



Finlay Carson MSP
Convenor, Rural Affairs & Islands Committee
Scottish Parliament
Edinburgh EH99 1SP

By email

25th October 2024

Dear Finlay,

This letter provides supplementary information following our representative's attendance on 2nd October in which we demonstrated the considerable change in salmon farming since the earlier committee's 2018 report.

Background

We would like committee members to recognise that the 2018 Environment, Climate Change and Land Reform committee (ECCLR) review was informed by an academic report completed by the Scottish Association for Marine Science (SAMS). This report focused only on academic papers and reports, and unfortunately did not include any assessment of regulatory activity, regulatory compliance or farming practice – in our view this was a significant failing of the report.

Following this review the Rural Economy and Connectivity committee (REC) continued with a significant focus on environmental and other negative impacts and their 2018 report reflected this focus. These inquiries were stimulated in response to concerted lobbying activity, including public petitions, by the wild fisheries sector, focusing on concerns around levels of sea lice on farms, transparency of lice data and potential impacts on wild populations. Little has changed. The concerted and organised attempts by anti-salmon farming activists to influence policy makers must by now be very clear to MSPs.

Since the 2018 REC report, the committee has received a number of updates on progress.

- November 2020 - representatives from SEPA, Highland Council, Marine Directorate (Fish Health Inspectorate and Licencing Operations), Salmon Scotland (SSPO at the time) and Mowi Scotland, attended Committee to provide an update on progress. Written evidence was also provided at that time.
- August 2021- Prof. Russel Griggs attended Committee to provide an update on his review of aquaculture consenting.
- May 2023 – Committee took evidence from the Cabinet Secretary for Rural Affairs, Land Reform and Islands.

Added to this, significant amounts of data and information are available for our sector, all in the public domain – more so than other salmon farming sector around the globe and also compared with other domestic farming sectors.

Given the above, and alongside points we cover below concerning sea lice, we are at some odds to understand why it has been necessary for the RAI Committee to undertake such a comprehensive update at this time. We are puzzled as to why our sector, which receives no financial support, receives committee attention to this level. We remain committed to support the Committee in its work.

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Sea lice and SEPAs risk framework

We are very grateful for your committee's recognition that sea lice levels on salmon farms are the lowest since published data were first available. We elaborated on this on 2nd October. Low lice levels are testament to the hard work of the sectors farmers, veterinarians and fish health specialists, alongside the near £1 billion of investment companies have made in the diverse range of management tools that ensure fish health and welfare since 2018.

The committee has also heard from two senior SEPA executives who have both stated that sea lice from farmed salmon are not and have not been the cause of the declines we have seen in Scottish (and global) Atlantic salmon stocks:

Peter Pollard (Head of Ecology), Nov. 2020 said *"I will start with the big picture. Do we think that sea lice from farmed fish are responsible for the declines that we have seen over the decades in wild fish? No"*

Lin Bunten (Chief Operating Officer, Regulation, Business, and Environment), 19th June 2024 said *"I am not aware of a direct link between farmed salmon and wild salmon per se. However, the salmon interactions working group has identified sea lice as a potential impact, which is why we brought in the framework at the beginning of February"*.

Given current lice levels, and SEPA's parliamentary evidence, we remain frustrated with the justification and manner in which SEPA have introduced their Sea Lice Risk Framework (SLRF). This seeks to protect wild salmon from any potential risk that might arise from sea lice from farm-raised salmon. Given SEPAs parliamentary evidence it is clear that they were told by Scottish Government to introduce SLRF despite the lack of a proper assessment of the science and evidence.

We suggest the Committee would wish to probe this point.

Following Scottish Government's instruction to SEPA, and throughout their development of SLRF, SEPA have continued to create a framework which far exceeds that which was agreed within the SIWG, and which is disproportionate to the risk posed by sea lice from salmon farms. There has been continual creep by SEPA towards an ever more precautionary approach to managing sea lice interactions through SLRF, without any justification or evidence of need. This will lead to significant damage to our sector, its sustainable development, and our national and regional economic prosperity. We have raised these concerns with SEPA, repeatedly.

The Salmon Interactions Working Group proposed the development of an appropriately constructed spatial planning model to support farm consenting, which also took account of farm management activities and the range of pressures on wild salmonid. We have repeatedly committed to work with SEPA to establish a robust, validated model which appropriately balances any risk that might be posed, alongside the other c. 40 pressures on wild salmonids. This is reflected in the Scottish Government's Wild Salmon strategy.

To date there has been no quantification of the risk posed by farm derived sea lice on wild salmonids. There has also been no attempt to assess what natural baseline levels of lice might be in the wild salmonid population – a baseline assessment is vital before any assessment of risk can be made. Again, we reiterate that lice levels on our salmon farms are the lowest since published records were first available.

Therefore, we question why SEPA are continuing to press forward with the development of a highly restrictive, over precautionary model, which far exceeds what was agreed within the SIWG.

