

[Media Backgrounder: Scottish Salmon's Recurring ISA Nightmare \(August 2021\)](#)

In 1998-9 an [ISA outbreak traced to Norwegian-owned Scottish Seafarms](#) (then owned by Hydro Seafoods GSP) [cost the industry £100 million and led to the loss of 200 jobs](#).



The screenshot shows a BBC News article titled "Report details disease links" dated Tuesday, 12 June, 2001. The article reports that ISA is said to have cost Scotland £100m. A photograph shows a person in a yellow raincoat holding a large salmon. The article text states: "A disease which ravaged several Scottish salmon farms spread from a single outbreak in Loch Nevis, according to a new report. The outbreak of infectious salmon anaemia cost £100m and led to the loss of 200 jobs. The study by the Marine Laboratory in Aberdeen could not pinpoint the origin of the disease." The right sidebar contains a search bar, navigation links for "BBC RADIO NEWS", "BBC ONE TV NEWS", "WORLD NEWS SUMMARY", and "BBC NEWS 24 BULLETIN", and a "See also:" section with a list of related news items from 1999 and 2000.

In 2004, [a suspected case of ISA was reported at Marine Harvest](#) (re-named Mowi in 2019) Loch Sheilavaig salmon farm in South Uist.

ISA disease suspected at Marine Harvest Farm

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

22 November 2004 9:46 GMT UPDATED 10 July 2012 5:34 GMT

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

Marine Harvest is working with the Scottish Executive Environment and Rural Affairs Department to minimise any risk and ensure the health of its fish. A Scottish Executive spokesman said inspectors would monitor the situation for six months and take appropriate action should the ISA's presence be confirmed.

In 2009, [ISA hit Norwegian-owned Grieg Seafood in Shetland](#) and [Scottish Sea Farms](#). "Local evolution from an avirulent strain of ISAV; importation of ova; or association with movement of equipment could have caused the outbreak," [concluded Marine Scotland Science](#).



Page last updated at 15:15 GMT, Sunday, 4 January 2009

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Deadly salmon infection detected

An infectious disease which can devastate farmed Atlantic salmon stocks has been detected on Shetland, the Scottish government has confirmed.

Infectious Salmon Anaemia (ISA) was discovered at one salmon farm site, which has been empty of fish since 21 December, in the Burra area.



An outbreak of ISA in 1998 severely damaged the Scottish salmon industry

“ I vividly recall the difficulties for the Shetland salmon industry 10 years ago when ISA caused enormous financial problems ”
Tavish Scott MSP

[FOI documents disclosed by the Scottish Government to Scottish Salmon Watch on 1 February 2019 reveal](#) that Scottish salmon and trout farmers received ova during the 2016/2017 season from broodstock held at an [ISA suspected site operated by AquaGen at Tingvoll in Norway](#).

In March 2017, [Fish Farming Expert reported](#) that salmon farmers in Scotland had everything under control following an ISA outbreak at Bakkafrøst in the Faroes ([Bakkafrøst bought The Scottish Salmon Company in 2019](#)). “In the unlikely event that infectious salmon anaemia is found, Scottish salmon farmers work closely with the regulatory authorities with the aim of minimising any immediate impacts, and ensuring that it is eliminated as rapidly as possible,” said the Scottish Salmon Producers Organisation. “All of the measures already in place in Scotland meet the requirements of EU fish health legislation, having been reviewed and strengthened following two previous occurrences of ISA a number of years ago, and we are confident that, should ISA be detected in the future, we are well placed to deal with it quickly and effectively.”

Scottish salmon chief confident over ISA virus threat



SSPO chief executive Scott Landsburgh. Photo: SSPO

Scott Landsburgh tells fishfarmingexpert.com that if the pathogenic ISA virus was detected in Scottish salmon farms, the industry is well placed to deal with it “quickly and effectively”.

A Scottish government spokesman told fishfarmingexpert.com: “Scotland is free from ISA and has successfully eradicated the disease on two previous occasions [in 1998-99 and 2008-09]. We are aware that the pathogenic strain of ISA has been confirmed at a salmon farm in the Faroes this week.

