due to report to Parliament on the use of Acoustic Deterrent Devices (ADDs) by 01 March 2021, which will include a comprehensive assessment of the usage of ADDs.

Number of fish farms by company using ADDs by type, from October 2019 to September 2020 (as reported on seal licensing applications for the period 01 February 2020 to 31 January 2021)

Company Name	ADD Model														Grand Total	ADD Not Used
	Always On	Ace Aquatec		AIRMAR		Mohn Aqua		OTAQ Seal Fence		Sea Guard		Terecos				
		Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No			
Cooke Aquaculture Scotland															0	35
Dawnfresh Farming Ltd								2							2	2
Grieg Seafood Shetland Ltd		2													2	18/
Kames Fish Farming Ltd													3		3	1
Loch Duart Ltd		1		2											3	0
MOWI (Scotland) Ltd		2		2				13	4			9	2		32	10
Northern Salmon Management Group		8		8		2									18	2
Scottish Sea Farms Ltd			4	16	14	1				1	1				37	21
The Scottish Salmon Company		1	2	2	1			26	13						45	0

The legality of ADDs has been [called into question](#).



david nairn  
@ClydePorpoise



Surely someone on inside track at [@marinescotland](#) & [@nature\\_scot](#) has the bottle to affirm to [@GreenerScotland](#) [@NicolaSturgeon](#) [@strathearnrose](#) that unlicensed use of ADDs in aquaculture is contrary to European Protected Species legislation and completely immoral?



12:41 AM · Oct 13, 2020 · Twitter Web App

Marine Scotland [posted online](#) (30 October 2020):



part of Scotland's environment

Home Partners Originators Search Marine Licence Details Quicklinks

Home

### The use of Acoustic Deterrent Devices (ADD) and the Requirement for a European Protected Species Licence (EPS) at Finfish Farms in Scotland

Data Type: Marine Licence documentation

Download resources:

Attachment	Size
<a href="#">EPS Application Form (Within 12 Nautical Miles)</a>	928.54 KB
<a href="#">Annex E - ADD and EPS</a>	38.33 KB
<a href="#">Marine Scotland ADD and EPS Flow Chart</a>	15.68 KB
<a href="#">Marine Scotland ADD and EPS FAQs</a>	382.02 KB

Document type: Other

Date submitted: Friday, October 30, 2020

Page last modified: Friday, October 30, 2020 - 14:15

Menu Selection: Maps Info Data

- Assessments
  - Physical Characteristics
- Clean and Safe
- Healthy and Biologically Diverse
- Productive
- Climate Change
- Monitoring



**Ullapool Sea Savers** @SaversSea · Nov 17

ADDs are used by fish farms to scare seals but also scare porpoise and other cetaceans. How can we call the Wester Ross Marine Protected Area 'protected' when wildlife is exposed to this?

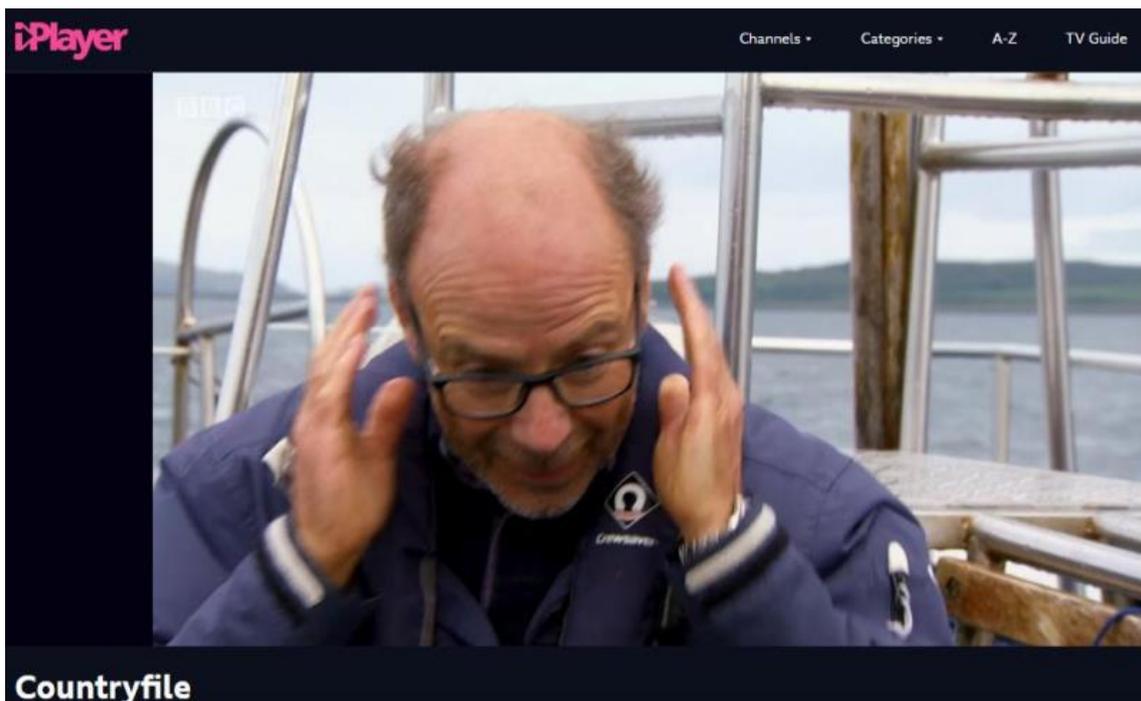
@Dolphinchaz @SeaWatchersUK @Dolphinsighting @mcsuk @ScotLINK @ScotWildlife @TheGAAIA

**Sarah Dolman** @dolmansarahj · Nov 16

"A single exposure to a seal scarer (ADD) can lead to hearing impairment in harbour porpoises at hundreds of metres" - used on fish farms (unregulated) in Scotland to deter seals & on offshore wind farms, to scare marine mammals away [pubmed.ncbi.nlm.nih.gov/31893707/](https://pubmed.ncbi.nlm.nih.gov/31893707/)



In August 2019, [BBC Countryfile](#) visited Mowi's salmon farm at 'Bay of the Dead Heads' speaking to tourist operator David Ainsley who [called for a ban on ADDs with a petition signed by over 26,000 people](#) (supported by the Scottish Greens in June 2020).



Whether Mowi, Scottish Sea Farms, The Scottish Salmon Company and Grieg Seafood choose to turn off ADDs or not may hinge on any rule changes to the United States Marine Mammal Protection Act [which will prohibit the killing of marine mammals by 2021](#) and [may also prohibit the use of some if not all ADDs](#). The lethality of salmon farms to marine mammals is not in question, however, as Scottish Sea Farms found out when [a humpback whale was killed in one of their salmon farms in the Sound of Mull](#).



In view of the [hard evidence of diseases](#) and [welfare abuse](#), Scottish Salmon Watch believes salmon farming should carry an [environmental health and welfare warning just like tobacco](#).



Norwegian-owned salmon farming companies operating in Scotland have a [horrible history of non-compliance and unethical behaviour](#).



## Farms turning pristine waters 'to toxic toilets'

Farmed salmon 'contaminated'

Scottish farmed salmon 'is full of cancer toxins'

**Scottish salmon farming revolution that has left the seas awash with toxic chemicals**

Contamination alert over salmon **Disease on-going**

Wild Atlantic salmon 'under threat' from escaped farmed fish and sea lice

Scottish salmon farms 'disregard' environment

# DAMNED LICE

**Daily Scottish Mail**  
NEWSPAPER OF THE YEAR 40p

Oops: fish farm firm kills 175,000 of its salmon by accident

Salmon industry under fire for shooting seals

"The most toxic product in the food industry"

**Marine Harvest has 'serious AGD issues'**

Fish company investigated after salmon farm pollutes Scottish loch

Wild trout 'eaten alive by sea lice from fish farms'

'Illegal poison' used on salmon

Lethal fish infection spreads

**'ONLY EAT SALMON THREE TIMES A YEAR'**

SCIENTISTS found a devastating new warning sign about the safety of Scottish farmed salmon. The Royal Society for Public Health has issued a warning that farmed salmon is 'the most toxic product in the food industry'. The warning comes after a report from the Marine Harvest company, which has been investigated after salmon from its farms polluted a Scottish loch. The report also found that wild trout were being eaten alive by sea lice from fish farms. The report also found that 'illegal poison' was being used on salmon and that a lethal fish infection was spreading. The report is a damning indictment of the Scottish salmon farming industry and calls for a complete ban on farmed salmon. The report is a wake-up call for the public and for the government. It is a warning that farmed salmon is not safe to eat and that the industry is a threat to the environment and to the health of the nation. The report is a call for action and for a complete ban on farmed salmon. The report is a wake-up call for the public and for the government. It is a warning that farmed salmon is not safe to eat and that the industry is a threat to the environment and to the health of the nation. The report is a call for action and for a complete ban on farmed salmon.