We ask the committee to consider the appropriateness of SEPAs Sea Lice Risk Framework during its ongoing review, given MSP's recognition of the low levels of sea lice now recorded and the committee's recognition that lice treatment on fish will be based not on veterinary assessment but model predictions of lice levels. This approach means higher stress and potential increases in fish mortality – a point the Committee has recognised.

Clarifications

We wish to clarify a couple of comments made during our evidence session:

1) *Volume of a fish pen.*

In responding to a question on stocking densities from Ms Arianne Burgess, Ben Hadfield sought to illustrate the considerable volume of water that farmed salmon have to swim in, within their pens. We wish to clarify that the volume of a 160m circumference pen is 43,450m³ (based on a standard net with cone shaped bottom, to 32m depth). This is equivalent to the internal volume of eleven Airbus A380 aircraft, not 7 as indicated during the evidence session. To provide another comparison, it is the volume equivalent to over 640 standard 40-foot shipping containers.

2) *Mortality rates recorded by Mowi Scotland*

In responding to a question from Mr Edward Mountain, Ben Hadfield discussed historical mortality figures for Mowi Scotland. We wish to clarify those figures. In 2011, Mowi Scotland recorded seawater mortality of 5.2% based on fish biomass and 14% based on fish numbers. These were some of the lowest recorded figures for Mowi Scotland. We would like to note that in the intervening period since 2011 the sector has experienced new health challenges, notably Amoebic Gill Disease, Complex Gill health challenges, Harmful Algal Blooms and micro-jellyfish. These challenges, and their management, have impacted the survival of our fish since 2011.

3) *Mortality data*

More generally, we recognise MSP confusion over mortality data. There are several different sources of data, published by different organisations, which all report mortality in different ways. To aid the Committee's understanding of the different data that is available, we have provided a summary in Annex 1. We hope this is of use. There is an ongoing workstream within the Scottish Government's Farmed Fish Health Framework, to develop a "mortality data" topic sheet, which will hopefully reduce confusion around mortality data.

Committee: follow-up questions

Please see below our responses to the clerks follow-up questions:

1. *Dr Ralph Bickerdike undertook to confirm the survival rate before and after the removal of dead fish as reported by the media from Scottish Sea Farms' Dunstaffnage site.*

The farmed salmon survival rate for the current 2024 generation at Dunstaffnage farm from smolt input to seawater through to Sunday 22nd Sept. was 97.8%. Following the MSP visit on Monday 23rd Sept. the survival rate was 97.7%, therefore 0.1% of fish were removed as mortalities on Monday 23rd September.

2. *Dr Ralph Bickerdike committed to clarifying whether the 0.55% mortality rate reported on the Dunstaffnage farm during the week of the Committee's visit was based on the farms current number of fish or the initial stock.*

The 0.55% mortality rate for the Dunstaffnage farm, referred to during the evidence session and as read from the FHI correspondence reply (dated 29/09/24) was incorrect as that was for week 37 (2 weeks prior to the visit), whereas the visit took place in week 39. The mortalities removed during week 39 (the week of the MSP visit) were; Mon. – 0.1% (the day of the Committees' visit), Tues. – 0.04%, Wed. – 0.07% as stated as daily values in the letter by FHI.

Weekly mortality rates are calculated as a percentage of the sum of mortalities between Monday and Sunday, divided by the opening count of fish at the start of the week prior to any mortality removal. Likewise daily mortality is calculated as a percentage of the sum of mortalities removed on any given day divided by the opening number of fish prior to any mortalities being removed.

3. *Dr Ralph Bickerdike said he would provide details of the timetable for the stages of the 2022 production cycle at Dunstaffnage fish farm.*

The 2022 production cycle at the Dunstaffnage fish farm was stocked in April/May 2022 and was harvested to fallow in July 2023. In September of 2023 farmed fish were transferred from a nearby farm to Dunstaffnage as a mitigation measure in response to a persistent bloom of harmful micro-jellyfish at the origin farm, Bloody Bay. These fish remained on the farm and grew well until December when the population were then transferred back to their origin farm Bloody Bay for further on-growing or were harvested. After a fallow period, the Dunstaffnage farm was then stocked with the current production cycle in February 2024.

- 4. The Committee would welcome an update on discussions regarding the future of Bakkafrost processing site in Stornoway and what steps are being taken to ensure jobs are being protected.*

Bakkafrost Scotland have made the following statement: *"The extremely difficult decision to temporarily close facilities at Marybank and Arnish in Stornoway for an extended period of time, was taken to futureproof the business in Scotland"*.

As stated during the committee session, the Cabinet Secretary for Rural Affairs, Land Reform and Islands visited Bakkafrost Scotland's parent company in the Faroes, in Sept. 2024.