“The Scottish Government maintains a high aquatic animal health status and has robust plans in place to deal with outbreaks of disease. Contingency exercises ensure that we remain ready to respond to disease events.

“In Scotland, compensation is not offered for ISA-affected fish stocks. This is in line with practice in other salmon-producing countries in Europe.”

Faroe Islands salmon producer Bakkafrost confirmed the presence of pathogenic ISA virus at its A-73 Hvannasund Norður site on Monday.

Earlier this month, the company announced it was to harvest one million fish early at the same location as a precautionary measure, losing 2,000 tons of volume in the process.

The site had been under increased surveillance since July 2016, when a routine test showed the suspicion of fish being infected by pathogenic infectious salmon anaemia virus.

In July 2017, [Fish Farming Expert](#) reported:

ISA detected at AquaGen brood site



AquaGen says it has enough back-up capacity to meet orders but "exact delivery time and product type" may be affected.

A virulent variant of Infectious Salmon Anaemia (ISA) virus has been detected in broodfish from a Norwegian sea site operated by AquaGen, which supplies many of the eggs used in Scottish salmon farming.

In July 2017, [Hendrix Genetics \(owners of Landcatch\)](#) asked the [Scottish Government](#) "if the ISA outbreaks in Norway, in particular AquaGen, would have any effect on their ability to export eggs into Scotland".

AquaGen chairman Odd Magne Rødseth, [speaking to Fish Farming Expert in November 2017](#) said the move to start egg production in Scotland would help serve the Scottish industry better and was also a precautionary measure against any ban on the import of eggs. "You never know whether will find some reason to close the border," he said at the time.

"We lost the one export permit to Scotland and found another solution this year with a partner that delivers to Scotland," [AquaGen's Nina Santi told SalmonBusiness in January 2018](#). "We'll be back with deliveries to Scotland in mid-2018."

In February 2018, [Norway's Ministry of Climate & Environment](#) banned the import of Scottish salmon eggs citing risks of disease and genetic impacts of escapes under the Norwegian [Nature Diversity Act](#).

In February 2018, a [blistering email to Fergus Ewing \(Cabinet Secretary for Rural Economy & Connectivity\)](#), the head [Landcatch \(owned by Hendrix Genetics\)](#) accused the Scottish Government of taking a "massive risk" by allowing salmon eggs from Norway and Iceland to flood 'Scottish' salmon farms citing the danger of "transfer of ISA from infected countries such as Norway".

In November 2018, an inspection of [AquaGen's Holywood Salmon Farm \(owned by Scottish Sea Farms up until September 2018\)](#) by the Scottish Government's Fisheries Health Inspectorate [reported](#) that: "The biosecurity measures plan for the site was inspected and found to be inadequately maintained".

In February 2019, [Scottish Salmon Watch](#) and [The Ferret](#) reported that fears over the import of Infectious Salmon Anaemia (ISA) to Scotland via infected eggs (ova) had delayed a shipment to a hatchery operated by Scottish Sea Farms at Barcaldine near Oban.



Intrafish [reported in February 2019](#):

ISA the 'biggest threat' to salmon farming

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

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

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

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

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

The harmless HRP0 virus can easily mutate to HRPdel -- and create huge losses for salmon farmers, he warned.

"HRP0 is not very dangerous in itself, more like a cold -- with HPR0, the origin of HRPdel that is infected internally is unstoppable and creates high mortality," Dale said.

Widespread in hatcheries

ISA was first detected in Norway in 1984, and peaked in 1990 with around 80 known outbreaks, Dale said. Rates have now come down considerably.

There are two types of origin for ISA outbreaks: so-called primary outbreaks and secondary outbreaks. In the past, there have been several primary outbreaks, which in Dale's mind is worrying.

"We know that there is a lot of HPR0 in hatcheries. Then there is hardly ever an ISA outbreak there, but now we see that we have had several ISA outbreaks early in the sea phase," he said.

According to Dale, a nightmare scenario would be the spread of several strains of HRP0 virus in hatcheries.