Fish farms fined over unlicensed chemical use

Salmon farms turn sea bed into graveyard

Scottish fish farmers use record amounts of parasite pesticides

**Salmon boycott**

Flesh-eating lice spread by fish farms kill 39 per cent of wild salmon

Record chemical use 'of concern' to salmon giant

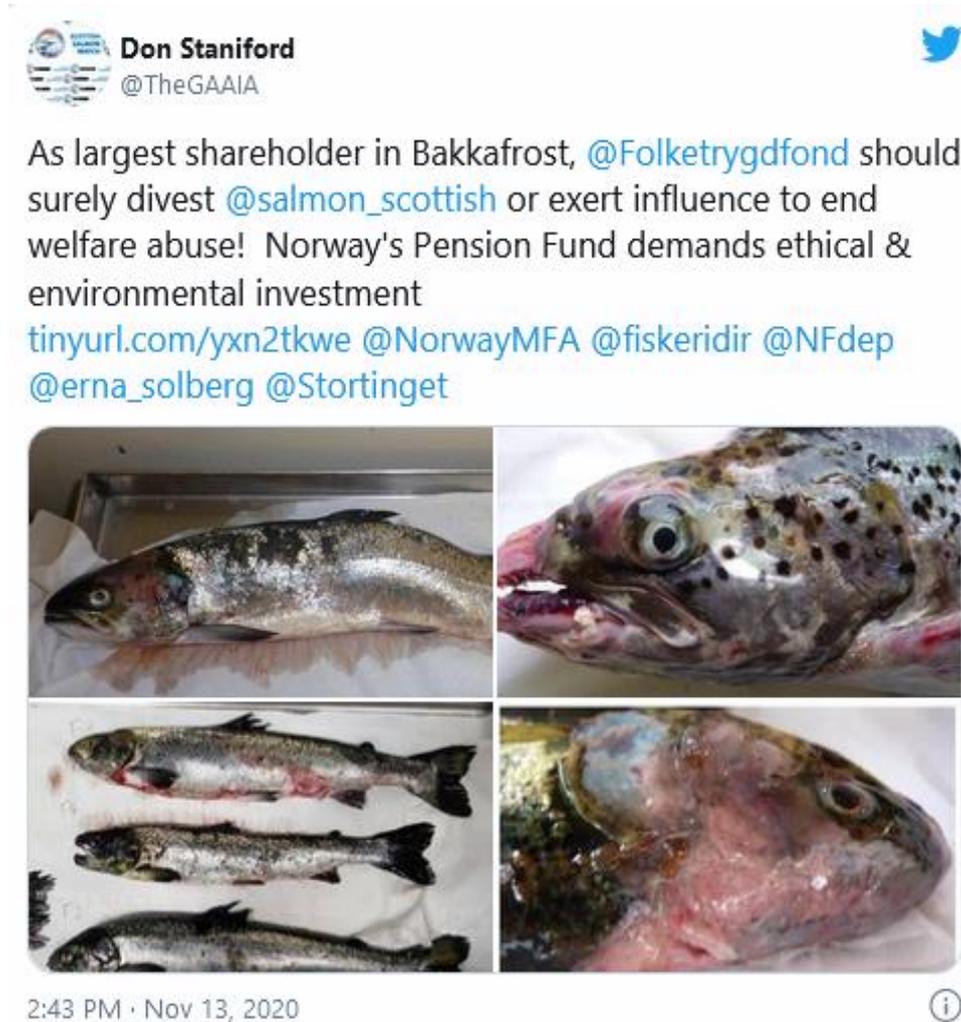
**Infested waters**

In view of decades of [negative media exposure](#), [weight of scientific evidence against the environmental impacts of salmon farming](#) and [photographic evidence of welfare abuse on Scottish salmon farms](#), it beggars belief that the Norwegian Government Pension Fund would seriously consider buying shares in salmon farming companies operating in Scotland as "[responsible and ethical investments](#)".



## Deaf, Dumb & Blind to Ongoing Environmental & Welfare Concerns:

Instead of [buying up more shares in companies such as Bakkafrost](#) (owner of The Scottish Salmon Company - perhaps the worst salmon farming operator in Scotland), surely the Norwegian Government should perform due diligence in their investment portfolio?



Folketrygdfondet has the [power to force change via Mowi](#) for example.

## Folketrygdfondet

About Folketrygdfondet

### Governing bodies

Folketrygdfondet is not directly represented on boards of directors, but participates in board elections.

Folketrygdfondet may participate in nomination committees, corporate assemblies and shareholder committees.

#### Nomination committees

Mowi ASA

Deputy Director Equities Ann Kristin Brautaset

member

Why doesn't the Norwegian Government utilise their [increased shareholding in Mowi](#) to end environmental and welfare abuse in Scotland?

## Folketrygden laster opp med sjømat

Mowi-kursen indikerer at Folketrygdfondet har handlet for drøyt 25 millioner kroner.



FLAGGING: Folketrygdfondet har kjøpt seg opp og forbi 10 prosent i Mowi.

[Mer »](#)

### Sjømat



**Henning Christensen**

15.43 - 14. okt.

Folketrygdfondet har onsdag kjøpt 150.000 aksjer i sjømatgiganten Mowi **MOWI, -1.33%**, og med det passert en eierandel på 10 prosent, fremgår det av en flaggemelding.

**Etter handelen har Folketrygdfondet cirka 51,74 millioner aksjer i Mowi,**

The Norwegian Government's [increased shareholding in Grieg Seafood](#) has certainly not reaped the financial rewards in Scotland with Grieg [announcing earlier this month it was pulling out due to losses of NOK 150 million](#).

## Folketrygdfondet over 5 prosent i Grieg Seafood

Folketrygdfondet har mandag kjøpt 150.000 aksjer i Grieg Seafood, og eier dermed 5,1 prosent av selskapet.

9. desember 2019 11:16 OPPDATERT 9. desember 2019 11:16

Av [Anders Furuset](#) i Oslo

What actions has the Norwegian Government taken to improve environmental and welfare performance in Scottish Sea Farms since it [increased their shareholding in Lerøy in 2018](#)?

## Folketrygdfondet over 5 prosent i Lerøy

Folketrygdfondet har i løpet av onsdagen kjøpt seg opp i Lerøys Seafood Group.

18. april 2018 15:52 OPPDATERT 18. april 2018 11:52

Av Redaksjonen IntraFish Media

– Folketrygdfondet har i dag kjøpt 157.154 aksjer i Lerøy Seafood Group og eier etter dette 29.868.440 aksjer i selskapet, tilsvarende en eierandel på 5,01 prosent, opplyses i en melding onsdag

And what pressure has the Norwegian Government applied to Scottish Sea Farms since it [increased their shareholding in SalMar in 2009](#)?

The screenshot shows a news article from E24. The headline is 'Folketrygdfondet flagger i Salmar'. Below the headline is a sub-headline: 'Folketrygdfondet har hamstret 1,5 millioner aksjer i lakseopdrettsselskpaet Salmar.' There is a photograph of a large salmon. The article is by Aleksander Nordahl and was published on 21. januar 2009.

Folketrygdfondet's [significant shareholdings in Mowi](#), [Bakkafrost](#), [Grieg Seafood](#), [Lerøy](#), [SalMar](#) and [Austevoll Seafood](#) should be used to exert positive influence on salmon welfare rather than exacerbate problems.

### FOLKETRYGDFONDET'S OWNERSHIP INTERESTS ON THE OSLO STOCK EXCHANGE

Companies in which Folketrygdfondet owned more than five percent of equity or was among the three largest shareholders as of 31 December 2019.

Company name	FTF's shareholding	FTF's shareholder ranking
Mowi	9.42%	2
Bakkafrost	9.04%	1
SalMar	6.01%	2
Lerøy Seafood Group	5.44%	2
Grieg Seafood	5.13%	3
Austevoll Seafood	2.42%	3





Scottish Salmon Watch cannot fathom how the [Norwegian Government's 'Ethical' Pension Fund](#) can financially support such toxic investments in 'Scottish' salmon.

### Norway's Salmafia Controlling the Majority of 'Scottish' Salmon



 Don Staniford  
@TheGAAIA

Spotted on our beach walk today - the piles of dog poop are collected in an old farmed salmon box. Very apt since Bakkafrost (owners of The Scottish Salmon Company) are used to dealing in complete crap!  
[@salmon\\_scottish](#) [@Folketrygdfond](#)



8:22 PM - Oct 14, 2020 - Twitter Web App

The close relationship between the salmon farming industry and the Norwegian Government is well known - no more than in the older sister of Norway's Prime Minister Erna Solberg [working for Marine Harvest for 30 years before she retired as COO in 2018](#).

**E24** AKSJELIVE BØRS E24+ TIPS OSS

## Marine Harvest-direktør slutter etter 30 år i selskapet

Marit Solberg slutter etter over 30 år i laksekjempen Marine Harvest.



Erna Solberg (bak) og søster Marit Solberg. Arkivbilde  
Foto: Heiko Junge NTB scanpix



Erna Solberg og Jan Tore Sanner har vært leder og nestleder siden 2004.  
Foto: Lise Åserud / NTB scanpix

The rhetoric of Folketrygdfondet's "environmental, social and corporate governance" is not matched by the reality of ongoing lice problems, welfare abuse, infectious diseases and ecological impacts. Folketrygdfondet [wrote in December 2015](#):

## Environmental, social and corporate governance: Not just about acting responsibly and ethically

F Folketrygdfondet Dec 16, 2015 · 1 min read



**Adopting robust environmental, social and corporate governance strategies is not just about being good or kind. A lack of such strategies can have a direct impact on financial results.**

Volkswagen's manipulation of emissions data caused the market to suspect a weak corporate governance culture, triggering a sharp fall in the company's share price. TeliaSonera's credit rating has dropped in response to corruption allegations. In the aquaculture industry, problems with lice have led to higher costs, lost revenues and weaker financial results.