- 5. You agreed to provide figures regarding the local economic output of salmon farming across individual local authority areas.*

These regional summaries will be shared in separate files:

- salmon scotland - brief - argyll and bute - one page - june 2022
- salmon scotland - brief - comhairle nan eilean siar - one page - june 2022
- salmon scotland - brief - highland council - one page - june 2022
- salmon scotland - brief - orkney council - one page - june 2022
- salmon scotland - brief - shetland council - one page - june 2022
- salmon scotland - regional impact – 2021

- 6. In response to a question from Emma Roddick MSP, you undertook to share further information on the ongoing review of the Code of Good Practice for Scottish Finfish Aquaculture.*

The Code of Good Practice for Scottish Finfish Aquaculture (the Code) was created in 2006 in response to guidance from Marine Scotland and included in *A Strategic Framework for Scottish Aquaculture (2003)*. It has since become the leading good practice standard for Scottish fish farming. It is comprehensive, covering all aspects of the production cycle and provides a high baseline of farming practice on which several aspects of statutory legislation have since been based. All salmon farms adhere to the standards of the Code with independent third-party audits taking place. The robust nature of the Code has formed the basis for other third-party assurance schemes which recognise that farms already participate in the Code.

The Code is owned and managed by a Management Group which oversees standards and approves any changes that are made. The Code is subject to continuous review that recognises developments in science, technology, innovation and good practice and, in that regard, it is considered to be a "live" document.

Some of the issues that have come to prominence in recent times have created an opportunity to restructure the Code to update and strengthen key areas, such as the management of fish health and welfare and containment. Work on this is currently underway and it is anticipated that this will be completed in the first half of 2025.

- 7. You agreed to respond to concerns highlighted by a respondent regarding the accuracy of mortality data.*

In responding to other questions (above and below), Dr Bickerdike has provided detailed information, which explains the stocking and mortality situation at the Dunstaffnage farm.

It should be noted that anti-salmon farming campaigners frequently make claims about the accuracy of sector data. These claims are baseless and are made to misrepresent facts and to support targeted lobbying activity – there is nothing to suggest that sector and publicly available data are not accurate.

8. Dr Ralph Bickerdike said he would clarify mortality figures at Scottish Sea Farms' Dunstaffnage site.

The 2022 production cycle survival rate was 43.5%, which is significantly lower than during the 3 previous production cycles which had an average survival rate of 92.1%. The low survival in the 2022 production cycle was due to an increase in harmful micro-jellyfish (*Muggiæa Atlantica*) which occurred in late summer / autumn 2022, and again in summer of 2023 affecting a number of salmon farms in Scotland from west coast mainland through to the Shetland Isles.

9. What interventions and monitoring are applied by producers at sites reporting a high mortality event or above average mortality rates to prevent reoccurrence.

In response to a high mortality event an investigation would be carried out by trained farm husbandry personnel and fish health professionals, including veterinarians, to establish the cause of the mortality event. Any assessment will include increased screening of the population (over and above the existing routine screening) using, for example, blood biomarkers, gill swabs (PCR), bacteriology, histology and tissue sampling to understand the health status of the fish and to fully detect any developing health situation. These diagnostic tools can assist in determining the correct course of action to support fish in their recovery. The mitigation and intervention options used will be highly dependent on the factors influencing the health and welfare of the fish, but may include medicinal or non-medicinal treatment, dietary support, aeration, adaptations to feeding strategies etc. The site-specific Veterinary Health and Welfare Plan would be updated and reviewed based on the nature and cause of the event with any changes identified to mitigate or reduce the risk of reoccurrence. An example of this would be the responses made to address the seasonal increases in harmful micro-jellyfish in summer / autumn, whereby increased surveillance of water quality and deployment of aeration for upwelling may be applied as mitigation to prevent reoccurrence.

10. Examples of "long-term strategic changes" fish farmers are introducing in accordance with the commitment under Salmon Scotland's Fish Health Plan.

The sectors Fish Health Plan outlines our aspirations for long-term strategic changes which, we believe, will lead to significant improvements in fish health, welfare and survival. We have provided these below (as presented in the Plan), along with relevant examples:

- Developing farms in more exposed locations, where environmental conditions are more varied, leading to better flushing of farms and better conditions for our salmon.

Cooke Aquaculture Scotland have developed a new farm, "East Mochlett", 2.2 miles southwest of Papa Westray in the Orkney Isles. This farm is in a significantly more exposed location than Cooke's existing farms, with greater water currents leading to lower environmental impacts and expected benefits for fish health.

- Using fewer, larger pens on our farms, as this can improve the effectiveness of our fish health strategies.

In 2022, Scottish Sea Farms installed the first of its 160m-circumference pens at its Fishnish farm off the Isle of Mull. This was a significant increase from the 100 metre pens previously used on the farm, leading to more room for the fish, better water flow, oxygen, and improved management of predator interactions. SSF have since deployed 160 metre pens on other farms in their estate.

160-metre circumference pens are being used on an increasing number of farms across the sector, by other farming companies, with Mowi increasing the size of pens on their Hellisay farm to 200-metres in circumference.

- Utilising farms in more sheltered locations, or farms where there is more brackish water, as “nursery farms”, during the early months of production, before our fish are transferred to farms in more exposed locations.