"The virus can spread before it is detected, thereby providing more secondary outbreaks," he said.

In March 2019, Insider [reported](#) that AquaGen had bought the Holywood Salmon Farm off Scottish Sea Farms and were planning an annual production of 50 million ova.

In April 2019, Scottish Salmon Watch [wrote to Scottish Ministers calling for increased testing of farmed salmon for diseases and viruses \(including Infectious Salmon Anaemia\)](#).

In April 2019, Scottish Salmon Watch [called for a ban on imported ova](#) due to fears over the spread of ISA which [plagued Scottish salmon farming in the 1990s](#) and in [2008/2009 \(with a suspected outbreak in 2004\)](#).

In May 2019, a [damning inspection by the European Free Trade Association's Surveillance Authority](#) resulted in a [ban on exports of Norwegian salmon ova](#).

In June 2019, Scottish Salmon Watch [reported that over 50% of salmon farms in Scotland had tested positive for Piscine Reovirus](#).

Intrafish [reported in November 2019](#) that SalMar (co-wner of Scottish Sea Farms along with Leroy) notified the Norwegian Food Safety Authority of a positive test for ISA.

ISA detected at SalMar-run salmon farm

Salmar notified the authorities on Nov. 15 following a positive test, leading to restrictions on the movement of fish from the site.

22 November 2019 3:50 GMT UPDATED 28 November 2019 16:18 GMT
By John Evans

Traces of ISA disease have been detected at a salmon farm operated by Norwegian producer SalMar in conjunction with Havbrukstasjonen in Tromsø, Norway, according to feed producer Skretting and Stim, the Norwegian Food Safety Authority.

SalMar notified the authority on Nov. 15 following a positive test.

In February 2020, [Scottish Salmon Watch](#) and [The Ferret](#) revealed that imports of salmon eggs (ova) from Norway were banned in May 2019 following fears of the spread of Infectious Salmon Anaemia.

“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,” stated Don Staniford in a [press release](#) (24 February 2020). “Scottish Ministers should stop playing their high risk game of Norwegian, Icelandic and Irish roulette. Is deadly ISA already lurking on Scottish salmon farms?”

 **Don Staniford**
@TheGAAIA

What bio-security protocols & safety precautions are Scottish Ministers taking re. imports of ova for use on 'Scottish' salmon farms? tinyurl.com/tbmols7
@FergusEwingMSP @strathearose @KateForbesMSP
@MairiGougeon @GreenerScotland @marinescotland
@WeAreBenchmark @HGSalmonUK



7:59 AM · Feb 26, 2020 · Twitter Web App

Data disclosed by the Scottish Government via [FOI-19-02663](#) on 14 February 2020 details 3 million ova imported by AquaGen from Norway to Scotland in 2018 and 2019 - including to the Scottish Sea Farms Barcaldine Hatchery [officially 'opened' by Scotland's Minister for Public Finance and Digital Economy \(Kate Forbes\)](#) and AquaGen's own Hollywood Salmon Farm ([bought off Scottish Sea Farms and promoted by Scotland's Rural Economy Secretary, Fergus Ewing](#)).

Date consignment due	Destination site name	Destination business name	Species	Stage	Number in consignment	Source Country	Import consignor
27/11/2018	Barcaldine Hatchery Incubation 1	Scottish Sea Farms Ltd	Salmon	Ova	1,250,000	Norway	AquaGen AS
27/11/2018	Barcaldine Hatchery Incubation 3	Scottish Sea Farms Ltd	Salmon	Ova	1,250,000	Norway	AquaGen AS
04/12/2018	Quoys Hatchery	Cooke Aquaculture Scotland Ltd	Salmon	Ova	128,000	Norway	AquaGen AS
17/01/2019	Hollywood Salmon Farm	AquaGen Scotland Ltd	Salmon	Ova	42,000	Norway	AquaGen AS
26/02/2019	Ardtaraig Hatchery	Cooke Aquaculture (Freshwater) Ltd	Salmon	Ova	367,500	Norway	AquaGen AS

