

OFFICIAL – SENSITIVE

CABINET SECRETARY FOR RURAL AFFAIRS, LAND REFORM AND ISLANDS
Briefing – Rural Affairs and Islands Committee – Follow-up inquiry into salmon farming in Scotland, 13 November 2024

What	This session will focus on the Committee’s follow-up inquiry into the implementation of the 65 recommendations of the Rural Economy and Connectivity Committee’s session 5 report ‘Salmon Farming in Scotland’.
Where	Scottish Parliament, Committee Room 2 (MFS)
When	Wednesday 13 November 2024, 09:00 – 11:30 hours
Key Message(s)	<ul style="list-style-type: none"> • Aquaculture is a significant contributor to our rural economy, providing well paid and highly skilled jobs, particularly in rural and island communities and will be an essential part of our transition to net zero. • Our Vision for Sustainable Aquaculture, published last July, sets out the Scottish Government’s ambitions for the sustainable development of the aquaculture sector, with an enhanced emphasis on environmental protection and community benefit. • We recognise that as aquaculture is developed it must do so sustainably and with appropriate regulatory frameworks which minimise and address environmental impacts. • Significant progress has been and continues to be made on the recommendations of the 2017/18 parliamentary inquiries into Salmon Farming in Scotland.
Who	Rural Affairs and Islands Committee
Why	Opportunity to provide an update to Committee on Scottish Government’s response to the Rural Economy and Connectivity report on Salmon Farming in Scotland (2018); following a previous evidence session in May 2023.
Supporting official	Jill Barber , Senior Delivery Lead, Aquaculture Programme, Marine Directorate Hazel Bartels , Senior Delivery Lead, Aquaculture Programme, Marine Directorate Charles Allan , Senior Delivery Lead, Fish Health and Biosecurity, Marine Directorate
Media Handling	Communications is aware and will consider video bytes post session.

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KEY MESSAGES: PARLIAMENTARY INQUIRIES PROGRESS

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2017-2018: The Rural Economy and Connectivity (REC) and Environment, Climate Change and Land Reform (ECCLR) committees held two inquiries into salmon farming in Scotland. The first was on the environmental impacts and the second looked at opportunities for the sector. The inquiries were comprehensive and covered topics from benthic impacts, acoustic deterrent devices, marine mammal protection, fish health, welfare and fish mortality, animal by product disposal, escapes, sea lice regulation and wild salmonid interactions.

January 2019: The REC committee made 65 recommendations in December 2018 and Fergus Ewing, then Cabinet Secretary for Rural Economy, responded to each of the 65 recommendations.

3 May 2023: [Written update provided to RAI committee on each of the recommendations.](#)

10 May 2023: You provided verbal evidence to the RAI committee on our response to the REC committee report and progress in implementing the recommendations of the independent review of the current regulatory framework for Scottish aquaculture.

June – September 2024: Committee collects evidence on progress from eNGOs, accreditation bodies, aquaculture scientists, salmon interactions stakeholders, regulators and the salmon farming sector.

TOP RISKS/ ISSUES AND OBJECTIVES

- The Committee is likely to challenge pace of delivery. We should aim to set out the significant progress made across the recommendations so far and set expectations on further progress. Key lines are:
 - Significant progress has been achieved since the initial response to the RECC report in 2019 – that is despite the emergency response and resource demands resulting from the management of Covid and EU Exit (**see Achievements since January 2019**).
 - Successive Programmes for Government have highlighted the unprecedented budgetary constraints that we face. We cannot deliver everything at once – we have and will continue to make difficult prioritisation decisions within the context of aquaculture and broader marine initiatives, aligned to the First Minister’s priorities.
- The Committee is also likely to challenge the perceived lack of progress on fish health and mortality. We have delivered on a number of fish health recommendations, however, members are likely to point to consistently significant levels of mortality on fish farms. Scottish Government statistics published on 30 October show that survival of the 2021-2023 year class was one of the worst on record, although the sector’s monthly data from this year indicate that this year could be an improved picture. The key challenge is communicating the complexity of the issues at play and the need for a range of initiatives to come together in order to see further progress.

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- We've made progress to introduce mortality reporting, sea lice reporting and we have lowered sea lice intervention levels for farmed fish health following session five's recommendations. Average sea lice levels in Scotland are the lowest they've been in recent years as a result.
- We've also been working with regulators, the sector and our innovation partners through the Farmed Fish Health Framework to consider strategic approaches to support fish health.
- As you heard from the sector, the situation regarding mortality is complex and the sector is responding by making significant investments in science and development and then, in turn, in implementing innovations, including new freshwater wellboats to large smolt strategies. The sector has reported over £975m spend on equipment and resources to improve fish health and welfare since 2018.
- The sector is also working to ensure its footprint is as efficient and effective for fish health and welfare as possible – in some cases that means investment in new equipment and achieving new planning permissions, which takes time. That is why the work of the Consenting Task Group is vitally important.
- It will take time for investments and the range of initiatives underway to come together and bear fruit. These are not quick fixes, but they are fundamental to support the future of the sector in Scotland.
- While mortality levels remain stubbornly high, it is not true that Government and the sector have not been working extremely hard to address challenges which emerge and change all the time.
- While the sector has made progress to address extant challenges, we need to get ahead of emerging issues if we are to see sustained reductions in mortalities. We are required to continually adapt and innovate, and the sector is already accustomed to doing so.

ACHIEVEMENTS SINCE JANUARY 2019

- We've conducted a broad programme of work to ensure the continued success of aquaculture in Scotland which recognises the role the sector has in delivering our National Framework Outcomes and for the people of Scotland.
- Our **Vision for Sustainable Aquaculture**, published in July 2023, sets out the Scottish Government's ambitions for the sustainable development of the aquaculture sector, operating within environmental limits, and which recognises the considerable social and economic benefits the sector delivers today, and can deliver in the future.

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THEME 1: ECONOMY AND SOCIAL BENEFIT

- **We are proud of Scotland’s successful aquaculture sector** and are determined to support it to continue to provide economic and social benefits within sustainable environmental limits for the long term.
- In 2022, salmon farming production generated £324 million Gross Value Added (GVA), 7% of the Scottish marine economy GVA. [Scottish Government Marine Economy Statistics 2022].
- The Scottish Government and its partners continue to work together to ensure that **communities which host aquaculture see the direct benefits** of aquaculture.
- You heard from Crown Estate Scotland that from 2017 to 2022 aquaculture generated in the region of **£50 million in rents**, with the net revenues from marine assets out to 12 nautical miles distributed to local authorities for the purpose of coastal community benefit.
- That community contribution is due to increase following **Crown Estate Scotland fish farm rent increases announced in 2023** and which operates alongside the **individual community initiatives** the sector separately supports – such as housing, IT infrastructure or local community projects.
- We are also investing in the sector’s future by supporting innovation through the **Marine Fund Scotland** which in 2024/25 awarded over £4.5 million to aquaculture projects, which will enable over £17 million of investment across the sector.
- The sector continues to invest in its people – the sector supports around 2000 jobs on farms and over 10,000 additional roles across its broader supply chains, many of which are skilled and provide average annual incomes well above national and regional averages.
- For example, a study by Cooke Aquaculture Scotland in Orkney found that their permanent, skilled jobs were paying on average 24.8% more than the average Orkney wage and 8.6% above the average for Scotland.
- We provided a package of emergency financial support to the sector and mitigate the **impact of Covid-19 and EU Exit** through up to £3 million total funding to eligible shellfish growers and trout farmers. We were also pleased to be able to provide more than £5 million to assist seafood processors.

THEME 2: FISH HEALTH AND WELFARE

- **Availability of fish farm mortality information in Scotland is world leading in farming transparency and** we have advanced our understanding of mortality in identifying and ranking the main causes of mortality into ten overarching categories- Salmon Scotland is now publishing monthly mortality data (as a percentage).
- Information held, relating to the mortality reporting regime, is obtained by the Marine Directorate through either industry reporting based on voluntary **mortality reporting** thresholds that were agreed between Scottish Government and industry stakeholders, or via Fish Health Inspectorate surveillance. Information is actively published on a monthly basis, one month in arrears.

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- **We've introduced mandatory sea lice reporting requirements** – In 2021, The Fish Farming Businesses (Reporting) (Scotland) Order 2020 came into force. It requires Aquaculture Production Businesses in Scotland to report a weekly average adult female sea lice number to the Scottish Ministers one week in arrears.
- **We're taking action to consider the health and welfare implications relating to the use of cleaner fish in salmon farms** – Recognising the importance of this issue, the Scottish Animal Welfare Commission are looking at the use of cleaner fish in salmon production and consider welfare aspects - we look forward to receiving its recommendations.
- **We have delivered investment into innovation through the Sustainable Aquaculture Innovation Centre, addressing key challenges** - Between 2014-2023, the Sustainable Aquaculture Innovation Centre converted a direct project funding pot for fish health of £9.2m into industry-critical research across aquaculture sectors, supporting collaborative projects and leveraging a further £53.5m from the sector, and third party funding. This total investment of £62.7 million includes a range of projects such as mitigating harmful algal blooms, gill health improvement, rapid diagnostic technologies and vaccination.

THEME 3: ENVIRONMENTAL IMPACTS (WATER AND SEABED IMPACTS)

- **A new, strengthened, environmental regime** continues its roll out by the Scottish Environment Protection Agency to ensure the protection of the marine environment. **The transfer of all active farms onto the framework is due to be completed by the end of 2024.**
- Regulators are actively considering how to **support innovation** - In 2022, SEPA introduced a **new charging regime** for marine fish farms which provides a significant reduction of fees for waste capture technologies (where an operator shows the new site will reduce emissions by 80%+ then the application charges will be reduced by 50%) and which will help to encourage innovation and adoption of technologies in Scotland.
- We've been working to **consolidate SEPA as the environmental regulator of fish farms to remove duplication and effect efficient management of the environment** - The Marine Licensing (Exempted Activities) (Scottish Inshore Region) Amendment Order 2020 transferred responsibility for the authorisation of **discharges of medicine residues from wellboats** to SEPA. This means that SEPA is now responsible for monitoring and regulating all discharges associated with fish farming.
- Following a public consultation (April-July 2023) we will introduce a **new Environmental Quality Standard (EQS)** for emamectin benzoate in June 2028 to ensure that use of this medicines stays within independently recommended limits to protect the environment. In response, the Scottish Government will introduce the new EQS by means of a Direction to SEPA.
- I've also been pleased to see **sector commitment to Net Zero** through its sustainability charter and the increasing introduction of new clean technologies, such as hybrid workboats.

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THEME 4: ENVIRONMENTAL IMPACTS (INTERACTIONS)

- Recognising the regulatory challenge previously identified by committee, we have been working to address the interactions between sea lice and farmed and wild fish as a priority.
- SEPA commenced the implementation of a **new sea lice risk assessment framework** to protect wild salmon populations from 1 February 2024. The framework for protecting sea trout populations will start in March 2025.
- We also continue to **invest in interactions science and research** to support policy decisions and understand the impacts of interactions between farmed and wild salmon – for example delivering the collaborative SPILLS (Salmon Parasite Interactions in Linnhe, Lorn and Shuna) programme to consider the accuracy and comparability of different sea lice models.
- In 2021 we published an **Aquaculture Code of Good Practice** to address the impact of marine mammal interactions upon containment and escape of fish at fish farms and guidance on the use of acoustic deterrent devices (ADDs).
- The Scottish Government remains committed to working with the sector to **reduce the risk that fish escape** from fish farms with a new Technical Standard for Scottish Finfish Aquaculture, and to explore the introduction of fines for fish farm escapes, with the aim of ring-fencing money for wild salmon conservation.
- It is important that we take effective prioritisation decisions to progress the actions identified within our overarching Wild Salmon Implementation Plan which deals with the range of pressures facing wild salmon.
- In March 2024 the Scottish Government published a report on the progress made in the first year since publication of the **Wild Salmon Strategy Implementation Plan**, showing work has progressed on over fifty of the actions.

THEME 5: SPATIAL PLANNING AND CONSENTING

- **We're making progress on spatial planning and consenting:** considering spatial and cumulative risks of sea lice was a key driver behind a number of the RECC committee recommendations, and I am pleased that **SEPA's sea lice framework has now been introduced as a priority**.
- However we've always been clear we will go beyond that – which is why Professor Russel Griggs was tasked by the Scottish Government to deliver an **independent review into the regulation of aquaculture**.
- Professor Griggs reported his findings and recommendations in February 2022 which I immediately accepted in principle, subsequently establishing the **Scottish Aquaculture Council** as an advisory group bringing together the sector, regulators and Scottish Ministers to coordinate across the range of Scottish Government's commitments and to deliver our aspirations for aquaculture in Scotland.
- A **Consenting Task Group (CTG)** has been working to identify, pilot, and review new measures to achieve improvements in consenting processes – working towards a **coordinated and efficient consenting system**.
- A key aim of this work was to unpick detailed regulatory requirements and to **build consensus on the way forward**.

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- **Pilots of a new pre application process commenced in January 2024** in Shetland and Highland local authority areas. These will be independently evaluated before the end of 2024 in order to further refine and improve the process.
- **We've made improvements to our national planning frameworks, including a specific aquaculture policy contained within National Planning Framework 4 (NPF4)**, which was adopted in February 2023, and we have commenced work to deliver **National Marine Plan 2** to ensure that it is fit for the future.
- We continue to provide feedback where requested on developing local spatial plans. **I was pleased to see Orkney Islands Council consult on their fish farming spatial guidance this summer** following progress of their regional marine plan – this guidance has been developed to identify sensitive areas and species and potential constraints for fish farm development and/ or other activities in Orkney.

THEME 6: SCIENCE AND INNOVATION

- **We continue to invest in developing our science and evidence base** – progressing collaborative science to develop sea lice models and publishing Scotland's first assessment of genetic introgression, for example.
- Putting in place the right mechanisms to **deliver on our long-term science and innovation needs** is essential.
- I asked the **Scottish Science Advisory Council to consider issues of science in the consenting system following the regulatory review**. The SSAC is Scotland's highest independent science advisory body – an indication of the importance that I place on this work. The SSAC reported in April 2023, and I have discussed the report's findings with leaders at the Scottish Aquaculture Council.
- In January of this year, **I launched Marine Directorate's Science and Innovation Strategy** to ensure that the Scottish Government can use the best science and data to make informed decisions.
- I am pleased that we've also recently appointed a **Chief Scientific Advisor for Marine**, and I look forward to working with Professor Mark Inall to make progress to deliver our science strategy and following the SSAC's report.
- We're working to ensure continued aquaculture innovation support in Scotland: The Scottish Government and Scottish Funding Council **secured a £1.5 million transitional funding package for the Sustainable Aquaculture Innovation Centre (SAIC)** to March 2026. This will ensure the value and expertise which SAIC offers to innovation in a key marine sector is retained, and there is no hiatus in important research and development activity.
- Our **Marine Fund Scotland** has awarded over £4.5 million to aquaculture innovation projects, which will enable over £17 million of investment across the sector this year.

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THEME 1: ECONOMIC AND SOCIAL BENEFIT

ANNEX C

ISSUES RAISED:

- Committee sessions have included questions related to the economic and social benefits arising from salmon farming.
- Some eNGOs failed to recognise the economic benefits of salmon farming, with other organisations citing no position on the economic benefits.
- Committee has discussed with eNGOs and scientists whether there should be a cost benefit analysis of salmon farming and how environmental impact is weighted against economic and social benefits in the consenting process.
- The Committee has queried whether social licence has improved and how the community voice is represented in salmon farming developments.
- The Committee sought information from Crown Estate Scotland on how it supports community benefit and ‘good neighbourly’ activity as landlord.
- In the industry evidence session, businesses stated how they have invested £1 billion in CapEx and operating costs into improving fish health and welfare since 2018. £600 million of this was investment in the wider supply chain.
- Businesses noted how they provide well paid jobs in rural communities, not just on farms but across business operations and the wider supply chain.
- Salmon farming companies have invested in housing developments, to accommodate staff but also housing which is available to members of the local community.
- Many businesses have individual community funds which support local projects.

REC COMMITTEE RECOMMENDATION

Environmental protection

4. The impact of expansion plans on other sectors which share the marine environment needs to be recognised and the impact reduced.
The Scottish Government, SEPA and all other responsible authorities should therefore ensure that the needs of other industries are fully considered in setting the strategic context for the sector.

RESPONSE

- Our Vision for Sustainable Aquaculture, published in July 2023, sets out the Scottish Government’s ambitions for the sustainable development of the aquaculture sector.
- The Vision is the product of an extensive piece of work across government and aquaculture stakeholders; we will continue to work collectively with producers, supply chain businesses and other stakeholders to respond and adapt to the nature and climate crises ensuring the continued success of Scottish aquaculture.
- Our developing spatial plans, supported by thorough consideration of economic, social and environmental impacts through the consenting system, are key to balancing the interests of other marine users and communities and ensuring the right decisions are taken in the local context.
- We continue to enshrine and deliver local democracy through the planning system.

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- National Planning Framework 4 was adopted in February 2023, and we are making progress to deliver National Marine Plan 2 which will further help to manage conflict and prioritisation of the use of Scotland’s seas, alongside delivery of local development plans and regional marine plans.
- The sector continues to implement its community engagement charter, which set out how it will engage with other marine users on its development proposals and through the consenting task group, we are piloting new approaches to pre application activities which places discussions on impacts on other marine users upfront in the consenting system.

REC COMMITTEE RECOMMENDATION

6. The Committee also acknowledges the infrastructure constraints faced by the sector that were raised in evidence, particularly a lack of available housing, which can make it difficult to attract and retain staff. The Committee recognises that a lack of housing can cause difficulty for many businesses in rural and remote areas. It calls on the Scottish Government to work with enterprise agencies and local authorities to consider what work might be done to help ease this constraint.

RESPONSE

- A public consultation on the current National Islands Plan ran from July- November 2023 and consisted of an online questionnaire and 16 workshops to evaluate the impact of the initiative. Salmon Scotland submitted an online response to the consultation. The Scottish Government has now published an independent analysis of the consultation results, which are being used to guide work on a refreshed National Islands Plan. This will be published in 2025.
- Our commitment to deliver 110,000 affordable homes, of which at least 70% will be for social rent and 10% in our rural and island communities, is supported by our Rural and Islands Housing Action Plan, published on 13 October 2023.
- In addition to our substantial mainstream investment, demand led funds, such as the £30 million Rural and Island Housing Fund and the £25 million Rural Affordable Homes for Key Workers Fund are key elements in addressing specific rural housing issues where they arise.
- We are providing an almost £1 million package of support, co-funded with Nationwide Foundation, to underpin a delivery pipeline of community-led housing supply in rural and island areas. Funding has been provided to support the continuation of dedicated Settlement Officer posts within Argyll and Bute Council and Comhairle Nan Eilean Siar to help people who want to stay on or move to the islands.
- We have worked collaboratively to a number of housing projects with the sector for example on Colonsay Mowi, Scottish Government, local authorities and community councils worked in partnership to deliver an affordable housing project worth £3,124,178. I’ve seen firsthand how these sorts of projects are making a difference in rural communities.
- We will continue to work with the sector to identify opportunities to address strategic challenges together.

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ECONOMIC AND SOCIAL PROGRESS AND KEY SUCCESSES

- The Scottish Government’s Vision for Sustainable Aquaculture was published in July 2023. The Vision sets out Scottish Government’s support for the development of a sustainable aquaculture sector, operating within environmental limits, and recognising the considerable social and economic benefits the sector delivers today and can deliver in the future.
- The Consenting Task Group (CTG) is working towards streamlining the fish farm consenting process while protecting and improving the ability of communities to meaningfully contribute to the aquaculture consenting process.
- CTG pilots which are currently underway include a stage on community engagement as part of the newly developed pre-application process.
- Since its establishment in 2021 the Marine Fund Scotland has awarded £14 million to aquaculture businesses to support sustainable development. (2021/22 - £3.9m, 2022/23 - £3m, 2023/24 - £2.6m, 2024/25 - £4.5m)
- Promoting Scottish aquaculture on the international stage – including seafood expo, Aqua Nor and Aqua Sur trade conferences, working with our enterprise agencies to grow Scottish business and attract inward investment to Scotland.
- Crown Estate Scotland changed the seabed lease fee due from fish farms in January 2023. Lease fees will further increase from 1% to 1.5% of notional turnover in 2026, increasing aquaculture’s contribution to an estimated £15 million per annum.
- Through Crown Estate Scotland’s Net Revenue Scheme, all net revenue from CES marine assets out to 12 nautical miles are distributed to local authorities for the purpose of coastal community benefit.
- Our commitment to deliver 110,000 affordable homes, of which at least 70% will be for social rent and 10% in our rural and island communities, is supported by our Rural and Islands Housing Action Plan, published on 13 October 2023, having been developed through strong engagement with our rural and island stakeholders.
- In addition to our substantial mainstream investment, demand led funds, such as the £30 million Rural and Island Housing Fund and the £25 million Rural Affordable Homes for Key Workers Fund are key elements in addressing specific rural housing issues where they arise.
- We are providing an almost £1 million package of support, co-funded with Nationwide Foundation, to underpin a delivery pipeline of community-led housing supply in rural and island areas.

TOP LINES:

- We are proud of Scotland’s successful aquaculture sectors and are determined to support them to continue to provide economic and social benefits within sustainable environmental limits for the long term.
- Our Vision for Sustainable Aquaculture set out our ambition for the sector to be recognised as one which is flourishing, attracting investment and delivering significant economic benefit to Scotland through domestic and international trade and through its supply chain.

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- The Vision also commits to ensuring that communities are supported through the provision of highly skilled employment opportunities, access to healthy local foods and other lasting benefits arising from aquaculture.
- We are protecting and improving the ability of communities to meaningfully contribute to the aquaculture consenting process through new community engagement mechanisms being trialled as part of our Consenting Task Group pilots.

Q: How would you characterise the economic and social impact of Scottish salmon farming

- Salmon farming is a key sector within the Scottish economy. It produces a home-grown product which meets the demands in Scotland, the UK and further afield for high-quality nutritious seafood, and contributes to our ambitions to create secure, sustainable and local food systems producing healthy food.
- In 2022, salmon farming production generated £324 million Gross Value Added (GVA), 7% of the Scottish marine economy GVA. [Scottish Government Marine Economy Statistics 2022].]
- In recent years, aquaculture has equalled or been greater than fishing in terms of economic value to Scotland, and Scottish salmon is the UK's largest food export – showing its potential as a key blue economy growth sector [Scottish Government Marine Economy Statistics 2022].
- Scottish salmon achieved value at the farm gate of over £1.1 billion in 2023 [Scottish Government Fish Farm Production Survey 2023]. This is a slight drop on the record £1.2 billion achieved in 2022, but remains a hugely significant value.
- Salmon farming provides well-paid secure employment, particularly in coastal and island communities, not just on farms themselves but across a varied and increasingly innovative supply chain.
- In Shetland, for example, aquaculture (fish and shellfish) is Shetland's largest private sector employer, accounting for an estimate 20% of the economy and 5% of all jobs (Seafood Shetland and Salmon Scotland estimates).
- A study by Cooke Aquaculture Scotland in Orkney found that their permanent, skilled jobs were paying on average 24.8% more than the average Orkney wage and 8.6% above the average for Scotland.
- Salmon farming businesses are also major investors in Scotland through the construction of new facilities and investment in local infrastructure, including housing.
- Beyond jobs and involvement in the local community, coastal communities directly benefit from fish farm rents through the Scottish Crown Estate Net Revenues scheme, which distributes net revenue from CES marine assets out to 12 nautical miles to coastal local authorities.
- New rental charges for Crown Estate Scotland Aquaculture tenants were implemented in January 2023. This has resulted in the revenue doubling 2022-23 from over £5,000,000 in 2022 (~£5,338,782) to over £10,000,000 in 2023 (~£10,714,934).

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- Lease fees will further increase from 1% to 1.5% of notional turnover in 2026, increasing aquaculture's contribution to an estimated £15m [Crown Estate Scotland estimates]

Q: How does salmon farming enhance and contribute to the sustainability of rural and island communities?

- As a major element of our Blue Economy, salmon farming provides well-paid secure employment, particularly in coastal and island communities, not just on farms themselves but across a varied and increasingly innovative supply chain.
- In Shetland, for example, aquaculture (fish and shellfish) is Shetland's largest private sector employer, accounting for an estimate 20% of the economy and 5% of all jobs (Seafood Shetland and Salmon Scotland estimates).
- A study by Cooke Aquaculture Scotland in Orkney found that their permanent, skilled jobs were paying on average 24.8% more than the average Orkney wage and 8.6% above the average for Scotland.
- High quality salmon farming jobs in rural locations can support and enhance the wider local economy, helping to ensure the continued prosperity and viability of many rural and island communities.
- Local communities directly benefit from fish farm rents through the Scottish Crown Estate Net Revenues scheme, which distributes net revenue from CES marine assets out to 12 nautical miles to coastal local authorities.
- Salmon companies recognise wider social responsibilities, knowing they must function as members of the often small local communities in which farms are located. They know their businesses cannot be effective if the communities on which their staff depend are not good places to live and work. All major businesses support community initiatives, such as housing, IT infrastructure or local community projects.
- The planning system functions to balance the economic, environmental and social factors around the impact of fish farms to deliver on the wide array of community interests, ensuring that ultimately decisions are made with the greatest benefit to the community as a whole.

Q: What is the scale of recent investment from aquaculture businesses recently, and what are you doing to ensure the sector continues to attract high levels of international investment?

- Salmon Scotland recently reported 'nearly £1 billion' invested into fish health and welfare in Scottish aquaculture since 2018. This will not include the full picture of investment in all aspects of aquaculture and supply chain businesses in Scotland, but it gives a sense of the huge scale of financial commitment by the sector to their operations in Scotland.
- The scale of potential future investment in Scottish salmon is large, representing a significant growth opportunity for Scotland in the next 5-10 years which we are keen to grasp.
- Aquaculture is a focus area for our work to attract inward investment, and we have prioritised the promotion of Scottish aquaculture on the international stage by supporting including seafood expo, Aqua Nor and Aqua Sur trade conferences, working with our enterprise agencies to grow Scottish business,

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and engaging and supporting large overseas business interests when they reach out to us.

- We engage with the sector to address challenges in our business environment ensuring we are friendly to investment, within our strongly held priorities around high levels of sustainability and environmental safeguarding.
- Our Vision for Sustainable Aquaculture set out our ambition for the sector to be recognised as one which is flourishing, attracting investment and delivering significant economic benefit to Scotland through domestic and international trade and through its supply chain.

Q: We've heard from some representatives that salmon farming can come at the expense of opportunities for others. How do we ensure that this is not the case? Should the Scottish Government conduct a cost benefit analysis?

- The economic and social benefits of salmon farming are clear and there is no argument to be had – we are discussing the UK's number 1 food export, a sector with global reach, which supports around 12,000 jobs in Scotland across its supply chain and which provides a steady stream of revenue to Scotland's coastal communities and which embeds itself in those communities.
- I dispute claims that the financial and social benefits of salmon farming are not 'worth' the suggested environmental consequences or impacts on other users.
- The planning system ultimately delivers a cost benefit analysis of every development proposal: The planning system carefully considers the economic, social and environmental impacts of fish farms, including environmental impact assessment, carefully and experienced local authority planners are charged with making decisions in the best interest of their communities, in consideration of social and economic impact and in line with the statutory development plan.
- The planning system must consider the environmental impacts of salmon farming and ensure that they are mitigated to an appropriate level.
- Further to that – SEPA will not permit significant environmental impacts – farms would not achieve a licence where that were to be the case.
- The physical footprint of salmon farming in Scottish waters is estimated to be 4,000 hectares, about the same size as Colonsay; it is a small proportion of our territorial waters.
- National Planning Framework 4 is an integrated strategy to bring together cross-cutting priorities and achieve sustainable development. NPF4's policy on aquaculture seeks to ensure that new aquaculture development is in locations that reflect industry needs and considers environmental impacts, and that producers contribute to communities and local economies.
- We are also now working to deliver a new National Marine Plan to meet Scotland's future needs.

Q: It has been indicated in previous sessions that community voices are not given enough prominence in consenting decisions. How can we address this?

- Opportunities for community engagement are embedded in our planning system, itself set in the context of local democracy.
- The planning process includes formal periods for representations allowing community groups or individuals to comment on applications. Local authority

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planners must consider these comments where they are relevant to material considerations.

- Our planning reform program has strengthened and provided new opportunities for people to have their say in decisions about their place, including through opportunities like the preparation of local place plans where communities can identify aspirations for their place to inform local development plans.
- Engagement in the future of places starts long before applications for planning and other consents are made by applicants. Legislation is clear that people's views must be sought and had regard to in the preparation of spatial strategies that identify the development to happen in their area – known as local development plans.
- In reaching a decision the planning authority is expected to have regard to all material factors, including views from consultees and any representations from members of the public submitted to them.
- We are committed to protecting and improving the ability of communities to meaningfully contribute to the aquaculture consenting process through community engagement mechanisms being trialled as part of our Consenting Task Group pilots.
- The fish farm consenting pilots aim to enhance community engagement at the pre application and place more formalised structure and expectations around community engagement at this stage.
- Additionally – the fish farming sector remains committed to working towards its community engagement charter which sets out an extensive road map on how the sector approaches community engagement.
- It must be recognised that there are certain community interests which will likely never see eye to eye. That is to be expected and there will always be individuals which see a decision which does not go their way, be that the developer or other community interest.
- We aim to further support local management through delivery of regional marine plans, which are governed by representatives which are delivered by marine planning partnerships which bring a range of interests into local decision making.

Q: Should communities get a vote on fish farm developments?

- I support the sectors initiative to hold votes in small island communities. In these cases, it is relatively simpler to achieve a vote and to identify the community. If broad representation within the community is not identified, then such exercises could become skewed.
- If we project up in scale, we do not consider it feasible for example, to hold a referendum in Shetland every time a fish farm development proposal is to be decided. This is just not practical or efficient.
- The planning and SEPA licensing systems already have opportunities for public consultation enshrined in their processes, however even before this, there should have been plenty of consultation with potentially affected interest groups and marine users.
- The sector may reflect that it is relatively easier to identify those who will take an interest and may take issue with a development proposal – whether they be

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known marine users or eNGOs. In that case, there is targeted consultation with those communities prior to and during fish farm consenting system.

- It is the broader community which it may be harder to reach in some circumstances.

Q: The Committee recommended that Scottish Government work with enterprise agencies and local authorities to consider work to ease housing constraints. What progress has been made in this area?

- Our commitment to deliver 110,000 affordable homes, of which at least 70% will be for social rent and 10% in our rural and island communities, is supported by our Rural and Islands Housing Action Plan, published on 13 October 2023 having been developed through strong engagement with our rural and island stakeholders.
- Stakeholders such as Salmon Scotland are key to these discussions, and I am pleased to note they were recently able to participate alongside other key housing and business stakeholders in a Ministerial round table event in Pitlochry on 25 July (to note jointly hosted by Minister for Housing and Minister for Employment and Investment).
- In addition to our substantial mainstream investment, demand led funds, such as the £30 million Rural and Island Housing Fund and the £25 million Rural Affordable Homes for Key Workers Fund are key elements in addressing specific rural housing issues where they arise.
- We are providing an almost £1 million package of support, co-funded with Nationwide Foundation, to underpin a delivery pipeline of community-led housing supply in rural and island areas.
- There are also examples of the fish farming sector, Scottish Government, local authorities and community councils working in partnership to deliver housing. For example, the affordable housing project on Colonsay worth £3,124,178.
- We are committed to working with the sector to identify other opportunities to deliver on our shared aims, particularly on strategic issues such as housing.

Q: The sector has previously called for money from the Crown Estate Scotland to be ring-fenced for housing – do you agree with such calls?

- Aquaculture rents are currently distributed to the Scottish Consolidated Fund for coastal community benefit – local authorities have maximum decision-making power on how they spend that money on behalf of their community deliver on community priorities.
- The Verity House Agreement seeks to avoid ring-fencing and supports local governance as far as possible – so I would not support ring-fencing of funds – however I think there are already opportunities for the sector, Government and local authorities to collaborate to deliver on housing, examples including the affordable housing project delivered in Colonsay.
- Fish farm rents are increasing and there are calls to consider support to a range of initiatives. There may be opportunities for additional funding through alternative mechanisms within Crown Estate Scotland referenced by Ronan during his evidence session.

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- I am happy to discuss with the sector, Crown Estate Scotland and others as to how we achieve best value for money and support the long-term sustainability of salmon farming in Scotland.

Q: Some people would characterise salmon farmers funding community projects as bribes to allow them to operate their farms. Would you agree with this?

- No, I do not agree with that statement. That salmon companies recognise wider social responsibilities and are committed to the wellbeing of their staff and the communities in which they operate is a positive.
- Many community projects, sponsorship or funding schemes run beyond the establishment of a specific farm and investing in local communities is something to be commended.
- The fish farm planning and consenting regimes consider each application strictly on their merits and development proposals which will have significant environmental impacts are not permitted – regardless of whether there are community projects associated with the proposal or not.

Could DEFRA's revision of the Protected Geographical Identification of 'Scottish Farmed Salmon' to, simply, 'Scottish Salmon' mislead customers?

- Scottish Farmed Salmon has been a registered Geographical Indication since 2004. In April this year, following a consultation process, the UK GI Register was updated to reflect a request from Salmon Scotland to change the name of the GI to Scottish Salmon.
- While I understand that some stakeholders may have concerns around this change, Geographical Indications are a reserved policy area, and any specific objections and concerns are dealt with by DEFRA.

Contact: [Redacted – Regulation 11(2)], [Redacted – Regulation 11(2)]

Date when the information was last updated/reviewed: 30/10/24

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THEME 2: FISH HEALTH AND WELFARE

ANNEX D

CONTAINS BRIEFING ON:

- **FISH FARM MORTALITY (D1)**
- **FARMED FISH HEALTH FRAMEWORK (D2)**
- **SEA LICE MANAGEMENT REPORTING AND REGULATION (D3)**
- **FISH WELFARE (D4)**
- **CLEANER FISH MANAGEMENT AND WELFARE (D5)**

FISH FARM MORTALITY

ANNEX D1

ISSUES:

- Average mortality has been relatively stable at approximately 25% since 2003 with peaks and troughs each year. The most recent production survey (30 Oct 2024) shows a survival to harvest of the 2021 year class of 68.7%, a drop of over 7%. Even though it does not constitute a statistical trend, this stands out as a particularly high figure. Indications from other data sources (Salmon Scotland, FHI) suggest that this may come down in subsequent years, but it is nonetheless a difficult data point.
- There is public, NGO and media interest in mortality levels. Sustainability of the sector is questioned by lobby groups on grounds of mortality and welfare.
- The Committee has shown interest in mortality levels, how mortality is accounted for in regulation and transparency of published data.
- Mortality is attributed to viability in early life stages, predation, health issues including gill health disease and environmental events e.g. algal or jellyfish blooms associated with climate change.
- Various datasets collected for a variety of regulatory or transparency purposes are available to the public. Their complexity and variety mean they can be misinterpreted or presented specifically to further claims of unsustainability.
- eNGOs and the RSPCA suggested to the Committee there has been no progress on fish health since the last inquiry.
- The Committee expressed frustration at SEPA's evidence session, where the different roles of SEPA and FHI were unclear, including the purpose of different fish biomass and fish number information collected by the organisations.
- A key focus has been recommendations 9 and 10, including that there should be no expansion at sites with high mortalities. Local authorities outlined that mortality is not a material consideration of planning and predicting mortality at the level of potential farm sites would be challenging if not impossible to do accurately. Crown Estate Scotland highlighted that the sector is already invested in reducing mortality rates and that the best way to drive change is to support innovation and research. UHI urged caution on site-by-site restriction for 'high' mortalities, as mortality and one-off events are highly variable.
- The fish farming sector has committed to deliver its fish health recovery plan, provided to Committee.

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REC COMMITTEE RECOMMENDATION

3. The Committee notes calls for a moratorium on new salmon farm development and expansion of existing sites, it considers that there is insufficient evidence to support this.

RESPONSE

- On expansion – As the Committee has heard in evidence to date, the salmon farming sector is highly agile and responsive to a fast-changing environment. No farming business wants to expand production at sites they do not believe offer the best opportunities to grow fish as well as possible
- In addition, there is a drive to deliver the highest standards of health and welfare with minimum environmental impact.
- Previous and current calls for a moratorium on new and expansion of salmon farms – we have made significant progress since the REC Committee found there were no grounds to support a moratorium.
- We are clear there is a statutory structure which must be followed for all decision-making in the planning system, which generally does not support moratoriums – individual applications must be decided on their own merit.
- Section 25 of the Town and Country Planning (Scotland) Act 1997 requires that decisions must be made in accordance with the development plan, unless material considerations indicate otherwise. The statutory development plan consists of the NPF4 and the Local Development Plan (LDP) for the relevant area.
- NPF4 makes clear the need to minimise adverse effects on the environment, including cumulative impacts, and continues to maintain further open pen developments on the north and east coasts of mainland Scotland will not be supported.

REC COMMITTEE RECOMMENDATION

9. The Committee considers the current level of mortalities to be too high in general across the sector and it is very concerned to note the extremely high mortality rates at particular sites. It is of the view that no expansion should be permitted at sites which report high or significantly increased levels of mortalities, until these are addressed to the satisfaction of the appropriate regulatory bodies.

RESPONSE

- Fish health remains complex to address, with unexpected environmental conditions in recent years contributing to pressures such as algal blooms and micro jelly fish – these damage gills and largely explain high mortality at specific sites.
- These specific health challenges have increased the difficulty in maintaining good fish health.
- As you heard in your evidence session with the sector, salmon businesses have diverted attention to mitigate the effects of these impacts, which we hope to see the fruits of in coming years.
- It does not make sense to prevent expansion at sites which have experienced high mortality without considering the cause; a one-off event does not necessarily indicate a systemic problem with welfare or husbandry.
- We should not act disproportionately with a moratorium, but we should better understand mortality causes and find a way forward which supports greater survival.
- The sector itself does not want to invest in sites which are not productive, and which represent economic loss.

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- The Fish Health Inspectorate, as the fish health regulator, investigates increased mortality above certain thresholds for presence of the diseases listed in legislation as requiring statutory control – and it would take action if specific diseases were detected. The FHI also ensures good biosecurity practice is being followed which is a requirement of the Aquatic Animal Health (Scotland) Regulations 2009.

REC COMMITTEE RECOMMENDATION

10. The Committee welcomes the statement in the Scottish Government’s Fish Health Framework that ambitious targets should be agreed “to achieve a significant and evidenced reduction in mortality for salmon and trout” and that these should be world-leading. However, it is strongly of the view that practical action is also required and that there should be a process in place which allows robust intervention by regulators when serious fish mortality events occur. It considers that this should include appropriate mechanisms to allow for the limiting or closing down of production until causes are addressed.

RESPONSE

Targets

- To agree targets you must first understand the causes of mortality and take an evidence-based approach to improving fish health.
- The experience of salmon farmers is that the environment is becoming more challenging to farm fish, as waters warm and new health challenges arise, although until now mortality trends have remained broadly stable. Although this isn’t definitive, it is indicative of the sector managing previous challenges at the same time as new ones emerge. The key to reducing mortalities will be to get ahead of emerging challenges faster than they arise, which involves concerted effort to innovate.
- Through the Farmed Fish Health Framework, the sector worked with the Fish Health Inspectorate to establish categories of mortality to introduce standardised reporting and to help analyse monthly statistics. This supports decision making on areas of focus particularly for the activities of the Sustainable Aquaculture Innovation Centre.
- The voluntary publication of site-specific mortality information by Salmon Scotland is a significant step forward and is leading amongst food production sectors.
- With the sector itself prioritising addressing key health challenges, we do not consider that the setting of targets would generate additional progress around the key issues. Economic loss, reputational damage and the legal, moral and market driven obligation to deploy high welfare standards are the real drivers – the sector strives for improved survival of fish, and it is not in their interests to be complacent.

Intervention by regulators

- The Fish Health Inspectorate (FHI) undertakes regular inspection, sampling programmes and health surveillance in accordance with domestic and international regulations.
- The sector is required to report mortality events above a certain percentage to the FHI – this is reinforced in the sector’s Code of Good Practice.
- Mortality events reported to the FHI are investigated for the presence of notifiable disease and they will provide advice or take action under relevant legislation.

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- The focus is rightly on listed disease – these are diseases which are set in legislation as requiring statutory control as they are associated with significant detrimental impact on farmed, or wild, fish. If these are suspected or detected, the FHI places robust controls on a farm.
- Where listed disease is not found, the FHI may check biosecurity practice and mortality records and make recommendations if appropriate. Should inspectors have concerns over welfare they will contact APHA.
- I do not consider it appropriate for specific farms to be penalised disproportionately for mortality events outwith their control, but I do agree regulators should take robust action where it is necessary, and I think that is what we have in place.

REC COMMITTEE RECOMMENDATION

14. The Committee recommends that a review should be conducted by the Animal and Plant Health Agency of the relevant regulatory and enforcement regime which applies to the transportation and disposal of dead fish to ensure that it remains fit for purpose. This recommendation is consistent with the Committee’s general view that there should be a strengthening of regulation which applies to the farmed salmon sector

RESPONSE

- No review of the relevant regulatory and enforcement regime which applies to the transportation and disposal of dead fish has been conducted by the UK’s Animal and Plant Health Agency (APHA) - it was not deemed necessary
 - The transportation and disposal of dead fish sits within the Animal By-Products (Enforcement) (Scotland) Regulations 2013. Scottish Ministers are the central competent authority, and local authorities are the enforcement authority, except in relation to food hygiene establishments.
 - The Scottish Government believes the regulatory controls in place are sufficient to ensure the transportation and disposal of dead fish is carried out correctly.
 - Any person who contravenes or fails to comply with an animal bi-product requirement laid out in Schedule 1 of the Animal By-Products (Enforcement) (Scotland) Regulations 2013 commits an offence.
 - The sector is working to explore other value chains and uses of animal by products as part of a circular economy approach. One example is its work with Pelagia to deliver ‘Sea2Soil’ – the UK’s first fish hydrolysate which can be used as an organic soil improver for food production. We strongly support circular economy approaches and encourage more development in this area. As part of this development, it may be possible to reduce road transport of APBs.
- The FHI are statutory consultees in planning applications for all new or expanding marine sites. They provide comment on appropriateness of proposals and other fish health aspects, and these are considered by planning authorities.

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Committee recommendations

12. The Committee calls on the FFHF working group to seek the views of all industry, scientific, environmental and other stakeholders to ensure that the methodology that it is tasked with developing for reporting mortalities is sufficiently robust. It is strongly of the view that it should be a mandatory requirement for all farmed salmon producers to provide this data.

Response:

- Better Regulation requires us to consider proportionate legislation, including what can be achieved through voluntary measures. The sector is prompt in its publication of data and it is not necessary or proportionate to introduce regulation at this time.
- The FFHF steering group comprises of various expertise including salmon and trout sector representatives, Fish Vets, the Fish Health Inspectorate, Sustainable Aquaculture Innovation Centre, regulators (SEPA and Veterinary Medicines Directorate) and Marine Directorate policy and science officials. Within the steering group, Salmon Scotland led on delivery of this action, in turn liaising with multiple individual companies.
- The range of expertise represented was extensive and ensured that methodology developed would reflect a diverse range of perspectives.
- Salmon Scotland worked closely with the Fish Health Inspectorate to identify categories for mortality reporting to standardise reporting across the sector.
- Salmon Scotland now reports monthly average mortality, which is leading amongst agriculture and aquaculture food producers. It is published in the public domain for transparency.

PROGRESS AND KEY SUCCESSES

Since our 2019 response to the recommendations, we have:

- Addressed fish health issues associated with sea lice by reducing the levels at which the FHI will monitor a site and intervene if necessary.
- We have also introduced legislation requiring mandatory sea lice reporting – this provides a more accurate evidence base to underpin FHI’s response. We publish the data for transparency.
- Collectively these actions have led a focus on sea lice management by the sector, which has resulted in a decline in sea lice infestation to an extent that they now rarely cause fish health problems.
- Average sea lice levels are now the lowest they have been since reporting began in December 2010. We have facilitated collective actions through the Farmed Fish Health Framework in a number of work areas to help address challenges, many of these were fully reported to Parliament following its first year.
- Successes include identifying and ranking the main causes of mortality into ten overarching categories and standardised reporting across the sector, published for transparency
- This includes promotion of fish health projects for investment by the Sustainable Aquaculture Innovation Centre (SAIC) and industry partners including:

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- research in areas of gill health disease;
 - scaling up production of cleaner fish and sustainable supply of lump sucker fish for sea lice control;
 - novel trout vaccine field trials
 - a focus on issues relating to cleaner fish use, supply, availability and husbandry;
 - work on harmful algal blooms, leading to standardised identification and recording across the sector, and progression towards prediction and mitigation.
- I recognise that these have not directly resulted in increased survival, but fish health issues are complex, and I am confident that Government action and intervention has driven sector behaviour, itself already focused around improving fish health and welfare.

BACKGROUND

Reporting requirements and available data

- Mortality reported to Fish Health Inspectorate: Aquaculture production businesses are required, by voluntary agreement, to report mortality above specific percentage thresholds to FHI. This forms part of surveillance for listed disease, and FHI will investigate for listed disease presence. It is not a comprehensive data set of mortality as it refers only to mortality ‘events’ above background levels.

[Redacted – Regulation 10(4)(e)]

What the data tells us

- Each data set is collected for a different regulatory purpose and has associated constraints. They are not comparable as they do not all relate to a single production cycle, but together they indicate reduced survivability in recent years.
- The most recent production survey (30 Oct 2024) shows a survival to harvest of the 2021 year class of 68.7%, a drop of over 7% from the 2020 year class. Even though it does not constitute a statistical trend, this stands out as a particularly high figure. Average mortality has been relatively stable at approximately 25% since 2003. Indications from other data sources (Salmon Scotland, FHI) suggest that this may come down in subsequent years, but it is nonetheless a difficult data point.
- Collective evidence indicates that mortality increased in 2023 and that producers harvested earlier than at optimal size to minimise loss.

Fish Farm Production Survey 2023

- The Scottish Fish Farm Production Survey 2023 was published as Official Statistics on 30 October 2024
- In 2023, production was undertaken by 10 businesses farming 213 active sites.

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- Total production during 2023 was 150,949 tonnes, representing a decrease of 18,245 tonnes (11%) on the 2022 figure. The projected estimate for 2024 suggests that production will increase to 185,207 tonnes.
- The survival to harvest percentage, which for the 2021 year class (the last year for which survival can be calculated) was 68.7% (a decrease from 75.9% seen in the 2020 year class).

The sector's fish health plan

- The sector's Fish Health Plan outlines actions to improve fish health, building on significant investment since 2018. The sector pledges a continued focus on improving fish health, for example by continuing integrated health management, expanding fish health monitoring, engaging with research, development and deployment of new technologies, and undertaking information sharing between companies and countries for mutual benefit.
- The Plan identifies where the sector considers Government action or collaboration is required. Areas include building a new model for aquaculture innovation support, coordinating a holistic review of medicines, and work to increase access to veterinary medicines.
- It is helpful to have the sector's approach to fish health articulated in one document - we need to fully digest its implications for government and consider its demands in the context of other priorities

TOP LINES:

- I am absolutely clear in our expectation for producers to reduce mortality to the lowest possible level, as outlined in our Vision for Sustainable Aquaculture.
- Mortality is in nobody's interest – it represents economic loss, is bad for reputation, and can be misconstrued as an indicator of poor welfare.
- I am not complacent about the levels of mortality we are currently seeing, and I know the sector is not either.
- We have made significant progress on the recommendations relating to fish health and mortality, including improvements to our sea lice management policy, the introduction of mandatory reporting and transparency of data.
- We have also facilitated work through the Farmed Fish Health Framework and Sustainable Aquaculture Innovation Centre on a range of projects to better understand and address gill health, improve availability and welfare of farmed cleaner fish and to begin to address climate change impacts on farmed fish.
- The sector now reports mortality on a monthly basis, which is leading amongst aquaculture and agriculture, and it now has standardised reporting across all farms with mortality standardised.
- We continue to prioritise the effective coordination of aquaculture innovation through the Sustainable Aquaculture Innovation Centre. Despite the change in its funding arrangements last year, we have put in place transition arrangements and are working actively on succession arrangements.
- The Sustainable Aquaculture Innovation Centre has supported more than 70 collaborative projects, many of these on fish health such as gill health, rapid

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diagnostic technologies and vaccination- in collaboration with others and representing a combined total investment of £62.7 million

- Along with the Scottish Funding Council, we have also invested £1.5 million in transition funding to March 2016- SAIC will continue to support fish health and we will see three new projects delivered, including on improved micro-jellyfish monitoring, and stock.
- We will continue to work collaboratively with the sector, regulators, the Sustainable Aquaculture Innovation Centre and fish vets through forums such as the Farmed Fish Health Framework to better understand the cause of mortality and drive action to address issues.

Q. Mortality keeps rising despite sector and SG action to improve fish health; the 2023 Fish Farm Production survey showed that survival has dropped by over 7 percentage points. This can't be acceptable to you.

- I have made it clear that I expect mortality to be driven down.
- The lower levels of fish surviving to harvest are not acceptable either to Government or salmon producers, and we are working closely with the sector to ensure challenges to survival can be mitigated via research, innovation, and improved farming practices.
- I understand the challenges and we need to consider how regulators and government can best support the sector in doing so.
- The survival to harvest of the 2021 year class, as published in the 2023 production survey is too low, but in statistical terms cannot be considered a trend. Over the period 2003 to 2023 fish survival to harvest has remained relatively constant at 75%. Other data sources suggest this year's high figure might come down in later years. That does not mean action should not be taken, and producers have already acted to invest in mitigations for key challenges they have identified.
- Sector intelligence via the FHI indicates that these figures are impacted by micro jellyfish and algal blooms moving up the west coast of Scotland which were not within anyone's control.
- However, you have heard how the sector has focused its efforts on deployment of novel techniques to develop mitigation for the future. We have contributed to this by funding a preliminary project on Harmful Algal Blooms - this has been built upon by successive projects funded by the Sustainable Aquaculture Innovation Centre which have introduced training, standardised reporting and progress towards prediction and response.
- I expect we may see a decrease in levels of mortality associated with these issues in future years as changes in husbandry and investment in innovation begins to show results; I know in their evidence to you the sector indicated they are forecasting such declines in mortality for their own business planning.

Q. If mortality levels have remained constant for over a decade, doesn't it show there is no result from government's action?

- The average mortality rate per production cycle has remained constant but there have been peaks and troughs within that. At the same time, we know farmers' experience is that climatic conditions are becoming more challenging and there

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has been concerted effort to reduce the impacts of specific causes of mortality while new ones have emerged.

- The key to reducing levels of mortality is to get ahead of emerging challenges through research and innovation driving improvements to business practice.
- Government activity has driven and enhanced the sector's own work; work to reduce the extent and impact of sea lice is a key example.

Q: There have been claims that mortality has increased up to 10 times in recent years – are you not concerned?

- It is not always clear how people have made their calculations, but I do recognise the increases in mortality reported to the FHI in 2022 and 2023 which some of the reports referred to, and we have the 2023 production survey also indicating high mortality.
- In the seawater phase of production, mortality in that period was largely attributed to the micro jellyfish and harmful algal blooms which swept up the west coast damaging gills.
- In freshwater production, reasons were varied, but included egg failure and losses in early life stages which is not always unexpected given the reproductive strategy of fish.
- Some freshwater production issues arose from technical issues as recirculation systems which I believe have been resolved.
- I am not complacent – where FHI attended and did not determine disease as the cause, the cases were referred to APHA to consider welfare issues.

Q. If the narrative around datasets is so confused why does Government not explain it better?

- I agree this is needed. I have asked my officials to publish an explanation of available data sets which explains their purpose and constraints. I expect this to be a joint publication involving SEPA and the sector whose data is all available

Q: Has the Government's sea lice policy led to increased mortality by encouraging use of physical treatments such as hydro and thermo licers?

- The sector has moved progressively towards a reduction in handling as this is associated with stress and risk of mortality.
- However, there is a careful balance to be made between the need to reduce environmental footprint by reducing medicine use, and the use of physical treatments in their place.
- Any type of therapeutic will be applied only upon veterinary advice – vets take complex decisions every day regarding fish health and will prescribe the treatment most appropriate to the maintain or improve fish health; all pros and cons will be taken into account by those most qualified to do so.

[Redacted - Regulation 10(4)(e)]

Q: Freshwater treatment is central to the sector's response to gill disease – but it can result in mortality.

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- Gill health is probably the single greatest challenge facing the marine production in Scotland – cases of complex gill disease can include a range of different pathogens and parasites, and freshwater treatment can be effective.
- The handling of fish during treatment can cause stress to fish which already have health issues, and this can contribute to mortality.
- Fish vets face complex decisions every day regarding which treatments are most appropriate, and they consider all pros and cons before deciding on best approach to take.

Q: Will we see increased mortality as the SEPA sea lice framework drives sea lice control below limits required for fish health?

