$camon $cotland, 19 February 2024

Foreign Egg Imports Flooding Scotland = Game Ova for 'Scottish' Salmon!

- FOI reveals that 117.5 million salmon ova (eggs) were imported between 2021 and 2023
- Iceland accounted for 55.9% with 43.9% from Ireland (and Norway less than 1%)

Imports of potentially virus-laden salmon ova are still flooding into Scotland from Iceland and Ireland with Norway now almost completely shut out of the Scottish market due to the risks of importing deadly Infectious Salmon Anaemia (salmon ova imports from Norway were banned in 2019). A Freedom of Information disclosure by the Scottish Government (1 February 2024) exclusively reveals data on imports of salmon ova (eggs) between 2021 and 2023 **[1]**.

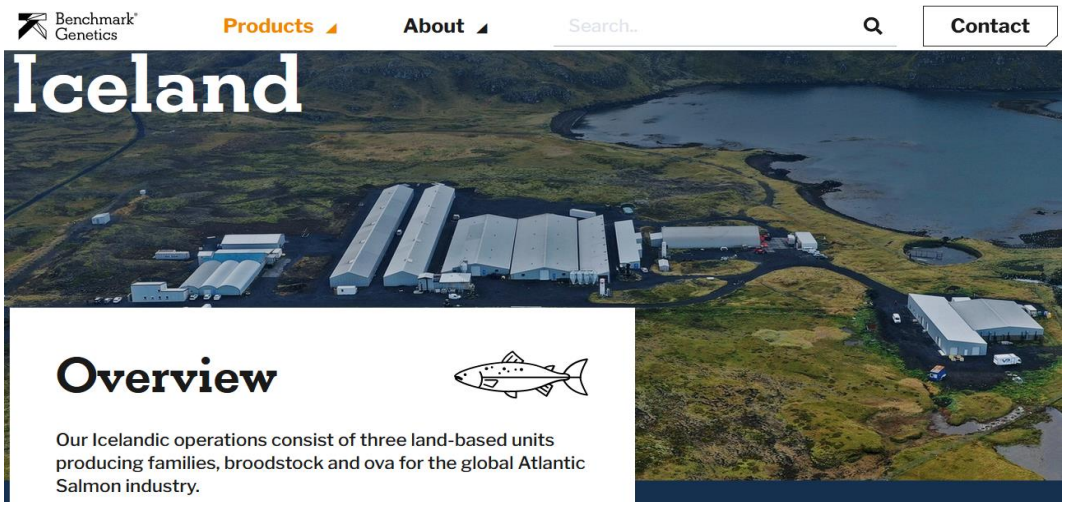
Benchmark® Genetics

The disclosed FOI data details 106 shipments of salmon ova imports totaling 117.5 million with 32.9 million via 28 shipments in 2021*****; 43.9 million via 38 shipments in 2022 and 40.6 million via 40 shipments in 2023. Iceland – which first reported ISA in November 2021 - accounted for 55.9% of salmon ova imports (65.7 million via 75 shipments); Ireland accounted for 43.9% (51.6 million via 30 shipments) and Norway accounted for less than 0.2% (175,000 via 1 shipment to Cooke Aquaculture).

An Excel spreadsheet reveals the Top 20 salmon ova shipments – headed by Mowi's Lochailort Recirculation Hatchery and Mowi's Inchmore salmon hatchery:

Date	Destination site name	Destination business name	Consignee business	# of ova	Source country	Import Consignor
27/01/2021	Lochailort Recirculation Hatchery	Mowi Scotland Ltd		3,740,000	Republic of Ireland	Mowi Ireland
26/07/2023	Inchmore	Mowi Scotland Ltd		3,700,000	Iceland	Benchmark Genetics Iceland
02/02/2022	Lochailort Recirculation Hatchery	Mowi Scotland Ltd		3,382,000	Republic of Ireland	Mowi Ireland
15/03/2022	Lochailort Recirculation Hatchery	Mowi Scotland Ltd		3,375,000	Republic of Ireland	Mowi Ireland
16/02/2022	Inchmore	Mowi Scotland Ltd		2,500,000	Republic of Ireland	Mowi Ireland
26/07/2022	Inchmore	Mowi Scotland Ltd		2,500,000	Iceland	Benchmark Genetics Iceland
12/01/2021	Inverpolly	Finfish Ltd	Mowi Scotland Ltd	2,200,000	Republic of Ireland	Mowi Ireland
24/03/2021	Lochailort Recirculation Hatchery	Mowi Scotland Ltd		2,160,000	Republic of Ireland	Mowi Ireland
30/03/2021	Inverpolly	Finfish Ltd	Mowi Scotland	2,160,000	Republic of Ireland	Mowi Ireland
12/04/2021	Inchmore	Mowi Scotland Ltd		2,100,000	Republic of Ireland	Mowi Ireland
17/02/2021	Inchmore	Mowi Scotland Ltd		2,053,400	Republic of Ireland	Mowi Ireland
26/01/2023	Inverpolly	Finfish Ltd	Mowi Scotland Ltd	2,035,000	Republic of Ireland	Mowi Ireland
14/01/2021	Mill Burn (Old Mill)	Kintail Hatchery	Migdale Smolts Ltd	2,000,000	Iceland	Stofnfiskur
19/01/2022	Inverpolly	Finfish Ltd	Mowi Scotland Ltd	2,000,000	Republic of Ireland	Mowi Ireland
01/02/2023	Lochailort Recirculation Hatchery	Mowi Scotland Ltd		2,000,000	Republic of Ireland	Mowi Ireland
09/05/2023	Inchmore	Mowi Scotland Ltd		2,000,000	Iceland	Benchmark Genetics Iceland
11/07/2023	Lochailort Recirculation Hatchery	Mowi Scotland Ltd		2,000,000	Iceland	Benchmark Genetics Iceland
20/07/2023	Applecross Hatchery	Bakkafrost Scotland		1,925,000	Iceland	Benchmark Genetics Iceland
25/07/2023	Applecross Hatchery	Bakkafrost Scotland		1,925,000	Iceland	Benchmark Genetics Iceland
09/02/2021	Applecross Hatchery	The Scottish Salmon Company		1,900,000	Iceland	Benchmark Genetics Iceland

Disease-ridden Norwegian giant Mowi was the major destination for salmon ova with 57.8 million imported via 33 shipments – accounting for 49% of all imports. Benchmark Genetics Iceland (formerly Stofnfiskur) was the source of the most salmon ova accounting for 62.5 million imports via 72 shipments with Mowi Ireland accounting for 51.6 million via 30 shipments.



The site importing the most salmon ova was Mowi's Inchmore deadly salmon hatchery with 23 million followed by Mowi's Lochailort Recirculation Hatchery with 22.8 million. Mowi's Inverpolly salmon hatchery (Finfish Ltd) imported 12 million ova; Bakkafrost's Applecross Hatchery imported 9.4 million; Scottish Sea Farms' Barcaldine Hatchery (a site caught up in an ISA scare in 2018 over imports from AquaGen in Norway) imported 8.6 million and Landcatch's Ormsary Hatchery (which reported ISA in November 2021) imported 8.1 million (7.1 million imported from Iceland).

Following "poor production on stocks grown from externally sourced eggs", Mowi is moving away from ova imports reporting in December 2023: "To prepare for a made-in-Scotland broodstock programme, the next generation salmon were taken in 2021 from Mowi nucleus in Ireland and raised at seawater farms in Scotland."

“The Scottish Government should immediately ban the import of salmon ova to stop the spread of deadly diseases and infectious viruses,” said Don Staniford, Director of $camon $cotland (who called for an ova import ban back in 2019 and reiterated the call in 2022 following the detection of ISA in Iceland and at Landcatch and Scottish Sea Farms in Scotland). “Ova imports from Norway has been banned due to the ongoing risks of Infectious Salmon Anaemia but Iceland has imported 66 million salmon eggs since 2021 – the year which ISA was first reported in Iceland. Scottish Ministers need to follow Norway’s lead and close the borders to imports of salmon ova.”

“Genetic pollution from farmed salmon escapees and ova imports from foreign sources is killing off Scotland’s iconic salmon,” continued Staniford. “Foreign-owned corporations account for over 99% of ‘Scottish’ salmon and the ‘King of Fish’ has been reduced to an imposter. Scotland’s wild Atlantic salmon – known in Latin as *Salmo salar* – has been turned by intensive salmon farming into *Salmo domesticus*. Scottish salmon is sadly now a leper not the leaper.”

In 2018, Norway reiterated their position on banning imports of Scottish salmon denying a request by Hendrix Genetics to import salmon ova. Scotland’s reliance on imported ova was labeled a “massive risk” by Hendrix Genetics in 2018 who cited ISA in Norway and claimed that foreign ova imports were “making a complete mockery of the brand ‘Scottish salmon’.

“Norwegian interests risk bringing the whole rotten edifice of 'Scottish Salmon' crashing down” warned Hendrix Genetics in 2019 who lambasted “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.”

The Ferret reported in 2020 that ova imports from Norway had been banned due to the risks of ISA. Following a report of ISA at Landcatch’s Ormsary Hatchery (owned by Hendrix Genetics) in November 2021 and reports of ISA in Iceland, Scottish Salmon Watch asked in January 2022:

was ISA imported via infected salmon eggs (ova) from Iceland? $camon $cotland reported in February 2022 that ISA in Scotland had been officially reported to the World Organization for Animal Health for the first time since 2012 leading to a call on Scottish Ministers to ban imports.

Here is the full list of salmon ova imports from 2021 to 2023 (as disclosed via FOI by the Scottish Government on 1 February 2024):

Date	Destination site name	Destination business name	Consignee business	# of ova	Source country	Import Consignor
05/01/2021	Cairndow Hatchery	Cooke Aquaculture (Freshwater)		1,000	Iceland	Stofnfiskur
12/01/2021	Inverpolly	Finfish Ltd	Mowi Scotland Ltd	2,200,000	Republic of Ireland	Mowi Ireland
12/01/2021	Cairndow Hatchery	Cooke Aquaculture (Freshwater)		1,200,000	Iceland	Stofnfiskur
13/01/2021	Barcaldine Hatchery Incubation 3	Scottish Sea Farms Ltd		1,000,000	Republic of Ireland	Mowi Ireland
13/01/2021	Barcaldine Hatchery Incubation 4	Scottish Sea Farms Ltd		1,000,000	Republic of Ireland	Mowi Ireland
14/01/2021	Mill Burn (Old Mill)	Kintail Hatchery	Migdale Smolts Ltd	2,000,000	Iceland	Stofnfiskur
27/01/2021	Inchmore	Mowi Scotland Ltd		246,600	Republic of Ireland	Mowi Ireland
27/01/2021	Lochailort Recirculation Hatchery	Mowi Scotland Ltd		3,740,000	Republic of Ireland	Mowi Ireland
02/02/2021	Ormsary Hatchery	Landcatch Natural Selection	The Scottish Salmon Co	780,000	Iceland	Benchmark Genetics Iceland
03/02/2021	Girlsta Hatchery	Grieg Seafood Shetland Ltd		1,800,000	Iceland	Benchmark Genetics Iceland
09/02/2021	Applecross Hatchery	The Scottish Salmon Company		1,900,000	Iceland	Benchmark Genetics Iceland
16/02/2021	Ormsary Hatchery	Landcatch Natural Selection Ltd	Organic Sea Harvest	800,000	Iceland	Benchmark Genetics Iceland
17/02/2021	Inchmore	Mowi Scotland Ltd		2,053,400	Republic of Ireland	Mowi Ireland
09/03/2021	Ardtaraig Hatchery	Cooke Aquaculture (Freshwater)		350,000	Iceland	Benchmark Genetics Iceland
24/03/2021	Barcaldine Hatchery Incubation 1	Scottish Sea Farms Ltd		1,000,000	Republic of Ireland	Mowi Ireland
24/03/2021	Lochailort Recirculation Hatchery	Mowi Scotland Ltd		2,160,000	Republic of Ireland	Mowi Ireland
30/03/2021	Inverpolly	Finfish Ltd	Mowi Scotland	2,160,000	Republic of Ireland	Mowi Ireland
31/03/2021	Cairndow Hatchery	Cooke Aquaculture (Freshwater)		500,000	Iceland	Benchmark Genetics Iceland
12/04/2021	Lochailort Recirculation Hatchery	Mowi Scotland Ltd		1,600,000	Republic of Ireland	Mowi Ireland
12/04/2021	Inchmore	Mowi Scotland Ltd		2,100,000	Republic of Ireland	Mowi Ireland
29/04/2021	AGRF (Hatchery - RAS A)	The Roslin Institute		5,000	Iceland	Benchmark Genetics Iceland
27/07/2021	Inchmore	Mowi Scotland Ltd		280,000	Iceland	Benchmark Genetics Iceland
26/10/2021	Appleburn Hatchery	The Scottish Salmon Company		1,650,000	Iceland	Benchmark Genetics Iceland
28/10/2021	AGRF (Hatchery - RAS A)	The Roslin Institute		5,000	Iceland	Benchmark Genetics Iceland
10/11/2021	Ormsary Hatchery	Landcatch Natural Selection Ltd	Loch Duart	650,000	Iceland	Benchmark Genetics Iceland
10/11/2021	Ormsary Hatchery	Landcatch Natural Selection Ltd	Organic Sea Harvest	252,000	Iceland	Benchmark Genetics Iceland
10/11/2021	Inverkerry Hatchery	Landcatch Natural Selection Ltd	Organic Sea Harvest	598,000	Iceland	Benchmark Genetics Iceland
10/11/2021	Ormsary Hatchery	Landcatch Natural Selection Ltd	Migdale Smolts Ltd	900,000	Iceland	Benchmark Genetics Iceland
13/01/2022	Rysa Incubation Unit	Rysa Salmon Farm	Cooke Aquaculture	175,000	Norway	Aquagen
19/01/2022	Inverpolly	Finfish Ltd	Mowi Scotland Ltd	2,000,000	Republic of Ireland	Mowi Ireland
19/01/2022	The Roslin Institute	The Roslin Institute		5,000	Iceland	Benchmark Genetics Iceland
19/01/2022	Carindow Hatchery	Cooke Aquaculture (Freshwater)		1,200,000	Iceland	Benchmark Genetics Iceland
26/01/2022	Mill Burn (Old Mill)	Kintail Hatchery	Migdale Smolts Ltd	1,800,000	Iceland	Benchmark Genetics Iceland
01/02/2022	Geocrab Hatchery	The Scottish Salmon Company		1,358,500	Iceland	Benchmark Genetics Iceland
02/02/2022	Lochailort Recirculation Hatchery	Mowi Scotland Ltd		3,382,000	Republic of Ireland	Mowi Ireland
02/02/2022	Inchmore	Mowi Scotland Ltd		1,210,000	Republic of Ireland	Mowi Ireland
04/02/2022	Furnace Hatchery	Cooke Aquaculture (Freshwater)		1,600,000	Iceland	Benchmark Genetics Iceland
16/02/2022	Inchmore	Mowi Scotland Ltd		2,500,000	Republic of Ireland	Mowi Ireland
23/02/2022	Inchmore	Mowi Scotland Ltd		1,550,000	Republic of Ireland	Mowi Ireland
23/02/2022	Inverkerry Hatchery	Landcatch Natural Selection Ltd	Organic Sea Harvest	850,000	Iceland	Benchmark Genetics Iceland
23/02/2022	Inchmore	Mowi Scotland Ltd		1,550,000	Republic of Ireland	Mowi Ireland
01/03/2022	Ardtaraig Hatchery	Cooke Aquaculture (Freshwater)		400,000	Iceland	Benchmark Genetics Iceland
03/03/2022	Barcaldine Hatchery Incubation 1	Scottish Sea Farms Ltd		1,500,000	Republic of Ireland	Mowi Ireland
03/03/2022	Barcaldine Hatchery Incubation 3	Scottish Sea Farms Ltd		1,500,000	Republic of Ireland	Mowi Ireland
15/03/2022	Lochailort Recirculation Hatchery	Mowi Scotland Ltd		3,375,000	Republic of Ireland	Mowi Ireland