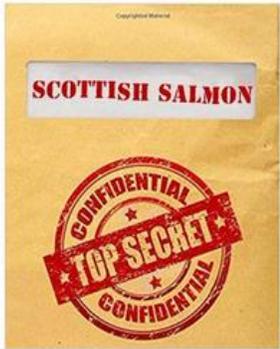
In April 2020, the Scottish Government [admitted that imported eggs \(ova\) were not tested for ISA or PRV.](#)

Don Staniford @TheGAAIA · Aug 20, 2020

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

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

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



1. How many salmon eggs imported into Scotland were tested for PF pathogens and infectious diseases such as ISA?
No testing of salmon eggs, imported into Scotland, has been undertaken in relation to the pathogens and diseases you specify.

2. Has Marine Scotland Science conducted screenings of ova for PF to avoid vertical transmission?
No screening of ova for PRV has been undertaken by Marine Scotland.

3. What % of ova used by 'Scottish' salmon farms are infected with P pathogens and viruses?
We hold no information on the percentage of ova, used by 'Scottish' salmon farms, that are infected with PRV, ISA and other diseases, pathogens and viruses.

4. What % of imported ova were screened prior to entry into Scotland for PF pathogens and viruses?
Marine Scotland holds no information on the screening of ova (testing in relation to ova imported into Scotland).

In July 2020, the European Free Trade Association (EFTA) [disclosed damning documents via Freedom of Information but refused many more citing commercial confidentiality.](#)

Don Staniford @TheGAAIA

FOI documents disclosed @EFTAsecretariat reveal damning failures, delays & insufficient control of Infectious Salmon Anaemia in salmon farms @InfoMattilsynet @fiskeridir @IntraFishNorge @fiskeribladet @Fiskeoppdrett @undercur @Salmon_Business @GAA_Advocate @FergusEwingMSP #Norway

The principal findings for the mission to Norway are:

- I. Management of Infectious Salmon Anemia ("ISA")
 - i. significant delay in official confirmation of an outbreak of ISA or of its absence following initial notification of suspicion of an ISA outbreak;
 - ii. insufficient control of surrounding areas from the time of initial notification of suspicion of an ISA outbreak until measures are taken to delimit the containment area (protection and surveillance zones) surrounding a compartment or zone in which an ISA outbreak has been officially confirmed, thereby failing to prevent continuation of activities in surrounding areas with potential to spread disease such as movement of well-boats bringing and taking animals to and from the relevant compartment or zone;
 - iii. failure to impose additional measures in ISA-free compartments dependent on the health status of surrounding waters in order to prevent introduction of ISA from surrounding Category III sea waters;
 - iv. limited and late involvement in the procedure for granting ISA-free status, precluding the possibility of effectively controlling compliance with surveillance and related sampling requirements prior to submission of a formal declaration of ISA-free status or of ensuring that such procedure is not compromised by conflicts of interest;

9:00 AM · Jul 5, 2020

In August 2020, a leading veterinarian warned that salmon farms in Norway were being [ravaged by an ISA "horror show"](#) with cases of ISA rising alarmingly during 2020.