*Dealing with environmental, social and corporate governance issues is not only about acting responsibly and ethically. It is also about achieving strong financial performance and creating profitable jobs.*

We want companies to be in control of business-critical issues. Aquaculture companies, for example, must implement reliable anti-lice strategies to protect earnings.

WRITTEN BY  
**Folketrygdfondet**  
Our mission is to be a responsible manager of the Government Pension Fund Norway, secure strong financial returns over time and be a long-term investor.

Follow



Folketrygdfondet is mandated to generate a strong return over time. Our success depends on companies creating value. Companies must identify, understand and manage risk and opportunities. In our experience, companies in control of their operations are far more likely to deliver good stock market performance both today and tomorrow. A lack of effective measures is reducing the profitability of aquaculture companies. Focusing on sustainability is essential for industry success. We are therefore waiting impatiently for measures and resulting financial effects to reassure us that the challenge is being taken sufficiently seriously. This is something we communicate clearly in our dialogue with relevant companies.

*By Nils Bastiansen, Director, and Tine Fosslund, Responsible Investment Analyst, Equities Department, Folketrygdfondet*



Sustainability Corporate Governance Environment

### More from Folketrygdfondet

Our mission is to be a responsible manager of the Government Pension Fund Norway, secure strong financial returns over time and be a long-term investor.

Follow

Scottish Salmon Watch has trawled through the [Government Pension Fund's 'Annual Reports to the Storting'](#) but we struggle to find reference to salmon farming:

[Meld. St. 32 \(2019-2020\) \*The Government Pension Fund 2020\*](#)

[Meld. St. 20 \(2018-2019\) \*The Government Pension Fund 2019\*](#)

[Meld. St. 13 \(2017-2018\) \*The Government Pension Fund 2018\*](#)

[Meld. St. 26 \(2016-2017\) \*Management of the Government Pension Fund in 2016\*](#)

[Meld. St. 23 \(2015-2016\) \*The management of the Government Pension Fund in 2015\*](#)

[Meld. St. 21 \(2014-2015\) \*The management of the Government Pension Fund in 2014\*](#)

[Meld. St. 19 \(2013-2014\) \*The Management of the Government Pension Fund in 2013\*](#)

[Meld. St. 27 \(2012-2013\) \*The Management of the Government Pension Fund in 2012\*](#)

[Meld. St. 17 \(2011-2012\) \*The Management of the Government Pension Fund in 2011\*](#)

[Meld. St. 15 \(2010-2011\) \*The Management of the Government Pension Fund in 2010\*](#)

[Meld. St. 10 \(2009-2010\) \*The Management of the Government Pension Fund in 2009\*](#)

[Meld. St. 20 \(2008-2009\) \*The Management of the Government Pension Fund in 2008\*](#)

[Meld. St. 16 \(2007-2008\) \*The Management of the Government Pension Fund in 2007\*](#)

[Meld. St. 24 \(2006-2007\) \*The Management of the Government Pension Fund in 2006\*](#)

The [2016 Report to the Storting](#) is the last report to even cite 'salmon' but only in relation to higher prices boosting returns on equity investments.

#### **4.2.9 The Ministry's assessment**

The return on the GPFN in 2016 was 7.1 percent, measured in Norwegian kroner and before the deduction of asset management costs. The return on the equity investments was 10.5 percent, while the return on the fixed-income investments was 2.2 percent. Higher oil and salmon prices boosted returns on equity investments in companies within the energy and consumer goods sectors,

If "transparency is a prerequisite for ensuring widespread confidence in the management of the Government Pension Fund" (as [claimed on your web-site](#)), why is the Storting not informed about the Ministry of Finance's unethical and irresponsible investments in salmon farming companies via Folketrygdfondet?

Folketrygdfondet's ['Ownership Report' in 2019](#) included brief reference to salmon:

Ownership report

Folketrygdfondet's ownership role

Dialogue  
General meetings  
Nomination committees and governing bodies  
Good practice development  
The fixed income portfolio

[Folketrygdfondet's ownership role](#)

### **COMPANIES MUST SUCCEED OVER THE LONG-TERM**

Our owner has set a clear objective: to deliver the highest possible returns over time. We achieve this through active management and active, responsible ownership.

The environment and climate dialogue did not focus exclusively on climate risk in 2019, however. Other topics raised by Folketrygdfondet with portfolio companies included landscape restoration following mining operations, new EU rules on single-use plastics and the management of risk linked to salmon feed, escape of farmed salmon and salmon lice in the aquaculture industry.

There was no reference to 'salmon' in the 2018 or 2017 'Ownership Reports' but Folketrygdfondet's ['Ownership Report' in 2016](#) included:

**AQUACULTURE**

Sustainable aquaculture is a prerequisite for increased growth and long-term value creation in the industry. We expect the companies in our portfolio to address key sustainability challenges such as lice, escapes, fish health and feed.

The aquaculture industry is an important growth industry. We have invested in five fish-farming companies. At the end of 2016, Folketrygdfondet had shareholdings in Salmar (7.4 percent), Marine Harvest (10.2 percent), Lerøy Seafood Group (4.3 percent), Bakkafrost (5.9 percent) and Grieg Seafood Group (3.1 percent) with a total value of NOK 11.98 billion. In the past year, we have been in touch with all of these companies to survey and reduce the risk in our portfolio.

**What do we hope to achieve?**  
Failure to address sustainability challenges such as lice, escapes and feed has the potential to increase costs, reduce revenues and trigger the loss of reputation and production licences. As a long-term investor, we expect companies to have reliable processes in place to identify and manage such problems, so that the companies and the industry are able to generate value over

time. We also expect the portfolio companies to report relevant information relating to these topics. This should include policies, action plans, long-term goals and results.

**What are we doing?**  
We have been raising the challenges facing the industry in our meetings with company management for several years, including issues such as lice, fish health, escapes, feed and pollution. We have received thorough responses from the companies, and have clearly communicated the financial risk we see in the industry's sustainability challenges. In 2015, we also sent a letter to the board chairs of all the companies. These resulted in good descriptions of the steps taken by the boards in response to these challenges.

**Developments in 2016**  
We have positive experiences from our dialogue with the portfolio companies, and in 2016 discussed the problems caused by lice at all meetings with the aquaculture companies. The aquaculture industry appears to be highly aware of the issue, and the companies are taking it seriously. Nonetheless, considerable difficulties still have to be overcome, and we expect the companies

in the portfolio to maintain their systematic efforts to tackle the sustainability challenges they face.

**HOW WE WORK IN THE AQUACULTURE INDUSTRY:**



Folketrygdfondet's ['Ownership Report' in 2011](#) included:

*Salmon aquaculture*

Folketrygdfondet has this year been working with various challenges within the aquaculture industry, hereunder issues relating to escaped salmon, salmon lice, feed and the reputation of the industry.

Folketrygdfondet has pursued a dialogue with senior executives of the companies in which we hold ownership interests in order to pose questions relating to the above mentioned themes. It is not our role to tell the companies how they should handle various issues, but to make them aware of the financial risk perceived by us and to encourage them to handle the problems in a sound manner, such as to avert major negative implications as far as the company's long-term value creation is concerned.

Folketrygdfondet's ['Ownership Report' in 2012](#) referred to "environmental challenges" facing the aquaculture industry but claimed that "it is our experience that the companies are taking the issues seriously, and we observe that measures are being taken":

Folketrygdfondet has addressed various challenges within the aquaculture industry during the last two years, including key issues such as fish escapes, sea lice and feed. Fish escape incidents hurt companies in both financial and reputational terms, whilst the treatment of sea lice is costly, and improper handling of this issue may prevent further growth within the industry. Feed represents a large part of the costs involved in salmon farming, and it is important for feeds to be based on nutritional, sustainable and cost-effective raw materials.

We have requested the companies to explain how they handle the abovementioned challenges. Meetings with senior executives of the companies have provided us with thorough explanations, and we have been able to discuss the financial risk we believe to be entailed by the environmental challenges facing the industry.

It is our experience that the companies are taking the issues seriously, and we observe that measures are being taken. The industry is, at the same time, facing pressure from environmental organisations that are of the view that such measures are insufficient. The industry will have to grapple with this situation in coming years. We will, on our part, continue to monitor developments, both within individual companies and for the industry as a whole.

Folketrygdfondet's 2013 report makes no reference to salmon (and the [2015 report is missing](#)) but the '[Ownership Report](#)' in 2014 included:

EXAMPLES OF ACTIVITIES IN 2014

Type of activity	Company	Topic
Dialogue	Marine Harvest	The company's handling of challenges such as sea lice, disease, escapes, feed and pollution.
Dialogue	Salmar	The company's handling of challenges such as sea lice, disease, escapes, feed and pollution.
Dialogue	Lerøy	The company's handling of challenges such as sea lice, disease, escapes, feed and pollution.
Dialogue	Austevoll	The company's handling of challenges such as sea lice, disease, escapes, feed and pollution.
Presentation		Managing Director Olaug Svarva on Folketrygdfondet's view on the aquaculture industry and sustainability challenges, at Cermaq's sustainability seminar.
Consultation comments submitted to the Ministry of Trade, Industry and Fisheries on 9 January 2015		Consultation comments concerning growth in the Norwegian salmon and trout farming industry.

