

Scottish Salmon Watch, 10 June 2020

**REVEALED: Over Half a Million Salmon Tortured to Death by De-Licers!**



- Parliamentary Reply reveals 522,702 farmed salmon died due to mechanical de-licers between 2016 and 2019
- The Hydrolicer is the most lethal with 269,674 farmed salmon mortalities followed by the Thermolicer (177,601 deaths) and the Optlicer (75,427 deaths)
- Fish Health Inspectorate publishes 108 'Mortality Event Reports' involving over 815,000 dead farmed salmon where mechanical de-licers are cited
  - Advocates for Animals question legality of thermal de-licers
- Scottish Salmon Watch [launches crowd-fundraiser to fund legal action](#)

Campaigners are turning up the heat on the use of de-licing mechanical treatments such as the Thermolicer. Scottish Salmon Watch today (10 June 2020) [launched a Crowdfunder campaign to take legal action against welfare abuse on salmon farms.](#)



A [Parliamentary Reply from the Cabinet Secretary for Rural Economy & Connectivity](#) has conceded that between 2016 and 2019 over half a million (522,702) farmed salmon died due to the Hydrolicer (269,674 deaths), the Thermolicer (177,601 deaths) and the Optlicer (75,427) [1].

This week, Scottish Salmon Watch wrote to Scottish Ministers [reiterating the call to ban Thermolicers](#). The [letter dated 10 June 2020](#) detailed 108 'Mortality Event Reports' involving over 815,456 dead farmed salmon where mechanical treatments were cited [2].

Here's the five highest 'Mortality Event Reports' ([as published by the Scottish Government's Fish Health Inspectorate on 4 June 2020](#)) where mechanical treatments were cited:

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
The Scottish Salmon Company	Meall Mhor Loch Fyne	02/03/2017	4.1	PD, Treatment	49116	Post h202 treatment, complex gill issues and PD runs 2 treatments in period one bath and one hydrolicer
The Scottish Salmon Company	Strondoir Bay	02/03/2017	2.9	treatment	36103	Post treatment salmosan, h202 and hydrolicer, complex gills, agd
Mowi Scotland Ltd	Loch Duich	04/12/2019	3.58	Malfunction with mechanical lice treatment boat resulting in treatment mortality	25966	Boat issues addressed so problem should not recur.
The Scottish Salmon Company	Druimyeon Bay	13/11/2017	4.44	post treatment hydrolicer losses.	25607	further hydrolicer treatment planned, fish on functional feed.

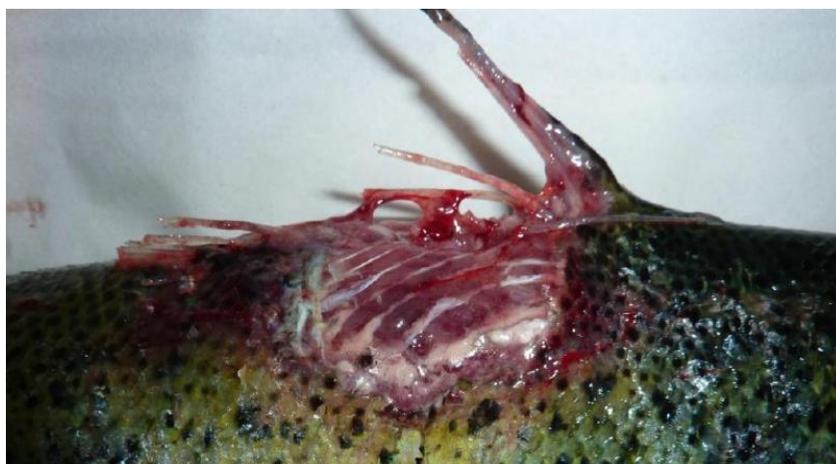
The 108 'Mortality Event Reports' included:

**April 2020 - Scottish Sea Farms (Fishnish B):** "Bad weather during Thermolicer treatment resulted in physical damage". 1.16% mortality due to "Post Physical Delousing".

**April 2020 - Grieg Seafood (Swimming Voe):** "Site has seen some physical damage following a mechanical lice treatment". 5,158 dead salmon (1.28%) due to "Post Treatment Losses".

**March 2020 - Grieg Seafood (Setterness North):** "Post-treatment losses following Optilicer treatment". 18,270 dead salmon with a mortality rate of 3.43%.

**February 2020 - Mowi (Loch Greshornish):** "Losses associated with Thermolicer - these treatments were stopped". 12,752 dead salmon.



**January 2020 - The Scottish Salmon Company (Gravir):** "Reported to be a mechanical treatment". 3,965 dead salmon due to "Post Treatment Loss".

**December 2019 - Mowi (Loch Duich):** "Malfunction with mechanical lice treatment boat resulting in treatment mortality". 25,966 dead salmon with a mortality rate of 3.58%.

**November 2019 - Mowi (North Shore):** "Ongoing sea lice challenge, as such mechanical treatments have been carried out". 79,019 dead salmon with a mortality rate of 7.47%.



**October 2019 - Mowi (Shuna SW):** "Mortalities with recent Hydrolicer treatment, with fish with poor gills not surviving treatment". 13,920 dead salmon with a mortality rate of 3.08%.

**September 2019 - Mowi (Cairidh):** "Losses were exacerbated by thermal sea lice treatment". 5,398 dead salmon with a mortality rate of 4.03%.

**September 2019 - Mowi (Cairidh):** "Attempted thermal sea lice treatment and losses exacerbated". 4,654 dead salmon with a mortality rate of 3.36%.

**August 2019 - The Scottish Salmon Company (Portree Outer):** "Mortality occurred post mechanical intervention". 6,686 dead salmon due to "Post treatment (mechanical)".

**August 2019 - Grieg Seafood (West of Burwick):** "Post treatment (Optilicer)" and "Post treatment (Thermolicer)". 58,218 dead salmon.