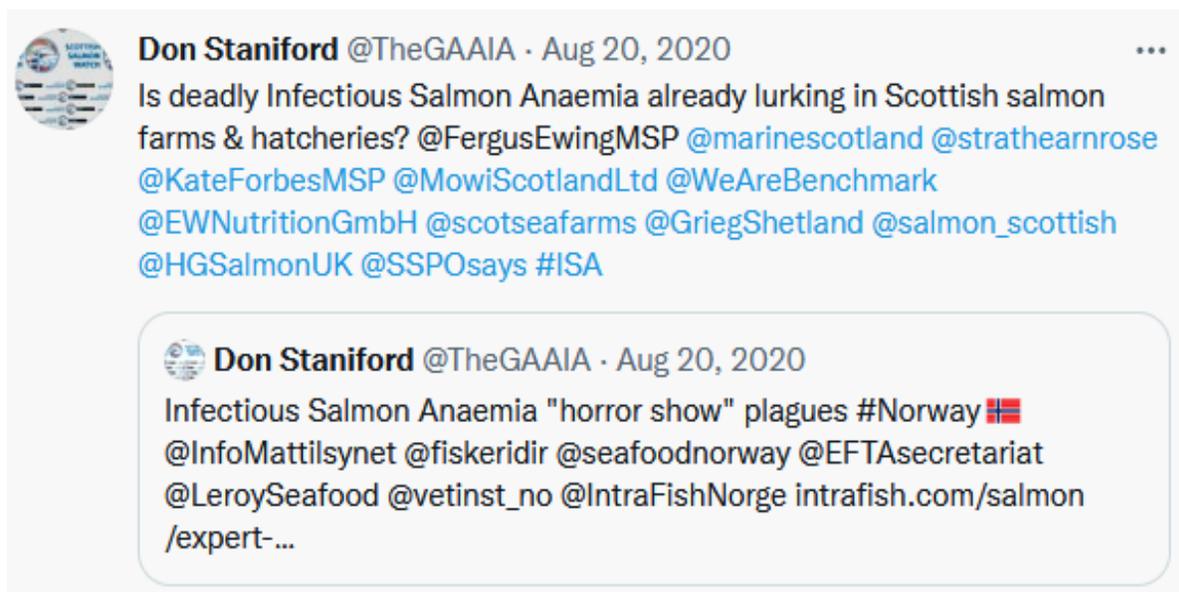
"We must be vigilant, or we will see a horror show with a large spread of ISA infection," Ole Bendik Dale, an aquatic biosafety section leader at the Norwegian Veterinary Institute, told **IntraFish**.

"We come across new variants of the virus, variants we have not seen before. This indicates a turn for the worse."

Dale fears that ISA is now present as a harmless variant of the virus in hatcheries, becoming pathogenic over time.

"Hidden ISA infection can be difficult to detect. We are unsure how effective test methods are. If there are one million individuals in a facility and there are only a few who carry the virus, how can you be sure that you are testing the right individuals? Testing is helpful, but not something you can blindly trust. The biosafety measures must be in place," said Dale.

In August 2020, Scottish Salmon Watch [asked the Scottish Government if ISA was back in Scotland](#).



In October 2020, Scottish Salmon Watch [revealed that Scottish Ministers were warned by Hendrix Genetics \(Landcatch\)](#) about "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" back in 2019.



In November 2020, Scottish Salmon Watch [asked if ISA had moved from Norway to mainland Scotland.](#)



In April 2021, Scottish Salmon Watch [asked Scottish Ministers if ISA was back in Scotland.](#)

 **Don Staniford**
@TheGAAIA

Infectious Salmon Anaemia plagues salmon farms in Norway fishfarmermagazine.com/news/isa-outbr...
"ISA outbreaks usually mean that infected salmon cages have to be emptied & the fish destroyed". Is ISA back in Scotland? @FergusEwingSNP @marinescotland @strathearnrose @ScotlandMowi @SSPOsays



ISA outbreak reported in Nordland region – Fish Farmer Magazine
News ISA outbreak reported in Nordland region – Fish Farmer Magazine
fishfarmermagazine.com

1:36 PM · Apr 19, 2021 · Twitter Web App

In July 2021, Scottish Salmon Watch [revealed that imports of ova from Norway had been almost completely shut out of Scotland in favour of imports from Iceland and Ireland.](#)

