Rural Economy and Connectivity Committee Report - Salmon Farming in Scotland - November 2018
Scottish Government response tracking

Rec #	Recommendation text	Progress Detail
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.	The Scottish Government welcomed 'Salmon Farming in Scotland', recognising the commonality around the challenges facing the sector and our collective resolve to make tangible progress: https://archive2021.parliament.scot/S5_Rural/20190129_Cab_Sec_RE_-_SG_response_to_Cttee_report_on_salmon_farming_in_Scotland.pdf. The fish farming sector is highly innovative, provides vital jobs in rural Scotland and across the UK through its highly skilled supply chain, and is also an efficient means of producing animal protein. We have been working to ensure that Scottish Government strikes the right balance across our social, economic and environmental responsibilities, meaning that we can continue to enjoy the benefits that the industry provides, whilst addressing and managing potential impacts in Scotland's freshwater, sea loch, and coastal waters. The Committee raised concerns on the environmental impact and fish health challenges which the sector faces. We have prioritised action in these areas, including the delivery and implementation of the Scottish Environment Protection Agency (SEPA) finfish framework, with a tighter seabed standard and enhanced monitoring, the Farmed Fish Health Framework (FFHF), and work by the Salmon Interactions Working Group (SIWG) to review current interactions policy, consider the Parliamentary Inquiry findings, and make recommendations on a future interactions approach for wild and farmed salmon. As part of SEPA's finfish framework, a reduction in fees has been introduced for innovative waste capture technologies. In June 2019 we tightened farmed fish sea lice compliance by lowering levels for reporting and intervention to 2 and 6 adult female lice per fish respectively (from 3 and 8); and improving public transparency. The Fish Farming Businesses (Reporting) (Scotland) Order 2020 came into force on 29 March 2021 and introduced a statutory requirement for aquaculture businesses to report the average number of adult female sea lice (*L. salmonis*) counted per fish per site in a relevant week. The data has been published since April 2021 in the interests of transparency. A key focus of the Committee's recommendations was spatial planning and managing the interactions between wild and farmed fish. The Scottish Government published its response to the SIWG report in October 2021, and through the Bute House Agreement committed to take forward a programme of work to better protect wildlife and the environment, including consulting on an adaptive sea lice risk framework, and strengthening controls on farmed fish escapes. In Scottish Government's response, SEPA was identified as the lead regulatory body for managing sea lice and their interactions with wild fish. In August 2022 SEPA published the official response to its first consultation on a new risk framework to manage sea lice and the interactions between wild and farmed fish, designed to protect wild Atlantic salmon and sea trout during their migration to sea by defining wild salmon protection zones: https://consultation.sepa.org.uk/regulatory-services/protection-of-wild-salmon/. SEPA is preparing for a further consultation in the spring, with a view to implementation later this year.
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" 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.	
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.	We are committed to delivering a new Vision for Sustainable Aquaculture with an enhanced emphasis on environmental protection and community benefit. And, when it comes to regulation, we know that we need to ensure that the aquaculture regulatory framework is as efficient and effective as it can be. In 2022 we published an independent review of the aquaculture consenting system, led by Professor Russel Griggs. The Scottish Government has accepted the recommendations of the review in principle and announced an immediate change to the validity period of new marine licences for shellfish and fish farms from 6 to 25 years. The Scottish Aquaculture Council (SAC), chaired by the Cabinet Secretary for Rural Affairs, Land Reform and Islands, has been established and brings together key organisations from industry, environmental and community interests to advise on next steps in the regulatory review and to ensure twin track progress of all aquaculture related commitments. A Consenting Task Group has also been set up to pilot and implement key recommendations from the independent review, focused on improving efficiency and co-ordination of the finfish farming consenting process, while maintaining high environmental standards. The Scottish Science Advisory Council (SSAC) were also asked to consider the use and communication of science in aquaculture consenting in response to concerns raised in the independent report. The SSAC published that report on 26 April 2023: https://scottishscience.org.uk/node/341. The marine and coastal sector is an essential part of our green recovery and transition to net zero and we will support its sustainable growth through our National Planning Framework 4 (which was approved by parliament and was adopted by Scottish Ministers on 13 February 2023) as well as through the Blue Economy strategy, the independent review of aquaculture regulation, a Vision for Sustainable Aquaculture and development of Scotland's National Marine Plan.
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.	Salmon Scotland's Sustainability Charter "A better future for us all", published in December 2020, commits to actions which will aid local communities before 2045, including increasing the provision of high quality, affordable housing and refreshing their Community Engagement Charter. Importantly, we will produce a Scottish Government led Vision for aquaculture sector in Scotland, which balances economic, social and environmental concerns. Development of the Vision is nearing completion and is due to be published soon. The recommendations of phase one of the regulatory review place an emphasis on enhanced multilateral pre-application consultation, including with communities, and ensuring a co-ordinated and transparent process - the Consenting Task Group has been established to consider and progress this. 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 and that is reflected in the National Planning Framework 4 (NPF4), as adopted by Scottish Ministers on 13 February 2023. Our Aquaculture Planning Policy is set out to ensure clarity of message but is also sufficiently flexible to work across Scotland. It makes clear the need to minimise adverse effects on the environment, including cumulative impacts. It is important for NPF4 to work at a national level whilst also providing flexibility to take account of local circumstances. We recognise the important role aquaculture can play within rural communities, and as such have ensured Local Development Plans 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. This specifically includes references to ensure compliance with relevant spatial plans and wider marine planning, such as the National Marine Plan and any Regional Marine Plans. Furthermore, in response to climate and biodiversity crises, Scottish Ministers have committed to updating and publishing a new National Marine Plan for Scotland.