- I understand the sector's concern about potential impacts of undertaking treatment to reach sea lice levels which fall far below those which pose a threat to the health of farmed fish.
- The SEPA sea lice framework focuses on farms which pose most risk to wild salmonids – it does not apply to all farms and does not apply to all times of the year.
- My officials facilitated a workshop with SEPA for the sector to focus on fish health – it was also attended by the Scottish Government's Chief Veterinary Officer.
- SEPA's framework is based on the risk a farm poses to wild salmon in terms of sea lice emissions and therefore does not apply to all farms, or at all times of the year.
- SEPA acknowledges the need to respect farmed fish health and the role of veterinary advice in deterring when sea lice treatments may in fact be detrimental to fish health. This will be taken into account when considering if enforcement action should be taken if non-compliance with sea lice licence conditions arises.

Q: Are there fewer medicines available to the sector now and is regulatory action actually driving up physical treatments and mortality?

- I am clear that our vision is for a sector that operates within environmental limits.
- It is right there should be reduced use of medicines where they have an environmental impact; we have seen the sector innovate in response to this and other technologies have become available in their place.
- What is important is that a range of tools are available for vets to utilise depending on health status of fish and the specific environmental circumstances they are in. This coupled with site selection and evolving changes in husbandry strategies means that options remain as to how best treat fish.

Q: How do you see the future improving?

- We remain committed to high standards of fish health and welfare and to increased survival – that's clear in our Vision for Sustainable Aquaculture and that's what we'll work collaboratively with the sector and others to achieve.
- I thank the sector for bringing forward its Fish Health Plan and I will take some time to consider where Government action or support is most appropriate.
- We expect Scotland's aquaculture industry to lead improvements to fish survival by increasing adoption of new and innovative technologies.

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- This sector is investing heavily in innovation and treatment capabilities for gill disease and is developing large smolt strategies, which decrease time spent at sea and improves fish health and welfare, but results will not happen overnight.

Q: Are you going to support the sector’s Fish Health Plan?

- I welcome the sector’s fish health plan – it clearly sets out the sector’s commitment to fish health and provides a helpful indication of where the sector considers collaboration with SG would be most beneficial.
- I have asked my officials to fully consider its content and I look forward to further dialogue with the sector to better understand the detail behind some of it.
- Then I can determine where government can add value.

**Q: What level of mortality does the SG think is acceptable? You should
introduce targets?**

- We do not believe targets would induce a significant change in behaviour without the possibility of unintended consequences; fish health is already the sector’s highest priority and the subject of frequent attention from regulators, policy makers, lobbyists and consumers.
- But we do have ‘mortality thresholds’ in place for different life stages of production. If mortality exceeds a threshold, the FHI will investigate and take statutory action if listed diseases (those listed in legislation as requiring control) are detected. They may also issue advice.
- Reporting mortality to FHI is a voluntary arrangement with the sector, but it is embedded with the Code of Good Practice which all Scottish businesses are signed up to. The sector has a good record of reporting – the FHI has no concerns over the success of the voluntary arrangement.
- Mortality is in no one’s interests – I would expect site operators experiencing high losses to take all reasonable steps to mitigate this as it represents significant economic loss, causes reputational damage and is often confused with poor welfare.
- There is ‘inbuilt mortality’ in the survival strategy of fish, especially in earlier life stages, and they are not comparable with poultry or mammal farming. The focus should be on maintaining high standards of welfare, continual improvement to health care as our scientific understanding improves, and steering an increase in survivability to the very best of our collective ability
- Placing an exact target on mortality is not a practical approach – Scotland’s aquaculture is undertaken in a dynamic environment and not all issues are within the control of the farmer.
- Significant mortalities at specific sites can occur from time to time, for example as a result of infection and should not always be used as an indicator of bad practice or poor welfare standards.

**Q: Would the Scottish Government place a moratorium on all fish farm
developments in Scotland if mortality levels do not improve?**

- We do not support a moratorium on fish farm developments.

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- The planning system has no route to place an outright ‘ban’ or ‘moratorium’ on any form of development given the statutory structure which must be followed for all decision-making in the planning system.
- NPF4 signals a turning point for planning, making clear that significant weight will be given to the global climate and nature crises when considering all development proposals.
- Policy 32 in NPF4 on Aquaculture is generally supportive of new aquaculture developments where they comply with relevant plans and where specific impacts have been assessed and mitigated.
- However, we are clear that new applications need to minimise adverse effects on the environment, including cumulative impacts.
- The way forward is to support the sector in its ongoing innovative approach and the deployment of technology which it can bring to overcoming challenges – that is how the difference can be made to fish health, survival and sustainability while maintain economic benefit to Scotland and its communities.
- It is worth noting that the Fish Health Inspectorate and the sector, via its Code of Good Practice, has procedures in place for mortality over specified thresholds to be reported.
- Reports will direct further investigations as required and will be used as part of the wider aquatic animal health surveillance programme.

Q: Some people argue that increasing reliance on technology pushes production beyond environmental limits.

- Our Vision for Sustainable Aquaculture makes clear that aquaculture should operate within environmental limits.
- We have robust environmental legislation and practices in place – SEPA is responsible for managing discharges from sites and we have a new framework in place to manage sea lice interactions with wild fish.
- The Scottish Government supports innovation where it contributes to the sustainable production of salmon, including adaptive husbandry, health and welfare, nutrition and the reduction and monitoring of environmental impact.
- We recognise that there is no one-size-fits-all approach to farmed fish production, and that technological innovations must be designed to operate in the conditions of the surrounding environment and deployed and operated appropriately.

Q: Mass mortality is occurring in Scotland and the impacts on people are unacceptable.

- To be clear – catastrophic mass mortality events described in papers earlier in the year as having occurred in Chile a number of years ago are not comparable to mortality events observed on Scottish farms. Similar impacts on communities of large-scale widespread mortality have not been experienced in Scotland.

Q: Is fish farming unsustainable given warming temperatures associated with climate change driving increased mortality?

- I do not agree that aquaculture is, or will become, unsustainable on the basis of climate change - the sector is highly innovative and invests significantly to

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address challenges – we expect this to be case with climate change adaptation and mitigation.

- You heard the sector evidence the degree to which it is investing and testing new approaches, from significant financial investment in facilities or ‘nursery sites’ to support larger smolt production; changes in husbandry; and testing of new technology which could help mitigate impacts from micro jellyfish and harmful algal blooms.
- Although we have seen high mortality associated with unusual micro jellyfish blooms and gill damage in recent years, it is too soon to say if this cause of high mortality is a trend.

Q: Marine Directorate science showed a link between mortalities and warmer waters in different regions – should you be considering halting sector expansion on a regional basis?

- The Scottish Government does not support a moratorium on fish farm development in any region, the work published by Marine Directorate scientists which investigated trends in losses at a regional level does not support this either.
- As detailed in the published work, this is because temperature is only one component that explains farmed fish losses – the methodology underpinning the work focuses on large scale averages and does not allow for any conclusions to be made at site level.
- The sector and the wider academic community are in the early stages of understanding the impact of climate change on aquaculture – we will continue to engage with stakeholders as the science develops.

Q:What are you doing to develop the evidence base for further climate change impacts on aquaculture?

- We are committed to a number of activities which can help the sector understand potential climate change impacts specific to aquaculture, and to the marine environment more generally.
- The Marine Directorate is engaged with the Marine Climate Change Impact Partnerships (MCCIP) to improve our understanding of the impacts of climate change on aquaculture and reduce uncertainty about them.
- We are monitoring ocean environmental parameters such as temperature and phytoplankton communities through the Scottish Coastal observatory and Offshore Monitoring Programme, and regularly report on the state of Scotland’s oceanic climate, such as through publication of Scotland’s Marine Assessment.
- A number of other initiatives are also underway; we will publish an analysis of temperature trends based on our data by 2025, and we are actively discussing with other partners including the Met Office, on possible collaboration on marine heatwaves.

Q: Clearly there is a need to take actions now on climate change adaption to improve survival?

- We expect the sector to innovate and address survival challenges – however, we are playing our part to support the sector respond to climate change.

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- Scotland's National Adaptation Programme 3 (SNAP3) was laid in Parliament in September 2024 and sets out the actions that the Scottish Government and partners will take to support fisheries and aquaculture sectors to respond to the impacts of climate change. It sets out actions from 2024 to 2029.
- For example, we are supporting development of mitigation, including co-funding a PhD studentship looking at the potential of new technologies to provide an early warning of HABS (Imaging Flow Cytobot)
- Via the Farmed Fish health Framework, we:
 - funded an initial study on available data to help identify possible practical action to help address issues associated with Harmful Algal Bloom (HABs) - this was built upon by the Sustainable Aquaculture Innovation Centre which funded work to support training and the introduction of standard operating procedures for monitoring HABs across companies.
- SAIC and the sector have also supported highly innovative work on mitigation technologies which we hope will come to fruition in coming years – but solutions will not be achieved overnight.

Q: What action is the sector taking on fish health?

- The sector is investing heavily in innovation and treatment capabilities for gills and sea lice, and is developing large smolt strategies, which decreases time spent in the sea and improves fish health and welfare.
- The time fish spend at sea has already been decreasing in Scotland – companies such as Bakkafrost, Mowi and Scottish Seafarms have invested in state-of-the-art recirculation facilities to implement this.
- Many fish farmers are also undertaking their own site monitoring, looking at early warning of harmful algal bloom and other threats to deploy mitigations, such as the bubble curtains we heard about last month.
- Much of this is articulated in their fish health plan which I welcome.
- It will take time for all these investments to bear fruit, but we are all committed to managing fish mortalities to the lowest levels achievable and delivering progress.

Q: Do you support the sector's fish health plan?

- The sector has produced a Fish Health Plan which outlines the actions to improve fish survival over the long term, which builds on significant investment from the sector since 2018.
- In the plan the sector pledges a continued focus on improving fish health, including integrated health management, expanded fish health monitoring, engaging with research, develop and deploy new technologies, information sharing between companies and countries for mutual benefit.
- The Plan identifies where the sector considers Government action or collaboration is required. These include building a new model for aquaculture innovation support, and coordinating a holistic review of medicines, and work to increase access to veterinary medicines.
- It's very helpful to have the sectors approach to fish health articulated in one document – its direction of travel is very clear.

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- I will fully digest the plan but my initial thoughts are that the direction of travel broadly aligns with our own – discussion has already been held on some aspects (such as a holistic review of medicines) and we consider how best to collaborate across a number of aspects.

Q: Where is the scientific evidence on tackling mortalities?

- Understanding mortality is complex as there are a range of biological and environmental factors that can interact and result in negative outcomes.
- It can be difficult to establish relationships between environmental factors and survival definitively; different studies highlight the importance of varying factors such as temperature and salinity.
- You heard the sector's approach to innovation and research – and the degree to which they invest and the pace at which they react.
- Much work is undertaken by the companies themselves in house or under contract – for example, the multi-million pound investment we see in freshwater facilities is underpinned by significant research which concludes that larger smolt size is beneficial to improve survival.
- In Scotland multiyear projects have been supported by the Sustainable Aquaculture Innovation Centre which have analysed extensive data sets provided by Scottish companies in relation to gill disease
- Furthermore, SAIC's collaborative work within gill health has helped identify actions and measures to tackling gill health challenges with applied outputs such as optimising fish nutrition, improving diagnostics using digital technologies, breeding programmes for gill health resistance, and work on tackling harmful-algal blooms that contribute towards poor gill health.

Q: Are you concerned about antimicrobial resistance within aquaculture?

- Information on antibiotic use by various livestock sectors, including salmon and trout, is published annually by the Veterinary Medicines Directorate in their annual Veterinary Antimicrobial Resistance and Sales Surveillance report.
- In 2023 it reported that:
 - salmon farmers recorded an overall reduction in the volume of antibiotic used, compared to 2021 and 2020,
 - reductions were observed in both the freshwater and marine phases of production.
- Antibiotic use is relatively infrequent, with only 1.5% of freshwater farms and 8.7% of marine farms undertaking an antibiotic treatment in 2022.
- Levels of antibiotic usage decreased by 57% between 2021 and 2022
- These findings of a lower pattern of antibiotic use by the farmed salmon sector were also found by the Responsible Use of Medicines in Agriculture Alliance (RUMA) in their most recent report- RUMA is an independent non-profit group with the aim of promoting highest standards for food safety and animal welfare in British livestock sectors.
- Building on work in Scotland since 2008, Scottish experts helped to develop the UK Government's 20-year Vision to contain and control AMR by 2040, and a 5-year National Action Plan.

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Q: Does SG monitor antibiotic use or antimicrobial resistance?

- The FHI collects muscle samples from farmed salmonids for veterinary medicine residue analysis from Scottish fish farms on behalf of the UK's Veterinary Medicines Directorate (VMD) who are responsible for policy with regards veterinary medicine usage and prescription, in this context
- By exception, where it is important as part of cases where the FHI are investigating mortality cause, and where any subsequent diagnostic results show relevant bacteria isolated within samples, the FHI's diagnostic service can conduct testing to find evidence of resistance to common licenced antibiotics to inform operators.

Q: How can you expect the sector to reduce mortalities when there are no new medicines coming forward?

- New medicines are developed in response to market demand and led by pharmaceutical companies, biotech companies or academics.
- Importantly, before a medicine comes to market in the UK, safety and efficacy of new medicines, and their potential environmental impact are assessed by the Veterinary Medicines Directorate and SEPA, respectively.
- Collaboratively under the Farmed Fish Health Framework, Salmon Scotland, vets, and regulators have undertaken work to identify barriers to new medicine development, including vaccine development, with input from the Scottish Government's Chief Scientific Adviser. Through the vaccine work we have encouraged pharmaceutical companies and academics to develop fish vaccines.
- Also, through the Farmed Fish Health Framework, we are considering whether existing medicines can be used more effectively – for example SEPA and Salmon Scotland are determining if SLICE, an important in-feed sea lice treatment, can be used in a different pattern for more effective results but without lowering environmental impact.
- It is important that farmers have a number of tools at their disposal, and without over reliance on medicines, but equally we would welcome vaccines or new medicine which were effective, but which could be used with environmental limits.
- We also expect to see novel technology, such as bacteriophages be used in coming years which have minimal environmental impact, but which have potential to improve fish health considerably.

Q: Will SG commit to undertake a holistic review of medicines?

- A review of medicine use which considers need, use and solutions to barriers to their use could helpfully build on preliminary work already undertaken under the FFHF.
- As chair of the Farmed Fish Health Framework, our Chief Veterinary Officer Sheila Voas, has already committed to this work being undertaken.
- This will also support the sector in the delivery of its Fish Health Plan which was submitted to you during this inquiry.
- We will work with partners to consider how this can be delivered in the context of other fish health priorities, taking into account the available resource within the sector and fish vets to support delivery

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Q: Why are innovative preventative treatments such as phage therapy that can be used in Norway being blocked by regulators here?

- Phage therapy can help provide a preventative treatment of bacterial infections with no environmental impact – but it is considered a novel treatment.
- The Veterinary Medicines Directorate are responsible for considering the safety and efficacy of new treatments and they consider phage therapy a veterinary medicine – but have yet to finalise an appropriate regulatory framework.

Q: Are you concerned about non-compliance with respect to FHI disease surveillance?

- The aquaculture sector in Scotland shows a significant level of compliance with legislation to control aquatic animal disease.
- This is evidenced by the number of cases of non-compliance compared to the number of active sites, and the fact that the majority of non-compliances are not considered significant on the risk of contracting or spreading serious aquatic animal disease.

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ANNEX D2

FARMED FISH HEALTH FRAMEWORK

Background

- Farmed Fish Health Framework' is the original document which set out shared aspirations for delivery via various delivery groups, but the name is sometimes used as a shorthand for the steering group which manages delivery
- In 2018, Scotland's 10 year Farmed Fish Health Framework was launched as a collaborative approach to addressing fish health and welfare issues.
- In 2020 a review of delivery practices led to streamlining of governance and delivery focus, with Scottish Government's Chief Veterinary Officer, Dr Sheila Voas, is current chairperson.
- Membership includes Salmon Scotland, producers (trout and salmon), fish vets, Veterinary Medicines Directorate, SEPA, Scottish Government (FHI, science, policy), Sustainable Aquaculture Innovation Centre.
- The FFHF is focussing on three priority areas – analysis of the cause of fish mortality, impact of and adaptation to climate change and improving accessibility of treatments (including medicines).
- There is ongoing discussion with membership about taking a different and more effective delivery approach – the membership is committed to the benefits of collaborative working in this difficult area but is not wed to the current approach and willingly engages on exploring different approaches to maximise benefit.

Top Lines

- The FFHF provides a valuable collaborative approach to help promote sustainability, improve fish health and welfare and also productivity.
- Good progress in some areas is being made, but some issues will require a longer-term approach due to the complexity and interdependence of the issues.
- [Redacted – Regulation 10(4)(e)]

Q: What work is being achieved through the Farmed Fish Health Framework?

- On mortality analysis - The sector now standardises mortality recording across farms. Salmon Scotland now publishes monthly mortality data, by percentage and cause, in the interest of openness and transparency which is leading amongst farming sectors.

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- On medicines - Discussions are underway on how we can use some medicines differently, and more effectively, without lowering environmental protection. Specifically, SEPA and Salmon Scotland are considering how SLICE (in-feed sea lice treatment) could be used more effectively while meeting environmental requirements. Work has been undertaken to identify key barriers restricting vaccine development and we have facilitated discussion with the Veterinary Medicines Directorate (UK body which regulates veterinary medicine use) to encourage faster introduction of a regulatory framework for emerging novel and innovative treatments, such as bacteriophages.
- On climate change – Funding was provided to the Sustainable Aquaculture Innovation Centre (SAIC) to assess work underway on Harmful Algal Blooms (HABS) and where the FFHF could add value. SAIC followed with a significant project delivering training to producers on harmful algae and standardising reporting as a first step towards longer term work on adaptation and mitigation.
- SAIC has just announced funding for a project worth £716k exploring the development of an imaging system to detect and monitor micro-jellyfish at aquaculture sites. It also aims to implement an automated profiling system for HABS in the water column, providing real-time data for fish health management.
- We have also worked with SAIC to explore the current capacity for measuring dissolved oxygen to understand what monitoring is currently carried out and where gaps in the data exist.
- The FFHF has wider benefits in that it influences organisations such as the Sustainable Aquaculture Innovation Centre to focus on how innovation can address fish health.

[Redacted – Regulation 10(4)(e)]

Q: What changes have been made to the FFHF over time to ensure delivery?

- As is good practice, those involved in FFHF delivery in the first year recommended a ‘lessons learned’ exercise. Ministers agreed to streamlined delivery and governance structures as a result with focus on climate change, access to medicines, and data analysis by cause.
- To provide veterinary oversight and direction given the focus on reducing mortality, Dr Shiela Voas, Scottish Government’s Chief Scientific Officer was appointed as chairperson.
- Membership has also changed, most notably with the inclusion of the UK Veterinary Medicines Directorate, who are responsible for the regulation of veterinary medicines given the importance of this area to the sector.

Q: Are you really committed to delivery of the FFHF and improvements to fish health?

- Yes, I recognise the fish health challenge faced by the sector and the importance of working collaboratively.
- I believe all members are committed to collaborative working and appreciate the benefits it brings.

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- This does not mean we need to be fixed in our approach if collaboration can deliver more under different working arrangements.
- My officials are reviewing how collaboration in this important area can be better supported and are in dialogue with all members for their views.
- Our commitment to fish health should not be measured by FFHF delivery alone. For example, in May we confirmed the award of £1.5m from SG and the Scottish Funding Council to maintain delivery of fish health projects at the Sustainable Aquaculture Innovation Centre up until March 2026. With stakeholders, we are considering how to continue supporting aquaculture innovation into the longer term.
- We have provided this funding in the context of wider thinking on how innovation in this area can be best supported going forward, recognising the role it plays in addressing challenges.

Contact:

[Redacted – Regulation 11(2)], [Redacted – Regulation 11(2)] – **Marine Directorate**

Date when the information was last updated/reviewed:

6 Nov 2024

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ANNEX D3

SEA LICE MANAGEMENT REPORTING AND REGULATION

ISSUES:

- The previous inquiry focused on adequacy of the Scottish Government’s sea lice management policy (enforced by the Fish Health Inspectorate (FHI)) in controlling sea lice and transparency of sea lice data.
- Since then, SEPA has introduced its risk-based sea lice framework for the purpose of controlling sea lice as emissions to protect wild salmonids.
- We expect the committee to conflate the two and query sea lice control across both regimes.
- The FHI was questioned on its enforcement approach, why it is permissible to submit 'no count' under certain conditions, and whether counting methods are accurate enough. FHI highlighted that sea lice numbers are reducing in Scotland, the impact of sea lice reporting legislation and that data and counting methodology is sufficient for FHI’s purpose.
- Both FHI and SEPA have challenged the committee on its narrative that a lack of enforcement notices in Scotland equates to lack of enforcement. SEPA and FHI noted that they would see a requirement for significant and repeated enforcement action as a failure in their duties, and that the inspection regimes are designed to work with the sector to avoid such incidents. Both were clear they do have the powers available where enforcement action is necessary, and that sufficient proof and evidence is required to take action where other measures have not worked.
- A key aim is to highlight progress on sea lice control. The information collected is required for different purposes, both sets are needed, and SEPA and the FHI are committed to working together.

REC COMMITTEE RECOMMENDATION

13. There should be coordination with data provided on sea lice infestation levels to ensure a package of data is available which provides an up-to-date and comprehensive overview of all fish health, welfare and treatment issues across the sector.

RESPONSE

- Scotland's Aquaculture website publishes a wide range of aquaculture data. The site has been developed in partnership by Marine Directorate, the Scottish Environment Protection Agency (SEPA), Crown Estate Scotland, Food Standards Scotland and Nature Scot to provide a range of information about Scottish aquaculture.
- Marine Directorate makes a range of reporting contributions to the website including fish escapes, sea lice information, and finfish species farms and shellfish aquaculture sites authorised as aquaculture production businesses.
- Following introduction of mandatory reporting we made sea lice information publicly available and are considering improvements to accessibility, such as visualisation tools.
- SEPA has done some additional work on Scotland’s Aquaculture website updating its seabed monitoring classification data to tie in with the 2019 finfish

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framework, ensuring that additional medicine data (including hydrogen peroxide and anti-microbials) is now published.

- We will keep further enhancements to Scotland's Aquaculture Website under consideration as part of the delivery of the regulatory review of aquaculture and in discussion with the Scottish Aquaculture Council (a senior stakeholder advisory group).
- However, further enhancements to the website, and the preparation of wider data sets, would come at a significant cost to the public purse and have resource implications, and may not be considered a priority at this time.
- We gather the information we need for regulatory purposes, which may not be the same as information other parties would prefer us to collect.
- But we are committed to ensuring access to the data which we do collect. For example, SEPA is already planning how to publish its sea lice risk information.

REC COMMITTEE RECOMMENDATION

15. Various views exist in relation to different sea lice trigger levels and thresholds that are applied by the industry and Marine Scotland for reporting and intervention purposes. The Farmed Fish Health Framework provides an opportunity to remove confusion and develop proposals appropriate both to the fish health management needs of the industry and to the regulatory regime – should be challenging and set a threshold that is comparable with the highest international industry standards.

RESPONSE

- The two regulatory regimes (FHI's and SEPA's) which exist are designed for different reasons and require different reporting and thresholds.
- The SEPA framework relates to sea lice as emissions and interactions with wild salmon. It focuses on farms which pose risk to migrating salmonids, it does not apply all year or to all farms
- In contrast, the Scottish Government's sea lice policy, enforced by the Fish Health Inspectorate focuses on ensuring that producers are meeting their legal obligations to have satisfactory measures in place to control sea lice as parasites and applies to all farms all year. It has higher permitted levels of sea lice per fish because it relates to the numbers sea lice which pose health risk to individual farmed fish. It is difficult to develop a regulatory regime which addresses both fish health and emissions and remain proportionate to both purposes. To accept SEPA's lower sea lice levels into the FHI's sea lice management framework would mean adoption of levels lower nationally across all farms which would have unintended consequences.
- The Sector's Code of Good Practice also refers to sea lice levels which are also lower than those reflected in the Scottish Government's sea lice management policy - they indicate to producers a level at which they should begin to consider if sea lice control is necessary – and do not indicate a level at which enforcement should be taken.
- Regulatory landscapes should be streamlined where possible, but regulation needs to be proportionate and appropriate to the issue at hand.

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REC COMMITTEE RECOMMENDATION
16. There should be a move away from a voluntary approach to compliance and reporting with regard to sea lice infestation. The [FFHF] working group should bring forward proposals for mandatory compliance and sea lice reporting.
RESPONSE
<ul style="list-style-type: none"> • In 2020 –The Fish Farming Businesses (Reporting) (Scotland) Order 2020 was introduced (came into force in March 2021). • It requires Aquaculture Production Businesses that farm fish in marine sites to report the average number of adult female sea lice (<i>L. salmonis</i>) counted per fish per site in the reporting week to Scottish Ministers, one week in arrears. • The provisions of the Order introduced a significant change and improvement to sea lice reporting and provide evidence which the Fish Health Inspectorate use to both monitor and enforce if necessary. • While previous arrangements required se lice reports only where specific levels were met or exceeded, sea lice numbers now need to be reported weekly irrespective of the count. This is separate to reporting required by SEPA. • Data on sea lice numbers provided to the FHI in accordance with mandatory reporting requirements is used by the FHI in its implementation of the Scottish Government’s sea lice policy and management of sea lice on fish farms.
REC COMMITTEE RECOMMENDATION
17. The Committee notes the concerns expressed in evidence that enforcement action in relation to breaches of sea lice levels has not been sufficiently robust to date. It is therefore of the view that if the revised compliance policy is to be effective it must be robust, enforceable and include appropriate penalties.
RESPONSE
<ul style="list-style-type: none"> • The Scottish Government’s sea lice management policy, enforced by the Fish Health Inspectorate, is a robust and enforceable approach to ensuring that producers are compliant with the legal obligation to have satisfactory measures in place to prevent, control and reduce sea lice. • Since 2020 the FHI sea lice policy has been underpinned by mandatory weekly sea lice reporting introduced in line with recommendations of the previous Committee – this provides FHI with a fuller and more robust picture of sea lice levels on farms upon which to base its actions. • Good regulation drives improvement. The management policy in place allows FHI to take escalating action, from issuing advisory letters to formal warning letters, and ultimately issue of an enforcement notice if sea lice levels are not reduced within specific levels. • Data shows that most fish farms in Scotland keep sea lice levels well below the previously required intervention level and these continue to drop. (Only one report of sea lice levels above 6 in 2023 in comparison to 34 in 2021.) • The policy is robust and its objective is being achieved. • SEPA has also committed to a robust and proportionate regime relating to sea lice and wild salmonids.
REC COMMITTEE RECOMMENDATION

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18. It is essential that appropriate staff and financial resources are provided by Marine Scotland to ensure that compliance is effectively monitored and enforcement action taken where required.

RESPONSE

- Current resourcing levels within the Fish Health Inspectorate are adequate to ensure compliance and enforcement with regards to sea lice monitoring and compliance for fish health purposes, and the wider roles of the FHI.
- This is assessed annually through the Marine Directorate’s approach to resource planning.

REC COMMITTEE RECOMMENDATION

19. The Committee welcomes the recent voluntary commencement of sea lice data provision by Salmon Scotland on an individual farm basis. However, it agrees with the ECCLR Committee’s position that the provision of sea lice data should in future be mandatory for all salmon farms in Scotland.

RESPONSE

(See response for recommendation 16)

- In 2020 –The Fish Farming Businesses (Reporting) (Scotland) Order 2020 was introduced (came into force in March 2021).
- It requires aquaculture production businesses in Scotland that farm fish on marine sites to report the average number of adult female sea lice (*L. salmonis*) counted per fish per site in the reporting week to the Scottish Ministers one week in arrears.

REC COMMITTEE RECOMMENDATION

20. The Committee notes that Salmon Scotland produces sea lice data 3 months in arrears, whereas such data in Norway is produced weekly in arrears. It considers that sea lice data in Scotland should be published in a similarly timely fashion, as close as possible to the collection date.

RESPONSE

- The Fish Farming Businesses (Reporting) (Scotland) Order 2020 was introduced (came into force in March 2021).
- To promote transparency, the data reported to the Fish Health Inspectorate is published one week in arrears from receipt to the FHI on Scotland’s Aquaculture website.

REC COMMITTEE RECOMMENDATION

21. The Committee also considers that it is essential that the data provided should be that which is required to inform the regulatory and enforcement regimes, as opposed to that which the industry itself takes it upon itself to produce.

RESPONSE

- Data on sea lice numbers provided to the FHI in accordance with mandatory reporting requirements introduced in 2020, and used by the FHI in its implementation of the Scottish Government’s sea lice policy, is published by Scottish Government one week in arrears for transparency.
- Through the sea lice risk assessment framework SEPA monitors the levels of lice on fish farms during the period of salmon migration to sea. From March 2025, all licences will include monitoring and reporting requirements. SEPA will carry out

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checks to ensure monitoring is being carried out in accordance with specified performance standards.

REC COMMITTEE RECOMMENDATION

63. The Committee is of the view that a key part of any improvement in the enforcement of regulation should be the introduction of mechanisms to provide more open and transparent reporting of regulatory breaches. It also strongly recommends that any changes to the enforcement regime should incorporate measures which will ensure that there is a move away from the self-assessment culture that appears to be prevalent at present.

RESPONSE

The introduction of mechanisms to provide more open and transparent reporting of regulatory breaches:

- You will recall the verbal evidence of Charles Allan, Head of the Scottish Government’s Fish Health Inspectorate on 12 June when he provided information on the regulation of sea lice, including the step-wise progression of enforcement actions taken by Scottish Government.
- Formal enforcement is rarely taken, as aquaculture production businesses in Scotland routinely comply with the requirements of the Aquaculture and Fisheries (Scotland) Act 2007, with respect to having satisfactory measures for the prevention, control and reduction of sea lice.
- However, any action taken by Scottish Government is published alongside the weekly sea lice counts on the Scotland’s aquaculture website.

Self-assessment culture

- We previously considered what purpose introducing independent audits of sea lice to support the Fish Health Inspectorate’s regime would serve.
- We recognise that some stakeholders would consider that approach more robust – however it would come at significant cost and we are confident in our existing regime.
- We have introduced a robust and transparent reporting regime and there is currently no evidence of systematic bias of counts in Scotland – this is extremely important.
- The fish health inspectorate do already observe counting methodology, check training records and visit fish farms based on their risk and previous record of sea lice compliance.
- The Fish Health Inspectorate’s regime operates around the average number of adult females. Based on the evidence available at the time, we were satisfied that independent counts would not lead to significantly different enforcement or compliance results.
- We appreciate that SEPA’s regime, which will require tighter sea lice controls in some cases, for a different purpose, may require a different level of evidence base and interrogation and is a matter for SEPA.
- We also appreciate that, despite our controls, a level of suspicion exists between some sectors – that is why we would advocate for local engagement on sea lice numbers, including counts, and why we’ve previously funded an interactions manager specifically to help support dialogue on issues such as these.

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PROGRESS AND KEY SUCCESSES

- We are reaping the benefits of sustained policy and regulatory interventions, which have driven innovation and focus across the sector, leading to an apparent ongoing downward trend in sea lice numbers at a national level, with the lowest levels observed in the past three years. This year looks like the lowest of all so far, and regional counts are also down, except Orkney which is up from a very low base.
- More data is required to enable robust statistical analysis, but the trend for a decline is clear in the data.
- We have introduced mandatory reporting of average number of adult female sea lice (*L. salmonis*) counted per fish per site in a reporting week to Scottish Ministers one week in arrears via new legislation in 2020 (The Fish Farming Businesses (Reporting) (Scotland) Order 2020 came into force in March 2021).
- As result of discussion with the Farmed Fish Health Framework members and a subsequent policy review, the Scottish Government reduced the original average levels of sea lice per fish at which the FHI took monitoring and intervention action.
- FHI monitoring is now undertaken at 2 sea lice per fish instead of 3, and FHI will intervene at 6 sea lice per fish instead of 8.
- We have improved transparency of sea lice data by publishing reported average sea lice levels per fish per week in the public domain on Scotland’s Aquaculture website a week in arrears.
- The number of advisory letters and enforcement notices issues are also down – none have been issued in 2023-24; 9 advisory letters and 2 enforcement notices were issued in 2021-22.

BACKGROUND

- **Fish Health Inspectorate** – the FHI’s sea lice responsibilities are to implement and enforce SG policy to ensure fish farmers demonstrate satisfactory measures for the prevention, control and reduction of sea lice on farm sites, to ensure fish health and welfare.
- **SEPA** – responsible for implementation of its risk-based sea lice framework which seeks to control sea lice as emissions from farms, to manage interactions with wild fish.
- Both farmed fish health and welfare, and interaction with wild salmon, have been subject to enquiry by the Committee. The two sea lice control regimes are separate, and the two regulators work closely together.
- We took successful action to address the RECC’s recommendations around reporting on sea lice, provision of data and revision of the Fish Health Inspectorate’s sea lice intervention levels, driving improvements in the control of sea lice on fish farms for fish health.
- Logically, fewer average sea lice on farmed fish would also lead to lower levels of sea lice as ‘emissions’ to the environment. However, focusing solely on average number of female sea lice per fish was not a holistic way of managing the risk to wild fish.

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- Other factors affecting the risk to wild salmonids from sea lice on farmed fish include the number of fish on fish farms, farm locations, and other farms located around specific areas of concern. That is why we asked the Salmon Interactions Working Group (SIWG) to consider what is required to protect wild fish.
- The SIWG recommended that such risk should be controlled by licence and by a spatially adaptive management tool, which is now introduced as the SEPA sea lice risk assessment framework.
- In Norway, there is national limit of 0.2 sea lice per fish for all farms, in addition to implementation of their own sea lice risk assessment framework which controls increases or deductions on biomass determined by the risk to wild salmon.
- [Redacted – Regulation 10(4)(e)]
- Our framework controls sea lice according to risk. Where there is a risk to wild salmonids, a varying sea lice limit may apply, depending on the farm's circumstances and location. If there is no risk, then SEPA's framework is not a consideration; only the FHI requirements to support fish health apply.
- There is a tension between limiting emissions to protect wild fish and the welfare impacts on farmed fish from receiving additional treatments. That is why Scotland has chosen to implement tighter sea lice standards on a risk basis, where additional safeguards are needed to protect wild fish. The time period for application of the stricter levels is also limited to the time period covering the smolt run.

TOP LINES:

- We are reaping the benefits of sustained policy and regulatory interventions on sea lice, which have driven innovation and focus across the sector, leading to an ongoing downward trend in sea lice numbers at a national level, with the lowest levels observed in the past three years. This year looks like the lowest of all so far, and regional counts are also down, except Orkney which is slightly up from a very low base.
- We have introduced improvements to the Scottish Government's sea management policy, including a reduction in the average levels of sea lice per fish at which the Fish Health Inspectorate takes action – this is to ensure producers are fulfilling legal obligation to prevent, control and reduce sea lice in support of fish health.
- And we have introduced new legislation which makes it mandatory for aquaculture production businesses to report average sea lice levels per fish to the Fish Health Inspectorate on a weekly basis. (The Fish Farming Businesses (Reporting) (Scotland) Order 2020)
- We have improved transparency of sea lice data by publishing reported average sea lice levels per fish per week in the public domain on Scotland's Aquaculture website a week in arrears.
- We have also acted on the Salmon Interactions Working Group recommendation that risk to wild salmonids should be controlled by licence and by a spatially adaptive management tool, which is now introduced as the SEPA sea lice risk assessment framework.

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Q: Do you believe that the current FHI sea lice intervention thresholds are sufficient to protect farmed fish from sea lice? Will you uphold the commitment to reduce levels further?

- Sustained policy intervention has resulted in the sector successfully driving down sea lice levels on farmed fish to below the mandated thresholds. This is because farmers recognise the importance of this for the health and welfare of their fish.
- We already reduced the levels of female sea lice per fish at which the Fish Health Inspectorate will monitor a farm and then intervene if necessary to 2 and 6 respectively, from the original levels of 3 and 8 set in 2016.
- A further commitment was made to reduce the levels further (to 2 and 4 sea lice per fish) unless there is 'compelling evidence to the contrary'.
- However, as set out in my correspondence to the Convener on 3 May 2023, the policy context within which the finfish sector is operating has changed significantly since that further commitment was given. There is a downward trend in terms of sea lice per fish being reported, and we have introduced further controls via the SEPA sea lice risk assessment framework.
- The Scottish Government will not, therefore, pursue the commitment at this time but may review it at a future date given the importance of fish health within sustainable aquaculture – I informed the Committee on this conclusion in my letter to it dated 3 May 2023.

Q: It is confusing to have multiple sea lice management regimes, and different levels in the Code of Good Practice – why can't we introduce one regulation and one set of sea lice thresholds for both fish health and impact on wild fish?

- Sea lice levels to protect fish health and to protect wild salmon are different – the temporal requirements for protection are also different – it is therefore difficult to develop a single regulatory regime which addresses both fish health and emissions and remain proportionate.
- To accept SEPA's lower sea lice levels into the FHI's sea lice management framework would mean adoption of levels lower than required to protect farmed fish health and could potentially drive control measures unnecessarily for fish health with detrimental impacts.
- By taking a risk-based approach, SEPA's sea lice framework focuses on farms whose sea lice emissions pose a risk to wild salmonids and does not apply to all farms, or all year round.
- Sea lice levels in the sector's Code of Good practice are lower than those reflected in the Fish Health Inspectorate's sea lice management policy as they indicate to producers a level at which they should begin to consider if sea lice control is necessary, not levels where enforcement should be taken.
- Regulation should be appropriate and proportionate to the issue being managed, and that requires a different approach to managing sea lice impacts on fish health and the wider environment.

Q: Can we have a single regulator for all aspects of sea lice control, instead of it being split by SEPA and the FHI?

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- This is an attractive proposal, but sea lice control policies for the purposes of protecting farmed fish health and the environment are based in very different legislative frameworks and require different expertise to deliver.
- Fish Health Inspectors are highly trained fish health professionals whose expertise extends to a wide range of fish health issues, of which sea lice is only one.
- In contrast, SEPA is focused on delivering environmental management and monitoring via regulation and it holds the expertise and the legislative powers to do so.
- It is important that these distinct regulators are focused on their specific remits, but streamlining regulation is important - there is dialogue between FHI and SEPA to look for opportunities to reduce reporting burden on producers, or where good practice, or resource, can be shared.

Q. Why do you not carry out independent audits to check for accuracy of sea lice reports?

- We previously considered whether independent audits of sea lice would deliver any benefits to the existing sea lice regime.
- We recognise that some stakeholders would consider that approach more robust – however at the time it was considered it would come at significant cost and with little to no benefit to compliance and enforcement and overall sea lice levels in Scotland.
- It is an offence under the Aquaculture and Fisheries (Scotland) Act 2007 to fail to comply, without reasonable excuse, with the requirement of The Fish Farming Businesses (Reporting) (Scotland) Order 2020, or to knowingly provide any information which is false.
- We have introduced a robust and transparent reporting and the Fish Health Inspectorate already conducts a risk-based surveillance regime for sea lice, which includes observing sea lice counting methodology and inspecting training records.
- From these activities, there is currently no evidence of systematic bias of counts in Scotland.
- The Fish Health Inspectorate’s regime operates around the average number of adult females which, based on the evidence available at the time, suggestedly had a smaller margin of counting error than smaller life stages and we were satisfied that independent counts would not lead to significantly different enforcement or compliance in Scotland.
- We appreciate that SEPA’s regime, which will require tighter sea lice controls in some cases, for a different purpose, may require a different level of evidence base and interrogation and is a matter for SEPA.
- We also appreciate that, despite controls, a level of suspicion appears to exist between some stakeholders and which drives calls for independent counts.
- We do advocate for local engagement on sea lice numbers where possible, including counts, and why we’ve previously funded an interactions manager specifically to help support dialogue on issues such as these.
- As technology advances there is interest in automated sea lice counting because it does not involve handling of fish which causes stress. Automated counts will

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need to demonstrate accuracy. It may not be suitable for all locations, particularly where automated reporting depends upon reliable mobile phone connections.

Q: Is the methodology of sampling accurate – the number of fish selected is very low and recent studies challenge the statistical basis for it?

- I am aware of a recent published paper which challenges the level of sampling upon which the Scottish Government's sea lice policy is based.
- The key point of the paper is that 5 fish per cage (the number of samples which forms the basis of our policy and is reflected in the Code of Good Practice) does not give an accurate count and introduces a high margin of error.
- This point might be of interest to farmers, seeking intervention at the cage level, but it is not relevant at the farm level (which drives the FHI interventions) where 5 samples of 5 fish are sampled across the farm - the paper itself suggests a high level of accuracy at this level of counting.
- It's a matter of statistics – we follow a sample strategy which was developed by *Revie et al.* 2005 with the aim of sampling many cages with small numbers of fish. This is not supposed to accurately describe individual cages, but it does describe farm-level averages by correcting for cage to cage variation.
- Many farmers sample above well the required levels anyway – we heard producers give evidence that they often sample for their own purposes to monitor fish health, so their sample frequency, or sample sizes can be much higher than those required – the reported counts are weekly averages so may include larger samples or more samples if they take into account records from fish samples for many other reasons.

Q. Why does SEPA sea lice framework not take account of fish health issues?

- SEPA's role is to protect the environment. In developing the sea lice risk assessment framework SEPA has considered what sea lice limits may be required, on certain farms, in order to protect the environment.

[Redacted – Regulation 10(4)(e)]

Q. Fish Health Inspectorate enforcement action is not robust enough, especially regarding the number of weekly sea lice counts not being reported by producers.

- It is an offence to fail to comply, without reasonable excuse, with the requirement of the reporting order, or to knowingly provide information which is false in a material manner.
- Reasonable excuses are currently 'recently stocked, site treatment, veterinary advice, weather, pre-harvest.'
- The reason for no count which has been an area of focus is no counts for 'pre-harvest'.
- Fish are given an anaesthetic prior to the handling required to count sea lice, and this must have a withdrawal period, meaning a period required before the fish can enter the food chain.
- This means that during harvest periods, fish cannot be treated with anaesthetic to allow counts.

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- It was highlighted that some producers were using this reasonable excuse for several weeks, and this led to questions from the public about its validity.
- The FHI have warned producers about its purpose and have changed internal processes for better monitoring of successive reports.

Q: What is the Scottish Government doing to audit sea lice reports?

- Sea lice records and counting methodology is audited as part of the Fish Health Inspectorate risk-based surveillance programme.
- SEPA is considering what additional independent audits it may complete as part of its development of the SEPA sea lice risk assessment framework.

Q: How do you expect the sector to control sea lice with the removal of key treatments such as SLICE (Ememectin Benzoate) from their toolbox – which it says is over precautionary?

- Access to medicines is vitally important but must be viewed in the context of the need to protect the environment that many marine sectors thrive in, including aquaculture.
- Access to SLICE has not been removed, but that the quantities for use have been reduced, with an implementation period to allow the sector to adjust.
- There is an action for SEPA and the sector, via the Farmed Fish Health Framework, to determine if an alternative *pattern* of use for the permitted amounts could be used for better effect.
- This would not be a reduction in environmental regulation, but better and adaptive regulation.

Q: Do you agree that use of thermolicer and other physical treatments are bad for welfare?

- There is no single silver bullet for sea lice control and the sector needs a range of tools available to use when it is appropriate.
- All treatments have a degree of impact. The sector made clear in its evidence session that it has a strong preference for a reduction in handling of fish overall to reduce risk of mortality. It does not undertake physical treatments lightly, given the knock-on impact on health and hence mortality.
- Companies act on veterinary advice with regard to sea lice treatment. Negative impacts of using physical treatment will be carefully weighed against the health and welfare implications of doing nothing.

[Redacted – Regulation 10(4)(e)]

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ANNEX D4

FISH WELFARE

ISSUES:

- The salmon sector reported higher levels of mortality last year. Mortality does not necessarily imply poor welfare – well cared for fish can fall foul of an unpredicted environmental impact for example
- We expect the committee to take an interest in farmed fish welfare, although there are no previous specific recommendations on fish welfare, which focus on mortality.
- Animal welfare groups argue farmed salmon mortality rates indicate farming is unsustainable and represents widespread welfare abuse; we have seen an increase in media activity driven by campaigning organisations alongside the committee enquiry.
- Footage by animal rights groups on alleged welfare abuses, including at harvest is in public domain and has been forwarded to the Fish Health Inspectorate and the Animal and Plant Health Agency recently for consideration of breach of biosecurity and welfare law and has been reported in the media.
- SG has faced calls to enact official guidance through the powers of the Animal Health and Welfare (Scotland) Act 2006 by campaigners who argue that fish farmers do not know how to comply with 2006 Act.
- The committee heard from the RSPCA that fish welfare should be considered in the consenting process if fish farms are to move further offshore, however also highlighted that mortality is a crude indicator of welfare, not necessarily indicative of poor welfare.
- Scientists were in agreement that further work on welfare indicators is required, but that understanding in recent years has significantly increased. They highlighted the 2018 fish welfare standards, were unsure of their place in regulation, and progress to update RSPCA’s welfare standards was noted (accreditation scheme).

REC COMMITTEE RECOMMENDATION

7. Many marketing and quality assurance accreditation schemes exist for farmed salmon. These often set more stretching environmental standards than are currently in place in Scotland. The Committee calls on the Scottish Government to take the requirements of existing accreditation schemes into account when considering regulatory change to establish where alignment might be appropriate and feasible.

RESPONSE

- Understanding the current regulatory, voluntary code and policy landscape is an important part of policy development, specifically in relation to determining if, and where government action is needed.
- We engaged with accreditation schemes when developing the Vision for Sustainable Aquaculture – they offer a unique consideration of welfare and the contribution they make to driving sustainable practice – this was important to our policy development.

REC COMMITTEE RECOMMENDATION

8. The Committee calls on industry representatives, accreditation bodies, retailers and other stakeholders to work together to consider ways in which clarity and simplicity for consumers in a potentially confusing accreditation landscape can be provided.

RESPONSE

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<ul style="list-style-type: none">• This is a matter for the sector, accreditation bodies and retailers – but we consider that independence from government is an important attribute of accreditation.• It is not clear that a single Scottish brand would meet the salmon sector’s needs, and in terms of international marketing the sector has been very successful in gaining the French Label Rouge standard. There are some standard components of the food labelling systems, and these provide the clarity on, for example, calorie and fat content which consumers should have access to.
<p>We engaged with accreditation schemes when developing the Vision for Sustainable Aquaculture – they offer a unique consideration of welfare and its contribution to sustainability which was helpful to our policy development in this area.</p>

BACKGROUND

Organisation roles and responsibilities

- The Animal and Plant Health Agency (APHA) is responsible for investigating potential breaches in welfare law, including those involving farmed fish.
- The Fish Health Inspectorate (FHI) remit is to prevent the introduction and spread of listed and emerging fish diseases in Scotland and to ensure the sector has satisfactory measures in place for prevention, control and reduction of sea lice and containment of aquaculture animals. It does not have responsibility for fish welfare but liaises frequently with APHA if they have welfare concerns or where welfare issues are raised by the public to them.
- SEPA is an environmental regulator and does not have a role in regulating animal health or welfare – mortalities by weight are reported to SEPA as a component of their discharge consent.

TOP LINES

- The Scottish Government takes the welfare of all farmed animals very seriously, including at the time of slaughter.
- We have robust legislation, policies, and operational practices in place to ensure fish farmers are meeting statutory requirements on sea lice reporting and management, mortality reporting and listed disease surveillance.
- The 2006 Act places a duty of care of fish farmers, and we expect any reported breaches in welfare are exceptions rather than the rule.
- We expect all producers to comply with animal welfare legislation and industry standards. The Animal and Plant Health Agency are responsible for investigating potential breaches in welfare law, including farmed fish.

Q. The high levels of mortality and footage of welfare breaches across the sector is symptomatic of widespread welfare abuse.

- The sector’s economic prosperity depends on good husbandry of their fish; poor welfare will lead to higher mortalities and lower quality products, impacting on competitiveness and profit. Economic and welfare imperatives are aligned.

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- We expect producers to drive mortality to the lowest possible levels and for any breaches in welfare to the exception rather than the norm.
- There should be robust enforcement of welfare law (by the Animal and Plant Health Agency) if it is breached – but we cannot assume that there is widespread welfare abuse of farmed fish on the basis of a number of complaints.
- The Scottish Government’s Fish Health Inspectorate undertakes approx. 250 farm visits a year and less than 1 per cent will result in welfare concerns being raised with APHA.
- Mortality is not necessarily indicative of poor welfare – it is possible for good welfare standards to be applied throughout production but for an unforeseen disease outbreak or environmental challenge to cause mortality of well cared-for animals.

Q: How are the welfare needs assessed by APHA in the absence of a government guidance on farmed fish welfare?

- For the purposes of assessing compliance with current animal welfare legislation, section 24 of the Animal Health and Welfare (Scotland) Act 2006 refers to an animal’s five “welfare needs”- such as an animals “need” for a suitable environment.
- The Animal and Plant Health Agency are responsible for considering potential breaches in welfare law and, with their veterinary expertise, can assess the welfare of farmed animals against current legislation.
- Section 24 requires those responsible for animals “to take such steps as are reasonable in the circumstances to ensure that the needs of an animal for which the person is responsible are met to the extent required by good practice”.
- Welfare needs are specified as
 - (a) need for a suitable environment,
 - (b) need for a suitable diet,
 - (c) need to be able to exhibit normal behaviour patterns,
 - (d) any need to be housed with, or apart from, other animals,
 - (e) need to be protected from suffering, injury and disease.
- Standards for what is considered “good practice” in meeting welfare needs of farmed fish and complying with the legislation in practice can be found in the sector’s Code of Good Practice, as well as RSPCA assurance standards.
- The sector’s Code of Good of Practice (CoGP) includes extensive practical guidance for fish farmers to help support good health and welfare, recognising the need for fish farmers to comply with relevant health and welfare legislation

Q: Does APHA take welfare indicators developed by scientists into account?

- There are a range of other welfare indicators and tools for assessing fish welfare that have been developed by scientists – these can be of practical use by producers as part of farm husbandry best practice and health monitoring.
- We have heard from the sector how sophisticated some of its health assessment and health prediction tools have become.
- It is for APHA to establish how welfare needs have been met with regards to welfare legislation.

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Q. The sector's Code of Good Practice does not help protect fish welfare.

- The Scottish Government emphatically expects all producers to comply with industry standards, including the Code of Good Practice (CoGP).
- Failure to comply with the provisions of the CoGP may be relevant when considering possible offences under the Animal Health and Welfare (Scotland) Act 2006
- CoGP is maintained by a dedicated management group who determine and oversee review of content.
- It is independently audited, and all producer members of Salmon Scotland are signed-up to the CoGP, representing all salmon farmers in Scotland.
- As members of Salmon Scotland, there are mechanisms to ensure producers are compliant with the code and improve where non-compliance is found.

[Redacted – Regulation 10(4)(e)]

Q. What provision is there to enforce any breaches of welfare legislation?

- The Animal and Plant Health Agency is responsible for investigating potential breaches in welfare law, including farmed fish. They conduct routine site inspections and consider welfare complaints raised with them.
- The hierarchy of enforcement action may include verbal advice, a warning letter, or Care Notice as appropriate.
- The most serious or persistent cases will be reported to the Crown Office and Procurator Fiscal Service to consider prosecution, with court action and sanction a possibility.
- While welfare is not in the remit of the Fish Health Inspectorate, they will refer any suspected cases of poor welfare to the APHA observed during their frequent site inspections or as a result of unexplained mortality reporting. (currently less than 1% of visits result in an issue being raised with APHA).

Q. what plans are there to make regulatory changes in respect of welfare?

- I believe the totality of the provisions, which include robust legislation, policies, and operational practices, are sufficient to safeguard the health and welfare of farmed fish.
- There are no immediate plans to introduce statutory guidance for the fish farming industry generally through the provisions made in the 2006 Act or make regulatory changes in relation to fish welfare.
- We are however exploring potential Scottish Government Guidance on welfare at slaughter for farmed fish.

Q. How many welfare complaints has there been recently and what action has been taken by the Animal and Plant Health Agency (APHA)?

- Since 2022 APHA have received 22 complaints of welfare abuses from third parties, including those referred from the Fish Health Inspectorate,
- 20 of these complaints were investigated and 12 resulted in action which either included verbal advice, written advice or follow-up visits.
- 3 of these complaints remain under investigation
- *[If pressed: APHA has not yet issued a formal warning letter, Care Notice or reported a case to the COPFS for consideration in relation to farmed fish.]*

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Q. FHI should be regulators of animal welfare instead of having to refer to APHA who undertake few routine visits

- It is not a question of one or the other, but of them both working together with their specific training and skill to fully understand a situation.
- Investigating potential breaches of animal welfare legislation requires an assessment of suffering and whether welfare needs have been met. APHA veterinary staff have the necessary professional background knowledge and training in this area.
- Fish Health Inspectors are highly skilled fish health professionals but are not vets. They do however have valuable expertise with regards to fish health, husbandry and farming practices which can help provide useful context for vets who assess suffering.

Q. How do SSPCA or Local Authority inspectors assess welfare if they are not vets?

- Again, there are working relationships between vets and SSPCA and LA inspectors – in serious cases, inspectors will work with vets who can provide a professional opinion.

Q APHA is ineffective – it conducts very few visits to fish farms, it has not brought any prosecutions to date and does not even consider itself the enforcer that you say it is.