In 2023, Mowi Scotland completed the purchase of Dawnfresh farming, including the sea water farms in Loch Etive – a sheltered, brackish water location on the west coast of Scotland. The Loch Etive farms are to be used as nursery farms for smolts, prior to transfer to more exposed locations. Fish will be held in Loch Etive for a number of months, reaching up to 1 kilo in weight, before being moved to more exposed locations. This will significantly shorten the time spent in full oceanic conditions, with benefits for fish health and welfare. The farms in Loch Etive were stocked with their first batch of smolts in February 2024.

- Exploring the benefits of producing larger smolts during the freshwater phase, to reduce the overall time salmon need to live in our marine farms.

Bakkafrost Scotland have invested in and developed their Applecross recirculation aquaculture facility, a multimillion-pound investment with the purpose of rearing larger, more robust smolts (up to 600g), with the aim of significantly shortening the overall marine production cycle (by up to 6 months). This is part of a strategic plan by Bakkafrost which could see further investment in additional recirculation facilities in other locations across Scotland.

- Investigating the use of land-based post smolt facilities, where salmon are reared in tanks during their early marine phase reducing the overall time our salmon are in the open sea.

There are currently no developments of this nature within Scotland. However, there are post smolt facilities in operation in Norway, including farms operated by parent companies of Scottish businesses. Information exchange will continue across the international salmon farming community, to support developments in Scotland, in the future.

- Researching the use of closed or semi-closed containment systems, where salmon can be reared during the early marine phase to reduce the overall time they spend in the open sea.

There are currently no operational farms of this nature within Scotland. Loch Long Salmon have applied for a semi-closed containment farm in Loch Long. This application currently rests with Scottish Ministers and has done since February 2024, pending a consenting decision. However, similar to land-based post smolt facilities (above), there are similar systems operated in other farming nations and information flow will continue across the international salmon farming community.

There continues to be significant investment into research and development in this area. GaelForce (a Scottish company formed in 1983, which has grown to become a significant supplier to the Scottish aquaculture sector), are investing significantly in SeaQureFarm, their semi closed containment farming concept <https://www.gaelforcegroup.com/sectors/aquaculture/seaquirefarm>.

- Establishing consenting mechanisms to allow the consolidation and / or transfer of farms to optimal locations.

This represents our sector ask. A streamlined consenting system, which supports the consolidation and transfer of farms into better farming locations. As an example of where such

a system could benefit our sector. In 2021 Scottish Sea Farms (SSF) purchased Grieg Seafood Shetland, to add to its existing portfolio of farms on Shetland. SSF have plans to rationalise farms within Shetland's coastal area following the acquisition. The current consenting system does not facilitate this. If the system were streamlined, rationalisation could be completed in a shorter timeframe with benefits to fish health and the environment.

11. Further to comments made in relation to Salmon Scotland's commitment to be open and transparent, whether calculations for industry reported mortality rates for each farm take into account the following:

- a) the presence of disease or other health issues;*
- b) fish added as replacement stock throughout the production cycle to bring pens in line with optimal stocking density.*

Each month, Salmon Scotland publishes mortality figures for all marine salmon farms in Scotland. Furthermore, whenever a farm is harvested out, we publish the mortality for the entire production cycle on that farm. Our figures are based on fish numbers, not fish weight (biomass), as this is considered the most appropriate way to present information to the public. The total mortality for each month or production cycle is calculated as a percentage of fish on the farm at the start of the month or production cycle.

- a) The mortality figures are not adjusted in any way based on disease or other health issues. They are transparently presented as the entire mortality for either the month or production cycle. We do, however, note the cause of mortality in any month, if the mortality exceeds the thresholds that requires companies to report mortalities to the Marine Directorate Fish Health Inspectorate.
- b) If fish are added or transferred to another farm our figures are adjusted accordingly. To explain:

At any point in time a salmon farm will only contain a single year class of fish. Typically, fish are stocked onto the farm over a short period of time at the start of the production cycle. Our production cycle mortality figures are based on the total fish on the farm once fully stocked.

If the fish on a farm are divided and transferred to another farm, mid cycle, or if fish are added to a farm out with the initial stocking period, we will adjust the figures on both the original and new farm accordingly. To do this, when the fish are transferred, we transfer the total number of fish to the new farm, but for accounting purposes we also transfer the appropriate proportion of mortalities that have occurred to that point, to the new farm. The numbers relating to the original farm are also adjusted accordingly.

Sector asks

Salmon farming has changed dramatically since 2018. Most, if not all, recommendations from the 2018 inquiry have either been met and/or are no longer directly relevant. We believe it is important to look to the future, to support the further sustainable development of our sector. With this in mind, we ask the committee to consider the following, as key sector needs in supporting our development into the future:

- Full implementation of the recommendations of *A Review of the Aquaculture Regulatory Process in Scotland*, published on 10th February 2022¹. In particular, the need to drive the consenting process across Government and its agencies within the existing statutory deadlines. A streamlined framework for consenting is urgently needed and will facilitate the sectors' ability to develop more strategic approaches to farming salmon, in new locations with the latest technology.
- Develop a new model for funding research and innovation for the Scottish salmon farming sector, and which can replace SAIC, which is losing government funding in March 2026. As part of any new funding model, our sector requires a commitment to develop suitable sea and land-based trials facilities for both fundamental research and commercial testing of innovation. Norway has access to such facilities – we need the same in Scotland.
- Reconstitute the Salmon Interactions Working Group with a focus on science and the 12 high-level pressures on wild fish contained within the Scottish Government's Wild Fish Strategy.