In reading Folketrygdfondet's annual ownership reports [which claim to "communicate information about our work and our experiences" in 'Responsible Investment'](#), it is hard to escape the conclusion that the Norwegian Government's Pension Fund "[professional investment manager](#)" has fallen asleep at the wheel.



It seems that over the last decade Folketrygdfondet has engaged in "dialogue" after "dialogue" which has paid lip service to lice problems in particular but at the end of the day has gone down the road to nowhere.

A decade ago in 2010 the [Pure Salmon Campaign](#) met with Folketrygdfondet's Chief Investment Officer Equities (Nils Bastiansen) in Oslo to discuss the spread of diseases and parasites, escapes and discharges of wastes. First Nations leaders [protested during the Winter Olympics in 2010 with a fast for wild salmon](#).



Fast For BC's Wild Salmon

In 2009, the Pure Salmon Campaign also met with Folketrygdfondet and [filed a shareholder resolution with Marine Harvest](#) calling for a special board committee to review environmental practices and how they relate to disease problems.

"In Scotland and Ireland, many of our most iconic stocks of wild sea trout and salmon have been very hard-hit within those areas where Norwegian companies own the majority of the salmon farms," [said Fiona Cameron of the Sea Trout Group in Scotland in 2009](#). "All of the organizations that have an interest in wild salmonids agree that something must be done urgently to reduce the impact of commercial salmon farming."



The Pure Salmon Campaign [delivered a letter to the King of Norway in 2009](#) (featured on [NRK](#)) calling on Norwegian companies to protect wild fish from sea lice, mass escapes and diseases.



Nyheter

## Overleverte protestbrev til kongen

Organisasjonen Pure Salmon mener at norske selskaper ødelegger for den kanadiske villaksen.



Tirsdag overleverte organisasjons koordinators Don Stainford et protestbrev til Kong Harald.

In 2008, the Pure Salmon Campaign screened a short film - "[Dear Marine Harvest](#)" - asking shareholders (including Folketrygdfondet) to stop killing spreading sea lice.



Dear Marine Harvest Part 1 of 2

16,551 views

👍 20 🗨️ 19 ➦ SHARE 🌐 ⋮



Twyla Roscovich  
Published on Jun 4, 2008

SUBSCRIBE 444

This film is an appeal to Marine Harvest, the largest salmon farming company in the world - showing their questionable operations and the impacts they are having in on coastal British Columbia

In 2007, the [Pure Salmon Campaign met with Norwegian Government officials](#) to discuss how Norwegian-owned companies were causing social and environmental impacts around the world.



During the Pure Salmon Campaign's visits to Norway - as shareholders in Marine Harvest, Fjord Seafood, Pan Fish and Cermaq - between 2005 and 2011 we raised serious concerns with Norwegian Government officials, financial analysts, shareholders and directors ([including Cecilie Fredriksen](#)). The fact that those same concerns are being voiced a decade later shows how Folketrygdfondet's "dialogue" with salmon farming companies has failed abysmally.



Over a decade ago, Folketrygdfondet and the Norwegian Government were briefed on the significant environmental problems in Scottish salmon farming. A dossier - "[Scottish Farmed Salmon Exposed](#)" - named and shamed Norwegian companies causing environmental pollution in Scotland.

## Scottish Farmed Salmon Exposed



*A Summary of Data Provided by Scottish Government Agencies to the Pure Salmon Campaign in Response to FOI Requests, 2006 and 2007*

**pure salmon campaign**  
RAISING THE STANDARDS FOR FARM-RAISED FISH

### Breaches of Consented Biomass 2005 - June 2007

Company	2005	2006	Thru June 2007
Aish	0	0	0
Aqua Farm Ltd	0	0	0
Atlantic West	5	0	0
Balta Island Seafood Ltd	0	0	0
Bound Skerries Ltd	0	0	0
Carlway Salmon	0	0	0
Collafish (Green Island Organics)	2	0	0
D&J Salmon	0	0	0
Drumbeig Salmon Ltd	0	0	2
Durr Salmon Ltd	0	0	0
English Ltd	0	0	0
Fjord Seafood Scotland	9	2	0
O'Duncan (Salmon) Ltd	0	0	0
Glenade Salmon	1	0	0
Green Island Organics Ltd	0	0	0
Greenholm	0	0	0
Haavik, North Atlantic Seafoods (aka Northern Aquaculture, Sheelad Halibut Company)	0	0	0
Helmsian Fishery (Salmon Co Ltd)	0	0	0
Hjalmland Seafoods Ltd	0	0	0
Huguenot Salmon Ltd	0	3	1
Johnson Seafoods (Marine Ltd)	0	0	0
Karnes Fish Farming Ltd	1	2	1
Lakeland (Marine & Ustril) Ltd	4	2	0
Laski Farming Enterprises Ltd	0	0	0
Lewis Salmon Ltd	0	0	0
Loch Duart Ltd	0	0	0
Mainstream Scotland Ltd	8	7	5
Marine Harvest (not inc. PanFish, Fjord)	22	61	55
Millburn	0	0	0
MM Salmon Ltd	3	0	0
NAFC	0	1	0
North Atlantic Salmon - Westside Salmon	5	0	0
North Isles Sea Farms Ltd	0	0	0
North Uist Fisheries	0	0	0
Orkney Seafoods Ltd	3	0	0
Orkney Seafoods Ltd	0	0	0
Pan Fish Scotland Ltd	18	28	8
Ryan Seafoods Ltd	0	0	0
Scottish Seafoods Ltd	1	0	0
Skaldia Salmon	0	0	0
Statt Salmon Ltd	0	0	0
Stull Sea Farms	9	0	0
Sweeting Salmon	0	0	0
Thompson Brothers Salmon Ltd	0	0	0
Uyessound Salmon	0	0	0
Weddell Fish Farms	0	0	0
West Minch (Skidzish)	0	0	0
Wester Ross Fisheries Ltd	0	1	0
Westray Salmon	0	1	0
Whalsey	0	0	0
<b>TOTAL</b>	<b>96</b>	<b>107</b>	<b>72</b>

Marine Harvest - including Pan Fish and Fjord - reported 85% of all exceedances in 2006

Salmon farms have reported close to 700 breaches of pollution limits since 2003

72 exceedances were reported in the first half of 2007

### Reported Feed Use 2005 - June 2007

Company	2005	2006	2007 Thru June
Aish	0	314	0
Aqua Farm Ltd	1,265,110		
Atlantic West	1,311,879		
Balta Island Seafood Ltd	242,663		126,318
Bound Skerries Ltd			158,000
Carlway Salmon	67,835		
Collafish (Green Island Organics)	870,953		307,709
D&J Salmon	230,708		
Drumbeig Salmon Ltd	2,050,074	2,572,310	967,407
Durr Salmon Ltd	1,076,130	2,964,749	159,907
English Ltd	54,829	199,026	90,951
Fjord Seafood Scotland	6,807,104	7,054,896	2,967,905
O'Duncan (Salmon) Ltd	502,636	34,250	
Glenade Salmon	655,425		
Green Island Organics Ltd			232,343
Greenholm	208,296		
Haavik, North Atlantic Seafoods (aka Northern Aquaculture, Sheelad Halibut Company)	1,970,090	2,064,424	626,794
Helmsian Fishery (Salmon Co Ltd)	264,354		29,249
Hjalmland Seafoods Ltd	14,730,324	19,465,049	8,337,763
Huguenot Salmon Ltd	3,208,701	4,589,163	1,944,389
Johnson Seafoods (Marine Ltd)	0	0	960,710
Karnes Fish Farming Ltd	1,004,007	781,570	961,699
Lakeland (Marine & Ustril) Ltd	10,696,024	9,229,011	5,647,314
Laski Farming Enterprises Ltd	0	0	11,960
Lewis Salmon Ltd	155,150	304,825	
Loch Duart Ltd	2,890,766	2,684,739	1,232,451
Mainstream Scotland Ltd	11,894,101	12,064,180	5,208,224
Marine Harvest (not inc. PanFish, Fjord)	41,576,220	51,011,217	22,394,471
Millburn	1,263,181		
MM Salmon Ltd	914,094		1,447,186
NAFC	159,374	187,363	12,475
North Atlantic Salmon - Westside Salmon	2,335,323		574,124
North Isles Sea Farms Ltd	0	0	24,980
North Uist Fisheries	80,075	45,775	24,980
Orkney Seafoods Ltd	3,884,244	557,150	711,675
Pan Fish Scotland Ltd	19,919,377	24,715,820	10,382,961
Ryan Seafoods Ltd	0	0	175,523
Scottish Seafoods Ltd	26,455,650	31,950,752	14,130,131
Skaldia Salmon	239,377	165,693	
Statt Salmon Ltd	0	0	
Stull Sea Farms	8,994,564		
Sweeting Salmon	119,253	38,187	436,330
Thompson Brothers Salmon Ltd	1,006,824		
Uyessound Salmon	1,055,870	1,052,311	521,400
Weddell Fish Farms	7,942	4,401	1,780
West Minch (Skidzish)	930,550		447,475
Wester Ross Fisheries Ltd	1,282,637	841,523	580,495
Westray Salmon	355,150	378,150	81,000
Whalsey	2,139,122		
<b>TOTAL</b>	<b>174,892,674</b>	<b>174,957,736</b>	<b>81,894,099</b>