- APHA is an enforcement body in that it has responsibility for getting farmers to comply with welfare legislation, and APHA vets have enforcement powers as inspectors to investigate, collect evidence and serve care notices.
- In cases where a referral to the Procurator Fiscal is appropriate, they would normally work with local authorities, or sometimes SSPCA or others who have staff trained to take statements under caution, who have the experience to present evidence, and who are recognised as reporting bodies to the Procurator Fiscal.
- APHA has appointed two more inspectors to undertake fish welfare work in Scotland and we can expect to see a more inspections in future.

Q. Do you agree that new approach to welfare enforcement in farmed fish is needed?

- Assessment of suffering and welfare needs of farmed fish is complex, and I believe that FHI and APHA have different complimentary skills and knowledge that combine for best outcomes.
- APHA are currently training two more inspectors in farmed fish welfare and FHI is contributing to their training.
- APHA and the FHI are already in discussion about strengthening their working relationship but I am content to look at whether the current relationship can be improved operationally.

Q. Increasing use of physical treatments in the management of gill disease and sea lice will lead to poor welfare and more mortalities.

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- Management of fish health issues such as gill disease and sea lice can be complex and is subject to veterinary advice.
- The use of any method, including physical treatments, is carefully considered by attending veterinarians and fish health professionals who assess the suitability of available methods to any given population of fish.
- However, these should be designed and operated to minimize impact on fish health and welfare and are in line with the sector's Code of Good Practice.
- The Sustainable Aquaculture Innovation Centre has recently published a case study evaluating the impacts of new-generation thermal de-licing technology on fish health and welfare. This was jointly funded by industry and provides farmers and regulators with more insights into the impacts of the thermal treatment on fish welfare. Fish vets in industry and regulatory settings will now be better able to judge whether or not the treatment is appropriate.

Q. Should upholding welfare be the role of accreditation bodies or the Scottish Government?

- Accreditation schemes provide a powerful market-based incentive for producer to adhere to particular standards across a range of consumer concerns. Accreditation bodies do not however replace the need for inspectors from enforcement agencies with official powers under the Animal Health and Welfare (Scotland) Act 2006 who can deal with specific complaints.

Q. Recently, there have been reports of welfare abuse during operations at fish farms across all main producers.

- I am aware and concerned by reports of potential welfare abuses – any breaches should be the exception rather than the norm.
- The Animal and Plant Health Agency are responsible for investigating potential breaches in welfare law – they are considering the cases. and it would not be appropriate to comment further at this time.

Q. Fish farm inspections by regulators are scheduled and not unexpected – is the sector hiding welfare breaches from law? Is the enforcement regime failing?

- The Fish Health Inspectorate and APHA use the water transportation provided by operators to access marine farms which may be in remote locations and not permanently manned.
- Enforcement is robust – FHI and APHA inspectors are highly trained to spot systemic issues and to provide advice to operators following inspections.

Q. Are you concerned about the reports of welfare abuse on fish farms, most recently relating to harvesting operations at fish farms across all main producers?

- I am aware of periodic reports of potential welfare abuses and most recently at the time of killing at a number of sites.

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- I understand that as a result of recent footage, a number of companies have stated they will be issuing further guidance and instigating additional training to ensure appropriate standards are followed by all staff.
- The Animal and Plant Health Agency are responsible for investigating potential breaches in welfare law – they are considering the cases, and it would not be appropriate to comment further at this time.

Q. What is SG doing about the Animal Welfare Committee guidance on slaughter?

- We recognise the importance of protecting the welfare of fish at the time of slaughter and are considering the recommendations made by the UK Government's Animal Welfare Committee. We are committed to working with our UK Government counterparts to deliver animal welfare improvements whenever it is logical and practical to do so.
- We are working with representatives from the devolved administrations and the trout industry on the recently formed Trout Working Group on the development of voluntary guidelines for the welfare of farmed fish at the time of slaughter.
- We will continue to engage with both the salmon and trout sectors to find ways of improving and safeguarding the welfare of farmed fish at the time of slaughter.
- At present, all salmon killing facilities operate CCTV on a voluntary basis and it is standard practice for all farmed salmon in Scotland to be killed using a percussive stunning method delivering irreversible instantaneous unconsciousness.

Contact: [Redacted – Regulation 11(2)], [Redacted – Regulation 11(2)]

Date when the information was last updated/reviewed: 30 October 2024

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CLEANER FISH MANAGEMENT AND WELFARE **ANNEX D5**

ISSUE: We expect the committee to question how cleaner fish mortality and welfare is being considered by the Scottish Government and how the environmental impact, including fisheries impact, is being managed.

Scientists highlighted that transfer of fish from a wild to farmed environment is stressful, the Fish Health Inspectorate noted cleaner fish mortality is higher than they would like – highlighting that up to 50% mortality can occur in some sites – but that the Scottish Animal Welfare Council is currently considering their welfare and that enforcing welfare legislation is the responsibility of the Animal and Plant Health Agency.

REC COMMITTEE RECOMMENDATION
26. It endorses the ECCLR recommendations on cleaner fish and agrees that there is an urgent need for an assessment of future demand as well as all associated environmental implications of the farming, fishing and use of cleaner fish.
RESPONSE <ul style="list-style-type: none"> • Mandatory controls relating to the wild wrasse fishery came into effect in May 2021, replacing the voluntary measures introduced in 2019. • The controls are kept under review as new information becomes available. The 2021 and 2022 additional data collected as part of the mandatory measures introduced in 2021, was published on 8 July 2024. • The 2023 data is currently being analysed. We are monitoring emerging studies from Scotland and England, whilst also engaging regularly with NatureScot in relation to the wrasse fishery. • We are currently awaiting advice from NatureScot on the back of their commissioned work on the implications of wrasse fishing on marine features. Their advice will be acted on prior to the opening of the 2025 fishery. • The sector has further developed the farming of cleaner fish and is itself considering the mixture of wild and farmed fish it will use in future.
REC COMMITTEE RECOMMENDATION
27. The Committee welcomes the Scottish Government’s commitment to “assess whether management measures are appropriate and proportionate to the current and anticipated future levels of sustainable wild wrasse fishing in Scotland” as part of its Farmed Fish Health Framework. It would urge the Scottish Government to complete this assessment as a matter of urgency.
RESPONSE <ul style="list-style-type: none"> • This consultation analysis of the measures at the time was completed it was decided to introduce new mandatory measures in 2021, building upon the existing voluntary measures that had been in place since 2019. • These measures include

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- additional data collection requirements on fishers who are permitted to access the fishery, including number of wrasse caught instead of weight caught
- Fishers must be part of a survey assessing what fish are being returned from the first 20 pots each week and take observers on board if requested.
- The additional new data collected over Year 1 and 2 was published in July 2024 - the 2023 data is currently being analysed.
- Data gathered on the wrasse fishery will improve the evidence base we use to make management decisions.
- The Scottish Government consulted on extending appropriate vessel tracking to all commercial fishing vessels under 12 metres in length by 2026. This proposal will improve our understanding of the distribution and patterns of fishing activity.
- Based on assessment of the available data, evidence showed the control measures were fit for purpose and no new management measures were introduced for the 2024 season. Management measures are being kept under review.
- Any future developments will be evidence-led and informed by discussions with relevant stakeholders.
- We will continue to work closely with NatureScot.
- Scottish Government is also part-funding a PhD scholarship at the University of Aberdeen along with the Scottish Salmon Education and Research Foundation (a foundation funded by Salmon Scotland members).
- The PhD project commenced in Autumn 2021 and aimed to Review assessment methods applied to data limited stocks to identify suitable methods for considering wrasse species status in Scottish waters – and will provide future management recommendations.

REC COMMITTEE RECOMMENDATION

28. The Committee strongly recommends that the Scottish Government consider the need for regulation of cleaner fish fishing to preserve wild stocks and avoid negative knock-on impact in local ecosystems.

RESPONSE

- See progress detail for recommendation **27**.

PROGRESS AND KEY SUCCESSES

- In 2021, the Scottish Government introduced new mandatory management controls, through the use of a licence condition, to the previously unregulated open fishery which set new obligations for the collection and reporting of data to Marine Directorate.
- The mandatory measure replaced and enhanced voluntary arrangements in place since 2019.
- As part of these new measures, we introduced a license variation closing the fishery unless fishers have a Letter of Derogation giving permissions from Marine Directorate to fish for wild wrasse.
- In order to obtain permissions, fishers must submit an application to Marine Directorate and demonstrate they meet eligibility criteria, such as having a valid contract with a salmon farm operator for the supply of wild wrasse. They must also agree to fish in accordance with conditions set.

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- The conditions require wrasse fishers to accept research observers if requested, as well as submit additional weekly returns to Marine Directorate, in order to improve the evidence base on which to make future decisions.
- The additional data collected over 2021/22 was published on 8 July 2024 and the 2023 data is currently being analysed.
- As we develop management measures for the 2025 fishery we will ensure all relevant assessments are undertaken.
In addition to the data already being collected, the Scottish Government has recently consulted on inshore tracking and monitoring for the inshore fleet, which wrasse fishers are a part of. The consultation responses are currently being analysed and depending on the outcome, this could present a good opportunity to gather additional data from the fishery.

TOP LINES:

- Cleaner fish use, including wild and farmed wrasse and lumpfish, are an important method of sea lice management employed by some production companies to manage sea lice in farmed salmon.
- The Scottish Government recognises the importance of wild caught wrasse, as cleaner fish, to the salmon farming sector and to the fishers who supply the sector.
- Since the 2018 enquiry the Scottish Government has introduced mandatory measures to regulate the wrasse fishery, including the requirement of a Letter of Derogation giving permission from SG’s Marine Directorate to fish under certain edibility and conditions.
- We continue to collect data through these fishery measures, including mandatory weekly returns from fishers, to help us develop management measures to enable sustainable management of the fishery and environment.
- We make clear in our Vision for Sustainable Aquaculture there should be continued research into the use of cleaner fish in aquaculture, and that dedicated Code of Good Practice (CoGP) provisions for cleaner fish will help support improved cleaner fish health, welfare and performance.
- The Scottish Animal Welfare Commission is currently looking at welfare aspects use of cleaner fish in salmon production and considering welfare aspects – we look forward to receiving its recommendations.

Q&A – WRASSE / CLEANER FISH

Q: What are the existing Wrasse control measures?

The control measures are:

1. The closed season runs from 1st December – 1st May. Marine Directorate determined the wrasse spawning season based on observations of sampled wrasse in UK waters. This demonstrated gonadosomatic index (GSI), a measure of spawning, were highest over the winter months, aligning with the applied closure, and lowest over the months associated with the open season.
2. Minimum and maximum landing sizes for wrasse are in place and kept under review.
3. There will be controls over creels, namely:

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- Only creels specifically designed to target and catch live wrasse and ensure their welfare will be used
 - Otter exclusion devices, such as a fixed-eye aperture, will be used at the entrance to the trap and creels must feature escape hatches
 - Creels will be lifted at a maximum rate of six metres per minute
 - Creels should not be deployed when the water temperature is >17°C
 - The maximum use of 250 wrasse traps within any 24-hour period, starting from 0001 – 2359.
4. Fishers targeting wrasse will be required to accept observers if requested subject to operational practicalities.
- In addition to the statutory requirements to provide accurate landings details on Form FISH1, Log Books and landings declarations, the licence holder must submit in writing to the local Marine Directorate Fishery Office, within 48 hours of the conclusion of the fishing week (a fishing week runs from 0001 hours Sunday to 2359 hours Saturday): an accurate record of the total number of wrasse, by species and per ICES rectangle, landed for each trip made in each given week; and an accurate record of the total number of under and over-sized wrasse, by species, returned to the sea for the first 20 traps deployed in each given week.

Q: Scottish Government should be doing more to protect the welfare of cleaner fish used in farmed fish production?

- Our Vision for Sustainable Aquaculture includes outcomes on improved welfare of cleaner fish and we will work with the sector to achieve this.
- The Scottish Animal Welfare Commission is currently looking at the use of cleaner fish in salmon production and we look forward to receiving its recommendations.
- Cleaner fish are afforded the same protection in law as species farmed for food, meaning The Animal Health and Welfare (Scotland) Act 2006 protects them from 'unnecessary suffering'.
- The Animal and Plant Health Agency are responsible for investigating potential breaches in welfare law, – we expect breaches to be the exception rather than the rule.
- Cleaner fish were the focus in the Farmed Fish Health Framework.

Q: More should be done encourage the sector to be more responsible for cleaner fish health and welfare?

- Cleaner fish play a valuable role in the sea lice control and the approach to their health and welfare has improved significantly over time.
- Most companies have people who are specifically focused on cleanerfish husbandry and have focused welfare strategies in place, including provision of species-specific shelters, feeding regimes and health monitoring.
- Different companies have different strategies regarding the use of cleanerfish, meaning they will use different species, or different combinations of species and will vary in the amount of wild caught and captive bred species.
- Early work of the Farmed Fish Health Framework and its members focused on cleanerfish and included:

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- Building agreed management measures for wild caught cleanerfish with the Scottish Government
- Establishing an international forum to share cleaner fish husbandry best practice and establish best practice measures for the Scottish industry.
- A focus on reducing the need for wild-caught wrasse by replacing the stock demands with farmed wrasse. - Mowi Scotland and Scottish Sea Farms collaborated on a wrasse hatchery project supported by SAIC and the Institute for Aquaculture - eggs were successfully hatched from progeny of wild-caught fish – possible world first.
- Mowi has since invested significantly in captive breeding.
- Lumpfish were also successfully deployed with hatchery production increasing, with production, in its early years we saw captive breeding increasing from 262,000 lumpfish in 2016 to 925,000 in a year.
- Salmon Scotland (under its previous name of Scottish Salmon Producers Organisation) held an industry cleanerfish knowledge exchange day, followed immediately followed by a scientific workshop to promote and share research in this field.

Q: Is the Fish Health Inspectorate (FHI) responsible for regulating cleaner fish health, welfare and mortality?

- The legislation under which the Fish Health Inspectorate operates does not differentiate between species held on fish farms.
- All farms must follow good biosecurity practice to obtain authorisation to operate and all business legally must notify the FHI or a veterinarian if there is unexplained mortality in any species, including cleaner fish.
- The FHI does not have responsibility for fish welfare, but it does raise any issues it observes to the Animal and Plant Health Agency which is responsible for considering potential breaches in welfare law.

Q. Should the sector move to 100% farmed cleaner fish to reduce the potential environmental impacts of wild harvesting?

- It is for the individual producers to source their cleaner fish, but we have robust fisheries management measures in place for wrasse sourced from the wild.
- At present, I understand most lumpfish used for sea lice management are already from farmed sources.
- The Sustainable Aquaculture Innovation Centre has also previously supported projects on scaling up farmed wrasse production in recognition of the potential benefits sourcing from reared wrasse populations.

Q. There are reports of welfare abuses of cleaner fish and accounts of high mortality during both on growing and during freshwater treatment.

- We remain committed to high standards of fish health and welfare and are clear in our expectations of producers to drive mortality to the lowest possible levels, including in cleaner fish.
- With regards to the use of treatments for farmed salmon where cleaner fish are used, we expect them to be undertaken with appropriate veterinary advice and

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protocols that are in lines with the sector's Code of Good Practice and relevant accreditation schemes such as RSPCA Assured.

- The Animal and Plant Health Agency are responsible for investigating potential breaches in welfare law, and consider concerns reported to them.

Q. What does your Vision for Sustainable Aquaculture say about cleaner fish?

- Our Vision for Sustainable Aquaculture calls for continued research into the use of cleaner fish in aquaculture and the development of a Code of Good Practice (CoGP) to support improved cleaner fish health, welfare and performance.
- The Scottish Animal Welfare Commission is currently looking at welfare aspects of cleaner fish in salmon production and we expect them to publish their findings later this year.
- We will consider their recommendations and engage with stakeholders on any next steps, including realising our Vision outcomes.

Q: What is the Scottish Government doing to support sustainable wrasse fishing?

- It is important we can have confidence that wild caught wrasse are being fished sustainably, with effective management in place.
- The evidence led control measures in place are subject to review and continuous monitoring. Marine Directorate keep abreast of emerging scientific developments and data returns from fishers to continue making decisions based on the most up to date evidence.
- NatureScot commissioned work on the implications of wrasse fishing for marine sites and features, which Marine Directorate have now received. NatureScot are currently preparing advice for Scottish Ministers, and we will consider that advice and any recommendations prior to the 2025 fishery.
- As part of implementing fisheries management measures for the inshore region, fisheries assessments are being undertaken for all the Special Protection Areas (SPAs), Special Areas of Conservation (SACs) and the Nature Conservation Marine Protected Areas (NCMPAs) where these measures are required in line with Management Advice (CMA) provided by NatureScot.

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- Wrasse is not a protected feature of any designated site however assessments will highlight if fisheries management measures are appropriate and that the measures put in place ensure that fishing activities do not negatively impact the conservation objectives and protected features of designated sites.
- In addition, a wrasse specific fisheries assessment is being undertaken before the opening of the 2025 fishery.
- We have also committed to consulting on a broad package of proposals to improve inshore fisheries management, informed by Fisheries Management and Conservation (FMAC) Inshore sub-group, supporting our co-management approach. Whilst these measures are not specifically directed towards the fishery, we do envision them to have a positive impact.
- The Scottish Government is open to discussion with our stakeholders on how best we approach management of wrasse. The FMAC and RIFG networks will continue to facilitate such discussions.

Q. When will the Scottish Government share the additional data collected in Year 3?

- The third year of additional data has been collected and is in the process of being analysed. Subject to other pressures, we are aiming to share this in December 2024. The Scottish Government will continue to use the best available evidence, as it becomes available.

Q. Will the Scottish Government develop a Fisheries Management Plan for Wrasse?

- The UK Fisheries Act and UK Joint Fisheries Statement contain a statutory commitment for the production of 43 Fisheries Management Plans (FMPs), of which the Scottish Government is the lead coordinating authority for 22.
- We are unable to confirm or commit to the production of additional FMPs beyond those in development. We will keep this under review and where appropriate and necessary will consider the need for additional FMPs in the future.
- We have also commissioned the Sea Fish Industry Authority to undertake some initial scoping work to help inform our approach to non-quota species (which includes Wrasse) FMPs in Scotland.

Q. Why has the Scottish Government not undertaken an appropriate assessment, under the Habitats Regulations, for the wrasse fishery?

- Neither a habitats appraisal nor an appropriate assessment was carried out prior to the introduction of the mandatory measures, as wrasse are not protected features in any of Scotland's Special Areas of Conservation and there was no evidence that showed pots had a significant impact on rocky reefs.
- This decision not to undertake an assessment was in line with advice from NatureScot received at the time.
- In 2024 Marine Directorate received a report undertaken by Glasgow University on the implications of wrasse fishing for marine sites and features. The report has brought new evidence of wrasse fishing interactions with SACs and MPAs.

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- In light of this evidence, we now intend to undertake an appropriate assessment ahead of the wrasse fishery opening in May 2025. Officials have begun to refine available spatial fishing activity for the wrasse fishery and will use this to inform the evidence base for the appropriate assessment. This data will also be shared with NatureScot and we will take their advice on board.
- I'm aware a referral was made to Environmental Standards Scotland (ESS) regarding the decision not to undertake an appropriate assessment prior to the introduction of mandatory measures in May 2021. We responded on 6 September and I understand ESS were content and have since closed their investigation. The outcome report will be published on ESS website in due course. ESS will publish their findings in the coming weeks.

Contact: [Redacted – Regulation 11(2)] (**Wrasse Fisheries**), [Redacted – Regulation 11(2)] (**Cleaner fish health and welfare**).

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THEME 3: ENVIRONMENTAL IMPACTS (SEABED IMPACTS)

ANNEX E

CONTAINS BRIEFING ON:

- **SEPA'S REGULATORY FRAMEWORK FOR MANAGING DISCHARGES**
- **NEW ENVIRONMENTAL QUALITY STANDARD**
- **EMAMECTIN BENZOATE**
- **SEPA ENFORCEMENT AND PERFORMANCE**

ISSUES RAISED:

nNGO's have suggested there had been no progress to minimise impacts from medicines, were critical of Scottish Environment Protection Agency's (SEPA's) pace around assessing the impact of fish farms on the seabed, of SEPA's enforcement approach and called for more resources.

During SEPA's evidence session (19 June 2024), RAI Committee members' lines of questioning focused on elements of SEPA's remit and capacity to effectively regulate. SEPA highlighted continued implementation of its 2019 framework with enhanced monitoring and an increase in charges and resources for SEPA. 35% of licences are still to be transferred to the 2019 regime. SEPA reported an increase in compliance and monitoring of farms under the new framework (noting that they inspect 60% of farms on average a year). SEPA noted that Scotland has seen a decline in the overall use of chemicals in the last 10 years, which had now stabilised.

SEPA challenged the committee on its narrative that use of enforcement notices in Scotland equates to lack of enforcement. SEPA noted that the most powerful course of action they can take is a reduction in biomass, noting that they did this often under the old framework, but that the requirement has reduced as SEPA and the sector are better able to predict impacts under the new framework. They have moved from a reactive to a more proactive place.

The time lag between monitoring and sampling results being available was criticised, and explained by SEPA as necessary as sifting of mud and analysis of samples takes time. The relationship between Scottish Government and SEPA was questioned, including whether SEPA felt there was cohesion between the different organisations in the consenting process.

Committee questioned scientists on the state of knowledge on the environmental impacts of medicines who said knowledge was varied. SEPA was pressed on whether the use of SLICE (emamectin benzoate) was decreasing – the potential impacts of this chemical was a focus of the prior inquiry.

In response to a public consultation (April to July 2023), the Scottish Government will introduce the new Environmental Quality Standard for emamectin benzoate by means of a Direction to SEPA. On 5 November the acting Cabinet Secretary for Net Zero and Energy (Gillian Martin) agreed to the issuing and publication of The Scotland & Solway Tweed

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River Basin District (Status and Standards) directions 2024. I would expect them to be issued imminently.

The committee is likely to press Scottish Government on the reasoning behind its 4-year transition period to implement a reduced environmental quality standard. Following their evidence session, SEPA submitted information on the number of farms using the same quantity of emamectin benzoate since 2018, representing the majority of farms. The new Environmental Quality Standard for emamectin benzoate will be introduced in June 2028.

On 3 October 2019 Salmon Scotland (then called the Scottish Salmon Producers Organisation) submitted a formal complaint on the “regulatory practices, standards and behaviours” of SEPA. In 2020 SEPA upheld 10 of the 14 issues raised in part or in full. Salmon Scotland’s written evidence to the RAI Committee, dated 13 June 2024, acknowledged SEPA’s action plan introduced to address the issues identified and there is “ongoing dialogue” with SEPA to drive improvements, but they remain concerned about progress against some of the issues raised in the complaint. These letters were reported in The Ferret on 9 September 2024.

The Committee raised the complaint by Salmon Scotland with SEPA on the time taken to consent. The sector advised that this had been overtaken by Professor Griggs’ review into consenting.

The Committee also questioned the salmon farming sector on action taken by industry to support the SEPA finfish framework. The sector responded that the framework supported better modelling of farms before application and better seabed monitoring - stating that there is less medicine discharged - evidenced by the data published. They also stated that they have supported projects to improve benthic survey methods.

The Committee was critical that there is a lack of fish farm compliance information following the SEPA cyber-attack and a loss of its Compliance Assessment Scheme reporting. SEPA is currently developing a new reporting system – for all sectors – and they plan to consult before the end of this financial year prior to implementation. The new approach will aim to support public transparency of environmental results over and above the data which SEPA already publishes.

ENVIRONMENTAL PROTECTION
REC COMMITTEE RECOMMENDATIONS

1. The Committee acknowledges both the economic and social value that the salmon farming industry brings to Scotland. It provides jobs to rural areas, investment and spend into communities and stimulates economic activity in the wider supply chain. However, the industry also creates a number of economic, environmental and social challenges for other businesses which rely on the natural environment and the Committee recognises this impact. Therefore, if the industry is to grow, the Committee considers it to be essential that it addresses and identifies solutions to the environmental and fish health challenges it faces as a priority.
2. The Committee strongly agrees with the view of the Environment, Climate Change and Land Reform Committee (ECCLR) Committee that if the industry is to grow, the “status quo”

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in terms of regulation and enforcement is not acceptable. It is of the view that urgent and meaningful action needs to be taken to address regulatory deficiencies as well as fish health and environmental issues before the industry can expand.

RESPONSE

RECOMMENDATIONS 1 & 2

- The Committee raised concerns on the environmental impact and fish health challenges which the sector faces, and we have prioritised action in these areas.
- A new, strengthened, environmental regime has been implemented by SEPA and transition to this new framework is nearly complete. The framework introduced a tighter seabed standard and significantly enhanced modelling and monitoring requirements.
- Additionally, the Scottish Environment Protection Agency (SEPA) is now the lead regulator responsible for managing interactions between sea lice from fish farms and wild Atlantic salmon and sea trout. SEPA commenced the implementation of a new sea lice framework to protect wild salmon populations from 1 February 2024.
- The new SEPA sea lice framework will support sustainable development of fish farming by protecting wild fish, whilst making the development process more efficient and effective. SEPA will use the new sea lice regulatory framework alongside its other regulatory responsibilities for the water environment.
- The Farmed Fish Health Framework continues to support a progressive approach to fish welfare and health management, undertaking collaborative work within the work themes of understanding mortality, climate change and treatments (including medicines).
- The Scottish Aquaculture Council (SAC) has met on 5 occasions to date, most recently on 4 June 2024. The SAC continues to add value to the policy process, providing advice across all aquaculture related issues.
- We want to go further – that is why I commissioned the independent review of aquaculture consenting.
- The Consenting Task Group (CTG) has worked together to develop a new pre application process which seek to minimise delays by streamlining and removing unnecessary duplication in the pre-application process, and to provide developers with an early understanding of potential constraints in the consenting system – including environmental constraints information – as well as enhancing community engagement on the environmental risks.
- In January 2024 we commenced pilots in Shetland and Highland local authority areas and there are currently 4 pilots underway.
- We are still fully aware that careful management is needed to enhance blue and green infrastructure and to ensure use of land and sea is in the long-term public interest. Our National Planning Framework 4 (NPF4) was published in February 2023 and the Aquaculture Policy within makes clear the need to minimise adverse effects on the environment, including cumulative impacts. We expect Local Development Plans, as they are refreshed and new plans come forth, will play a key role in guiding development to locations that are appropriate for the area and will minimise adverse environmental impacts while meeting industry needs.
- The new National Marine Plan 2 (NMP2) will act as companion document alongside our National Planning Framework 4, setting out a coherent vision for the future development of Scotland’s land and seas. The updated NMP2 will continue to guide all marine licensing and consenting decisions.

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REC COMMITTEE RECOMMENDATION

5. The Committee calls elsewhere in this report for the highest possible environmental and fish health regulatory standards to apply to the farmed salmon sector in Scotland. However, it is concerned that these standards could become technically misaligned with those in the EU post-Brexit and that this could lead to problems in accessing EU markets. It therefore calls on the Scottish Government to indicate how it intends to work with the UK Government to ensure that this issue is addressed.

RESPONSE

- The Scottish Government is committed to aligning to EU law as far as is practical and has created powers and measures to align devolved Scottish law with EU legislation. The UK Withdrawal from the European Union (Continuity) (Scotland) Act 2021 focuses on three key areas following the end of the transition period:
 - 1) a discretionary power to enable Scottish Ministers to align devolved Scots law with EU legislation
 - 2) provisions to ensure continuation of guiding principles on the environment in Scotland
 - 3) establishment of new oversight body 'Environmental Standards Scotland'.
- To ensure that environmental law in Scotland is effective, Environmental Standards Scotland has been established as an independent body to ensure public authorities' compliance with environmental law and to prevent enforcement gaps arising from leaving the EU.
- We worked with the Department for Environment, Food and Rural Affairs (DEFRA) on the development and introduction of The Aquatic Animal Health (Amendment) Regulations 2022 (came into force on 15 August 2022), which enables changes to vector and susceptible species to be made more timeously.
- On international standards more generally – these are always considered as part of our development process, however Scotland's own environment and unique circumstances mean that some international standards are not easily comparable or workable.

SEPA REGULATORY FRAMEWORK
REC COMMITTEE RECOMMENDATION

29. The Committee believes that it is essential that the issue of waste collection and removal is given a high priority by the industry, the Scottish Government and relevant agencies. It is clearly one of the main impacts on the environment and needs to be addressed as a matter of urgency.

RESPONSE

- The Scottish Environment Protection Agency (SEPA) finfish aquaculture regulatory framework was published in June 2019. The SEPA framework is helping to guide farms to higher dispersal locations where the environmental capacity to deal with waste is significantly higher. A developer wishing to develop a large farm in a sheltered (low dispersion) area of sea is likely to have to use waste capture technologies if they are to obtain authorisation from SEPA.
- SEPA will not licence a fish farm if it cannot operate within safe environmental limits.
- SEPA works with developers wishing to install waste collection & removal systems to help enable trials/provide upfront advice on permitting requirements.
- SEPA's new charging regime provides a significant reduction of fees for waste capture technologies.

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- Note: SEPA cannot require the use of specific technologies, such as waste capture and collection.

REC COMMITTEE RECOMMENDATION

30. The Committee is concerned that the announcement of SEPA’s proposals for a new regulatory framework for managing the waste input to the marine environment from fish farm cages, as part of the outcomes of its wider sectoral review, was delayed until November 2018, shortly before this report was finalised. This meant that the Committee was unable to consider the proposals in detail. However, the Committee notes that the proposed new regulations are intended to more effectively manage the waste from salmon farms and avoid adverse impact on the seabed and the biodiversity of sea. The Committee calls on SEPA to keep it updated on the output from its consultation on the proposed framework and ultimately on the detail of how this will be implemented.

RESPONSE

- The Scottish Environment Protection Agency (SEPA) implemented its new regulatory framework for managing farm discharges in June 2019.
- The framework has been implemented under the Water Environment (Controlled Activities) (Scotland) Regulations 2011.
- The framework includes:
 - Improved risk assessments by SEPA to ensure that the environment can accommodate the discharges without environmental standards being compromised.
 - Improved modelling and monitoring of their impacts on the seabed by farm developers and operators to ensure that impact can be fully assessed, and proportionate action can be taken if standards breached.
 - Auditing of compliance by SEPA.
- The framework has been applied to all new farms and expansion of existing farms since June 2019. Farms authorised prior to June 2019 are being progressively transferred onto the new framework. The transfer of all active farms is due to be completed by the end of 2024.
- The Marine Licensing (Exempted Activities) (Scottish Inshore Region) Amendment Order 2020 transferred responsibility for the authorisation of discharges of medicine residues from well-boats from Marine Scotland to SEPA. This means that SEPA can now regulate such discharges holistically.
- SEPA provided evidence on the impact of the framework on 19 June.

REC COMMITTEE RECOMMENDATION

31. The Committee strongly believes in the benefits of transparency for the industry and those interacting with it. It endorses the ECCLR Committee’s recommendation that any data and analysis gaps related to the discharge of medicines and chemicals into the environment should be addressed by both the industry and regulators. (For Recommendation 32, see ENVIRONMENTAL QUALITY STANDARD FOR EMAMECTIN BENZOATE below).

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RESPONSE

- Medicine use is reported by operators to SEPA and reported on Scotland's Aquaculture Website along with other data gathered by SEPA and other regulators.
- SEPA's 2019 regulatory framework introduced:
 - Enhanced environmental monitoring of the effects of new discharges of emamectin benzoate on the seabed.
 - Mandatory quality assurance requirements introduced for emamectin benzoate analysis.
 - Comprehensive and standardised reporting requirements on medicine use.

REC COMMITTEE RECOMMENDATION

60. The Committee is therefore of the view that maintaining the status quo in terms of the regulatory regime in Scotland is not an option. It considers that there is a need to raise the bar in Scotland by setting enhanced and effective regulatory standards to ensure that fish health issues are properly managed and the impact on the environment is kept to an absolute minimum. The Committee therefore recommends that a comprehensively updated package of regulation should be developed by Marine Scotland and other regulatory bodies, both to ensure the sector will be managed effectively and to provide a strong foundation on which it can grow in a sustainable manner.

RESPONSE

(see responses to **Recommendations 1, 29, 30**)

- It should be noted that we understand our regulatory regime relating to potential benthic impacts (SEPA's regime) is significantly stricter than comparable fish farming nations.

REC COMMITTEE RECOMMENDATION

62. The Committee considers it to be essential that SEPA introduces a significantly enhanced regulatory and monitoring regime under which it will robustly and effectively enforce compliance with environmental standards. It therefore welcomes the inclusion in SEPA's draft sector plan of consultation proposals to more effectively monitor the environmental performance of the industry and, improve compliance levels.

RESPONSE

- SEPA implemented a new regulatory framework in June 2019.
- The framework includes:
 - Requirements for enhanced monitoring of the effects of farm discharges on the seabed around the farm
 - Audit monitoring by SEPA of compliance with licence conditions, including environmental monitoring of the seabed to check compliance with seabed environmental standards.
 - Quality assurance scheme for data produced by operators on farm performance.
 - Under the framework, SEPA has a wide range of powers that it can use to enforce compliance if necessary. These include monetary penalties, enforcement notices, referral for prosecution and powers to vary, suspend and revoke licences.
- SEPA is the lead regulator responsible for managing interactions between sea lice from fish farms and wild Atlantic salmon and sea trout. SEPA commenced the implementation of a new sea lice framework to protect wild salmon populations from 1 February 2024.

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- The new SEPA sea lice framework will support sustainable development of fish farming by protecting wild fish, whilst making the development process more efficient and effective. SEPA will use the new sea lice regulatory framework alongside its other regulatory responsibilities for the water environment.

ENVIRONMENTAL QUALITY STANDARD FOR EMAMECTIN BENZOATE
REC COMMITTEE RECOMMENDATION

32. The Committee calls elsewhere in this report for the highest possible environmental and fish health regulatory standards to apply to the farmed salmon sector in Scotland. However, it is concerned that these standards could become technically misaligned with those in the EU post-Brexit and that this could lead to problems in accessing EU markets. It therefore calls on the Scottish Government to indicate how it intends to work with the UK Government to ensure that this issue is addressed.

RESPONSE

- The Environmental Quality Standard (EQS) for emamectin benzoate (EmBz) was derived by the UK Technical Advisory Group (UKTAG) using all available, reliable and relevant data and following internationally accepted guidance. Taking account of the latest evidence of the environmental persistence of emamectin benzoate, Ministers accepted UKTAG’s recommendation for the EQS for EmBz.
- Following a public consultation on the timescale for implementing the new EQS, which took place from 24 April to 24 July 2023, Ministers have accepted the recommended timescales for the introduction of the new EQS.
- Scottish Government will introduce the new EQS by means of a Direction to SEPA. On 5 November the acting Cabinet Secretary for Net Zero and Energy (Gillian Martin), agreed to the issuing and publication of The Scotland & Solway Tweed River Basin District (Status and Standards) directions 2024. I would expect them to be issued imminently.
- Scottish Government intends to introduce the new EQS by means of a Direction to the Scottish Environment Protection Agency (SEPA). SEPA, working with the sector, is expected to have completed implementation within 48 months of this Direction being issued.
- In terms of other sea-lice medicines (bath medicines) SEPA has now reviewed the latest scientific evidence and the existing environmental standards are appropriate based on the available evidence.
- Where potential risk to the environment is highlighted as part of our initial screening modelling in relation to bath medicines, SEPA requires operators to undertake enhanced hydrodynamic modelling to fully demonstrate that any significant impact is appropriately mitigated, prior to any authorisation being granted.

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PROGRESS AND KEY SUCCESSES

- SEPA is observing a reduction in the environmental impacts of fish farming through its analysis, monitoring and compliance checks.
- SEPA has reported an increase in compliance and intensity of sampling at farms following the introduction of its regulatory framework for managing discharges from fish farms in 2019.
- Ministers have accepted the recommended timescales for the introduction of the new EQS for emamectin benzoate.
- SEPA commenced the implementation of a new sea lice framework for wild salmon from 1 February 2024, as the lead regulator responsible for managing the risk to wild fish from sea lice from fish farms.

TOP LINES:

- I recognise the important work that SEPA does, and the continued collaboration undertaken throughout the development and implementation of the new sea lice framework alongside its wider regulatory framework.
- Progress continues to be made and SEPA will complete the transfer of all active farms onto its regulatory framework for managing farm discharges by the end of 2024.
- I am grateful to SEPA for their continued engagement through the Consenting Task Group to pilot a coordinated pre-application and application process.

Q&A – SEPA'S REMIT AND COMPETENCE

Q: What is SEPA's remit?

- SEPA is the environmental regulator of fish farms in Scotland and their identification as lead for sea lice interactions consolidates SEPA's role, following the transfer of well boat licensing responsibility from Scottish Government in 2021.
- SEPA regulates discharges of organic matter, medicine and chemicals through its regulatory framework for managing discharges, and as of February 2024, interactions between sea lice from farmed fish on wild salmon through its sea lice risk assessment framework.
- SEPA's remit does not include any aspect of fish health and welfare.

Q: How does the Scottish Government ensure SEPA is properly discharging its functions? What is the relationship between SEPA and the Scottish Government?

- As an executive Non-Departmental Public Body (NDPB), SEPA operates under a framework document, which sets out the respective roles and responsibilities of the organisation, the Scottish Ministers and sponsor teams.
- Scottish Government and SEPA work together to ensure that its aims and objectives are aligned with the Programme for Government, Scotland's Economic Strategy and National Performance Framework.
- NDPBs are, by nature, delivery focussed. They deliver against agreed priorities within clear policy, financial and performance management frameworks set by Government.

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Q: Do you have confidence in SEPA’s ability to effectively regulate?

- I have full confidence in SEPA’s ability to carry out its regulatory functions.
- As a regulator SEPA must ensure its approach to protecting and, where necessary, improving the marine environment is proportionate and evidence led.
- SEPA has refined and improved its framework for managing discharges from fish farms first introduced in 2019, and in February 2024 introduced a risk-based framework to manage interactions between sea lice from farmed fish on wild salmon.
- SEPA will require more years of data collected through these frameworks to understand if further regulation is required.
- I look forward to continued progress and further supporting SEPA on the development of its regulatory framework.

Q: Does SEPA have sufficient resource to enforce its regulations?

- SEPA, along with other environment bodies, plays a pivotal role in protecting and maintaining a safe, healthy and sustainable environment for the people of Scotland. This is achieved through funding from Scottish Government alongside SEPA’s regulatory activities funded by cost recovery under the principle of polluter pays.
- The budget settlement for 2024-25 recognised the increasing level and quality of work being delivered by SEPA which is why despite such challenging financial circumstances, the organisation benefitted from an 5% uplift to its core funding, bringing its core budget to £52.6 million in 2024-25.
- In 2022 SEPA increased its CAR licence fees to ensure cost recovery relating to the introduction of its framework – the increase was delayed to allow businesses to recover from the impacts of Covid.

Q: Is SEPA subject to penalties if they don’t discharge their functions? Who is responsible for assessing whether SEPA has discharged its functions?

- Scottish Ministers appoint the Chair, Deputy Chair and Board Members and hold the Board to account for the performance of SEPA and its use of resources.
- Ministers are ultimately accountable to the Scottish Parliament for ensuring that the Board is discharging its duties effectively, although the Parliament may scrutinise the performance of SEPA directly as it does with all public sector bodies.
- Furthermore, as a public authority, SEPA may be subject to scrutiny by Environmental Standards Scotland.
- The Scottish Ministers are not directly responsible for the operation of SEPA.

Q: Can you explain SEPA’s regulatory frameworks where they relate to fish farming?

- SEPA is the environmental regulator of fish farms in Scotland and regulates:
 - discharges of organic matter, medicine and chemicals through its regulatory framework for managing discharges (which may affect the water environment and seabed). This framework has been applied to all new farms and

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- expansion of existing farms since June 2019. The transfer of all active farms is due to be completed by the end of 2024.
- interactions between sea lice from farmed fish and wild salmonids and helps inform where individual licence conditions are considered necessary to manage and protect the environment. This framework is distinct from Scottish Government's sea lice policy which is implemented and enforced by the Fish Health Inspectorate.
 - SEPA is developing an enhanced Environmental Performance Assessment Scheme, which will provide further information on farm compliance with licence requirements relating to medicine discharges – we expect this to be consulted on by March 2025.

Q: Does SEPA compromise either fish health or the environment for the sake of the other?

- Improving fish health and reducing environmental impact are equally important – both need to be addressed to achieve sustainability, it is not a question of priority of one over another.
- The Scottish Government's sea lice management policy implemented by the Fish Health Inspectorate safeguards farmed fish health and takes account of the levels of sea lice which impact on fish health.

Q: The Scottish Government has committed to introducing fines for fish farm escapes. Should penalties be introduced for all regulatory requirements?

- The new sea lice risk assessment framework is implemented under the same environmental regulations that apply to all other activities with the potential to impact on the water environment. SEPA therefore has a wide range of enforcement tools, including monetary penalties, that can be used as necessary and appropriate to address any non-compliances.

Sensitivities:

Q: Salmon Scotland formal complaint against SEPA.

- Formal complaints lodged against SEPA are for them to respond to.
- SEPA is continuing to engage with stakeholders as it develops its regulatory frameworks.
- I have full confidence in SEPA's ability to carry out its regulatory functions.

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**Q&A – NEW ENVIRONMENTAL QUALITY STANDARD FOR EMAMECTIN
BENZOATE**

**Q: Can you provide an update on progress on a new Environmental Quality
Standard (EQS) for emamectin benzoate (EmBz)?**

- Ministers have accepted the recommended timescales for the introduction of the new Environmental Quality Standard for emamectin benzoate.
- The EQS for EmBz was derived by the UK Technical Advisory Group (UKTAG) using all available, reliable and relevant data and following internationally accepted guidance.
- A public consultation on the timescale for implementing the new EQS took place from 24 April to 24 July 2023.
- In response, the Scottish Government will introduce the new EQS by means of a Direction to SEPA. On 5 November the acting Cabinet Secretary for Net Zero and Energy (Gillian Martin), agreed to the issuing and publication of The Scotland & Solway Tweed River Basin District (Status and Standards) directions 2024. I would expect them to be issued imminently.

Q: Is the UK TAG recommendation robust?

- The main work of developing environmental standards for use in the UK has been carried out by the UK Technical Advisory Group for the WFD (UKTAG). This is a partnership of technical experts from the UK environmental protection and conservation agencies, as well as representatives from the Republic of Ireland.
- The UKTAG methodology used to make the recommendation is scientifically robust and includes obtaining independent scientific peer reviews of the evidence.
- The lower value for the emamectin benzoate Environmental Quality Standard (EQS) has been calculated using a rigorous assessment of the impacts on aquatic life.
- The change in EQS for emamectin benzoate will fulfil commitments made to the Scottish Parliament following the 2017/18 parliamentary inquiries.

**Q: We called for urgent action on SLICE in 2018 - why has the Scottish
Government shown a lack of urgency and allowed a 4-year transition period?**

- While we recognise the environmental persistence of EmBz and the need to address this, we also recognise the importance of SLICE as an infeed sea lice medicine.
- A public consultation that sought stakeholders' views on the timescale for implementing the new EQS for EmBz took place between 24 April and 24 July 2023.
- Ministers accepted an appropriate implementation period to allow the sector to plan for a reduction on EmBz use and make changes to their proposed fish health treatment strategies as a result.

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**Q: Do you accept the environmental impacts of use of the chemicals used by
the aquaculture sector, including formaldehyde and imidacloprid?**

- All fish farms in Scotland need to meet strict environmental standards which are robustly regulated by SEPA with the aim of ensuring that the environmental impacts from the industry are assessed and managed safely.

Formaldehyde:

- I'm aware of concern regarding chemicals such as formaldehyde (used to treat parasites and some diseases) - formaldehyde can be used safely in fish farming and as regulated, does not pose a risk to food safety.

Imidacloprid:

- Veterinary medicines are a reserved matter. All veterinary medicines require a marketing authorisation for sale and supply in the UK from the Veterinary Medicines Directorate (VMD) following robust and rigorous testing.
- In addition, discharge into the marine environment would require authorisation from SEPA as an independent regulator. Discharge would only be authorised if SEPA were satisfied that environmental standards would not be breached. There are no exceptions to this.
- VMD has not received any application for the use of Ectosan in aquaculture in the UK, and SEPA has not received any applications to use it.
- It is important to note that EctosanVet (the recently developed sea lice treatment containing imidacloprid) is distinct from the CleanTreat water purification technology which was developed by Benchmark to remove imidacloprid from waste water prior to its discharge.
- By removing chemicals from veterinary treatment discharge water, CleanTreat technology is an important advance with potential to reduce the environmental footprint of the sector.
- The Sustainable Aquaculture Innovation Centre has supported trials, now concluded, to determine the efficacy of CleanTreat technology in conjunction with veterinary products already authorised for use by the Veterinary Medicine Directorate and SEPA. No imidacloprid based treatments were used.

**Q&A – ENVIRONMENTAL AND FISH HEALTH REGULATORY STANDARDS
POST-BREXIT**

**Q: How does the Scottish Government intend to work with the UK Government
to ensure that environmental and fish health regulatory standards are upheld
post-Brexit?**

- Environmental Quality Standards are key tools in assessing compliance and protecting the water environment. They underpin assessments of whether waters are at risk of deterioration and what improvements would be needed to improve the status of waters that are not at good status.

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- To ensure that environmental law in Scotland is effective, Environmental Standards Scotland has been established as an independent body to ensure public authorities' compliance with environmental law and to prevent enforcement gaps arising from leaving the EU.

Q: What measures has the Scottish Government taken to align to EU law?

- The Scottish Government is committed to aligning to EU law as far as is practical and has created powers and measures to align devolved Scottish law with EU legislation. The UK Withdrawal from the European Union (Continuity) (Scotland) Act 2021 focuses on three key areas following the end of the transition period:
 - 1) a discretionary power to enable Scottish Ministers to align devolved Scots law with EU legislation
 - 2) provisions to ensure continuation of guiding principles on the environment in Scotland
 - 3) establishment of new oversight body 'Environmental Standards Scotland'.

Q: How has environmental performance improved over recent years?

- I am aware that the previous Committee inquiries raised concerns on the environmental impact and fish health challenges which the sector faces, and we have prioritised action in these areas:
 - In June 2019, SEPA implemented its new regulatory framework for regulating discharges of organic matter, medicine and chemicals, for all new and expanding farms. The transfer of all active farms is due to be completed by the end of 2024.
 - SEPA as the lead regulator, commenced the implementation of a new sea lice framework to protect wild salmonid populations from 1 February 2024.
 - Our National Planning Framework 4 (NPF4) was published in February 2023 and the Aquaculture Policy within makes clear the need to minimise adverse effects on the environment, including cumulative impacts.
 - The new National Marine Plan 2 (NMP2) is under development and will act as companion document alongside NPF4. The updated NMP2 will continue to guide all marine licensing and consenting decisions.

Q: What is the Scottish Government's position on use of plastic on fish farms?

- I am aware of concerns relating to plastics entering the environment from aquaculture gear.
- The potential for plastics to enter the environment can be reduced through careful management, ensuring that the use of plastics is monitored and controlled.
- To support sustainable use of our marine environment, Crown Estate Scotland has introduced annual reporting requirements for marine fish farms on the management of plastic and products containing plastic to provide transparency on the responsible management of plastic.

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- SEPA will continue to use its routine monitoring activity to check waste handling practices at salmon farms.

Q: What is the Scottish Government's view on whether the fish farm feed supply chain is sustainable?

- Feed used in Scottish salmon farming is comprised of a wide range of ingredients derived from both marine and plant sources. It is important for farmed animal health and welfare to have nutritious feeds which can be easily absorbed, helping to ensure efficient production.
- Whilst I understand there has been a transition within the salmon feed sector towards replacement of marine ingredients with terrestrial ingredients, there will always be a need for a proportion of fish feed to contain marine based ingredients to ensure the nutritional requirements of farmed fish are met.
- Expanded use of fisheries by-products such as trimmings from processing and innovative ingredients such as algae derived Omega-3, are helping the sector to reduce the proportion of fish meal and oil sourced directly from wild capture fisheries.

Contact: [Redacted – Regulation 11(2)], [Redacted – Regulation 11(2)], [Redacted – Regulation 11(2)]– **Marine Directorate**

Date when the information was last updated/reviewed:
6 November 2024

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THEME 4: ENVIRONMENTAL IMPACTS (INTERACTIONS)

ANNEX F

BRIEF CONTAINS

- **SALMON INTERACTIONS WORKING GROUP REPORT) (F1)**
- **SEPA SEA LICE RISK ASSESSMENT FRAMEWORK: ISSUES AND Q&A (F2)**
- **ESCAPES: ISSUES AND Q&A (F3)**
- **ESCAPES: ENVIRONMENT MANAGEMENT PLAN LOCH SHIN (F4)**
- **WILD SALMON AND RECREATIONAL FISHERIES (F5)**

SALMON INTERACTIONS REPORT

ANNEX F1

Background: In October 2021 Scottish Government published its response to the 40 recommendations of the Salmon Interactions Working Group. Our response identified

- SEPA would become the lead body responsible for regulating wild and farmed fish interactions;
- we would take forward work to make fish farm containment measures and regulation more robust (through renewed technical containment standards); including the introduction of penalties for fish farm escapes with the ultimate aim of ring-fencing funds to support wild salmonid conservation and research; and
- a Wild Salmon Strategy would be published to provide the overarching framework to tackle all pressures acting upon wild salmon.

REC COMMITTEE RECOMMENDATION

37. The Committee notes that strict penalties are in place in Norway to deal with escapes and recommends that appropriate sanctions should be developed and introduced in Scotland.

RESPONSE

- It is important to both mitigate the risk of escape and to take action where escapes incidents do occur. However, we must be proportionate in our action.
- To reduce the risk of escapes, the Scottish Government remains committed to working with the sector to deliver a new Technical Standard for Scottish Finfish Aquaculture - escape incidents have been reducing overall and following the introduction of the first standard, however we did see an abnormal escape incident last year relating to an escape from a well boat transporting fish.
- The Fish Health Inspectorate's regulatory regime can already result in fines for failure to implement 'satisfactory measures', however in response to the Salmon Interactions Working Group report we did express our future intention to explore fines for fish farm escapes similar to that which is implemented in Chile or Norway.
- Our ultimate aim here is for any monies to be ring fenced for wild salmonid conservation and/ or research, meaning funding is going directly to those are potentially impacted by the mistake.
- However, I must be clear – that not all escapes lead to introgression. It very much depends on the age of the fish and the number which escape into the environment – many fish disperse widely into the sea.

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- I would also like to highlight the good practice being implemented by companies in this area without the need for regulatory action – for example following a large escape at one of its farms (Carradale) Mowi funded a study to determine if introgression was occurring. No evidence of impact or introgression was found following the escape event.

REC COMMITTEE RECOMMENDATION

40. A precautionary approach to development should be taken which will seek to minimise the potential risk to wild salmon stocks.

RESPONSE

- See progress detail on recommendation **1, 38 and 39**.
- Our application of the precautionary approach has been reviewed and adapted as our understanding of science and evidence has evolved.
- We already have presumptions against development on the North and East coasts of Scotland, and we've taken further action to introduce the SEPA sea lice framework in the aquaculture zone.
- A precautionary approach is needed where confidence in impacts of aquaculture is uncertain. For example, in relation to sea lice impacts, the Marine Directorate established the international Knowledge Strength Working Group to maximise confidence in decision making, and thus reduce the need for a precautionary approach.
- As new data on sea lice is collected from sentinel cages, through the Scottish Environment Protection Agency's monitoring under the sea lice risk assessment framework, which Marine Directorate advises on, it will become possible to reduce precautionary approaches. However, until this data is collected, analysed, and used to validate models the uncertainty that requires a precautionary approach to potential risks remains important.

REC COMMITTEE RECOMMENDATION

41. The siting of salmon farms is key to managing any potential risk to wild salmon stocks.

- See progress detail on recommendations **42, 45-47 below**.
- The data collection phase of the West Coast Tracking Project (WCTP) is now complete. Tagging and tracking of wild salmon smolt migration was undertaken in 2021, 2022 and 2023 in a partnership project with Marine Directorate, Fisheries Management Scotland and Atlantic Salmon Trust. This data will provide important information about the speed and direction of smolt migration and can be used to inform further development of the Scottish Environment Protection Agency's sea lice risk assessment framework.

REC COMMITTEE RECOMMENDATIONS

42. The Committee notes concerns expressed in evidence that none of the existing regulatory bodies currently has responsibility for the impact of salmon farms on wild salmon stocks. The Committee believes that clarity must be provided by the Scottish Government as to how this apparent regulatory gap will be filled and which agency will assume responsibility for its management.

45. The siting of farms in the vicinity of known migratory routes for wild salmon must be avoided.

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46. A similar precautionary approach must be taken in Scotland to assist in mitigating any potential impact of sea lice infestation on wild salmon.

47. The precautionary approach should be applied in a meaningful and effective manner in relation to applications for new sites and expansion of existing sites.