24/03/2022	Inverpolly	Finfish Ltd	Mowi Scotland Ltd	1,800,000	Republic of Ireland	Mowi Ireland
05/05/2022	Niall Bromage	University Of Stirling		6,000	Iceland	Benchmark Genetics Iceland
01/06/2022	Barcaldine Hatchery Incubation 2	Scottish Sea Farms Ltd		1,200,000	Iceland	Benchmark Genetics Iceland
14/06/2022	Furnace (FW)	Cooke Aquaculture (Freshwater)		1,500,000	Iceland	Benchmark Genetics Iceland
26/07/2022	Inchmore	Mowi Scotland Ltd		2,500,000	Iceland	Benchmark Genetics Iceland
02/08/2022	Applecross Incubation Unit	The Scottish Salmon Company		1,800,000	Iceland	Benchmark Genetics Iceland
31/08/2022	Barcaldine Hatchery Incubation 3	Scottish Sea Farms Ltd		900,000	Iceland	Benchmark Genetics Iceland
20/09/2022	Couldoran Incubation Unit	The Scottish Salmon Company		1,650,000	Iceland	Benchmark Genetics Iceland
26/09/2022	Geocrab Hatchery	The Scottish Salmon Company		1,100,000	Iceland	Benchmark Genetics Iceland
26/09/2022	Mingarry Hatchery	The Scottish Salmon Company		742,500	Iceland	Benchmark Genetics Iceland
04/10/2022	Ormsary Hatchery	Landcatch Natural Selection Ltd	Bakkafrost Scotland	1,540,000	Iceland	Benchmark Genetics Iceland
20/10/2022	AGRF (Hatchery - RAS A)	The Roslin Institute		6,000	Iceland	Benchmark Genetics Iceland
01/11/2022	Ormsary Hatchery	Landcatch Natural Selection Ltd	Bakkafrost Scotland	770,000	Iceland	Benchmark Genetics Iceland
03/11/2022	Niall Bromage	University Of Stirling		10,000	Iceland	Benchmark Genetics Iceland
02/11/2022	Roslin Institute Hatchery	The Roslin Institute		3,000	Iceland	Benchmark Genetics Iceland
09/11/2022	AGRF (Hatchery - RAS A)	The Roslin Institute		3,000	Iceland	Benchmark Genetics Iceland
23/11/2022	Cairndow Hatchery	Cooke Aquaculture (Freshwater)		800,000	Iceland	Benchmark Genetics Iceland
29/11/2022	Ormsary Hatchery	Landcatch Natural Selection Ltd	Organic Sea Harvest	250,000	Iceland	Benchmark Genetics Iceland
29/11/2022	Inverkerry Hatchery	Landcatch Natural Selection Ltd	Organic Sea Harvest	600,000	Iceland	Benchmark Genetics Iceland
12/12/2022	Mingarry Hatchery	The Scottish Salmon Company		402,500	Iceland	Benchmark Genetics Iceland
13/12/2022	Ardtaraig Hatchery	Cooke Aquaculture (Freshwater)		400,000	Iceland	Benchmark Genetics Iceland
02/01/2023	Inchmore	Mowi Scotland Ltd		1,000,000	Iceland	Benchmark Genetics Iceland
05/01/2023	Mill Burn (Old Mill)	Kintail Hatchery	Migdale Smolts Ltd	700,000	Iceland	Benchmark Genetics Iceland
17/01/2023	Furnace (FW)	Cooke Aquaculture (Freshwater)		1,500,000	Iceland	Benchmark Genetics Iceland
19/01/2023	Mill Burn (Old Mill)	Kintail Hatchery	Migdale Smolts Ltd	1,250,000	Republic of Ireland	Mowi Ireland
26/01/2023	Inverpolly	Finfish Ltd	Mowi Scotland Ltd	2,035,000	Republic of Ireland	Mowi Ireland
01/02/2023	Lochailort Recirculation Hatchery	Mowi Scotland Ltd		2,000,000	Republic of Ireland	Mowi Ireland
08/02/2023	Lochailort Recirculation Hatchery	Mowi Scotland Ltd		1,700,000	Republic of Ireland	Mowi Ireland
08/02/2023	Lochailort Recirculation Hatchery	Mowi Scotland Ltd		275,000	Republic of Ireland	Mowi Ireland
14/02/2023	Ormsary Hatchery	Landcatch Natural Selection Ltd		200,000	Iceland	Benchmark Genetics Iceland
21/02/2023	Inverkerry Hatchery	Landcatch Natural Selection Ltd	Organic Sea Harvest	600,000	Iceland	Benchmark Genetics Iceland
21/02/2023	Ormsary Hatchery	Landcatch Natural Selection Ltd	Organic Sea Harvest	250,000	Iceland	Benchmark Genetics Iceland
22/02/2023	Lochailort Recirculation Hatchery	Mowi Scotland Ltd		1,000,000	Republic of Ireland	Mowi Ireland
22/02/2023	Ormsary Hatchery	Landcatch Natural Selection Ltd		250,000	Iceland	Benchmark Genetics Iceland
28/02/2023	Ardtaraig Hatchery	Cooke Aquaculture (Freshwater)		400,000	Iceland	Benchmark Genetics Iceland
07/03/2023	Ormsary Hatchery	Landcatch Natural Selection Ltd		150,000	Iceland	Benchmark Genetics Iceland
29/03/2023	Lochailort Recirculation Hatchery	Mowi Scotland Ltd		950,000	Republic of Ireland	Mowi Ireland
29/03/2023	Inverpolly	Finfish Ltd	Mowi Scotland Ltd	1,800,000	Republic of Ireland	Mowi Ireland
05/04/2023	Barcaldine Hatchery Incubation 2	Scottish Sea Farms Ltd		500,000	Iceland	Benchmark Genetics Iceland
19/04/2023	Inchmore	Mowi Scotland Ltd		1,000,000	Iceland	Benchmark Genetics Iceland
09/05/2023	Inchmore	Mowi Scotland Ltd		2,000,000	Iceland	Benchmark Genetics Iceland
30/05/2023	Inchmore	Mowi Scotland Ltd		300,000	Iceland	Benchmark Genetics Iceland
07/06/2023	Lochailort Recirculation Hatchery	Mowi Scotland Ltd		600,000	Iceland	Benchmark Genetics Iceland
13/06/2023	Niall Bromage Freshwater Field Sta	University of Stirling		10,000	Iceland	Benchmark Genetics Iceland
13/06/2023	Niall Bromage Freshwater Field Sta	University of Stirling		5,000	Iceland	Benchmark Genetics Iceland
13/06/2023	Niall Bromage Freshwater Field Sta	University of Stirling		3,000	Iceland	Benchmark Genetics Iceland
20/07/2023	Applecross Hatchery	Bakkafrost Scotland		1,925,000	Iceland	Benchmark Genetics Iceland

01/08/2023	Couldoran Incubation Unit	Bakkafrost Scotland		1,221,000	Iceland	Benchmark Genetics Iceland
04/07/2023	Girlsta Hatchery	SSF Shetland Ltd (Hatchery)		1,100,000	Iceland	Benchmark Genetics Iceland
25/07/2023	Applecross Hatchery	Bakkafrost Scotland		1,925,000	Iceland	Benchmark Genetics Iceland
11/07/2023	Lochailort Recirculation Hatchery	Mowi Scotland Ltd		2,000,000	Iceland	Benchmark Genetics Iceland
26/07/2023	Inchmore	Mowi Scotland Ltd		3,700,000	Iceland	Benchmark Genetics Iceland
29/08/2023	Inchmore	Mowi Scotland Ltd		1,000,000	Iceland	Benchmark Genetics Iceland
26/09/2023	Geocrab Incubation Hatchery	Bakkafrost Scotland		880,000	Iceland	Benchmark Genetics Iceland
19/09/2023	Kinlochmoidart Hatchery	Bakkafrost Scotland		800,000	Iceland	Benchmark Genetics Iceland
11/10/2023	AGRF (Hatchery - RAS A)	The Roslin Institute		4,000	Iceland	Benchmark Genetics Iceland
31/10/2023	Couldoran Incubation Unit	Bakkafrost Scotland		1,800,000	Iceland	Benchmark Genetics Iceland
14/11/2023	Applecross Hatchery	Bakkafrost Scotland		1,870,000	Iceland	Benchmark Genetics Iceland
22/11/2023	Inverkerry Hatchery	Landcatch Natural Selection Ltd	Organic Sea Harvest	600,000	Iceland	Benchmark Genetics Iceland
22/11/2023	Ormsary Hatchery	Landcatch Natural Selection Ltd	Organic Sea Harvest	300,000	Iceland	Benchmark Genetics Iceland
15/12/2023	Ormsary Hatchery	Landcatch Natural Selection Ltd		1,000,000	Republic of Ireland	Mowi Ireland

Download the Excel spreadsheet online here

The Scottish Government reported in October 2023 via the 'Scottish Fish Farm Production Survey 2022':

Ova Production

Table 17: Number (000's) of salmon ova produced during 2013-2022

Year	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
No. of ova	56,904	33,450	11,605	13,689	12,631	15,228	11,618	20,021	46,255	53,195

In 2022, over 53 million ova were stripped, an increase of 15% from the number of ova produced in 2021.

Table 18: Source, number (000's), previous year's estimate of ova laid down to hatch during 2013-2022 and projected production for 2023

Year	In-house broodstock	Out-sourced GB broodstock	GB wild broodstock	Imported ova	Total	Previous year's estimate
2013	16,996	8,263	0	41,315	66,573	49,249
2014	14,418	2,725	10	53,684	70,837	48,149
2015	6,479	223	10	61,463	68,175	65,284
2016	5,884	4	0	58,458	64,346	59,604
2017	6,228	360	0	59,158	65,746	60,673
2018	8,780	200	0	61,499	70,479	67,374
2019	5,516	1,724	75	63,931	71,246	71,571
2020	5,195	4,480	258	68,685	78,618	70,598
2021	6,383	22,581	124	43,707	72,795	68,588
2022	2,906	29,871	0	45,761	78,538	77,306
2023						73,096

The number of ova laid down to hatch was 78.5 million, an increase of 5.7 million (8%) on the 2021 figure. The majority of the ova (58%) were derived from foreign sources, this being an increase of 2 million (5%) on the 2021 figure. Supplies derived from GB broodstock (excluding wild origin ova) increased by 5.1 million, a 7% increase on the 2021 figure. In 2022, no ova from GB wild broodstock were laid down to hatch, ova derived from wild stocks are generally held and hatched for wild stock enhancement by the aquaculture industry in cooperation with wild fisheries managers.

Smolts Produced and Put to Sea

Table 19: Actual and projected smolt production and smolts put to sea (millions) during 2013-2024

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Actual smolts put to sea	40.9	48.1	45.5	43.0	46.1	45.5	53.0	52.5	51.1	55.3		
Smolts produced	40.5	45.0	44.6	42.9	46.2	47.1	51.4	50.5	51.2	55.1		
Estimated production	28.1	39.9	43.4	36.6	39.3	46.1	38.6	52.1	55.6	54.1	47.1	56.6
Ratio of ova laid down to smolts produced	1.6	1.6	1.5	1.5	1.4	1.5	1.4	1.6	1.4	1.4		

Imports and Exports

Table 22a: Source and number (000's) of salmon ova, fry, parr and smolts imported during 2013-2022 derived from health certificates

Import Year	Ova				Fry, Parr and Smolts		
	Iceland	Norway	Republic of Ireland	Total	Norway	Republic of Ireland	Total
2013	2,719	35,044	10,700	48,463	0	55	55
2014	3,813	49,831	5,218	58,862	1,748	1,602	3,350
2015	8,978	45,926	4,815	59,719	365	2,118	2,483
2016	5,324	38,602	5,444	49,370	0	1,956	1,956
2017	13,883	37,025	7,000	57,908	0	2,012	2,012
2018	10,116	48,430	7,250	65,796	0	1,700	1,700
2019	26,352	23,673	10,184	60,209	0	297	297
2020	41,756	220	15,296	57,272	0	1,130	1,130
2021	31,276	160	19,260	50,696	0	300	300
2022	23,370	175	20,367	43,912	0	0	0

The numbers of ova imported decreased by 13% in 2022. During 2022 no fry, parr or smolts were imported.

Further information on salmon ova imports – disclosed via FOI by the Scottish Government – is detailed via **Notes to Editors [2]**, **[3]**, **[4]**, **[5]**, **[6]**, **[7]**, **[8]** and **[9]** with more background in **Note [10]**.

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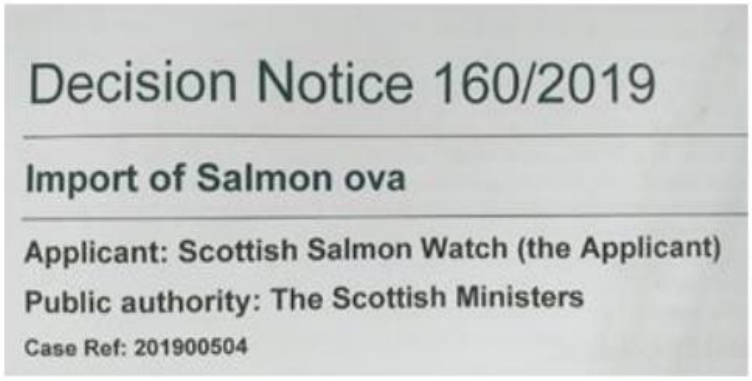
Media Backgrounder: Scottish Salmon Has Foreign Egg On Its Face!

In 2018, Norwegian-owned Scottish Sea Farms refused to disclose information for ova imports claiming disclosure would "cause substantial harm to their commercial interests". However, a landmark ruling from the Scottish Information Commissioner in November 2019 forced disclosure.

"In all the circumstances, the Commissioner cannot accept that disclosure of the withheld information in this case would have the effect suggested by the Ministers i.e. that disclosure would, or would be likely to, prejudice substantially the confidentiality of commercial or industrial information where such confidentiality is provided for by law to protect a legitimate economic interest," stated the Scottish Information Commissioner Decision Notice 160/2019 (another version with Scottish Salmon Watch named as the Applicant is available online here).



Scottish Information Commissioner

Scottish Salmon Watch reported in December 2019:

'Confidential' information published this week via Freedom of Information reveals that Scottish Sea Farms imported over 11 million ova (salmon eggs) from Marine Harvest (re-named Mowi in 2019) in Ireland and 1.4 million ova from Stofnfiskur in Iceland (via Landcatch) in 2017 and 2018 (data up to March) **[1]**. Here's the information which Scottish Ministers claimed "would cause substantial harm to commercial interests":

CONFIDENTIAL - DISCLOSURE COULD CAUSE COMMERCIAL HARM

Date	Site of destination	Operator	Consignee on certificate (if different from operator)	Species	Stage	Number	Source Country	Source Company
18/01/2017	Knock Hatchery	Scottish Sea Farms Ltd		Salmon	Ova	1,500,000	Rep of Ireland	Marine Harvest Ireland
09/02/2017	Couldoran Incubation Unit	Scottish Sea Farms Ltd		Salmon	Ova	1,500,000	Rep of Ireland	Marine Harvest Ireland
18/01/2018	Knock	Scottish Sea Farms Ltd		Salmon	Ova	1,550,000	Rep of Ireland	Marine Harvest Ireland
15/02/2018	Couldoran Incubation Unit	Scottish Sea Farms Ltd		Salmon	Ova	1,600,000	Rep of Ireland	Marine Harvest Ireland
23/02/2017	Ormsary Hatchery	Landcatch Natural Selection Ltd	Scottish Sea Farms Ltd	Salmon	Ova	2,200,000	Rep of Ireland	Marine Harvest Ireland
07/02/2018	Ormsary Hatchery	Landcatch Natural Selection Ltd	Scottish Sea Farms Ltd	Salmon	Ova	1,500,000	Rep of Ireland	Marine Harvest Ireland
01/03/2018	Ormsary Hatchery	Landcatch Natural Selection Ltd	Scottish Sea Farms Ltd	Salmon	Ova	800,000	Rep of Ireland	Marine Harvest Ireland
09/02/2017	Wester Fearn	Highland Salmon Company Ltd	Scottish Sea Farms Ltd	Salmon	Ova	400,000	Rep of Ireland	Marine Harvest Ireland
07/11/2017	Couldoran Incubation Unit	Scottish Sea Farms Ltd		Salmon	Ova	745,000	Iceland	Stofnfiskur
30/11/2017	Ormsary Hatchery	Landcatch Natural Selection Ltd	Scottish Sea Farms Ltd	Salmon	Ova	400,000	Iceland	Stofnfiskur
08/12/2017	Ormsary Hatchery	Landcatch Natural Selection Ltd	Scottish Sea Farms Ltd	Salmon	Ova	300,000	Iceland	Stofnfiskur

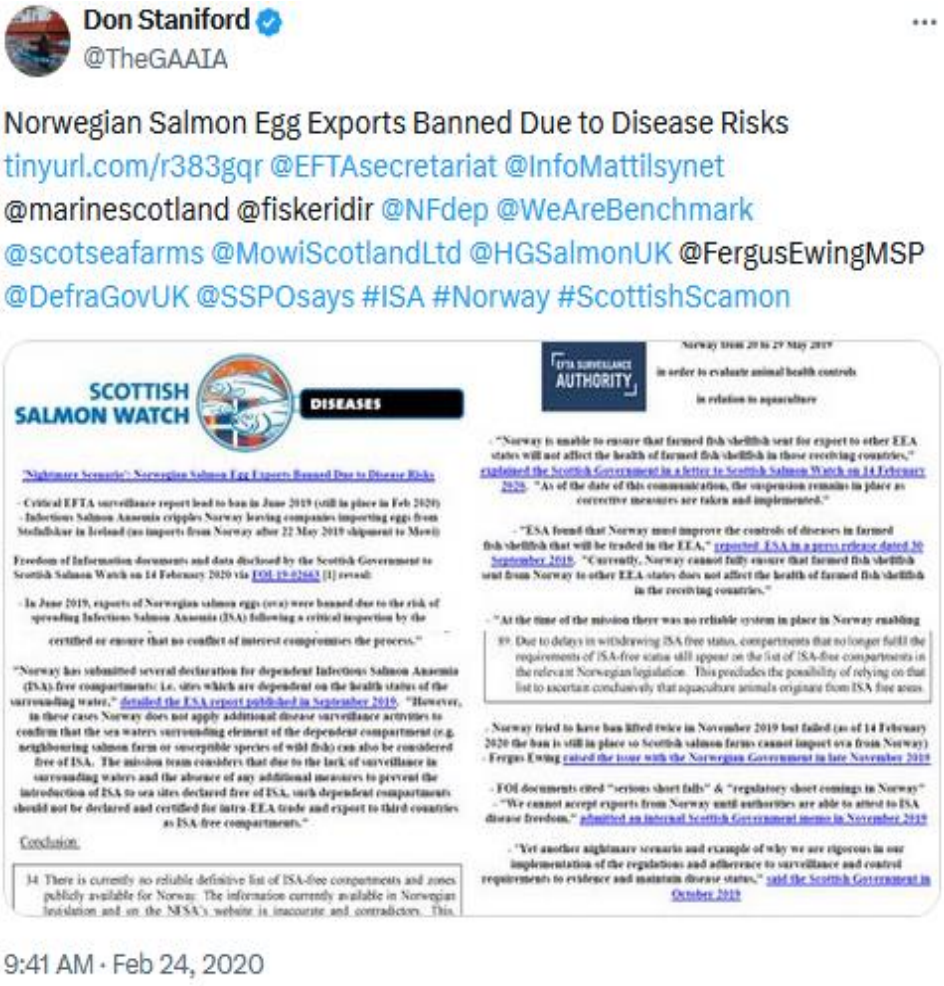
Scottish Salmon Watch reported in October 2020:

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 SALMON WATCH — DISEASES

- 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

Imports of salmon ova from Norway were [banned in 2019 due to the risks of ISA](#).