I hope the above and attachments are helpful.

Yours sincerely

A handwritten signature in blue ink that reads "Tavish Scott". The signature is written in a cursive style and is positioned above a horizontal line.

Tavish Scott
Chief Executive
Salmon Scotland

¹ <https://www.gov.scot/publications/review-aquaculture-regulatory-process-scotland/documents/>

Annex 1: An overview of the different sources of mortality data

Mortality data is currently collected for specific purposes by several different bodies. We believe there is a level of confusion around the different datasets that are available. This is because the data has not been collected for the purposes of publication, *per se*, rather it has been collected for a regulatory purpose, and then published thereafter. While all data is accurate, it can be confusing to understand what is published, by who, and why. This summary seeks to explain the different data that is currently available.

What is published	Who publishes	Why do they publish it / what is the driver
The monthly weight of mortalities for each farm. Can be used to calculate the total weight for the sector.	SEPA	Data is submitted to SEPA by farmers as part of their compliance with a farm's environmental licence. It is required by SEPA to support an assessment of the farm's stock biomass each month.
Number of mortalities on each farm (weekly) but only reported if mortalities exceed a certain reporting threshold.	Marine Directorate Fish Health Inspectorate	Data is provided under an agreement set through a previous ministerial working group (Healthier Fish Working Group, as part of "A Fresh Start: The renewed Strategic Framework for Scottish Aquaculture (2009)"). Reporting thresholds have been set and are defined in the Code of Good Practice for Scottish Finfish Aquaculture. The thresholds are set to support FHI in understanding specific mortality issues and whether there is an increase in mortality that needs further investigation / engagement.
The percentage of fish harvested per year class. The percentage is based on the number of fish, not biomass.	Annual Marine Directorate Production survey	The production survey focuses on production metrics and provides a figure for the percentage of fish that are harvested for each year class (2019, 2020 etc.). Fish are often harvested over a number of calendar years, and thus this survey builds up those data for each generation to give a single figure.
Monthly percentage of mortality for each farm in Scotland. A summary of the main reasons for mortality each month. This is provided if the farm exceeds the threshold for reporting to FHI (above). The end of crop mortality for each farm and production cycle. All figures are based on fish numbers, not biomass. The figures are based on total mortalities each month / cycle as a percentage of the number of fish at the start of each month / production cycle. The percentages account for circumstances where fish are moved on or off the farm during the month / cycle.	Salmon Scotland	This data is published as part of a commitment to the REC in 2018. The sector recognised the confusion that existed around mortality data and publish on the basis that, we believe, it is the most clear, understandable and relevant data for the public and producers. It relates to the percentage of fish dying on farms each month. This is a similar metric to what the public might understand for any production farm (hens, pigs etc.).

Scottish salmon

Economy: Sector Impact 2021



Total GVA

Direct GVA

Indirect GVA

Induced GVA

£766m

£303m

£397m

£66m

GVA - gross value added - is used as a measure of contribution made by a producer, industry or sector to the economy.

- Farm-raised Scottish salmon benefits local communities in terms of employment and income in remote and rural areas directly employing 2,500 people with over 10,000 further jobs supported.
- All farmers are signed up to our Sustainability Charter commitments, producing 200,000 tonnes of Scottish salmon, enough salmon for over 850 million healthy, nutritious meals every year.
- The sector spends £730 million on its supply chain which consists of over 3,600 Scottish businesses across the country, providing significant benefits across the economy.

North Coast & West Highlands	Value
Gross Value Added (GVA)	£224m
of which:	
Direct	£89m
Indirect (supply chain)	£116m
Induced (employee)	£19m
Domestic suppliers	670
Supplier spend	£122m

Outer Hebrides	Value
Gross Value Added (GVA)	£151m
of which:	
Direct	£60m
Indirect (supply chain)	£79m
Induced (employee)	£13m
Domestic suppliers	300
Supplier spend	£64m



Shetland	Value
Gross Value Added (GVA)	£137m
of which:	
Direct	£54m
Indirect (supply chain)	£71m
Induced (employee)	£12m
Domestic suppliers	370
Supplier spend	£76m

Orkney	Value
Gross Value Added (GVA)	£75m
of which:	
Direct	£30m
Indirect (supply chain)	£39m
Induced (employee)	£6m
Domestic suppliers	300
Supplier spend	£69m

Argyll and Bute	Value
Gross Value Added (GVA)	£150m
of which:	
Direct	£59m
Indirect (supply chain)	£78m
Induced (employee)	£13m
Domestic suppliers	370
Supplier spend	£69m

Every effort has been made to provide information that is current and accurate. Totals may not sum due to rounding and estimation impacts.

Source: Salmon Scotland, November 2022.