RESPONSE

- We appointed SEPA as the lead regulator responsible for managing interactions between sea lice from fish farms and wild Atlantic salmon and sea trout.
- SEPA commenced the implementation of a new sea lice framework to protect wild salmon populations from 1 February 2024.
- The new SEPA sea lice framework will support sustainable development of fish farming by protecting wild fish, whilst making the development process more efficient and effective. SEPA will use the new sea lice regulatory framework alongside its other regulatory responsibilities for the water environment.
- The framework applies a risk management and adaptive approach, which entirely in line with the precautionary principle.
- The framework uses modelling to assess the risk to wild salmonids, including their migration routes, to consider the location of development proposals.
- In areas where modelling suggests there is the potential for wild fish to be affected, SEPA will require more detailed modelling before an application can be determined. Areas deemed of higher risk will be under active monitoring for impacts and actions will be taken where required.

REC COMMITTEE RECOMMENDATION

48. The Scottish Government should provide strong and clear leadership in ensuring that the precautionary principle is applied.

- The 5 environmental principles have been enshrined in The UK Withdrawal from the European Union (Continuity) (Scotland) Act 2021 and must be considered in all policy development and in the decision-making progress.
- In November 2021-February 2022, we consulted on statutory guidance for Ministers and other public authorities who must have due regard to five guiding principles on the environment. A copy can be found at the following link:
<https://www.gov.scot/publications/guiding-principles-environment-draft-statutory-guidance/documents/>.

PROGRESS AND KEY SUCCESSES

- In 2021 we published a Code of Good Practice for the containment and prevention of escapes of fish on fish farms in relation to marine mammal interactions.
- Following a period of extensive consultation, on 1 February 2024, SEPA commenced the implementation of a new risk-based framework for managing the interaction between sea lice from farmed fish and wild Atlantic salmon.
- A framework for protecting sea trout will be introduced from March 2025.
- We have a long history of collaborative projects between the Government, regulators, industry, Scottish Aquaculture Innovation Centre (SAIC), international partners, and other stakeholders to further knowledge on the environmental interactions of aquaculture. Scottish Government has made a significant investment through supporting monitoring, and research projects to help inform suitable controls for fish farms escapes and sea lice interactions.

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TOP LINES:

- We are committed to supporting the sustainable growth of the aquaculture sector, through streamlining the consenting regime and through delivering in relation to sea lice interactions.
- A range of pressures act upon wild salmon stocks at national and regional scales. The Wild Salmon Implementation Plan, published in February 2023, sets out a range of actions to protect and improve Scotland's wild salmon populations.
- Where there is interaction between wild and farmed fish, we have adopted a precautionary approach, using the best available evidence.
- There is currently a presumption against open cage fish farm development on the North and East coasts of Scotland, implemented by the National Planning Framework and National Marine Plans, protecting migratory species and Scotland's largest populations of wild salmon.
- We are currently exploring how to strengthen the escapes regulatory regime - our first priority is to deliver a new Technical Standard for Scottish finfish farms – this will protect wildlife and the environment, as well as reducing the risk of escapes from fish farms.

Q: What progress has been made on interactions since the December 2018 RECC report?

- I welcome the progress which SEPA has made to implement a new sea lice framework which will support sustainable development of fish farming by protecting wild fish, whilst making the development process more efficient and effective.
- In October 2021, Marine Directorate published its first assessment of genetic introgression in wild salmon. The research found that there is a risk to wild salmon from introgression of genes from farmed salmon that escape, but that it may be low outside the aquaculture regions even though escaped fish may disperse widely at sea.
- Subsequently, we have invested a further £400,000 in a second round of introgression monitoring and our scientists have also helped to develop sea lice modelling tools relating to the relationship between sea lice on farmed and wild fish.
- In 2021 we published a [Code of Good Practice](#) for the containment and prevention of escapes of fish on fish farms in relation to marine mammal interactions.
- We are exploring options to consider how best to deliver a new Technical Standard for Scottish Finfish Aquaculture, and we remain committed to working with the sector to reduce the risk that fish escape from fish farms.

Q: How has the Scottish Government improved its understanding of the impact of interactions?

- In February 2023, the results of a collaborative research project - Salmon Parasite Interactions in Linnhe, Lorn and Shuna were published.
- The project involved collaboration between farm operators, fisheries trusts, Scottish Government, and SEPA and focused on testing and improving sea lice dispersal monitoring and modelling through area studies, field sampling and laboratory testing to further our understanding of sea lice distributions.

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- Marine Directorate officials are working with SEPA in assessment of how to collect new data on sea lice infestation pressure using sentinel cages to test the models that underpin the framework.
- Additionally, Marine Directorate published a peer review analysis confirming there is a statistically significant link between numbers of lice on wild sea trout and those on farms in the area, supporting the development of SEPA's risk-based framework for protecting sea trout, due to be implemented in March 2025.
- A new paper that integrates genetic data collected during 2021 will provide the first ever regional classification of hybridisation impacts and is expected to be complete by the end of March 2025.

Q: Do you agree that the that the Salmon Interactions Working Group should be re-established?

- I do not have any plans to re-establish the Salmon Interactions Working Group.
- I am aware that Salmon Scotland has written to the committee to ask that the group meets to focus on science and the 12 high-level pressures on wild fish contained within the Scottish Government's Wild Fish Strategy.
- SEPA has recently established the range of working groups it needs to deliver the monitoring and research strategy to support the framework – which brings together a range of interests – and additionally we have a Wild Salmon Implementation Plan Group, supported by a Wild Salmon Science and Evidence Board to assess weight of evidence, and so it is not clear what role is suggested for the SIWG.
- SEPA has consulted widely on the principles, thresholds and outcomes during its two previous consultations and is now getting on with delivery.

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SCOTTISH ENVIRONMENT PROTECTION AGENCY (SEPA) SEA LICE RISK
ASSESSMENT FRAMEWORK **ANNEX F2**

Background

In 2018, Scottish Ministers set up the independent Salmon Interactions Working Group (SIWG) to make recommendations on the management of the interactions between farmed salmon and wild salmon and sea trout populations. The group acknowledged the potential hazard that fish farming presents to wild salmon and sea trout and agreed to look at how the potential risk could be minimised. In 2020, the [Salmon Interactions Working Group report recommended](#):

- A single lead body should be assigned responsibility for regulating wild and farmed fish interactions.
- Robust conditions, based on an adaptive management approach, to safeguard wild salmon and sea trout should be contained within a licence rather than through planning consent.

Development of the SEPA sea lice framework

In October 2021, the Scottish Government's [Response](#) to the recommendations of the SIWG identified that SEPA would become the lead body responsible for managing the interaction between sea lice from marine finfish farms and wild salmon and sea trout in Scotland.

Between October 2021 and December 2023, SEPA engaged with a wide range of stakeholders to develop the framework, involving multiple meetings and two public consultations, including an impact assessment of the implications of the proposals for communities, the economy and the environment.

The result, which builds on the recommendations of the SIWG, is a spatially based and adaptive regulatory framework, which will underpin a risk targeted and evidence-led approach to protecting salmon and sea trout from sea lice from fish farms. The framework for protecting:

- wild salmon populations started on 1 February 2024; and
- sea trout populations will start in March 2025.

How the framework is working in practice

SEPA's sea lice risk assessment framework uses a screening model to be implemented under the Water Environment (Controlled Activities) (Scotland) Regulations 2011. The risk assessment will be integrated into SEPA's existing regulatory framework for marine finfish farms (for example, benthic impacts) and form part of a single, enhanced, and comprehensive risk assessment framework covering all pressures from marine finfish farms on the water environment.

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To prevent salmonids from experiencing a harmful level of lice SEPA applies an exposure threshold in wild salmon protection zones (narrow or constrained areas of sea, such as sea lochs).

SEPA has used the outputs of its screening model to rank the potential relative risk posed by existing farms to wild salmon populations. The assessment ranked 164 farms on the West Coast and Western Isles, placing 19 in the highest relative risk category; another 19 in the next highest; 23 in the third highest; and the remaining 103 farms in the lowest relative risk category.

From 1 February 2024, all proposals for new farms or expansions of existing farms are being assessed by SEPA to determine whether they could pose a risk to wild salmon populations. Where, based on this risk assessment, SEPA concludes that action is required to manage interactions to protect wild salmon, it will set permit conditions that limit the maximum number of sea lice on the farm when authorising the development; or, if necessary, refuse to authorise the development.

If SEPA concludes that the relative risk to wild salmon posed by a farm development is very low, no further action will be required.

SEPA has developed a purpose-built screening model that allows it to assess the relative risk to wild salmon posed by existing farms and proposed farm developments.

The screening model is designed to be appropriately precautionary. This enables SEPA to use it to identify those farm development proposals and existing farms that it is confident are unlikely to pose a significant risk to wild salmon populations and, hence, do not require further assessment.

If further assessment is needed, this will be carried out using more refined models that have been validated against specially collected monitoring data. The more refined modelling will either be undertaken by SEPA or, if undertaken by a fish farm developer, audited by SEPA. The results will be used to decide on the action required to protect wild salmon.

SEPA based its initial screening assessments on assumptions about the possible number of sea lice on existing farms. From March 2024, fish farm companies must provide SEPA with information on farmed fish numbers and average sea lice numbers per fish on their farms over the past six years. Once it receives this information, SEPA will use it to update its risk assessments.

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When granting authorisation for farm developments, SEPA will require farms to report the average number of adult female sea lice per fish, and the total number of fish on their farms each week between mid-March and 30 October. Except for farms in the lowest relative-risk category, SEPA will include risk-proportionate permit conditions limiting the average and maximum number of adult female lice on the

farms. The limit conditions will apply between mid-March and 31 May each year [the sea lice management period for protecting wild salmon].

SEPA will undertake a statistical analysis of the precision of counts of sea lice at the highest-risk farms (i.e. farms where small variations in sea lice numbers have the greatest potential to be environmentally significant) and introduce permit requirements for enhanced counts at these farms if necessary. Sea lice limit conditions will be proportionate to risk and no such conditions will be added to the permits of farms in the lowest risk category.

SEPA is developing monitoring programmes with partners to allow it to track changes in the condition of wild salmonid populations linked to the implementation of the framework.

From March 2025, existing farms identified as contributing to potential risks to wild salmon will be required to comply with standstill sea lice limit conditions.

The framework for protecting **sea trout** will be based on a different approach to that for wild salmon, reflecting the different lifecycles of the two fish species and current scientific understanding of risk. The sea trout framework will take the form of an adaptive approach under which regulatory action will be informed by targeted monitoring of wild sea trout populations to identify if sea lice infections are resulting in harm. This approach will build on the current approach used by local authorities.

SCOTTISH GOVERNMENT SEA LICE MANAGEMENT POLICY

Scottish Government also implements a sea lice management policy to ensure that producers comply with legal responsibilities to have in place measures to prevent, control and reduce parasites on farms. This is in place to manage the negative impacts that sea lice can have on the health of farmed fish in contrast to the SEPA sea lice policy which focuses entirely on sea lice as emissions from farms and the risk they pose to wild fish.

The Aquaculture and Fisheries (Scotland) Act 2007, as amended in 2013, gives Scottish Ministers legal powers to carry out inspections, to look at sea lice records, and assess the measures in place to prevent, control and reduce parasites on farms. These powers are exercised by the Marine Directorate's Fish Health Inspectorate (FHI) and the failure by any aquaculture production business to have satisfactory measures for the prevention, control or reduction of sea lice may result in the serving of an enforcement notice. This notice may require the execution of works or the taking of other steps to ensure the prevention, control or reduction of sea lice.

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The Scottish Government policy has been in place since 2016 but has been updated since the last Committee inquiries to reduce the levels at which the FHI will begin to monitor farms and subsequently take action, if necessary, to ensure sea lice levels are reduced.

ISSUES RAISED

- eNGOs and Fisheries Management Scotland (FMS) welcomed the introduction of the sea lice risk assessment framework. However there were suggestions that it would not be enforced for 5 years and would fail to deal with existing farms.
- A key line of questioning is whether the SEPA framework has adopted a precautionary approach – to which eNGOs argue now and the sector argue is too precautionary. SEPA was asked about criticism from the sector that there is an undue reliance on models which are yet to be validated.
- Committee has asked stakeholders directly whether SEPA is the correct body to lead on sea lice interactions, and no concerns have been raised, with FMS citing they are happy.
- The Committee has focused on how SEPA considered international partners and sea lice controls whilst designing the framework and whether controls in Scotland meet the highest standards.
- Local authorities were challenged on whether they enforce EMPs and whether the EMPs process was adequate. Local authorities pointed to the SEPA licence to deal with this issue as part of an adaptive management approach and that EMPs were in a transitional period.
- During the sector’s evidence session (2 October 2024) the sector described SEPA’s model underpinning the framework as “overpredicting” the risk to wild salmonids – in that it considers that all farms are operating at maximum biomass and does not consider all sea lice treatment methods that might be in place on each farm. The sector also raised that they supported the model, but that it needed to be validated and improved where identified. The sector warned the framework could lead to increased mortality if more sea lice treatments were required under the framework.
- The sector has raised concerns with SEPA and SG that managing sea lice to levels required to comply with SEPA licence conditions will drive the use of sea lice treatments in circumstances where other health challenges exist and where it is against veterinary advice. SEPA has confirmed that although it is unable to take into account fish health concerns when establishing compliance, it will consider veterinary advice when determining if enforcement action is necessary. It also expects that over time, producers will better manage sea lice emissions through the siting of farms in low-risk areas, or through other aspects of husbandry such as lowering biomass.
- The sector has also previously raised concerns about the economic impact of the SEPA sea lice risk assessment framework.

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Q&A – SEPA SEA LICE RISK ASSESSMENT FRAMEWORK

Q: What is the Scottish Government’s interpretation of the precautionary principle?

- Scottish Government has published guidance on the precautionary principle which is about risk management and adaptive management. The *precautionary principle*, as it relates to the environment, is defined in the UN Rio Declaration on Environment and Development 1992 as, "where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation". This intention was reflected in the EU precautionary principle and developed through Commission publications and case law.
- The precautionary principle enables proportionate decision-making in areas of scientific uncertainty that allow for protective measures to be taken without having to wait until the hazard or harm is realised.
- In the case of the management of sea lice interactions – there is a presumption against development on the north and east coasts of Scotland (where there is the greatest wild salmon populations) and we’ve sought to support the sector to maintain as low as possible lice levels on the west coast.
- The SEPA sea lice risk assessment provides a risk management and mitigation tool, in line with the precautionary approach.

Q: Does the SEPA sea lice risk assessment framework provide enough protection of Wild Salmon in Special Areas of Conservation?

- We are confident that the approach taken provides protection for SPA’s.
- Environment Standard Scotland is currently considering whether to take forward an investigation of the sufficiency of SEPA’s framework to protect wild salmon following initial representations.
- We look forward to hearing about the outputs from any investigation in due course.

Q: The Salmon Interactions Working Group (SIWG) report recommended a reformed regulatory system should be fully resourced. Have these tests been met?

- Our response to the SIWG recommendations identified SEPA as the lead regulator responsible for managing the risk to wild salmonids from sea lice emitted from fish farms in Scotland.
- SEPA commenced the phased implementation of a risk-based framework for protecting wild salmon on 1 February 2024.
- SEPA committed to ensuring that the new framework is not over-precautionary and is transparent, reasonable, protects the environment, whilst supporting social and economic development.
- SEPA is committed to cost recovery under its CAR Licencing regime.

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Q: Do you agree the SEPA sea lice framework will be over-precautionary, is not science based and will impact on communities?

- SEPA is committed to ensuring that the new framework is not over-precautionary and is transparent, reasonable, protects the environment, whilst supporting social and economic development.
- SEPA has undertaken modelling to assess the cumulative risk of development in different areas – there will be no blanket controls introduced.
- Their initial screening assessment suggests a small number out of over 120 areas may have limited capacity for additional sea lice contributions. Within these areas, this does not necessarily mean there are no suitable areas for development. There may be suitable locations where the prevailing conditions mean that little additional risk is posed by further development.
- SEPA has used the best available evidence to support the framework, however we need to progress our understanding of what is happening in Scotland's environment to adapt that framework, and that will be delivered through a collaborative monitoring and research strategy.

Q: Explain how the SEPA sea lice framework will function in practice?

- From 1 February 2024, all proposals for new farms or expansions of existing farms are being assessed by SEPA to determine whether they could pose a risk to wild salmon populations.
- The risk assessment will be integrated into SEPA's existing regulatory framework for marine finfish farms (for example, benthic impacts) and form part of a single, enhanced, and comprehensive risk assessment framework covering all pressures from marine finfish farms on the water environment.
- To prevent salmonids from experiencing a harmful level of lice SEPA applies an exposure threshold to apply in wild salmon protection zones (WSPZs) (narrow or constrained areas of sea, such as sea lochs).
- Monitoring and modelling work under SEPA's new sea lice regulatory framework will be used to identify fish farms that may need to take action to protect wild salmon.

Q: It has been brought to the Committee's attention that sea lice emitted from fish farms in the Northern Isles could affect wild fish in the Moray Firth – why does the sea lice risk assessment framework not extend to sites in the Northern Isles?

- SEPA's modelling and approach is dealing with areas of highest relative risk as a priority. I am content that SEPA is focussing its initial efforts in the right areas.
- The implementation of SEPA's sea lice regulatory framework for sea trout will start in March 2025. SEPA will engage with stakeholders before its implementation.
- The sea trout framework will apply to sea trout from rivers in the Northern Isles as well as from rivers on the West Coast of the Mainland and on the Western Isles.
- There are no recorded salmon rivers in the Northern Isles. That is not to say, however, there are never any salmon in rivers in the Northern Isles, simply that, we do not have evidence of significant, self-sustaining populations of wild salmon in Northern Isles' rivers.

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Q: What progress has been made on data requirements and transparency?

- Our response to the Salmon Interactions Working Group report committed to focusing on data requirements, subsequently proposed in the Wild Salmon Strategy (January 2022). Some key areas of progress include:
 - The fish counter network has been expanded by the successful use in 2023 of new hydroacoustic cameras on two rivers. Currently, the non-functioning fish counter on the River Helmsdale is being refurbished by Marine Directorate and the Board.
 - A new National Electrofishing Programme for Scotland (NEPS) survey (incorporating genetic sample collection for the National Introgression Programme for Scotland (NIPS) and water quality sampling) was undertaken in summer 2023.
 - Tools have been developed to target riparian tree planting to areas where temperatures are hottest, expected to change the most under climate change and where shading can be effective in reducing temperatures. This information was incorporated into recent changes in the Forestry Grant Scheme where a new riparian target area has been produced for new planting and the areas across Scotland which are eligible for increased grant support have been expanded.
- Marine Directorate has established the international Knowledge Strength Working Group, with the aim of providing transparent information on sea lice impacts.
- Average sea lice levels in Scotland are now being published and SEPA will work to increase information in the public domain relating to its regulatory framework.

Q: How will SEPA measure the effectiveness of the Sea Lice Risk Assessment Framework?

- SEPA is developing monitoring programmes to evaluate and consider the effectiveness of the framework.

Q: Will there be a framework for sea trout?

- Yes, in March 2025, the lead regulatory responsibility for managing interactions between sea lice and sea trout will pass to SEPA from local authorities. The framework for protecting sea trout will be based on a different approach to that for wild salmon, reflecting the different lifecycles of the two fish species and current scientific understanding of risk.

Q: What action will SEPA be taking on high-risk farms? eNGOs suggest that progress will be too slow.

- High-risk farms are identified as those which have the highest relative risk and will allow SEPA to target its efforts. SEPA will be working with farmers in those areas to maintain sea lice control and to implement monitoring to determine if farms require tighter standards.
- SEPA will not hesitate to act where required and has committed to ensuring the framework adapts to new evidence. New farms will not be permitted in those areas without appropriate mitigation.

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**Q: Does the Cabinet Secretary consider that implementation of SEPA’s sea lice
framework will take too long and will lead to salmon population declines?**

- SEPA is committed to ensuring that the new framework is not over-precautionary and is transparent, reasonable, protects the environment, whilst supporting social and economic development.
- SEPA is taking a phased approach to implementation of the sea lice framework:
 - Applying the framework for salmon to all applications for new and increased capacity farms from 1 February 2024 and, if appropriate, applying conditions to limit sea lice.
 - Applying an adaptive approach for protecting sea trout from 1 March 2025.
 - Developing the monitoring strategy for the areas where screening has identified there is a high, relative risk to wild salmon from fish farms. This will be the evidence base to identify where changes are necessary to currently licenced sites. SEPA predict that this may take us up to 5 years and will require collaborative working.
- Importantly new fish farms will be guided away from higher relative risk areas and sea lice levels will be maintained in higher risk areas and reduced where monitoring evidence suggests that is required – and so the framework is already having an impact.

Q: Is a case-by-case sea lice condition appropriate for Scotland?

- Yes. SEPA has implemented a new sea lice risk assessment framework with the purpose of introducing controls proportionate to risk level in Scotland. The adaptive framework provides a risk assessment modelling tool to identify areas where developments have the potential to exceed sea lice exposure thresholds, in line with the precautionary approach. These assessments will inform where individual licence conditions are necessary to manage and protect the environment.
- Using nationwide levels is not targeted and may have unnecessary unintended consequences for fish health.

**Q: SEPA says it can prevent deterioration of wild salmon populations by
maintaining existing sea lice levels. Do you think that will prevent wild salmon
numbers falling due to sea lice?**

- The framework takes a precautionary approach to development, using data and modelling that incorporates farms in the same wild salmonid protection zone to inform applicants at the pre-application and application stages on the risk their proposal will have to increasing the local lice load to unacceptable levels.
- From March 2025, existing farms identified as contributing to potential risks to wild salmon will be required to comply with standstill sea lice limit conditions.

**Q: The sector says the sea lice framework has an undue reliance on modelling
and is not based on the real world – what do you say to that?**

- Real world data has been included in the development of the sea lice risk assessment framework.

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- In recognition of the time it can take to gather, analyse and act on data, and in line with the recommendations of the 2017/18 parliamentary inquiries and Salmon Interactions Working Group, SEPA has developed the sea lice risk assessment framework using the best available evidence in combination with advanced modelling.
- The framework will take a precautionary approach to development, informing applicants at the pre application and application stages on the risk their proposal presents to increasing the local lice load to unacceptable levels.
- SEPA will require more years of data collected through its regulatory frameworks to understand if further regulation is required.

Q: What has the data from the Fisheries Management Scotland sweep netting research been used for?

- In recent years, Scottish Government has supported an annual programme of monitoring of juvenile wild salmon and sea trout by Fishery Trusts in the aquaculture zone (West Coast of Scotland) to assess the infestation pressure of sea lice. Every year the results are analysed by Marine Directorate and feed directly into discussions with local authority planners, regulators and fish farming companies during the application process for new fish farms.
- To assess the effectiveness of the new SEPA sea lice risk assessment framework, SEPA is developing monitoring programmes which will target the highest risk wild salmonid protection zones to validate the models which underpin the framework.

Q: The sector says that the framework failed to consider economic impacts – is that correct?

- We are committed to supporting the sustainable growth of the finfish sector through streamlining the consenting regime and through delivering in relation to sea lice interactions.
- SEPA carried out extensive consultation on the development of the new sea lice framework, including an impact assessment of the implications of the proposals for communities, the economy and the environment.
- The sea lice framework is intended to be adaptive and will seek to improve the effectiveness and targeting of the framework whilst minimising negative effects on the economy and communities.

Q: Is it the case that SEPA doesn't have powers to improve the environment, only to avoid deterioration – is this a problem?

- SEPA's overall statutory purpose is "to protect and improve the environment in ways that, as far as possible, also contribute to improving health and well-being and achieving sustainable economic growth". This statutory purpose is built into SEPA's 2024-27 Corporate Plan which sets out SEPA's priorities for the coming three years.
- The statutory purpose is clear that SEPA's role is not just to prevent deterioration of the environment but, through delivery of its functions, to improve it. Improvement is embedded into many areas of SEPA's work such as setting waterbody improvement objectives in River Basin Management Plans,

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remediating contaminated land that is impacting on the environment and through delivery of the Water Environment Fund.

- Where SEPA finds evidence of impact from existing fish farms, it will take action to address the issue and improve the environment.

**Q: Local Authorities seemed confused about what’s happening to
Environmental Management Plans (EMPs) – what is the Scottish Government’s
position?**

- SEPA is continuing engagement with local authorities to manage the transition from sea lice-related monitoring, via environmental management plans, required as a condition of planning permission to a nationally coordinated sea lice-related environmental monitoring programme under SEPA’s sea lice regulatory framework.
- The Scottish Government is working with stakeholders to update published guidance which describes the requirements of statutory consultees during the application process and will include information on EMPs.
- As is usually the case with significant change, we are in a transition period.

**Q: Should the purpose and content of Environmental Management Plans
(EMPs) have been more thoroughly scrutinised before they were
implemented? We have heard them referred to as a “missed opportunity”.**

- I do not agree with the assessment that EMPs were a “missed opportunity”.
- EMPs were introduced as an interim measure prior to the implementation of SEPA’s sea lice risk assessment framework.
- We advise that local authorities seek EMPs where there is a potential for sea lice interaction between farmed fish and wild fish and these plans form a condition of the planning consent.
- Since implementation of EMPs in 2019, Marine Directorate has continued to have an overarching role to ensure a level of consistency as part of a phased approach to developing and implementing longer-term arrangements.
- It is ultimately a matter for local authorities to determine (in agreement with the applicant) the overall content of the EMP and whether the conditions of planning have been met.

**Q: What is the Scottish Government doing to better understand migratory
routes?**

- SEPA’s sea lice risk assessment framework will work on an area basis and consider cumulative risks. The data collection phase of the West Coast Tracking Project is now complete.
- Tagging and tracking of wild salmon smolt migration was undertaken in 2021, 2022 and 2023 in a partnership project between Marine Directorate, Fisheries Management Scotland and the Atlantic Salmon Trust. This data will provide important information about the speed and direction of smolt migration and can be used to inform further development of SEPA’s sea lice risk assessment framework.

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Q: Is Scotland meeting international goals (NASCO set goals for 100% of farms to have effective sea lice management, 100% farmed fish to be retained in production facilities)?

- We are working towards effectively regulating sea lice emitted from fish farms and strengthening the escapes regulatory regime in Scotland.
- SEPA commenced the implementation of a new risk-based framework to protect wild salmon populations from sea lice from fish farms on 1 February 2024. From March 2025 implementation of a framework for protection of sea trout populations will commence.
- We are currently exploring how to strengthen the escapes regulatory regime with a new Technical Standard for Scottish finfish farms.
- On escapes, the evidence suggests a general downward trend in numbers of fish escaping, and whilst we can't infer the exact reasons for this pattern, we expect that escape incidents will have reduced overall as the sector's understanding and implementation of best practice has evolved. This has likely been further aided through the introduction of the Record Keeping Order and the Aquaculture and Fisheries (Scotland) Act 2007 and the associated requirement for "satisfactory measures" for containment and the FHI risk-based inspection regime.

Q: Can we have a single regulator for all aspects of sea lice control, instead of it being split by SEPA and the FHI?

- This is an attractive proposal, but sea lice control policy for the purposes of protecting farmed fish health and the environment are based in very different legislative frameworks and require different expertise to deliver.
- Fish Health Inspectors are highly trained fish health professionals whose expertise extends to a wide range of fish health issues, of which sea lice is only one.
- In contrast, SEPA is focused on delivering environmental management and monitoring via regulation and it holds the expertise and the legislative powers to do so.
- It is important that these distinct regulators are focused on their specific remits, but streamlining regulation is important - there is dialogue between FHI and SEPA to look for opportunities to reduce reporting burden on producers, or where good practice, or resource, can be shared.

Q: Does the Scottish Government support that the SEPA sea lice risk assessment framework does not apply to existing farms? How does that take into account the precautionary principle?

- From March 2025, existing farms identified as contributing to potential risks to wild salmon will be required to comply with standstill sea lice limit conditions.
- Also from March 2025, all licences will include monitoring and reporting requirements. SEPA will carry out checks to ensure monitoring is being carried out in accordance with specified performance standards.

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**Q: Is sea lice from salmon farming responsible for declines in wild salmonids?
The sector suggest SEPA says not?**

- I will caveat this response by saying I cannot speak for SEPA.
- We have not been able to establish the extent to which levels of sea lice on Scottish fish farms have historically impacted wild salmon populations in Scotland because it has not been possible to do controlled field studies that have been conducted in Norway and Ireland (due to inadequate numbers of wild fish). However, sea lice are internationally recognised as posing a risk to wild Atlantic salmon and sea trout and we now have a framework to monitor and assess those risks. Furthermore, we can now apply a modelling approach to estimate impacts using methods that are coherent with those used in countries where an impact has been demonstrated by experiment.
- The Framework is specifically designed to avoid taking unnecessary action if it is not needed in some places to moderate sea lice numbers.
- The Framework has been introduced to underpin the credentials of the aquaculture industry working in harmony with a rich and diverse natural environment.
- SEPA has used best available evidence to assess the risk of sea lice from fish farms and has identified 19 farms of highest relative risk, and areas of constrained sea and higher numbers of fish farms as areas to be assessed as high risk for development. This does not mean that development will not go ahead, but that additional assessment is required.
- Large areas and a large number of fish farms have been scoped out of requiring any further controls, other than reporting requirements, as they are not thought to pose a significant risk to overall population stats.
- Declines of wild salmon stocks are occurring globally and many stocks are on a declining both where salmon farming does and does not take place. The reasons for the decline in wild salmon are wide ranging and complex. Alongside pressures at sea, at the coast and in river, climate change seems to be an overall driver of decline.
- Our Wild Salmon Strategy and Implementation Plan is working to ensure the greatest number of healthy salmon smolts leave the Scottish coastal zone as possible.
- Rates of population decline vary depending on the extent of local as well as wider pressures at sea. It is important to manage pressures acting on wild salmon at a regional or local level. Indeed, by managing locally there have been some substantial recoveries of salmon, such as with the clean up of the River Clyde.
- Catches of salmon have decline more steeply in areas with aquaculture than those without. However, this does not prove causation or that aquaculture is responsible for this difference. On Scotland's East coast, there is extensive pressure from barriers to passage of salmon. Impacts of such barriers are mitigated by the hydro industry through building of fish passes and removal of historic structures by SEPA. So clearly, the pressures acting in river systems vary and disentangling their effects can be challenging.

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Q: Why are sea lice internationally recognised as posing a risk to wild Atlantic salmon? Is there evidence of population impacts elsewhere?

- This risk is accepted based on the body of international evidence that is available.
- Evidence from international experimental studies suggest population level impacts on wild salmon that are substantial in some aquaculture locations and negligible in others.
- Multiple studies conducted in Ireland and Norway using artificially reared salmon smolts have found that treatment with anti-sea lice agent increases likelihood of fish survival to return as adults (Vollset et al. 2016).
- There has been dispute over how statistics of these studies are expressed because a 1% decrease in the number of salmon returning from 2%-1%, for example, would represent a 50% decrease in numbers of spawning wild salmon.
- The assumption from this is that protection of the emerging smolts from sea lice acquired in the coastal zone enhanced the 'at sea' survival. There is a great deal of year-to-year and site-to-site variation in the magnitude of such an effect; the reduction in numbers of returning salmon associated with lice in untreated smolts is in the range of 0-39%(Jackson et al. 2011; Krkošek et al. 2013; Skilbrei et al. 2013; Vollset et al. 2016). A Norwegian study where released salmon were exposed to various infection pressures (as determined by salmon held in sentinel cages) indicated that the difference between treated and control groups was associated with lice densities encountered in the environment (Bøhn et al. 2020).
- A pilot study using treatment and recapture of wild smolts in Scotland to test the magnitude of effects of sea lice on survival showed that a full study was not feasible due to the numbers of fish that would be required. However, in certain specific cases, such as the River Awe, where sufficiently large numbers of smolts could be captured and infrastructure associated with large dams can be used to identify nearly all returning fish, the approach would be possible (Morris et al. 2019a, b).
- 0 – 39% is a large variation in potential impact, and will obviously be influenced by the corresponding environment. A state of knowledge paper has been commissioned by NASCO – to be delivered by independent experts - which will review the latest science on population reducing effects of sea lice on wild salmon.
- There is a broader body of evidence relating to laboratory, observational and modelling studies.
- Different regimes have considered domestic and international evidence to inform their own regulatory controls, but crucially in consideration of their own environments, farming infrastructure and where populations of wild salmonids do and do not exist.
- The SEPA sea lice risk assessment framework has utilised best understanding of sea lice thresholds, above which wild salmon mortality might be expected to occur, and the latest modelling developments, for example, to deliver a framework suitable for Scotland's needs.
- Scottish Government has previously kept a summary of science relating to the risks of sea lice on wild salmonids up to date. Recently Marine Directorate has been focussed on advice to SEPA on suitable thresholds and model

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parameters and has, for example, completed separate meta-analysis of Scottish data to support use of international evidence relating to those sea lice thresholds.

- The science is complex – there is a certain level of uncertainty relating to individual science components, for example - where wild salmon go, how many sea lice would survive and transfer to wild fish in ‘real life’ – and there is a reliance on modelling to make assumptions based on what we do know.
- Use of modelling is a common approach and Scottish Government is working with SEPA, Institute of Marine Research, Norway and Fiskaaling to review and report on the best ways to deal with uncertainty in sea lice dispersal modelling. We are developing best practice for the presentation of uncertainty in model results to support policy development and decision making through a Technical Working Group.
- It is important to emphasise that SEPA’s framework is adaptive – new evidence will be reviewed, as will the information that monitoring is telling us. The framework may adapt left or right.

Q: Do you agree that the that the Salmon Interactions Working Group should be re-established?

- I do not have any plans to re-establish the Salmon Interactions Working Group.
- I am aware that Salmon Scotland has written to the committee to ask that the group meets to focus on science and the 12 high-level pressures on wild fish contained within the Scottish Government’s Wild Fish Strategy.
- SEPA has recently established the range of working groups it needs to deliver the monitoring and research strategy to support the framework – which brings together a range of interests – and additionally we have a Wild Salmon Implementation Plan Group, supported by a Wild Salmon Science and Evidence Board to assess weight of evidence, and so it is not clear what role is suggested for the SIWG.
- SEPA has consulted widely on the principles, thresholds and outcomes during its two previous consultations and is now getting on with delivery.

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FARMED FISH ESCAPES ISSUES AND Q&A **ANNEX F3**

Escapes

Programme for Government 2023/24 included a commitment “to reduce the risk of escapes from fish farms with a new Technical Standard for Scottish Finfish Aquaculture”. The current Technical Standard was published in 2015 and is now out of date in terms of evolving best practice. Officials have done some exploratory work to consider options for a delivery of a revised Technical Standard, however the issue of implementation is complex and progress on recommendations from the aquaculture regulatory review, our ongoing involvement to support implementation of the SEPA sea lice risk assessment framework and new work to explore the offshore fish farm consenting system are being prioritised within our resourcing plans.

One of the reasons the SEPA sea lice risk assessment framework has been prioritised over work on escapes was due to the regulatory ‘gap’ that existed for sea lice, whilst there is an existing and effective regime for escapes.

The FHI gave evidence on how escapes are currently mitigated within the consenting framework, including the design of farms, and that Scotland generally has a good record on containment. The FHI is responsible for ensuring satisfactory measures for the purposes of containment are in place throughout the lifetime of a farm.

John Goodland (previous Chair of the SIWG) and FMS expressed disappointment on inaction to address escapes commitments, whilst both agreed that incidents of escapes have been going down.

The science and evidence base relating to the impact of escapes was raised and the FHI was queried on whether triploiding (a process primarily used in aquaculture to produce sterile fish to help prevent interbreeding with wild populations) or closed containment systems might help to address the risk of escape further.

The key criticism to Scottish Government will be lack of progress on escapes commitments. Whilst we have not introduced the new technical standard or made progress on fines for fish farm escapes, we have commissioned science and evidence to help inform our policy framework, delivering Scotland’s first introgression assessment in 2021 and funding a further £400,000 on a repeat survey which is due to be published next year. We believe our prioritisation of other issues, within the context of the existing framework for escapes, is correct.

There has been an ongoing dispute regarding freshwater escapes in the Shin (Highlands) which has been discussed in previous evidence sessions – Q&A on this issue is provided.

The fish farm production survey, published on 30 October 2024, identified that there had been escape of 80,000 fish in Scotland from a well boat operator. During the

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sector's evidence session, they suggested there had been an escape of only 1 fish in 2023. This is because the escape of fish from a well boat was not published on Scotland's Aquaculture Website as it is not related to an individual fish farm. Officials are investigating and we may expect questions on why the information was not publicly available.

FARMED FISH ESCAPE Q&A

Q: The Salmon Interactions Working Group recommended a single regulator for interactions – will the Scottish Government identify SEPA as the relevant regulator for escapes?

- The Scottish Government has no plans to identify SEPA as the lead regulator for escapes from fish farms in Scotland.
- There is an existing and robust regime relating to escapes in Scotland.
- The Fish Health Inspectorate assesses whether satisfactory measures are in place for the purposes of the containment of fish and the prevention of escape of fish. Where satisfactory measures are found not to be in place, Scottish Ministers may serve an enforcement notice.
- The Scottish Government is continuing to explore options to consider how best to deliver a new Technical Standard for Scottish Finfish Aquaculture. We remain committed to working with the sector to reduce the risk that fish escape from fish farms.
- In our response to the Salmon Interactions Working Group report in October 2021, we also committed to exploring ring-fencing fees for wild salmonid conservation and research.

Q: Where is the delivery of your escapes commitments? Do you agree there has been no progress?

- Progress has been made - we've invested and improved our science and evidence base for escapes.
- A new National Electrofishing Programme for Scotland (NEPS) survey (incorporating genetic sample collection for the National Introgression Programme for Scotland and water quality sampling) was undertaken in summer 2023. The paper is expected to be complete by the end of March 2025 and will help to inform our work.
- We've also published a Code of Good Practice for the containment and prevention of escapes of fish on fish farms in relation to marine mammal interactions (2021).
- However I do accept we have outstanding commitments on the Technical Standard and fines for fish farm escapes.
- We remain committed to that, however we've had to take difficult prioritisation decisions in the context of the scale of the recommendations placed on Government and the extreme budgetary pressures which have emerged since the salmon farming in Scotland report.
- We chose to prioritise work to deliver the SEPA sea lice framework, recognising that this was a regulatory gap identified by Committee and there is already an effective regime for escapes in operation.

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- I must be clear that escaped farmed fish do not always lead to impacts – that is why it is important that we start to build a picture of introgression across Scotland – and I would highlight good practice by the sector to fund introgression research following escape events, such as the Mowi research following the escape of 50,000 fish at Carradale, and which did not find evidence of introgression.
- We'll continue to make difficult prioritisation decisions within the context of our aquaculture commitments, and broader initiatives taking place in Marine Directorate, in addition to priority areas of interest under the Wild Salmon Strategy which considers the range of pressures affecting wild salmon.

Q: What progress has been made on delivering on the Salmon Interactions Working Group recommendations on escapes and Programme for Government commitment to new Technical Standard for Scottish Finfish Aquaculture?

- We remain committed to working with the sector to reduce the risk that fish escape from fish farms, including revision and publication of the Technical Standard for Scottish Finfish Aquaculture, which is well developed.
- I cannot commit to a timeframe relating to its introduction at this time – however I would highlight we've found the Technical Standards can become quickly outdated and therefore we are exploring how best to introduce ongoing updates to the standard and ensure responsiveness of the document to changes in what is considered best practice within the sector.

Q: The Scottish Government has committed to introducing fines for fish farm escapes. Should penalties be introduced for all regulatory requirements?

- The new sea lice risk assessment framework is implemented under the same environmental regulations that apply to all other activities with the potential to impact on the water environment.
- SEPA therefore has a wide range of enforcement tools, including monetary penalties that can be used as necessary and appropriate to address any non-compliances.
- However any enforcement action must remain proportionate. Enforcement action will be a matter for SEPA.

Q: Does current escapes regulation go far enough?

- The Fish Health Inspectorate may serve an enforcement notice on behalf of Scottish Ministers where satisfactory measures are found to not be in place for the purposes of the containment of fish and the prevention of escape of fish.
- Failure to comply with an enforcement office may result in a fine.
- In 2021 we published a Code of Practice for containment in relation to marine mammal interactions. If non-compliance to the Code is detected, Scottish Ministers may serve an enforcement notice.
- We are currently exploring how to strengthen the escapes regulatory regime including exploring the introduction of fines for fish farm escapes – however our prioritisation of such issues must be considered in the context of broader priorities and reducing incidents of fish farm escapes.

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Q: Does the Scottish Government take a precautionary approach to managing escapes – is the equipment on fish farms inspected?

- Yes – we have adopted risk, adaptive management and a precautionary principle approach across all regulation.
- There is a presumption against fish farming development on the North and East coasts of Scotland to protect migratory fish and where 80% of Scotland's migratory fish stocks live – that is a very blunt tool to mitigate risk.
- In the aquaculture zones, the risk of escapes is mitigated through Environmental Impact Assessment processes under the planning regime and through ensuring equipment is as suitable as possible for the chosen location.
- During the lifetime of the farm it will be inspected by the Fish Health Inspectorate to establish that satisfactory measures are in place to contain fish and prevent escapes, with a range of sanctions available where non-compliance is identified.
- Inspections are also risk based – so that those with near misses or incidents of escapes are prioritised.

Q: How can you be sure all farms are reporting escapes incidents?

- The Fish Health Inspectorate (FHI) conducts inspections to ascertain the risk of escape from a fish farm, whether an escape has occurred, and assess the measures in place for containment on the fish farm.
- These inspections are conducted via a routine of risk-based surveillance based on the history of the site and operator.
- The FHI may also conduct unannounced inspections and will investigate reports of escaped fish from members of the public.
- The operator of an Aquaculture Production Business (APB) is required to immediately notify Scottish Ministers if they believe an escape or a significant risk of an escape of fish has occurred.
- Failure to comply with the requirements of the Aquatic Animal Health Regulations may result in service of an enforcement notice, suspension or revocation of the authorisation to operate as an APB or proceedings for an offence.

Q: The Committee previously found a lack of research on introgression, how has the Scottish Government addressed this?

- The Scottish Government has funded three rounds of national research on introgression due to fish farm escapes under the National Introgression Programme for Scotland (2018/19, 2021, and 2023).
- A national assessment of the influence of farmed salmon escapes on the genetic integrity of wild Scottish Atlantic salmon populations was published in 2021. This was the first study to examine the extent of genetic mixing caused by farmed salmon of Norwegian origin stock breeding with wild salmon across the whole of Scotland and classified sampled sites according to their levels of introgression (i.e. genetic material of farmed origin in wild salmon populations).
- The study shows that there is risk to wild salmon from introgression of genetic material from farmed salmon that escape, but it may be low outside the aquaculture regions even though escaped fish may disperse widely at sea.

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- We are doing research to understand introgression in Scotland to help inform the different risk to populations, however we recognise that more data is needed in this area.
- A new paper that integrates genetic data collected during 2021 will provide the first ever regional classification of hybridisation impacts and is expected to be complete by the end of March 2025.

Q: What evidence does the Scottish Government have on the number of escapes in Scotland?

- The existing regulatory framework requires the circumstances which give rise to a significant risk of escape or escape of fish on, or in the vicinity of a *fish farm* to be reported under the Aquatic Animal Health Regulations (Scotland) 2009 (as amended).
- The Scottish Government collects evidence through reports from fish farm operators when escapes or incidents that give rise to a significant risk of escape occur. This evidence includes the site at which the incident occurred, the reason for the incident occurring, and how many fish escaped.
- The evidence collected to date from fish farm operators demonstrates that weather incidents are responsible for the largest number of fish escaping from fish farms in Scotland, accounting for approximately 50% of total fish escaped. Holes in nets and predation are also listed as responsible for significant numbers of fish escaping.
- There is a general downward trend in numbers of fish escaping, and whilst we can't infer the exact reasons for this pattern, we expect that escape incidents will have reduced overall as the sector's understanding and implementation of best practice has evolved.
- This has likely been further aided through the introduction of the Record Keeping Order and the Aquaculture and Fisheries (Scotland) Act 2007 and the associated requirement for "satisfactory measures" for containment and the FHI risk-based inspection regime.
- We are aware of an escapes incident that occurred last year where 80,000 fish escaped from a wellboat, which is disappointing. Wellboats are commonly used in Scotland to transport fish, however reported escapes from wellboats are a rare occurrence.

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Number of escaped fish (all species) by year (10 May 2002-31 December 2023)

Year	Escape #
2002	354,161 (after 10 May)
2003	161,438
2004	100,594
2005	901,653
2006	204,736
2007	210,643
2008	73,031
2009	141,165
2010	37,963
2011	415,771
2012	40,957
2013	40,754
2014	184,618
2015	18,096
2016	11,766
2017	31,161
2018	53,301
2019	70,307
2020	206,522
2021	19,738
2022	56,381
2023	80,007

- Source: Aquadat (deregistered sites are included).
- Annual Fish Production in tonnes include Atlantic Salmon, Rainbow Trout, Other Species (Arctic charr, Brown trout, Cod, Halibut). Numbers exclude Salmon Smolts Ova production (which is reported in numbers, not weight).
- The legislative requirement to report escape incidents came in to force on 10 May 2002.

Q: What powers does the Scottish Government have to prevent escapes?

- The Aquaculture & Fisheries (Scotland) Act 2013 includes specific powers to prescribe statutory technical requirements to ensure the installation and deployment of fish farming equipment that is well maintained and appropriate for the site conditions at which the farm operates.
- It also imposes a duty for training to use prescribed equipment and requirements on operators to keep records. Fish farms may receive an Enforcement Notice if there is a failure to ensure satisfactory measures are in place to contain farmed fish. Failure to comply with an enforcement notice may result in a fine.
- Local authorities are responsible for considering the potential environmental impacts of fish farms, including escaped fish, when determining planning applications.

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**Q: Why were details of the escape of 80,000 fish not published on Scotland's
Aquaculture Website?**

- A breach of containment for aquaculture animals is disappointing.
- This escape incident relates to a loss of fish from a wellboat during transport.
- Farmed fish escapes are normally registered to fish farms in our Aquadat database system, and information is subsequently published on Scotland's Aquaculture Website.
- This gap has occurred due to the source of escape and we will consider the issue of reporting and transparency further.

**Q: What legal obligations exist for transporters to notify of farmed fish
escapes?**

- It is not currently a legal requirement for farmed fish transporters to report farmed fish escapes. However in this instance, the operator has followed best practice and made a notification.
- The existing regulatory framework requires the circumstances which give rise to a significant risk of escape or escape of fish on, or in the vicinity of a fish farm to be reported (Aquatic Animal Health Regulations (Scotland) 2009 as amended).
- Reported escapes from wellboats are a rare occurrence, however wellboats are commonly used in Scotland to transport fish. This incident, involving 100g fish, is not expected to have impacted the environment.
- We will consider this incident and our reporting requirements further.

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ESCAPES: ENVIRONMENT MANAGEMENT PLAN LOCH SHIN ANNEX F4

BACKGROUND: LOCH SHIN ENVIRONMENT MANAGEMENT PLANNING
CONDITIONS

[Redacted – Regulation 10(4)(e)]

Reported freshwater smolt escape incidents on Loch Shin

Fisheries Management Scotland (FMS), which represents Scotland’s District Salmon Fishery Boards and Rivers/Fisheries Trusts, allows for reporting of escaped farmed fish via its own online tool. Escaped farmed Atlantic salmon have been reported via this tool in Loch Shin since at least 2022.

On 26 June 2024 Alan Wells, Chief Executive, FMS, appeared before the Rural Affairs and Islands (RAI) Committee as part of their follow-up inquiry into the implementation of the Rural Economy and Connectivity Committee’s session 5 report recommendations for salmon farming in Scotland. During the evidence session, Dr Wells noted: “We have a situation in which a condition for protection of wild salmonids from an environmental management plan has not been followed through. A farm on Loch Shin, in the Kyle of Sutherland, has now been in breach of a planning condition to have an EMP for six years. The planning condition in question is designed to assess and, ultimately, address risk to local wild fish populations, so it is extremely concerning that no action has yet been taken, despite there being evidence of escapes of farmed fish occurring on an annual basis.”

[Redacted – Regulation 10(4)(e)]

EMP as a planning condition

In June 2018 Marine Directorate Science, Evidence, Data & Digital (MD SEDD) (then Marine Scotland Science) published “Identification of the farm of origin of Atlantic salmon smolt escapes in a freshwater Scottish loch using single-nucleotide polymorphic markers” as a peer reviewed scientific paper in the ICES Journal of Marine Science.

[Redacted – Regulation 10(4)(e)]

[Redacted – Regulation 10(5)(f)]

Q&A

Q: What action has been taken following reports of escaped farmed fish on the Shin?

- In June 2018 Marine Directorate published a report after sampling wild juvenile fish caught in traps on tributaries flowing into Loch Shin, and noted that escapees

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originating from both facilities that operate on Loch Shin had been unambiguously identified.

- In September 2021 a further report published by Marine Directorate identified three systems in areas with no marine aquaculture as having notable genetic changes, one of these systems being Loch Shin.
- The FHI has undertaken inspections at the two aquaculture production businesses on Loch Shin during handling events in this production cycle. These were conducted to ascertain if any containment issues could be identified during these handling operations. I can pass the details of these inspections onto Committee if they require them.
- [Redacted – Regulation 10(5)(f)]
- Any specific questions relating to EMP's or planning conditions should be directed to Highland Council.

Q: We have heard that a site on Loch Shin in Kyle of Sutherland has been in breach of its planning conditions with regards to escapes for more than 6 years.

- The FHI has been made aware of suspected feral farmed fish being captured in the annual trapping project undertaken in the Loch Shin catchment. The FHI has contacted both aquaculture production businesses currently operating on Loch Shin but neither are aware of any escape incidents and have not provided any reports under the Aquatic Animal Health (Scotland) Regulations 2009.
- The FHI has undertaken inspections at the two APBs on Loch Shin during handling events in this production cycle to ascertain if any containment issues could be identified during these handling operations.

[Redacted – Regulation 10(5)(f)]

Contact: [Redacted – Regulation 11(2)], [Redacted – Regulation 11(2)]– **Marine Directorate**

Date when the information was last updated/reviewed:
06 November 2024

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ANNEX F5

WILD SALMON STRATEGY

BUILDING THE EVIDENCE BASE, PROMOTING COLLABORATION AND
CONSIDERING THE RANGE OF ISSUES AFFECTING WILD SALMON

ISSUES:

- 7 October 2024: New research shows that salmon stocks in England have fallen to their lowest level since records began.
- 28 February 2024: Provisional salmon and sea trout fishery statistics for 2023 were published by Scottish Government. Total catches of salmon in 2023 were the lowest since records began in 1952.
- 26 February 2024: The Tay Ghillies Association has launched a campaign to halt the decline in Scotland’s wild Atlantic salmon numbers. STV featured a short piece on the campaign during which anglers claimed the Scottish Government’s response to tackling the decline of the species is too slow. They are calling for urgent action to protect the wild salmon and rural communities that depend on income from angling.
- December 2023: The International Union for Conservation of Nature (IUCN) reclassified wild Atlantic salmon populations in Great Britain from ‘least concern’ to ‘endangered’.

REC COMMITTEE RECOMMENDATION

- 38.** However, it suggests that there needs to be a recognition that any work taken forward on this issue in the short term may be hampered by a lack of scientific data. The Committee supports the proposal from the ECCLR committee for more research into the interactions between farmed and wild salmon, as a matter of priority, although it acknowledges the evidence heard which suggests that this may be difficult to deliver.
- 39.** The Committee also encourages both the farmed salmon and wild salmon sectors to share information and data as transparently as possible in order to improve understanding as to why wild salmon stocks are decreasing.
- 57.** The Committee notes that the ECCLR Committee’s report identified a range of significant gaps in knowledge, data, analysis and monitoring around the adverse risk the sector poses to the environment. It strongly endorses the ECCLR Committee recommendation on the need for more research in these areas.
- 58.** However, the Committee acknowledges the challenges inherent in the collection and processing of this data. It calls on the industry and all other relevant bodies and organisations to work together to overcome the barriers of the scale of the task and the challenge of securing appropriate funding for that research. In particular, it agrees that there should be a requirement for the industry to contribute finance, expertise and other relevant resources to independent research. The Committee calls on the Scottish Government to consider how an appropriate mechanism can be introduced.

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RESPONSE

- The fish counter network has been expanded by the successful use in 2023 of new hydroacoustic cameras on two rivers. The Marine Directorate and the Helmsdale District Salmon Fishery Board have refurbished the Helmsdale counter in summer 2024. A new counter was installed on the Ayr, and recently Marine Fund Scotland awarded funding for a fish counter on the Creed and the North Esk.
- A new National Electrofishing Programme for Scotland (NEPS) survey (incorporating genetic sample collection for NIPS and water quality sampling) was undertaken in summer 2023. The survey was undertaken according to a new design.
- Tools have been developed to target riparian tree planting to areas where temperatures are hottest, expected to change the most under climate change and where shading can be effective in reducing temperatures (<https://marine.gov.scot/information/scotland-river-temperature-monitoring-network-srtmn-riparian-woodland-prioritisation>). This information was incorporated into recent changes in the Forestry Grant Scheme where a new riparian target area has been produced for new planting and the areas across Scotland which are eligible for increased grant support have been expanded.
- The Marine Directorate continues to support long-term data collection on the effects of varying river temperature and flows on salmon and trout populations.
- Marine Directorate has established the international Knowledge Strength Working Group (KSWG), with the aim of providing transparent information on sea lice impacts. Working with SEPA and international partners, Marine Directorate has worked on an evidence map listing available data on sea lice farm-wild interactions as outputs from the Knowledge Strength Working Group. Through the Working Group, Marine Directorate has sought to codify production of policy advice in as clear and transparent a manner possible when working in an inevitably uncertain environment.
- Working through the Sustainable Aquaculture Validation of Ectoparasite Dispersal (SAVED) projects Marine Directorate has shared data with stakeholders on sea lice sentinel cages in Scotland, Norway and the Faroes to provide a baseline for validating models.
- Work started through the SAVED project identifies Ensemble Modelling as an important approach to combining models to reduce uncertainties and therefore helps give a more accurate assessment of sea lice impacts. This is an approach used in, for example, weather forecasting. Marine Directorate has sought to publish data of use for assessing infection pressure of sea lice to make accessible to any seeking to carry out research.