**July 2019 - Mowi (Loch Hourn):** "Thermolicer treatment started on 24th June for 4 days. Fish with bleeding gills, 'collision damage' and heart damage". 7,000 dead salmon.

In another [Scottish Parliamentary reply from Fergus Ewing in March 2020](#), the Scottish Government claimed that it "takes animal welfare very seriously, including that of farmed salmon" citing a research project undertaken by the Scottish Aquaculture Innovation Centre on the impact of thermal treatments.

**Question S5W-27712: Mark Ruskell, Mid Scotland and Fife, Scottish Green Party, Date Lodged: 03/03/2020**

To ask the Scottish Government what its position is on the use of thermolicers on salmon farms and, in light of recent scientific evidence, including from the Director of Bioveterinary Science at the University of Liverpool, which suggests that welfare problems can arise from their operation, whether it will consider banning these devices.

**Answered by Fergus Ewing (16/03/2020):**

The Scottish Government takes animal welfare very seriously, including that of farmed salmon. We are supporting a research project to explore the impact of the use of thermal treatments for sea lice which is being undertaken by the Scottish Aquaculture Innovation Centre. Once we have the findings from that research, we will consider what more, if anything, should be done in relation to thermal treatments to ensure the welfare of farmed salmon.

**Current Status:** Answered by Fergus Ewing on 16/03/2020

Advocates for Animals [wrote to the Scottish Government in March 2020](#) challenging the legality of thermal treatment on the grounds that they cause unnecessary suffering under Section 19 of the Animal Health and Welfare (Scotland) Act 2006.



The Scottish Government replied to Advocates for Animals in April 2020 claiming that thermal treatments are lawful largely due to the risk of lice infestations and the efficacy of the thermal treatment. "The Scottish Government takes animal welfare seriously, including that of farmed salmon" stated the letter dated 14 April 2020 (the same line used in the [Scottish Parliamentary reply from Fergus Ewing in March 2020](#)).

Advocates for Animals question the legality of thermal treatments:

# ADVOCATES FOR ANIMALS

*Making full use of the law to help animals*



## Statement from Edie Bowles, Solicitor, Advocates for Animals:

"The Scottish Government has re-asserted its view that the thermal treatment used to delouse salmon does not breach Section 19 of the Animal Health and Welfare (Scotland) Act 2006, which outlaws unnecessary suffering. There is no question that the device causes a high degree of suffering to salmon and scientific evidence shows that there are more welfare-friendly alternatives available. On this basis, we believe the Scottish Government's position is legally wrong."

Don Staniford, Director of Scottish Salmon Watch, said:

"Legal action is urgently needed to stop salmon farming from breaching the Animal Health & Welfare (Scotland) Act 2006. Millions of salmon are dying a cruel death on factory fish farms across Scotland each year. Infectious diseases, lice infestations, welfare abuse and mechanical de-licers are causing unnecessary suffering on salmon feedlots. Thermolicers, Hydrolicers and Optilicers are torturing tens of thousands of fish to death each year. Consumers should look behind the glossy marketing by [RSPCA Assured](#) and the [Aquaculture Stewardship Council](#) and boycott all Scottish salmon."



'[Case Information](#)' published monthly by the [Scottish Government's Fish Health Inspectorate](#) reveals ongoing mass mortalities due to mechanical de-licers - including mortalities at [Mowi's RSPCA Ardintoul salmon farm in Loch Alsh](#) due to a Thermolicer and Cardiomyopathy Syndrome (CMS) [reported in April 2020](#):

Case No:	2020-0031	Date of visit:	27/04/2020
Time spent on site:	0 hrs	Main Inspector:	
Site No:	FS0245	Site Name:	Ardintoul
Business No:	FB0119	Business Name:	Mowi Scotland Ltd

**Additional Case Information:**

Mortality report received from business on 24/04/2020.  
w/b 13/04/2020 - 5215 (1.03%) attributed to CMS and physical damage from recent sealice treatment (Thermolicer), majority attributed to CMS.

FHI contacted business for further information and to conduct a PSI.

A previous mortality event was reported by the business:  
w/b 30/03/2020 - 5625 (1.08%) attributed to CMS and physical damage from recent sea lice treatment.



Another case [reported in April 2020](#) detailed "sustained heavy mortality post treatment" at The Scottish Salmon Company's Trilleachan Mor salmon farm. "Fish were dying in the crowd and post treatment with Hydrolicer" [stated the Fish Health Inspectorate report](#).

Case No:	2020-0150	Date of visit:	02/04/2020
Time spent on site:	n/a	Main Inspector:	
Site No:	FS1118	Site Name:	Trilleachan Mor
Business No:	FB0169	Business Name:	The Scottish Salmon Company

55000 fish came from mowis seaforth site, October @1kg

Mechanical treatment started on 18th of February- Sea lice levels required treatment. Fish were dying in the crowd and post treatment with Hydrolicer. Site got good clearance of lice on the fish but sustained heavy mortality post treatment.

Cages 1, 3 and 6 were worst affected.

Another salmon farm ['inspected' by the Scottish Government's Fish Health Inspectorate in April 2020](#) ("Passive Surveillance" is in place due to Covid-19) detailed mass mortalities at The Scottish Salmon Company's salmon farm at Taranaish.

Case No:	2020-0153	Date of visit:	10/04/2020
Time spent on site:	0 hours	Main Inspector:	
Site No:	FS0752	Site Name:	Taranaish
Business No:	FB0169	Business Name:	The Scottish Salmon Company

w/b 23/09/2019 4.37%/wk; AGD; 39460 dead; Treatment was administered and mortality reduced back to normal level  
w/b 11/11/2019 1.06%/wk; AGD; 5696 dead; Treatment administered, improvement immediately after.  
w/b 24/02/202 1.10%/wk Treatment handling 5823 dead; Hydrolicer treatment  
w/b 02/03/2020 2.15%/wk Treatment handling; 11296 dead; Hydrolicer treatment  
w/b 09/03/2020 1.28%/wk Post Treatment/Seal Predation 6583 dead

Another "passive surveillance inspection" (i.e. over the phone) by the Fish Health Inspectorate in April 2020 [detailed elevated mortalities at Grieg Seafood's Setterness North salmon farm](#) due to "post-treatment losses following Optilicer treatment" and Cardiomyopathy Syndrome (CMS).