Empty = No reported submitted

Highlight = Reported only Q1

Marine Harvest, (including Fjord, and Pan Fish) used 47% of all feed in 2006

### Nitrogen Emissions in 2005

Scottish salmon farming companies reported discharging 8,800 tonnes of nitrogen into the marine environment in 2005

Rank	Company	Total Nitrogen (t)	% of Total
1	Marine Harvest	2,099,363.27	24
2	Scottish Sea Farms	1,333,364.76	15
3	Pan Fish	1,003,946.68	11
4	Hjalmland	747,408.33	8
5	Mainstream	599,462.67	7
6	Lakeland	539,079.61	6
7	Stull Sea Farms	453,326.01	5
8	Fjord Seafood	343,078.04	4
9	Orkney Seafoods	195,765.90	2
10	Huguenot	161,718.53	2
11	Loch Duart	145,694.61	2
12	North Atlantic - Westside	117,200.28	1
13	Whalsey	107,811.75	1
14	Drumbeig Salmon	103,726.92	1
15	Northern Aquaculture	99,746.14	1
16	Millburn	95,496.48	1
17	Atlantic West	66,118.70	1
18	Wester Ross	64,644.90	1
19	Aqua Farms	63,761.54	1
20	Durr Salmon	54,236.95	1
21	Karnes	53,725.74	1
22	Uyessound	53,215.85	1
23	Thompson Bros	50,743.90	1
24	West Minch Skidzish	46,874.52	1
25	M/M Salmon	46,070.34	1
26	Collafish	43,896.03	0
27	Glenade Salmon	33,033.42	0

Marine Harvest, Stolt, Fjord, and Pan Fish together accounted for almost half (44%) of Nitrogen discharges

As with the data collated currently via '[Scotland's Aquaculture](#)', Marine Harvest was the **biggest polluter**.

**The "New" Marine Harvest**  
 Marine Harvest, Pan Fish, Fjord, and Stolt merged  
 in 2005 - 2006



The New Marine Harvest in Scotland Pan Fish, Marine Harvest, Fjord, and Stolt		%
<b>PRODUCTION FIGURES</b>		
% Harvest Quota in Scotland (of Atlantic salmon, coho, Chinook, and big trout) in 2005		45
% Scottish Fish Farm Sites Owned by Scottish Salmon Farms in 2005		40
<b>IMPACT FIGURES</b>		
% Contoured Biomass Exceedances in 2005		64
% Fish Feed Used in 2005		44
% Nitrogen Discharged in 2005		44
% Total Organic Carbon Discharged in 2005		44
% Phosphorus Discharged in 2005		44
% Copper (from Feed and Nets) Discharged in 2005		70
% Zinc Discharged in 2005		44
% Excis Used in 2005		63
% Slice Used in 2005		61
% Oxytetracycline Used in 2005		81
% Florfenicol Used in 2005		100
% Aqua-Vet (Copper Oxide) Used in 2005		75
% Natguard (Copper Oxide) Used in 2005		94
% 2-Phenoxyethanol (anesthetic) Used in 2005		84
% MS-222 Used in 2005		73
% Benzocaine Used in 2005		18
% Acetone Used in 2005		17
% # of Mortalities in 2005		38
% Weight of Mortalities in 2005		22
% of Farmed Salmon Escape Incidents in 2006		67
% of Total Escapes in 2006		33

**Marine Harvest**  
 The Worst Pollution Manager in  
 Scotland in 2005

**SCOTLAND'S WORST POLLUTION MANAGERS**

COMPANY	PROBLEMS	SEPA SCORE (Lower is worse)
Marine Harvest fish processing plant Fort William	Eight breaches of pollution permit	12
Norboard chipboard plant Cowie, Stirling	Increased pollution after equipment failure	14
Dales dry dock Aberdeen	Unauthorised discharges	14
Scottish Power sewage sludge plant Dalwholzie, Glasgow	Legal action to curb emissions	16
Industrial brick works Uddingston	Breaching pollution limits	16
Pig finishing unit Lower Inchdrewer Farm, Bonff	Legal action to curb smell	16
Norboard board plant Nairn	Discharges after equipment failure	17
Total Waste Management Alliance Peterhead	Inadequate maintenance	18
Alcan aluminium smelter Fort William	Breaches of pollution permits	18
Tullis Russell paper mill Glenrothes	Legal action to curb emissions	18
Grievs Groundwork landfill Muir of Trymouth, Aberdeen	Failure to submit waste returns	19
Barr Carlisle landfill Skanes, Cumnock	Fires burning inside waste	21
SCL carbon fibre plant Muir of Ord, Ross-shire	Breaches of pollution permit	24

**Reported Use of Slice  
 (emamectin benzoate)  
 2005 - June 2007**

Company	Reported Slice Use (g)		
	2005	2006	Thru June 2007
Ash			
Aqua Farm Ltd	0	0	0
Atlantic West	0		
Balta Island Seafood Ltd	0		
Boord Skerries Ltd	0		
Carloway Salmon	0		
Collafirth (Green Island Organics)	0		
D&J Salmon	0		
Deming Salmon Ltd	401,789	757,306	251,010
Dary Salmon Ltd	342	300	0
Finfish Ltd	0	0	0
Fjord Seafood Scotland	1,744	1,475,853	1,293,360
G Duncan (Salmon) Ltd	223	0	
Glenale Salmon	0		
Green Island Organics Ltd			
Greenholm	35,000		
Harvisk, North Atlantic Seafoods (aka Northern Aquaculture, Shetland Halibut Company)	275,000	4,800	
Hebrides Fishery (Salmon Co Ltd)			
Hjalland Seafoods Ltd	352,750	484,200	956,300
Hoganes Salmon Ltd	304,690	693,339	318,650
Johnson Seafoods (Marine Ltd)	0	0	700
Karnes Fish Farming Ltd	43,750	15,000	35,000
Lakeland (Marine & Usat) Ltd	293,680	454	275,700
Laski Farming Enterprises Ltd	0		
Lewis Salmon Ltd	40	34	0
Loch Daart Ltd	469,390	676,323	438,161
Mainstream Scotland Ltd	800,220	503,025	256,000
Marine Harvest (net inc. PanFish, Fjord)	7,712,907	671,844	5,668,555
Millburn	0		
MM Salmon Ltd	14		279

Empty = No reported submitted  
 Highlight = Reported only Q1

Marine Harvest - with Pan Fish and Fjord - used 44 % of Slice in 2006

**Reported Use of Excis (cypermethrin)  
 2005 - June 2007**

Company	Reported Excis Use (l)		
	2005	2006	Thru June 2007
Ash			
Aqua Farm Ltd	0	0	0
Atlantic West	0		
Balta Island Seafood Ltd	0		
Boord Skerries Ltd	0		
Carloway Salmon	0		
Collafirth (Green Island Organics)	0		
D&J Salmon	0		
Deming Salmon Ltd	49.16	41.8	25.26
Dary Salmon Ltd	0	0	0
Finfish Ltd	0	0	0
Fjord Seafood Scotland	20.8	123.2	200.6
G Duncan (Salmon) Ltd	0	0	
Glenale Salmon	0		
Green Island Organics Ltd			
Greenholm	0		
Harvisk, North Atlantic Seafoods (aka Northern Aquaculture, Shetland Halibut Company)	0	0	0
Hebrides Fishery (Salmon Co Ltd)	0	0	0
Hjalland Seafoods Ltd	0	0	0
Hoganes Salmon Ltd	0	13.6	0
Johnson Seafoods (Marine Ltd)	0	0	0
Karnes Fish Farming Ltd	7.4	0	0
Lakeland (Marine & Usat) Ltd	24.3	2	14.9
Laski Farming Enterprises Ltd	0	0	0
Lewis Salmon Ltd	0	0.6	0
Loch Daart Ltd	50.25	48.8	49.95
Mainstream Scotland Ltd	0	0	0
Marine Harvest (net inc. PanFish, Fjord)	205.6	559.6	335.1
Millburn	0		
MM Salmon Ltd	0		
NAPC	0	0	0

Empty = No reported submitted  
 Highlight = Reported only Q1

Marine Harvest - with Pan Fish and Fjord - used 82 % of Excis in 2006

In 2019, Marine Harvest changed their name to Mowi [with their CEO admitting it carried with it "negative consumer perception"](#).

**Negative perception of Marine Harvest behind switch to Mowi**

Can a new name overcome the negativity? The company is determined to conquer the market with a concept that is "very hard to copy."

RELATED NEWS

**EU salmon cartel probe 'not a surprise,' say buyers**  
 Marketplace  
 4 March 2019 9:11 GMT

11 March 2019 12:12 GMT UPDATED 11 March 2019 12:27 GMT  
 By [Lola Navarro](#)

Marine Harvest's renaming to Mowi is largely the result of negative connotations consumers associate with the Marine Harvest name, said Alf-Helge Aarskog, Mowi CEO.