REC COMMITTEE RECOMMENDATION

42. The Committee notes concerns expressed in evidence that none of the existing regulatory bodies currently has responsibility for the impact of salmon farms on wild salmon stocks. The Committee believes that clarity must be provided by the Scottish Government as to how this apparent regulatory gap will be filled and which agency will assume responsibility for its management.

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RESPONSE (see response to **Recommendation 1**)

- The Scottish Environment Protection Agency (SEPA) is the lead regulator responsible for managing interactions between sea lice from fish farms and wild Atlantic salmon and sea trout. SEPA commenced the implementation of a new sea lice framework to protect wild salmon populations from 1 February 2024.
- The new SEPA sea lice framework will support sustainable development of fish farming by protecting wild fish, whilst making the development process more efficient and effective. SEPA will use the new sea lice regulatory framework alongside its other regulatory responsibilities for the water environment.
- The Fish Health Inspectorate in Scottish Government remains responsible for ensuring 'satisfactory' measures for the containment of farmed fish.

REC COMMITTEE RECOMMENDATIONS

43. The Committee is of the view that there is a need for both sectors to co-exist and it considers it to be essential that there is greater collaboration to resolve local management issues and other areas of concern.

44. The Committee recommends that mechanisms to encourage such collaboration between the sectors should be further developed and introduced. It further recommends that the Scottish Government's wild salmon interactions group should, as part of its work, address this matter as a priority.

RESPONSE

- Crown Estate Scotland implemented new lease terms in January 2023 that required aquaculture lease holders to report on sustainability. The purpose of the reporting lease term is to enable tenants to report on matters which are above regulation that demonstrate responsible stewardship of a shared marine space. Under this lease term finfish farmers are required to submit on a yearly basis a report that states where tenants (finfish farmers salmon/trout) are working together to manage an area to control sea lice and the management of plastics.
- Crown Estate Scotland is committed to funding the Aquaculture Interactions post at Fisheries Management Scotland, a three-year contract is in place (2023-26). This is a continuation of the previous three years of co-funding between SG and CES for this post.
- The pilot pre-application process for finfish farming currently underway includes provision for engagement with local interests, including communities and other users of the marine area. Further detail on the pilots is provided under Recommendation 1.

PROGRESS AND KEY SUCCESSES

- In March 2024 the Scottish Government published a report on the progress made in the first year since publication of the Wild salmon strategy implementation plan, showing work has progressed on over fifty of the actions. Examples of action include:
 - The most recent statistics from the 2023 fishing season showed that 96% of rod caught salmon in Scotland were returned.
 - Scottish Forestry in liaison with Marine Directorate developed target areas which has identified 175,000 hectares of riparian land for tree planting, now eligible for an increased grant rate, which will provide multiple benefits, including shading to keep rivers cool.

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- Fisheries Management Plans have been developed by each District Salmon Fishery Board. They identify pressures and action to be taken in each district to conserve salmon, enabling a strategic approach and prioritisation across Scotland
- The annual salmon stock assessment informed the revisions to the Conservation of Salmon (Scotland) Regulations 2016 came into effect from 1 April 2024, specifying where salmon are subject to mandatory catch and release practices for the 2024 season. The prohibition of the retention of salmon in coastal waters was maintained.
- The prohibition of the retention of salmon in coastal waters was maintained.
- We continue to champion collaborative working between sectors – The Scottish Government and Crown Estate Scotland have extended funding for a fisheries interactions post specifically to deliver close working between sectors.
- We are also pleased that a shared monitoring and research strategy will be developed to support the SEPA sea lice framework.

TOP LINES:

- I welcome the progress made in the first year since publication of the Wild Salmon Strategy implementation plan, showing work has progressed on over fifty of the actions.
- I take the issue of our declining salmon stocks very seriously and the Scottish Government is working with stakeholders to safeguard this iconic species.
- The reasons for the decline in wild salmon are wide ranging and complex.
- Alongside pressures at sea, at the coast and in river, climate change seems to be an overall driver of decline.

Q&A

Q: Who has overall responsibility for the protection of wild salmon?

- There are a wide range of threats to Scotland's wild salmon populations in rivers, at the coast and at sea. There is no single body responsible for the protection from these threats.
- Our Wild Salmon Strategy and Implementation Plan provides an overarching framework to tackle pressures on wild salmon. It brings together the range of organisations with responsibilities to protect salmon, including District Salmon Fishery Boards, River Trusts, NatureScot and Scottish Forestry.
- SEPA is the lead body responsible for the management of interactions between sea lice and wild salmon. SEPA introduced a new sea lice regulatory framework on 1 February 2024.
- The Fish Health Inspectorate assesses whether satisfactory measures are in place for the purposes of the containment of fish and the prevention of escape of fish.

Q: What is the Wild Salmon Strategy?

- Our Wild Salmon Strategy provides an overarching framework to tackle the wide range of pressures on wild salmon.

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- A Strategy Implementation Plan 2023-2028 identifies collective action for wild salmon across government, business and charitable sectors.
- The knowledge, expertise and contribution of partners including Scottish Environment Protection Agency, NatureScot and District Salmon Fishery Boards and Trusts is essential for the delivery of the actions in the Implementation Plan.

Q: What powers does the Scottish Government have to protect wild salmon?

- Scotland has a range of legislation to protect wild salmon where and when they are most at risk.
- To protect vulnerable spring sub-stocks, we developed statutory measures in 2015 to ensure that no salmon is taken in Scotland before 1 April each year.
- We have continued the ban on coastal netting of wild salmon around Scotland introduced in 2016.
- Each year annually refreshed Conservation of Salmon Regulations come into force on 1 April and outline where mandatory catch and release must be practiced during the fishing season.

Q: What action is the Scottish Government taking to limit the potential impacts of aquaculture on wild salmon?

- Salmon farming is strictly regulated to ensure that the environment upon which the aquaculture sector and others rely is protected for future generations.
- The Scottish Environment Protection Agency commenced the implementation of a new sea lice framework for wild salmon from 1 February 2024. The framework will provide a risk assessment modelling tool which identifies areas where developments have the potential to exceed exposure thresholds of sea lice.
- Additionally, the Scottish Government remains committed to working with the sector to reduce the risk that fish escape from fish farms.

Q: What action is the Scottish Government taking to limit the potential impacts of predation on wild salmon?

- Predation is recognised as one of a number of pressures impacting wild salmon populations in rivers – primarily from seals and fish-eating birds.
- We continue to support research into non-lethal solutions to address seal-salmon interactions in rivers and have funded acoustic deterrent devices to help scare seals away from rivers.
- Stakeholders can apply for a licence to kill or take seals for the purpose of conserving salmon.
- NatureScot can, and does, license the control of fish-eating birds to help prevent serious damage to fisheries. Licences are only granted where alternative non-lethal methods have proved unsuccessful or impractical.

Q: What action is the Scottish Government taking on other key pressures in wild salmon?

- Climate Change: In 2023 Scottish Forestry identified 175,000 hectares of riverside land eligible for funding through the enhanced Forestry Grant Scheme, helping to provide shade and cool river temperatures.

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- Water Quality: SEPA continues its work with farmers to reduce diffuse pollution and improve water quality by implementing good land management practices.
- River Habitat: Over the last ten years, £27m of SEPA administered Water Environment Fund, often matched by other funding streams, has contributed to around 90 river restoration projects across Scotland. This includes removing barriers to fish passage.
- The knowledge and expertise of a range of partners is required as we collectively seek to protect and conserve wild salmon.

Q: If stocks of wild salmon stocks are so low, why do you continue to allow angling?

- Scotland has a regime of statutory salmon conservation orders in place which are refreshed annually.
- Salmon caught in rivers in poor conservation status, are not allowed to be retained, thus ensuring the protection of the species where it is at greatest risk.
- Many rivers in good or moderate status also promote catch and release practices to further protect salmon populations.
- The most recent statistics from the 2023 fishing season showed that 96% of rod caught salmon in Scotland were returned. The 2018-2022 5-year mean catch and release figure was 93% for Scotland, in comparison to 27% for Norway.

Q: If wild salmon populations are declining everywhere, including in England where there are no salmon farms, and declines are predominantly driven by climate change, why take action on other activities at all?

- Atlantic salmon are an iconic species with legal protections.
- Whilst there may be global drivers behind trends, such as climate change, there is a requirement to mitigate the potential impacts of any additional human related activity and which are directly controllable and to give the species the best chance of recovery.
- That is why we consider the best measures of anglers, the fish farming sector, to address non-native species, hydro scheme and so on. However we must all be cognisant of those global drivers and ensure a strategic approach to addressing the man-made pressures of most concern.
- SEPA has committed to taking a strategic approach within catchments.

Q: Can the effects of sea lice and escapes be disentangled from other factors? For example, can you compare East and West coast declines? Will you ever understand the effects of sea lice from fish farms?

- The SEPA sea lice risk assessment framework uses sea lice thresholds and modelling to predict where wild fish may be at risk of mortality. That uses best available international evidence and SEPA is confident that it can start to disentangle sea lice pressures from others through development of its monitoring and research strategy.

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- It is a complicated process to be definitive on the processes affecting salmon at national, regional and local scales as the pressures can vary significantly. For example, on the East coast there are different populations of predators, no fish farms, invasive pink salmon and the area has experienced different water shortages. Whereas the situation on the West coast is different.
- There have been slightly steeper declines on the West coast in comparison to the East, however both coasts are on a similar trajectory.
- SEPA is confident that it can start to disentangle the pressures on the West coast through its monitoring and research strategy.

Q: How does the Government prioritise strategic action under the wild salmon strategy – are we addressing the most important things with the likelihood of greatest impact?

- The Implementation Plan provides a list of actions required to support wild salmon but recognises that management action may need to adapt as new evidence becomes available.
- Marine Directorate published a report in February 2023 which classified the severity of the different pressures on wild salmon in different areas of Scotland. The assessment was based on best available evidence coupled with expert opinion. On the West coast (aquaculture zone) sea lice were considered to be the greatest contemporary pressure.
- Using that information Fisheries Management Plans were developed by District Salmon Fishery Boards and Fisheries Trusts. Launched this year the Plans identify pressures on wild salmon in each district and identify actions to address them. This means that in each individual district actions are based on best available evidence and the approach helps to prioritise action.
- The information assembled in the Fisheries Management Plans can also be used by the Implementation Plan Delivery Group to inform action required at national level.
- The Implementation Plan also recognises that management action may need to adapt as new evidence becomes available.

Q: What is government doing to improve the relationship between fisheries and farming sectors?

- The Scottish Government and Crown Estate Scotland funded an Aquaculture Interactions post at Fisheries Management Scotland to help build local relationships and encourage collaboration between the fish farming industry and wild salmon fisheries sector. Crown Estate Scotland has awarded funding to provide a three-year extension to this post until 2026.
- The fish farming sector has also established a wild salmon fund and is helping to support local conservation projects.

Contact: [Redacted – Regulation 11(2)]- **Marine Directorate**

Date when the information was last updated/reviewed: 25 October 2024

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ANNEX G

THEME 5: SPATIAL PLANNING AND CONSENTING

CONTAINS BRIEFING ON:

- **INDEPENDENT REVIEW OF AQUACULTURE CONSENTING**
- **SPATIAL PLANNING (INC NATIONAL AND REGIONAL MARINE PLANS)**
- **CONSENTING TASK GROUP**
- **LOCAL AUTHORITY RESOURCES**

Also see Economy and Social brief for additional Q&A on communities and consenting system.

Programme for Government 2024/25: Improve the consenting process for fish farming in Scotland. We will build on our consenting pilot projects in the Highlands and Shetland Islands to deliver improvements across Scotland that give businesses confidence, ensure environmental limits are respected, and protect and improve the ability for communities to contribute.

ISSUES RAISED:

- eNGOs stated that communities don't have a seat at the Scottish Aquaculture Council, that communities do not have an impact on whether an application is accepted and that the fish farm pilot consenting process is reducing opportunity for input and speeding the process up.
- There has been a focus on relocation of fish farms as a potential route to resolve conflict. It is likely that the committee will criticise complexity of the consenting framework. At the interactions evidence sessions, the committee queried how a holistic approach to consenting could be taken - the fish farm consenting pilots are key to addressing coordination within the framework.
- SEPA provided evidence that the consenting task group's consenting pilots are building assessment of environmental capacity and cumulative impacts into the beginning of the consenting process.
- Planners welcomed introduction of the SEPA sea lice risk assessment framework as going a long way to deliver much needed reform, however progress on roll out of regional marine plans was criticised and it was suggested that these may have dealt with a number of issues being raised by committee.
- There was discussion on whether a single regulator and single consenting process would be supported and whether the CTG had sufficient remit to make change. UHI Shetland noted they did not support such a single entity approach as individual expertise and local decision making might be lost. Planners agreed that we need better coordination of the existing disciplines - which is what the CTG seeks to achieve now - but that the development of the pilots had been more complex than anticipated.
- The sector has repeatedly been critical regarding pace following the independent regulatory review and Committee is likely to challenge whether the pace of change has been quick enough.

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- The Committee is likely to challenge whether spatial planning has been suitably improved and in particular, what has been done to address recommendation 51, as raised by Edward Mountain in each Committee session.
- Local authorities identified the reliance which they have on statutory consultees for good information to inform the location of fish farms and that increasingly their focus is on visual and noise impacts, whilst SEPA takes a lead on many environmental issues.
- UHI raised that Nature Scot had been directed by Scottish Ministers to refrain from providing local input and provide national advice on PMF impacts instead in line with the national marine plan. However this was disputed in part by local authorities, who said they get the advice they require of Nature Scot.
- Committee queried whether there should be a zoning approach for aquaculture- however this was not supported by planners who felt constraint mapping approaches were more flexible.
- The sector has been critical regarding pace to implement consenting improvements and the broader recommendations of the regulatory review.

REC COMMITTEE RECOMMENDATIONS

RECOMMENDATION 49

.....The Scottish Government should support and assist planning authorities by producing planning guidance which sets out clearly how the precautionary principle should be applied and managed.

RESPONSE

- The 5 environmental principles have been enshrined in The UK Withdrawal from the European Union (Continuity) (Scotland) Act 2021 and must be considered in all policy development and in the decision-making progress.
- In November 2021-February 2022, we consulted on statutory guidance for Ministers and other public authorities who must have due regard to five guiding principles on the environment.
- A copy can be found at the following link:
<https://www.gov.scot/publications/guiding-principles-environment-draft-statutory-guidance/documents/>.
- In addition, the independent review raised the issue of the precautionary principle and its potential for inconsistent use in the consenting process.
- One of the biggest areas where this was considered an issue was the management of sea lice.
- On 1 February 2024 SEPA commenced the implementation of a new risk-based framework for managing the interaction between sea lice from farmed fish and wild Atlantic salmon during their migration to sea by defining wild salmon protection zones.
- A framework for protecting sea trout will be introduced from March 2025.

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RECOMMENDATION 50

Support should also be provided to local authorities to enable planning committees to have access to appropriate training resources so that decisions on applications for salmon farms can be better informed.....a more strategic approach to the siting of salmon farms in Scotland would be beneficial, not least in identifying the environmental suitability of both inshore and offshore locations for such developments.

RESPONSE

- There are a range of actions being taken to support local authorities with decision making.
- We currently fund an annual meeting of Local Authority aquaculture planners to share expertise and discuss common issues
- We have recently consulted on a range of proposals which aim to ensure that Scotland's planning services have the resources and the skills at their disposal to support delivery of much-needed investment in our places.
 - We announced that we would introduce changes to planning fees providing much needed additional financial resources for planning authorities.
 - Changes to be introduced in December 2024 include increasing fees to take account of the impact of inflation since fees were last amended in 2022 and introducing an annual increase commencing in Summer 2025.
 - Increasing Discretionary charging to include processing agreements, enabling authorities to ensure that they can resource delivery.
 - Future changes include the introduction of fees for appealing planning decisions
- We've also announced a new planning hub, to build capacity and resilience, and to improve consistency and efficiency in decision-making.
- The Hub's initial priority will be to help planning authorities make quicker decisions on hydrogen planning applications, with a plan to support wider developments including good quality homes and onshore wind
- The new fish farm consenting pilots process should help to support local authorities in their decision making, where joint discussions take place and there is coordination and support amongst regulators.
- Lastly - the new sea lice framework led by SEPA, recognises the challenges created by leaving local authorities to deal with complex science information at the end of the consenting process

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RECOMMENDATION 51 and 52

51. Scottish Government should, as a matter of priority, initiate a spatial planning exercise with a view to developing strategic guidance specifying those areas across Scotland that are suitable or unsuitable for siting of salmon farms.notes that Marine Scotland is already working to develop heat maps which would identify areas suitable for farmed salmon expansion and is of the view that this work might usefully inform a wider spatial planning exercise.

52 ...of the view that strategic guidance on the siting of salmon farms should also be viewed as a material consideration in planning terms, which would help guide the industry in making applications and planning authorities in deciding on these. The Committee calls on the Scottish Government to consider how this might operate in practice and to consider whether any changes in planning guidance might be required.

RESPONSE to 51 and 52

- Our National Planning Framework 4 was published in February 2023 and the Aquaculture Policy within makes clear the need to minimise adverse effects on the environment, including cumulative impacts.
- We expect Local Development Plans, as they are refreshed and new plans come forth, will play a key role in guiding development to locations that are appropriate for the area and will minimise adverse environmental impacts.
- The new National Marine Plan 2 will act as companion document alongside our National Planning Framework 4, setting out a coherent vision for the future development of Scotland’s land and seas. The updated NMP2 will continue to guide all marine licensing and consenting decisions.
- Regional Marine Plans can be supported by guidance on the location of finfish farming. I was pleased to see Orkney Islands Council consult on their fish farming spatial guidance this summer following progress of their regional marine plan – this guidance has been developed to identify sensitive areas and species and potential constraints for fish farm development and/ or other activities in Orkney.
- Every fish farm application is considered within these frameworks, as well as SEPA’s regulatory frameworks for managing discharges and sea lice.
- This means the suitability of every proposed site in relation to potential environmental impacts is carefully considered.
- These frameworks also benefit from refinement when new data is inputted.

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RECOMMENDATION 53

salmon industry in Scotland has evolved in recent decades, farms may have been located in areas which are now recognised as being environmentally sensitive or are less well-suited to production for a variety of reasons....some operators are already actively looking to relocate poorly sited farms or to consolidate farms in less sensitive areas..... the Committee considers that there should be immediate dialogue with the industry to identify scope for moving existing poorly sited farms. It recommends that this should be led by Marine Scotland and encouraged with appropriate incentives for operators, such as giving favourable consideration towards allowing increased capacity at replacement sites that are known not to be environmentally sensitive.

RESPONSE

- The issue of resiting of farms was raised as part of the independent review in 2022.
- Where the SEPA sea lice framework finds evidence of impact from existing farms, SEPA will support operators to consider alternative locations where that is required. The framework is working now to guide fish farms to the least sensitive locations.
- We are aware that some developers are considering options for relocation of some farms in areas where conditions are not favourable for operations, and which could improve efficiency and lead to benefits for fish health and welfare.
- The Consenting Task Group is working to improve the consenting process, seeking to remove duplication and enhance multilateral engagement.
- Whilst new applications or changes to fish farm locations still need to be thoroughly assessed, consolidation and revision of layouts could be significantly supported by the pilots - it is our aim to support the sectors consolidation through the work of the CTG.

RECOMMENDATION 54 and 55

54 ...recommends that work to examine the scope for siting salmon farms in suitable offshore and other locations where there are higher energy water flows should also be treated as a high priority by the industry..... benefits this could bring in terms of addressing fish health issues, reducing the environmental impact of waste and providing scope for the industry to develop higher capacity sites.

55 ...recommends that the Scottish Government should consider how the regulatory framework which applies to the industry might need to be adapted to suit the particular circumstances of offshore aquaculture.

RESPONSE to 54 and 55

- We are taking action to clarify the consenting process for aquaculture developments beyond 3 nautical miles.
- As part of this work, we have recently published a consultation on proposals for plans to address an existing gap in aquaculture planning regulations by extending Local Authority planning controls through marine planning zones further offshore out to 12 nautical miles.

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- SEPA’s framework is aimed at supporting the sector into higher energy and dispersal sites.
- We are assessing our legislative framework to ensure that consenting beyond 3nm will be possible to help support innovation in this space.

RECOMMENDATION 59

The current consenting and regulatory framework which is spread across several regulatory bodies is confusing and is poorly coordinated.... is of the view that the co-ordination of and interaction between the various elements of the regulatory regime needs to be significantly improved. The Committee recommends that Marine Scotland should be tasked with taking responsibility in delivering the necessary improvements and in taking on an overarching co-ordinating role.

RESPONSE

- I commissioned an independent review of the aquaculture regulatory system which was published in February 2022.
- Following this, I have taken the lead in chairing the Scottish Aquaculture Council (SAC), which provides strategic advice on aquaculture policy developments.
- The Marine Directorate has taken the lead in chairing and supporting working groups to deliver the necessary improvements, through the Consenting Task Group (CTG) and Consenting Task Group - Advisory Group.
- This work is currently in the pilot phase.

RECOMMENDATION 61

However, the Committee calls on the Scottish Government to conduct a review of those other aspects of the regulatory framework that are not covered by these exercises.

RESPONSE

- We commissioned an independent review of aquaculture regulatory processes, which was published in February 2022.
- The independent review work was wide ranging, covering consenting and science.
- In addition to the establishment of the SAC and CTG I asked the Scottish Science Advisory Council to examine the use and communication of science relating to aquaculture consenting.
- That report was published in April 2023.
- I am pleased that we’ve also recently appointed a Chief Scientific Advisor for Marine, and I look forward to discussing further progress to deliver our science strategy and following the SSAC’s report.

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RECOMMENDATION 64

....notes that the Scottish Government is currently undertaking a consenting review....requests an update on this exercise, including details of whether the outcome is likely to impact on the role of planning authorities in considering applications for salmon farms.

RESPONSE

- An independent review of the aquaculture regulatory processes was published in 2022 resulting in the formation of the Scottish Aquaculture Council, the Consenting Task Group and the publication of a report from the Scottish Science Advisory Council on the use and communication of science in the consenting process.
- Pilots of a new pre-application consenting process developed by the Consenting Task Group commenced in January 2024 in the Shetland and Highland local authority areas.
- This work is focused on the consenting process and does not diminish the statutory roles, functions or responsibilities of the local authority or regulators involved.
- Our priorities for this year, developed by the Consenting Task Group and agreed by the Scottish Aquaculture Council, include delivering more pilots, completing and responding to evaluation activities to improve the process, exploring opportunities to better coordinate Environmental Impact Assessment (EIA) and Habitats Regulations Assessment (HRA) activities and working to align onward application processes.
- We're also taking action to clarify the consenting process for aquaculture developments beyond 3 nautical miles.
- As part of this work we have recently published a consultation on proposals for plans to address an existing gap in aquaculture planning regulations by extending Local Authority planning controls through marine planning zones further offshore out to 12 nautical miles.
- The public consultation will run until 11 December 2024.

RECOMMENDATION 65

notes the indication that consideration of licence auctions for farmed salmon sites will be included as part of the Scottish Government's consenting review and calls for an update in due course.

RESPONSE

- Crown Estate Scotland's recent Aquaculture Lease Review included consideration of prospects for auctioning of the seabed, as undertaken by Norway for salmon farming, as part of its consideration of potential revenue options.
- Crown Estate Scotland concluded that auctioning was not a viable means of revenue generation in the prevailing regulatory and market conditions in Scotland. Instead, the review found that seabed lease fees for fish farms should increase, in line with the value of Scotland's seabed. New charges came into

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effect in January 2023, increasing aquacultures contribution from £5 to £10 million per annum. From 2026, this contribution will rise to ~ £14m per annum.

- These revenues are currently 100% committed to coastal local authorities for community benefits.

PROGRESS AND KEY SUCCESSES

How have things Improved?

- Following Griggs Review in 2022 I **established the Scottish Aquaculture Council (SAC)**, bringing together representatives from the aquaculture sector alongside key organisations with interests in the industry and its environmental and community impacts. The SAC provides strategic advice on delivery to Ministers and has been an important opportunity to **hit reset - building trust, collaboration and communication between key parties**.
- To **simplify the consenting framework**, we implemented a change to the validity period of new marine licenses for shellfish and finfish farms from 6 to 25 years, bringing it in line with the seabed lease renewal cycle.
- I formed a Consenting Task Group (CTG), bringing together developers, regulators and local authorities to **streamline the consenting process and improve communication**. This is guided by the smaller CTG Advisory Group.
- The formation of these groups has **improved communication** between developers, regulators and local authorities leading to **improved relations and progress on improvements to the current consenting process. This includes the development of the new pilot pre application consenting process that was launched earlier this year**.
- The pilots will be evaluated independently and further improvements made in an iterative process.

Key Milestones/Successes

Since 2018 we have:

Consenting:

- Commissioned independent review of aquaculture consenting, led by Prof Griggs
- Independent Review published February 2022
- Implemented an extension in the validity of new marine licenses for finfish and shellfish farms from 6 to 25 years in 2022
- Formed the Scottish Aquaculture Council in 2022. It has now met 5 times.
- Formed the Consenting Task Group which met for the first time in November 2022
- Held a series of workshops in 2023 to progress the development of a blueprint model for aquaculture consenting.
- Asked the Scottish Science Advisory Council to look at the use and communication of science in aquaculture consenting (Published April 2023)
- Reached agreement to launch preapplication pilots with SAC in December 2023

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- Launched pre application pilots, developed by the CTG in January 2024 (4 currently underway)
- Independent Evaluators of pilots were appointed in April 2024

Planning:

- Launched a public consultation in September 2024 on proposals to extend marine planning zones for local authorities out to 12 nautical miles
- Established a third Marine Planning Partnership (Orkney) to produce a regional Marine plan in November 2020
- N PF4 published in February 2023
- Published a response to the ECCLR committee inquiry into regional marine planning in July 2023.
- Draft Orkney Regional Marine Plan opened for public consultation in August 2024, including aquaculture spatial guidance.

TOP LINES:

- We are committed to making improvements to the fish farming consenting regime, providing a streamlined, efficient and transparent service which enhances communication and engagement between regulators, developers and communities.
- I am pleased at the progress that has been made on this work including the improvements that have been made in communication and trust building.
- The Consenting Task Group has developed a new pre-application process that seeks to align processes between the various regulators, remove duplication and enhancing communication.
- This new pre-application process is being trialled in the Highland and Shetland local authority areas. The pilots commenced earlier this year, and there are 4 pilot projects currently underway.
- The Scottish Aquaculture Council continues to provide strategic advice to the Scottish Government.
- We have recently published a consultation on proposals for plans to address an existing gap in aquaculture planning regulations by extending Local Authority planning controls through marine planning zones further offshore out to 12 nautical miles.
- The National Marine Plan 2 (NMP2) will continue to provide the planning framework for our licensing and consenting decisions and set the context for regional and sectoral marine planning.
- We are committed to the development of a functioning regional marine planning sector that supports marine consenting and licensing, and I would like to reassert support for the production of regional marine plans for the Orkney, Shetland, and Clyde marine regions.

Scottish Aquaculture Council

- The Scottish Aquaculture Council provides strategic advice on the delivery of our commitments. I continue to be encouraged by the commitment of members and I am grateful for their contributions.

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- The Council includes representation from the aquaculture sector alongside key organisations with interests in the industry and its environmental and community impacts.
- Establishing the Council has been an important opportunity to hit reset - **building trust, collaboration and communication between key parties.**
- I recognise that there are many others with an interest in the Council or who wish to contribute their views - in support of transparency, all minutes are being published on a dedicated Scottish Government website and my officials and I maintain a regular dialogue with a broader network of stakeholders.

Consenting Task Group

- The Consenting Task Group was established to consider and progress consenting recommendations of the 2022 regulatory review.
- Reporting to the Scottish Aquaculture Council, its primary aim is to improve the consenting and licencing in aquaculture. An emphasis is placed on the multilateral pre application consenting process.
- A new consenting process is currently being trialled which seeks to remove duplication and enhance multilateral engagement at the pre-application stage.
- This is a result of collaborative working by the Consenting Task Group which is focused on streamlining the administration of the finfish farming consenting process, whilst maintaining high environmental standards.
- Pilots of a new fish farm consenting process commenced in January this year in Shetland and Highland local authority areas.
- There are currently 4 pre-application pilots underway – one in Shetland and three in Highland local authority areas. We will learn from the pilots and make improvements as part of an iterative review process. This will include independent evaluation.
- Work by the Consenting Task Group does not sit in isolation. In February, SEPA introduced a new sea lice risk assessment framework, improving how wild fish are considered and protected under the consenting framework.
- Our aim is for an improved, multilateral pre-application consenting process framework, where constraints and opportunities are identified early in the application process and business and community confidence is increased.

'Offshore'

- We are working to clarify the consenting process for aquaculture developments beyond 3 nautical miles as innovations in technology mean that aquaculture sites can now be located further from the shore. These developments have the potential to reduce the environmental impact of marine farming by lessening interactions with wild salmonids and supporting farmed fish health and welfare.
- As part of this work, we have recently published a public consultation on proposals for plans to address an existing gap in aquaculture planning regulations by extending Local Authority planning controls through marine planning zones further offshore out to 12 nautical miles.
- Closing this gap by extending the boundaries of marine planning zones creates the potential for business to explore develop new farms further offshore. This has the potential to bring in more investment and jobs, particularly for island and

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coastal communities. The benefits to coastal and island communities could be significant and these communities are encouraged to share their views.

- The public consultation will run until 11 December 2024
- Following the consultation period, the Scottish Government will analyse responses and will continue to work with stakeholders to develop final plans. Any extension of the marine planning zones would be carried out by the means of an affirmative Scottish Statutory Instrument (SSI) to amend The Town and Country Planning (Marine Fish Farming) (Scotland) Order 2007

National Marine Plan

- Not only in Scotland, but globally, the decisions that govern our oceans are vital to the future of our planet. The National Marine Plan 2 will support sustainable development of our seas, protect our marine environment and deliver for our coastal communities.
- By adopting a blue economy approach to NMP2 we are considering our marine economy, local communities, and the environment altogether. This will help get the right planning framework in place to address the increasing pressure for marine space, balancing the need for protection and enhancement of the marine environment, and sustainable development of existing and emerging sectors.
- We have recently updated our delivery timeline because widespread participation is essential to successfully deliver NMP2. It depends on stakeholder expertise at every stage, and a solid evidence base.
- We will be sharing outputs as they become available and are keen to hear all views on proposals to help build the plan.
- The NMP2 and the terrestrial planning framework (“NPF4”) will act as companion documents setting out a coherent vision for the future development of Scotland’s land and seas.
- We have worked extensively with stakeholders to identify draft high-level objectives to help shape the plan. We have been sharing and gathering thoughts on the draft objectives through a series of workshops over summer 2024 to help us to evolve them further.
- The statutory assessments are underway to determine the potential impacts on marine sectors, communities and the marine environment from the policies included in the plan.
- The NMP2 will continue to provide the planning framework for our licensing and consenting decisions and set the context for regional and sectoral marine planning.

Regional Marine Planning (RMP)

- The Scottish Government remains committed to the development of a functioning regional marine planning sector that supports marine consenting and licensing.
- The ECCLR Committee undertook an inquiry into regional marine planning, publishing its recommendations in December 2020. The Scottish Government’s response to the inquiry reasserted support for the production of regional marine plans for the Orkney, Shetland, and Clyde marine regions.
- Once adopted regional marine plans perform a statutory role in providing the policy framework against which consenting decisions can be made.

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RMP BACKGROUND

- In comparison to the terrestrial system, regional planning is still very new and lessons are still being learned.
- Regional Marine Plans must be produced within the powers provided by the Marine (Scotland Act) 2010, and in conformity with the National Marine Plan and UK-wide Policy statement unless relevant considerations indicate otherwise.
- It is Scottish Ministers who adopt Regional Marine Plans. Marine Planning Partnerships (MPPs) are delegated functions to undertake regional marine planning through Ministerial Direction as per the Marine (Scotland) Act 2010.
- MPPs are made up of marine stakeholders who reflect marine interests in their region. MPPs can vary in size and composition depending on the area, issues to be dealt with and existing groups.
- Three MPPs have been established to produce Regional Marine Plans. These MPPs are in Shetland (March 2016), Clyde (March 2017) and Orkney (November 2020). Marine regions as defined in The Scottish Marine Regions Order 2015.

ECCLR COMMITTEE INQUIRY INTO REGIONAL MARINE PLANNING

- The former ECCLR Committee published its final report on the inquiry into regional marine planning in December 2020.
- The report found that there were a number of challenges and delays associated with the roll-out of regional marine planning and the Committee was relatively critical of the progress made to date.
- The report included 28 broad-ranging recommendations and called on the Scottish Government to publish a vision statement for regional marine planning and to better communicate the benefits of regional marine planning to coastal communities and other stakeholders.
- The findings fell into the broad themes of: scope and expectations of regional Marine Planning Partnerships; membership and governance of regional Marine Planning Partnerships; finance, resource and expertise; and community and stakeholder engagement.
- The Scottish Government published their response to the inquiry on the 31 July 2023 addressing the recommendations.

Q&A – REGULATORY REVIEW / CONSENTING TASK GROUP

Q: What progress has been made since the regulatory review report?

- I welcomed Professor Grigg's report in February 2022, announcing an immediate change to the validity period of new marine licenses for shellfish and finfish farms from 6 to 25 years, bringing it in line with the seabed lease renewal cycle.
- I established and Chair the Scottish Aquaculture Council to provide and advice and oversight of delivery, including commissioning of the Consenting Task Group to work with our delivery partners at pace to streamline the fish farm consenting regime.
- Pilots of a new fish farm consenting process are underway in Shetland and Highland local authority areas.

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- We are making progress in other areas, as the regulatory review also sits alongside ongoing work to strengthen environmental protection and community benefit as committed to in our Vision for Sustainable Aquaculture.
- We have made progress with sea lice management. Since February, SEPA has applied a new sea lice risk framework when determining applications for new farms or increases in the number of fish at existing farms.
- I've also received advice from the Scottish Science Advisory Council (SSAC) on the use and communication of science in aquaculture consenting. The Scottish Aquaculture Council has discussed this report, and we are currently planning the next phase of work.

Consenting pilots

Q: The REC Committee recommended that the co-ordination of and interaction between the various elements of the regulatory regime needs to be significantly improved. What action has the Scottish Government taken in this regard?

- I formed the Consenting Task Group to deliver on recommendations made in the regulatory review of aquaculture consenting. Reporting to the Scottish Aquaculture Council, its primary aim is to improve the consenting and licencing in aquaculture. Marine Directorate is taking the lead.
- The CTG work has led to the development of the pilot pre application process which launched earlier this year and is being trialled in Highland and Shetland. This was a result of collaborative working by the Consenting Task Group which is focused on streamlining the administration of the finfish farming consenting process, whilst maintaining high environmental standards.
- The work of the Consenting Task Group is seeking to align processes between the various regulators – specifically the two largest consent processes, SEPA and planning.

Q: What is the remit of the Consenting Task Group?

- The consenting task group aims to:
 - Minimise delays in the consenting process through removing duplication and improved co-ordination and communication between regulators
 - Provide developers with an early understanding of potential constraints, ensuring that developers know and understand the information required to support regulatory decisions and leading to a reduced time to achieve all consents
 - Includes simple, clear mechanisms for informing and facilitating third party engagement and delivers improved transparency and engagement, by ensuring effective and meaningful opportunities for communities, consultees and other interest groups to contribute.
 - Learn and improve through doing – pilot and adapt processes through continuous improvement and evaluation

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Q: What do the pilots do specifically?

- The pilot [process](#) is split into three stages, summarised as:
 - Stage One: Request for pre-application advice and provision of joint pre-application advice: SEPA and Local Authority case officers are identified. SEPA leads on coordinating a joint pre application advice report – this report combines environmental screening and risk identification with potential constraints or issues raised by other regulators and statutory consultees. Reports are published on SEPA’s website: Screening Modelling and Risk Identification Report | Scottish Environment Protection Agency (SEPA)
 - Stage Two: Third Party Engagement: As part of ongoing third party and community engagement, the developer will engage with third parties identified in its community engagement plan on the pre application advice report, before submitting a community engagement report to SEPA and the local authority for review and finalisation of pre-application advice.
 - Stage Three: Screening, Scoping and Joint Scoping Opinion Report. A screening or scoping request will be submitted to the local authority. Where EIA is required the local authority will lead the coordination with advice from SEPA and the other statutory consultees to produce a single scoping opinion and joint advice report, which will be published on the relevant website.

Q: Does the process have a single lead coordinator?

- The current pilots process identifies a lead case officer in SEPA and the Local authority who commit to work together to oversee the process.
- This respects regulatory responsibilities and local authority and SEPA’s ability to make independently informed decisions.
- However to the end user, the process is designed to be managed as a single case flow process.

Q: What is the status of the consenting pilots and what are the groups priorities moving forward?

- Our priorities for this year, developed by the Consenting Task Group and agreed by the Scottish Aquaculture Council, include delivering more pilots, completing and responding to evaluation activities to improve the process, exploring opportunities to better coordinate Environmental Impact Assessment (EIA) and Habitats Regulations Assessment (HRA) activities and working to align onward application processes.
- There are 4 pilots currently underway in the Highland and Shetland local authority areas and it is anticipated that the pre-app process will be concluded shortly. Following this the pilots will undergo an independent evaluation process – but we are already taking steps to introduce changes through lessons learned by considering to further simplify the pre-application process to three stages, and

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also by exploring the potential opportunities to better coordinate environmental assessment activities .

- We are also taking action to clarify the consenting process for aquaculture developments beyond 3 nautical miles.
- The consultation on proposals for plans to address an existing gap in aquaculture planning regulations by extending Local Authority planning controls through marine planning zones further offshore out to 12 nautical miles will run until 11 December.

Q: How long will evaluation take? When will the process be rolled out across Scotland?

- Conclusion of the independent Evaluation is dependent on completion of the 4 pilots, which are at differing stages in the process. However, we anticipate that the review will be concluded towards the end of the year.
- It is important to have independent evaluation to support the wider roll out of change and where we are ultimately asking SEPA and local authorities to operate in a new way.
- We do not need to wait for the results of evaluation in order to make further progress – whilst we repeat and refine the pilot process through repetition, we are moving on to look other issues raised with us, such as EIA processes.
- We do not need to wait for a complete package of updates before implementing improvements elsewhere. As part of continuous improvement, we will roll out improvements as soon as possible and in phases.

Q: The sector says progress has been slow; how do you respond to that?

- I want to assure you that we are working as fast as we possibly can.
- We have been working to build trust and consensus and to ensure that we implement the best solutions moving forward.
- The Consenting Task Group brings regulators and sector representatives together to interrogate each other's technical processes and to develop solutions together.
- That process took time and included monthly meetings and workshops throughout 2023 to develop a process which the group was confident to trial and included responding to sector requests for additional technical meetings.
- I am grateful for the collaborative approach by members of the consenting task group - continued collaboration is essential to our success.
- We can also only go as fast as the forthcoming applications allow us to do so.

Q: How can the pilots support a holistic approach to consenting?

- For first time, the pilots bring together the regulators and developers in the pre-application consenting process in a coordinate way, enabling early identification of potential issues/showstoppers early on in the process, in advance of formal application.
- This approach allows for and encourages information sharing, feedback, and the raising of issues in the process, leading to the building of trust and cooperation between developers and regulators.

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- This approach now also includes upfront environmental information from SEPA on the risks of sea lice to wild fish.

Q: How are communities being engaged on each of your workstreams – they are not represented on the SAC?

- Identifying the relevant community representatives can be a challenge. Given the diverse geographical nature and representation of community and community groups it was not considered possible to include “community representation” on the SAC.
- We have sought to include and consult the broader stakeholder network, including community groups, on specific work such as the development of the vision for sustainable aquaculture and the round table organised by the Scottish Science Advisory Council, which hosted over 60 representatives.
- The work of the CTG aims to include community engagement in the pre app process and in some cases, such as a major application, at an earlier stage to tie in with local authority timelines.
- We will consider how to further engage with communities on the developing consenting process, and we remain committed to engagement with the broader aquaculture stakeholder network.

Q: With such polar views held by different sectors, communities and companies – how can trust in the decision makers and regulators be improved and built upon?

- I set up the SAC to bring together representatives from the aquaculture sector, regulators and interests in its environmental and community impacts.
- I chose to Chair the Scottish Aquaculture Council myself in recognition of the importance of talking to leaders directly and bringing people together to discuss challenging issues in order to make progress.
- The CTG was then established bringing together developers and regulators to develop a new draft pre-app process. This has been a collaborative piece of work, improving communication and streamlining the application process.
- I believe this has helped build trust between developers and regulator and it is important that we all do not lose sight of the progress made and continue to work together.

Q: Is there equal Weighting of Statutory Consultees views in the planning process?

- In reaching a decision on the planning application, the planning authority is expected to have regard to all material factors, including representations submitted to them.
- It is for the planning authority to interpret and implement relevant planning legislation and guidance as it deems appropriate given the circumstances in each case.
- Planning legislation requires that planning applications are determined in accordance with the development plan for the area unless material considerations indicate otherwise.

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IF PRESSED

- There is no weighting of views in the planning process – all views submitted should be considered against the local authorities development plans and material considerations.

Q: Will the consenting pilots support relocation of fish farms?

- Whilst new applications or changes to fish farm locations still need to be thoroughly assessed, consolidation and revision of layouts could be significantly supported by revised, streamlined and efficient processes – it is our aim to support the sectors consolidation through the work of the CTG.
- We are open to exploring all mechanisms which could support efficient consolidation and relocation.

Q: How are the roles and responsibilities of regulators communicated to the public and how they interact?

- The 4 Stage draft management framework supporting the pilots is published on our Consenting Task Group webpages and set out the roles and responsibilities and how they interact.
- In time, and with expected adoption Scotland-wide, we will update our working arrangements guidance to make new processes, roles and responsibilities clear.

Q: DSFBs have expressed disappointment that they have not been involved significantly in the pilots process to date. What is your response to that?

- We recognised the importance of the DSFBs and their request for involvement in the pilot work.
- So far, the development applications coming forward have been in areas with few salmon populations and we have little control over that – however we will continue to accept pilots and test and improve the process to ensure that it is fit to deploy in all areas of Scotland.

Q: Recommendation 51 was that the Scottish Government should, as a matter of priority initiate a spatial planning exercise with a view to developing strategic guidance specifying those areas across Scotland which are suitable or unsuitable for siting of salmon farms.

This work should take full account of existing strategic documents such as the Marine Plan and the potential impact of salmon farms on MPAs and PMFs – have you delivered?

- In answer to your question, I want to be clear that there will not be a single spatial plan for aquaculture – that is because national, local and regulatory plans are developed by different regulators, for different purposes and under different review cycles.
- However we can absolutely work to improve access to spatial plans – to coordinate them - and ensure members of the public can layer plans on tools such as the interactive National Marine Plan maps, for example.
- There is a lot of spatial information already available, including;

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- [National Marine Plan Interactive map](#)
- [Aquaculture Locational Guidance](#) (A collection of spatial data resources to assist planning and siting of aquaculture developments)
- [Scotland's Marine Assessment 2020](#)
- [marine.gov.scot](#) provides information about the Scottish marine environment,
- [Locational guidelines for marine fish farms March 2024](#)
- [Authorisation of marine fish farms in Scottish waters](#) describes the category areas for the locational guidelines designated on the basis of predictive models to estimate environmental sensitivity of sea lochs.
- We've made significant progress on spatial planning – as a priority we have delivered a new spatial tool to manage the interactions of sea lice and wild fish.
- Our National Planning Framework 4 was published in February 2023, and we are in the process of developing National Marine Plan 2.
- We're working hard to deliver on local and regional planning. The draft Orkney Regional Marine Plan opened for public consultation on the 1st of August 2024.
- The draft Shetland Regional Marine Plan undertook consultation in 2019, and work is advancing towards its adoption by Scottish Ministers.
- Regional Marine Plans can be supported by guidance on the location of finfish farming.
- I was pleased to see Orkney Islands Council consult on their fish farming spatial guidance this summer following progress of their regional marine plan – this guidance has been developed to identify sensitive areas and species and potential constraints for fish farm development and/ or other activities in Orkney.

Q. How can NMP2 support delivery against RECC session 5 recommendation 51, on strategic spatial planning?

- We recognise the value in spatial planning, NMP2 will continue to provide the planning framework for our regional and sectoral marine plans.
- It is our sectoral Marine Plans, such as those supporting offshore wind development, that provide the spatial framework for the sustainable development of our seas.
- We will explore, with marine sectors, options for spatial policies in NMP2 including further sectoral planning, balancing the need for protection of the marine environment with opportunities for sustainable development of our existing and growing marine sectors.
- We will work with marine sectors and communities, on the development of the decision-making framework in NMP2 to support management of our marine space
- This will include consideration of cumulative effects and of spatial data such as sea lice risk framework in future marine planning decisions

Q: What is the role for regional marine planning in implementing the Rural Economy and Connectivity Committee's session 5 report recommendations for salmon farming in Scotland?

- Local Authorities are the planning authority for Finfish farms in Scotland. Decisions must be made in line with the policy guidance contained in the National Planning Framework 4, the relevant Local Development Plan, and the relevant

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marine plans including the National Marine Plan and the Regional Marine Plan where this covers the proposed location of a new development.

- Regional Marine Plans can be supported by non-statutory planning guidance for the location of salmon farms that will help to implement the marine plan.
- Orkney Islands Marine Region: Finfish Farming Spatial Guidance was published for consultation in August 2024.

Q: What advice does Nature Scot provide?

- Nature Scot provides advice to both local authorities and SEPA on protected areas and sensitive species, helping to inform Environmental Impact Assessment and Habitat's Regulation Assessment - this includes for example potential impacts on maerl, wild salmon and trout and freshwater pearl mussel.
- Nature Scot has produced guidance on how to assess and provide advice on natural heritage and we can follow up in writing if this is of interest to the committee.
- If a proposed development is likely to have a significant effect on a protected area or species, an appropriate assessment must be carried out and may only be supported where significant adverse effects on the integrity of sites have been ruled out.
- Nature Scot will consider local conservation objectives relating to RMPs or SACs where those exist.

Did Scottish Ministers direct Nature Scot on the advice they should give under the planning system – and if so, why?

- Scottish Ministers did not direct Nature Scot on how it provides advice under the planning system.
- All regulators have a duty to consider biodiversity.
- It is the responsibility of Nature Scot, and all others, to consider relevant policies relating to protected areas and priority marine features in legislation and Regional and National Marine Plans.

Q: Is ensuring the national status of Priority Marine Features enough?

- We believe that the protected area and species framework provides significant protection.
- We're working to deliver our biodiversity strategy – to halt declines by 2030 and help nature recover by 2045.
- National Planning Framework 4 introduces requirements for fish farm developers to consider biodiversity enhancement within development proposals as far as is possible.
- There is a small exemption relating to some NPF4 biodiversity clauses to allow strategic consideration of biodiversity in the marine environment under NMP2.
- Views on biodiversity policies and policy relating to the marine environment and protection of the national status of those species will be collected and considered as part of the development of National Marine Plan 2.

Q: Are cumulative impacts considered in consenting?

- It is the role of consent issuers to consider cumulative impacts where they exist.

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- Obviously, in the case of sea lice, there were specific challenges in considering the cumulative impacts and the sea lice framework has now been delivered to help manage those within a clear decision-making framework.
- The new pre-application pilot process will also help to bring regulators together up front in the early-stage decision making process, allowing for the opportunity to consider impacts and highlight showstoppers early on so no one is investing time and effort in a site that is not in the right place.

International Consenting Comparators

Q: How does Scotland's consenting system compare to Norway's?

- Our consenting systems are very similar in some ways, with there being both nations having locational and biomass permissions elements to coordinate, in addition to fish health and trade parameters.
- Norway had just received its own report recommending changes to its consenting system and how it is coordinated.
- A key difference is that in Norway Fish farming licences in Norway are issued by means of an auction which takes place very two years. The Norwegian government sets out the available additional biomass for each of Norway's 13 fish farming regions which is then open to bidding from fish farming businesses.

Q: Did the Scottish Government explore an auction style system for Scotland?

- Crown Estate Scotland's recent Aquaculture Lease Review included consideration of prospects for auctioning of the seabed, as undertaken by Norway for salmon farming, as part of its consideration of potential revenue options.
- Crown Estate Scotland concluded that auctioning was not a viable means of revenue generation in the prevailing regulatory and market conditions in Scotland. Instead, the review found that seabed lease fees for fish farms should increase, in line with the value of Scotland's seabed. New charges came into effect in January 2023, increasing aquaculture's contribution from £5 to £10 million per annum. From 2026, this contribution will rise to ~ £14m per annum.
- These revenues are currently 100% committed to coastal local authorities for community benefits.

Contact: [Redacted – Regulation 11(2)] and [Redacted – Regulation 11(2)]

Date when the information was last updated/reviewed: 24 October 2024

National Marine Plan

Q. What is NMP2 doing to support the food production sector?

- NMP2 will provide the coordinated overarching planning framework for sustainable development. It will bring into the planning framework, policy developed in other areas, such as the Vision for Sustainable Aquaculture.
- We have strong record of working in partnership with the sector and it is important that we continue this open dialogue in developing NMP2.

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- We are committed to understanding the impact to the food production sector and working with the sector on developing solutions in marine planning, recognising the important role the sector plays in our rural economy and coastal communities
- There will continue to be space for fishing and aquaculture to operate in a sustainable and responsible way in the future.

Q. How will NMP2 support future consenting decisions?

- NMP2 will provide overarching planning framework for coordinated management of our marine space and support future licensing and consenting decisions.
- The NMP2 will allow for licensing and consenting applications to be better supported by a clearer decision-making framework.
- We have updated the timeline for NMP2 to provide additional time to collaboratively develop the plan with communities and are keen to explore with them, options for community involvement in marine planning decisions making in future.

Q. How will NMP2 support future regional planning?

- NMP2 will adopt an area-based approach to support regional planning and reflect the unique and varied communities and environments around the coast of Scotland.
- We will work with stakeholders to tailor policy development to reflect a more local context, uses and challenges for Scotland's Seas
- The new area-based structure for NMP2 will improve the useability of the plan and aligns with the place-based approach in National Planning Framework 4 (NPF4) used for terrestrial planning, resulting in a more cohesive approach between terrestrial and marine planning frameworks.

Regional Marine Planning

Q: Why have no Regional Marine Plans been adopted yet?

- Regional marine planning is little more than a decade old. It is a relatively new public function and we are learning lessons as it progresses and as we gather experience. We are going through a process of continuous improvement and laying solid foundations for the future.
- The Scottish Government undertook a gateway review of developing Regional Marine Plans for the Shetland, Orkney, and Clyde regions in 2023. The review identified that the plans would need further work and revision before seeking approval from Ministers for consultation and adoption.
- Since the gateway review concluded, officials have worked collaboratively with the Marine Planning Partnerships (MPPs) to refine and develop the plans to be suitable to move to the next stage of development.
- The Orkney Regional Marine Plan opened for public consultation on the 1st of August 2024, officials will support Orkney MPP in drafting a plan for adoption following this period.
- Officials are currently reviewing the final draft of the Shetland MPP to determine if it can be recommended for adoption.

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- Support to the Clyde Regional Marine Plan is ongoing and making progress towards a consultation draft.
- Following adoption of the NMP2 the Scottish Government will consider further submissions to form new MPPs.

Q: Will the Scottish Government provide more support and guidance for regional marine planning?

- The Government's response to the ECCLR committee inquiry into regional marine planning will significantly improve support and guidance for regional marine planning.
- We have established a Regional Marine Planning Forum which will facilitate the sharing of knowledge and expertise and provide important guidance on the development of regional marine plans across Scotland.
- This Regional Marine Planning Forum – which met yesterday – will support delivery of lessons learned guidance, best practice guidance for developing regional marine plan governance options for MPPs, best practice guidance for stakeholder engagement, workshops and training opportunities and to raise awareness of regional marine planning.
- The emerging NMP2 will provide a refreshed context for regional marine planning to help deliver further guidance and support.
- Once adopted regional plans will move into an implementation phase and their use in decision making can be monitored.

Q: Should Regional Marine Plans include more fisheries management measures?

- Regional Inshore Fisheries Groups (RIFGs) are the vehicles that provide advice on inshore fisheries management. Management measures for fisheries are not currently within the scope of regional marine plans.

Q: What financial support is available, and should this be more?