Case No:	2020-0154	Date of visit:	17/04/2020
Time spent on site:	0	Main Inspector:	
Site No:	FS1076	Site Name:	Setterness North (Bomlo)
Business No:	FB0440	Business Name:	Grieg Seafood Shetland Ltd

Reported mort events;02/03/2020 08/03/2020 3.5kg 1.41% Treatments/CMS 8165  
Contacted company for further information, site was treated with the optilicer but due to underlying CMS some pens had increased mortality. Mortality rate is now reducing. FHI to monitor following weeks mortality rate. Site was inspected 3/12/19 (case 20190715) and elevated mortalities were recorded also following optilicer treatment.  
09/03/2020 15/03/2020 3.5 kg 1.59% Treatments/CMS 9079  
Slight increase on previous weeks mortality report. FHI to monitor following weeks mortality rate. Should mortality remain above reporting levels an inspection will be organised.  
16/03/2020 22/03/2020 3.5 kg 3.43% CMS 18270  
Post-treatment losses following optilicer treatment w/b 2nd March 2020. Contacted site for further information. Full scale harvest will begin next week (30/03/2020), specifically targeting pens with larger fish and where CMS is causing higher mortalities. This will be reviewed in 2-3 weeks' time by site management staff. FHI to monitor mortality levels in the coming weeks.  
23/03/2020 29/03/2020 3.6kg 2.79% CMS 14387  
Harvests started Contacted site manager. Harvest began yesterday. Harvests are restricted due to factory through put and COVID19 situation but plan to harvest 3-4 times a week. Mortalities still continuing from the treatments at beginning of the month and CMS (very low CT values ).



Another "[passive surveillance inspection](#)" (i.e. over the phone) by the [Fish Health Inspectorate in March 2020](#) detailed mortalities at [Mowi's RSPCA Assured](#) Seaforth farm. "Site manager believes physical treatments are to blame for increased mortality throughout March as Hydrolicer was used" [stated the report](#). "Site manager raised concerns that high mortalities would occur when mechanically treating fish with Pancreas Disease (PD)".

Case No:	2020-0149	Date of visit:	27/03/2020
Time spent on site:	n/a	Main Inspector:	
Site No:	FS1042	Site Name:	Seaforth
Business No:	FB0119	Business Name:	Mowi Scotland Ltd

**Additional Case Information:**

Thermolicer booked from December - bad weather meant site couldn't be treated until January so sea lice numbers increased rapidly

Lice were out of control so had to treat to get the lice numbers down. Some treatments had to be abandoned due to fish dying in the crowd/ bad weather.

Low levels of AGD were present. Freshwater treatment had helped with gills. Currently treating everything with freshwater as harvesting has been delayed. By Monday 30th March everything will have been fresh water treated, mortality has dropped right back down. Site manager believes physical treatments are to blame for increased mortality throughout march as hydrolicer was used.

Site manager raised concerns that high mortalities would occur when mechanically treating fish with PD , after post treatment mortality occurred only fresh water treatments were planned to reduce handling stress on fish.

Mortality Event – reported – 06/03/2020 – Between – 24/02/2020-01/03/2020  
-Fish Size – 2.8kg (1.01% - 10336) - -Freshwater treatments.

Mortality Event – Reported 12/03/2020 – Between – (02/03/2020-08/03/2020)  
2.8kg – 3.07% - 30703 – Treatment related mortality \* PD

Mortality Event - Reported 20/03/2020 – between (09/03/2020-15/03/2020)  
2.7kg – 1.4% PD and treatment related mortality. - 10901

Collected during inspection - Mortality between (16/03/2020-23/03/2020)  
2.7Kg - 5,462 -0.85%



[An inspection by the Fish Health Inspectorate in early March 2020](#) before Covid-19 led "passive surveillance" detailed mass mortalities due to mechanical lice treatments at Mowi's Loch Greshornish salmon farm ([scene of 95,000 dead salmon due to a Thermolicer in 2016](#)).

Case No:	2020-0116	Date of visit:	10/03/2020
Time spent on site:	8 hours	Main Inspector:	
Site No:	FS0015	Site Name:	Loch Greshornish
Business No:	FB0119	Business Name:	Mowi Scotland Ltd

**Additional Case Information:**

28/10/2019 1.4 kg 2.06% AGD + AGD treatments 15297  
30/12/2019 2kg 3.07% Mechanical lice treatment in fish affected by AGD 21445  
06/01/2020 2.1kg 2.21% Mechanical lice treatment in fish affected by AGD 14961  
27/01/2020 2.3 kg 1.94% Treatment related mortality 12752  
03/02/2020 2.4 kg 1.11% Treatment related mortality + AGD 7129  
10/02/2020 2.48 kg 1.09% Treatment related mortality + AGD 6922  
17/02/2020 2.48 kg 1.2% Treatment related mortality + AGD 7547

On inspection in excess of 30 moribund fish observed in each pen, about 10% of these moribund fish with dorsal lesions mainly behind dorsal fin.  
2/2/20-10/3/20; 8789 morts for last 7 days attributed to ERM. 23/2- 1/3 10093 morts attributed to treatment and ERM 15/2-22/2 7547 morts attributed to AGD and treatment.