Conclusion:

34. There is currently no reliable definitive list of ISA-free compartments and zones publicly available for Norway. The information currently available in Norwegian legislation and on the NFSA's website is inaccurate and contradictory. This, combined with the use of inconsistent terminology, has the potential to mislead officials and interested parties regarding which areas in Norway are disease free and from which certification and trade of live fish and products thereof may take place.

Conclusions

89. Due to delays in withdrawing ISA free status, compartments that no longer fulfil the requirements of ISA-free status still appear on the list of ISA-free compartments in the relevant Norwegian legislation. This precludes the possibility of relying on that list to ascertain conclusively that aquaculture animals originate from ISA free areas.

In 2024, Norway is still being ravaged by Infectious Salmon Anaemia. Fish Farmer reported in January 2024:

ISA suspected in a fish at Benchmark breeding site

January 25, 2024 | Vince McDonagh | News, News Archive

Infectious salmon anaemia (ISA) is suspected at a key breeding centre in Norway where Benchmark Genetics has a facility.

The Norwegian Food Safety Authority is testing samples from the site 60 miles south of Narvik, which is one of the world's most advanced land based facilities for the production of salmon ova. Only a few weeks ago ova from Salten became large smolt in record time.

On Tuesday, Benchmark was informed by the laboratory Pharmaq Analytiq that samples from a single fish had been confirmed as positive for ISA.

The Food Safety Authority said that it plans an immediate inspection of the facility to take follow up samples so the Veterinary Institute can confirm whether the disease is present.

The Authority adds that in order to limit the spread of infection, restrictions have been imposed on the site, including a ban on moving fish, ova and sperm without special permission.

This means that almost normal operation in parts of the facility can continue to the extent that the Norwegian Food Safety Authority deems it safe in terms of contamination.

A restriction area usually consists of a protection zone and a monitoring zone and it will entail restrictions, among other things, on traffic in the area around the site.

If the suspicion is confirmed, the Authority can order the emptying of all part of the premises.

The Food Safety Authority confirmed 18 cases of ISA spread over five countries and seven production areas last year – three more than in 2022, but seven fewer than in 2021. However, there were also five suspected cases last year that were not confirmed.

Intrafish [reported in January 2024]():

IntraFish Latest News Salmon Whitefish Shrimp Aquaculture Fisheries Markets IntraFish.

Fish farm ISA disease outbreaks jump 20% in 2023; pancreatic disease cases drop to 17-year low

The confirmed outbreaks in 2023 were spread over seven production areas in Norway.

RELATED NEWS

Salmon infected with ISA left in pens for months in groundbreaking research project
Salmon
15 November 2023 4:01 GMT

'The situation is quite serious': Unprecedented lice levels raise new questions about the viability of Iceland's salmon farming sector
Salmon
7 November 2023 4:23 GMT

'The situation is serious': Grieg and Leroy among salmon farmers hit by western Norway disease outbreak
Salmon
22 September 2023 4:01 GMT

18 January 2024 18:18 GMT *UPDATED 18 January 2024 20:28 GMT*
By Hanna Gezelius

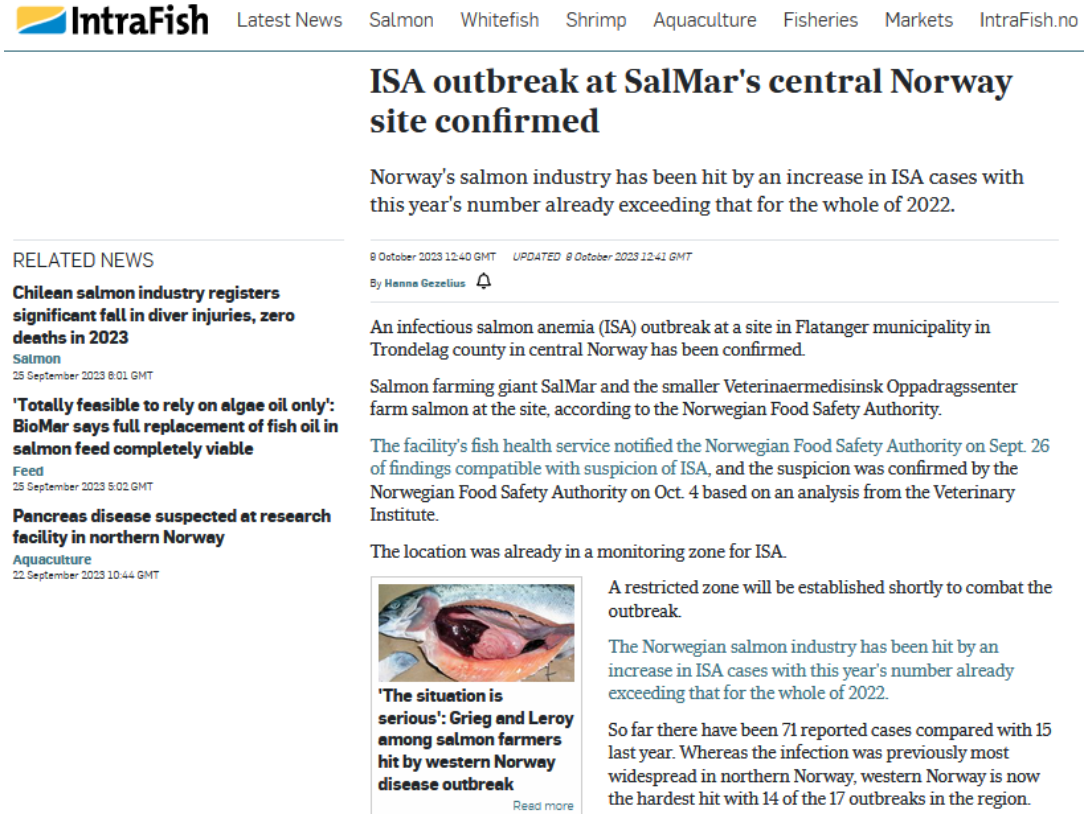
A total of 18 infectious salmon anemia (ISA) outbreaks were confirmed during 2023 in Norway, excluding five yet unconfirmed ISA suspicions, according to figures from the Norwegian Veterinary Institute.

During 2022, there were 15 confirmed outbreaks, significantly down from 25 in 2021 and 23 outbreaks in 2020.

The confirmed outbreaks in 2023 were spread over seven production areas, with areas in the south and west of the country particularly hard hit, accounting for 11 outbreaks during the year.

"The situation, especially in western Norway, is serious now. It is quite a clear change from before," Ingunn Sommerset from Norway's Veterinary Institute told **IntraFish** last year.

Intrafish [reported in October 2023]():



IntraFish Latest News Salmon Whitefish Shrimp Aquaculture Fisheries Markets IntraFish.no

ISA outbreak at SalMar's central Norway site confirmed

Norway's salmon industry has been hit by an increase in ISA cases with this year's number already exceeding that for the whole of 2022.

RELATED NEWS

Chilean salmon industry registers significant fall in diver injuries, zero deaths in 2023
Salmon
25 September 2023 8:01 GMT

'Totally feasible to rely on algae oil only': BioMar says full replacement of fish oil in salmon feed completely viable
Feed
25 September 2023 5:02 GMT

Pancreas disease suspected at research facility in northern Norway
Aquaculture
22 September 2023 10:44 GMT

9 October 2023 12:40 GMT *UPDATED 9 October 2023 12:41 GMT*
By Hanna Gezelius

An infectious salmon anemia (ISA) outbreak at a site in Flatanger municipality in Trondelag county in central Norway has been confirmed.

Salmon farming giant SalMar and the smaller Veterinaermedisinsk Oppadragssenter farm salmon at the site, according to the Norwegian Food Safety Authority.

The facility's fish health service notified the Norwegian Food Safety Authority on Sept. 26 of findings compatible with suspicion of ISA, and the suspicion was confirmed by the Norwegian Food Safety Authority on Oct. 4 based on an analysis from the Veterinary Institute.

The location was already in a monitoring zone for ISA.

'The situation is serious': Grieg and Leroy among salmon farmers hit by western Norway disease outbreak
Read more

A restricted zone will be established shortly to combat the outbreak.

The Norwegian salmon industry has been hit by an increase in ISA cases with this year's number already exceeding that for the whole of 2022.

So far there have been 71 reported cases compared with 15 last year. Whereas the infection was previously most widespread in northern Norway, western Norway is now the hardest hit with 14 of the 17 outbreaks in the region.

Seafood Source reported in September 2023:

Norway hatching plan to counter wave of infectious salmon anemia outbreaks

By Cliff White
September 11, 2023

Share

A higher than normal number infectious salmon anemia cases have been reported in Norway in the summer of 2023.

On 8 September, the Norwegian Food Safety Authority said it had confirmed an ISA outbreak in Åfjord municipality, Trøndelag county, affecting farms operated by Refsnes Laks that had previously been operated in a collaboration with SalMar until April 2023. The confirmation came after the government agency was first notified of a suspected case at the site on 25 August.

In late August, a suspected outbreak of infectious salmon anemia was discovered at a Mowi salmon farm in Volda municipality, in Møre og Romsdal county. Andin July, a case of ILA was confirmed at farms operated by SalMar and Norsk Sjømat Oppdrett in Heim municipality in Trøndelag county.

In all, there are six separate farming zones being monitored for or cleansed of ISA currently shown on the Barents Watch tracking page operated by the authority.

ISA is caused by a virus that is harmless to humans but which can cause mass mortalities at salmon farms as it spreads. Rainbow trout can become infected, but usually do not develop symptoms of the disease, according to the authority.

ISA outbreaks can be costly to Norwegian aquaculture companies, as they are forced to purge and fallow any impacted site and set up a protection ad monitoring zone to ensure marine traffic is forbidden from entering the area. Much of the cost of government analysis and sampling also falls on the companies operating the impacted farms.

The high number of recent ISA cases in Norway comes on the heels of seven separate reported cases in both May and June 2023. That compares to 25 cases in all of 2021, and just 15 in 2022. In a report issued June 2023, the Norwegian Food Safety Authority acknowledged ISA cases were on the rise in the country's aquaculture industry, calling it "a major challenge."

"Outbreaks of ILA have serious consequences, and Norway aims to keep the disease at a low level," it said.

Seafood Source reported in August 2023:

Suspected ISA contagion found at Mowi salmon farm in central Norway

By Cliff White
August 29, 2023

Share

A suspected outbreak of infectious salmon anemia has been discovered at a Mowi salmon farm in central Norway.

The Norwegian Food Safety Authority issued a notice on 23 August regarding a potential ISA outbreak at Mowi's 13243 Sandvika salmon farm in Norway's Volda municipality, in Møre og Romsdal county.

Patogen AS notified the Norwegian Food Safety Authority on 22 August of suspected ILA at location 13243 Sandvika. The suspicion is based on the results of PCR analyzes carried out by Patogen AS after sampling fish at the site.

Intrafish [reported in November 2022]():

IntraFish Latest News Salmon Whitefish Shrimp Aquaculture Fisheries Markets IntraFish.no

Salmon egg supplier Aquagen confirms ISA at Norwegian site

No increased mortality or clinical symptoms have been registered.

RELATED NEWS

Norwegian salmon farmer suspects deadly ISA virus at site with more than 500,000 fish
Salmon
22 August 2022 14:05 GMT

ISA detected at Mowi Newfoundland site
Aquaculture
2 August 2022 7:28 GMT

'It's been hell': Scramble is on to capture escaped farmed salmon in Norway
Salmon
15 November 2022 7:00 GMT

24 November 2022 7:31 GMT *UPDATED 24 November 2022 7:31 GMT*
By **Marthe Njåstad and Hanna Gezelius**

Salmon egg supplier AquaGen has detected infectious salmon anemia (ISA) during a routine sampling procedure at a site in Northern Norway.

The sample was taken from breeding fish at AquaGen's land-based plant in Bogen in Northern Norway, the company confirmed.

No increased mortality or clinical symptoms have been registered.

Since the start of this year, AquaGen has taken samples of more than 5,000 breeding fish in Bogen, one of which had a positive result.

Norway's ISA losses were Iceland and Ireland's gain in terms of salmon ova imports. Scottish Salmon Watch [reported in July 2021]():

A Freedom of Information (FOI) disclosure by the Scottish Government published online in April 2021 reveals that 'Scottish' salmon is now sourced predominantly from imported ova (eggs) from Iceland and Ireland substituting Norway (due to ongoing risks of the spread of Infectious Salmon Anaemia). The last reported consignments of ova imported from Norway were in April 2020 into hatcheries operated by Scottish Sea Farms (Norskott Havbruk) at Knock on the Isle of Mull and Cooke Aquaculture at Rysa on Orkney - and another shipment from AquaGen in Norway to Cooke's Rysa hatchery on Orkney in January 2021.

However, Iceland has also been hit by ISA with Intrafish reporting in September 2022:

IntraFish Latest News Salmon Whitefish Shrimp Aquaculture Fisheries Markets IntraFish.no

ISA costs Icelandic salmon farmer $10 million as disease takes root in the country

The disease arrived in Iceland for the first time in November.

RELATED NEWS

Icelandic salmon farmer Ice Fish Farm confirms ISA, says virus hit second site with 1.1 million fish
Salmon
2 June 2022 17:04 GMT

ISA detected at another Iceland salmon farm
Salmon
27 May 2022 8:56 GMT

Arnarlax takes full control of Iceland smolt facility
Aquaculture
25 May 2022 17:53 GMT

30 September 2022 8:31 GMT *UPDATED 30 September 2022 13:28 GMT*
By Dominic Welling

Icelandic salmon farmer Ice Fish Farm saw its second quarter earnings plagued by a biomass write-down of NOK 104 million (€9.9 million/$9.7 million), after falling victim to infectious salmon anemia (ISA) during the period.

In June, the company confirmed ISA hit two of its farming sites containing a total of almost two million fish.

For the second quarter, Ice Fish Farm posted an operating loss (EBIT) of NOK 142 million (€13.5 million/$13.2 million) because of the biomass write-down, it said.

Operating EBIT adjusted for the biomass write-down plummeted 74 percent to NOK 18.1 million (€1.7 million/$1.7 million), with a 16.5 percent increase in EBIT per kilogram of NOK 16.20 (€1.50/$1.50).

Nevertheless, the group managed a 27 percent increase in revenue in the quarter to NOK 87 million (€8.3 million/$8.1 million), as it mainly used the spot market, which was giving "good prices for relatively small size fish".

Ice Fish Farm harvested a total of 1,117 metric tons during the period, up slightly from the same period a year ago.

During the quarter, Ice Fish Farm acquired all of the shares in Laxar Fiskeldi, increasing its maximum allowable biomass (MAB) to 43,800 metric tons, with 15 sites across four fjords.

Total harvest for the combined company in 2022 is expected to be 11,300 metric tons.

Just days prior to Ice Fish Farm's Hamraborg and Svarthamar outbreaks, Laxar also reported ISA was detected at its Vattarnes farming operation in Iceland.

A month before, Laxar also detected the virus at its Sigmundarhus site.

The Sigmundarhus site is within close proximity of another Laxar site that had ISA earlier in the winter - the first case of ISA detected in Iceland - and had been under close monitoring.

Intrafish [reported in May 2022]:

IntraFish Latest News Salmon Whitefish Shrimp Aquaculture Fisheries Markets IntraFish.no

ISA detected at another Iceland salmon farm

First detected in December 2021, the virus has since been found at three separate sites.

RELATED NEWS

Arnarlax takes full control of Iceland smolt facility
Aquaculture
25 May 2022 17:53 GMT

Iceland's first suspected ISA outbreak on salmon farm confirmed
Salmon
14 December 2021 18:24 GMT

CEO of Icelandic salmon farmer Laxar sees good growth prospects for newly merged group
Aquaculture
31 December 2021 8:50 GMT

27 May 2022 8:58 GMT *UPDATED 27 May 2022 13:03 GMT*
By Raohel Mutter

NTS subsidiary Icelandic salmon farmer Ice Fish Farm suspects infectious salmon anemia (ISA) at its Hamraborg farming site, it announced Friday.

The site consists of approximately 890,000 fish weighing and average 2.137 kilograms.

The consequences of the suspected disease are difficult to estimate at the moment, according to a release by the company to the Oslo Stock Exchange, but the presence of the disease will likely reduce Ice Fish Farm's expected harvest volume for 2022 and 2023, the company said.