Scottish salmon

Council brief: **Argyll and Bute**



- 🐟 Aquaculture provides £150 million worth of GVA to the Argyll and Bute economy.
- 🐟 Argyll and Bute produced over 42,000 tonnes of Scottish salmon in 2021, worth £250 million.
- 🐟 Across Argyll and Bute 540 people are directly employed in the sector with a further 2,000 involved in 370 local supply chain companies.
- 🐟 One in five salmon farmed across the country are grown in Argyll and Bute making the council area an integral part of the Scottish salmon farming sector.

Direct GVA	Indirect GVA	Induced GVA	Total GVA
£59m	£78m	£13m	£150m

GVA - gross value added - is used as a measure of contribution made by a producer, industry or sector to the economy.

Argyll and Bute

Marine farms	26
Production	42,000 tonnes
Share of Scottish production	20%
Direct employees	540
Farmgate value	£250m
Local suppliers	370
Supplier spend	£69m
Export value	£122m

Economic benefit

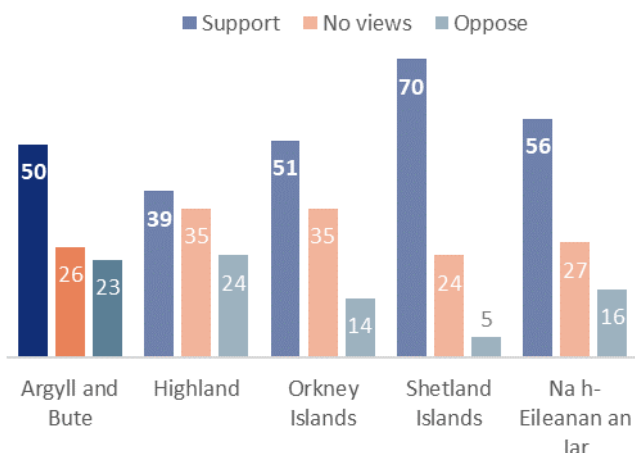
Argyll and Bute has produced farmed salmon for decades and accounts for 20 per cent of the total economic contribution salmon farming makes to Scotland.

Across Scotland, the sector contributes in excess of £766 million in gross value added (GVA) with over £300 million being a direct contribution from salmon farming.

In Argyll and Bute, over £59 million worth of economic benefit can be directly attributed to the salmon farming sector with a further £91 million contribution in indirect and induced benefits.

Salmon farming is an important sector for the whole of Scotland with investment having one of the highest rates of returns for local economies in terms of jobs and added value.

Support for salmon farming across producing regions per cent of respondees; 2022



Local support for salmon farming

Across Argyll and Bute, 85 per cent of survey respondents stated they knew at least a little about salmon farming. While this is a strong number, the majority of those knew 'just a little' indicating there is potential to educate more consumers on our sector.

Of those aware of salmon farming, one in two (50 per cent) of respondents were supportive of the sector.

Of those aware of salmon farming there is understanding of the positive economic impact the sector has on jobs and incomes as well as the knock-on benefits in the associated supply chain and integrated sector infrastructure.



42 active Sustainability Charter actions



210 active farm sites around Scotland



850 million nutritious, healthy meals

Scottish salmon

Council brief: **Comhairle nan Eilean Siar**



- Aquaculture and fishing across the Western Isles is a major contributor to the local economy.
- The islands produced 36,600 tonnes of Scottish salmon in 2021, worth £199 million.
- Across the Western Isles 420 people are directly employed in the sector with many processing and related roles also dependent on the sector.
- Around one in six salmon farmed across the country are grown in the Western Isles making the islands an integral part of the Scottish salmon farming sector.

Direct GVA	Indirect GVA	Induced GVA	Total GVA
£60m	£79m	£13m	£151m

GVA - gross value added - is used as a measure of contribution made by a producer, industry or sector to the economy.

Western Isles

Marine farms	36
Production	36,600 tonnes
Share of Scottish production	16%
Direct employees	420
Farmgate value	£199m
Local suppliers	300
Supplier spend	£56m
Export value	£124m

Economic benefit

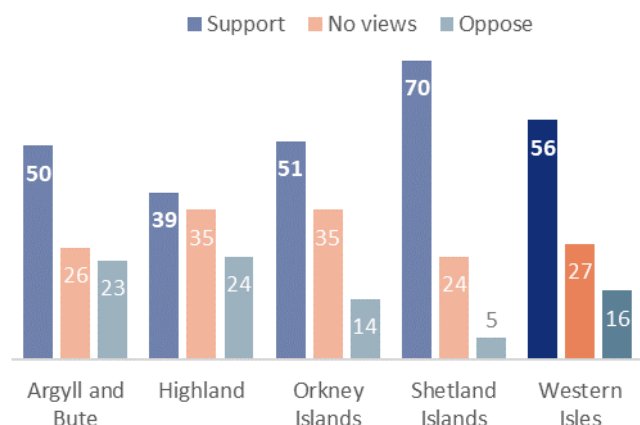
Salmon farming in the Western Isles extends to processing harvest weight fish all the way from fresh water production.