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

**Don Staniford** @TheGAAIA

Mowi has reported 225,868 mass mortalities in 24 'Mortality Event Reports' at Loch Greshornish alone since June 2018 - due to Yersinia, bath treatment, mechanical lice treatment (Thermolicer), Amoebic Gill Disease & Anaemia [tinyurl.com/yaykxc8d](https://tinyurl.com/yaykxc8d) @MowiScotlandLtd @rspcaassured

Mortality rate recorded (%)	Explained reasons
1.65	Yersinia and Bath treatment related mortality
1.26	Bath treatment related mortality + Yersinia
1.55	Treatment related mortality + AGD
1.2	Treatment related mortality + AGD
1.09	Treatment related mortality + AGD
1.11	Treatment related mortality + AGD
1.94	Treatment related mortality
3.07	Mechanical lice treatment in fish affected by AGD
2.21	Mechanical lice treatment in fish affected by AGD
2.06	AGD + AGD treatments

7:22 PM · May 27, 2020 · Twitter Web App

"Case Information' for December 2019 [published by the Scottish Government on 7 February 2020](#) detailed a mass mortality of 25,966 dead salmon due to the Thermolicer at Mowi's farm in Loch Duich.

**Don Staniford** @TheGAAIA

Oops: Mowi did it again - 25,966 fish Thermoliced to death [tinyurl.com/tyd2hc4](https://tinyurl.com/tyd2hc4) "Malfunction with mechanical lice treatment boat resulting in treatment mortality" @marinescotland Farmed salmon infected with Anaemia, Rickettsia & Piscine Reovirus @MowiScotlandLtd @SSPOsays

Mortality Event No	Reporting Business Name	Site Name	Date reported
MRT01453	Mowi Scotland Ltd	Loch Duich	04/12/2019

**The Herald**  
 04 November 2019  
**Oops: fish farm firm kills 175,000 of its salmon by accident**  
 ONE of the world's largest fish farming companies has accidentally killed more than 175,000 of its caged salmon in Scotland while trying to treat them for lice and disease, according to internal Government memos.  
 The catastrophic mistake by staff at farms run by the Norwegian multinational, Mowat Harvest, cost millions of pounds and led to over 600 tonnes of dead salmon having to be incinerated.

1:41 PM · Feb 12, 2020 · Twitter Web App

As [Scottish salmon's mort mountain piles ever higher](#) the salmon farming industry [recklessly push forward with mechanical treatments and de-licing technology such as the Thermolicer](#).

 **Salmon Research**  
@salmonresearch

After studies on farmed salmon confirm lice removal by a "thermolicer" causes pain, suffering and high mortalities.....Mowi orders another one!



Mowi enters into agreement with Inverlussa for delivery of new 35m thermolicer ...  
Built by Nauplius Workboats, 35 metre vessel will be equipped with the latest technology for salmon sea lice management from ScaleAQ. Inverlussa Marine ...  
[salmonbusiness.com](https://salmonbusiness.com)

6:24 AM · Jun 4, 2020 · [Twitter for iPhone](#)

Fish Farming Expert [reported \(4 June 2020\)](#):

### Larger pens

Mowi Scotland operations manager Don MacLeod said: "This is a very important project for Mowi as we advance our sea lice management systems on to a high capacity thermal system that will broaden our options as we move into larger pens that contain larger fish biomass in each."

Ben Wilson, managing director at Inverlussa Marine Services, said: "We have a long-standing relationship with Mowi Scotland and we are delighting to build on our partnership with the construction and operation of this new ship."

"She will be the largest vessel in our fleet and will bring an additional service that our company can offer. We continue to invest in the best vessels and crew for our customers."



Don MacLeod: "A very important project for Mowi".

Instead of curbing the use of mechanical treatments the Scottish Government has actively promoted the use of torture chambers such as Thermolicers. A [Freedom of Information reply in March 2019](#) from the Scottish Government revealed the following financial support:

Application SCO1180 awarded October 2016		
Company	Project	Award (£)
Scottish Seafarms Ltd	Thermolicer	450,000.00
Marine Harvest (Scotland) Ltd (Now Mowi)	Hydrolicer workboat	141,690.00

Application SCO1661 awarded February 2018		
Company	Project	Award (£)
Marine Harvest (Scotland) Ltd (Now Mowi)	Thermolicer 2.0	725,192.00
Cooke Aquaculture Scotland	Reverseflow hydrolicer	371,752.00

In October 2019, Scottish Salmon Watch [published video footage of a Thermolicer being operated at Mowi's ASC-certified and RSPCA Assured salmon farm in Loch Leven.](#)



In September 2018, Mark Ruskell MSP for the Scottish Greens [filed a Parliamentary Motion on the welfare of farmed salmon.](#)



Read more via:

[End Torture on Salmon Farms!](#)

[Stop Thermolicing Farmed Salmon to Death - Ban Heated Torture Chambers!](#)

[Media Backgrounder: The Welfare Case Against the Thermolicer, Hydrolicer & Optilicer](#)

[The National: "Scottish salmon farming tools 'break animal welfare rules'"](#)

[Photo Dossier of Diseased, Deformed & Abused Scottish Salmon](#)

[New Veterinary Science Papers Turn Up Heat on the Thermolicer](#)

[Welfare Abuse at Scottish Salmon Farms - Why No Legal Enforcement Or Prosecutions?](#)

**Contact:**

Don Staniford: 07771 541826 ([salmonfarmingkills@gmail.com](mailto:salmonfarmingkills@gmail.com))



## Notes to Editors:

[1] A [Scottish Parliamentary reply by Fergus Ewing in March 2020](#) revealed that over half a million (522,702) farmed salmon died shocking deaths due to the operation of the Thermolicer, Hydrolicer and Optilicer from 2016 to 2019:



The Scottish Parliament  
Pàrlamaid na h-Alba

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**Question S5W-27713: Mark Ruskell, Mid Scotland and Fife, Scottish Green Party, Date Lodged: 03/03/2020**

To ask the Scottish Government what information it has regarding how many (a) farmed salmon and (b) cleaner fish have been killed because of the use of (i) thermolicers, (ii) optilicers and (iii) hydrolicers in each year since 2016.

**Answered by Fergus Ewing (17/03/2020):**

The figures recorded as involving thermal treatments in 2016, 2017, 2018 and 2019 are shown in the following table.