The event comes just days after ISA was detected at Laxar's Vattarnes farming operations in Iceland.

That site consist of approximately 1.1 million fish weighing an average 2.748 kilograms. Again, the impact of the disease is difficult to estimate at this time, but harvest volumes are expected to be lower as a result this year and next.

Iceland will never be the biggest salmon farmer. Can it be the best?
Read more

It is not the first finding of ISA at a Laxar farm. A month ago the company also detected the virus at its Sigmundarhus site. That site consisted of approximately 1 million fish weighing an average 0.476 kilograms. The smaller size of the fish means the impact will to be felt in 2023 only, according to the company.

The Sigmundarhus site is within close proximity of another Laxar site that had ISA earlier in the winter - the first case of ISA detected in Iceland - and had been under close monitoring.

Intrafish [reported in December 2021]:

IntraFish Latest News Salmon Whitefish Shrimp Aquaculture Fisheries Markets IntraFish.

Iceland's first suspected ISA outbreak on salmon farm confirmed

The company is awaiting results from samples taken from two other neighboring sites.

RELATED NEWS

Competition authorities greenlight Scottish Sea Farms' Grieg Shetland acquisition
Salmon
8 December 2021 8:07 GMT

Competition for aquaculture deals heats up as new suitors come calling
Finance
30 September 2021 8:31 GMT

14 December 2021 18:24 GMT *UPDATED 14 December 2021 21:50 GMT*
By Robert Nedrejord

Icelandic authorities confirmed a suspected case of Infectious Salmon Anemia (ISA) at a salmon farm belonging to Laxar Fiskeldi in Reydarfirdi, on the east coast of Iceland.

The Icelandic Food and Veterinary Institute (MAST) announced that the suspected finding, the first in the Icelandic salmon farming industry, was indeed the deadly virus.

The location and all associated operations have been isolated, and the affected fish have been harvested, the company said.

The Iceland Review [reported in November 2021]():

First Ever Cases of Infectious Salmon Anaemia in Iceland

Jelena Ćirić | November 29, 2021 | Economy, News

The Icelandic Food and Veterinary Authority (MAST) has found evidence of infectious salmon anaemia (ISA) in an open-net salmon farm in Reyðarfjörður fjord, East Iceland. ISA is a highly infectious viral disease that has no treatment and causes high mortality in farmed Atlantic salmon. This is the first time the virus has been diagnosed in Icelandic waters.

The virus has been diagnosed in a salmon farm owned by Laxar fiskeldi ehf. Follow-up tests are now being conducted to confirm the diagnosis. A decision has been made to slaughter all of the fish in the pen where the virus was detected. Fish in the farm's other pens appear to be healthy, according to the notice from MAST. It will, however, be closely monitored in the near future.

The ISA virus is harmless to humans and is not transmitted through fish products. It is also known as "salmon flu," and belongs to the Orthomyxoviridae family of influenza viruses and has most of the characteristics of influenza viruses known in mammals and birds. A benign variant of the virus is widespread and "probably found everywhere in salmons' environment," according to the notice from MAST. The pathogenic ISA virus, like the one that has now been detected in Iceland for the first time, is created by mutation of the benign variant.

The first case of ISA was detected in Norway in 1984. Since then it has been detected in many other salmon farming nations, including Canada (1996), Scotland (1998), the Faroe Islands (2000), the USA (2001), Chile (2001), and Ireland (2002).

"The diagnosis of the virus emphasises the importance of monitoring and infection control in order to maintain good disease status in Iceland and prevent diseases such as ISA emerge and get a foothold in salmon farms," the MAST statement concludes.

Scottish Salmon Watch [reported in January 2022 how ISA had been detected at Landcatch's Ormsary hatchery in Argyll]():

Scottish Salmon Watch, 10 January 2022

FOI Reveals Infectious Salmon Anaemia at Landcatch's Ormsary Hatchery in November last year – was ISA imported via infected salmon eggs (ova) from Iceland?

SCOTTISH SALMON WATCH

VIRUSES

- FOIs reveal Landcatch (Hendrix) supplied farmed salmon to Organic Sea Harvest, Loch Duart, The Scottish Salmon Company & Scottish Sea Farms sourced from ova imported from Benchmark/Stofnfiskur in Iceland
- Scottish Sea Farms tested positive for ISA in Loch Spelve on Mull in May 2021
- FOI disclosure by Scottish Government reveals Marine Harvest (Mowi) tested positive for ISA in Loch Greshornish on Skye in November 2014
- FOI disclosure by the Scottish Government in October 2021 revealed ISA in 7% of Scottish farmed salmon sampled between 2002 & 2012

Scottish Salmon Watch reported in January 2022 how a FOI disclosure from the Scottish Government detailed ISA cases at Mowi's Loch Greshornish salmon farm in 2014 and in 2021 at a salmon farm operated by Scottish Sea Farms in Loch Spelve:

> To facilitate you with searching published information I can advise you that two published cases have returned positive results for ISAv throughout the time period of your request. Further details are provided as follows:
>
> 1. Case number 20140560 relating to the site Loch Greshornish operated by Marine Harvest at the time of the inspection in 2014. A positive result for ISAv was obtained through diagnostic and statutory sampling. On both occasions insufficient product was present to allow sequencing and confirm any virus strain associated with this result. Consequently the presence of ISAv was ruled out as the results of sampling did not meet the official criteria to confirm the presence of the pathogen. Movement restrictions placed on suspicion at Loch Greshornish and three further sites (Ardintoul, Loch Duich and Torridon) which had epidemiological connections were revoked. Although the result was considered negative, in this situation the company undertook a commercial decision to depopulate the site at that time.
>
> 2. Case number 20210132 relating to Loch Spelve (B) operated by Scottish Sea Farms Ltd. Details concerning this case, including the confirmation of ISA HPR0 have been explained previously through FoI 202100234467.
>
> In addition, a further positive result (ISA HPR0) has been obtained from the Ormsary Broodstock Unit operated by Landcatch Natural Selection Ltd - case number 20210470. Case information has not yet been published as this is still in the course of completion. This will be published in due course in line with the Scottish Government publication plan concerning aquatic animal health surveillance, as referenced above. Relevant information to your request is extracted from our records as follows – site visit date - 1 November 2021; one positive result - ISAv Real Time QPCR was obtained and was confirmed as ISAv (HPR0) which is not subject to statutory control measures. The test result related to a pooled sample of three fish.

Scottish Salmon reported in January 2022:

A FOI disclosure from the Scottish Government in March 2021 detailed millions of ova imported from Stofnfiskur (rebranded as Benchmark Genetics Iceland in January 2021) in Iceland to Landcatch's Ormsary Hatchery for on-growing by Organic Sea Harvest Loch Duart and The Scottish Salmon Company:

Date consignment due	Destination site name	Destination business name	Consignee Business name (if different from destination business)	Species	Stage	Number in consignment	Source Country	Import consignor
02/02/2021	Ormsary Hatchery	Landcatch Natural Selection Ltd		SAL	OVA	780000	Iceland	Benchmark_Genetics_Iceland_Hf.
16/02/2021	Ormsary Hatchery	Landcatch Natural Selection Ltd	Organic Sea Harvest	SAL	OVA	800000	Iceland	Benchmark_Genetics_Iceland_Hf.

Date consignment due	Destination site name	Destination business name	Consignee Business name (if different from destination business)	Species	Stage	Number in consignment	Source Country	Import consignor
03/11/2020	Ormsary Hatchery	Landcatch Natural Selection Ltd	The Scottish Salmon Company	SAL	OVA	1750000	Iceland	Stofnfiskur_Hf.
10/11/2020	Ormsary Hatchery	Landcatch Natural Selection Ltd	Organic Sea Harvest Ltd	SAL	OVA	850000	Iceland	Stofnfiskur_Hf.
10/11/2020	Ormsary Hatchery	Landcatch Natural Selection Ltd	Loch Duart	SAL	OVA	490000	Iceland	Stofnfiskur_Hf.
08/12/2020	Ormsary Hatchery	Landcatch Natural Selection Ltd		SAL	OVA	690000	Iceland	Stofnfiskur_Hf.

A FOI disclosure by the Scottish Government in September 2020 detailed millions of ova imported from Stofnfiskur (rebranded as Benchmark Genetics Iceland in January 2021) in Iceland to Landcatch's Ormsary Hatchery for on-growing by Organic Sea Harvest, The Scottish Salmon Company, Loch Duart and Saumon de France:

Date consignment due	Destination site name	Destination business name	Consignee Business name (if different from destination business)	Species	Stage	Number in consignment	Source Country	Import consignor
21/01/2020	Ormsary Hatchery	Landcatch Natural Selection Ltd	Organic Sea Harvest Ltd	SAL	OVA	585000	Iceland	Stofnfiskur Hf.
20/02/2020	Ormsary Hatchery	Landcatch Natural Selection Ltd	The Scottish Salmon Company	SAL	OVA	2457000	Iceland	Stofnfiskur Hf.
19/03/2020	Ormsary Hatchery	Landcatch Natural Selection Ltd	Organic Sea Harvest Ltd	SAL	OVA	670000	Iceland	Stofnfiskur Hf.

Date consignment due	Destination site name	Destination business name	Consignee Business name (if different from destination business)	Species	Stage	Number in consignment	Source Country	Import consignor
12/11/2019	Ormsary Hatchery	Landcatch Natural Selection Ltd	Loch Duart Ltd	SAL	OVA	450000	Iceland	Stofnfiskur Hf.
27/11/2019	Ormsary Hatchery	Landcatch Natural Selection Ltd	Organic Sea Harvest Ltd	SAL	OVA	675900	Iceland	Stofnfiskur Hf.
28/11/2019	Ormsary Hatchery	Landcatch Natural Selection Ltd	The Scottish Salmon Company	SAL	OVA	2320500	Iceland	Stofnfiskur Hf.
11/12/2019	Ormsary Hatchery	Landcatch Natural Selection Ltd	Saumon de France	SAL	OVA	350000	Iceland	Stofnfiskur Hf.

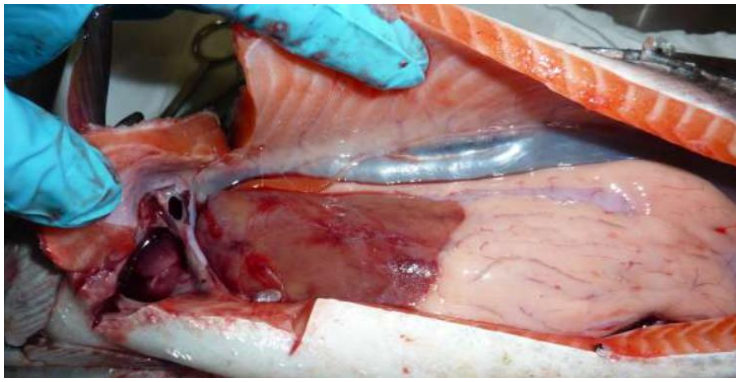
The Scottish Government published photos from Landcatch's ISA-infected Ormsary Hatchery later in 2022:

'Case Information' [published by the Scottish Government's Fish Health Inspectorate in 2022](#) provides details of an inspection of Landcatch's Ormsary Hatchery in November 2021:

Case No:	2021-0470							Date of visit:	01/11/2021		
Time spent on site:	3hrs							Main Inspector:	[redacted]		
Site No:	FS0090	Site Name:	Ormsary Broodstock Unit								
Business No:	FB0061	Business Name:	Landcatch Natural Selection Ltd								
Case Types:	1 ECI	2 CNI	3 SLI	4 VMD	5 DIA	6					
Water Temp (°C):	11.9	Thermometer No:	Site				FHI 045 completed				
Observations:		Region:	ST	Water type:	B		CoGP MA	M-44			
Dead/weak/abnormally behaving fish present?	Y	If yes, see additional information/clinical score sheet.									
Clinical signs of disease observed?	Y	If yes, see additional information/clinical score sheet.									
Gross pathology observed?	Y	If yes, see additional information/clinical score sheet.									
Diagnostic samples taken?	Y										

Lethargic fish were observed in tank F1 and removed for diagnostic sampling. Site manager informed me that the mortality reporting threshold had been breached the previous week. 2021 yearclass had been experiencing mortality and samples had been collected by the biologist to determine the cause, which was still unknown at the time of visit. All other year classes on site appeared to be unaffected with low mortality.

Following on from a positive QPCR result for ISA, the HPR region was sequenced. The ISA HPR type has been determined to be HPR0 (non-deleted type).



A Fish Health Inspectorate Visit Report dated December 2021 – published by the Scottish Government in 2022 – included:

marinescotland science

Scottish Government
Riaghaltas na h-Alba
gov.scot

FISH HEALTH INSPECTORATE VISIT REPORT

SUMMARY FOR INFORMATION OF SITE OPERATOR

BUSINESS NO	FB0061	**DATE OF VISIT**	01/11/2021
SITE NO	FS0090	**SITE NAME**	Ormsary Broodstock Unit
CASE NO	20210470	**INSPECTOR**	[redacted]

Section 1: Summary

During a routine inspection lethargic fish were observed on site and removed for diagnostic sampling. Increased unexplained mortality in one year class (2021) was being investigated at the time of the visit.

Histopathological examination revealed marked vascular disturbance potentially associated with water bourn insult. Mild, multifactorial, non-specific proliferative branchitis was also noted. Pathology was also consistent presence of epitheliocystis (likely *Candidatus* Branchiomonas cysticola) and amoebic gill disease (AGD). Mild multifocal hepatic necrosis (F1 & F3) and haemorrhage were observed in F3.

Samples were screened for infectious salmon anaemia virus (ISAV) by QPCR as part of the surveillance program for the control of listed diseases. The samples tested positive for infectious salmon anaemia virus (ISAV) by QPCR and the sequence data confirmed the presence of ISAV HPR0, the non-pathogenic form of the virus. Additionally, an ISAV immunochemistry (IHC) assay which targets the pathogenic form of the virus (ISA-deleted nucleoprotein) was performed and was found to be negative. In relation to the ISAV HPR0 result obtained, along with the observations made on site, no further statutory action is required to be taken in this case, ISAV HPR0 not being a disease listed in The Aquatic Animal Health (Scotland) Regulations 2009.

Observations

During a routine inspection lethargic fish were observed on site and removed for diagnostic sampling. The site was stocked with 3 year classes of Atlantic salmon broodstock at the time of the visit. Increased mortality had been observed in the population that went to sea in 2021, the previous week. Mortality of 195 fish or 1.93% was observed on site in the week beginning 22 October 2021. The following week, week beginning 29 October 2021, 513 fish or 5.93% were reported to the Fish Health Inspectorate.

F1 was displaying moribund and lethargic behaviour prior to being removed from the tank, while F2 and F3 were lethargic. Externally, F1 showed pale discolouration with brown patches visible while the fish was in the water at the anterior and posterior dorsal surface. F3, appeared to be slightly anorexic. Internally, all three fish showed signs of maturation, with some petechial haemorrhaging evident on the liver and some liver breakdown observed in F1 & F2. Bloody ascites was observed in the body cavity of F2 and F3, and the spleen appeared somewhat enlarged in both individuals. Yellow pseudo-faeces were observed in F1 & F2 and the kidney appeared to have a slightly grey sheen in both individuals.

Samples

Samples were collected from three fish according to the table below:

Fish number	Pool number	Facility number	Species	Stage	Origin
F1-F3	P1	F1	Atlantic salmon (*Salmo salar*)	1.7kg, 2021	Langass Hatchery

Virology: Tissue samples were tested for segments of nucleic acid indicative of the presence of the pathogens specified below using real-time PCR (qPCR).

Infectious pancreatic necrosis virus (IPNV)

Pool Number	Endogenous control Cp value	Cp Values			Reported Result (PCR)
P1	19.69	34.72	35.59	36.26	POSITIVE

Infectious salmon anaemia virus (ISAV)

Pool Number	Endogenous control Cp value	Cp Values			Reported Result (PCR)
P1	19.69	38.3	38.55	39.47	POSITIVE

Sequencing confirmed 100% identity of ISA HPR0.

An ISAV immunochemistry (IHC) assay which targets the pathogenic form of the virus (ISA-deleted nucleoprotein) was performed and was found to be negative.

[Note that Bakkafrost's Langass Hatchery also supplied over 685,000 ova to the River Carron; is the "site used to produce company's Hebridean strain of fish" and uses the cancer-causing chemical Formaldehyde]

The Argyllshire Advertiser [reported in January 2022]():

Scottish Salmon Watch [reported in January 2022]():

Scottish Salmon Watch asked in January 2022:

In February 2022, $camon $cotland wrote to Scottish Ministers calling for an ova import ban:

$camon $cotland's letter to Scottish Ministers dated 9 February 2022 included:

The Scottish Government
St. Andrew's House
Regent Road
Edinburgh
EH1 3DG

9 February 2022

Dear Scottish Ministers,

Please Close the Border to Imports of Salmon Ova, Parr & Smolts!

Further to our letter dated 2 December 2021, Scamon Scotland (formerly called Scottish Salmon Watch) reiterates the call to ban imports of ova (salmon eggs), parr and smolts from Iceland, Norway, Ireland and any other countries due to unacceptable disease and genetic risks.

The health and genetic integrity of 'Scottish' salmon is clearly being threatened by imports of ova, parr and smolts flooding into Scotland. The Scottish Government's failure to screen imports is the antithesis of the precautionary principle.