This integrated and extended supply chain benefits the local economy and accounts for 16 per cent of the total economic contribution salmon farming makes to Scotland.

Across Scotland, the sector contributes in excess of £766 million in gross value added (GVA) with over £300 million being a direct contribution from salmon farming.

In the Western Isles, £60 million worth of economic benefit can be directly attributed to the salmon farming sector with a further £92 million contribution in indirect and induced benefits.

Support for salmon farming across producing regions per cent of respondents; 2022



Salmon farming is an important sector for the whole of Scotland with investment having one of the highest rates of returns for local economies in terms of jobs and value.

Local support for salmon farming

Support for salmon farming is strong in the Western Isles with a knowledgeable population with over half (56 per cent) actively supportive of the sector.

Of those who are aware of salmon farming there is an understanding of the positive economic impact the sector has on jobs and incomes as well as the knock-on benefits in the associated supply chain and integrated infrastructure throughout the area.



42 active Sustainability Charter actions



210 active farm sites around Scotland



850 million nutritious, healthy meals

Scottish salmon

Council brief: **Highland**



- 🐟 Aquaculture and its supply chain are major contributors to the Highland economy.
- 🐟 The Highland region produced 87,000 tonnes of Scottish salmon in 2021, worth £472 million.
- 🐟 Across Highland 565 people are directly employed in the sector with more than 2,000 others involved in 930 local supply chain companies and the wider economy.
- 🐟 More than one in three salmon (37 per cent) farmed across the country are grown in the Highland Council area making it an integral part of the Scottish salmon farming sector.

Direct GVA	Indirect GVA	Induced GVA	Total GVA
£89m	£116m	£19m	£224m

GVA - gross value added - is used as a measure of contribution made by a producer, industry or sector to the economy.

Highland Council area

Marine farms	58
Production	87,000 tonnes
Share of Scottish production	37%
Direct employees	565
Farmgate value	£472m
Local suppliers	930
Supplier spend	£49m
Export value	£183m

Economic benefit

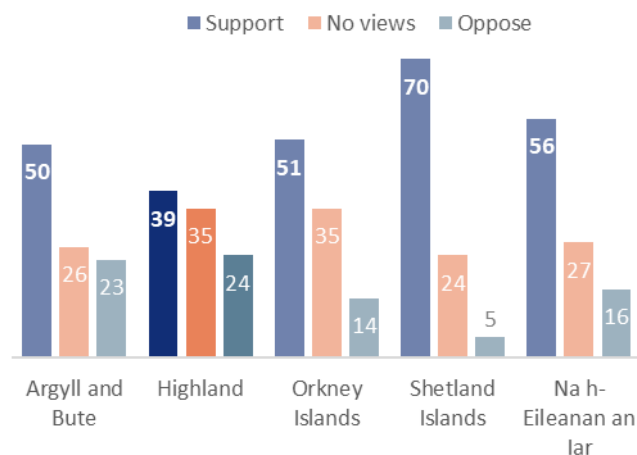
Highland is integral to Scottish salmon farming but the wider supply chain to the sector is also of significant importance.

In addition to accounting for a high share of salmon produced across Scotland, 930 supply chain companies are also located in Highland Council area.

Across Scotland, the sector contributes in excess of £766 million in gross value added (GVA) with over £300 million being a direct contribution from salmon farming.

In Highland, £89 million worth of economic benefit can be directly attributed to the salmon farming sector with a further £135 million contribution in indirect and induced benefits.

Support for salmon farming across producing regions per cent of respondees; 2022



Salmon farming is an important sector for the whole of Scotland with investment having one of the highest rates of returns for local economies in terms of jobs and value.

Local support for salmon farming

Almost 2 in five survey respondents actively support salmon farming in Highland with a similar share of people having no views on the sector - positive or negative.

Of those who are aware of salmon farming there is an understanding of the positive economic impact the sector has on jobs and incomes as well as the knock-on benefits in the associated supply chain and integrated infrastructure throughout the region.



42 active Sustainability Charter actions



210 active farm sites around Scotland



850 million nutritious, healthy meals

Scottish salmon

Council brief: **Orkney Islands**



- Aquaculture along with agriculture and fishing is Orkney's biggest contributor to the local economy.
- Orkney produced over 23,100 tonnes of Scottish salmon in 2021, worth £126 million.
- Across Orkney 190 people are directly employed in the sector with around a further 800 involved in the sector as well as 300 local supply chain companies.
- One in ten salmon farmed across the country are grown in Orkney making the islands an integral part of the Scottish salmon farming sector.

Direct GVA	Indirect GVA	Induced GVA	Total GVA
£30m	£39m	£6m	£75m

GVA - gross value added - is used as a measure of contribution made by a producer, industry or sector to the economy.

Orkney Islands

Marine farms	26
Production	23,100 tonnes
Share of Scottish production	10%
Direct employees	190
Farmgate value	£126m
Local suppliers	300
Supplier spend	£56m
Export value	£61m

Economic benefit

Salmon farming in Orkney has been around for decades and accounts for ten per cent of the total economic contribution salmon farming makes to Scotland.