The company - [supported by the Norwegian Government via Folketrygdfondet's shareholding](#) and supported by the Canadian Government via the CPP Investment Board's shareholding - is considered such a toxic investment that the Mowinckel family ([who gave their name to Mowi via salmon farming pioneer Thor Mowinckel in the 1960s](#)) [filed a resolution against the use of their name in 2018](#).

Havbruk

## - Vi synes det blir helt feil at Mowi-navnet skal assosieres med den form for oppdrett som Marine Harvest driver

«Mowi» vekker irritasjon blant slektninger av oppdrettspionér Thor Mowinckel. - Vår del av familien ønsker ikke at Mowinckel skal assosieres med den form for oppdrett som Marine Harvest driver, sier Frederik W. Mowinckel.

DN+ 🕒 2 min 📅 Publisert: 04.12.18 – 20.48 🕒 Oppdatert: en time siden



- Vår del av familien ønsker ikke at Mowinckel skal assosieres med den form for oppdrett som Marine Harvest driver, sier Frederik W. Mowinckel. Her er han avbildet i London, hvor han var bosatt i flere år. (Foto: Nina Eirin Rangøy)

Agnete Klevstrand 👤 Følg meg

"We think it's completely wrong that the Mowi name will be associated with the kind of farming that Marine Harvest operates. "Mowi" arouses irritation among relatives of farmed pioneer Thor Mowinckel. "Our part of the family does not want Mowinckel to be associated with the kind of farming that Marine Harvest operates," says Frederik W. Mowinckel.

Marine Harvest may have [changed their name to Mowi](#) but it is the same issues - lice infestation, infectious diseases, mass escapes, mass mortalities, waste pollution and chemical contamination - which Folketrygdfondet is attempting to explain away today. In 2009 a short film - "[Farmed Salmon Exposed](#)" - was shared with Folketrygdfondet, the Norwegian Government, financial investors and shareholders in Norwegian salmon farming companies.



**Brian Fraser**, Scottish ghillie (fishing guide): "How long can we keep raping the seas of these white fish to produce food to produce salmon. I don't think it's sustainable".

Norwegian salmon farming companies "are leaving a trail of environmental, socio-economic and cultural problems around the world," [argued film-maker Damien Gillis](#). "All of these issues have led to an undeniable tipping point and the pressure is now on the industry to either continue repeating the same mistakes of the past or chart a new course to a more sustainable future," added Gillis.

A decade later in June 2019, Folketrygdfondet's Senior Analyst - Responsible Investments (Annie Bergasel) was thanked for sharing insights and expertise for an [ESG report on risks and opportunities in aquaculture](#). Bakkafrost (The Scottish Salmon Company), Mowi, Leroy (co-owner of Scottish Sea Farms), Austevoll Seafood (largest shareholder in Leroy), SalMar (co-owner of Scottish Sea Farms) and Grieg Seafood are all listed in the Top 30 seafood companies.

Figure 10: Top 30 listed seafood companies in terms of estimated revenues from aquaculture

Ticker	Company name	Headquarters	Estimated revenues from aquaculture (USD), as found by Fish Tracker
MHG NO	Mowi ASA	Norway	\$3,871,401,787
LSG NO	Leroy Seafood Group ASA	Norway	\$1,637,258,849
AUSS NO	Austevoll Seafood ASA	Norway	\$1,270,210,619
SALM NO	Salmar ASA	Norway	\$1,076,926,581
GSF NO	Grieg Seafood ASA	Norway	\$780,601,445
NRS NO	Norway Royal Salmon ASA	Norway	\$503,809,274

The [FAIRR report \(June 2019\)](#) detailed "regulatory risks", potential "fraudulent activity", mass escapes, environmental pollution and welfare problems still affecting Scottish salmon farming:

## 02 ESG issues in aquaculture

### Case study: Scottish and Irish regulatory action on marine pollution

Recent clashes between corporates and regulators suggest that the aquaculture sector will experience stricter regulation of its environmental impacts.

Mowi Ireland has had a licence revoked for one of its production sites after harvesting 121% of the stock specified in its licence. The company states that if the stock at the farm cannot be sold, it would represent a loss of sales in 2020 of €13.7 million – about 20% of its expected turnover next year – and potentially undermines its viability.

According to Ireland's agriculture and marine minister, Mowi harvested 1,100 tonnes of salmon from one Irish farm in 2016, despite the licence specifying a production limit of 500 tonnes. He argued that the increase in stock will have increased effluent discharge at the site, harming the local environment.

Mowi is appealing the regulator's decision (Moore, 2019).

In May 2019, a BBC report named Mowi as one of several fish farmers under investigation by the Scottish Environmental Protection Agency (SEPA) for possible misreporting of chemical use. Mowi denied wrongdoing. Other producers under investigation had not been named at time of writing.

SEPA chief executive – Terry A'Hearn – said: "If companies do the right thing, then they have nothing to worry about. If companies do the wrong thing, we are there to find that out and make sure they improve their game. If that's going to take tough action, you can be assured we'll take it" (BBC, 2019). See the Appendix for further information on Scottish regulation.

These events demonstrate the regulatory risks from high stocking densities on farms. Some governments are beginning to crack down on farms that practice overstocking due to increased pollution. See the Appendix for further information on Scottish regulation.

Figure 17: Largest recorded farmed Atlantic salmon escapes in history, as reported by industry media

Company	Year	Number of fish	Cause
 AquaChile Chile	2013	787,929	Damaged cages due to bad weather
 Marine Harvest Chile	2018	680,000	Wind
 Marine Harvest	2005	496,000	Strong wind and electricity
 Cypress Island Inc.	1997	369,000	Unknown
 Meridian Salmon Farms	2011	336,470	High tides
 Sjølaks Norway	2008	307,356	Unknown
 Scottish Sea Farm Scotland	2000	258,420	Weather
 Grieg Seafood Shetland Scotland	2002	238,420	Unknown
 Australis Chile	2016	173,156	Displacement of modules due to strong underwater currents
 SalMar Norway	2011	173,156	Unknown

Source: <https://www.intrafish.com/aquaculture/1543294/here-are-the-largest-recorded-farmed-atlantic-salmon-escapes-in-history>

#### Case study: European salmon farmers investigated for price fixing

Fraudulent activity may be occurring at some of the largest global aquaculture companies. A group of predominantly Norwegian salmon producers have been accused of conspiring to artificially raise prices for farmed salmon.

In late April 2019, three US seafood buyers filed lawsuits alleging that large Norwegian salmon producers shared competitive information in order to manipulate prices paid by US buyers. This follows an ongoing European Commission investigation into suspected price-fixing in the Norwegian salmon industry. As Norway is not a member of the EU, the Commission has instead conducted raids on subsidiary offices in EU countries to carry out its investigation. Commercial buyers have accused producers of using subsidiaries to purchase fish on the spot market and artificially increase prices for other buyers.

If found to be at fault by the European Commission, the companies concerned risk losing up to 10% of global turnover to regulatory fines. At time of writing, it was expected that the US lawsuits would be combined into a class action lawsuit in May 2019.

The defendants of the US suits are:

- Mowi ASA
- Marine Harvest USA
- Marine Harvest Canada
- Ducktrap River of Maine LLC
- Grieg Seafood ASA
- Grieg Seafood BC
- Bremnes Seashore AS
- Ocean Quality AS
- Ocean Quality North America
- Ocean Quality USA
- Ocean Quality Premium Brands
- SalMar ASA
- Lerøy Seafood Group
- Lerøy Seafood USA
- Scottish Sea Farms

"Most companies assessed do not have a welfare policy in place," stated the [FAIRR report \(June 2019\)](#). "The top performers in 2018 (Grieg Seafood, Bakkafrost, Mowi and Leroy Seafood Group) primarily focus on fish health rather than welfare indicators in their welfare policies."



The largest listed farmed fish producers are not addressing fish welfare, as found by the Collier FAIRR Protein Producer Index. FAIRR's 2018 analysis showed that most companies assessed do not have a welfare policy in place. The four top performers in 2018 (Grieg Seafood, Bakkafrost, Mowi and Lerøy Seafood Group) primarily focus on fish health rather than welfare indicators in their welfare policies (FAIRR Initiative, 2018). Early findings from the 2019 edition of the Index follow a similar pattern. Leading food retailers such as Tesco, Sainsbury's and Waitrose, which are more exposed to reputational risk than their suppliers, have already implemented fish welfare policies, with requirements on issues ranging from pre-slaughter stunning and stocking density to bans on routine mutilations.

The [FAIRR report](#) also included:

### Hydro and thermal de-licing

Other methods of sea lice control include hydro and thermal de-licing, where fish are sprayed with strong jets of water or bathed in warm water to kill lice. However, these methods are not conducive to good welfare. Thermal de-licers bathe salmon in water at around 28-34°C to remove lice, which is distressing to fish that typically reside in water temperatures of 8-14°C. This treatment also risks harming the physical health of fish, causing issues such as gill damage and scale loss (Poppe et al., 2018). Additionally, thermal de-licers do not resolve the root cause of infestations. A Norwegian study found that in three out of four sites that used a thermal de-licer to treat sea lice, infestation levels returned to normal three weeks after the treatment.