Scamon Scotland reported today (9 February 2022) how millions of ova were still being imported from Iceland (where ISA was reported in November 2021 and farmed salmon slaughtered in December 2021) for on-growing in Scotland – including via Landcatch's Ormsary Hatchery (where ISA was also reported in November 2021):

Model health certificate for the import of aquaculture animals for farming, relaying, put and take fisheries and open ornamental facilities
GBHC059E

COUNTRY: Countries subject to transitional import arrangements (*)

Health certificate to Great Britain, Channel Islands and Isle of Man

I: Details of dispatched consignment

I.1. Consignor
Name: Benchmark Genetics Iceland hf.
Address: Bæjarhraun 14, 220 Hafnarfjörður, Iceland
Tel.: [Redacted]

I.2. Certificate reference number: ICE GJ 33/21
I.2.a.UNN:
I.3. Central Competent Authority: Ministry of Industries and Innovation
I.4. Local Competent Authority: Icelandic Food & Veterinary Authority (MAST)

I.5. Consignee
Name: Loch Duart Ltd.
Address: Badcall Salmon House, Scourie
Postal Code: IV27 4TH – Sutherland
Country: Scotland - UK

I.6.

I.7. Country of origin	ISO code	I.8. Region of origin	Code
Iceland	IS		

I.9. Country of destination	ISO code	I.10. Region of destination	Code
United Kingdom	GB		

I.11. Place of origin
Name: Benchmark Genetics Iceland hf.
Address: Vogavík, 190 Vogar
Approval number: FE-1075

I.12. Place of destination
Name: Ormsary Hatchery
Address: Landcatch Natural Selection, Ormsary
Postal Code: PA31 8PE Lochgilphead, Argyll,
Approval number: FS0681

I.13. Place of loading
Address: Vogavík | Approval number: FE-1075

I.14. Date of departure: 10 November 2021
Time of departure: 17:10 local time

Scottish Salmon Watch reported last month (14 January 2022) that millions of ova (as well as 582,000 smolts) were being imported into Scotland without disease screening.

Note that a Freedom of Information reply from the Scottish Government in April 2020 revealed an abject lack of testing of viruses, pathogens and infectious diseases:

1. Howmany salmon eggs imported into Scotland were tested for PRV and other viruses, pathogens and infectious diseases such as ISA?

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

2. Has Marine Scotland Science conducted screenings of ova for PRV as an extra risk measure to avoid vertical transmission?

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

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

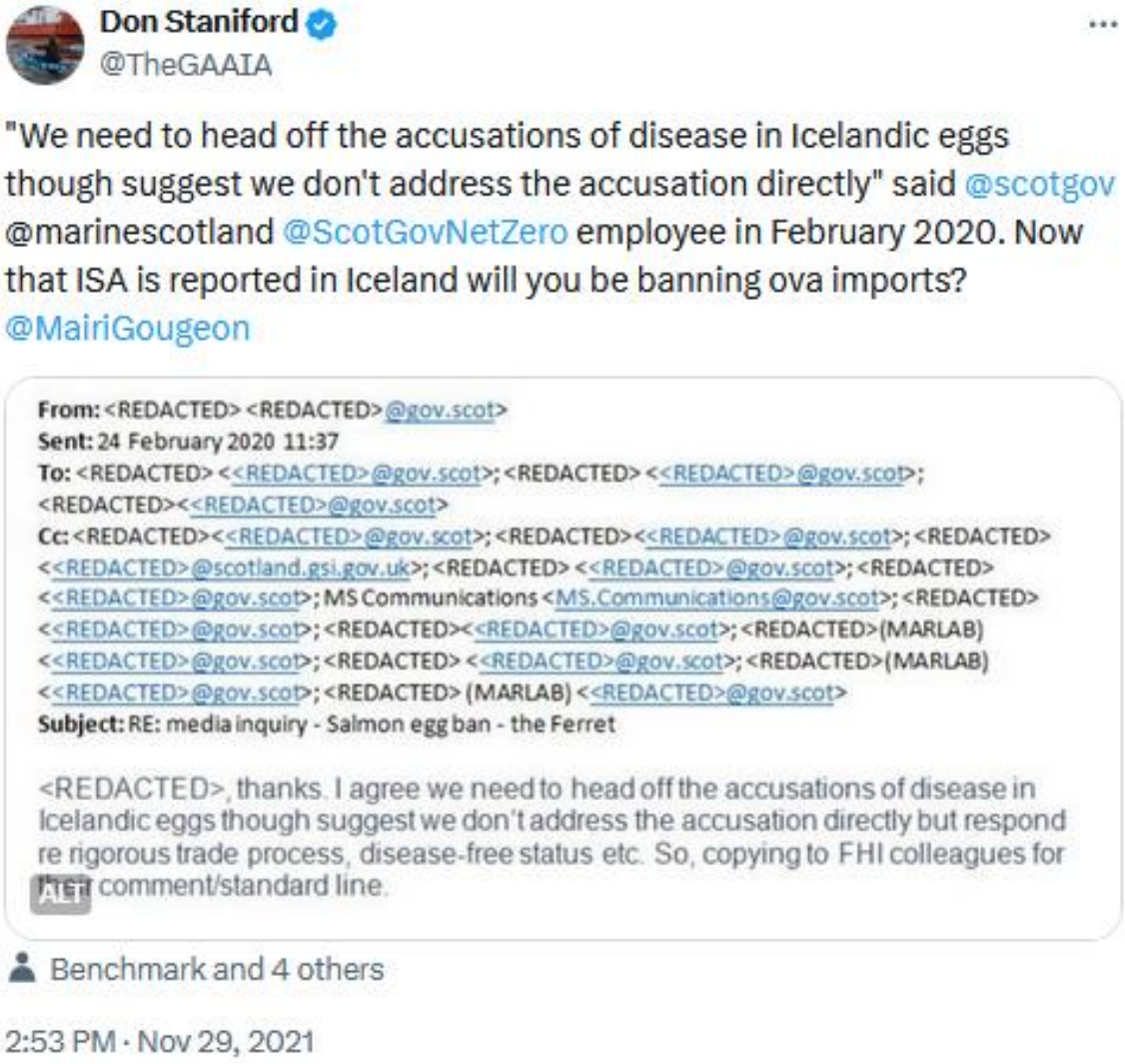
We hold no information on the percentage of ova, used by 'Scottish' salmon farms, which are infected with PRV, ISA and other diseases, pathogens and viruses.

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

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

Scottish Salmon Watch's letter to the Scottish Government dated 2 December 2021 included:

> In conclusion, Scottish Salmon Watch urges the Scottish Government to take immediate action to stop the spread of ISA, PRV and other diseases, viruses and pathogens via imported ova. In practical terms, that means closing down the border to ova imports and screening domestically produced ova, smolts and farmed salmon for (which are predominantly sourced from imported ova from Norway, Iceland and Ireland) for ISA, PRV and other diseases, viruses and pathogens.



Scottish Salmon Watch wrote to Scottish Ministers in August 2020 calling for a ban on imported ova and testing of hatcheries and farms for infectious diseases, viruses and pathogens.

SCOTTISH SALMON WATCH

DISEASES

Cabinet Secretary for Environment, Climate Change and Land Reform
Cabinet Secretary for Rural Economy & Connectivity
The Scottish Government
St. Andrew's House
Regent Road
Edinburgh
EH1 3DG

26 August 2020

Dear Cabinet Secretaries,

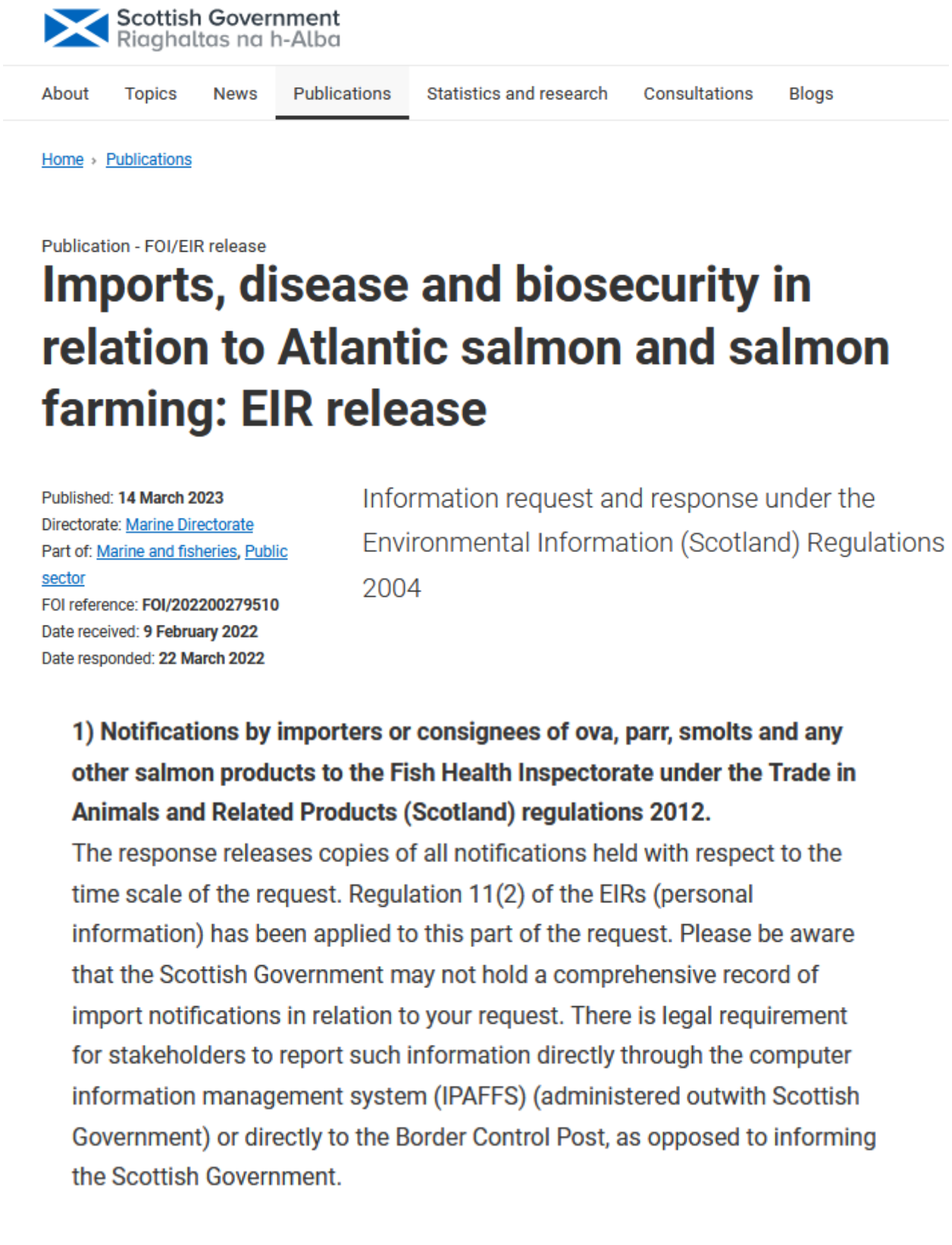
Bio-security Risks for 'Scottish' Salmon:
Lack of Testing of Imported Ova for Infectious Salmon Anaemia & Piscine Reovirus

Further to Scottish Salmon Watch's letter dated 24 February 2020 and letter dated 31 May 2018 (re-enclosed below for easy reference), what bio-security measures is the Scottish Government taking to ensure that infectious diseases, viruses and pathogens are not imported into Scotland via infected salmon ova? In view of the tightened security over COVID-19 to reduce the spread of Coronavirus why are Scottish Ministers allowing virus-laden ova and disease-ridden salmon farms and hatcheries to slip through the testing net? Scottish Salmon Watch urges the Scottish Government to close the borders and ban the import of ova as is already the case in Norway.

Scottish Salmon Watch wrote to Scottish Ministers in February 2020:

"The ban on ova imports from Norway is a slap in the face for Norwegian companies exploiting Scotland's wild image," stated today's press release from Scottish Salmon Watch. "It beggars belief that Norway bans imports of Scottish ova yet the Scottish Government recklessly allows imports of ova from countries with a history of disease problems. Scottish Ministers should stop playing their high risk game of Norwegian, Icelandic and Irish roulette. Is deadly ISA already lurking on Scottish salmon farms?"

A FOI disclosure by the Scottish Government in March 2022 included:



Scottish Government
Riaghaltas na h-Alba

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Publication - FOI/EIR release

Imports, disease and biosecurity in relation to Atlantic salmon and salmon farming: EIR release

Published: **14 March 2023**
Directorate: Marine Directorate
Part of: Marine and fisheries, Public sector
FOI reference: **FOI/202200279510**
Date received: **9 February 2022**
Date responded: **22 March 2022**

Information request and response under the Environmental Information (Scotland) Regulations 2004

1) Notifications by importers or consignees of ova, parr, smolts and any other salmon products to the Fish Health Inspectorate under the Trade in Animals and Related Products (Scotland) regulations 2012.

The response releases copies of all notifications held with respect to the time scale of the request. Regulation 11(2) of the EIRs (personal information) has been applied to this part of the request. Please be aware that the Scottish Government may not hold a comprehensive record of import notifications in relation to your request. There is legal requirement for stakeholders to report such information directly through the computer information management system (IPAFFS) (administered outwith Scottish Government) or directly to the Border Control Post, as opposed to informing the Scottish Government.

2) Refusals and any other correspondence in relation to cases where "the consignment fails to meet the health standards".
Regulation 10(4)(a) of the EIRs (information not held) is applied to this part of the request. There have been no refusals of consignments and no consignments which have 'failed to meet the health standards' in relation to this request. Responses to previous requests, for example FoI/18/01553 and FoI/18/03773, have provided detailed context of the measures in place which help to ensure the safe trade in live aquatic animal products and these principles still apply. Responses to requests for information are published on the Scottish Government's website:

https://www.gov.scot/publications/

3) Authorizations to farm (under the 2009 Regulations, Aquaculture Production Businesses) "where it is considered that the operation of the business will not lead to an unacceptable risk of spreading disease" including the "specific conditions of operation" and "the requirement for the business to follow good bio-security practice".
The details of all authorised Aquaculture Production Businesses (APB) are published in the internetbased register: https://www.gov.scot/publications/registers-of-authorised-aquaculture-productionbusinesses-and-authorised-processing-establishments/

With respect to your request, ova and packaging disinfection are common conditions across all APB authorisations relating to finfish farming operations and extracted text from such documents, found at sections 9 and 10 of the authorisation certificate, reads as follows:

Section 9 of the authorisation conditions states that: The operator of the APB must ensure that any consignment of aquaculture animal ova introduced from outwith Scotland is disinfected on arrival at the site of destination(6) before being laid down. All salmonid ova introduced from outwith Scotland must be disinfected in accordance with Chapter 4.4 of the Aquatic Animal Health Code published by the World Organisation for Animal Health. A reference to this document is provided below:

http://www.oie.int/index.php?id=171&L=0&htmfile=chapitre_disinfection_eggs.htm

For other species, preliminary tests should be conducted, seeking veterinary advice where necessary, to determine at what ova stage and disinfectant concentration, disinfection can be carried out safely for the required contact time.

6 "Site of destination" means the first site where the ova will be laid down in Scottish waters.

Section 10 of the authorisation conditions states that: Having had regard to the Fisheries Research Services Internal Report 13/06: 'Disinfection guide version IV: practical steps to prevent the introduction and minimise transmission of diseases of fish'(7) the operator of the APB must ensure that all packaging materials used in relation to the introduction of aquaculture animal ova consignments from outwith Scotland are effectively disinfected before disposal to prevent the introduction of, and to minimise the transmission of, diseases of fish.'

7 Please refer to the Fisheries Research Services Internal Report 13/06: 'Disinfection guide version IV: practical steps to prevent the introduction and minimise transmission of diseases of fish' which can be obtained at https://www.gov.scot/publications/fish-diseases-disinfection-guide-iv/ or by contacting the Fish Health Inspectorate.

4) Biosecurity Measures Plans for salmon farms and hatcheries which may detail "disinfection of ova to reduce the risks from horizontal transmission of pathogens and disease" and "the initial isolation of new stocks brought on site as a precautionary disease control measure".

The Scottish Government does not routinely hold copies of Biosecurity Measures Plans (BMP). These documents are inspected as part of the aquatic animal disease surveillance programme to ensure that they are fit for purpose and are being implemented on site. Comments made, in this regard, are detailed within the results of any given inspection where these documents and practices have been assessed. We may also look at these documents as part of the business authorisation process, but as detailed above copies are not routinely maintained.

The Scottish Government does hold one copy of a BMP relating to Organic Sea Harvest (FB0579), which details the quarantine of livestock by following sections 3.28, 3.29, and 3.30 of Chapter 4 of the industry's Code of Good Practice. This extracted information represents all the information held by the Scottish Government in relation to this part of the request. The BMP itself, relating to Organic Sea Harvest, may have subsequently been updated, and the information provided may not now be indicative of the current, operational BMP for the authorised business.