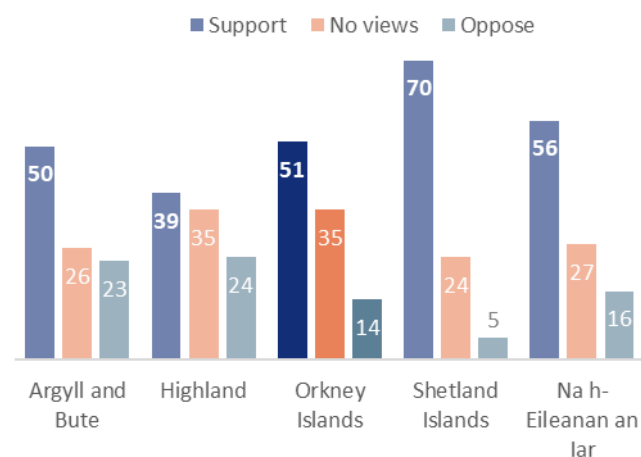
Across Scotland, the sector contributes in excess of £766 million in gross value added (GVA) with over £300 million being a direct contribution from salmon farming.

In Orkney, £30 million worth of economic benefit can be directly attributed to the salmon farming sector with a further £45 million contribution in indirect and induced benefits.

Salmon farming is an important sector for the whole of Scotland with investment having one of the highest rates of returns for local economies in terms of jobs and added value.

Support for salmon farming across producing regions

per cent of respondees; 2022



Local support for salmon farming

Orcadians are knowledgeable about salmon farming with over 80 per cent of those surveyed aware of the sector.

Support for salmon farming is good with more than half of those surveyed in Orkney (51 per cent) in support of the sector.

Of those who are aware of salmon farming there is an understanding of the positive economic impact the sector has on jobs and incomes as well as the knock-on benefits in the associated supply chain and integrated infrastructure throughout the islands.



42 active Sustainability Charter actions



210 active farm sites around Scotland



850 million nutritious, healthy meals

Scottish salmon

Council brief: **Shetland Islands**



- 🐟 Aquaculture and fishing is Shetland's biggest contributor to the local economy.
- 🐟 Shetland produced over 42,000 tonnes of Scottish salmon in 2021, worth £228 million.
- 🐟 Across Shetland 410 people are directly employed in the sector with a further 1,200 involved in 370 local supply chain companies.
- 🐟 Around 1 in 5 salmon farmed across the country are grown in Shetland making the islands an integral part of the Scottish salmon farming sector.

Direct GVA	Indirect GVA	Induced GVA	Total GVA
£54m	£71m	£12m	£137m

Shetland Islands

Marine farms	44
Production	42,000 tonnes
Share of Scottish production	18%
Direct employees	410
Farmgate value	£229m
Local suppliers	370
Supplier spend	£70m
Export value	£112m

Economic benefit

Shetland has farmed salmon for over 50 years and accounts for 18 per cent of the total economic contribution salmon farming makes to Scotland.

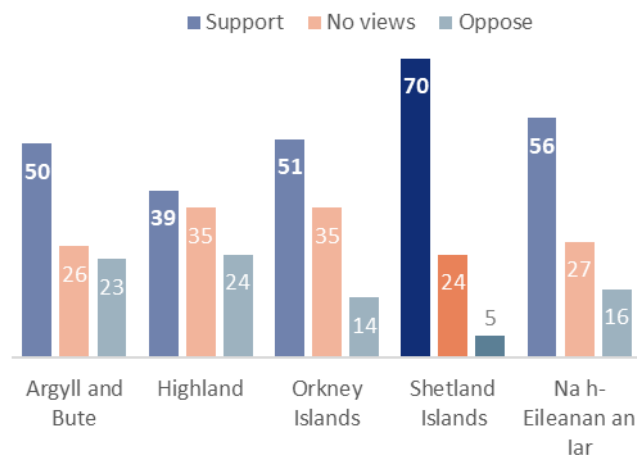
Across Scotland, the sector contributes in excess of £766 million in gross value added (GVA) with over £300 million being a direct contribution from salmon farming.

In Shetland, over £54 million worth of economic benefit can be directly attributed to the salmon farming sector with a further £83 million contribution in indirect and induced benefits.

Salmon farming is an important sector for the whole of Scotland with investment having one of the highest rates of returns for local economies in terms of jobs and added value.

Support for salmon farming across producing regions

per cent of respondees; 2022



Local support for salmon farming

Support for salmon farming is highest in Shetland with seven in 10 people surveyed in support of salmon farming.

Every other person (49 per cent) in Shetland knows a great deal about salmon farming and 85 per cent of Shetlanders know at least a little about our sector.

Of those who are aware of salmon farming there is an understanding of the positive economic impact the sector has on jobs and incomes as well as the knock-on benefits in the associated supply chain and integrated infrastructure throughout the islands.



42 active Sustainability Charter actions



210 active farm sites around Scotland



850 million nutritious, healthy meals