	2016	2017	2018	2019
Hydrolicer	89,466	115,445	7,516	57,247
Thermolicer	47,982	52,798	35,841	40,980
Optilicer	-	-	15,610	59,817

There is no record of mortality kept for cleaner fish.

Please find a link to the published mortality information submitted to Marine Scotland.

<https://www2.gov.scot/Topics/marine/Fish-Shellfish/FHI/CaseInformation/Mortalityinformation>

The published mortality information relates to voluntary mortality reporting arrangements agreed between Scottish Government and industry stakeholders. The data is comprised of industry reporting and Fish Health Inspectorate (FHI) surveillance and is used to support wider aquatic animal health surveillance and investigations as required. The information presented is not a comprehensive record of fish farm mortality. The published reasons for mortality are those supplied by the industry.

Marine Scotland does not hold information on why there is a particular rate of deaths in relation to each of the husbandry operations. The reasons for mortality are complex and may be related to the health of individual animals within the population, the husbandry methods employed or the environmental conditions encountered prior to, during or after the husbandry operation.

**Current Status:** Answered by Fergus Ewing on 17/03/2020

The Hydrolicer is the most lethal with 269,674 farmed salmon mortalities followed by the Thermolicer (177,601 deaths) and the Optlicer (75,427 deaths). Here's the yearly breakdown of deaths each year due to the Thermolicer, Hydrolicer and Optlicer:

2016: 137,448

2017: 168,243

2018: 58,968

2019: 158,044

Total: 522,702

Here's a [Scottish Parliamentary reply in May 2017](#):

**Question S5W-08947: Donald Cameron, Highlands and Islands, Scottish Conservative and Unionist Party, Date Lodged: 03/05/2017 R**

To ask the Scottish Government what information it has on how many mortalities of salmon there have been due to the use of mechanical lice treatments on salmon farms in each year since 2007.

**Answered by Fergus Ewing (15/05/2017):**

Information regarding fish farm mortality is collected as part of fish health inspections conducted by Marine Scotland's fish health inspectorate. Case information is published here: <http://www.gov.scot/Topics/marine/Fish-Shellfish/FHI/CaseInformation>

In 2014 the Ministerial Group for Sustainable Aquaculture Farmed Fish Health and Welfare Working Group recommended that mortality over certain thresholds be reported to Marine Scotland's fish health inspectorate. Mortality thresholds were incorporated into the voluntary Code of Good Practice for Scottish Finfish Aquaculture in 2015. The following information provides details of fish mortalities which were reported to the fish health inspectorate and included mechanical lice treatment as one of the reasons for mortality.

Year	Total Mortality
2015	0
2016	115,950
2017	18,995

**Current Status:** Answered by Fergus Ewing on 15/05/2017

[2] Mortality information [published on 4 June 2020 by the Scottish Government's Fish Health Inspectorate \(data up to the end of April 2020\)](#) detailed 108 'Mortality Event Reports' involving 815,456 dead farmed salmon where de-licers were cited (11 cases did not provide a figure for the number of morts):

1	Reporting Business Name	Site Name	Date reported	Mortality (%)	Explained reasons	Mortality #s	Additional information
2	Scottish Sea Farms Ltd	Fishnish B	24/04/2020	1.16	Post physical delousing		Intervention review, mortality returned to below 1% threshold in following wk
3	Scottish Sea Farms Ltd	Slocka Ronas Voe	24/04/2020	1.06	Post physical delousing		intervention review, mortality returned to below 1% threshold in following wk
4	Grieg Seafood Shetland Ltd	Swining Voe 3	14/04/2020	1.28	Post Treatment Losses	5158	
5	Grieg Seafood Shetland Ltd	Setterness North (Bomlo)	24/03/2020	3.43	CMS	18270	Post-treatment losses following optilicer treatment w/b 2nd March 2020.
6	The Scottish Salmon Company	Taranaish	17/03/2020	1.10	Treatment handling	5823	Hydroliser treatment
7	The Scottish Salmon Company	Taranaish	17/03/2020	2.15	Treatment handling	11296	Hydroliser treatment
8	Mowi Scotland Ltd	Torrison	11/03/2020	1.41	Gill infection, physical damage	11169	Physical damage associated to treatment
9	The Scottish Salmon Company	Trilleachan Mor	10/03/2020	3.97	Physical damage	20801	Physical damage result of poor weather and required crowd for treatment. Moribund removal being conducted, and low stress treatment planned for week 10.
10	Grieg Seafood Shetland Ltd	Setterness North (Bomlo)	10/03/2020	1.41	Treatments/CMS	8165	
11	Grieg Seafood Shetland Ltd	Poseidon	10/03/2020	1.98	Treatments/CMS	10533	
12	Scottish Sea Farms Ltd	Vidlin North	19/02/2020	1.21	Treatment	5337	Thermolicer treatment
13	Mowi Scotland Ltd	Loch Greshornish	04/02/2020	1.94	Treatment related	12752	Losses associated with thermolicer. These treatments were stopped Reported to be a mechanical treatment. Low level CMS had been detected a few months ago, the site is being harvested from as required and will be follow by end of June 2020. No further treatments are
14	The Scottish Salmon Company	Gravir	03/01/2020	1.08	Post Treatment loss	3965	
15	Mowi Scotland Ltd	Seaforth	13/12/2019	1.18	Compromised gill health, piscirickettsia + treatment losses	8292	Despite compromised health status, fish at this site required sea lice intervention. Weakened fish did not survive treatment
16	Mowi Scotland Ltd	Ardintoul	04/12/2019	1.83	Compromised gill health, anaemia due to gill bleeding + piscirickettsia infection. Fish also treated with mechanical lice system.	12858	AGD treatment planned. Rickettsial infection to be closely monitored
17	Mowi Scotland Ltd	Ardintoul	04/12/2019	1.49	Compromised gill health, anaemia due to gill bleeding + piscirickettsia infection. Fish also treated with mechanical lice system.	10252	AGD treatment performed. Rickettsial infection to be closely monitored. Supportive measures (eg supplemental oxygen during treatment/handling, functional feed) used in this population.
18	Mowi Scotland Ltd	Loch Alsh (Sron)	04/12/2019	1.11	Compromised gill health + mechanical lice treatment	9306	Lice treatment had to be performed due to lice numbers. Supportive measures (eg supplemental oxygen, functional feed) used in this population.
19	Mowi Scotland Ltd	Loch Duich	04/12/2019	3.58	Malfunction with mechanical lice treatment boat resulting in treatment mortality	25966	Boat issues addressed so problem should not recur.
20	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
21	The Scottish Salmon Company	Druimyeon Bay	01/11/2019	1.04	Post treatment (Thermolicer) and challenged gills	5586	
22	Mowi Scotland Ltd	Ardintoul	25/10/2019	1.02	Complex gill disease with significant gill bleeding and resultant anaemia + thermolicer treatment losses	7601	Company vet visit with uni of Glasgow vet school clinical pathology team to characterise anaemia. Lice skirts removed to optimise dissolved oxygen levels within pens.
23	Mowi Scotland Ltd	Ardintoul	18/10/2019	2.25	Complex gill disease with bleeding gills/ associated anaemia/ physical treatment	17094	Being fed functional feed to promote gill recovery and healing
24	Mowi Scotland Ltd	Poll na Gille	18/10/2019	4.08	Complex gill disease with bleeding gills/ physical treatment	21613	Harvesting worst affected pens
25	Mowi Scotland Ltd	Caolas A Deas	18/10/2019	1.13	Treatment losses	11952	
26	Cooke Aquaculture Scotland Lt	Flaeshins	15/10/2019	1.06	Post treatment mortality (Thermolicer)	5414	
27	Mowi Scotland Ltd	Sconsar Quarry	10/10/2019	1.86	Complex gill disease + thermolicer treatment	1829	
28	Mowi Scotland Ltd	Poll na Gille	10/10/2019	1.10	Complex gill disease + hydroliser treatments	6079	Harvests from worst affected pens
29	Mowi Scotland Ltd	Shuna SW (Rubh'an Trilleachan)	10/10/2019	3.25	Complex gill disease + hydroliser treatments	9557	Harvesting out worst affected pens
30	Mowi Scotland Ltd	Cairidh	03/10/2019	1.45	1 pen of fish remaining on site. Had seemed to be in better health than other pens. Thermolicer treatment performed this week, most losses	268	All cages except 1 remaining have been harvested out. One remaining cage to be harvested by end of September.