The welfare impacts associated with thermal de-licers are a reputational risk. It was reported in local and national media that Mowi lost 95,000 fish through an error in thermal de-licer operation in Scotland (Telegraph 2016). The scale of media reports prompted Mowi Scotland to issue a formal response to the press (Mowi Scotland, 2016). While fish welfare is not yet a mainstream consumer concern, it is possible that it may follow land animal welfare and rise up the agenda in future.

## Scotland

According to a 2018 report by the Scottish Environmental Protection Agency (SEPA), one in five fish farms in Scotland failed to meet statutory environmental standards (Keane, 2015). The sector is a key rural employer in Scotland and while the government aims to double the sector's economic contribution to Scotland by 2030 (Scotland Food and Drink, 2017), environmental regulation is increasing. In November 2018, the Scottish Environmental Protection Agency (SEPA) set out a plan to protect marine environments by enhancing standards for organic waste and pharmaceutical practices (particularly emamectin, a treatment used against sea lice), improving the sustainable siting of farms, and strengthening monitoring and assessment processes (SEPA, Unknown; SEPA, 2018), which is likely to form the basis of the new regulation.

In November 2018, Scotland's Rural Economy and Connectivity Committee published a report on the environmental impacts of salmon farming. This provided 65 recommendations to improve the sustainability and biosecurity performance in the sector, one of which stated,

**“If the industry is to grow, the ‘status quo’ in terms of regulation and enforcement is not acceptable... Urgent and meaningful action needs to be taken to address regulatory deficiencies as well as fish health and environmental issues before the industry can expand.”**

*Scotland Rural Economy and Connectivity Committee, 2018*

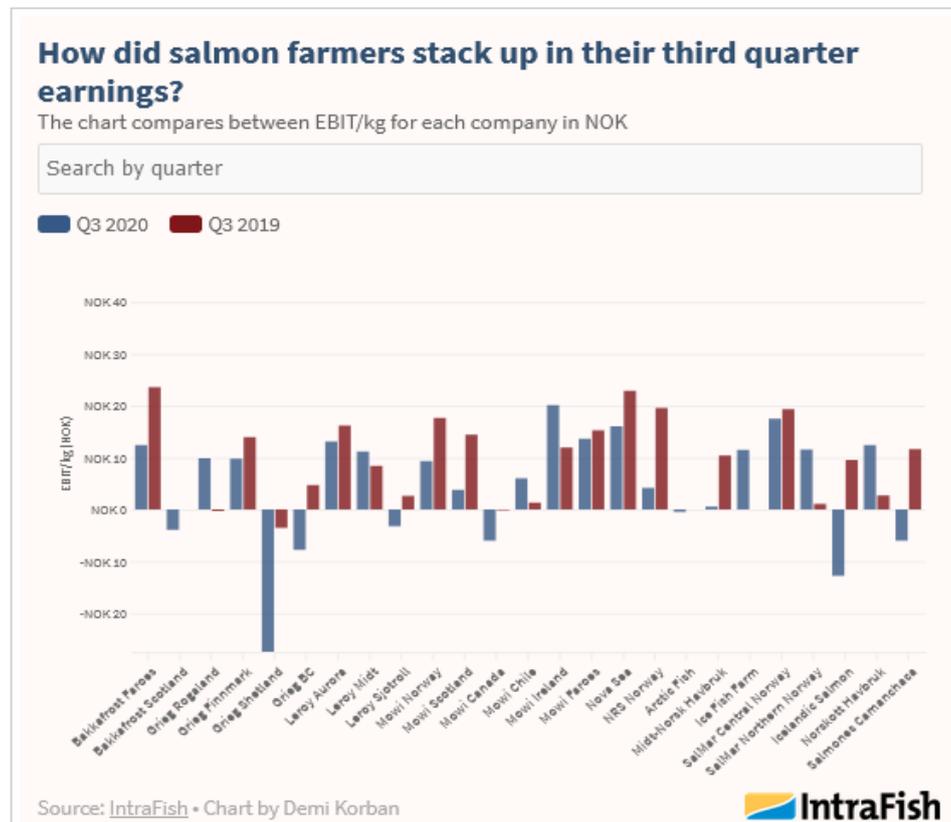
SEPA has also proposed the introduction of depositional zone regulation, or DZR. This would replace limits on biomass with limits on impact on the seabed. In other words, marine cage fish could be farmed more intensively if there is no evidence of adverse effects on the surrounding ecosystem (Scottish Parliament, 2016).

In Scotland, aquaculture producers must gain licences under the Water Environmental (Controlled Activities) (Scotland) Regulations 2011. The terms of the licence specify production limits and medicine usage. Fish health is regulated by The Animal and Animal Products (Examination for Residues and Maximum Residue Limits) (England and Scotland) Regulations 2015 and monitored by the Fish Health Inspectorate. In 2013, the Aquaculture and Fisheries (Scotland) Act 2013) was implemented to ensure sustainable growth in these sectors.

In view of the [environmental impacts of salmon farming in Scotland](#) and [ongoing welfare abuse on Scottish salmon farms](#) why is the Norwegian Government continue to invest in salmon farming companies operating in Scotland? Surely the "reputational risk" is too great?

You don't need to be a financial analyst to conclude that the financial and reputational risk of investing in salmon farming in Scotland is both uneconomic and unethical. Intrafish [reported last week \(20 November 2020\)](#):

**IntraFish** analyzed third-quarter financials presented throughout November on the Oslo and other stock exchanges, based on the EBIT/kg indicator. Here's the breakdown:



Grieg Seafood, in particular, is [dead in the water in Scotland with disease decimating profits](#).

## Grieg Seafood shares slip further after Shetland operations sale announcement

On Tuesday Grieg said it will divest its assets in Shetland to focus on operations in Norway and Canada.

### RELATED NEWS

**'Extraordinary' salmon farming costs in Scotland, Canada blight Grieg's Q3 earnings**

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18 November 2020 5:01 GMT

18 November 2020 13:42 GMT **UPDATED** 18 November 2020 14:58 GMT

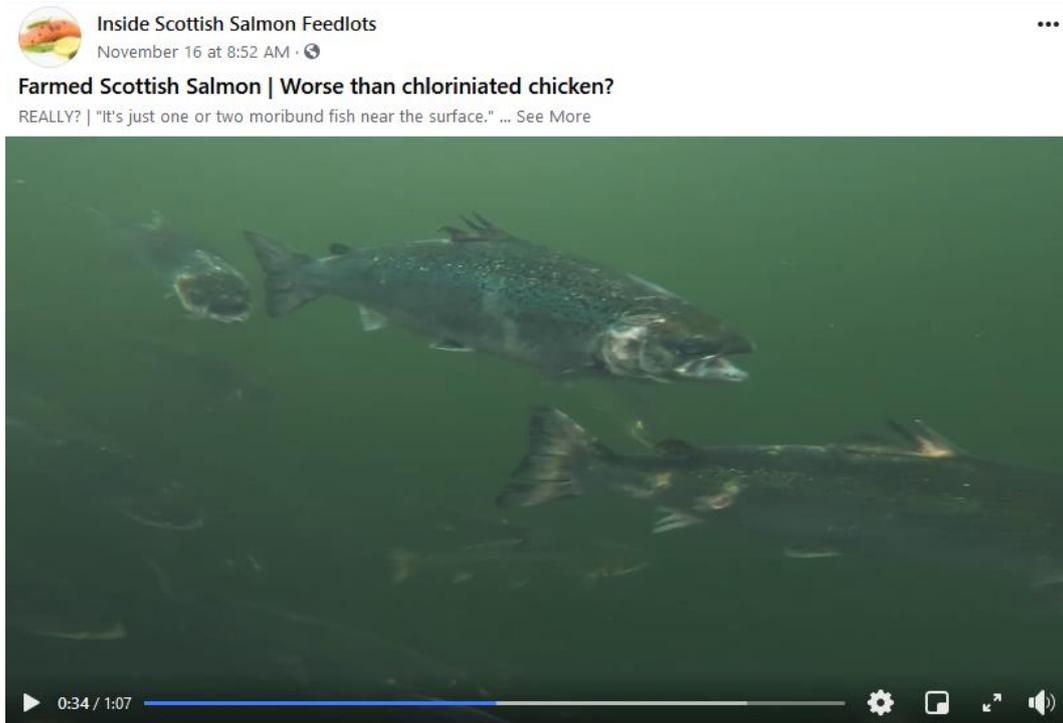
By [John Evans](#) and [Anders Furuset](#) ✉

Shares in salmon farmer Grieg Seafood continued to slip in Oslo trading on Wednesday after the company said it will divest its assets in Shetland, Scotland, to focus on operations in Norway and Canada.

The company had previously announced it would be ceasing operations on the Isle of Skye, which come under Shetland's remit, but in its Capital Markets Day presentation released to the Oslo Stock Exchange on Tuesday, it said this will be expanded to include all operations in the region.

Following the announcement, Grieg shares closed Tuesday almost 6 percent lower, slipping another 1 percent by 12:00 pm (GMT) during Wednesday trading. Since mid-August Grieg's shares have fallen 28 percent.

To track the Norwegian Government's investments and monitor the performance of Mowi, Grieg Seafood, Scottish Sea Farms and The Scottish Salmon Company in particular you would be advised to follow [Inside Scottish Salmon Feedlots on Facebook](#). Sadly, this is [currently the ugly face of Norwegian-owned salmon farming in Scotland](#).