The minimum requirements for a BMP are detailed on the Scottish Government website:

https://www.gov.scot/publications/biosecurity-measures-plan-2/

5) 'Information since 1 January 2020 on "internal discussions" concerning disease risks in Iceland, Norway, Ireland and any other countries in relation to salmon farming. To include:

- **emails, letters and any other correspondence with officials in Iceland, Norway, Ireland and any other countries in relation to information and assurances "over any risk posed to Scotland from this trade".**
- **any information confirming the location of the outbreak in Iceland, the actions taken in Iceland, the epidemiological separation of the positive site to those sites exporting aquatic animals, as well as confirmation of the disease free status of exporting sites.**
- **correspondence with Icelandic officials, EFTA and any other parties that "resulted in the conclusion that trade with appropriate certification could continue as it would not pose a significant risk to the introduction of ISAv into Scotland".**
- **any Cabinet Briefings on ISA in Iceland and any disease risks posed to Scotland.**

We have provided relevant communications relating to this part of your request. These are mainly focused on discussions relating to Norway and Iceland. With respect to Norway, email communications relate to the temporary suspension of trade from Norway, and the subsequent reinstatement of specific areas considered safe to resume trading. With respect to Iceland, communications relate to a recent discovery of ISAv at a seawater farm site and the confirmation that the proposed trade in Atlantic salmon ova was able to resume due to the epidemiological separation between the infected site and sites trading in ova. Information on these subject areas, which has already been the subject of an information request, and has been released, can be located through appropriate searching on the Scottish Government webpage - https://www.gov.scot/publications/.

On 2 February 2024, the Scottish Government slipped out 'Case Information' detailing an inspection of Bakkafrost's Strone salmon farm in Loch Striven – including a "positive PCR for ISA":

Case No:	2023-0524								Date of visit:	14/11/2023	
Time spent on site:	13hrs							Main Inspector:	[redacted]		
Site No:	FS1056	Site Name:	Strone								
Business No:	FB0169	Business Name:	Bakkafrost Scotland								
Case Types:	1 STS	2		3		4		5		6	
Water Temp (°C):	10.4	Thermometer No:	T305						FHI 045 completed	N/A	
Observations:		Region:	ST		Water type:	S		CoGP MA	M-45		
Dead/weak/abnormally behaving fish present?							Y	If yes, see additional information/clinical score sheet.			
Clinical signs of disease observed?							Y	If yes, see additional information/clinical score sheet.			
Gross pathology observed?							Y	If yes, see additional information/clinical score sheet.			
Diagnostic samples taken?							Y				

Additional Case Information:

Site was re-visited following a positive PCR for ISA (2023-0511). Sequencing to determine if positive for ISA HPR-0 or ISA HPR-deleted was unsuccessful due to small volume of sample. Case has not yet been closed and FHR has not yet been issued.

Statutory sample of 150 fish was taken from the site. Fish from every cage were sampled. Few moribunds were observed (generally 1-2 fish per cage) and these were prioritised for sampling. Where there were not enough moribunds to make up the sample, clinically healthy fish were sampled.

Site is sharing a shorebase with Sgian Dubh (FS1281). Sites have separate entrances to the shorebase office, with foot baths and disinfectant at the entrance for Strone staff. Site staffs are using site-specific PPE, changing rooms, equipment and boats (with Strone workboats being moored in a seperate location from Sgian Dubh workboats).

No movements on or off the site had occurred since the last inspection.

Site is stocked with a mix of farmed and wildcaught wrasse. Wrasse mortality for Wk44 was zero.

[redacted] sampled: F1-6, 11-16, 23-28, 33-38, 45-50, 55-60, 65-70, 75-80, 85-90, 95-100, 105-110, 115-120, 125-130, 137-142, 149-150.

[redacted] sampled: F7-10, 17-22, 29-32, 39-44, 51-54, 59-64, 71-74, 81-84, 91-94, 101-104, 111-114, 121-124, 131-136, 143-148.

Moribund fish: 1-10, 19, 22, 47, 61, 78-79, 81-84, 92, 101, 112, 114, 118, 120, 122, 124, 132-133, 136 and 139.


Sharpsafe
Sharpsafe
DANGER

The ‘Case Information’ (2023-0524) for Bakkafrost’s Strone salmon farm in Loch Striven detailed over 1 million fish held on site including 964,544 salmon and 54,000 wrasse with Furunculosis, Salmonid Rickettsial Septicemia and Amoebic Gill Disease:

Case No:	2023-0524		Site No:	FS1056				
Date of Visit:	14/11/2023				Inspector(s):	[redacted]		
Registration/Authorisation Details								
1. Business/site details summary checked by site representative?							Y	
2. Changes made to details?							N	
Site Details (include cleaner fish for all sections)								
Total No facilities		14	Facilities stocked		14	No facilities inspected		14
Species	SAL	WRS						
Age group	2023 Q1	2023						
No Fish	964,544	54,000						
Mean Fish Wt	1.65kg	150g						
Next Fallow Date (Site)		July 24		Next Input Date (Site)		Jan 25		
Recent (last 4 wks) disease problems?				Y	Any escapes (since last visit)?			N
If yes, detail:	Furunculosis, SRS, AGD							

Mortality Records	
1. Mortality records available for inspection?	Y
2. How are mortalities disposed of?	Biogas - Barkip
If other detail:	
3. Mortality records complete and correctly entered?	Y
4. Recent mortality (last 4 wks):	Wk45: 4,447 (0.41%) , Wk44: 4,024 (0.41%), Wk43: 8,767 (0.89%), Wk42: 7,114 (0.72%)
5. Evidence of recent increased/atypical mortalities?	Y
If yes, facility nos/no mortality per facility/no stock per facility/reason:	
Cage 11 (9,765 (9.95%)), Cage 12 (10,777 (9.08%)) Week 35 to Week 41.	

The ‘Case Information’ (2023-0524) reveals that the farmed salmon were sourced from Loch Langavat, Applecross Smolt Unit

	Pool/Fish No	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12
	Fish nos	1	2	3	4	5	6	7	8	9	10	11	12
	Pool Group	P1	P1	P2	P2	P3	P3	P4	P4	P5	P5	P6	P6
Stock Details	Species	SAL	SAL	SAL	SAL	SAL	SAL	SAL	SAL	SAL	SAL	SAL	SAL
	Average weight	1.5kg	1.5kg	1.5kg	1.5kg	1.5kg	1.5kg	1.5kg	1.5kg	1.5kg	1.5kg	1.5kg	1.5kg
	Sex	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Water Type	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW
	Stock Origin	Loch Langavat FS0149	Loch Langavat FS0149	Loch Langavat FS0149	Loch Langavat FS0149	Loch Langavat FS0149	Loch Langavat FS0149	Loch Langavat FS0149	Loch Langavat FS0149	Loch Langavat FS0149	Loch Langavat FS0149	Applecross Smolt Unit FS0500	Applecross Smolt Unit FS0500
	Facility No	4	4	4	4	4	4	4	4	4	4	1	1

F13	F14	F15	F16	F17	F18	F19	F20	F21	F22	F23	F24	F25	F26	F27	F28
13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
P7	P7	P8	P8	P9	P9	P10	P10	P11	P11	P12	P12	P13	P13	P14	P14
SAL	SAL	SAL	SAL	SAL	SAL	SAL	SAL	SAL	SAL	SAL	SAL	SAL	SAL	SAL	SAL
1.5kg	1.5kg	1.5kg	1.5kg	1.5kg	1.5kg	1.5kg	1.5kg	1.5kg	1.5kg	1.5kg	1.5kg	1.5kg	1.5kg	1.5kg	1.5kg
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW
Applecross Smolt Unit FS0500	Applecross Smolt Unit FS0500	Applecross Smolt Unit FS0500	Applecross Smolt Unit FS0500	Applecross Smolt Unit FS0500	Applecross Smolt Unit FS0500	Applecross Smolt Unit FS0500	Applecross Smolt Unit FS0500	Applecross Smolt Unit FS0500	Applecross Smolt Unit FS0500	Loch Langavat FS0149	Loch Langavat FS0149	Loch Langavat FS0149	Loch Langavat FS0149	Loch Langavat FS0149	Loch Langavat FS0149
1	1	1	1	1	1	1	1	1	1	3	3	3	3	3	3

The ‘Case Information’ (2023-0524) details ISA sequencing confirming HPR0:

Case No: 2023-0524 Date of visit: 14/11/2023

Site No: FS1056 Inspector: [redacted]

Results Summary	Freq.	Date of Notification						
		Database	Insp	Phone	Insp	Writing	Insp	2nd Insp
MG_ISA	7/150	16/11/2023	[redacted]	16/11/2023	[redacted]	20/12/2023	[redacted]	[redacted]
ISA sequencing confirmed HPR0	7/7	22/11/2023		23/11/2023		20/12/2023		
HPAT	4/5	04/12/2023		06/12/2023		20/12/2023		
LPAT	5/5	04/12/2023		06/12/2023		20/12/2023		
ISAV	0/7	20/12/2023				20/12/2023		

A Fish Health Inspectorate Visit Report dated 20 December 2023 included:

Scottish Government
Riaghaltas na h-Alba
gov.scot

FISH HEALTH INSPECTORATE VISIT REPORT

SUMMARY FOR INFORMATION OF SITE OPERATOR

BUSINESS NO FB0169
SITE NO FS1056
CASE NO 20230524

DATE OF VISIT 14/11/2023
SITE NAME Strone
INSPECTOR [redacted]

Statutory test summary

A statutory test was conducted to test for the presence of infectious salmon anaemia following a positive real-time PCR (QPCR) result from a previous inspection (see report for case 2023-0511). The site had experienced increased mortality levels and a number of moribund fish were observed across the site, therefore additional histology samples were collected from four fish.

Samples were screened for infectious salmon anaemia virus (ISAv) by QPCR. The samples tested positive for infectious salmon anaemia virus (ISAV) by QPCR and the sequence data confirmed the presence of ISAv HPR0, the non-pathogenic form of the virus. No further statutory action is required to be taken in this case, infection with ISAv HPR0 not being a disease listed in The Aquatic Animal Health (Scotland) Regulations 2009. The initial designation notice which was served has now been withdrawn.

Histopathological examination revealed features resembling *Aeromonas salmonicida* (Furunculosis). Hepatocellular necrosis and necrotising splenitis were also observed. One fish also displayed areas of light H&E stain in the compactum stratum of the heart.

Samples

One hundred and fifty Atlantic salmon were tested for the presence of infectious salmon anaemia virus (ISAv). Samples were collected according to the table below:

Fish number	Pool number	Facility number	Stage	Origin
F1-10	P1-5	4	2023 Q1 Atlantic salmon	Loch Langavat FS0149
F11-22	P6-11	1	2023 Q1 Atlantic salmon	Applecross Smolt Unit FS0500
F23-32	P12-16	3	2023 Q1 Atlantic salmon	Loch Langavat FS0149
F33-44	P17-22	2	2023 Q1 Atlantic salmon	Loch Langavat FS0149
F45-54	P23-27	5	2023 Q1 Atlantic salmon	Loch Langavat FS0149
F55-64	P28-32	7	2023 Q1 Atlantic salmon	Clachan Hatchery FS0398
F65-74	P33-37	6	2023 Q1 Atlantic salmon	Loch Langavat FS0149
F75-84	P38-42	10	2023 Q1 Atlantic salmon	Applecross Smolt Unit FS0500
F85-94	P43-47	8	2023 Q1 Atlantic salmon	Clachan Hatchery FS0398
F95-104	P48-52	9	2023 Q1 Atlantic salmon	Clachan Hatchery FS0398
F105-114	P53-57	11	2023 Q1 Atlantic salmon	Applecross Smolt Unit FS0500
F115-124	P58-62	14	2023 Q1 Atlantic salmon	Applecross Smolt Unit FS0500
F125-136	P63-68	12	2023 Q1 Atlantic salmon	Ormsary Smolt Unit FS0575
F137-148	P69-74	13	2023 Q1 Atlantic salmon	Ormsary Smolt Unit FS0575
F149-150	P75	Not recorded	2023 Q1 Atlantic salmon	Unknown

[The information above details Clachan Hatchery and Ormsary Smolt Unit as the origin of the ISA-infected salmon as well as Applecross Smolt Unit and Loch Langavat]

The Fish Health Inspectorate Visit Report dated 20 December 2023 included photos of the 150 salmon sampled for ISA – including the 7 ISA positives (Fish #2 – Loch Langavat, #19 – Applecross, #58 - Clachan, #60 - Clachan, #114 - Applecross, #131 - Ormsary and #144 - Ormsary):

Observations

Externally, F79 had a distended abdomen with shortened opercula on F112. Haemorrhaging was observed on the ventrum of F79 and the gills of F79, 82 and 101 were pale, with zoning noted on F82, 101 and 112 also.

Internally, F79 and 82 had bloody ascites and the heart of F79 was pale/anaemic. Petechial haemorrhaging was observed on the livers and pyloric caeca of F79 and 112, and in the body wall of F82 and 101. The swim bladders of all fish (F79, 82, 101 and 112) also had haemorrhaging. The spleen was enlarged in F101 and the kidney was grey in F79 and granular in F79 and 101.

Results

Virology
Tissue samples were tested for the presence of segments of RNA indicative of the presence of ISAv using real-time PCR (QPCR).

The following 7 fish tested positive for ISAv:

Fish Number	**Cp value**	**Cp value**	**Cp value**	**Reported result**
F2	37.59	37.06	>40	POSITIVE
F19	37.45	37.25	36.76	POSITIVE
F58	35.48	34.85	35.24	POSITIVE
F60	37.12	37.38	37.00	POSITIVE
F114	38.83	37.61	37.82	POSITIVE
F131	>40	>40	>40	POSITIVE
F144	35.30	35.05	35.60	POSITIVE

Sequencing confirmed 100% identity of ISA HPR0.

Histopathological examination revealed the following:

Gill: Minor, multifocal lamellar hyperplasia (F79). Several aggregates of Gram-negative bacteria (F82). Free blood among gill filaments (F101). Lamellar telangiectasia (F112). Some post- mortem artefacts observed (F82, F112).

Skin & Muscle: Minor myositis (F82). F1: not present.

Heart: Mild epicarditis (F79, F101, F112). Gram-negative bacterial aggregates observed on the atrium chamber wall (F79, F82). Minor myocarditis (F101). Areas of light H&E stain observed in the compact layer (F79, F112).

Gut and pyloric caeca: Within normal range.

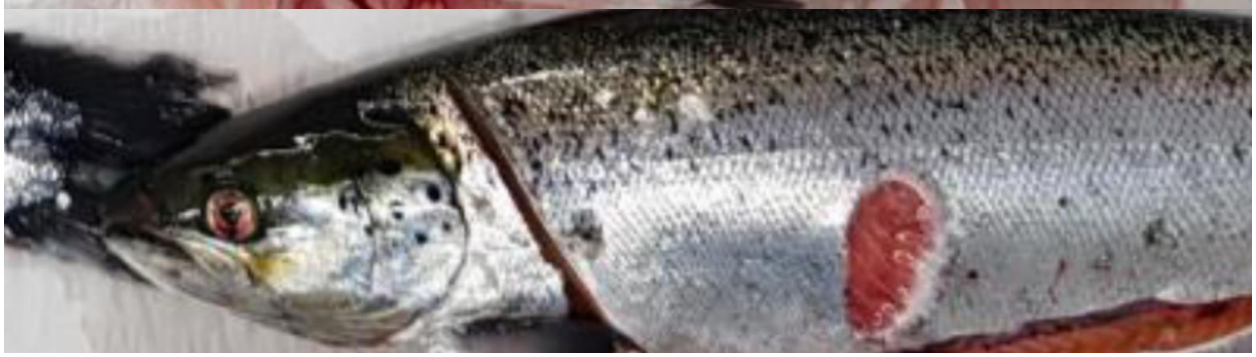
Pancreas: Within normal range.

Liver: Hepatocellular necrosis, mild, ranging from multifocal to coalescence (F1) with some haemorrhage (F79, F82) and F82 displayed Gram-negative rod-shaped bacterial aggregates. Mild, diffuse hepatocellular vacuolation (macrovesicles) (F82). Some sinusoidal congestion (F82, F101). Some capsulitis (F112).

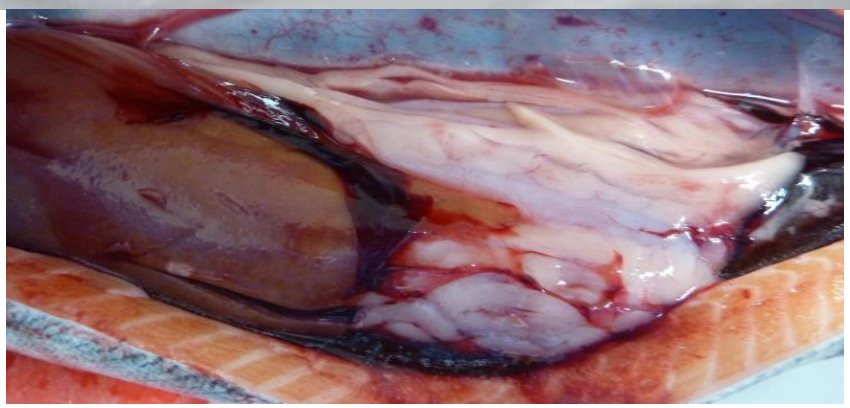
Kidney: Occasional tubules with mineralisation (F79). Some interstitial cell (haemopoietic) necrosis (F82) with Gram-negative rod-shaped bacterial aggregates. Some foci of haemorrhage (F82).

Spleen: Necrotising splenitis (F82, F101, F112) with Gram-negative rod-shaped bacteria, multifocal, mild (F82). F112 also exhibited one giant cell.