31	Mowi Scotland Ltd	Sonser Quarry	03/10/2019	1.05	Losses associated with thermal lice treatment.	1052	Visit by company vet scheduled for following week.
32	Mowi Scotland Ltd	Shuna SW (Rubh'an Trilleak	03/10/2019	3.08	Suspect recent environmental gill insult involving gill bleeding. Mortalities with recent hydrolicer treatment, with fish with poor gills not Anaemia due to bleeding from gills. Losses were exacerbated by thermal sea lice treatment in week 36.	13920	Worst affected pens are being harvested out
33	Mowi Scotland Ltd	Cairidh	20/09/2019	4.03	Fish have complex gill disease including gill bleeding, with associated mild anaemia. Recent thermolicer treatment - fish with poor gills/anaemia did not survive treatment. PD and compromised gill health, with suspect recent environmental gill insult involving gill bleeding	5398	All cages except 1 remaining have been harvested out. One remaining cage to be harvested by end of September.
34	Mowi Scotland Ltd	North Shore	20/09/2019	1.09	CMS and compromised gill health, with suspect recent environmental gill insult involving gill bleeding	9933	Worst affected pens have been harvested out
35	Mowi Scotland Ltd	Muck	20/09/2019	1.35	CMS and compromised gill health, with suspect recent environmental gill insult involving gill bleeding	10116	Harvesting of site ongoing, reducing overall biomass levels. Company vet visited.
36	Mowi Scotland Ltd	Rum	20/09/2019	2.29	Suspect recent environmental gill insult involving gill bleeding. Mortalities with recent hydrolicer treatment, with fish with poor gills not surviving treatment	11079	Site in harvest plan to be emptied out, with target of end September.
37	Mowi Scotland Ltd	Shuna SW (Rubh'an Trilleak	20/09/2019	4.07	Post treatment	22136	Worst affected pens are being harvested out
38	Cooke Aquaculture Scotland Lt	Stead of Aithness	17/09/2019	2	Losses incurred following thermal sealice treatment	12320	Increased mortality following hydroliser and peroxide treatment.
39	Mowi Scotland Ltd	Sonser Quarry	13/09/2019	1.42	Anaemia due to bleeding from gills. Attempted thermal sea lice treatment and losses exacerbated.	2147	Mortality levels have now returned to normal.
40	Mowi Scotland Ltd	Cairidh	13/09/2019	3.36	Mechanical lice treatment, low level PD myopathy	4654	New stock brought on site from Rum (FS1317) 21st - 31st August 2019. 1 cage stocked, due to be harvested out by end of September.
41	The Scottish Salmon Company	Maragay Mor	08/09/2019	1.36	Post treatment	5117	
42	The Scottish Salmon Company	Portree Outer	19/08/2019	1.20	Post-physical treatment	6686	Mortality occurred post mechanical intervention.
43	Scottish Sea Farms Ltd	Bight of Bellister, Dury Voe	16/08/2019	1.1	Post-physical treatment		Intervention review
44	Scottish Sea Farms Ltd	Kishorn West	16/08/2019	2.7	Post-physical treatment		Intervention review
45	Scottish Sea Farms Ltd	Teisti Geo	16/08/2019	1.3	CMS		Harvesting, increased health surveillance & biosecurity measures.
46	Scottish Sea Farms Ltd	Bight of Bellister, Dury Voe	16/08/2019	5.2	Post-physical treatment, CMS		Increased health surveillance & biosecurity measures.
47	Mowi Scotland Ltd	Linnhe	07/08/2019	2.64	CMS, Pasteurella skyensis	4257	Thermolicer treatment carried out on 15/07/2019 thought to have exacerbated mortality. Site is harvesting out, 2 cages remain stocked.
48	Grieg Seafood Shetland Ltd	West of Burwick	05/08/2019	3.63	Post treatment	16500	
49	Grieg Seafood Shetland Ltd	West of Burwick	05/08/2019	2.06	Post treatment	9025	
50	Grieg Seafood Shetland Ltd	West of Burwick	05/08/2019	1.74	Post treatment	7468	
51	Grieg Seafood Shetland Ltd	West of Burwick	05/08/2019	3.46	Post treatment	14529	
52	Grieg Seafood Shetland Ltd	West of Burwick	05/08/2019	1.26	Post treatment	5112	
53	Grieg Seafood Shetland Ltd	West of Burwick	05/08/2019	1.7	Post treatment (thermolicer)	5584	
54	Scottish Sea Farms Ltd	Nevis C (Ardintigh)	31/07/2019	2.37	Complex gill syndrome, post physical delousing	Not provided	Intervention review, increased health surveillance, mortality returned to below reporting threshold
55	Scottish Sea Farms Ltd	Grunna Voe	12/07/2019	1.1	Post-physical treatment losses	Not provided	Increased health surveillance
56	Scottish Sea Farms Ltd	Grunna Voe	12/07/2019	5.94	CMS, Physical treatment losses	Not provided	Intervention review, increased health surveillance & biosecurity measures
57	Scottish Sea Farms Ltd	Loura Voe	12/07/2019	6.01	CMS, Physical treatment losses	Not provided	Intervention review, increased health surveillance & biosecurity measures
58	Scottish Sea Farms Ltd	Grunna Voe	12/07/2019	1.81	CMS, Post-physical treatment losses	Not provided	Destocking, increased health surveillance & biosecurity measures
59	Scottish Sea Farms Ltd	Loura Voe	12/07/2019	1.78	CMS, Post-physical treatment losses	Not provided	Destocking, increased health surveillance & biosecurity measures.
60	Scottish Sea Farms Ltd	Teisti Geo	12/07/2019	1.72	Post-physical treatment losses	Not provided	Intervention review
61	Mowi Scotland Ltd	Creag an T'Sagairt (Loch Ho	02/07/2019	1.37	Treatment Losses	7000	Thermolicer treatment started on 24th June for 4 days. Fish with bleeding gills, "collision damage" and heart damage. Not aware of any disease issues at the site but health team have been in and they are awaiting histo results. Mort levels appear to be back to normal. Only treated 10 of the 12 pens. Current lice levels 0.4 average adult females. Site should be follow by end July.
62	Mowi Scotland Ltd	Rum	01/07/2019	1.09	Treatment Losses	8400	12 hour freshwater treatment in Intercaledonia. Mainly from; Pen 11 lost approximately 45% and pen 5 lost 15%. Swimbladder issue and mechanical damage.