- Marine Planning Partnerships are provided with grants from the Scottish Government to undertake their marine planning role. Grant offers have been made and accepted for the financial year 2024/2025.
- In the current climate of budgetary restrictions, the Scottish Government was not able to increase the size of the grants for 2024/2025, following an increase in 2023/2024. MPPs could look for additional and alternative sources of funding.

Q: Can you explain why the increase in funding afforded to Marine Planning in 2022-23 (£6.5 million increase from the 2021-22 budget) did not yield progress on planning matters?

- The budget afforded to Marine Planning covered a number of different policy and delivery areas, this included marine planning but also marine conservation and marine licencing and consenting.
- The budget increase was predominantly due to two main elements, an increased spending requirement for fisheries management measures and Scotwind related activity.

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- The Scotwind budget included Scotmer research (£3.5 million) and budgets to be transferred at Revision to partner organisations i.e. NatureScot (£0.9 million)
- Following the establishment of the Scottish Governments Offshore Wind Directorate in 2023, who now have responsibility for ScotWind and ScotMer policy, the apportionment of future years' funding to Marine Planning in the Marine Directorate will show a reduction to account for this transfer.
- Remaining funding for marine planning is utilised to support the development of a new National Marine Plan, and to provide policy and grant support to Marine Planning Partnerships, and Local Coastal Partnerships.

Contact: [Redacted – Regulation 11(2)], **Marine Directorate**

LOCAL AUTHORITY PLANNING RESOURCES

Q: The Fish farming sector says there has been no improvement to consenting response times – what do you say?

- The consenting pilots were launched earlier this year and were developed cooperatively by regulators and developers. This work aims to streamline the consenting process for aquaculture applications.
- The Consenting pilot process has not yet concluded and is an iterative process which will benefit from a lessons learned approach to improving the coordination of the local authorities and SEPA.
- Following an independent evaluation of the pilots, there will be the opportunity for the consenting process to undergo further refinement for improvement.
- It is important that we get this right and ensure that a streamlined process remains robust and transparent.

Q: What consideration has the Scottish Government given to planning resources?

- We have recently consulted on a range of proposals which aim to ensure that Scotland's planning services have the resources and the skills at their disposal to support delivery of much-needed investment in our places.
- We announced that we would introduce changes to planning fees providing much needed additional financial resources for planning authorities.
- Changes to be introduced in December include increasing fees to take account of the impact of inflation since fees were last amended in 2022 and introducing an annual increase commencing in Summer 2025.
- Increasing Discretionary charging to include processing agreements, enabling authorities to ensure that they can resource delivery.
- Future changes include the introduction of fees for appealing planning decisions

Q: Will the new planning hub announced in PfG form part of the solution?

- In this first year, the Planning Hub will focus on hydrogen to provide urgent action to the rapid increase of proposals expected in the next two years.
- We plan to extend the services offered by our new Planning Hub in 2025/6 and will work with key stakeholders to identify further priority areas for action, with support for housing developments already identified.

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Q: Why do some planning applications seem to take so long?

- A robust, well-resourced and streamlined planning service is vital to improve development delivery and support our economy, environment and people.
- We want to see timescales for determining planning applications improve.
- Performance is not just about speed of decision.
- Certainty of process and good customer service are vital.
- It is important to recognise that there is a role for both authorities and applicants in ensuring that applications are determined effectively and efficiently. There are many reasons why an application can take longer to determine than the statutory timescale, such as the need for additional information to be provided, for proposals to be amended to ensure that they are acceptable in planning terms, delays in responses being provided by statutory or other consultees, or the need to conclude a legal agreement.
- We actively monitoring the performance of the planning system
- Planning Application statistics are published on a 6 monthly basis (Q1 and Q2 in January and Q2 and Q4 in July). The annual statistics are also published in July which provides a breakdown of the average timescale taken to determine major and local applications (including particular development types). [Statistics and research - gov.scot \(www.gov.scot\)](http://www.gov.scot)

Contact: [Redacted – Regulation 11(2)] & [Redacted – Regulation 11(2)]

Fish Farming Planning Statistics

Latest stats (4 June 2024) on Planning Applications for Fish Farming. Unfortunately, they are only presented annually (due shortly) due to the low numbers involved so the latest figures we have are from 2022/23. Timescale in weeks.

Year	Major		Local			
	Total Applications	Average timescale	Without Processing Agreement		With Processing Agreement	
			Total Applications	Average timescale	Total Applications	% of applications determined within timescale
2018/19	1	36.9	33	15.2		
2019/20	1	25.9	37	16.0		
2020/21	1	Processing Agreement – timescale met	42	14.6	1	100%
2021/22	-	-	28	12.1	2	50%
2022/23	2	50.0	24	16.6	1	0%

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Planning Authority	Major		Local			
			Without Processing Agreement		With Processing Agreement	
	Total Applications	Average timescale	Total Applications	Average timescale	Total Applications	% of applications determined within timescale
Argyll & Bute	1	45.7	3	31.5	n/a	n/a
Highland	n/a	n/a	8	23.1	n/a	n/a
Loch Lomond and Trossachs	1	54.3	-	-	n/a	n/a
Na h-Eileanan Siar	n/a	n/a	1	10	n/a	n/a
Shetland	n/a	n/a	12	9	1	100%

Contact: [Redacted – Regulation 11(2)] [Redacted – Regulation 11(2)]@gov.scot & [Redacted – Regulation 11(2)]

Date when the information was last updated/reviewed:

Q: Why is the appeal decision for Loch Long Salmon Ltd taking so long? It was expected before now, why the delay and when will they get an answer?

- The report from the Directorate for Planning and Environmental Appeals (DPEA) was received by the Scottish Government’s Planning, Architecture and Regeneration Division (PARAD) on 15 February 2024. The report and recommendation from the Reporter have been undergoing full and proper consideration and a decision will be issued as soon as possible. It is not possible to provide any more information at this stage on the timing of the decision and as this is a live application, it would not be appropriate to comment on the merits of the proposed development

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THEME 6: SCIENCE AND INNOVATION

ANNEX H

- **INNOVATION**
- **SCIENCE, DATA ACCESS AND TRANSPARENCY**

INNOVATION

Issues Raised:

- The committee raised questions regarding research and innovation sites and whether there was a place for them in Scotland.
- In its evidence session the sector repeatedly cited the importance of innovation in dealing with key challenges faced by producers and particularly raised the value of new treatment technologies in managing welfare and mortality challenges. The sector has called for a new innovation fund and mechanism to be delivered in Scotland, and we are actively working with them on this.
- The sector is calling for a specific ‘innovation farm’, but not yet provided any detail of what they want or how the current regime restricts this. We are supportive of the idea in principle, and all parties recognise that what is needed is more time to consider the requirements in detail.
- In evidence Crown Estate Scotland suggested that if they retained more funding, similarly to their sustainable development fund, this could be used to deliver community benefit projects or perhaps innovation.
- There has been no discussion with the Committee on the Sustainable Aquaculture Innovation’s Centre circumstances yet and it is not clear if committee is aware of the funding challenges and current transitional arrangements.

REC COMMITTEE RECOMMENDATION
<p>56. The Committee endorses the ECCLR Committee’s recommendation for urgent research on the subject and the consideration of ways to incentivise the industry to explore further use of the technology. However, it is aware that RAS is not the only closed containment option and would encourage wider research on alternative technologies.</p>
RESPONSE
<ul style="list-style-type: none"> • As set out in our Vision for Sustainable Aquaculture, the Scottish Government expects that increasing adoption of new and innovative technologies which achieve both positive environmental and health and welfare outcomes will support the sector’s sustainable development. Such technologies include, but are not limited to, vaccination, sea lice capture, medicine waste capture technologies or semi and closed containment, for example. • Following the Scottish Funding Council’s decision last year to end the core funding of the Sustainable Aquaculture Innovation Centre, the Scottish Government has worked to ensure transition funding is available while considering how best to support aquaculture innovation in the longer term – a £1.5m package of support was announced in May 2024. We are engaging with a range of stakeholders, including the salmon sector, as options for the future are explored.

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- Projects supported by the Marine Fund Scotland are delivering innovation and sustainable practices in our Aquaculture sector, supporting our economy and communities, and protecting the marine environment.

Top Lines

- Innovation is key to the sustainable development of Scotland’s aquaculture sector and to addressing many of the key challenges it faces, as set out in our Vision for Sustainable Aquaculture.
- It is through innovation that the sector is responding to pressing challenges posed by the climate and biodiversity crises and relating to fish health and welfare and mortality.
- We are actively working with stakeholders to identify options and develop long term arrangements for the coordination and support of aquaculture innovation.
- On 14 May 2024 at Aquaculture UK, the Minister for Employment and Investment announced that a £1.5m funding package is now in place to support the Sustainable Aquaculture Innovation Centre (SAIC) through to March 2026. Funding has been committed by the Scottish Government and the Scottish Funding Council (SFC) and agreed with the University of Stirling, who continue to host SAIC.

Background – Sustainable Aquaculture Innovation Centre (SAIC)

- The Scottish Government is contributing £500,000 from the Marine Fund Scotland, alongside around £1m from the Scottish Funding Council, to ensure the value and expertise which SAIC offers to innovation in a key economic sector is retained, and there is no hiatus in important research and development activity.
- During the transitional period SAIC has adopted a tight focus on delivering against key industry priorities relating to fin fish health and climate impacts. This reflects the reduced capacity available during the transition period.
- The transition period allows Government time to work collaboratively with stakeholders to consider and implement long term and financially sustainable options for progressing innovation across aquaculture, in finfish and beyond.
- The work done by SAIC to support the Women in Scottish Aquaculture (WISA) programme is now being carried forward by LANTRA Scotland.

Q&A

Q: What work is underway to secure the future of aquaculture innovation following SAIC’s change in funding?

- We are working with industry, public sector and academic stakeholders to develop arrangements for the long-term coordination and support of innovation. We are considering international aquaculture innovation arrangements, innovation activity across other sectors in Scotland and priority work streams to inform new fit for purpose arrangements. We will have new arrangements in place before the transitional period for SAIC ends in March 2026.
- Financial considerations will play a part in these developments, to ensure that best value for the public purse and Scottish economy as a whole can be realized.

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Q: What will be the focus of new arrangements?

- Any new arrangements will need to reflect the needs and contributions of all partners, and it is too early to say where priorities will be agreed although we expect key policy priorities including reducing mortalities and responding to the climate crisis will be addressed.

Q: How is Scottish Government supporting innovation across the sector?

- We are supporting aquaculture innovation through a range of actions including transitional funding of the Sustainable Aquaculture Innovation Centre (SAIC), encouraging industry R&D investment in Scotland, Marine Directorate science partnerships with academics and sharing knowledge internationally through the QUINT group of salmon farming nations.
- We are participating with UK Government and local authorities in area growth deals (e.g. the Stirling and Clackmannanshire City Region Deal which is supporting the National Aquaculture Technology and Innovation Hub) and co-funding with Crown Estate Scotland business development posts for the Scottish Seaweed Industry Association (SSIA) and the Scottish Shellfish Marketing Group (SSMG).
- The Marine Fund Scotland has supported a wide range of innovative aquaculture projects including new feeding systems, eDNA lab facilities, net recycling and Recirculating Aquaculture Systems (RAS) projects. RAS projects have included support in 2021 of £2m to the Scottish Salmon Company at Kishorn and in 2024 £960k has been awarded to two other RAS projects.

Q: Is the Scottish Government supportive of innovation sites?

- We recognise that innovations must often be tested in the real world before their full potential and costs can be understood and innovation sites may offer a valuable route for trialling technologies in the real world.
- There are many remaining questions around exactly what an ‘innovation site’ might look like and how it might interact with the current regulatory regime. This is an ongoing discussion with the sector and stakeholders as to how such sites might bring benefit to Scotland while preserving our important environmental and animal welfare protections.

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ISSUES RAISED:

- eNGOs opined that Norway’s Barents Watch website was easier to use to access sea lice data. The independent regulatory review of aquaculture consenting, building on the RECC review, also concluded improvements to Scotland’s Aquaculture Website were required. While we have made several updates to information available, including sea lice information, a broader revamp of the website has not been considered a priority while key policies were under development and at this time of budgetary constraint.
- Scientists outlined that access and availability of information is not well co-ordinated.
- Nick Owen, as representative of the Scottish Science Advisory Council, outlined the purpose of the report commissioned by Ministers to consider the commissioning, use and communication of science in aquaculture consenting. Fragmentation, funding, coordination of science and horizon scanning for issues were discussed as key concerns.
- The Committee commented that SEPA’s website makes it difficult to extrapolate data, however SEPA indicated they are working on their new environmental performance scheme, which pulls together key environmental performance parameters for the public (to be introduced in 2025).
- John Goodlad, Chair of the Salmon Interactions Working Group communicated he understood access to sea lice data had been provided and that SEPA had made additional commitments on any new sea lice information relating to the SEPA sea lice risk assessment framework.
- FMS identified progress by Scottish Government to fill gaps relating to sea lice and escapes research.
- The fish farming sector outlined its commitment to transparency, through publication of fish farm mortality %’s, for example.

REC COMMITTEE RECOMMENDATION

11. The Committee considers it to be essential that this work delivers high levels of transparency that will provide confidence to all stakeholders. It therefore recommends that the information provided in future should provide an accurate, detailed and timely reflection of mortality levels including their underlying causes across the whole sector. It should also incorporate a mechanism for reporting where early harvesting has been carried out because of a disease outbreak.

RESPONSE

Good progress has been made through the Farmed Fish Health Framework in identifying and ranking the main causes of mortality into ten overarching categories with a view to standardising reporting across farms. This introduces consistency of recording and better analysis of mortality by cause, accepting, however that some mortality is difficult to assign to one reason given complexities and interactions of various factors leading to mortality.

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Salmon Scotland is now publishing monthly mortality data, by percentage and cause, and work is ongoing to identify if further alignment of published mortality data is possible. This reflects an openness and transparency which is leading amongst farming sectors. This approach also allows for better understanding of underlying reasons for mortality which in turn helps inform which issues require focus and collaboration to resolve.

See progress detail on recommendation 12.

REC COMMITTEE RECOMMENDATION

12. The Committee calls on the FFHF working group to seek the views of all industry, scientific, environmental and other stakeholders to ensure that the methodology that it is tasked with developing for reporting mortalities is sufficiently robust. It is strongly of the view that it should be a mandatory requirement for all farmed salmon producers to provide this data.

RESPONSE

- The sector is already legally obliged under Aquatic Animal Health (Scotland) Regulations 2009 to report any suspected presence of notifiable fish diseases immediately to the Fish Health Inspectorate (FHI), and in addition the sector and Scottish Government has agreed voluntary mortality reporting thresholds. These reporting requirements have been adopted within the Code of Good Practice for Scottish Finfish Aquaculture. FHI uses this information to determine if a visit to a site is necessary.
- Information relating to the mortality reporting regime obtained by Marine Directorate via sector reporting, and also by routine FHI surveillance, is actively published on a monthly basis, one month in arrears.
- We do not consider it is necessary to introduce mandatory reporting of additional mortality information. Mortality reporting is not mandatory, mortality reporting thresholds exist, and the fish farming sector publishes its own site-level specific information.

REC COMMITTEE RECOMMENDATION

13. The Committee further recommends that there should be coordination with the data that is to be provided on sea lice infestation levels to ensure that a package of data is available which provides an up-to-date and comprehensive overview of all fish health, welfare and treatment issues across the sector.

RESPONSE

- Scotland's Aquaculture Website publishes this data. This website has been developed in partnership by Marine Directorate, the Scottish Environment Protection Agency (SEPA), Crown Estate Scotland, Food Standards Scotland and NatureScot to provide access to a range of information about aquaculture in Scotland.
- Marine Directorate has a range of reporting contributions to the Aquaculture Website including fish escapes, sea lice information, and finfish species farms and shellfish aquaculture sites authorised as aquaculture production businesses.

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<ul style="list-style-type: none">• Through the sea lice risk assessment framework SEPA monitors the levels of lice on fish farms during the period of salmon migration to sea.
REC COMMITTEE RECOMMENDATIONS
<p>25. The Committee recommends that the working group charged with taking forward the FFHF sea lice work stream should consider the production and presentation of sea lice data as an integral part of its work and bring forward proposals in line with the Committee’s views.</p> <p>31. The Committee strongly believes in the benefits of transparency for the industry and those interacting with it. It endorses the ECCLR Committee’s recommendation that any data and analysis gaps related to the discharge of medicines and chemicals into the environment should be addressed by both the industry and regulators.</p>
RESPONSE
<ul style="list-style-type: none">• Medicine use is reported by operators to the Scottish Environment Protection Agency (SEPA) and reported on Scotland’s Aquaculture Website along with other data gathered by SEPA and other regulators.• SEPA’s 2019 regulatory framework introduced:<ul style="list-style-type: none">○ Enhanced environmental monitoring of the effects of new discharges of emamectin benzoate on the seabed.○ Mandatory quality assurance requirements introduced for emamectin benzoate analysis.○ Comprehensive and standardised reporting requirements on medicine use.
REC COMMITTEE RECOMMENDATION
<p>33. The Committee also recommends that information and data on medicine use by the industry should be made publicly available, on the same platform as that relating to sea lice and mortality rates.</p>

RESPONSE
<ul style="list-style-type: none">• Medicine use is reported by operators to the Scottish Environment Protection Agency (SEPA) and is published on Scotland’s Aquaculture Website along with other data gathered by SEPA and other regulators.• This includes information on the anti-sea lice medicines, emamectin benzoate, azamethiphos and deltamethrin.• Information on sea lice counts on wild salmon were added to the website from March 2021 onwards.• From June 2024, SEPA has included information on Scotland’s Aquaculture Website on discharges of:<ul style="list-style-type: none">○ Antimicrobial medicines○ Hydrogen peroxide

DATA ACCESS AND TRANSPARENCY BACKGROUND

- Scotland’s Aquaculture Website has been developed in partnership by Marine Directorate, the Scottish Environment Protection Agency (SEPA), Crown Estate Scotland, Food Standards Scotland and NatureScot to provide access to a range of information about aquaculture in Scotland.

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- Marine Directorate has a range of reporting contributions to the Aquaculture Website including fish escapes and aquaculture site Aquaculture production business (APB) authorisation details.

Medicine use

- Medicine use is reported by operators to SEPA and is published on Scotland's Aquaculture Website along with other data gathered by SEPA and other regulators. This includes information on the anti-sea lice medicines, emamectin benzoate, azamethiphos and deltamethrin.
- From June 2024, SEPA has included information on Scotland's Aquaculture Website on discharges of Antimicrobial medicines, and Hydrogen peroxide.

Sea Lice

- Weekly sea lice counts are published on Scotland's Aquaculture Website
- Information on sea lice counts on wild salmon were added to the website from March 2021 onwards.

Mortality

- Data on farmed fish mortality are collected and published by multiple organizations for different purposes, and they cannot be compared due to their methodologies:
 - SG's Marine Directorate production survey (survival to harvest by year class, published annually) - annual production data from authorised aquaculture production businesses, showing how many fish survive to harvest.
 - Fish Health Inspectorate (Mortality reports, published monthly in arrears) - mortality reported through both industry mandatory, and voluntary reporting over agreed thresholds
 - SEPA (biomass loss, published quarterly)- in line with regulations operators report monthly peak site biomass and loss by weight of dead fish
 - Salmon Scotland (mortality by percentage lost, published monthly in arrears)- Salmon Scotland publishes this information on their website including a cause description when mortality over 3.6%

TOP LINES

- We publish a suite of datasets related to Scotland's aquaculture, including sea lice levels, medicine discharge, farmed salmon survival and fish escapes – much of this is hosted on Scotland's Aquaculture Website.
- Where appropriate further information continues to be proactively published – from June 2024 this has included Antimicrobial medicines and Hydrogen peroxide use
- Through the Farmed Fish Health Framework we identified and standardised the main causes of mortality into ten overarching categories – Salmon Scotland is now publishing monthly mortality data, by percentage and cause; this level of transparency is leading amongst farming sectors.

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- We will keep further enhancements to Scotland's Aquaculture Website under consideration, however further work must be carefully balanced with available resources.

Q&A – DATA ACCESS AND TRANSPARENCY

Q: The REC committee called for comprehensive reporting system for sea lice data (recommendation 22). Do you believe that the data which is currently available is presented in a comprehensive and accessible way?

- In addition to the information which SEPA already publishes on all medicine use, biomass compliance and outcome of seabed surveys, SEPA is developing a new compliance assessment scheme (Environmental Performance Assessment Scheme). This will ensure information on farm compliance is visible.
- The Scottish Government Marine Directorate has a range of reporting contributions to Scotland's Aquaculture Website including fish escapes, sea lice information, and finfish species farms and shellfish aquaculture sites authorised as aquaculture production businesses.
- I will keep further enhancements to Scotland's Aquaculture Website under consideration as part of the delivery of the regulatory review of aquaculture and in discussion with the Scottish Aquaculture Council.

Q. Have we improved fish health data over the last 5-years?

On existing provisions:

- A range of fish health data is now publicly available include information on farmed fish survival, sea lice infestation and treatments used.
- Through the Farmed Fish Health Framework we identified and standardised the main causes of mortality into ten overarching categories- Salmon Scotland is now publishing monthly mortality data, by percentage and cause, this level of transparency is leading amongst farming sectors.

On challenges:

- Sector fish survival and mortality is collected and published by a number of different organisations and we recognise this can sometimes cause confusion – we intend to publish an explainer topic sheet to help harmonise this information in the near future.

Q. We previously heard that data is open to interpretation – does this remain the case? How is the Scottish Government addressing this?

- Like other datasets, fish survival and mortality information is complex, and often requires contextual knowledge and understanding before it can be used accurately to draw conclusions.
- To aid wider understanding of the various datasets and their relationships with one another, we intend to publish an explainer topic sheet to help harmonise this information in the near future.

Q. A number of the data you collect and publish relies on self-assessment and reporting – how can you be sure it is accurate?

- On mortality, producers are legally obliged to report and records must be kept available for inspection.

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- On the Scottish Government production survey, information is cross checked by officials with FHI movement records to ensure there are no inconsistencies.
- I will keep further enhancements to Scotland's Aquaculture Website under consideration as part of the delivery of the regulatory review of aquaculture and in discussion with the Scottish Aquaculture Council.

Q: What progress has been made on data access and transparency? What updates have been made to Scotland's Aquaculture Website?

- Additional work has been done to Scotland's Aquaculture website over recent years to update the seabed monitoring classification data to tie in with the 2019 finfish framework and ensure that additional medicine data (including hydrogen peroxide and anti-microbials) is now published.

Q: Is there a need for regulation to anticipate new technologies?

- Current regulation in general on the requirement to report would deal quite well with operation of new technology as concerns may broadly be the same – containment, parasites, diseases, environmental impact and welfare, however may well need changes to planning consent if new technological structures are introduced requiring a different approach.
- Innovation is key to the sustainable development of Scotland's aquaculture sector and to addressing many of the key challenges it faces, as set out in our recently published Vision for Sustainable Aquaculture. We are actively working with stakeholders to identify options and develop long term arrangements for the coordination and support of aquaculture innovation.

Q: Development of Scotland's aquaculture database/update to website was raised in Griggs' review. What progress has been made?

- My officials have been considering this as part of the regulatory review and in the context of decisions on budgets. In the meantime, data is available and in the public domain although we recognise that it is not necessarily in one place. If resource was available to produce a more comprehensive information technology system, aquaculture regulators could make the data more accessible.

SCIENCE BACKGROUND

- Following Professor's Independent Regulatory Review of Aquaculture Consenting, the Cabinet Secretary for Rural Affairs and Islands asked the Scottish Science Advisory Council to consider the use and communication of science in aquaculture consenting.
- A report was received in April 2023 and the Scottish Aquaculture Council discussed its findings in May.
- On 11 January 2024, the Cabinet Secretary launched the Marine Science and Innovation Strategy. The Strategy was a 2023 Programme for Government commitment and reaffirms our responsibility to ensure the best use of evidence for policy development in Marine and Freshwater environments. It has a strong focus on collaboration and looks for ways to move forward in the current difficult financial situation.

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- A Chief Scientific Advisory for Marine – Professor Mark Inall – joined the Scottish Government in September.
- Following publication of our Marine Science and Innovation Strategy, we will seek to take forward work to consider the SSAC report in more depth, resource pending.

SCIENCE Q&A

Q: The Griggs review recommended the creation of a central science and evidence base – what progress has been made on this?

- In response to the independent review, I asked the Scottish Science Advisory Council (SSAC) to consider the use and communication of science in aquaculture consenting, in response to concerns raised in Professor Griggs' report. The SSAC published their report on 26 April 2023, and we are grateful to Professor Maggie Gill and her team for this detailed piece of work.
- Following discussions with the Scottish Aquaculture Council, we will now take some time to consider the key findings of the report before moving into the next stage of work.

Q: What did the Scottish Government ask the SSAC to do?

- The SSAC project commenced in September 2022. The SSAC carried out individual stakeholder interviews followed by a roundtable event held on 14 March 2023 to discuss the challenges and opportunities of the use and communication of science in aquaculture consenting.
- The final SSAC report was published on 26 April 2023 and was discussed at a meeting of the Scottish Aquaculture Council in May 2023 chaired by the Cabinet Secretary and attended by Professor Maggie Gill.

Q: What did the SSAC report find?

Four recommendations made to the Scottish Government:

- Marine Scotland (in consultation with the community) should **issue a call for expressions of interest for bids from consortia (which include a track record in convening multi-stakeholder meetings and social science expertise)** to: i) convene *an annual, Scotland-wide multi-stakeholder discussion* with the aim of sharing knowledge on national and global scientific advances and policy changes within the aquaculture sector; ii) serve as a source of advice for the structured convening of similar meetings at a local and regional level.
- Aquaculture (as for land-based food production) is an industry that has environmental impacts and is susceptible to climate change. **The Scottish Environment Protection Agency (SEPA) or another part of the SG should consider commissioning independent, horizon scanning syntheses of the international literature** to give advanced warning of where regulations may need to change. The frequency could be aligned with recommendations from the Climate Change Commission.

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- **Marine Scotland Science...should aim to be an exemplar of being *transparent* about how research topics are prioritised, interpreted, and communicated.**
- **The *fragmentation of research* for aquaculture needs to be addressed, in particular to fill the gap in evidence to answer specific policy-driven questions.** Initiatives hosted by MASTS and SAIC (both at the time in receipt of funds from the Scottish Funding Council) have helped enhance collaboration in aquaculture but there is scope for encouraging more support to understand aquaculture's contribution to Scotland's vision for domestic food production and the blue economy.

Q: What are the next steps?

- As a priority the Scottish Government took forward development of its **Marine Science and Innovation Strategy** (published in January 2024). The strategy is a blueprint for the Scottish Government to utilise the best available science, evidence and data for making informed marine management decisions. The strategy sets out six strategic outcomes, in addition to our enablers and our values as civil servants. Development of the strategy took place whilst work to launch the first consenting pilots was ongoing.
- Recognising the importance of science and evidence to support marine management, a new **Chief Scientific Advisor (CSA) Marine** has been appointed and is in post. The CSA marine will provide independent advice to Scottish Ministers and policy makers. Their role will include an important challenge function to Marine Directorate and other areas of Scottish Government to ensure that science advice is robust, relevant and high quality.
- We've discussed science and evidence mapping in aquaculture with Scottish Aquaculture Council members as our next step. Mapping the consenting framework and supporting science and evidence will allow us to understand the breadth of the evidence, consider responsibilities, governance and help to identify any immediate gaps.

Q: What does the Marine Science and Innovation Strategy do?

- Science and Innovation is essential for robust policy development, delivering the best value for Scottish taxpayers and the best outcome for the environment.
- Science and technology funding has been prioritised as part of the Marine Directorate allocation process and has been directed towards the six strategic outcomes as outlined in the Science and Innovation Strategy.

Q: What progress have you made since the publication of the Marine Science and Innovation Strategy?

- We are working with internal and external stakeholders to develop an implementation plan, with a round-table discussion anticipated early next year on the initial draft.
- We are already exploring how new technologies, such as environmental DNA, remote sensing and AI, could help us better understand the marine and

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freshwater environments, allowing us to deliver long term benefits to nature and the people of Scotland cost effectively.

- We are also pioneering how we approach training and leadership at sea, increasing diversity in the roles aboard our vessels.
- We are carrying out an "Areas of Research Interest scoping exercise", supported by our newly appointed Chief Scientific Adviser for Marine. This will help align UK research activity more closely with SG priorities, better serving the people of Scotland.
- We are reviewing our delivery of the Marine Science and Innovation Strategy in light of the significant and growing pressure on public finances to ensure we continue to deliver best value for the people of Scotland.

Q: Why aren't industry more involved in gathering data and science research?

- There are many areas of collaboration with industry. Scottish Government is keen to explore more opportunities and recognise there is real appetite for more from the marine sector. However there are some barriers that need working through, including ensuring data and information can be used for management and securing the MD resources needed to initiate new work.

Contact: [Redacted – Regulation 11(2)] / [Redacted – Regulation 11(2)], **Marine Directorate**

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REGULATORY RESPONSIBILITIES

ANNEX I

Who	Core Legislation	Consent	What & Any Related Policy Developments
Crown Estate Scotland	Scottish Crown Estate Act 2019	1. Seabed Lease	<ul style="list-style-type: none"> The seabed lease is a tenancy agreement with the operator. It sets out any sustainability reporting requirements and includes a fee set on the basis of production and notional turnover. Salmon fees were increased in 2023 and all net revenue generated from rents are currently 100% committed to coastal local authorities for community benefit.
Local Authority	Town and Country Planning (Scotland) Act 1997	2. Planning Permission	<ul style="list-style-type: none"> The planning application process includes Environmental Impact Assessment, and Habitats Regulations assessment, statutory consultee and public consultation. Material considerations, environmental impacts and local/ national plans are considered. Some island local authorities (Orkney, Shetland and Western Isles) may also require a work permit licence (Zetland County Council Act 1974). Several rounds of permitted development rights legislation (2012, 2018, 2020) have been delivered to provide flexibility for some changes to take place without the need for new planning permissions. The fish farm consenting pilots seek to align Local Authority processes and SEPA CAR licence processes into a single case flow with appointed case officers. This aims to provided coordination for developers, but also join up for third parties who can raise similar environmental concerns within planning and SEPA regimes.
	The Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2017	N/A	
SEPA	The Water Environment (Controlled Activities) (Scotland) Regulations 2011	3. CAR Licence	<ul style="list-style-type: none"> The CAR licence permits discharges from fish farms within environmental limits. SEPA will control inputs of medicines and biomass (as a proxy for fish feed reaching the seabed). In 2021, SEPA became responsible for wellboat discharges as part of streamlining activities (prev responsibility of MD-LOT). In Feb 2024, SEPA became responsible for the risk of sea lice emissions interacting with wild fish (prev responsibility of Local Authorities, delivering on a key recommendation of the Salmon Interactions Working Group). SEPA consults widely on CAR licences, including public consultation. CAR licences are subject to a strict monitoring and reporting regime.
SG Licencing Operations Team (MD LOT)	The Marine Scotland Act 2010	4. Marine Licence	<ul style="list-style-type: none"> The marine licence will control deposit of fish farm equipment and navigational risks, however exemptions exist for fish farm developments and we are working to support farmers to apply the exemption as part of overall streamlining activity.
SG Fish Health Inspectorate	The Aquatic Animal Health (Scotland) Regulations 2009	5. Aquaculture Production Business	<ul style="list-style-type: none"> An APB is required to meet EU law relating to animal health requirements for aquatic animals and the prevention and control of certain diseases in aquatic animals in Scotland.

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		Authorisation	<ul style="list-style-type: none"> The FHI conducts a risk-based surveillance regime to deliver animal health controls to maintain disease freedom and support trade of product. The FHI is not responsible for welfare, but does report suspected cases of welfare abuse to the APHA (see below) during their inspections.
	Aquaculture and Fisheries Acts (Scotland) 2007 & 2013, The Fish Farming Businesses (Record Keeping) (Scotland) Order 2008 & The Fish Farming Businesses (Reporting) (Scotland) Order 2020	N/A	<ul style="list-style-type: none"> The FHI is responsible for enforcing national farmed fish health legislation which sets requirements in relation to record keeping on farms, and sea lice and containment/escapes. Aquaculture Production Businesses are required to demonstrate that satisfactory measures are in place for the containment of fish, and the prevention of escape of fish. Where satisfactory measures are not in place, Scottish Ministers may serve an enforcement notice. Failure to comply may result in a fine. In 2020 sea lice legislation was introduced to require weekly reporting of average sea lice levels on fish farms.
All Consent Issuers	The Conservation (Natural Habitats, &c.) Regulations 1994 and its amendments	N/A	<ul style="list-style-type: none"> All regulators are required to consider Habitats Regulation Legislation, however this is predominantly dealt with by SEPA and local authorities, with advice from Nature Scot, under CAR and planning regimes.
Animal and Plant Health Agency (APHA)	The Animal Welfare Act 2006	N/A	<ul style="list-style-type: none"> APHA is an executive agency of Defra which carries out animal health and welfare functions in Scotland on behalf of Scottish Ministers. It's functions in Scotland are funded by the Scottish Government (£13M per annum) and subject to service level agreements in the areas of exotic disease control, animal welfare, animal by-products and controls on trade in animals and animal products. APHA is responsible for investigating potential breaches in welfare law, including farmed fish. They conduct routine site inspections and consider welfare complaints raised with them. APHA has the power to provide verbal advice, a warning letter, or Care Notice as appropriate. The most serious or persistent cases of welfare will be reported to the Crown Office and Procurator Fiscal Service to consider prosecution, with court action and sanction a possibility.
Veterinary Medicines Directorate	UK Veterinary Medicines Regulations 2013	N/A	<ul style="list-style-type: none"> The VMD is an executive agency of the UK Government and is responsible for authorising and monitoring medicine for their safety, efficacy and appropriate use. The FHI is contracted by VMD under a service level agreement to take samples from Scottish fish farms for chemicals and medicine residue surveillance ensuring authorised products are used appropriately by veterinarians.

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- Consenting decisions must take the National Planning Framework, Local Development Plans, National Marine Plan and Regional Marine Plans into consideration.

Planning System Statutory Consultee Advice

SEPA	Impacts on the water column and seabed including waste, veterinary discharges and sea lice (does not include fish health and welfare)
NatureScot	Impacts on protected species and protected areas, non-native species advice and landscape/seascape advice
Scottish Government FHI & FW Lab	Advice on fish health, sea lice and containment. Advice on nutrient on water column and seabed impacts (streamlining of activity with SEPA is currently under discussion) Advice on wild fish population status
District Salmon Fishery Boards	Advice on wild fish populations and their habitats
Historic Environment Scotland	Advice on sites of cultural importance and historic marine protected areas.

Other interest groups and consultees who may provide advice during the consenting processes:

- the Northern Lighthouse Board on navigational impacts,
- any adjoining planning authority, where the development is likely to affect land in their area
- terrestrial planning authorities are advised to also consult Marine Planning Partnerships on fish farming applications and other developments with implications for the marine environment.
- Marine Planning Partnerships (Clyde, Shetland and Orkney established so far) are statutory consultees on the Marine Licence processes.
- Regional Inshore Fisheries Groups and Scottish White Fish Producers Organisation on fishing interactions etc.
- Community Councils have the opportunity to comment on planning applications.
- The Ministry of Defence may be consulted on an application regarding navigation and anchorage at the preapplication stage
- Royal Yachting Association may be consulted on navigation, anchorage and recreational use at the preapplication stage
- RSPB may be consulted if there are any formal designations for bird populations in the vicinity of the development

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ACCREDITATION SCHEMES

ANNEX J

RECOMMENDATION 7 Many marketing and quality assurance accreditation schemes exist for farmed salmon. These often set more stretching environmental standards than are currently in place in Scotland. The Committee calls on the Scottish Government to take the requirements of existing accreditation schemes into account when considering regulatory change to establish where alignment might be appropriate and feasible.

TOP LINES

- Understanding the current regulatory, voluntary code and policy landscape is an important part of policy development, specifically in relation to determining if, and where government action is needed.
- We engaged with accreditation schemes when developing the Vision for Sustainable Aquaculture – they offer a unique consideration of welfare and the contribution they make to driving sustainable practice – this was important to our policy development.

RECOMMENDATION 8 The Committee calls on industry representatives, accreditation bodies, retailers and other stakeholders to work together to consider ways in which clarity and simplicity for consumers in a potentially confusing accreditation landscape can be provided.

TOP LINES

- This is a matter for the sector, accreditation bodies and retailers – but we consider that independence from government is an important attribute of accreditation.
- It is not clear that a single Scottish brand would meet the salmon sector’s needs, and in terms of international marketing the sector has been very successful in gaining the French Label Rouge standard. There are some standard components of the food labelling systems, and these provide the clarity on, for example, calorie and fat content which consumers should have access to.

Progress and Key Successes

- We engaged with accreditation schemes when developing the Vision for Sustainable Aquaculture – they offer a unique consideration of welfare and its contribution to sustainability which was helpful to our policy development in this area.

Committee Areas of Interest

- Beyond broad recommendations (8&9) there have been two areas of more specific interest past and present: sea lice, fish welfare and environmental compliance.

Sea Lice

- The 2017/2018 inquiries were sparked by a petition calling for greater protection of wild salmon from fish farms. ‘Sea lice limits’ are a specific area of interest.

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- Scotland’s Fish Health Inspectorate introduced national sea lice intervention levels for the purposes of farmed fish health and welfare in 2016 (set at 8 and 3) and which were subsequently lowered to 6 and 2 in 2021.
- These levels were not introduced to protect wild salmon. We have always been clear that whilst management of lice the lowest achievable levels could have knock on benefits for wild fish populations by proxy, delivering protection for wild fish must consider a much broader range of measures (number of fish, location of farm, likelihood of wild salmon in the area etc) and be based on science and evidence. That is why the SEPA sea lice risk assessment framework has been developed to deliver protection for wild fish.
- At the time of the prior inquiries the Aquaculture Stewardship Council (ASC) accreditation scheme had a global 0.1 limit of mature sea lice per fish for participating farms to ‘protect wild fish’. In Norway, average sea lice limits of 0.2 (April – June) and 0.5 (rest of year) applied. Norway has since gone on to require all fish farms to meet a 0.2 limit at all times of the year.
- In 2023 the ASC published the findings of a review of its sea lice standard. The 0.1 limit to protect wild fish was removed as there was no scientific justification to support the specific level. The ASC concluded that the issues of sea lice limits to protect wild fish requires a regional approach which considers the species, wild fish populations and geographic/ oceanographic conditions. This is in line with the how the SEPA sea lice risk assessment framework has been developed.
- In recent evidence sessions committee members have again queried whether a national lower sea lice limit should be introduced to protect wild fish, in line with Norway. [Redacted – Regulation 10(4)(e)]
- We have considered other nations regulation and accreditations in the round through development of the SEPA sea lice risk assessment framework. We believe the best approach is science and evidence led policy, and a site specific approach, rather than one size fits all.

Fish Welfare – RSPCA Assured

- The RSPCA Assured scheme has a focus on fish welfare and includes standards across a number of standards including living conditions and handling.
- The RSPCA Assured is a separate organisation to the RSPCA, and the scheme has recently been criticised by the RSPCA’s President and Vice President (Chris Packham, Brian May, respectively).
- RSPCA Assured regularly updates its standards to reflect best practice on welfare and recently added new standards in relation cleanerfish and fish handling.
- A number of RSPCA standards are already adopted in the Sector’s Code of Good Practice (COGP), such as mortality recording keeping and reporting thresholds.
- Accreditation schemes, including RSPCA Assured, provide a powerful market based incentive for producer to adhere to particular standards across a range of consumer concerns.
- Schemes providing independent inspectors can play an important role in providing assurance to consumers and retailers that legal requirements for animal welfare are being met by their members. Removal of assured status from

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farms when welfare concerns are found can be a very rapid and effective sanction.

- Accreditation bodies do not however replace the need for inspectors from enforcement agencies with official powers under the Animal Health and Welfare (Scotland) Act 2006 who can deal with specific complaints.

Calls to enact Official guidance on farmed fish welfare

- There have been calls from animal welfare activists for SG to enact enforceable official guidance under the provisions in the 2006 Act, which could include aspects of the accreditation schemes.
- There are no immediate plans to introduce statutory guidance for the fish farming industry generally through the provisions made in the 2006 Act, or make regulatory changes in relation to fish welfare.
- SG's current position that the totality of the provisions, which include robust legislation, policies, and operational practices, are sufficient to safeguard the health and welfare of farmed fish.
- SG are however exploring potential Scottish Government Guidance on welfare at killing slaughter for farmed fish.

Environmental Compliance

- Although not an accreditation scheme, the committee has taken an interest in the pause to SEPA's Compliance Scheme, which provided dashboard information on environmental compliance. This issue is often raised linked to consumer access to information.
- Following the SEPA cyber-attack and a loss of its Compliance Assessment Scheme reporting, SEPA is currently developing proposals for a new approach to compliance assessment for all sectors which will provide further information on farm compliance with licence requirements relating to medicine discharge.
- SEPA expects to go out to formal consultation before the end of this current financial year. The new approach will aim to support public transparency of environmental results over and above the data which SEPA already publishes on Scotland's Aquaculture Website.

Accreditation Schemes in Scottish Salmon Aquaculture

- Salmon Scotland estimates that in 2023 their farms were audited 1000 times, equating to nearly three audits every day of the year.

100% Farms

- Code of Good Practice for Finfish Aquaculture – Scotland is the only nation with an independently audited Code of Good Practice.

~ 90% of Farms

- RSPCA Assured

Varied based on consumer and/ or other commercial requirements

- Aquaculture Stewardship Council

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- Best Aquaculture Practice
- Global GAP
- Label Rouge
- Soil Association Organic Standards

Code of Good Practice

- First developed in 2006, the CoGP covers globally recognised best practice. It covers the entire production cycle and requires an annual inspection. During review cycles, the Scottish Government often works with and contributes to new criteria, such as the inclusion of mortality reporting thresholds.
- The Aquaculture and Fisheries (Scotland) Act 2013 stipulates that the definition of ‘farm management area’ is as stated in the CoGP.

RSPCA Assured

- The RSPCA Assured scheme for salmon farming is a certification program that sets standards for the welfare of farmed fish. It aims to ensure that salmon are raised in environments that prioritize their health and wellbeing and sets a number of standards including on living conditions, diet, health management, and handling.
- Farmers that meet these standards can display the RSPCA Assured logo, which helps consumers identify products that adhere to higher welfare standards. The goal is to promote better practices in the aquaculture industry and improve the overall welfare of farmed salmon.

[Redacted – Regulation 10(4)(e)]

Aquaculture Stewardship Council

- The Aquaculture Stewardship Council (ASC) is an independent non-profit organisation and labelling organization that provides producers with a certification of environmental sustainability and social responsibility.
- ASC has more recently certified the whole aquaculture value chain, by including a fish feed and chain of custody standards.
- The ASC standard can be applied globally to various farming systems covering a range of locations, species and scales of operations, with a focus on measurable, metric- and performance-based criteria.
- In Scotland ASC currently certifies, 31 MOWI and 25 Bakkafrost production sites.
 - Mowi continues to be a leader on ASC certification, having by the end of 2021 a total of 133 farming sites certified worldwide. This represents 50% of all farming sites and accounts for 33% of all the ASC certified Atlantic salmon sites worldwide.
 - The previous limitation from the ASC standard to certify farms using smolts originating from freshwater lochs has been lifted and therefore MOWI are rolling out ASC certification of our Scottish salmon farms as well.
 - Bakkafrost is a member of the Global Salmon Initiative (GSI), and therefore are part of the GSI commitment to becoming 100% ASC certified.

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- There are 7 priorities of certification:
 - legal compliance with national and local laws and regulations
 - preservation of natural habitats, local biodiversity and ecosystem
 - preservation of water resources and quality
 - responsible use of feed and other resources
 - preservation of the diversity of the wild population
 - improved fish health and controlled and responsible use of antibiotics and chemicals
 - farms to be socially responsible toward their workers and the local community.
- On ASC Welfare Standards: In 2023, Scottish Sea Farms withdrew from ASC certification citing: “the ASC Salmon Standard in Scotland has seen several changes; changes that vary from other salmon producing countries and that we believe are not in the best interests of our fish.”
- On ASC Feed Standard: At the beginning of October 2024, BioMar became the first UK feed mill to be ASC Feed standard certified.
 - Certification is for the Grangemouth facility – which produces feed for salmon and trout – Salmon and trout farms in the region and for export are now able to obtain ASC compliant feed from BioMar UK.
 - The ASC Feed Standard sets rigorous requirements for aquafeed production, covering areas such as social and labour rights, health and safety, environmental stewardship, and responsible sourcing of raw materials.
 - It takes into consideration the impacts created across all key ingredient groups and throughout the ingredient supply chain, in alignment with upcoming European Union regulation. This includes all major agriculture crops such as wheat, corn and canola, in addition to soy and palm oil, and marine ingredients.

Global G.A.P. - Integrated Farm Assurance for aquaculture

- GLOBAL G.A.P. is a brand of smart farm assurance solutions developed by FoodPLUS GmbH in Cologne, Germany, with cooperation from producers, retailers, and other stakeholders from across the food industry. These solutions include a range of standards for safe, socially and environmentally responsible farming practices. The most widely used GLOBALG.A.P. standard is Integrated Farm Assurance (IFA), applicable for fruit and vegetables, aquaculture, floriculture, livestock, and more.
- The Integrated Farm Assurance (IFA) for aquaculture is a global standard for responsible farming practices at all stages of primary production. It is built on a holistic approach that covers the key topics of food safety, the environment (including biodiversity), animal welfare, workers’ well-being, production processes, and traceability.
- The new standard was published in April 2022, and comprises extended criteria on key issues such as sustainability and animal welfare, and more recently began offering guidelines for continuous improvement at producer level.

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- Global GAP has a particular focus on food safety, and as such has been assessed against the Global Food Safety Initiative (GFSI) obtaining GFSI recognition and is the only Aquaculture farming accreditor to do this.

Global Seafood Alliance (GSA) - Best Aquaculture Practices (BAP)

- The Global Seafood Alliance (GSA) is an international, nonprofit trade association dedicated to advancing responsible seafood practices through education, advocacy and third-party assurances.
- BAP Salmon Farm Standards GSA BAP verifies that producers of Scottish salmon are following best practices to deliver their product in the most responsible manner.
- Best Aquaculture Practices (BAP) is a certification body with a focus on seafood which addresses four key areas throughout the aquaculture supply chain: Environment, Society, Food Safety and Animal health and welfare

Label Rouge

- Label Rouge is a French national standard and logo, which specifically awards products based on the quality of the final product. In addition to the quality of the final product, superior quality is based on:
 - Production conditions which differ from the conditions of similarly marketed products
 - Product image in terms of its conditions of production
 - Elements of presentation or service
- Scottish salmon was the first fish and non-French product to be accredited with this standard.
- Label Rouge Scottish salmon producers must also comply with the standards of the Code of Good Practice for Scottish Finfish Aquaculture.

UK Soil Association Organic Standards

- Soil Association Certification is the leading organic aquaculture certification body in the UK and inspects to Soil Association, COR, BioSuisse and Naturland standards.
- Organic Sea Harvest is the only salmon farmer in Scotland to focus solely on organic production, with both sea sites certified as organic by the UK Soil Association.
- All parts of the organic value chain are audited by third party, independent auditors. This covers the brood-stock, hatchery, sea sites, processing factory, fish feed factory, the sales department.
- UK SA organic standards also cover bivalves and have a standalone seaweed cultivation standard.

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INTERNATIONAL REGULATORY COMPARISONS **ANNEX K**

ISSUE: Stakeholders have previously sought to compare Scotland’s salmon farming sector’s fish health and environmental performance to other nations.

Whilst it is helpful to compare and consider international regulation, we are clear that Scotland’s regulatory framework is designed for Scotland’s environment and there can be no one size fits all approach.

Some consider that Norway and other international partners have stricter controls on salmon farming. The answer is nuanced depending on regulatory area.

[Redacted – Regulation 10(4)(e)]

Scottish Government’s position, based on science and evidence led policy, is that open cage fish farming is and can be sustainable, where guided to the right locations and regulated under the correct controls.

Top Lines

- I do not accept the assertion that other nations have stricter regulations than Scotland.
- Scotland has a strong track record of robust, proportionate regulation designed to support sustainable aquaculture in Scotland’s unique environment.
- Whilst opinion may be considered during policy development process, we remain committed to developing policy which is science and evidence led, using best available domestic and international evidence.

Comparison of sea lice

- Comparing sea lice controls between nations is complex. Due to significantly differing environments, a like-for-like read across on thresholds would not be valid.
- In Scotland we also have two separate sea lice regimes to protect fish health and to protect wild salmon, this is an approach with different sea lice levels for each which we find to be proportionate.
- Some salmon farming nations have both wild and farmed salmon health to consider, whilst others do not have any native populations of wild salmon at all.
- More importantly, each farming nation has a completely different environment.
- Parts of Norway, Iceland and the Faroes farm fish in much colder waters. The sea lice life cycle is linked to water temperatures and colder climates would be expected to have lower sea lice levels, including natural background levels.
- As a demonstration of this point, the Aquaculture Stewardship Council previously applied a global sea lice limit for 0.1 adult females. However upon review, they

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concluded this limit had no scientific basis and the limits have subsequently been changed to meet individual environments.

- Norway requires fish farmers to meet a 0.2 lice threshold nationally during the salmon migration period. Scotland has chosen not to implement sea lice threshold nationally to protect wild fish.
 - Risks to wild salmon depend on the number of farms in the area, sea lice levels, the surrounding environment and whether migrating salmon are nearby. This means that the risk tends to be higher in constrained areas of sea.
 - Applying a low limit nationally will not target the risk posed to wild salmon, would not be proportionate, and would have unintended consequences for fish health.
 - It is known that sea lice treatments can be a driver of some mortality and that is being observed in interventions in Norway to comply with sea lice limits.
 - Scotland will maintain a site specific approach to protect wild salmon, where required, during sensitive periods, and the Fish Health Inspectorate will continue to ensure that farmers are able to stay within fish health intervention limits and demonstrate ability to control sea lice.
-
- [Redacted – Regulation 10(4)(e)]

Comparison of farmed fish health

Background

- Each salmon producing nation operates in different environments, under different regulatory regimes, and therefore fish health challenges can vary significantly
- There are some key common challenges to survival including gill health and environmental impacts (jelly fish and harmful algal blooms).
- Norway's annual fish health report showed that in 2023 mortality in farmed salmon in the marine production phase was 16.5%- infectious disease was the primary cause with environmental factors and jelly fish contributing.
- Scotland's most recent production survey (30 Oct 2024) shows a survival to harvest of the 2021 year class of 68.7% (i.e. 31.3% losses)- losses include mortality but also escapes and stock removed for broodstock.
- These data are not directly comparable, as they are taken on different bases and measure different things; however average mortality levels are known to be higher in Scotland.
- The UK has a high health status with regard to fish, mollusc and crustacean diseases, and in Scotland we continue to be declared free of most listed finfish diseases.

On international comparisons:

- We cannot compare Scotland's performance with other salmon producing nations based on reported national rates of survival – mortality figures are calculated differently, and production environments vary significantly.
- Scotland typically produces fish in warmer shallower waters in contrast to other nations such Norway, who benefit from cooler waters and deeper fjord systems – this is fundamental to how producers approach farm practice here.

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- It is clear that Scotland is not the only nation where there has been a challenging couple of years for fish health.
- Environmental challenges, such as from jelly fish blooms or harmful algal blooms, have also impacted on survival in other nations such as Norway, Faroes, Chile and Canada.

On Scotland's performance:

- In Scotland, the survival to harvest of the 2021 year class, as published in the 2023 production survey is too low (68.7%) and has dropped from the previous year, but in statistical terms this cannot be considered a trend.
- Over the period 2003 to 2023 fish survival to harvest has remained relatively constant at 75%, with peaks and troughs. We acknowledge this most recent year shows a drop in survival, which is largely attributed to micro jelly fish and harmful algal blooms – factors beyond producers' control.
- Other data sources suggest this year's high figure might come down in later years – we are all committed to seeing improvements in survival.
- In spite of these challenges, salmon farming in Scotland has and will continue to play a crucial role in contributing to our food security, producing healthy, nutritious food to support people at home and internationally.

Comparison on fish welfare

Background

- Norway, like Scotland, has animal welfare legislation that applies widely to animals under human care; Norway's legislation also makes specific provisions for the production of fish, including appropriate design of facilities that should provide adequate space and minimise physical damage to fish.
- In Scotland, the Animal health and welfare Act 2006 makes overarching provisions for protected animals, including farmed fish, that protects them from 'unnecessary suffering' and for the provision for their welfare 'needs' as defined in the 2006 Act.

Lines to take

- The 2006 Animal health and welfare Act places a duty of care of fish farmers, and we expect any reported breaches in welfare are exceptions rather than the rule.
- We expect all producers to comply with animal welfare legislation and industry standards. The Animal and Plant Health Agency are responsible for investigating potential breaches in welfare law, including farmed fish.
- I believe the totality of the provisions in Scotland, which include robust legislation, policies, and operational practices, are sufficient to safeguard the health and welfare of farmed fish.

Comparison of environmental regulation (sea lice and escapes)

Sea lice

- Both Norway and Scotland now use risk-based frameworks to manage the risk that sea lice from farmed fish pose to wild salmon populations.