139 - 142
P69 - 71




B6



In terms of tracing where the ISA-infected salmon were sourced from as ova, the following information may be useful:

'Case Information' for Clachan Hatchery (Hebridean Smolts) published by the Scottish Government's Fish Health Inspectorate in October 2021 includes: "The stock comes from October 2020 Stofnfiskur (Benchmark, Iceland) eggs, arrived in Mingarry hatchery (FS0145). 380,000 2021 S1 smolts were transferred to Tarbert South (The Scottish Salmon Company) in September 2021." The FOI salmon ova import data published in February 2024 details two shipments to The Scottish Salmon Company (since renamed Bakkafrost) to Mingarry Hatchery from Benchmark Genetics Iceland:

Date	Destination site name	Destination business name	# of ova	Source country	Import Consignor
26/09/2022	Mingarry Hatchery	The Scottish Salmon Company	742,500	Iceland	Benchmark Genetics Iceland
12/12/2022	Mingarry Hatchery	The Scottish Salmon Company	402,500	Iceland	Benchmark Genetics Iceland

'Case Information' for Loch Langavat (The Scottish Salmon Company/Bakkafrost) published by the Scottish Government's Fish Health Inspectorate in February 2022 shows the stock origin as Geocrab. The FOI salmon ova import data published in February 2024 details three shipments to Geocrab from Benchmark Genetics Iceland:

Date	Destination site name	Destination business name	# of ova	Source country	Import Consignor
01/02/2022	Geocrab Hatchery	The Scottish Salmon Company	1,358,500	Iceland	Benchmark Genetics Iceland
26/09/2022	Geocrab Hatchery	The Scottish Salmon Company	1,100,000	Iceland	Benchmark Genetics Iceland
26/09/2023	Geocrab Incubation Hatchery	Bakkafrost Scotland	880,000	Iceland	Benchmark Genetics Iceland

'Case Information' for Ormsary Hatchery (Landcatch Natural Selection) published by the Scottish Government's Fish Health Inspectorate in November 2022 includes: "Site also holding eyed ova from Iceland (Benchmark Genetics - Vogavik), these arrived on site 05/10/22…Most production for Bakkafrost, however, do stock for Loch Duart". The FOI salmon ova import data published in February 2024 details 7.1 million imported from Benchmark Genetics Iceland:

Date	Destination site	Destination business name	Consignee business	# of ova	Source country	Import Consignor
02/02/2021	Ormsary Hatchery	Landcatch Natural Selection	The Scottish Salmon Co	780,000	Iceland	Benchmark Genetics Iceland
16/02/2021	Ormsary Hatchery	Landcatch Natural Selection	Organic Sea Harvest	800,000	Iceland	Benchmark Genetics Iceland
10/11/2021	Ormsary Hatchery	Landcatch Natural Selection	Loch Duart	650,000	Iceland	Benchmark Genetics Iceland
10/11/2021	Ormsary Hatchery	Landcatch Natural Selection	Migdale Smolts Ltd	900,000	Iceland	Benchmark Genetics Iceland
10/11/2021	Ormsary Hatchery	Landcatch Natural Selection	Organic Sea Harvest	252,000	Iceland	Benchmark Genetics Iceland
14/02/2023	Ormsary Hatchery	Landcatch Natural Selection Ltd		200,000	Iceland	Benchmark Genetics Iceland
21/02/2023	Ormsary Hatchery	Landcatch Natural Selection	Organic Sea Harvest	250,000	Iceland	Benchmark Genetics Iceland
22/02/2023	Ormsary Hatchery	Landcatch Natural Selection Ltd		250,000	Iceland	Benchmark Genetics Iceland
07/03/2023	Ormsary Hatchery	Landcatch Natural Selection Ltd		150,000	Iceland	Benchmark Genetics Iceland
22/11/2023	Ormsary Hatchery	Landcatch Natural Selection	Organic Sea Harvest	300,000	Iceland	Benchmark Genetics Iceland
04/10/2022	Ormsary Hatchery	Landcatch Natural Selection	Bakkafrost Scotland	1,540,000	Iceland	Benchmark Genetics Iceland
01/11/2022	Ormsary Hatchery	Landcatch Natural Selection	Bakkafrost Scotland	770,000	Iceland	Benchmark Genetics Iceland
29/11/2022	Ormsary Hatchery	Landcatch Natural Selection	Organic Sea Harvest	250,000	Iceland	Benchmark Genetics Iceland

'Case Information' for Applecross Smolt Unit (Bakkafrost) published by the Scottish Government's Fish Health Inspectorate in November 2022 details 'Native Hebridean Stock – Ormsary' as the stock origin:

Stock Details			
	Stock Origin	Native Hebridean Stock - Ormsary	Native Hebridean Stock - Ormsary
	Facility No	7	3

The FOI salmon ova import data published in February 2024 details 9.4 million from Benchmark Genetics Iceland:

Date	Destination site name	Destination business name	# of ova	Source country	Import Consignor
09/02/2021	Applecross Hatchery	The Scottish Salmon Company	1,900,000	Iceland	Benchmark Genetics Iceland
20/07/2023	Applecross Hatchery	Bakkafrost Scotland	1,925,000	Iceland	Benchmark Genetics Iceland
25/07/2023	Applecross Hatchery	Bakkafrost Scotland	1,925,000	Iceland	Benchmark Genetics Iceland
14/11/2023	Applecross Hatchery	Bakkafrost Scotland	1,870,000	Iceland	Benchmark Genetics Iceland
02/08/2022	Applecross Incubation Unit	The Scottish Salmon Company	1,800,000	Iceland	Benchmark Genetics Iceland

Read more via:
Letter to Scottish Ministers: Please Close the Border to Imports of Salmon Ova, Parr & Smolts!
Iceland Still Importing Ova to 'Scottish' Salmon Farms Despite Disease Risks
Escape at ISA-Hit Laxar - why is 'Scottish' Salmon Still Importing Millions of Ova from Iceland?
Imported ova "are all tested for a plethora of diseases" claims Hendrix/Landcatch
Front Page Splash on ISA at Landcatch in the Argyllshire Advertiser!
Game Ova for Imports & Exports: Close the Borders to Stop the Spread of Diseases & Genetic Pollution!
Infectious Salmon Anaemia Reported at Landcatch's Ormsary Hatchery in November – was ISA imported via infected salmon eggs (ova) from Iceland?
Iceland Slaughters ISA-Infected Salmon - is Scotland next in the firing line?
ISA hits Scottish Sea Farms owner SalMar in Norway - how many hidden cases are lurking on salmon farms in Scotland?
Letter to Scottish Ministers calling for a ban on ova imports from Iceland
Revealed: Infectious Salmon Anaemia Lurking in Scottish Salmon
Scottish Ministers with Egg on Their Faces - is it game ova for imports of salmon eggs from Iceland & Norway?
Scottish Scamon Eggsposé: The Foreign Companies Importing Over 320 Million Salmon Eggs (Ova) Into 'Scottish' Fish Farms Since 2016!
Press Statement: Ban All Ova Imports to Protect 'Scottish' Salmon!
ISA in Iceland - will Scotland ban ova imports to prevent disease risks as with Norway?
Mowi fined for breaching ISA laws in Norway - is ISA lurking at Mowi salmon farms in Scotland?
Top story on Intrafish reports on ISA at Scottish Sea Farms!
Salmon Farming is Like the Black Death Plague!
Mowi's Mortality Nigthmare - Farmed Salmon is Dead in the Water!
"Activist challenged over claim about fish virus" (Fish Farming Expert)
Breaking News: ISA reported at RSPCA Assured Scottish Sea Farms on the Isle of Mull
Damning Disease Report for RSPCA Assured Scottish Sea Farms in Loch Spelve
Letter to Scottish Ministers re. ISA in Scottish Salmon
Media Backgrounder: Scottish Salmon's Recurring ISA Nightmare
Media Backgrounder: Norway's Infectious Salmon Aquacalypse – Going Global Since 1984!
Norway's Infectious Salmon "Horror Show" Secretly Playing Now In Scotland?
Norwegian Salmon Egg Exports Banned Due to Disease Risks
Mail On Sunday: "90% of Scottish salmon 'ISN'T' from Scotland' - 66m eggs from abroad"
Salmon Eggsclusive: Scotland's 'King of Fish' is Now Viking Not Scottish!
Easter Egg Ban for 'Scottish' Salmon?
The Ferret: "Deadly virus outbreak prompted fears over import of fish farm eggs to Scotland"
Game Ova for Scottish Salmon - Deadly disease delays egg imports from AquaGen in Norway
Concerns raised over Scottish salmon roe imports
'Secret' Scottish Salmon - Norwegian-owned Scottish Sea Farms refuse to disclose information for ova imports as it would "cause substantial harm to their commercial interests"
Government 'failing to protect Scottish salmon'
Complete Mockery of the Brand 'Scottish Salmon': Norway bans import of Scottish salmon eggs citing disease risks & genetic impacts under the Nature Diversity Act

Notes to Editors:

[1] Read more via FOI Backgrounder: Ova & Mowi Broodstock (February 2024)

*

From: Don Staniford <salmonfarmingkills@gmail.com>
Date: Fri, Feb 16, 2024 at 8:47 AM
Subject: Clarification on FOI data - did you miss off 2021 data?
To: <casehandling.service@gov.scot>
Cc: <Neil.Purvis@gov.scot>

I have a query re. the Excel spreadsheet disclosed in #14 of the FOI disclosure on 1 February.

The disclosed data (this is the Excel spread uploaded to my blog) details 106 shipments of salmon ova imports totaling 117.5 million with 32.9 million via 28 shipments in 2021; 43.9 million via 38 shipments in 2022 and 40.6 million via 40 shipments in 2023.

However the 2021 figure of 32.9 million salmon ova imports does not tally with the data published by the Scottish Government in October 2023 via 'Scottish Fish Farm Production Survey 2022'; namely:

Imports and Exports

Table 22a: Source and number (000's) of salmon ova, fry, parr and smolts imported during 2013-2022 derived from health certificates

Import Year	Ova				Fry, Parr and Smolts		
	Iceland	Norway	Republic of Ireland	Total	Norway	Republic of Ireland	Total
2013	2,719	35,044	10,700	48,463	0	55	55
2014	3,813	49,831	5,218	58,862	1,748	1,602	3,350
2015	8,978	45,926	4,815	59,719	365	2,118	2,483
2016	5,324	38,602	5,444	49,370	0	1,956	1,956
2017	13,883	37,025	7,000	57,908	0	2,012	2,012
2018	10,116	48,430	7,250	65,796	0	1,700	1,700
2019	26,352	23,673	10,184	60,209	0	297	297
2020	41,756	220	15,296	57,272	0	1,130	1,130
2021	31,276	160	19,260	50,696	0	300	300
2022	23,370	175	20,367	43,912	0	0	0

The 2021 ova import data above details 50.7 million but the FOI data is only 32.9 million. Is there a simple explanation for the discrepancy?

An answer by the end of today would be much appreciated.

Thanks,

Don

[2] A [FOI disclosure by the Scottish Government in September 2022](#) included:

Date Consignment Due	Destination Site Name	Destination Business Name (Site Operator)	Consignee Business Name (if different from destination business)	Species	Stage	Number	Source Country	Import Consignor
10/11/2021	Ormsary Hatchery	Landcatch Natural Selection Ltd	Loch Duart Ltd	SAL	Ova	650,000	Iceland	Benchmark_Genetics_Iceland_Hf.
10/11/2021	Ormsary Hatchery	Landcatch Natural Selection Ltd	Organic Sea Harvest	SAL	Ova	252,000	Iceland	Benchmark_Genetics_Iceland_Hf.
10/11/2021	Inverkerry Hatchery	Landcatch Natural Selection Ltd	Organic Sea Harvest	SAL	Ova	598,000	Iceland	Benchmark_Genetics_Iceland_Hf.
10/11/2021	Ormsary Hatchery	Landcatch Natural Selection Ltd	Migdale Smolt	SAL	Ova	900,000	Iceland	Benchmark_Genetics_Iceland_Hf.
10/11/2021	Applecross Hatchery	The Scottish Salmon Company		SAL	Ova	1,650,000	Iceland	Benchmark_Genetics_Iceland_Hf.
10/11/2021	Ormsary Hatchery	Landcatch Natural Selection Ltd	The Scottish Salmon Company	SAL	Ova	1,500,000	Iceland	Benchmark_Genetics_Iceland_Hf.
30/11/2021	Cairndow Hatchery	Cooke Aquaculture (Freshwater) Ltd		SAL	Ova	1,800,000	Iceland	Benchmark_Genetics_Iceland_Hf.
13/01/2022	Rysa Incubation Unit	Rysa Salmon Farm	Cooke Aquaculture Scotland Ltd	SAL	Ova	175,000	Norway	Aquagen_AS
19/01/2022	Inverpolly	Finfish Ltd	Mowi Scotland Ltd	SAL	Ova	2,000,000	Republic of Ireland	Mowi Ireland
19/01/2022	Carindow Hatchery	Cooke Aquaculture (Freshwater) Ltd		SAL	Ova	1,200,000	Iceland	Mowi_Ireland
26/01/2022	Mill Burn (Old Mill)	Kintail Hatchery	Migdale Smolt	SAL	Ova	1,800,000	Iceland	Benchmark_Genetics_Iceland_Hf.
01/02/2022	Geocrab Hatchery	The Scottish Salmon Company		SAL	Ova	1,358,500	Iceland	Benchmark_Genetics_Iceland_Hf.
02/02/2022	Lochailort Recirculation Hatchery	Mowi Scotland Ltd		SAL	Ova	3,382,000	Republic of Ireland	Mowi_Ireland
02/02/2022	Inchmore	Mowi Scotland Ltd		SAL	Ova	1,210,000	Republic of Ireland	Mowi_Ireland
04/02/2022	Furnace Hatchery	Cooke Aquaculture (Freshwater) Ltd		SAL	Ova	1,600,000	Iceland	Benchmark_Genetics_Iceland_Hf.
16/02/2022	Inchmore	Mowi Scotland Ltd		SAL	Ova	2,500,000	Republic of Ireland	Mowi_Ireland
23/02/2022	Inverkerry Hatchery	Landcatch Natural Selection Ltd	Organic Sea Harvest	SAL	Ova	850,000	Republic of Ireland	Mowi_Ireland
23/02/2022	Inchmore	Mowi Scotland Ltd		SAL	Ova	1,550,000	Republic of Ireland	Mowi_Ireland
01/03/2022	Ardtaraig Hatchery	Cooke Aquaculture (Freshwater) Ltd		SAL	Ova	400,000	Iceland	Benchmark_Genetics_Iceland_Hf.
03/03/2022	Barcaldine Hatchery Incubation 1	Scottish Sea Farms Ltd		SAL	Ova	1,500,000	Republic of Ireland	Mowi_Ireland
03/03/2022	Barcaldine Hatchery Incubation 3	Scottish Sea Farms Ltd		SAL	Ova	1,500,000	Republic of Ireland	Mowi_Ireland
15/03/2022	Lochailort Recirculation Hatchery	Mowi Scotland Ltd		SAL	Ova	3,375,000	Republic of Ireland	Mowi_Ireland
24/03/2022	Inverpolly	Finfish Ltd	Mowi Scotland Ltd	SAL	Ova	1,800,000	Republic of Ireland	Mowi_Ireland
01/06/2022	Barcaldine Hatchery Incubation 2	Scottish Sea Farms Ltd		SAL	Ova	1,200,000	Iceland	Benchmark_Genetics_Iceland_Hf.
14/06/2022	Furnace (FW)	Cooke Aquaculture (Freshwater) Ltd		SAL	Ova	1,500,000	Iceland	Benchmark_Genetics_Iceland_Hf.
26/07/2022	Inchmore	Mowi Scotland Ltd		SAL	Ova	2,500,000	Iceland	Benchmark_Genetics_Iceland_Hf.
02/08/2022	Applecross Incubation Unit	The Scottish Salmon Company		SAL	Ova	1,800,000	Iceland	Benchmark_Genetics_Iceland_Hf.

[3] A [FOI disclosure by the Scottish Government in January 2022](#) included:

1. Is Marine Scotland Science being hired privately by salmon farming companies to test ova for ISA, PRV and other viruses, pathogens, bacteria and diseases?

Marine Scotland Science (MSS) does not undertake routine testing on ova to screen for the presence of aquatic animal pathogens.

2. How many of these imported ova [from AquaGen] were screened for ISA and PRV?

We do not hold any information on the number of imported ova, from Aquagen, screened for ISA and PRV. As confirmed above, MSS does not undertake routine testing on ova to screen for the presence of aquatic animal pathogens.