63	Mowi Scotland Ltd	Rum	30/06/2019	2.79	Treatment Losses		37000 fish morts for June up until 24/6/19. 12 hour freshwater treatment in Intercaledonia. Mainly from; Pen 11 lost approximately 45% and pen 5 lost 15%. Swimbladder issue and mechanical damage.
64	Mowi Scotland Ltd	Rum	30/06/2019	2.16	Treatment Losses		37000 fish morts for June up until 24/6/19. 12 hour freshwater treatment in Intercaledonia. Mainly from; Pen 11 lost approximately 45% and pen 5 lost 15%. Swimbladder issue and mechanical damage.
65	The Scottish Salmon Company	Tarbert South	07/06/2019	1.77	CMS, Hydrolicer	655	Site is currently being harvested and will be empty by the end of June.
66	The Scottish Salmon Company	Tarbert South	07/06/2019	3.99	CMS, Hydrolicer	1698	Site is currently being harvested and will be empty by the end of June.
67	The Scottish Salmon Company	Rubha Stillaig	29/04/2019	1.1	Post physical treatment	800	
68	The Scottish Salmon Company	Strondoir Bay	29/04/2019	1.1	Post physical treatment	800	
69	The Scottish Salmon Company	Tarbert South	29/04/2019	1.1	Post physical treatment	1500	Fish also suffering from CMS, harvest being brought forward
70	Grieg Seafood Shetland Ltd	Leinish	04/03/2019	3.06	Treatment	11828	Post treatment morts from optilicer trial and salmosan treatments (pen 1 & 3)
71	Grieg Seafood Shetland Ltd	Leinish	04/03/2019	1.01	Treatment	3782	Post treatment morts from optilicer trial and salmosan treatments (pen 1 & 3)
72	The Scottish Salmon Company	Scadabay	24/01/2019	1.2	Post treatment	Not provided	Hydroliser treatment, CMS also detected on site.
73	Scottish Sea Farms Ltd	Lismore North	18/10/2018	4.27	Complex gill issues and sea lice treatment (physical treatment)	8585	Post treatment losses following physical lice removal
74	The Scottish Salmon Company	Vacasay	05/09/2018	2.56	Post treatment losses (hydrolicer)	7516	
75	The Scottish Salmon Company	Strome	26/03/2018	1.5	Post hydrolicer	not disclosed	% figures now below the reporting threshold.
76	Scottish Sea Farms Ltd	South Sound	29/01/2018	2.19	Physical damage, thermolicer post-	4253	Storm at site, fish showed damage from rubbing against net. Company biologist attended site, mortalities dropped below 1% following week.
77	The Scottish Salmon Company	Strome	25/01/2018	1.63	Post hydrolicer	not disclosed	>1% - numbers expected to drop to below reporting threshold
78	The Scottish Salmon Company	Strome	11/01/2018	1.92	Post hydrolicer treatment	not disclosed	Company unwilling to disclose the % of the mortality or the number of fish involved. Only that the figure is over 1%.
79	The Scottish Salmon Company	Sgian Dubh	21/12/2017	1.16	Treatment	8737	2 x hydrolicer treatments have resulted in scale loss. Vet attending on 22/12/17.
80	The Scottish Salmon Company	Strome	13/11/2017	1.83	post treatment hydrolicer losses.	3546	Further treatment with salmosan planned
81	The Scottish Salmon Company	Druimyeon Bay	13/11/2017	4.44	post treatment hydrolicer losses.	25607	further hydroliser treatment planned, fish on functional feed.
82	The Scottish Salmon Company	Loch Odhairn/Gravir	06/11/2017	1.45	post treatment hydrolicer losses.	2652	mortality event considered to be the result of treatment and numbers should reduce next week
83	Marine Harvest (Scotland) Ltd	Tabhaigh	17/10/2017	3.7	H2O2 and thermolicer treatment		Also affected 2016 Q4. Vet visited.
84	Marine Harvest (Scotland) Ltd	Tabhaigh	17/10/2017	6.57	H2O2 and thermolicer treatment		Also affected 2016 Q4. Vet visited.
85	Marine Harvest (Scotland) Ltd	Tabhaigh	17/10/2017	2.54	H2O2 and thermolicer treatment		Also affected 2016 Q4. Vet visited.
86	The Scottish Salmon Company	North Uiskevagh	16/10/2017	2.76	Complex gill issues and handling during harvest	4105	Company biologist informed, hydrolicer treatment planned
87	The Scottish Salmon Company	Strome	16/10/2017	1.24	Gill issues (PGD)	2656	Company biologist informed, hydrolicer treatment planned