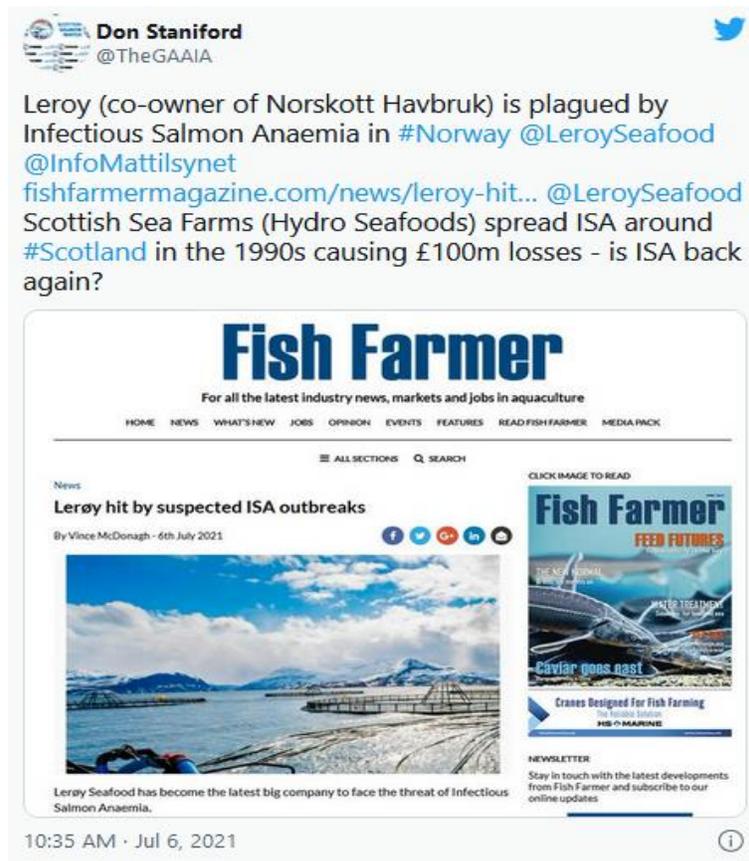
 **Don Staniford**
@TheGAAIA

Replacing imports of salmon eggs from Norway (where Infectious Salmon Anaemia is ravaging farms) with imports from Iceland (fingered in the spread of Piscine reovirus to USA) is like leaping out of the frying pan into the fire! tinyurl.com/49np4zu2 @WeAreBenchmark @scotgov



6:28 AM · Jul 7, 2021

In July 2021, Scottish Salmon Watch [asked if ISA was back again](#) in the wake of [news of ISA outbreaks in Norway](#) (including at Leroy – the co-owner of Scottish Sea Farms).



Read more via:

- [Scottish Salmon's 'Ticking Time-Bomb': ISA reported at Scottish Sea Farms on Mull](#)
- [Media Backgrounder: Norway's Infectious Salmon Aquacalypse – Going Global Since 1984!](#)
- [Eggsclusive: FOI Reveals 'Scottish' Salmon Imported As Ova from Iceland & Ireland - Norway eggs-pelled due to disease risks!](#)
- [Massive Attack on "Rotten Edifice" of 'Scottish' Salmon](#)
- [Norwegian Salmon Ova Slip Back Into Scotland \(as Infectious Salmon Anaemia plagues salmon farms in Norway\)](#)
- [Norway's Infectious Salmon "Horror Show" Secretly Playing Now In Scotland?](#)
- [EFTA disclose documents on disease-ridden Norwegian salmon farming but refuse more citing commercial confidentiality](#)
- ['Scottish' salmon resumes imports of "ISA-free" eggs from Norway?](#)
- [Undercurrent News: "Iceland replaces Norway as main source of Scottish salmon eggs following import ban"](#)
- [Letter to Scottish Ministers: "Bio-security Protocols & Safety Precautions re. Ova Imports"](#)
- [The Ferret: "Imports of Norwegian salmon eggs banned over deadly virus"](#)
- [Norwegian Salmon Egg Exports Banned Due to Disease Risks](#)
- [Game Ova for Scottish Salmon - Deadly disease delays egg imports from AquaGen in Norway](#)
- [Deadly virus outbreak prompted fears over import of fish farm eggs to Scotland](#)

[Mail On Sunday: "90% of Scottish salmon 'ISN'T' from Scotland' - 66m eggs shipped in 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](#)

[Virus-Laden Farmed Salmon](#)

[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](#)

[Imported eggs ruling 'makes a mockery of Scottish salmon'](#)

[Norway keeps ban on import of Scottish roe](#)

[Tartan imposters' charge as fish egg imports hit 90%](#)

[Invasion of the Viking salmon](#)

[Fish farms are 'wiping out Scotland's wild salmon'](#)

[Escaped farmed salmon impacts](#)

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