[4] A FOI disclosure by the Scottish Government in December 2021 included:

Date consignment due	Business	Destination site	Species	Stage	Number	Country of Origin	Source Company
27/07/2021	Mowi Scotland Ltd	Inchmore Hatchery	SAL	Ova	280,000	Iceland	Benchmark Genetics
03/08/2021	Scottish Sea Farms Ltd	Barcaldine Hatchery Incubation 1	SAL	Ova	1,500,000	Iceland	Benchmark Genetics
03/08/2021	Scottish Sea Farms Ltd	Barcaldine Hatchery Incubation 2	SAL	Ova	1,500,000	Iceland	Benchmark Genetics
09/09/2021	University of Stirling		SAL	Ova	15,000	Iceland	Benchmark Genetics
12/10/2021	Grieg Seafood Shetland Ltd	Girlsta Hatchery	SAL	Ova	1,100,000	Iceland	Benchmark Genetics
19/10/2021	The Scottish Salmon Company Ltd	Geocrab Hatchery	SAL	Ova	800,000	Iceland	Benchmark Genetics
19/10/2021	Scottish Sea Farms Ltd	Barcaldine Hatchery Incubation 4	SAL	Ova	850,000	Iceland	Benchmark Genetics
26/10/2021	The Scottish Salmon Company Ltd	Appleburn Hatchery	SAL	Ova	1,650,000	Iceland	Benchmark Genetics
28/10/2021	The Roslin Institute	AGRF (Hatchery - RAS A)	SAL	Ova	5,000	Iceland	Benchmark Genetics

[5] A FOI disclosure by the Scottish Government in August 2021 included:

Date consignment due	Destination site name	Destination business name	Species	Stage	Number in consignment	Source Country
24/03/2021	Barcaldine Hatchery Incubation 1	Scottish Sea Farms Ltd	SAL	OVA	1,000,000	Republic of Ireland
24/03/2021	Lochailort Recirculation Hatchery	Mowi Scotland Ltd	SAL	OVA	2,160,000	Republic of Ireland
30/03/2021	Inverpolly	Finfish Ltd	SAL	OVA	2,160,000	Republic of Ireland
31/03/2021	Cairndow Hatchery	Cooke Aquaculture (Freshwater) Ltd	SAL	OVA	500,000	Iceland
12/04/2021	Lochailort Recirculation Hatchery	Mowi Scotland Ltd	SAL	OVA	1,600,000	Republic of Ireland
12/04/2021	Inchmore	Mowi Scotland Ltd	SAL	OVA	2,100,000	Republic of Ireland
29/04/2021	AGRF (Hatchery - RAS A)	The Roslin Institute	SAL	OVA	5,000	Iceland

Scottish Government response issued following a query from the National newspaper seeking comment on 'campaigners calling for an immediate ban on salmon ova imports due to disease risk'. These lines were issued in late August 2020.

"All imports of salmon ova to Scotland are carried out in accordance with well-established rules laid out in EU and Scottish legislation, as well as in internationally agreed standards, to minimise the risk of cross contamination and disease. We rigorously enforce these rules to protect the world-class standard of Scottish farmed salmon."

"Following a temporary suspension of the imports of ova from Norway in 2019, specific areas have been allowed to resume trading, from March 2020, following approval from the Norwegian Food Safety Authority."

Background

The international standards allow for the safe trade in aquatic animals and their products. Trade is permitted to take place between areas of equivalent disease status, or from an area of higher to lower disease status with respect to the listed diseases specified within the current aquatic animal health legislation
Imports and introductions are accompanied by health certification attesting to the health status of the animals being traded. Further detail on the rules and their application, are published in FoI responses (hyperlink https://www.gov.scot/publications/foi-18-03773/)

[6] A FOI disclosure by the Scottish Government in March 2021 included:

Date consignment due	Destination site name	Destination business name	Consignee Business name (if different from destination business)	Species	Stage	Number in consignment	Source Country	Import consignor
16/07/2020	Applecross Hatchery	The Scottish Salmon Company		SAL	OVA	1650000	Iceland	Stofnfiskur_Hf.
23/07/2020	Inchmore	Mowi Scotland Ltd		SAL	OVA	3250000	Iceland	Stofnfiskur_Hf.
14/10/2020	Barcaldine Hatchery Incubation 4	Scottish Sea Farms Ltd		SAL	OVA	1560000	Iceland	Stofnfiskur_Hf.
20/10/2020	Appleburn Incubation Unit	The Scottish Salmon Company		SAL	OVA	550000	Iceland	Stofnfiskur_Hf.
20/10/2020	Mingarry Hatchery	Hebridean Smolts Ltd		SAL	OVA	955500	Iceland	Stofnfiskur_Hf.
04/11/2020	Appleburn Incubation Unit	The Scottish Salmon Company		SAL	OVA	950000	Iceland	Stofnfiskur_Hf.
03/11/2020	Ormsary Hatchery	Landcatch Natural Selection Ltd	The Scottish Salmon Company	SAL	OVA	1750000	Iceland	Stofnfiskur_Hf.
10/11/2020	Ormsary Hatchery	Landcatch Natural Selection Ltd	Organic Sea Harvest Ltd	SAL	OVA	850000	Iceland	Stofnfiskur_Hf.
10/11/2020	Ormsary Hatchery	Landcatch Natural Selection Ltd	Loch Duart	SAL	OVA	490000	Iceland	Stofnfiskur_Hf.
10/11/2020	Applecross Hatchery	The Scottish Salmon Company		SAL	OVA	1690000	Iceland	Stofnfiskur_Hf.
17/11/2020	Cairndow Hatchery	Cooke Aquaculture (Freshwater) Ltd		SAL	OVA	1200000	Iceland	Stofnfiskur_Hf.
23/11/2020	Niall Bromage Freshwater Field Station	University of Stirling		SAL	OVA	41500	Iceland	Stofnfiskur_Hf.
08/12/2020	Ormsary Hatchery	Landcatch Natural Selection Ltd		SAL	OVA	690000	Iceland	Stofnfiskur_Hf.
22/12/2020	Ardtaraig Hatchery	Cooke Aquaculture (Freshwater) Ltd		SAL	OVA	350000	Iceland	Stofnfiskur_Hf.
22/12/2020	Ardtaraig Hatchery	Cooke Aquaculture (Freshwater) Ltd		SAL	OVA	350000	Iceland	Stofnfiskur_Hf.

[7] A FOI disclosure by the Scottish Government in September 2020 included:

OFFICIAL SENSITIVE- COMMERCIAL

From: <REDACTED>
<REDACTED>
13 March 2020

Cabinet Secretary for Rural Affairs and Tourism

TEMPORARY SUSPENSION OF EXPORTS LIFTED FOR SALMON AND RAINBOW TROUT OVA FROM NORWAY

Purpose

1. To advise that the Norwegian Food Safety Authority has decided to lift its suspension on some compartments of ova with effect from 6th March.

Priority

2. Routine.

Background

3. We previously supplied advice regarding the temporary suspension of exports of salmon and rainbow trout ova from Norway. The suspension has been in place since June 2019, following an internal audit by the EFTA surveillance authority (responsible for assessing control systems related to food and feed safety). A number of issues with the Norwegian official control system were identified which meant that the Norwegian Food Safety Authority (NFSA) could not provide a reliable list of Infectious Salmon Anaemia (ISA) disease free compartments. Scotland is free from ISA, and therefore no imports from Norway could be accepted unless an attestation of disease freedom was signed by Norwegian Authorities.

4. Mr Ewing raised this issue at a meeting with Mr Nesvik, the Norwegian Fisheries Minister, at AquaNOR in August and again when he met him in November 2019. The NFSA has been working hard to address the concerns raised in the audit report however this has taken longer than expected. The NFSA had previously indicated that they were hopeful to commence exports from November 2019 to meet the start of Norway's normal peak in ova exports. This time line was not met. Part of the process they were working to involved establishing a new list of ISA free compartments, along with discussions with EFTA to determine whether the issues raised had been satisfactorily resolved. Correspondence suggested that some areas would lose their ISA free status, and therefore the areas open to trade with Scotland will reduce. A risk of delay, pending discussions with EFTA, remained.

5. The confirmation by the Norwegian Food Safety Authority that they have lifted their self-imposed suspension on the following compartments as from 6th March 2020 will be very much welcomed by most the farmed salmon industry in Scotland.

6. The ISA-free zones and compartments are as follows:

- Compartment 18000 - Rimstad, Company AquaGen
- Compartment 12917 – Sjølseng – Hall 6, Veksthall 1 og 2, Company AquaGen

OFFICIAL SENSITIVE - COMMERCIAL

- Compartment 12917 – Sjølseng - Hall 2, Company AquaGen

Consequently, the NFSA can recommence issuing health certificates for live ova produced at these compartments and exports to the UK can resume.

Communications

7. The SSPO has been advised of the lifting on the ban from these compartments and I suggest that the following form of words may be used in relation to any enquiries on this matter:

We welcome the decision by the Norwegian Food Safety Authority to lift their self-imposed suspension of health certification of live aquaculture animals from certain ISA-free zones and compartments from 6 March 2020. This means live ova produced in specific compartments can now be certified for export to Scotland.

Recommendation

8. You are invited to note this development.

<REDACTED>
<REDACTED>
Marine Scotland
Ext <REDACTED>
13 March 2020

Copy List:	For Action	For Comments	For Information		
			Portfolio Interest	Constit Interest	General Awareness
Cabinet Secretary for the Environment, Climate Change and Land Reform			X		

<REDACTED>
<REDACTED>
<REDACTED>
<REDACTED>
<REDACTED>
Kate Higgins
<REDACTED>
MS Comms

[8] A FOI disclosure by the Scottish Government in April 2020 included:

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

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

2. Has Marine Scotland Science conducted screenings of ova for PRV as an extra risk measure to avoid vertical transmission?

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

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

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

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

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

5. How much of domestically produced ova is sourced from genetic material (ova, broodstock or smolts) sourced from overseas (e.g. Norway, Iceland and Ireland)?

We do not hold information on the genetic variability of the stocks used in Scotland for farming purposes to allow us to answer this question. While we do not hold this specific information, Section 2 of the Finfish Farm Production Survey provides some detail of the origin of ova laid down for farming in Scotland.
https://www.gov.scot/publications/scottish-fish-farm-production-survey-2018/pages/4/

6. What % of domestically produced ova has been screened for infectious diseases, pathogens and viruses such as PRV and ISA?

Screening of ova (testing for the presence of pathogens) is not currently undertaken by Marine Scotland Science in relation to domestically produced ova within Scotland.

Further on in your request you posed an additional question:
What percentage of farmed salmon are infected with PRV, ISA and other diseases, pathogens and viruses?
Marine Scotland Science does not hold information that allows us to answer that question because we don't test all farmed fish in Scotland. Scottish Ministers are informed of the presence on Scottish fish farms of any listed diseases in order that controls may be imposed where needed. Presently, within Scotland no fish farms farming Atlantic salmon are under restriction for any of the listed diseases.

About FOI

The Scottish Government is committed to publishing all information released in response to Freedom of Information requests. View all FOI responses at http://www.gov.scot/foi-responses.

FOI-202000018313 Information released - Context

3 page PDF | 109.4 kB

FOI-202000018313 Information released - Annexes

3 page PDF | 107.6 kB

Context to the questions asked

It is important to consider the answers to all the questions detailed above with some further context. Specifically, in relation to the measures in place which offer protection through the trade in live aquatic animals and their products and the aquatic animal health surveillance programme conducted within Scotland. In that regard, please refer to Annex 1 of this reply.

In addition, I note that many of your questions are focused upon the testing of ova. In general, screening of ova for aquatic animal pathogens is not a widely conducted practice. **The international standards for testing, as specified through the OiE Manual of Diagnostic Tests for Aquatic Animals and Commission Implementing Decision (EU) 2015/1554 recommend the screening of fish, rather than ova as the standard methods for pathogen detection.** Whilst the screening of ova can be undertaken, it is less preferential to testing fish tissues as there are relatively few aquatic animal pathogens which exhibit true vertical transmission. Technical complexities make this testing method difficult for many of the modern molecular techniques currently employed.

Within your questions you specifically refer to ISA (Infectious salmon anaemia – caused by ISAv) and PRV (Piscine orthoreovirus). These two pathogens are handled differently under the current legislation implemented within Scotland.

Infectious salmon anaemia (ISA) (infection with genotype HPR-deleted of the genus Isavirus (ISAV)) is listed under Council Directive 2006/88/EC and controlled within Scotland through the Aquatic Animal Health (Scotland) Regulations 2009. Scotland, as part of the Great Britain health zone, has recognised freedom for ISAv (HPR-deleted). **As a result, trade in live ova and fish can only occur from areas of equivalent recognised disease freedom and consignments must be accompanied by a valid health certificate, with appropriate health attestations signed by the competent authority within the exporting country.**

[9] A FOI disclosure by the Scottish Government in February 2020 included:

Please be aware that, in addition to all of the information provided through this response, several other requests for information, involving the same or similar subject area 'salmon ova imports [into Scotland]' have been handled. These may include additional information, already released, which is relevant to this request. These requests include, but are not limited to:

FoI/19/00976 - https://www.gov.scot/publications/foi-19-00976/
FoI/18/03773 - https://www.gov.scot/publications/foi-18-03773/
FoI/18/02912 - https://www.gov.scot/publications/foi-18-02912/
FoI/18/01553 - https://www.gov.scot/publications/foi-18-01553/

References to published responses are provided above. You can find copies to other requests and their associated responses on the Scottish Government website: https://www.gov.scot/publications/

ANNEX 1

CONTEXT TO INFORMATION PROVIDED

Norwegian Declarations

In accordance with Council Directive 2006/88/EC, EU and EFTA[1] member states can submit declarations of disease status based upon specific criteria and relevant supporting evidence. Declarations are presented at the Standing Committee on Plants, Animals, Food and Feed (SCoPAFF) and followed up with a period of consultation with other EU Member States, where questions, queries and opinion can be expressed about each specific declaration. Declarations can be made at the farm, compartment/area or country level. Queries raised are part of the SCoPAFF process for considering declarations where clarification is required to support the proposed health status of the application.

Within the information released in response to FoI/19/02663 you will find comments from Marine Scotland concerning a number of declarations concerning specific areas in Norway. These feed in to the overall response issued by Cefas/Defra, responsible for representing the UK member state at the international level.

Suspension of ova imports from Norway

Following an EFTA surveillance authority inspection in May 2019, a temporary suspension of exports of salmon and rainbow trout ova from Norway was established. The restrictions imposed relate to the certification of aquatic animals from ISA free compartments and do not relate to all exports. The report concerning the same is publicly available and referred to in the letter above. The EFTA Surveillance Authority, responsible for assessing control systems related to food and feed safety, raised a number of concerns relating to the trade in live aquatic animals (including ova). Norway is unable to ensure that farmed fish/shellfish sent for export to other EEA[2]-states will not affect the health of farmed fish/shellfish in those receiving countries. As of the date of this communication, the suspension remains in place as corrective measures are taken and implemented.

Within the information released in response to FoI/19/02663 you will find various communications relating to this subject area.

[1] European Free Trade Association

[2] European Economic Area

Excel

FoI-19-02663 - Salmon ova imports 2016

Excel document | 13.4 kB

Excel

FoI-19-02663 Salmon ova imports 2018 to April 2019

Excel document | 14.4 kB

Excel

FoI-19-02663 Salmon ova imports April 2019 to December 2019

Excel document | 10.6 kB

[10]

A paper published in the journal Aquaculture in 2016 revealed how Scottish salmon farming has been flooded by imports of foreign ova since the early 2000s:

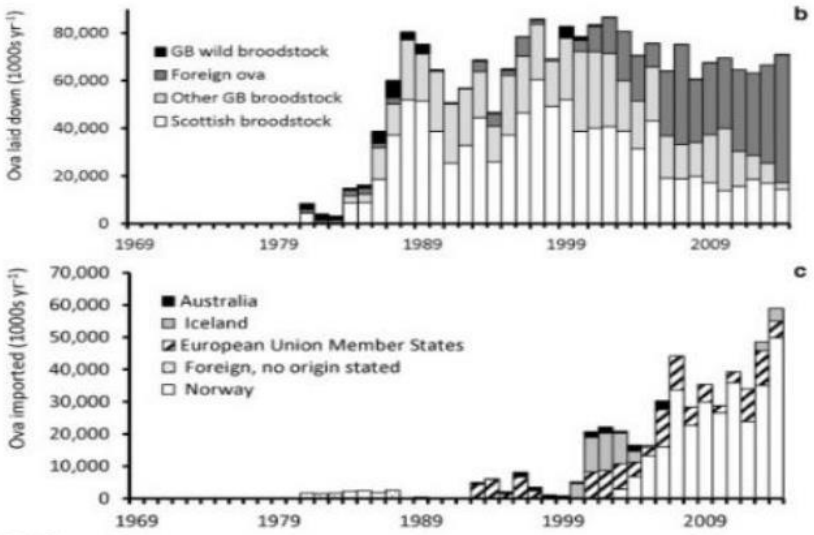


Fig. 2.
Data on salmon ova in Scotland. a: Numbers of ova produced in Scotland, subdivided into laid down in Scotland, exported and not laid or exported. Data available 1984/1994/1995–2014. b: Origins of ova laid down to hatch within Scottish salmon industry. Data available 1981–2014. c: Origins of foreign (imported) ova. Data available 1981–2014.

Data disclosed by the Scottish Government via FOI in November 2018 detailed a staggering 342 million ova imported from Norway between 2003 and 2015 (out of 462 million ova imported - i.e. Norway represented 74% of ova imports):

Country of origin	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Australia	550,000	1,860,000	0	2,400,000	0	0	0	0	0	0	0	0	0
Iceland	9,518,000	3,475,000	570,000	300,000	0	0	0	0	0	0	2,719,000	4,346,000	8,978,000
Norway	2,900,000	6,750,000	13,210,000	15,940,000	33,555,000	22,703,000	29,938,000	26,533,000	35,851,000	23,848,000	35,044,000	49,831,000	45,926,000
Rep of Ireland	7,820,000	4,450,000	2,610,000	11,575,000	10,511,000	5,600,000	5,460,000	2,150,000	3,400,000	10,134,000	10,700,000	5,218,000	4,815,000
USA	400,000	450,000	450,000	0	0	0	0	0	0	0	0	0	0

Numbers of salmon ova collated from health certificates