88	The Scottish Salmon Company	North Uiskevagh	10/10/2017	1.64	Severe gill health issues, losses post hydrolicer treatment	2721	Harvesting
89	The Scottish Salmon Company	North Uiskevagh	02/10/2017	1.43	Complex gill issues, Post mechanical treatment		Harvesting
90	The Scottish Salmon Company	Kenmore Loch Torridon	09/08/2017	1.23	Treatment	1106	Hydrolicer treatment. Harvesting and general handling may have exacerbated mortalities. No action taken, site due to be harvested out by end of August 2017.
91	The Scottish Salmon Company	Sgeir Dughall	09/08/2017	1.21	Treatment	3864	Hydroliser post-treatment losses,
92	The Scottish Salmon Company	Sgeir Dughall	09/08/2017	1.15	Treatment	3229	Hydroliser post-treatment losses
93	Scottish Sea Farms Ltd	Nevis C (Ardintigh)	24/07/2017	1.82	Treatment	5924	Losses arising during sealice treatment using Thermolicer. No underlying condition suspected.
94	Scottish Sea Farms Ltd	Nevis B	24/07/2017	1.45	Treatment	3876	Losses arising during sealice treatment using Thermolicer. No underlying condition suspected.
95	Scottish Sea Farms Ltd	Nevis B	24/07/2017	1.23	Treatment	3256	Residual diver clearance of pens related to above Thermolicer treatment on wk27
96	Marine Harvest (Scotland) Ltd	Creag an T'Sagairt (Loch Ho	12/07/2017	1.09	Treatment	9331	Thermolicer
97	Scottish Sea Farms Ltd	Nevis B	11/07/2017	1.81	Treatment	5345	Losses from sea lice treatment with thermolicer, no suspected
98	The Scottish Salmon Company	Kenmore Loch Torridon	23/06/2017	1.91	Treatment	1851	No action by company. Had been treating with hydrolicer.
99	The Scottish Salmon Company	Kenmore Loch Torridon	23/06/2017	1.17	Treatment		No action by company. Had been treating with hydrolicer.
100	Scottish Sea Farms Ltd	South Sound	01/06/2017	1.06	Treatment	3460	No action taken. Mortality due to treatment with thermolicer.
101	Grieg Seafood Shetland Ltd	Langa Isle (East)	30/05/2017	5.3	Treatment	18232	Mortalities reduced significantly the following week
102	Grieg Seafood Shetland Ltd	Langa Isle (East)	30/05/2017	5.75	Treatment	19131	Thermolicer treatment losses
103	Marine Harvest (Scotland) Ltd	Cairidh	17/05/2017	1.3	Treatment	8561	Pen 1 and 2 affected post Thermolicer treatment the rest of the site was not treated
104	Scottish Sea Farms Ltd	Nevis A	04/04/2017	1.58	Treatment	4129	Losses following Thermolicer treatment. Thought to be fish weekend by HSMI.
105	Grieg Seafood Shetland Ltd	Score Holms	14/03/2017	3.7	Treatment	10619	Mortalities post Thermolicer treatment,
106	The Scottish Salmon Company	Meall Mhor Loch Fyne	02/03/2017	4.1	PD, Treatment	49116	Post h202 treatment, complex gill issues and PD runs 2 treatments in period one bath and one hydrolicer
107	The Scottish Salmon Company	Strondoir Bay	02/03/2017	2.9	treatment	36103	Post treatment salmosan, h202 and hydrolicer, complex gills, agd
108	The Scottish Salmon Company	Quarry Point	02/03/2017	2.8	Treatment	4247	Post Hydrolicer treatment, fish with compromised health did not survive the treatment well - mechanical damage
109	The Scottish Salmon Company	Quarry Point	02/03/2017	2.8	Treatment	4247	Post Hydrolicer treatment, fish with compromised health did not survive the treatment well - mechanical damage

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Please note that as [the Fish Health Inspectorate explains](#): "The information presented is not a comprehensive record of fish farm mortality but only details situations where the mortality reporting thresholds have been reached and where this information has been reported to

Marine Scotland by the industry or where information has been obtained through FHI surveillance").

In other words, the mortalities presented above are exceptional cases so do not capture all the welfare abuse and mortality incidents involving de-licers.