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- Norway's traffic light system (TLS), introduced in 2017, differs from SEPA's sea lice risk assessment framework (SRAF), introduced in 2024.
- Norway's TLS is aimed at reaching a target for the aggregated salmon lice-induced mortality of wild salmon stocks within each one of Norway's 13 'production areas'. The TLS is based on a biannual evaluation of the salmon lice-induced mortality in wild salmon stocks – an expert group under a national surveillance program estimates the mortality of wild salmon stocks in each production area.
- In Norway, a production area is displayed as green if the estimated aggregated salmon lice-induced mortality of wild salmon stocks in a production area is less than 10% – the MAB (maximum allowable biomass, which represents an upper limit on the metric tonnes of salmon that can be kept in cages at any point in time during a year) for a green production area can be increased by 6%. (The increase in the MAB for a green production area are allocated to the highest bidder at an auction.) If the estimated mortality is between 10% and 30%, the production area is yellow and the MAB remains unchanged. However, if the estimated mortality is above 30%, the area is displayed as red. The MAB for a red production area is reduced by 6%.
 - In 2024 17,330 tons of production capacity was offered through auction, and everything was sold. 16 different companies bought extra capacity. 55% of the total income will be distributed to municipalities and counties through Norway's Aquaculture Fund.
- Scotland's SRAF evaluates the risk of farms within wild salmonid protection zones (WSPZs) – narrow or constrained areas of sea, such as lochs – to exposing wild salmonids to sea lice levels above a scientifically evidenced exposure threshold.
- SEPA's purpose-built screening model allows it to assess the relative risk to wild salmon posed by existing farms and proposed farm developments.
- The screening model is designed to be appropriately precautionary. This enables SEPA to use it to identify those farm development proposals and existing farms that it is confident are unlikely to pose a significant risk to wild salmon populations and, hence, do not require further assessment.
- If further assessment is needed, this will be carried out using more refined models that have been validated against specially collected monitoring data. The more refined modelling will either be undertaken by SEPA or, if undertaken by a fish farm developer, audited by SEPA. The results will be used to decide on the action required to protect wild salmon. This may include permit conditions to limit the total lice count on farms, enforced through the Water Environment (Controlled Activities) (Scotland) Regulations 2011.

Escapes

- The evidence suggests a general downward trend in numbers of fish escaping from fish farms in Scotland.
- Whilst we can't infer the exact reasons for this pattern, we expect that escape incidents will have reduced overall as the sector's understanding and implementation of best practice has evolved; the current Technical Standard for Scottish Finfish Aquaculture was published in 2015 as guidance. This downward

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trend has likely been further aided through the introduction of the Record Keeping Order and the Aquaculture and Fisheries (Scotland) Act 2007 and the associated requirement for “satisfactory measures” for containment and the FHI’s risk-based inspection regime.

- Officials have sought to learn as much as possible from the Norwegian and Chilean regimes where technical standards also exist.
- Both Norway’s and Scotland’s Technical Standards provide guidance on site design and equipment and also include some compliance points relating to standard operating procedures/training. Norway has a similar tiered nature of aquaculture regulation and regimes to Scotland (involving guidance and regulatory enforcement), and it is likely that these have also worked in combination to reduce the overall incidents of fish farm escapes in Norway.
- One difference is that Norway has sought to incorporate elements of its technical standard into law beginning in 2003.
- A direct comparison between numbers escaping in Norway against Scotland is not helpful, as Norway has a higher consented biomass than Scotland, but fish farm escapes in Norway and Scotland have shown similar declines.
- We are unable to draw any firm conclusions from escapes data in Chile.

Comparison of other Environmental Controls (seabed and water column impacts)

- We know from engaging with global producers and other Government’s that Scotland’s environmental protection regime is generally considered to be more robust, however it is hard to delineate the level of robustness from requirements or limits governed by the farming environment.
- For example, we know that in Scotland there may be stricter controls on the quantities of medicines and there are smaller areas of seabed impact permitted, with SEPA implementing a 100m mixing or buffer zones around cages and other nations option for a 500m.
- However, countries like the Faroes and Norway tend to have deeper loch systems and we believe that they generally tend to farm in deeper waters, which may require lesser or different controls.
- Again, just because a regime appears stricter than another, it doesn’t mean it isn’t achieving the same control and setting the right framework for the environment in that context.

Comparison of consenting frameworks

- Scotland’s consenting system is similar to Norway’s in some ways, with there being both nations having locational and biomass permissions elements to coordinate, in addition to fish health and trade parameters. However many stakeholders consider that it is faster – this is a key issue being explored by the consenting task group.
- Norway had just received its own report recommending changes to its consenting system and how it is coordinated.
- We remain committed to working with our international partners to share developments and best practice.

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- A key difference is that in Norway fish farming licences in Norway are issued by means of an auction which takes place every two years. The Norwegian government sets out the available additional biomass for each of Norway's 13 fish farming regions which is then open to bidding from fish farming businesses.
- Crown Estate Scotland's recent Aquaculture Lease Review included consideration of prospects for auctioning of the seabed, as undertaken by Norway for salmon farming, as part of its consideration of potential revenue options.
- Crown Estate Scotland concluded that auctioning was not a viable means of revenue generation in the prevailing regulatory and market conditions in Scotland. Instead, the review found that seabed lease fees for fish farms should increase, in line with the value of Scotland's seabed. New charges came into effect in January 2023, increasing aquaculture's contribution from £5 to £10 million per annum. From 2026, this contribution will rise to ~ £14m per annum.
- These revenues are currently 100% committed to coastal local authorities for community benefits.

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SENSITIVE TOPICS/ RECENT MEDIA ATTENTION

ANNEX L

ISSUE:

30 Oct: Fish Farm Production Survey 2023 published, showing a reduction in survival to harvest for the 2021 year class of 68.7%, a decrease from 75.9% seen in the 2020 year class.

30 Oct: The Citizen Participation and Public Petitions Committee decide to keep open a petition lodged in the Scottish Parliament (from the Sustainable Inshore Fisheries Trust) - calling for the Scottish Government to develop and introduce a statutory Fisheries Management Plan focussed on protecting wild wrasse stocks in Scottish waters, beginning with a data-collection exercise and introduction of precautionary fishery management measures ahead of the next fishing season commencing in May 2025.

23 Oct: The Guardian & the Sun report on an analysis of published Fish Health Inspectorate mortality data by anti-salmon farming groups, showing over a production cycle at a MOWI Scotland site (Seaforth), over 1 million fish died.

3 Oct: Media reports Salmon Scotland’s CEO Tavish Scott’s comment to the Rural Affairs and Islands Committee hearing on 2 October that ‘extreme activists’ are conducting a ‘deliberate, orchestrated and co-ordinated campaign’ against salmon farming in Scotland.

30 Sept: Media reports that ‘stinking blood’ and fish waste has been found in the River Lochy (near Fort William) and a local MOWI fish processing plant has been accused by campaigners of discharging the waste. MOWI deny the accusations and the Scottish Environment Protection Agency confirmed they are investigating.

[Redacted – Regulation 10(4)(e)]

25 Sept: An animal welfare charity, Animal Equality UK accused the operator of a fish farm site visited by the RAI committee as part of their follow-up inquiry into salmon farming in Scotland of a “cover up”, revealing footage of dead salmon being removed from the farm allegedly hours before the Committee arrived. During his appearance at the salmon farming sector committee session on 2 October 2024, Dr. Ralph Bickerdike, Head of Fish Health, Scottish Sea Farms (the operator of the farm), stated that these procedures are routine and insisted it had “categorically not” had a mass mortality event.

FARMED FISH MORTALITY & SEAFORTH MORTALITIES

Mortality occurs in all livestock farming including salmon farming, and higher levels are in no one’s interest from both a welfare and economic perspective.

- We have robust regulation and policies and operational practices in place to ensure fish farmers are meeting statutory requirements related to the environment, sustainability and welfare
- However, we are clear in our expectations of producers to drive mortality to the lowest possible levels.
- Recent mortality reports for the farmed salmon sector as a whole should be considered in the context of the trend seen since 2003, which indicate broadly stable average mortality levels, with peaks and troughs in different years.

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- We acknowledge an apparent rise in recent mortality figures driven by challenging environmental conditions beyond farmers' control.

FISH FARM PRODUCTION SURVEY 2023

The lower levels of fish surviving to harvest are not acceptable either to Government or salmon producers, and we are working closely with the sector to ensure challenges to survival can be mitigated via research, innovation, and improved farming practices.

- The causes of mortality are complex, and include significant environmental challenges such as harmful algal blooms and micro-jellyfish, largely beyond the control of farmers.
- We have strong monitoring, regulation and enforcement frameworks in place to ensure farmers take all actions to improve health and welfare.
- The 2023 production survey reflects a highly challenging production cycle for salmon farming in Scotland and the data show a lower proportion of fish surviving to harvest.
- Other data sources suggest rates of survival may improve in the coming years.
- Salmon Scotland recently reported businesses have invested 'nearly £1 billion' in fish health and welfare since 2018.

Scotland's salmon industry is a significant contributor to our rural economy and no one is complacent about the challenges to survival

- We are working collaboratively with the sector, regulators and fish vets to better understand the causes of mortality, including the impacts of climate change.
- The sector is investing heavily and making strategic changes to production processes to address fish health challenges, which are complex and changeable.
- We heard about this in detail when aquaculture sector representatives gave evidence to the Rural Affairs and Islands Committee earlier this month. (Wednesday 2 Oct).
- The Cabinet Secretary for Rural Affairs, Land Reform and Islands looks forward to providing evidence to the Rural Affairs Committee this month (13 Nov) to discuss the work we are doing to ensure Scottish aquaculture's sustainability and success.

WRASSE / CLEANER FISH

The Scottish Government takes the sustainable management of our wild fish stocks, including wrasse used as cleaner fish in fish farms, very seriously

- Mandatory controls are in place to protect wild wrasse and manage the restricted fishery, including a closed season, trap limits and size limits. The controls are kept under review and based on the best available evidence.
- In correspondence to the Citizen Participation and Public Petitions Committee the Cabinet Secretary for Rural Affairs, Land Reform and Islands confirmed that we will undertake a Fisheries Assessment ahead of the 2025 fishery season.

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- The Scottish Government has also commissioned the Sea Fish Industry Authority to undertake initial scoping work to help inform our approach to non-quota species Fisheries Management Plans in Scotland, including wrasse.
- The Scottish Animal Welfare Commission is also assessing the welfare aspects of the use of cleaner fish in salmon production – and we look forward to receiving their recommendations.

ANTI SALMON FARMING CAMPAIGNERS

It is right there is a free, open but – crucially – respectful dialogue between all parties interested in salmon farming in Scotland.

- Scotland’s salmon industry is a significant contributor to our economy particularly in rural communities. It produces high quality nutritious products with a lower carbon footprint than many other sources of farmed protein.
- Our Vision for Sustainable Aquaculture sets out how we will support the development of our aquaculture industry to operate within environmental limits and deliver social and economic benefits for Scotland.
- We have robust legislation, policies, and operational practices in place to ensure farmers meet statutory requirements related to the environment, sustainability and welfare, such as sea lice reporting and management, mortality reporting and listed disease surveillance.
- Care for the environment and the welfare of salmon are crucial to the successful and responsible farming of the fish in Scotland, and Government and producers take these things very seriously.
- The Scottish Government listens to the perspectives of all stakeholders involved in the aquaculture debate.
- In 2018 the Rural Economy and Connectivity committee raised concerns on the environmental impact and fish health challenges which the sector faces, and we have prioritised action in these areas.

RIVER LOCHY POLLUTION INCIDENT

I am aware that a potential pollution incident in the River Lochy has been reported to the Scottish Environment Protection Agency (SEPA).

- The report is being investigated by the Scottish Environment Protection Agency and it would not be appropriate to comment further at this stage.

REPORTS OF ‘HIDDEN’ DEAD FISH

I noted the coverage of the Rural Affairs and Islands Committee’s recent visit to a fish farm near Dunstaffnage.

- Committee members have rightly taken time to visit a fish farm and spend time with the sector as part of their ongoing follow-up inquiry into salmon farming in Scotland, gaining firsthand understanding of Scottish fish farming in practice.

We have robust legislation, policies, and operational practices in place to ensure fish farmers are meeting statutory requirements on sea lice reporting and management, mortality reporting and listed disease surveillance.

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- The company Scottish Sea Farms is routinely compliant with voluntary mortality reporting regimes in place as part of listed disease surveillance. The Fish Health Inspectorate are not investigating any mortality issues at the farm.
- Regular removal of fallen stock is a legal requirement, and dead fish are removed from collection systems following inspection – this is a vital part of good biosecurity practice to prevent an unacceptable risk of disease spread.
- Mortality levels at the farm in question do not require formal reporting to the Fish Health Inspectorate and no disease outbreaks are being investigated.
- Recent mortality reports for the farmed salmon sector as a whole should be considered in the context of the trend seen since 2003, which indicate broadly stable average mortality levels, with peaks and troughs in different years.

WELFARE & REPORTS OF SUFFOCATING FISH

The Scottish Government takes the welfare of all farmed animals very seriously

- The Animal Health and Welfare (Scotland) Act 2006 protects farmed fish from ‘unnecessary suffering’.
- We expect all producers to comply with animal welfare legislation and industry standards.
- The Animal and Plant Health Agency are responsible for investigating potential breaches in welfare law, including farmed fish. They are investigating the reported welfare breaches and will take any action deemed appropriate.

WHITESHORE COCKLES – FISH FARM WASTE DISPOSAL

I am aware of the reports of fish waste being illegally disposed of in the Western Isles

- The question of enforcement is for Western Isles Council and not Scottish Government – under Enforcement of the Animal By-Products (Enforcements) (Scotland) Regulations 2013.
- It would not be appropriate to comment further while this is being investigated.

Whiteshore Cockles Ltd were previously authorised a derogation from the disposal requirements in the Animal By-Products Regulations, to bury fish waste at their site in North Uist, which ended on 31 January 2024

- The company have installed a fish waste dryer as a pragmatic and sustainable solution for disposal of salmon mortalities in the Western Isles.
- The fish waste dryer has the appropriate Pollution Prevention and Control authorisations from the Scottish Environment Protection Agency, and it is working towards approval under animal by-product regulations; when this is achieved the dryer will be fully operational.
- We expect Whiteshore Cockles Ltd to work constructively with the Animal and Plant Health Agency for the fish waste dryer to gain approval under the Animal By-Products (Enforcement) (Scotland) Regulations 2013.

The Scottish Government is committed to moving towards a circular economy, delivering an approach where we value materials and keep them in use.

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- We welcome approaches which adopt the principles of a circular economy and sustainable use of resources.
- Whiteshore Cockles previously received funding from Highlands and Islands Enterprise in 2016 and 2021 as a project demonstrating the potential to create such a circular economy approach for Scottish Aquaculture.

BACKGROUND

- On 26 September 2024 the Animal and Plant Health Agency (APHA) wrote to the RAI Committee to respond to questions raised by the Committee on APHA's remit and co-ordination with other regulatory bodies.
- On 26 September 2024 the Fish Health Inspectorate (FHI) wrote to the RAI Committee to respond to questions raised by the Committee following their visit to Dunstaffnage fish farm on 23 September. The FHI provided recent mortality levels for the site, and noted that they do not have concerns with the routine mortality removal procedure being undertaken in the video footage, and added that they would consider that this procedure would be consistent with the mortality removal procedures on Scottish aquaculture farm sites, recognising that procedures may differ between sites.

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RURAL AFFAIRS AND ISLANDS COMMITTEE OVERVIEW

ANNEX AA

Overview

The Committee focuses on areas including:

- Rural land use, including forestry, farming and crofting
- Food and drink supply chain
- Animal welfare and wildlife crime
- Fisheries and aquaculture
- Issues relevant to the [Islands \(Scotland\) Act 2018](#)

The Committee’s name changed from Rural Affairs, Islands and Natural Environment Committee to Rural Affairs and Islands Committee on 1 February 2023.

Remit

To consider and report on matters falling within the responsibility of the Cabinet Secretary for Rural Affairs, Land Reform and Islands, with the exception of matters relating to land reform, natural resources and peatland, Scottish Land Commission, Crown Estate Scotland, and Royal Botanic Garden.

Committee Membership

Finlay Carson	Convener	Scottish Conservative and Unionist Party
Beatrice Wishart	Deputy Convener	Scottish Liberal Democrats
Colin Beattie	Member	Scottish National Party
Ariane Burgess	Member	Scottish Green Party
Rhoda Grant	Member	Scottish Labour
Rachael Hamilton	Member	Scottish Conservative and Unionist Party
Emma Harper	Member	Scottish National Party
Emma Roddick	Member	Scottish National Party
Elena Whitham	Member	Scottish National Party

Substitute Members

Karen Adam	Substitute Member	Scottish National Party
Jamie Halcro Johnston	Substitute Member	Scottish Conservative and Unionist Party
Liam McArthur	Substitute Member	Scottish Liberal Democrats
Mark Ruskell	Substitute Member	Scottish Green Party
Mercedes Villalba	Substitute Member	Scottish Labour

Edward Mountain – Scottish Conservative and Unionist Party (Highlands and Islands) is joining all evidence sessions throughout the follow-up inquiry into salmon farming in Scotland. Edward Mountain was the Rural Economy and Connectivity Committee convener during the 2017/18 inquiries and has land and wild salmon fishery interests.

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Current Work

- Budget scrutiny 2025 to 2026
- Committee advisers
- Follow-up inquiry into salmon farming in Scotland
- Inshore fisheries
- National islands plan
- Petition PE1490 Control of wild goose numbers
- Petition PE1758 End greyhound racing In Scotland
- Welfare of Dogs (Scotland) Bill

Future business

[Please note, this may be updated to reflect changing parliamentary business]

- Implementation of the Good Food Nation (Scotland) Act 2022
- Inshore fisheries
- Petition PE1490: Control of wild goose numbers

Progress on Salmon Farming

Six evidence sessions have taken place in advance of today's session, covering:

- environmental impacts and regulatory reform
- animal health and welfare
- interactions with wild salmon
- economic and social benefit

RAI Committee evidence sessions – dates, attendees and issues explored

- Wednesday 5 June 2024 – Evidence from non-governmental organisations
 - Participants:
 - John Aitchison – Coastal Communities Network
 - Sean Black – Royal Society for the Prevention of Cruelty to Animals
 - Sarah Evans – Marine Conservation Society
 - Rachel Mulrenan – WildFish
 - Issues raised:
 - Sea lice
 - Escapes
 - Animal health & welfare
 - Mortalities
 - Community engagement

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- Evidence from aquaculture scientists
 - Participants:
 - Dr Annette Boerlage – Research Fellow in Aquatic Epidemiology, School of Veterinary Medicine, Scotland’s Rural College
 - Professor Simon MacKenzie – Head of the Institute of Aquaculture, University of Stirling
 - Professor Sam Martin – Director of Research, School of Biological Sciences, University of Aberdeen
 - Dr Helena Reinardy – Lecturer and Teaching Fellow, Scottish Association for Marine Science
 - Professor Lynne Sneddon – Chair in Zoophysiology, Department of Biological and Environmental Sciences, University of Gothenburg
 - Issues raised:
 - Escapes
 - Animal health & welfare
 - Research
 - Regulatory framework
- Wednesday 12 June 2024 – Evidence from the Fish Health Inspectorate
 - Participants:
 - Charles Allan – Group Leader, Fish Health Inspectorate
 - Issues raised:
 - Monitoring
 - Enforcement
 - Data transparency
 - Animal health & welfare
 - Mortality
 - Chemicals & medicines
- Wednesday 19 June 2024 – Evidence from Scottish Science Advisory Council
 - Participants:
 - Professor Nick Owens – SSAC Member
 - Christine Lawson – Head of SSAC Secretariat, Scottish Science Advisory Council
 - Issues raised:
 - Funding levels
 - Research gaps
 - Social licence and communications
- Evidence from the Scottish Environment Protection Agency
 - Participants:
 - Lin Bunten – Chief Operating Officer, Regulation, Business and Environment
 - Mike Montague – Aquaculture Specialist, Scottish Environment Protection Agency

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- Issues raised:
 - SEPA performance measurement & independent evaluation
 - Data gaps & accuracy
 - Publication of data & timescales
 - Regulation
 - Penalties
 - Chemicals & medicines
 - Cleaner fish
 - Modelling
 - Monitoring
- Wednesday 26 June 2024 – Evidence from the Salmon Interactions Working Group (SIWG)
 - Participants:
 - John Goodlad – Previous Chair of SIWG
 - Issues raised:
 - Environmental protection
 - Collaboration
 - Implementation of SIWG recommendations
 - Planning & siting of salmon farms
- Evidence from Fisheries Management Scotland
 - Participants:
 - Dr Alan Wells – CEO
 - Issues raised:
 - Implementation of REC Committee recommendations
 - Regulatory reform
 - Environmental protection – cumulative impacts and holistic approaches
 - Escapes
 - Sea lice risk assessment framework – scope
- Wednesday 18 September 2024 – Evidence from stakeholders with expertise in consenting and marine spatial planning
 - Participants:
 - Mark Harvey – Planning Team Leader, Highland Council
 - Ronan O'Hara – Chief Executive, Crown Estate Scotland
 - Dr Rachel Shucksmith – Marine Spatial Planning Manager, University of the Highlands and Islands
 - Issues raised:
 - Consenting – challenges and opportunities
 - SEPA performance measurement
 - Speed of delivery
 - Spatial planning
 - Offshore consenting
 - Siting of salmon farms
 - Mortality
 - Enforcement of planning conditions
 - Crown Estate Scotland and community benefit
 - Enforcement and future of Environmental Management Plans

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- 22 to 23 September 2024 – RAI Committee fact-finding visit to Oban - meeting with local stakeholders, visit to a research facility and tour of a local salmon farm near Dunstaffnage.
- Wednesday 2 October 2024 – Evidence from salmon farming industry representatives
 - Participants:
 - Dr. Ralph Bickerdike, Head of Fish Health, Scottish Sea Farms
 - David Brown, Shetland Seawater Manager, Cooke Scotland
 - Ben Hadfield, Chief Operating Officer Farming Scotland, Ireland, Faroes and Atlantic Canada, Mowi Scotland
 - Kimberley McKinnell, Head of Health, Bakkafrost Scotland
 - Constance Pattillo, Head of Farming Operations, Wester Ross Salmon
 - Tavish Scott, Chief Executive, Salmon Scotland
 - Issues raised:
 - Removal of dead fish at Scottish Sea Farms Dunstaffnage site
 - Mortality
 - Fish health & welfare (particularly gill disease, micro-jellyfish and HABs)
 - Non-medicinal treatments
 - Environmental protection balanced with fish health & welfare
 - Innovation and technology adoption
 - Social licence and community benefit
 - New EQS for EmBz
 - Escapes
 - Criticism of the industry

We understand that Arianne Burgess and Finlay Carson have taken the opportunity to discuss the sea lice risk assessment framework, self-reporting of sea lice numbers and management of broader issues affecting wild salmon with other stakeholders recently and that Edward Mountain met with SEPA earlier in the year.

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REGULATORY REVIEW RECOMMENDATIONS SUMMARY

ANNEX CC

RECOMMENDATION	Workstream
1. A short term project board is established which oversees, drives, and guides all the varying parts, where possible, within a 12 month period.	Scottish Aquaculture Council
2. A new single consenting document for aquaculture should be created, that mandates what all parties involved in an application are subject to, derived from a pre-application consultation prior to submission.	Consenting Task Group
3. The new consenting document contains a 'social contract' that recognises the community and its needs.	Consenting Task Group
4. I recommend that once the Scottish Government has produced its Vision for Aquaculture it should work with all parties through a Project Board to produce, within 12 months, a 10 year framework for each part of the aquaculture sector (finfish, shellfish, and seaweed) within which all must operate.	Vision for Sustainable Aquaculture, National Planning Frameworks and SEPA frameworks
5. There should be different regulatory solutions for finfish, shellfish, and seaweed with each based on a framework specifically designed for that part of the sector and in which the consenting and all other regulatory processes will sit and be driven by.	Vision for Sustainable Aquaculture, National Planning Frameworks and SEPA frameworks
6. Once that framework is in place all existing sites should be examined to ensure that they can operate within the framework.	Vision for Sustainable Aquaculture & SEPA frameworks.
7. All sites where it is unlikely, after evaluation against the new framework and remedial action that further finfish production will occur, give up all licences held on that site by the current owner.	Vision for Sustainable Aquaculture & SEPA frameworks.
8. A new single licencing payment is introduced based on tonnage output of each site, which covers the costs of all bodies involved in the process and addresses community benefit as well. A separate charge on established sites that are to continue post review to be examined.	Consenting Task Group
9. The funding/ licence process the process should encourage innovation and development	Consenting Task Group
10. There should be a single website and body where anyone with any questions around starting up an aquaculture business or who have questions on more general issues / aquaculture regulation can go to find out all that they need to know.	Consenting Task Group
11. The science and other evidence that is currently being used by all parties involved in the sector is reviewed independently to ensure it is the best and most up to date available.	Scottish Science Advisory Council
12. The creation of a central science and evidence base should be put in place jointly run and managed by industry and the Scottish Government which gathers, collates and examines scientific and other evidence relating to this sector so decisions within the framework can be made in the most effective way.	Scottish Science Advisory Council

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VISION FOR SUSTAINABLE AQUACULTURE

ANNEX DD

Q: What is the Scottish Government’s vision for aquaculture?

- The Vision for Sustainable Aquaculture sets out our long-term aspirations for the finfish, shellfish and seaweed farming sectors, and the wider aquaculture supply chain.
- We are ambitious for the future of Scottish aquaculture. It is already a significant contributor to our economy through trade, employment and investment in infrastructure such as housing, broadband and harbour facilities. Aquaculture has a crucial role to play in contributing to our food security and meeting our commitment to becoming a Good Food Nation, producing healthy and nutritious food.

Q: How does the Vision support Scotland’s marine environment?

- Our Vision is for the development of a sustainable aquaculture sector, where its environmental impact is within acceptable limits, with continual progress to minimise that impact through innovation, research and development. The Vision sets out a number of outcomes in support of the sector continually working to minimise negative environmental impacts.

Q: What is the role of innovation in realising the vision?

- New technology and approaches, underpinned by sound science, have the potential to unlock opportunities in productivity, improved health and welfare and reductions in adverse environmental impact. The Vision recognised innovation as a key enabler of a sustainable sector and that the pace and scale of innovation in the sector is already considerable – we expect science, research and development to play a leading role in aquaculture’s sustainable development. We are working to develop long term innovation support arrangements.

Q: Does the vision consider the needs of communities?

- Communities which host aquaculture will be engaged in the sector’s development, share in its success and be supported through a range of lasting benefits including the provision of employment opportunities. We want communities to meaningfully contribute to aquaculture planning and to improve and streamline consenting. This will include working with and supporting local authorities to maximise the opportunities and benefits that are available to communities.

Q: How does the Vision respond to the climate crisis?

- Understanding, mitigating and adapting to climate change impacts is essential for the future success of the sector. Aquaculture will play its part in Scotland achieving net zero emissions by 2045 and transitioning to a zero waste and circular economy. The Vision includes a number of outcomes related to climate change and we will continue to support the sector to put in place climate resilience plans to manage the risks of climate change by 2029.

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Q: How does the Vision address the biodiversity crisis?

- The Vision anticipates the aquaculture sector will collaborate with other stakeholders to protect and restore biodiversity in the freshwater and marine environment. The aquaculture sector will continually work to minimise negative environmental impacts and collaborate with other stakeholders to protect and restore Scotland's biodiversity in the freshwater and marine environment. Aquaculture will play its part in Scotland halting biodiversity loss by 2030, and restoring and regenerating biodiversity by 2045.

Q: How will the Vision be realised?

- Delivering the Vision will require collaboration, openness and strategic action to be taken by all stakeholders. Some of the Vision's outcomes will be the responsibility of government to deliver and others will require our working in close partnership and collaboration with stakeholders. We look forward to working with everyone who has a stake in Scottish Aquaculture to make our vision a reality.
- We have already begun work across a range of aquaculture issues and will continue to partner with stakeholders to deliver the Vision.

Contact: [Redacted – Regulation 11(2)]

Date when the information was last updated/reviewed: 06/11/24

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FEED SUSTAINABILITY **ANNEX EE**

Some observers argue that utilising wild caught fish in feed for farmed fish is fundamentally inefficient and unnecessary.

The sustainability of wild caught forage fish stocks used in feeds is debated by some observers, and it is argued that the sustainability of salmon farming is over estimated due to a limited understanding of the sustainability of feed systems.

The use of fish oil and meal within farmed fish feeds has positive health benefits for fish and humans (e.g. omega-3) and a lower greenhouse gas (GHG) emissions profile than terrestrial ingredients (e.g. soy), reducing fish oil and meal composition can lead to reduced nutritional benefits and increased GHG profile.

Top Lines

- Fishmeal and fish oil are the most nutritious and digestible ingredients for farmed fish as well as a source of omega-3 fatty acids which is important for public health. It is important for farmed animal health and welfare to have nutritious feeds which can be easily absorbed, helping to ensure efficient production.
- Fishmeal and fish oil are used in the animal feed sector – including poultry, pigs, sheep, goats, farmed fish and pets. Fishmeal and fish oil are also used in fertilizers and by the pharmaceutical sector.
- Fisheries must be maintained and regulated within their maximum sustainable yield to avoid detrimental impacts. e.g. Krill is the most sustainably managed fishery in the world according to the Sustainable Fisheries Partnership, with the quota representing only 1% of the total biomass available.
- Fishmeal and fish oil have, in general, a relatively low carbon footprint compared to terrestrial ingredients.
- The salmon sector is working to reduce the use of wild caught ingredients and to find alternative sources of omega-3 fatty acids, for example through the introduction of omega-3 produced by algae or increased use of by-products within the fisheries and processing supply chain. Mialgae is a Scottish company working to reduce reliance on wild caught fish as a source of omega-3; it was supported in the Scottish Pavilion at Aqua Nor 2023 and has secured significant investment (>£10m) since then.
- Our Vision for Sustainable Aquaculture sets out our ambition to using 100% responsibly sourced marine and vegetable ingredients in finfish feeds, identifying opportunities to use a greater quantity of novel ingredients, trimmings and other by-products.

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Overview

- Fishmeal and fish oil are the most nutritious and digestible ingredients for farmed fish as well as a source of omega-3 fatty acids which is important for public health. It is important for farmed animal health and welfare to have nutritious feeds which can be easily absorbed, helping to ensure efficient production.
- Fishmeal and fish oil are the byproducts of smaller forage fish or low trophic levels such as anchovy, herring and krill. Forage fish play a critical role in marine ecosystems and a variety of species depend on them for food, and as such their capture is managed to protect the environment.
- Fisheries must be maintained and regulated within their maximum sustainable yield to avoid detrimental impacts. Scottish salmon feed mills ensure sustainability and responsible sourcing by purchasing fishmeal and fish oil through MSC, Marine Trust or certified Fisheries Improvement Program (FIP) for 100% of their feed production. Scottish salmon feed mills ensure traceability through delivery documents from suppliers such as Certificate of Analysis, Traceability certificates and 3rd-Party certifications.
- The Peruvian anchovy fishery is the world's largest single stock fishery and accounts for 20% of global fishmeal production in most years. Krill is the most sustainably managed fishery in the world according to the Sustainable Fisheries Partnership, with the quota representing only 1% of the total biomass available.
- Global farmed salmon is the biggest consumer of fish oil and is estimated to consume 60% of fish oil supplies.
- Fish feed is the costliest element of salmon farming and accounts for the largest proportion of carbon emissions in the salmon supply chain.
- Fishmeal and fish oil have, in general, a relatively low carbon footprint and score well in other quantifiable areas of sustainability – as measured in Life Cycle Analysis (LCA). Increasing reliance on terrestrial sources of protein and lipid has increased the environmental footprint of fish feeds.
- The fish farming sector is working to reduce the use of wild caught fish while maintaining low GHG emissions and nutritional benefits to fish and humans. The sector is also investing heavily in cameras and AI to increase feed conversion and efficiency further – this technology is helping to ensure feed is not wasted and reducing feed which reaches the sea floor.
- Salmon Scotland members are committed, through their Sustainability Charter, to deliver full traceability of the raw materials used in fish feed and to obtain 100% of feed ingredients from sustainable sources.
- Global farmed salmon is estimated to consume 23% of global fishmeal supplies and Scotland represents around 5% of global salmon supply (FAO data for global farmed salmon production 2022, Salmon Scotland 2022 production figures).
- Fish feed is the costliest element of salmon farming and accounts for the largest proportion of carbon emissions in the supply chain. Rough estimates suggest

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feed represents around 60% of the cost of salmon aquaculture, and 80% of the carbon footprint.

- Feed companies can have significant impact through their purchasing decisions on nutritional characteristics and GHG emissions.
- Growth in production in all aquaculture species is expected to be required to feed growing global populations.

Salmon feed ingredients

- A wide range of ingredients is used in the formulation of Atlantic salmon feeds. They are selected on the basis of available energy content and nutrient composition as determined through chemical analyses. They are broadly classified as to the source of protein, carbohydrates, essential fatty acids (lipids), vitamins and minerals.
- Several protein ingredients such as high-quality fishmeal, plant protein products (soybean meal, corn gluten meal, canola meal, pea meal) and crustacean meal (krill, shrimp, crab) are used in salmon feed formulation depending upon economics and availability.
- One of the major shifts in the selection of salmon feeds has been from the use of fishmeal and fish oils to terrestrial vegetable oils and plant proteins due to the high demand for marine products by the global aquaculture, agriculture and nutraceutical industries.

Challenges

- Marine ingredient availability – There is a growing global demand for fish meal and fish oil; as production of aquaculture animals (including salmon) increases so will demand for these ingredients which will likely result in increased costs. Whilst there has been a transition within the salmon feed sector towards replacement of marine ingredients with terrestrial ingredients there will always be a need for a proportion of fish feed to contain marine based proteins and lipids to ensure the nutritional requirements of farmed fish are met.
- Environmental impact – Salmon feed business sustainability statements all refer to ambitions to reduce their carbon emissions. The Cargill SeaFurther project states that feed represents between 80%-90% of salmon farming's carbon footprint.
- Sustainability – Salmon farmers are continually striving to demonstrate their products are sustainable. Two of the key areas that fall under scrutiny are the sourcing of feed ingredients and the overall carbon footprint of the sector, of which feed constitutes the largest component.

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Solutions

- Marine ingredient availability – Feed business will continually evaluate new raw materials including those which may expand the current basket of marine ingredients. As well as ensuring these new ingredients meet nutritional requirements, they must also be suitable to go through the feed production process and help create a product which is palatable to the fish as well as withstand logistic treatment and the environments in which it is fed. In addition, new ingredients must be available in large quantities, have a predictable supply all year round and be competitively priced.
- The proportion of fishmeal and fish oil produced from by-products – off cuts and waste from processing and other practices – is increasing. This means making more efficient use of the same resource and working towards a circular economy.
- Emerging marine ingredients include those derived from new capture species (such as krill, calanus and amphipods) expanded use of fisheries by-products (such as trimmings from processing) and microbial ingredients from land-based production (such as bacteria, yeast and microalgae)
- Environmental impact – Salmon farming and feed businesses all have webpages or publications covering their sustainability objectives. These reference the impact of feed on the overall carbon emissions of the salmon farming sector and point to several routes as to how a reduction carbon emissions can be achieved in relation to feed:
 - a. Identification of feed ingredients with lower carbon footprints including novel land-produced ingredients
 - b. Work with ingredient suppliers to find ways for them to reduce overall emissions (transport, packaging etc)
 - c. Increase the proportion of feed ingredients sourced domestically, as an example Scottish Sea farms reports that 45% of all raw materials used in their feed are sourced from within the UK
 - d. Increase the availability and use of by-products as feed ingredients such as fishery product trimmings
 - e. Optimisation of feed production and feed use on farms
- Sustainability – Salmon farmers and feed producers view accreditation as the main vehicle for demonstrating sustainability credentials in relation to the feed used on farms.
- Scottish feed producer statements on sustainability set out a consistent policy of no marine ingredients originating from IUU (Illegal, Unregulated and Unreported) catch or from fish species classified as endangered by the International Union for the Conservation of Nature (IUCN) red list. In addition,

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feed producers state that marine raw materials should be certified as responsibly sourced by either the Marine Stewardship Council or Marin Trust

- Feed businesses sustainability statements also reference requirements for accreditations for terrestrial ingredients, such as the need for soy protein suppliers to be certified by ProTerra.

Scottish salmon sector investment in novel feed ingredients

- The trialling and adoption of novel feed ingredients (such as algae sourced omega-3) will aid businesses in addressing the challenge of marine ingredient availability and also potentially lower carbon emissions associated with feed production.
- In terms of salmon farmers and feed producers' direct investment in novel feed ingredients, there is anecdotal evidence of, but limited publicly available information, direct investments in the development of these new ingredients or what specific ingredients feed businesses purchase.
- It is anticipated that investment in research and development of the novel ingredients themselves would be led by the biotechnology companies that produce these ingredients and associated research institutes. Salmon feed businesses would have a role in assessing these new ingredients to determine their suitability as a commercial feed ingredient.
- Algal oils are now considered a mainstream ingredient by feed companies, particularly as a source of omega-3. Biomar has reported that it has produced 1 million tonnes of feed containing a microalgae ingredient (AlgaPrime) across its international operations and Scottish Sea Farms have been using the microalgae supplemented feed.

An example of a diet/ program that is quantifiably sustainable and utilises marine ingredients is BioMar x Loch Duart Blue Impact collaboration. Here sustainability is measured against 3 metrics - FFDR (Forage fish dependency ratio), % restorative, Carbon footprint.

Criticism of feed sustainability

1. The journal *Science Advances* published an article entitled 'Feeding Global Aquaculture' on 16 October 2024.¹ This covers all forms of aquaculture, and its key conclusion is:

The expanded view of feeding global aquaculture offered here suggests that common sustainability accounting methods have been too narrow, overconfident in their precision, and overly optimistic. Both marine and terrestrial impacts are still highly uncertain, but these revised estimates suggest that the environmental

¹ [Feeding global aquaculture | Science Advances](#)

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impacts of this sector, in its current form and structure, are sufficiently large that directives to expand this sector on sustainability grounds should be reconsidered.

This has not yet received media attention, but campaigning organisations may well seek to bring it to the attention of journalists and politicians in due course.

2. 2022 Aqua Feed Study: [Maximising sustainable nutrient production from coupled fisheries-aquaculture systems | PLOS Sustainability and Transformation](#)

- The study argued that reducing marine feeds in salmon production and instead allocating that wild caught fish for human consumption could produce more seafood globally whilst leaving more fish in the sea.
- The study found that the process of farming salmon results in loss of micronutrient value from wild-caught fish which could be of value to human health. It suggested that 76% of the wild caught fish included in salmon feed were edible to humans.
- The study concludes that to manage growing pressure on wild fish populations whilst ensuring aquatic foods can contribute to micronutrient sufficiency in global diets, the aquaculture sector could consider alternative pathways for meeting seafood demand – such as other production species which use less fishmeal and fish oil inputs.
- It suggested limiting production of major fed-aquaculture species such as salmon to volumes that can be produced from fish by-products alone and creating new markets for wild-caught fish and aquaculture species requiring little or no feed (e.g. carp and mussels), could increase sustainable production of nutritious seafood.
- This study does not consider global diet preferences and what species can be grown where.
 - Forage fish are small, prone to breaking down, and are high in oils which oxidise rapidly. They thus need to be processed to enter the human food chain (directly, or through animal feed).
 - Freezing is inefficient and there isn't a market for frozen fish of this nature, and canning was explored very thoroughly and unsuccessfully by the Peruvian government.
 - Dehydrating (ie conversion to FM and FO) is the best, non-fresh methodology for preserving the nutrition, but direct use for the ingredients into human food is limited (strong taste/ smell represents a challenge).
 - 20% of FO is sold directly for human consumption in capsules (at a high price) and that market is saturated. The next best way to get that nutrition into the human supply chain is via an efficient farm animal.
- The findings support the existing trajectory for the salmon farming sector regarding feed sustainability.

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**Q: Is it not more efficient and thus sustainable to utilise wild caught fish
currently used in farmed fish feed for direct human consumption?**

The species used in feed are typically small, prone to breaking down, and are high in oils which oxidise rapidly. This makes their use in the human food chain without processing extremely difficult. Freezing is inefficient, canning was explored very thoroughly and unsuccessfully by the Peruvian government and dehydrating can lead to strong tastes and odours which are unattractive to consumers. Use in farmed fish feed is thus an effective and efficient way to get that nutrition into the human supply chain via an efficient farm animal.

**Q: Is the Scottish Government concerned that forage fish are at times being
imported from South America in order to provide feed for Scottish Farmed
salmon?**

The Scottish salmon sector ensures sustainability by purchasing fishmeal and fish oil through MSC, Marine Trust or certified Fisheries Improvement Program (FIP) suppliers for 100% of their feed production. Fisheries must be maintained and regulated within their maximum sustainable yield to avoid detrimental impacts and source traceability is ensured through Certificates of Analysis or Traceability and 3rd-Party certifications. The Peruvian anchovy fishery is the world's largest single stock fishery and accounts for 20% of global fishmeal production in most years. Krill is the most sustainably managed fishery in the world according to the Sustainable Fisheries Partnership, with the quota representing only 1% of the total biomass available. While there is always an opportunity to improve in any system, we are satisfied that the Scottish salmon sector sources feed ingredients in a sustainable manner. The GHG emissions profile of farmed salmon remains lower than many other terrestrial sources of protein.

Contact: [Redacted – Regulation 11(2)]

Date when the information was last updated/reviewed: 06/11/24

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CROWN ESTATE SCOTLAND

ANNEX FF

Crown Estate Scotland (CES) Key Facts

- CES' core role is to invest in property, natural resources, and people to generate lasting value for Scotland.
- CES is distinct to other public bodies and that of core Scottish Government they do not derive their funding from Scottish Government.
- CES is a revenue-raising public corporation – the money CES use to run the business and invest is raised through managing the Scottish Crown Estate.
- The total property value of the Scottish Crown Estate (SCE) as at March 2023 was £653.1 million.
- CES has a duty under the Scottish Crown Estate Act 2019 to maintain and seek to enhance the value of the SCE assets and the income arising from them.
- Net revenues from SCE marine assets out to 12 nautical miles are passed by Scottish Government to coastal Local Authorities to spend on delivering benefits for coastal communities.
- £50.5 million has been passed on to Local Authorities for community spend since 2019.
- CES operates within a broad framework agreement, set out in The Crown Estate Scotland Framework Document 2020, which defines the relationship between Scottish Government and CES. The Framework Document forms a critical part of accountability and governance arrangements between Scottish Government and CES and must be periodically reviewed and updated by the sponsor team in consultation with CES and others. It is currently under review.
- CES are also developing a new Corporate Plan over the next year to cover 2026-2031.

TOP LINES:

PfG Commitment

- The PfG 2024-25 commits to review CES' governance and operating model to optimise economic growth and sustainable wealth generation in Scotland; and champion CES' unique ability to deliver both community and national benefit and help mitigate against climate change, particularly in helping deliver the supply chain side of the offshore renewables expansion, ensuring the benefits are there for the long term.
- Now is a good time for Scottish Government to review its relationship with CES to ensure it continues to be fit for purpose and effective, through maximising investment to maintain and grow the value of its assets, operating in line with Ministerial priorities and contributing to the public good.

How CES can help deliver Ministerial priorities

- Crown Estate Scotland is well positioned as the Scottish Crown Estate to support the delivery of Ministerial priorities, particularly in terms of helping us to realise the many opportunities that exist for the growth of a fairer, greener, wellbeing economy and in how we respond to, mitigate and adapt to climate change.

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- Crown Estate Scotland have a role working with government and partners to optimise seabed use in a way that balances public interest with commercial opportunity. Crown Estate Scotland also continue to support and enable growth of the supply chain and energy ports to help unlock the economic, social and environmental potential of the ‘Blue Economy’.

REC COMMITTEE RECOMMENDATIONS RELEVANT TO CES

43. The Committee is of the view that there is a need for both sectors to co-exist and it considers it to be essential that there is greater collaboration to resolve local management issues and other areas of concern.

44. The Committee recommends that mechanisms to encourage such collaboration between the sectors should be further developed and introduced. It further recommends that the Scottish Government’s wild salmon interactions group should, as part of its work, address this matter as a priority.

RESPONSE

- Crown Estate Scotland implemented new lease terms January 2023 that required aquaculture lease holders to report on sustainability. The purpose of the reporting lease term is to enable tenants to report on matters which are above regulation that demonstrate responsible stewardship of a shared marine space. Under this lease term finfish farmers are required to submit on a yearly basis a report that states where tenants (finfish farmers salmon/trout) are working together to manage an area to control sea lice and the management of plastics.
- The first reporting due date was 31 January 2024 and reports have been submitted by tenants. Crown Estate Scotland will publish these reports on a yearly basis.
- Crown Estate Scotland is committed to funding the Aquaculture Interactions post at Fisheries Management Scotland, a three-year contract is in place (2023-26). This is a continuation of the previous three years of co-funding between SG and CES for this post.
- The post holder is working to identify collaborative projects for the wild and farmed salmon sectors with the aim to improve relationships through collaborative working. The post holder represents Fisheries Management Scotland on the collaborative working groups established by the Scottish Environment Protection Agency to develop delivery plans for monitoring needed under the sea lice risk assessment framework.
- The pilot pre-application process for finfish farming currently underway includes provision for engagement with local interests, including communities and other users of the marine area.

REC COMMITTEE RECOMMENDATION

65. The Committee notes the indication that consideration of licence auctions for farmed salmon sites will be included as part of the Scottish Government’s consenting review. It also notes the Cabinet Secretary’s suggestion that licence fee structures could be used in Scotland to incentivise the use of new technologies. However, the Committee cautions that careful thought would have to be given as to how the implementation of any such measures would ensure a fair market and avoid smaller operators and local communities being marginalised or excluded. The Committee calls on the Scottish Government to provide it with details of the outcomes of its consideration of these matters in due course.

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RESPONSE

- Crown Estate Scotland’s recent Aquaculture Lease Review included consideration of prospects for auctioning of the seabed, as undertaken by Norway for salmon farming, as part of its consideration of potential revenue options.
- Crown Estate Scotland concluded that auctioning was not a viable means of revenue generation in the prevailing regulatory and market conditions in Scotland. Instead, the review found that seabed lease fees for fish farms should increase, in line with the value of Scotland’s seabed
- New rental charges for Crown Estate Scotland Aquaculture tenants were implemented January 2023. This has resulted in the revenue doubling 2022-23 from over £5,000,000 2022 (~£5,338,782) to over £10,000,000 in 2023 (~£10,714,934).
- The new rental charges were staggered for the finfish sector. A further increase in rental charges will be implemented January 2026. The new rental structure is based on the market price of fish and will fluctuate but revenue will increase by another 0.5% of the market price.
- The Scottish Environment Protection Agency recently updated its fees for Controlled Activities Regulations licence applications, with significant reductions for technologies that capture waste.

CROWN ESTATE SCOTLAND AQUACULTURE LEASE REVIEW

Background

In August 2019 Crown Estate Scotland launched a comprehensive ‘root and branch’ review of how Scotland’s seabed is leased for aquaculture. The review was completed in January 2022, resulting in changes to rents as well as new reporting requirements on the use of plastics and, for finfish operators, participation in agreements to manage cumulative impacts.

The review covered all aquaculture sectors and explored and recommended rent and lease terms that:

- Ensure rents fully reflect market value (profits from rents paid to Crown Estate Scotland are passed to Scottish Government for public spending);
- Drive sustainable performance; and
- Incentivise effective use of the seabed as a shared resource.

The overall charge for finfish producers will be 1.5% of production turnover (through phased introduction of the reviewed terms), putting producers on a level playing field with other commercial users of the seabed.

Revised terms support implementation of the Scottish Crown Estate Act 2019 specifically regarding managing assets in a way that maintains and enhances value, generates return and promotes sustainable development.

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TOP LINES:

- Through Crown Estate Scotland's Net Revenue Scheme, all net revenue from CES marine assets out to 12 nautical miles are distributed to local authorities for the purpose of coastal community benefit.
- New rental charges for Crown Estate Scotland Aquaculture tenants were implemented in January 2023. This has resulted in the revenue doubling 2022-23 from over £5,000,000 in 2022 (~£5,338,782) to over £10,000,000 in 2023 (~£10,714,934).
- Lease fees will further increase from 1% to 1.5% of notional turnover in 2026, increasing aquaculture's contribution to around £15m.
- £50.5 million in total has been passed on to Local Authorities for community spend since 2019, through the Net Revenue Scheme.

CALLS FOR USE OF CES REVENUES FOR HOUSING

Background

Salmon Scotland have repeatedly called for the ring fencing of CES revenues from aquaculture for rural housing purposes. Current arrangements for the distribution of these funds through the Consolidated Fund were negotiated with local authorities and COSLA and the Scottish Government is committed to this arrangement and believes local authorities to be well placed to make decisions in their own areas.

TOP LINES

- Through Crown Estate Scotland's Net Revenue Scheme, all net revenue from CES marine assets out to 12 nautical miles are distributed to local authorities for the purpose of coastal community benefit
- The arrangements for the distribution of these funds were negotiated with local authorities and COSLA and the Scottish Government is committed to this arrangement and believes local authorities to be well placed to make decisions in their own areas.
- Recent increases to fish farm lease fees will provide additional funding to local authorities to be used for coastal community benefit.
- There are existing examples of the fish farming sector, Scottish Government, local authorities and community councils working in partnership to deliver housing requirements. For example, the affordable housing project on Colonsay worth £3,124,178.
- We understand that Salmon Scotland have held discussions Chief Executives of CES and a number of local authorities on this matter and are pleased to hear that discussions on creative solutions to supporting local housing development are continuing.

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ON AUCTIONING OF CES LEASES

Background

RECOMMENDATION 65 of the first Committee inquiry report notes the indication that consideration of licence auctions for farmed salmon sites will be included as part of the Scottish Government's consenting review and calls for an update in due course.

Following an analysis of the market and regulatory system in Norway and comparison to Scotland, CES concluded that the auctioning of seabed interest is not a realistic or feasible prospect in the prevailing regulatory and industry circumstances in Scotland

The review details the structural differences between consenting and licencing processes in Norway and Scotland and also the differing structure of the industries. In Norway, the market demand at auction consists of over 40 salmon farming businesses, depending on the regional division of licences made available. In Scotland a similar demand is realistically limited to 4 multinationals given smaller Scottish companies are unlikely to have the resources to compete.

TOP LINES:

- Crown Estate Scotland's recent Aquaculture Lease Review included consideration of prospects for auctioning of the seabed, as undertaken by Norway for salmon farming, as part of its consideration of potential revenue options.
- Crown Estate Scotland concluded that auctioning was not a viable means of revenue generation in the prevailing regulatory and market conditions in Scotland. Instead, the review found that seabed lease fees for fish farms should increase, in line with the value of Scotland's seabed
- New rental charges for Crown Estate Scotland Aquaculture tenants were implemented in January 2023. This has resulted in the revenue doubling 2022-23 from over £5,000,000 in 2022 (~£5,338,782) to over £10,000,000 in 2023 (~£10,714,934).
- Lease fees will further increase from 1% to 1.5% of notional turnover in 2026, increasing aquaculture's contribution to around £15m.

CES GOVERNANCE Q&A

Q: How CAN Crown Estate Scotland help deliver Ministerial priorities?

- Crown Estate Scotland is well positioned as a manager of the Scottish Crown Estate to support the delivery of Ministerial priorities, particularly in terms of helping us to realise the many opportunities that exist for the growth of a fairer, greener, wellbeing economy and in how we respond to, mitigate and adapt to climate change.

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- The PfG 2024-25 commits to review CES' governance and operating model to optimise economic growth and sustainable wealth generation in Scotland; and champion CES' unique ability to deliver both community and national benefit and help mitigate against climate change, particularly in helping deliver the supply chain side of the offshore renewables expansion, ensuring the benefits are there for the long term.
- Now is a good time for Scottish Government to review its relationship with CES to ensure it continues to be fit for purpose and effective, through maximising investment to maintain and grow the value of its assets, operating in line with Ministerial priorities and contributing to the public good.

Q: How is CES governed?

- CES operates within a broad framework agreement, set out in The Crown Estate Scotland Framework Document 2020, which defines the relationship between Scottish Government and CES.
- The Framework Document forms a critical part of accountability and governance arrangements between Scottish Government and CES and must be periodically reviewed and updated in consultation with CES and others.
- This Framework agreement is under review as part of the PfG 2024-25

Q: Is the review of Crown Estate Scotland announced in the PfG an 'admission' the Scottish Government had got it wrong. (Common weal media enquiry 05/09)

- All public bodies in Scotland work within a framework of governance and accountability set by Ministers and the agreements on these frameworks are periodically reviewed.
- Since Crown Estate Scotland's last agreement in 2020, the landscape has changed with offshore wind now being a key revenue generator within the Scottish Crown Estate.
- The review of Crown Estate Scotland will ensure that it continues to deliver for the people of Scotland by maximising investment and growing the value of its assets.
- All net revenue profit generated by Crown Estate Scotland is passed to the Scottish Government for public spending, in line with Ministerial priorities.

Q: How much revenue has CES passed to local authorities to benefit communities?