And just this week [Viva launched a new campaign against Scottish salmon farming](#):



In conclusion, Scottish Salmon Watch urges the Norwegian Government to divest from ALL its investments in Scottish salmon farming. We believe that Mowi, Grieg Seafood, Scottish Sea Farms (Leroy & SalMar) and The Scottish Salmon Company (via Bakkafrost) are companies associated with "severe environmental damage" and "serious violations of fundamental ethical norms" (with "gross corruption" [currently the subject of an ongoing European Union anti-cartel investigation](#) and various [price-fixing lawsuits in the United States](#) and [in Canada](#)). Consequently, we argue that the criteria for exclusion of such companies from the Norwegian Government's Pension Fund via the '[Ethical Guidelines](#)' (Section 3) has been fulfilled.



In the spirit of transparency, Folketrygdfondet, the Council on Ethics and other Norwegian Government ministers are copied into this letter. Please also find enclosed below previous correspondence with Folketrygdfondet (see Appendix). If you have any questions please do not hesitate to get in touch - Scottish Salmon Watch would be only too happy to brief you more fully in person or via Zoom.

Yours sincerely,

Don Staniford

[Director, Scottish Salmon Watch](#)



Cc:

[Folketrygdfondet](#)

[Council on Ethics](#)

[Norwegian Minister of Climate and Environment \(Sveinung Rotevatn\)](#)

[Norwegian Minister of Fisheries and Seafood \(Odd Emil Ingebrigtsen\)](#)

## Appendix:

From: Don Staniford <salmonfarmingkills@gmail.com>  
Date: Fri, Nov 13, 2020 at 12:02 PM  
Subject: The Scottish Salmon Company  
To: <folketrygdfondet@ftf.no>  
Cc: <marika.burvald@ftf.no>

FAO: Ann Kristin Brautaset and Annie Bersagel

Re. your recent article: <https://nordsip.com/2020/04/24/salmon-farming-active-management-engagement-the-norwegian-way/>

Would it be possible for you to "stay vigilant" on The Scottish Salmon Company?

As the largest shareholder in Bakkafrost surely Folketrygdfondet must ensure that their investments are ethical and environmental?

Scottish Salmon Watch would like to brief you on ongoing welfare abuse, disease problems and mass mortalities at The Scottish Salmon Company (your investments in Mowi, Leroy, SalMar and Grieg Seafood have similar problems).

Aftenposten reported in 2006:

[http://friendsofwildsalmon.ca/news/article/fritt\\_ord\\_drops\\_pan\\_fish\\_stake](http://friendsofwildsalmon.ca/news/article/fritt_ord_drops_pan_fish_stake)

### FRITT ORD DROPS PAN FISH STAKE

**Aftenposten, May 30, 2006**

**Atle Eide of Pan Fish said his company won't operate fish farms where they're not welcome.**

Follow this link, or read the story below. Emphasis added by webmaster.

The highly respected Freedom of Expression Foundation in Oslo (Fritt Ord) has sold off its holdings in seafood giant Pan Fish, because of its concerns over Pan Fish's fish-farming operations in Canada and Chile.

In addition to defending freedom of expression, Fritt Ord has strict ethical guidelines for its investments. It has consistently veered away from investments in weapons production, alcohol and tobacco, for example.

Now it's worried about Pan Fish's investments in fish farming outside Norway. Newspaper Dagens Næringsliv reported this spring on native peoples ("first nations") groups in British Columbia who fear that fish farming will ruin their traditional stocks of wild salmon in the Skeena River. There's also been concern over labour conditions at fish farms in Chile.

Foundation director Erik Rudeng told newspaper Dagens Næringsliv on Tuesday that he's aware of Pan Fish statements that it will clarify its position. Pan Fish chief executive Atle Eide also has said Pan Fish won't make any new fish farming investments in British Columbia that aren't welcome.

But Rudeng said the foundation has given up its Pan Fish holdings, which amounted to shares worth about NOK 80 million, in the meantime.

"It's important for us to have an ethical evaluation of where our investments are placed," Rudeng said. "At the same time, I think all companies will profit from maintaining clear ethical standards."

The Freedom of Expression Foundation says its "paramount" objective is "to protect and promote freedom of expression and the environment for freedom of expression..." particularly by encouraging lively debate and the dauntless use of the free word.

Scottish Salmon Watch believes that Folketrygdfondet's investment in salmon farming in Scotland is bringing the Norwegian Government's Pension Fund into disrepute and asks you to divest from The Scottish Salmon Company.

At the very least, Scottish Salmon Watch encourages Folketrygdfondet to investigate ongoing problems at The Scottish Salmon Company.

Updated information is published regularly by the Scottish Government and video footage inside salmon farms has shown ongoing welfare abuse.

Scottish Salmon Watch would be only too happy to update you via Zoom.

Read more via:

[The Norwegian, Faroese, Swedish, Ukrainian & Swiss Salmon Behind the 'Scottish' Salmon Company](#)

[Over 5 Million 'Scottish' Salmon Mortalities Sponsored by Investors from Norway, the Faroes etc!](#)

Yours sincerely,

Don Staniford

Director, Scottish Salmon Watch  
From: Marika Burvald <Marika.Burvald@ftf.no>  
Date: Mon, Nov 16, 2020 at 2:07 PM  
Subject: RE: The Scottish Salmon Company  
To: Don Staniford <salmonfarmingkills@gmail.com>  
Cc: Arkiv <arkiv@ftf.no>

Dear Mr Staniford

Thank you for your questions and for offering to share your views on The Scottish Salmon Company. Please do so by e-mail to me and I will be happy to forward it to my colleagues for their information. As you might know, as a large owner Folketrygdfondet cannot comment on individual companies.

You also sent a separate question on why Folketrygdfondet's shareholding in Bakkafrost is registered in Sweden, not Norway. I am afraid I do not know the reason for this, and the question should rather be directed to the company.

Kind regards

Marika Burvald

Communications Manager, Folketrygdfondet

From: Don Staniford <salmonfarmingkills@gmail.com>  
Date: Mon, Nov 16, 2020 at 4:04 PM  
Subject: Re: The Scottish Salmon Company  
To: Marika Burvald <Marika.Burvald@ftf.no>  
Cc: Arkiv <arkiv@ftf.no>

Simple questions then:

Why does the Norwegian Government Pension Fund support welfare abuse, mass mortalities and infectious diseases via their shareholding in The Scottish Salmon Company?

Details via: [Over 5 Million Dead 'Scottish' Salmon Since 2017 - Sponsored by Investors from Norway, the Faroes etc!](#)

More via:

[The Camera Never Lies About Scottish Salmon!](#)

["No Unauthorised Access - Keep 15m Away" warn Scottish Salmon Company. Nothing to See Here \(Honest\)!](#)

[The Severely Damaged Scottish Salmon Company - For Sale Now!](#)

[Maaey day for the Scottish Salmon Company](#)

Similarly, via the Norwegian Government Pension Fund's shareholdings in Mowi, Grieg Seafood and Leroy/SalMar (joint owners of Scottish Sea Farms) why are you condoning welfare abuse and environmental problems?

Details via: [Video Exposes Welfare Abuse at RSPCA Assured salmon farm sourced by M&S 'Lochmuir'](#)

More photographic evidence via: [Photo Dossier of Diseased, Deformed & Abused Scottish Salmon](#)

More video footage via:

[Video Nasties - Disease-Ridden Scottish Salmon & Toxic Soup!](#)

[Secret Filming Lifts Lid on Sickening Scottish Salmon](#)

Finally, Scottish Salmon Watch asks for a copy of any 'ethical guidelines' which may detail welfare and environmental responsibilities via investments of the Norwegian Government's Pension Fund: <https://www.regjeringen.no/en/topics/the-economy/the-government-pension-fund/responsible-investments/id446948/>

Has welfare abuse and environmental problems in salmon farming companies invested in by the Norwegian Government's Pension Fund been reported to the Storting via annual reporting

[\(https://www.regjeringen.no/en/topics/the-economy/the-government-pension-fund/arlig-melding-til-stortinget/id2357436/\)?](https://www.regjeringen.no/en/topics/the-economy/the-government-pension-fund/arlig-melding-til-stortinget/id2357436/)

Scottish Salmon Watch is sceptical that any investment in salmon farming can ever be truly 'ethical' and is concerned that the [Chair of the Council of Ethics](#) (Johan Andresen) has a vested interest in Grieg Seafood (via his [shareholding in Ferd](#)), Leroy (via his [shareholding in Leroy](#) - co-owner of Scottish Sea Farms) and the use of the [toxic neonicotinoid insecticide Imidacloprid](#) (which [Mowi and other salmon farming companies want to use in Scotland](#)) via [Ferd's ownership of Benchmark](#).

Scottish Salmon Watch would be happy to expand upon our concerns via Zoom and/or an in-person meeting.

Takk,

Don Staniford

Director, Scottish Salmon Watch

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Please read more via [Salmonopoly: How Norway's Salmafia Control 'Scottish' Salmon - Follow the Salmoney!](#), ['Scottish Scamon'](#), [Scottish Salmon Watch](#) and [Green Around the Gills](#).



the salmon you buy is farmed [www.scottishsalmonwatch.org](http://www.scottishsalmonwatch.org)