- CES is a revenue-raising public corporation. Net revenues from Scottish marine assets out to 12 nautical miles are passed via Scottish Government to coastal Local Authorities to spend on delivering benefits for coastal communities.
- £50.5 million has been passed on to Local Authorities for community spend since 2019.

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Q: When will this year’s allocations of net revenue payments by made to Local Authorities?

- I am unable to confirm when payments of net revenues from Scottish Crown Estate marine assets within 12 nautical miles to Local Authorities will be made this financial year, but we aim to provide an update to COSLA and Local Authorities as soon as possible.

[for awareness only – 2024-25 allocations are based on revenues generated in 2022-23 (period includes revenues from ScotWind option fees). £96 million of ScotWind revenues were deployed in 2022-23 to support the overall financial position.]

Q: Will the allocations include revenue raised from ScotWind Revenues?

- ScotWind revenues will be considered separately to the existing commitment to distribute the net revenue generated by Scottish Crown Estate marine assets out to 12 nautical miles to coastal local authority areas for coastal community benefit.
- Decisions on profiling of this income are made at each fiscal event, based on the latest fiscal circumstances.

CROWN ESTATE SCOTLAND – GB ENERGY

ISSUE (GB Energy)

UK Bills

- On 25 July, UKG tabled the GB Energy Bill in the House of Commons. The Bill will make provision about Great British Energy, a wholly Crown-owned energy company limited by shares. A Scottish Legislative Consent Memorandum (LCM) was required for this Bill and lodged in the Scottish Parliament on 8 August 2024.
- The UK Government also tabled the Crown Estate Bill (“CE Bill”) on 25 July, in the House of Lords, and announced a new partnership between GB Energy and The Crown Estate (TCE). The CE Bill seeks to modernise TCE to ensure it can operate effectively in a modern business environment and support wider policy objectives across energy security, growth and the environment. The CE Bill amends various aspects of the constitution and governance arrangements for TCE. Of most significance, the CE Bill establishes that HM Treasury may (a) arrange for loans to be issued to TCE Commissioners out of the National Loans Fund and (b) provide financial assistance (including by way of loan) to the Commissioners out of funds provided by Parliament.
- The provisions of the CE Bill extend to England, Scotland, Wales and Northern Ireland. Although the CE Bill extends to Scotland, this should be distinguished from application, there are no provisions within the CE Bill that apply to CES or the Scottish Ministers. An LCM is not required at this time. We will continue to

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monitor the progress of this Bill and keep under consideration whether an LCM may be required in light of any new amendments.

TOP LINES

GB Energy Bill & GB Crown Estate Bill

- Officials are working closely with UK counterparts and will continue to monitor as the Bills progress.

Q: How will the GB Energy announcement impact Scotland?

- The Scottish Government welcomes that this has been recognised by the UK Government through its decision to locate the headquarters of GB Energy in Scotland.
- SG have been working with UKG counterparts to understand more about how the GB Energy could be developed to provide maximum opportunity for Scotland, both in terms of areas where GB Energy can provide investment to support new development in Scotland, and in terms of complementing existing Scottish public sector support and investment for projects.
- In our engagements with the UK Government, we are making clear our expectations that GB Energy must deliver real benefits for the people of Scotland and support our efforts for a just transition to net zero by 2045.

Q: Will Crown Estate Scotland have a role to play In GB Energy?

- Crown Estate Scotland as managers of the Scottish seabed will have a role to play.
- Crown Estate Scotland have a role working with government and partners to optimise seabed use in a way that balances public interest with commercial opportunity. Crown Estate Scotland also continue to support and enable growth of the supply chain and energy ports to help unlock the economic, social and environmental potential of the 'Blue Economy'.
- Crown Estate Scotland noted in response to the announcement that "Crown Estate Scotland is keen to work with any and all organisations to help create a sustainable future for Scotland and we look forward to working in collaboration with GB Energy as well as continuing to enhance our already strong relationship with The Crown Estate."

Q: How will the GB Energy Bill & GB Crown Estate Bill impact on Scotland?

- The GB Energy Bill will make provision about Great British Energy, a wholly Crown-owned energy company limited by shares. A Scottish Legislative Consent Memorandum was required for this Bill and lodged in the Scottish Parliament on 8 August 2024.
- The Scottish Government welcomes that the UK Government through its decision to locate the headquarters of GB Energy in Scotland.

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- The CE Bill seeks to modernise The Crown Estate to ensure it can operate effectively in a modern business environment and support wider policy objectives across energy security, growth and the environment. While the provisions of the CE Bill extend to England, Scotland, Wales and Northern Ireland, this should be distinguished from application, there are no provisions within the CE Bill that apply to CES or the Scottish Ministers. An LCM is not required at this time. We will continue to monitor the progress of this Bill and keep under consideration whether an LCM may be required in light of any new amendments.
- Officials are working closely with UK counterparts and will continue to monitor as the Bills progress.

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ANNEX GG

NON-LETHAL METHODS TO ADDRESS SEAL INTERACTIONS (INCL.
ACOUSTIC DETERRENT DEVICES (ADDS))

COMMITTEE RECOMMENDATIONS AND RESPONSES

Recommendation 34: The Committee shares the view of the ECCLR Committee that such physical barriers should be used ahead of deterrents such as Acoustic Deterrent Devices which potentially have a harmful impact on cetacean species such as whales and dolphins. The Committee considers it important that the use of such devices is fully assessed, and it welcomes the fact that Marine Scotland has been asked to review the science to inform future policy in this area. It looks forward to an update on this from the Scottish Government in due course.

Progress:

On development of the evidence base:

- The Scottish Government published the Parliamentary Report ‘Aquaculture – Acoustic Deterrent Device (ADD) use’ in March 2021, which reviewed the scientific evidence at the time on the potential impacts of Acoustic Deterrent Devices.
- The report identified a need to improve the evidence base for ADDs through research and monitoring, and more systematic information recording.
- We are aware that the Sustainable Aquaculture Innovation Centre (SAIC) is currently funding research to improve the evidence base for ADDs, following the recommended methodology identified in the Parliamentary Report and will consider the findings of this research when available.

On Non-lethal methods use (including ADDs):

- There is now no widespread use of ADDs in Scottish Aquaculture. A Code of Practice on interactions with marine mammals was published in November 2021 with mandatory standards with which aquaculture production businesses are required to comply, including in relation to the use of ADDs.
- It requires that where a fish farm plans to deploy an ADD they must consult Marine Directorate and obtain relevant consents or demonstrate to Marine Directorate that its planned use will not harm marine mammals.
- Marine Directorate has written to the aquaculture sector on several occasions setting out what actions they should take to ensure that their use of ADDs is compliant with the Code of Practice and the Habitat Regulations.
- Under the Code of Practice, aquaculture businesses must report all use of containment measures to deter marine mammals on an annual basis to Marine Directorate.
- In 2023 the majority of businesses reported using toughened/reinforced pen netting, tensioned pen nets, and dead fish removal systems to address marine mammal interactions.

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Recommendation 35: The Committee considers it to be important that this work results in the production of appropriate guidelines and best practice advice for use by the industry in responding to various scenarios, such as when **seals** are trapped in salmon farm cages or in nets.

Progress:

- The Aquaculture Code of Practice: Containment of and Prevention of Escape of Fish on Fish Farms in relation to Marine Mammal Interactions September 2021 and approved by Order on 22 November 2021.
- The Code provides a combination of practical guidance for Aquaculture Production Businesses (APBs), together with mandatory standards with which APBs must comply.
- Practical guidance included in the Code includes recommendations on appropriate containment measures; guidance on the legal and regulatory framework on the use of ADDs; and guidance on the use of novel containment measures.
- The Crown Estate and Marine Directorate commissioned a review of non-lethal seal control options to limit seal predation on salmonids in rivers and at finfish farms, which was published in 2021. This report includes discussion of non-lethal removal of seals from fish farm cages.

If pressed:

- In 2023 the Scottish Government asked SCOS for advice on the extent to which seals trapped in aquaculture facilities can be considered as suffering, to help inform decision-making in these scenarios.
- The Scottish Government also asked SCOS for advice on non-lethal measures available to remove seals caught within fish farm cages in 2019 and 2020.
- Best practice is likely to change as both technology and knowledge improve. Marine Directorate will continue to keep this under review in terms of the requirements of the Code.

Recommendation 36: The Committee also looks forward to an update from the Scottish Government on its investigations into how the upcoming legislation change in the United States regarding **seal** shooting may negatively impact on its imports of Scottish salmon.

Progress:

- The UK submitted its comparability finding in relation to the US Marine Mammal Protection Act (MMPA) in November 2021.
- We are awaiting the publication of the US' findings. These were originally due to be published in November 2022, but publication has been delayed until 31 December 2025.
- We will keep the Committee updated on the outcome of the US MMPA comparability findings.
- Changes to the Marine (Scotland) Act 2010 came into force on 1 February 2021 removing two grounds for which Scottish Ministers can grant licences to take or kill seals.

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- These are for the purpose of protecting the health and welfare of farmed fish and for preventing serious damage to fisheries and fish farms.
- The changes to the seal licensing system in 2021 were introduced to improve the conservation and welfare of seals in Scotland, but also ensured alignment with the US MMPA.

TOP LINES:

- Scottish Government is committed to the sustainable development of the aquaculture industry while protecting our iconic marine wildlife.
- A [Code of Practice](#) on interactions with marine mammals was published in 2021 which sets out mandatory standards with which aquaculture production businesses are required to comply, including in relation to the use of ADDs.
- This requires that where a fish farm plans to deploy an ADD they must consult Marine Directorate and obtain the relevant consents or demonstrate to Marine Directorate that their planned use will not harm marine mammals.
- Compliance continues to inspect fish farms to ensure compliance with the Habitats Regulations and Code of Practice in relation to the use of ADDs. Inspections are based on risk which is determined by intelligence received from a variety of sources and evidence of previous use of ADDs
- 167 inspections between January 2022 and June 2024 have been undertaken and there has been no non-compliance found since August 2022.
- We recognise there are issues relating to seal interactions at fish farms and, encourage the development of non-lethal solutions to this problem.

Q: How are seal interactions with fish farms now regulated?

- A Code of Practice on interactions with marine mammals was published in 2021 - it sets out mandatory standards with which aquaculture production businesses are required to comply, including in relation to the use of ADDs.
- Under the Code of Practice, aquaculture businesses must report all use of containment measures to deter marine mammals on an annual basis to Marine Directorate.
- Fish farmers who plan to use an ADD must consult Marine Directorate and obtain a European Protected Species Licences or demonstrate to Marine Directorate that their planned use will not harm marine mammals.
- Marine Directorate Compliance undertakes risk-based surveillance to detect the use of acoustic deterrence devices at fish farms - between January 2022 and June 2024 167 inspections were undertaken.
- No devices have been detected installed on farms since August 2022, there is now full compliance - officers will continue to undertake assurance checks when operationally appropriate

If pressed on cases of non-compliance:

- One site was found to be using these devices and received an enforcement notice, after which they were removed. Additionally, 20 other sites were found to have these devices installed but not in use- all of which were in the first year of inspections.

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Q: What seal management options are available to aquaculture production businesses?

- The Aquaculture Code of Practice includes practical guidance on containment measures for Aquaculture Production Businesses (APBs), together with mandatory standards with which APBs must comply.
- Methods identified in this report include anti-predator nets, appropriate net tensioning, and removal of dead fish to limit opportunities for predation.
- The Crown Estate and Marine Directorate also commissioned a review of non-lethal seal control options to limit seal predation on salmonids in rivers and at finfish farms, which was published in 2021.

Q: Does the sector still wish to use ADDs?

- Seals pose a significant threat to the fish health and welfare – they can cause direct mortality via attacks through nets with risk of damage to nets and escapes, and also indirectly by causing stress which makes them susceptible to other health challenges .
- Pressure of sea interactions vary from area to area, and different businesses have taken different stances on the use of ADDS.
- It is worth noting that not every alternative is suitable for use at every site, some local conditions or particular health challenges mean not every alternative can be deployed
- Some producers consider the impact of predatory behaviour to be significant enough to warrant the use of ADDs as one tool, and for those companies the use of ADDS under licence would be their preferred option.

Q: How many successful EPS applications have been received by MD-LOT- is the bar too high?

- It is for aquaculture production business to determine if an EPS is required, and it is for applicants to demonstrate how they meet the licensing tests- this is a consistent approach across all marine sectors
- In October 2020 Marine Directorate Licencing and Operations (MD-LOT) issued an Information Note for Finfish Farms Operators on the use of Acoustic Deterrent Devices, and the requirement for a European Protected Species Licence- they will engage appropriately with applicants and request further information to help them make a determination.
- Since November 2020 to the present MD-LOT has received 7 applications to disturb European protected species covering a total of 22 different sites. Thus far, no ADD has been granted an EPS licence.
- There have been several licences approved for scientific purposes to help further build the evidence base for ADDs.

[Redacted – Regulation 10(4)(e)]

Q: Has Marine Directorate supported the development or testing of any ADDs?

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- Scottish Government previously supported research to explore the use of startle technology as a potential deterrent tool. The research was used as a basis to commercially develop an acoustic startle device.
- Marine Directorate continues to support research in river fisheries to address seal/fisheries interactions, which includes research into ADDs. A range of devices have been used as part of this research.
- The current phase of this project is testing a proof-of-concept seal detect and deter system, although this could be applied to any combination of devices.

Q: Can you provide an update on the MMPA and timelines for a response?

- We are awaiting the publication of the US's findings which is due by 31 December 2025, with the provisions coming into force from 1 January 2026.

Q: Can you provide an update on discussions with the US on ADDs and wider non-lethal measures?

- NOAA consulted in 2020 on draft guidelines for safely deterring marine mammals. We are awaiting further clarification from NOAA as to the outcome of this consultation.

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ANNEX HH

MARINE FUND SCOTLAND

Background

In its last spending review (in Autumn 2021), the UK Government allocated £14 million per annum from 2022/23 to 2024/25 to Scotland specifically for marine and fisheries funding. We use this funding to deliver the Marine Fund Scotland (MFS). This replaces the previous scheme we administered when we were members of the EU, namely the European Maritime and Fisheries Fund (EMFF). We redesigned the MFS in 2022/23 to be focused on Scotland's Blue Economy Outcomes.

The MFS comprises two strands of grant funding. The first strand is a competitive grant funding scheme, and the second strand consists of direct grant funding to projects that are of strategic importance/directly deliver SG priorities and which deliver collective benefits to the marine sectors.

TOP LINES:

- Our marine sectors are important parts of Scotland's Blue Economy, supporting jobs and communities right around our coastline and throughout our islands.
- Funding is an important lever in our efforts to support innovation and development in our marine sectors, to help achieve sustainable management and shared stewardship of Scotland's Sea and coasts in the face of the long-term challenges of climate change and biodiversity loss.
- The Scottish Government has a strong record of supporting our marine sectors through the European Maritime and Fisheries Fund, and the Marine Fund Scotland.
- Since its establishment in 2021 the Marine Fund Scotland has awarded £14million to aquaculture businesses to support sustainable development. (2021/22 - £3.9m, 2022/23 - £3m, 2023/24 - £2.6m, 2024/25 - £4.5m).

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ANNEX II

EU EXIT: BORDER TARGET OPERATING MODEL

ISSUE: New post-Brexit import controls are being implemented at the GB border. Some EU goods are now being checked entering GB for the first time since leaving the single market. Goods from elsewhere see changes under the new model too.

Critical elements of the model remain outstanding. It has not gone live for inbound goods from Ireland and Northern Ireland while the model's interactions with the Windsor Framework are still to be determined. Anti-avoidance schemes to deter illicit trade and underpinning legislation remain in development.

TOP LINES

As a result of Brexit we must introduce import controls to deliver biosecurity protections for Scotland.

- Checks are necessary to protect our people, businesses and environment from the biosecurity risks that can come with different types of commodities entering the country. This is normal practice.
- We have worked pragmatically to balance the need for introducing these important controls with minimizing any resultant burdens on traders. For instance, the new model brings in a sliding scale of checks, depending on the level of product risk.
- But fundamentally, the Scottish Government is clear that the best set of trading relationships for Scotland are to be found as an independent member of the EU.

There are several outstanding issues with the model that we are keen to work with the new UK Government, and other Devolved Governments, to address.

- The Scottish Government is ready to work collaboratively with the new UK and Devolved Governments to deter illicit trade and protect our biosecurity, people, and environment
- The previous UK Government did not deliver proportionate and workable solutions for trade moving from Ireland and Northern Ireland to Great Britain. As a result, the current model is not operational across GB's 'west coast'. Practical operational solutions are still required. We want to work collaboratively to develop solutions.
- Additionally, the BTOM – as published in August 2023 – sets out that certain checks could be introduced across 'west coast' ports soon after 31st October 2024. Both Scottish and Welsh Governments have made public their view that this date will not hold. Underpinning legislation being progressed by UKG suggests a delay to Summer 2025. However, to reduce confusion for stakeholders, UKG must immediately set out clearly to industry that these checks will not commence this year.

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A potential UK-EU Veterinary/SPS Agreement

- The Scottish Government repeatedly called for the previous UK Government to negotiate a comprehensive SPS and Veterinary Agreement with the EU, which would remove the need for many of these checks.
- The new UK Administration has indicated a willingness to open negotiations with the EU on such an agreement, and the Scottish Government stands ready to work together to achieve the best results possible to protect Scotland's interests
- It is our view that any such agreement should be comprehensive, broad and deep. Given devolved aspects, the Devolved Governments should be central to negotiations.
- Such an agreement could have significant benefits for key Scottish export products, as well as reducing barriers to trade with the EU – our largest single export market.
- The Scottish Government has recently set out our position in a short paper available on our website [[Trading arrangements with the EU - gov.scot](https://www.gov.scot/trading-arrangements-with-the-eu) (www.gov.scot)]]

How does the BTOM interact with a Veterinary/SPS Agreement?

- Until the UK Government negotiates a comprehensive Veterinary and SPS Agreement with the EU, all governments across the UK will have to deliver appropriate biosecurity protections – in line with the outstanding elements of the BTOM – in order to protect our people, businesses and environment.

Contact: [Redacted – Regulation 11(2)], **International Trade Policy**

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EU Exit Food and Drink, Customs and Borders

ISSUE: The food and drink sector in Scotland and across the UK has undoubtedly borne the brunt of the UK Government's hard Brexit, which has disrupted supply chains, created new barriers to trade and driven up food prices.

31 Jan 2024: New import controls, part of the UKG Border Target Operating Model (BTOM) implemented.

30 Apr 2024: Further checks under the BTOM introduced to bring in physical checks.

TOP LINES

Scotland is paying a high price for a Brexit that it didn't vote for and the full economic consequences of exiting the EU are still to be realised.

- Evidence indicates that Brexit is responsible for a third of food price inflation, and that UK households have paid £7bn to cover the cost of post-Brexit trade barriers on food imports from the EU.
- Scottish Ministers called on the previous UK Government to provide additional support for people and businesses in Scotland struggling to cope with cost-of-living pressures.
- However, businesses now face additional expense when trading, and some food producers have found that their goods can no longer be exported to the EU.
- We welcome the new UK Government's commitment to reset the relationship with devolved governments and look forward to working collaboratively with them to support the food and drink sector in Scotland.

ANALYSIS OF IMPACTS OF EU EXIT ON FOOD AND DRINK

High input costs, including energy, have a knock of effect on food production costs and are undoubtedly contributing to overall food price inflation.

- Research by the LSE Centre of Economic Performance suggests UK households have paid £7bn to cover the cost of post-Brexit trade barriers on food imports from the EU – pushing up average household food costs by £250 since December 2019, and disproportionately impacting low-income households who spend a greater proportion of their income on food.
- The food and drink growth sector is a major contributor to Scotland's economy and is Scotland's biggest, non-energy, export. In 2020, the sector generated turnover worth around £15 billion and added some £5.4 billion in Gross Value Added or GVA.
- In 2022, there were around 17,495 food and drink enterprises registered in Scotland, which employed around 125,000 people. (Scottish Government Growth Sector Statistics Publication – December 2023).
- Trade with the EU is important to consumers with approximately 28% of the food eaten in the UK imported from the EU.

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- The Scottish food and drink sector continues to be hit hard by recent shocks to the system and Scottish businesses are being burdened by EU-Exit red tape, making it harder for our exporters to ship Scottish goods to Northern Ireland and to the EU.

Contact: [Redacted – Regulation 11(2)], **Food & Drink Division**

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ANNEX JJ

GOOD FOOD NATION PLANS

Background

- The Good Food Nation (Scotland) Act places duties on Scottish Ministers and relevant authorities to produce plans of their policies in relation to food and set out what they will do to make those plans real.
- The first national good food nation plan will be laid in draft before the Scottish Parliament within 12 months of commencement of the relevant provisions of the Good Food Nation (Scotland) Act, i.e. no later than 30 June 2025.
- The draft national Good Food Nation Plan will be laid before Parliament in 2025.
- Relevant authority Good Food Nation Plans must be published within 12 months of commencement of the relevant provisions of the Good Food Nation (Scotland) Act.
- The Good Food Nation (Scotland) Act requires that Scottish Ministers and relevant authorities consult widely during the preparation of their good food nation plans.
- Scottish Ministers and relevant authorities must report every two years on the progress towards achieving the outcomes set out in their Good Food Nation Plans.
- Plans must be reviewed at least every five years. Following this review, Scottish Ministers and relevant authorities may decide to revise the plans.

TOP LINES:

- We want Scotland to be a Good Food Nation where people from every walk of life take pride and pleasure in, and benefit from, the food they produce, buy, cook, serve, and eat each day.
- The Good Food Nation (Scotland) Act 2022 provided the framework for our future food strategy to build our Good Food Nation. It places duties on Scottish Ministers, local authorities and health boards to produce plans of their policies in relation to food and set out what they will do to make those plans real.
- This Plan outlines not just what a Good Food Nation will look like but also what we need to do to get there and how we will measure our progress along the way.

Q&A

Q: When will the analysis of the consultation on the national Good Food Nation Plan be published?

- The consultation analysis was published on 27 September 2024. In addition, when the Plan is laid in front of the Scottish Parliament it will be accompanied by a statement summarising how the consultation was carried out and what responses were received.

Q: When will the national Good Food Nation Plan be published?

- The national Good Food Nation Plan must be laid in draft before the Scottish Parliament no later than 30 June 2025. Parliament will then have a 60-day scrutiny period, and the Scottish Government will have three months to finalise the Plan. We expect the final Plan to be published in the latter half of 2025.

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Q: Why have you created a Good Food Nation Plan?

- We want Scotland to be a Good Food Nation where people from every walk of life take pride and pleasure in, and benefit from, the food they produce, buy, cook, serve, and eat each day.
- The Good Food Nation (Scotland) Act 2022 provided the framework for our future food strategy to build our Good Food Nation. It places duties on Scottish Ministers, local authorities and health boards to produce plans of their policies in relation to food and set out what they will do to make those plans real.
- This Plan outlines not just what a Good Food Nation will look like but also what we need to do to get there and how we will measure our progress along the way.

Q: Why aren't there more new targets in the draft Plan?

- This is the first national Plan, it is more focused on collating food-related targets and indicators, so we have a better understanding of measures of progress across all food policy.
- Consideration is being given to strengthening existing targets, and setting 'direction of travel' targets.
- The Plan outlines future plans to develop targets - this will be an ongoing process, and we will continue to improve and strengthen the targets with each iteration of the Plan.

Contact: [Redacted – Regulation 11(2)], **Head of Good Food Nation Team**

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ANNEX KK

MARINE DIRECTORATE – 2024-25 BUDGET

ISSUE: The overall budget provided for marine purposes has reduced by £6.9 million, a 7% reduction. This translates to a 12% reduction in Marine Funding and a 6% reduction in the funds available to the Marine Directorate.

	2022-23	2023-24	2024-25	2024-25
Level 2	Budget £m	Budget £m	Budget £m	Change %
Marine Funding	20.4	17.1	15	-12%
Marine	72.2	82.8	78	-6%
Total Marine	92.60	99.90	93.00	-7%
<i>of which</i>				
Total Fiscal Resource	74.1	74.1	71.1	-4%
<i>of which Operating Costs*</i>	49.05	51.6	51.9	1%
Non-cash	5.1	5.7	6.1	7%
Capital	13.5	20.1	15.8	-21%
Financial Transactions (FTs)		-	-	-
UK Funded AME	-	-	-	-

Marine Funding

TOP LINES:

- We have maintained funding of **£14.5m** for the **Marine Fund Scotland** which will deliver on the Blue Economy Vision supporting projects focused on achieving an innovative and economically sustainable marine economy; delivering real benefits for Scotland’s coastal communities; and reducing carbon emissions and protecting the marine environment.
- The EU Fisheries budget is no longer required as the final year of payments for the European Maritime and Fisheries Fund (EMFF) 2014-2020 has now passed.
- The Fisheries Harbour Grant budget reduction is a consequence of the UK Government significantly reducing the overall capital award to the Scottish Budget.

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Marine

TOP LINES

- Marine Directorate continues the progress that was made in 2023-24 to deliver further savings by maximising income streams and by achieving greater operational efficiencies.
- The directorate undertakes a rigorous delivery planning process and budget is prioritised as part of that exercise towards our statutory and regulatory functions and key commitment areas.
- Sustainability will be key in the delivery of our Blue Economy Vision, Fisheries Management Strategy and Vision for Sustainable Aquaculture.
- Science and technology funding has been prioritised as part of the Marine Directorate allocation process and has been directed towards the six strategic outcomes as outlined in the Science and Innovation Strategy.
- Fisheries Science continues to be a priority area, and the funding has been maintained at existing levels.
- Additional resources have been provided to the consenting of offshore renewables and the supporting renewables research requirement. The associated research budget is shared between Marine Directorate and Offshore Wind Directorate budgets i.e. ScotMer.

Contact: [Redacted – Regulation 11(2)], **Marine Directorate**

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COMMISSION TO REVIEW LAND-BASED LEARNING

ANNEX LL

ISSUE: Commitment in Programme for Government 2024-25 – Support our land-based and aquaculture industries by continuing work in response to the 22 recommendations of the Land Based Learning Review, all of which the Scottish Government either accepted or accepted in principle and aim to publish the associated implementation plan by the end of 2024.

BACKGROUND

- The independent Commission, established to review learning pathways in our land-based and aquaculture sectors, considered how to provide opportunities and qualifications through early years, school, college, university and work-based learning to attract more people, and specifically more women and young people, to work in land-based and aquaculture sectors.
- The Commission reported to Scottish Ministers in January 2023 with 22 recommendations on how to attract and equip more people with the skills and knowledge needed to work in these sectors.
- We responded to the Land-Based Learning review on 30 April, accepting or accepting 'in principle' all 22 of its recommendations.

TOP LINES:

In our response to the Commission for the Land-Based Learning Review, we have accepted, or accepted in principle, all recommendations. Acting on these will contribute to attracting and equipping more people with the skills and knowledge needed to work in land-based and aquaculture sectors.

- Implementing our response to the recommendations will support the development of our rural, island and coastal economy and communities by helping to create employment opportunities in our land-based, aquaculture and environmental conservation sectors.
- We will work together with public bodies, businesses, education and skills providers, voluntary organisations and individuals to contribute to a wellbeing economy in Scotland – one that delivers prosperity for all Scotland's people and places.
- Implementing our response will contribute to a Just Transition to Net Zero through supporting, skilling and upskilling to deliver green solutions such as increased carbon capture through regenerative agriculture practices.

We are developing an Implementation Plan to act on the response; working with public bodies, businesses, voluntary organisations and people.

- Our response to the Review of Land-Based Learning is made in the context of our wider education and skills reform. This is essential to address changing needs, now and in the future.
- How we take recommendations forward will be considered as we develop the Implementation Plan and in the context of broader prioritisation in what are set to remain challenging economic and budgetary conditions – particularly given the challenging fiscal outlook for the Scottish Government.

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- The Implementation Plan will set out actions and be the basis to monitor progress in delivering the SG response to the recommendations.
- Some actions relating to implementation have already commenced, but others are dependent on legislation and wider education and skills reforms. They will be taken forward over a number of years, with timescales still to be determined.
- We are building on current and planned actions by Scottish Government, for example through the Learning for Sustainability Action Plan.
- For the two Recommendations for agriculture education and training, it is proposed that we will use enabling powers set out in the Agriculture and Rural Communities (Scotland) Act 2024 to take forward these actions.
- ‘Accept in principle’ indicates our agreement with the objective of the recommendation but not a commitment to deliver it precisely as the Review recommends. How we take recommendations forward will be considered as we develop the Implementation Plan and in the context of broader prioritisation in what are set to remain challenging economic conditions and the similarly challenging fiscal outlook for the Scottish Government.

Q&A

Q: What are you doing to address the skills needs of land-based sectors, which are vital to rural and island communities?

- We are acting to address the labour market challenges faced by the land-based sector. The independent Commission for the Land Based Learning Review reported to Ministers in January 2023, and we have accepted or accepted ‘in principle’ all 22 of its recommendations.
- Acting on these recommendations will help attract and equip more people with the skills and knowledge needed to work in the land-based and aquaculture sectors – which will in turn help ensure the continued prosperity and viability of many rural and island communities.

Q: What does the Scottish Government mean when it states that it has accepted some of the Commission’s recommendations ‘in principle’?

‘Accept in principle’ indicates our agreement with the objective of the recommendation but not a commitment to deliver it precisely as the Review recommends. How we take recommendations forward will be considered as we develop the Implementation Plan and in the context of broader prioritisation in what are set to remain challenging economic conditions and the similarly challenging fiscal outlook for the Scottish Government.

Q: Why has it taken so long to respond to the Commission for Land-Based Learning?

- The response to the 22 recommendations has required engagement across the government and coincided with the publication of the significant Withers review. Action has however already commenced to implement our response to the recommendations.

Contact: [Redacted – Regulation 11(2)], **Rural Skills**

OFFICIAL – SENSITIVE

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ANNEX MM

RECENT MINISTERIAL CORRESPONDENCE FROM RAI COMMITTEE
MEMBERS

Summary table:

MiCase #	From	Original correspondence summary	Response summary
202400391808	Ariane Burgess	Concern regarding slow pace of reform of the fish farming industry.	Progress made on: Prof Griggs delivered the independent review of aquaculture consenting; The Scottish Aquaculture Council has been established; A Vision for Sustainable Aquaculture published 2023; The Consenting Task Group has developed a pilot proposal for a new pre-application fish farm consenting process; SEPA sea lice risk assessment framework to be introduced from 1 Feb 2024 Committed to deliver a new Scottish Technical Standard for Scottish finfish aquaculture.

COPY CORRESPONDENCE FROM ARIANE BURGESS MSP
6 SEPTEMBER 2024 [202400391808]

Ariane Burgess MSP
The Scottish Parliament
EH99 1SP
ariane.burgess.msp@parliament.scot

20th December 2023

Dear Mairi Gougeon,

I am writing to express the Scottish Green Parliamentary Group's strong concern about the slow pace of reform of the fish farming industry.

This is an important issue for our party members, constituents, and environmental NGOs, and is a growing concern for the public. I trust that we can work together to deliver the urgent, meaningful action required to address the environmental impacts of the industry and reduce farmed fish deaths, diseases and suffering.

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As you know, the Greens consider a moratorium on salmon farm expansion is necessary until the environmental and welfare impacts are significantly reduced to an acceptable level – which must be below ecological carrying capacity. However, we accepted by way of compromise the programme of work agreed in the Bute House Agreement, with the proviso stated in that agreement that “the status quo of aquaculture regulation is not an option”.

This programme has been delayed, and, given the deterioration of welfare and environmental standards that this year’s mortality data in particular reflects, the commitments no longer appear to be adequate to the challenge at hand.

I would therefore appreciate an update on progress towards the relevant commitments made in the Bute House Agreement, and would urge you to take further action to reduce the industry’s negative impact:

- Include in National Marine Plan 2 a spatial plan to guide any further development away from areas that are unsuitable for fish farming. This would make NMP2 more usable, providing clarity for industry and regulators.
- Remove the aquaculture industry’s exemption from the National Planning Framework 4 requirement on developments to conserve, restore and enhance biodiversity and fully mitigate negative impacts.
- Commit to applying SEPA’s risk-based sea lice framework to all fish farms from the date of its implementation, to substantially reduce the risk to wild salmon.
- Conduct a review of climate risks to finfish farms around Scotland, and particularly on the West coast. Climate change is already impacting the industry and salmon welfare, and there is a growing body of evidence that suggests that higher sea temperatures will have serious implications. These urgently need to be understood, along with possible responses to mitigate risks and minimise the impact on coastal communities.
- To protect wrasse populations, known in the industry as ‘cleaner fish’, look to follow the model of England’s Inshore Fisheries and Conservation Authorities, which have brought in closed seasons and quotas at wrasse fisheries.

From what I understand, there is still very much work to do on the following aspects as well and I would appreciate updates on these workstreams:

- Strategic planning to avoid long-term environmental damage and limit industry growth if necessary
- Providing leadership and guidance on applying the precautionary principle
- Penalties and enforcement for wild fish interactions and licence breaches
- Reducing farmed salmon mortalities
- Reducing chemicals and other waste
- Improving transparency
- Minimising harm to wild salmon.

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Mark Ruskell, the Scottish Green spokesperson for biodiversity and environment, and I would appreciate meeting with you soon, to discuss this in more detail and to ensure that the Bute House Agreement’s recognition that aquaculture “must operate within environmental limits and with social licence and ensure there is a thriving marine ecosystem for future generations” is delivered.

Sincerely,

Ariane Burgess MSP

OFFICIAL – SENSITIVE

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Briefing – Rural Affairs and Islands Committee – Follow-up inquiry into salmon
farming in Scotland, 13 November 2024**

**COPY RESPONSE FROM CABINET SECRETARY, RURAL AFFAIRS, LAND
REFORM AND ISLANDS – 2 FEBRUARY 2024 [202400391808]**

Our Reference: 202400391808

Your Reference: Salmon farming reform

2 February 2024

Dear Ariane,

Thank you for your letter of 20 December 2023 outlining concerns from the Scottish Green Parliamentary Group in relation to salmon farming.

Aquaculture is a significant contributor to our economy, providing well-paid jobs in some of Scotland's most fragile communities and we are ambitious for its future. I recognise the political position of the Scottish Green Party is to support a moratorium on fish farming. As you are aware that is not the position of the Scottish Government or the 2018 Scottish Parliamentary inquiries, which did not find sufficient evidence supporting a moratorium. The Scottish Government did agree that the status quo was not an option.

You have requested updates on various issues relating to the aquaculture industry, including environmental damage, the precautionary principal, wild fish interactions, farmed salmon mortalities, chemicals and other waste, transparency and impacts on wild salmon. Last year I provided an update to the parliament on progress since the parliamentary inquiries into salmon farming in Scotland and I trust that you found this useful [Salmon Farming in Scotland 3 May 2023 | Scottish Parliament Website](#). I have sought to respond to your more specific asks in this letter.

The Scottish Government and the Scottish Green Party, through the Bute House Agreement, agreed that Scotland should have a sustainable, diverse, competitive and economically viable aquaculture sector, operating within environmental limits and with social licence to ensure there is a thriving marine ecosystem for future generations. Both parties have discussed the emergence of some of the most challenging economic conditions in living memory, affecting both Scotland's people and Scottish Government resources. This means prioritising work to ensure maximum value for the people of Scotland, as reflected in subsequent Programmes for Government. I can assure you that the 2021 Bute House Agreement has not been delayed

CABINET SECRETARY FOR RURAL AFFAIRS, LAND REFORM AND ISLANDS Briefing – Rural Affairs and Islands Committee – Follow-up inquiry into salmon farming in Scotland, 13 November 2024

in its entirety and I am pleased to outline progress on our commitments to:

- reform the regulatory and planning framework, starting with an independent review to consider the effectiveness and efficiency of the current regime and make recommendations for further work by the end of 2021.
- develop a vision and strategy for sustainable aquaculture that places an enhanced emphasis on environmental protection and community benefits.
- begin an immediate programme of work to better protect wildlife and the environment, including a response to the Salmon Interactions Working Group in September 2021, consultation on a spatially adaptive sea lice risk assessment framework for fish farms by the end of the year, and strengthened controls on sea lice, wrasse and fish escapes in the course of 2021/22.
- explore how best to ensure that fish farming contributes more to support communities and recreational fisheries, to promote innovation and to support services such as fish health and welfare inspections and monitoring.

Bute House Agreement progress

- Professor Russel Griggs delivered the independent review of aquaculture consenting in February 2022 and the recommendations were accepted in principle.
- The Scottish Aquaculture Council was established to advise on next steps following the review, including a new Vision for Sustainable Aquaculture published in July 2023, and I am grateful to the Scottish Green Party for its contributions to this.
- This Vision sets out our support for the development of a sustainable aquaculture sector, operating within environmental limits, and which recognises the considerable social and economic benefits the sector delivers today, and can deliver in the future.
- The Consenting Task Group has successfully developed a pilot proposal for a new pre-application fish farm consenting process, progressing key consenting recommendations of the review.
- We responded to the Salmon Interactions Working Group in October 2021.
- SEPA has delivered two consultations on a new Sea Lice Risk Assessment Framework, to be introduced in phases from 1 February 2024 (more information is provided below).
- In 2021 we published a Code of Good Practice for prevention of escapes of fish from fish farms, and we remain committed to working with the sector to reduce the risk that fish escape from fish farms – our current Programme for Government commits to delivering a new Technical Standard for Scottish Finfish Aquaculture.
- We need to be confident that wild caught wrasse is fished sustainably, with effective management. The 2021 control measures are a starting point which will be built on, if necessary, to ensure sustainability of the fishery. Any measures introduced should be evidence-led.
- We will publish the findings of the evidence to date in the coming weeks and are also commissioning scoping work on the best approach for non-quota species Fisheries Management Plans in Scotland. This work will be undertaken in 2024 and it is expected wrasse will be included in these considerations. Any discussions regarding Fisheries Management Plans will be progressed through our Fisheries Management and Conservation Group and where appropriate the Regional Inshore Fisheries Group network. Stakeholder input to the future management of this fishery is vital, respecting our co-management approach, and the Marine Directorate wishes to actively encourage discussion around fishery control measures, while ensuring compliance.
- In 2023, Crown Estate Scotland increased aquaculture rents to ensure that fish farming contributes fair value for use of Scotland's seabed. Aquaculture rents contribute to the Scottish Consolidated Fund and are provided to coastal local authorities to deliver community benefit.
- In 2023, Scottish Ministers approved an increase to SEPA's Controlled Activity Regulation licence fees, to ensure cost recovery for licence applications and monitoring and inspection activity.
- We are working with the Sustainable Aquaculture Innovation Centre, funders and the sector to consider

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how we can continue to support relevant applied research and innovation beyond the current funding arrangements and the sector continues to award funding for projects under the [Wild Fisheries Fund | Addressing the declining status of wild salmonids in Scottish rivers and lochs](#).

You have also asked for further action relating to climate risks to fish farms, spatial planning, National Planning Framework 4, SEPA's Sea Lice Risk Assessment Framework and wrasse population protection.

Despite significant progress on the Bute House Agreement commitments, fish farming in Scotland is not without its challenges, particularly regarding fish health and welfare, and the Scottish Government is aware of a recent increase in reported mortality, largely associated with climate events. We recognise the need to better understand climate change impacts on aquaculture. The Scottish Government Marine Directorate contributes to the [Aquaculture | Marine Climate Change Impacts Partnership \(mccip.org.uk\)](#), the primary independent source of marine climate change impacts evidence and adaptation advice in the UK, which provides information on impacts on anticipated impacts on aquaculture, and helps set the context for future policy development.

You should be aware that mortality figures alone do not allow for direct comparison between years, as the number of fish within a production cycle varies. The survival to harvest of a year class provides a better comparison. That is what we publish in our [Scottish fish farm production surveys - gov.scot \(www.gov.scot\)](#). Our long running official statistics on survival to harvest provide an overview of changes on fish farms. The data shows that, although there are peaks and troughs in different years, mortality figures have remained relatively constant since 2002. The most recent production survey showed a small increase of survival to harvest, suggesting that it is too soon to say if the recent increase in mortality is a trend or not.

That said, I continue to expect high standards of fish health and welfare. I am clear in the Scottish Government's expectations of producers to drive mortality to the lowest possible levels. We are working collaboratively with the sector, regulators and fish vets to better understand causes of mortality and the impacts of climate change. Good progress is being made, but some issues require a longer-term approach due to the complexity and interdependence of the issues associated with mortality.

Our Vision for Sustainable Aquaculture recognises that there is more work to do to improve spatial planning for aquaculture. In February 2023, we adopted our National Planning Framework 4, which includes policy 32 specifically on aquaculture. The policy makes clear the need to minimise adverse effects on the environment, including cumulative impacts, and continues the presumption against further open cage salmon and trout farms on the north and east coasts of mainland Scotland. Work has also commenced on the development of a New National Marine Plan (NMP2).

We have previously discussed our priority to deliver SEPA's sea lice framework to improve spatial planning for fish farming. SEPA has developed and consulted on a new sea lice risk assessment framework with the purpose of introducing controls proportionate to risk level in Scotland. The adaptive framework provides a SEPA developed risk assessment modelling tool, to identify areas where developments have the potential to exceed sea lice exposure thresholds, in line with the precautionary approach. These assessments will inform where individual licence conditions are necessary to manage and protect the environment. SEPA's implementation timetable is available to view in their consultation response: [sepa_response_to_consultation_feedback_december_2023-2.pdf](#)

Local authorities are responsible for determining fish farm planning applications. Following the adoption of NPF4, it now forms part of the statutory development plan, along with the Local Development Plan (LDP) applicable to the area at that time and its supplementary guidance. Local authorities are considering their LDPs. We understand the important role LDPs have in guiding development, and as such Policy 32 on

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aquaculture makes clear that LDPs play a key role, in line with relevant marine plans, in guiding development to locations that are appropriate for the area and minimise adverse environmental impacts while meeting industry needs.

Additionally, fish farm spatial guidance is being developed in some areas – for example the Orkney Islands Marine Region: Fish Farming Spatial Guidance which is expected for consultation alongside their Regional Marine Plan in 2024.

The National Planning Framework 4 (NPF4) is clear that aquaculture developments must minimise and mitigate adverse environmental impacts. Improving biodiversity is a cross-cutting theme which runs throughout NPF4 and our strategy and policies support development that helps to secure positive effects for biodiversity. We have ensured that proposals for local development will include appropriate measures to conserve, restore and enhance biodiversity. This is supported by NatureScot's '[Developing with Nature guidance | NatureScot](#)' document which was published alongside NPF4. The Scottish Government has also recently published [Biodiversity: draft planning guidance - gov.scot \(www.gov.scot\)](#) setting out Scottish Ministers' expectations for implementing NPF4 policies which support the cross-cutting NPF4 outcome 'improving biodiversity'. While aquaculture is excluded from some of the detailed provisions of Policy 3 on Biodiversity, it is not excluded from the overall policy. Development proposals should contribute to biodiversity enhancement and, where possible, integrate nature-based solutions. Specific and unique biodiversity considerations apply in the context of Scotland's marine environment, therefore marine biodiversity is being considered through the development of Scotland's National Marine Plan, and NPF4 identifies that relevant provisions in the National and Regional Marine Plans will apply.

The Scottish Government introduced mandatory measures in 2021 to control wrasse fishing activity and set obligations for the collection and reporting of data to the Marine Directorate. For relevant permissions to fish for wrasse, fishers submit an application to the Marine Directorate and must meet eligibility criteria, including a contract with a salmon farm operator for the supply of wild wrasse. They must also agree to fish in accordance with bespoke conditions, including submitting monitoring data to the Scottish Government, to improve the evidence base on which to make future decisions. Temporal restrictions and gear controls are also in place.

I hope this update is helpful. If you would like to meet to discuss these issues, I would be grateful if you could contact my Diary Secretary, via email at CabSecRALRI@gov.scot to arrange a mutually convenient date.

Yours sincerely

[Redacted – Regulation 11(2)]
MAIRI GOUGEON

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ANNEX NN

**RELEVANT PQs FROM RURAL AFFAIRS AND ISLANDS COMMITTEE
MEMBERS AND RESPONSES FROM MAY 2023**

[Redacted – Regulation 6(1)(b)]

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ANNEX OO

**SUMMARY OF RAI COMMITTEE CORRESPONDENCE IN RELATION TO THE
FOLLOW-UP INQUIRY INTO SALMON FARMING IN SCOTLAND**

Title of letter	Letter sent from	Letter sent to	Date of letter	Summary of content of letter
Letter to Atlantic Salmon Trust	Rural Affairs and Islands Committee	Mark Bilsby, Chief Executive Officer, Atlantic Salmon Trust	3 May 2024	The Atlantic Salmon Trust is requested to give its views to inform the RAI Committee at an evidence session.
Letter to the Convener of the Net Zero, Energy and Transport Committee, Edward Mountain	Rural Affairs and Islands Committee	Edward Mountain MSP, Convener, Net Zero, Energy and Transport Committee	22 May 2024	RAI Committee notifies Edward Mountain MSP of its inquiry and the remit, and invites Mr. Mountain to contact the RAI Committee to request further information.
Letter from Atlantic Salmon Trust	Mark Bilsby, Chief Executive Officer, Atlantic Salmon Trust	Finlay Carson MSP Rural Affairs and Islands Committee	29 May 2024	AST responds to RAI Committee letter of 3 May 2024, providing its view there has been a lack of progress on REC Committee recommendations. Topics covered: Scotland is failing its international obligations (in terms of sea lice and escapes); impact on wild salmonids; data transparency; precautionary principle; and a lack of impact overall.
Letter from Salmon Scotland	Tavish Scott, CEO, Salmon Scotland	Members of Rural Affairs & Islands Parliamentary Committee	4 June 2024	Salmon Scotland provide information from their perspective on progress across the four themes of the inquiry. Also provide a “myth busting” pamphlet – <i>Reporting versus reality</i> .
Letter from the RSPCA	David Bowles, Head Public Affairs and Campaigns, RSPCA	Finlay Carson MSP, Convenor Rural Affairs and Islands Committee	5 June 2024	Explains difference between RSPCA and RSPCA’s farm assurance scheme, RSPCA Assured. Notes members of the RSPCA Assured scheme are assessed regularly by a team of RSPCA Assured assessors to ensure all the animals are raised to the RSPCA’s welfare standards.

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Letter from the Animal Law Foundation	The Animal Law Foundation	Rural Affairs and Islands Committee	5 June 2024	The Animal Law Foundation, “a charity focused on the proper application of animal welfare legislation throughout the UK”, states that regulatory reform is needed to enforce animal welfare regulations.
Letter from Scottish Environment Protection Agency	The Scottish Environment Protection Agency	Rural Affairs and Islands Committee	6 June 2024	Prior to SEPA’s appearance before the RAI Committee, SEPA sets out progress in delivery since 2018 (enhanced regulatory framework, SRAF) as well as impact, and providing numbers on its regulatory assessment work.
Letter from Salmon Scotland	Salmon Scotland	Rural Affairs and Islands Committee	13 June 2024	Prior to SEPA’s appearance before the RAI Committee, Salmon Scotland sets out its position on SEPA’s regulation and work to enhance regulation – notes continuing frustrations on lack of clarity and guidance from SEPA. In regard to 2019 complaint filed against SEPA, Salmon Scotland notes “significant improvement in engagement with SEPA”.
Letter from the Shetland Islands Council	Councillor Emma Macdonald Political Leader, Shetland Islands Council	Rural Affairs and Islands Committee	24 June 2024	Councillor Emma Macdonald describes the positive economic impact of aquaculture on Shetland.
Letter from Fisheries Management Scotland	Alan Wells, CEO, Fisheries Management Scotland	Rural Affairs and Islands Committee	27 June 2024	Alan Wells, CEO FMS, corrects evidence he gave at his appearance before the RAI Committee – specifically that a DSFB reported an escape in August 2022, not August 2020 as he had originally stated, with the FHI conducting a visit in November 2022.
Letter from Salmon Scotland	“James”, Salmon Scotland	Rural Affairs and Islands Committee	28 June 2024	Salmon Scotland responds to points raised during evidence sessions – specifically in relation to aquaculture’s economic impact and the FHI’s requirements, processes and controls for sea lice monitoring and recording.

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Letter from the Scottish Environment Protection Agency	The Scottish Environment Protection Agency	Rural Affairs and Islands Committee	9 August 2024	Mike Montague, SEPA Aquaculture Specialist, provides details of how many salmon farms are using emamectin benzoate in the same quantities as in 2018, as requested during an evidence session by Arianne Burgess.
Submission from Lesley Spenceley	Lesley Spenceley	Rural Affairs and Islands Committee	4 September 2024	Ross-shire resident describes local opposition to fish farm development and a list of what “coastal communities” would “like to see” – including a moratorium on new fish farm development until environmental issues are addressed.
Letter from the Cabinet Secretary for Rural Affairs, Land Reform and Islands, Mairi Gougeon	Mairi Gougeon, Cabinet Secretary for Rural Affairs, Land Reform and Islands	Rural Affairs and Islands Committee	4 September 2024	Cabinet Secretary RALRI sets out her priorities for the forthcoming year that fall within the RAI Committee’s remit.
Letter from Animal and Plant Health Agency (APHA)	Dr. Amy Jennings BVetMed BSc PhD MRCVS, Veterinary Lead (Scotland), APHA	Rural Affairs and Islands Committee	26 September 2024	Dr. Amy Jennings, Veterinary Lead (Scotland), APHA, as requested by the RAI Committee, provides information on APHA’s remit and processes, including how it co-ordinates with other regulatory bodies.
Follow-up submission from Fisheries Management Scotland	Alan Wells, CEO, Fisheries Management Scotland	Rural Affairs and Islands Committee	27 September 2024	Alan Wells, CEO, Fisheries Management Scotland, provides additional information on FMS’ position – focusing on interactions with wild salmonids, Dr. Wells states insufficient progress made on recommendations. Topics covered: Scotland is failing its international obligations (in terms of sea lice and escapes); sea lice risk assessment framework; sea lice reporting; mitigation of escapes; reporting of escapes; holistically assessing pressures; behaviours of stakeholders in the salmon farming sector.

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Letter from the Fish Health Inspectorate	Ronald Smith, Fish Health Inspectorate Technical Manager	Rural Affairs and Islands Committee	27 September 2024	Ron Smith, Fish Health Inspectorate Technical Manager, FHI, provides additional information to the RAI Committee as requested regarding the fish mortality event at Dunstaffnage farm.
Letter from Animal Equality	Abigail Penny, Executive Director, Animal Equality UK	Rural Affairs and Islands Committee	30 September 2024	Abigail Penny, Executive Director, Animal Equality UK, lists REC Committee recommendations the organisation believes are not fulfilled. Topics covered: Sea lice resilience to prevention & treatment methods; High rates of mortality; Publication of complete mortality data – late reporting, threshold limits, grace period, culls; Publication of sea lice count data; Violation of precautionary principle; Failure of nitrogen filters – release of nitrates into the marine environment; Feed conversion of salmon feed to salmon for consumption; Attempt to mislead customers with Protected Geographical Identification of Scottish Farmed Salmon; AGB.
Letter from Ewan Kennedy	Ewan Kennedy	Rural Affairs and Islands Committee	2 October 2024	Notes that Dunstaffnage has endured varying, including high, rates of mortality. Questions reporting and production cycles. Also notes SAW is difficult to navigate.
Letter to Salmon Scotland	Rural Affairs and Islands Committee	Tavish Scott, Chief Executive, Salmon Scotland	9 October 2024	Follow-up request asking for further information in relation to issues raised at the Sector's evidence session with the RAI Committee on Wednesday 2 October 2024.
Letter from Dr Martin Jaffa, Callander McDowell	Dr Martin Jaffa, Callander McDowell	Rural Affairs and Islands Committee	10 October 2024	Dr Martin Jaffa's response to FMS' submission of 27 September 2024 to the RAI Committee. Dr Jaffa notes that wild salmonid populations are also declining outside of the aquaculture zone, concluding that pressures other than aquaculture are not adequately explored while angling is allowed to continue.

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Letter from Wild Rise Company	Corin Smith	Rural Affairs and Islands Committee	17 October 2024	Corin Smith alleges Mowi misled local residents in relation to the installation of a feedbarge at a MOWI site. Smith further alleges MOWI's COO, Ben Hadfield, misled the RAI Committee by "diminishing" the issue as a misunderstanding during the sector's evidence session on 2 October 2024.
Letter from Orkney Trout Fishing Association	Colin Kirkpatrick, Chair, Environment Sub committee, Orkney Trout Fishing Association	Rural Affairs and Islands Committee	25 October 2024	The Orkney Trout Fishing Association (OTFA), self-reporting as "the main wild salmonid angling body in Orkney", states its concerns that the recommendations of the REC Committee have not been fulfilled, with specific reference to aquaculture production in Orkney.
Letter from Salmon Scotland, 25 October 2024	Tavish Scott, Chief Executive, Salmon Scotland	Rural Affairs and Islands Committee	25 October 2024	Letter providing supplementary information following Salmon Scotland's attendance at Committee on 2 October 2024, with 3 main asks from the sector: <ul style="list-style-type: none"> • Drive the consenting process across Government and its agencies within the existing statutory deadlines • Develop a new model for funding research and innovation for the Scottish salmon farming sector, and which can replace SAIC • 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.