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.	The Scottish Government is committed to aligning to EU law as far as is practical and has created new 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.

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.	Our National Planning Framework 4 (NPF4) was approved by parliament and was adopted by Scottish Ministers on 13 February 2023. This followed an ambitious and extensive process of consultation and collaboration, with three separate rounds of engagement, which originally commenced around three years ago. We have listened carefully to our stakeholders and are proud to present a national spatial strategy that is a product of extensive engagement and collaboration. We want our rural and island places to be vibrant and sustainable, and NPF4 encourages the development of more high quality, affordable and sustainable rural homes in the right locations that support, sustain and grow these communities. Following consultation feedback, we have created two separate policies for Rural Homes and Rural Development to ensure clarity of message and give greater focus to the important issues facing our rural communities. Our Rural Homes policy provides support for rural homes in keeping with the character of the area and in appropriate circumstances, for example, where people are required to live locally as an essential worker or for retirement succession. This includes giving consideration to how proposals contribute to local living, local housing needs (including affordable housing), the economy and local transport matters. Scotland's first long-term housing strategy 'Housing to 2040' includes an ambition to deliver a further 100,000 affordable homes up to 2032 across urban and rural areas, with at least 70% of these for social rent, once the current 50,000 affordable homes target has been delivered. We will invest £3.5 billion in housing in this parliamentary term, £3.44 billion of which will deliver more social and affordable homes in urban and rural areas across Scotland. In addition to the mainstream Affordable Housing Supply Programme, communities will also be supported by the continuation of the Rural and Islands Housing Fund backed by up to £30 million of investment in this parliamentary term. Since publication of Housing to 2040, the Scottish Government has made a commitment to develop a Remote, Rural and Islands Housing Action Plan to meet the housing needs of, and retain and attract people to, those communities. We will continue to address the issue of depopulation on our islands through our National Islands Plan commitment to develop an Action Plan, with a draft publication due in 2023. The feedback gathered through the Islands Bond consultation will be used to shape a range of Practical Policy Tests to inform this Action Plan. Local councils, as the strategic housing authority, are responsible for assessing housing as part of their local housing strategy and setting out their priorities for addressing these. The Islands team has also had an introductory meeting with Salmon Scotland to facilitate connections between local authorities and the salmon companies who are looking to invest in infrastructure to support the sector. Examples of Government and industry working together to address strategic challenges already exist and we seek to build on those partnerships. For example: · MOWI development on Rum: Scottish Government grant funding support of £454,300 from our Rural and Islands Housing Fund, was the key funder of the Isle of Rum Community Trust in their delivery of four affordable homes, which helped unlock part of a wider development of a three bedroom home and a six bedroom shared accommodation block for MOWI staff (SG Grant did not support the MOWI homes). · MOWI development on Colonsay: Working with local communities, MOWI has been able to contribute to the creation of affordable housing on Colonsay. The affordable housing project on Colonsay provided grant funding of £1.205 million from the SG Rural and Islands Housing Fund to the Colonsay Community Development Trust (CCDC) to develop 6 affordable homes. A contribution from MOWI of £1.239 million will deliver three houses for MOWI staff in Scalasaig as well as contribute to the development's overall infrastructure costs. This funding package will also help unlock the development of 3 fully serviced new build plots by the CCDC. In the meantime, MOWI has rented several properties on the island for staff. The community voted in favour of MOWI establishing a fish farm in 2013 and worked with them to establish their most favoured location around the island.
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.	We use all available domestic and international scientific and other relevant evidence available to ensure that policy is evidence based, efficient and effective. We look at accreditation schemes when considering regulatory change and continuous improvement, however it is important to also recognise the benefits which accreditation schemes and voluntary regulation can drive on their own, in addition to, and complimentary to Government regulations. We have been engaging with accreditation schemes in consideration of the new Vision for Sustainable Aquaculture. We also recognise the importance of openness and transparency, which is why our Fish Health Inspectorate and other regulators have a publication plan and we ensure that information collected for the purposes of regulation is available to view on Scotland's Aquaculture Website. We are considering improvements to Scotland's Aquaculture Website and related recommendations within the independent review of aquaculture regulation.
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.	In relation to consumer accreditation, the industry has expressed strong views that a single Scottish brand would not necessarily meet their needs, and in terms of international marketing the salmon 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.
9	However, 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.	The Farmed Fish Health Framework (FFHF) has advanced a number of work areas, many of which were fully reported to Parliament following its first year. These include: a review of sea lice policy which led to reduction in reporting and intervention levels and legislation on mandatory sea lice reporting; promotion of projects leading to investment by the Sustainable Aquaculture Innovation Centre (SAIC) and industry partners including 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; several issues relating to gill health; a focus on issues relating to cleaner fish use, supply, availability and husbandry; and initial focus on climate change as a factor in gill health. Good progress has been made through the FFHF in identifying and ranking the main causes of mortality into ten overarching categories with a view to standardising reporting and work is underway to standardise harmful algal bloom reporting as a first step towards adaptation to climate change. Salmon Scotland is now publishing monthly mortality data, and work is ongoing to identify if further alignment of published mortality data is possible. This is leading in transparency for food production sectors.
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.	Mortality is a component of all farming systems, and it is important that it is managed to the lowest levels achievable. We need to understand the reasons behind observed variation in mortality (over time and by site) and take an evidence-based approach to improving fish health. The publication of site-specific mortality information by Salmon Scotland is a significant step forward. The Fish Health Inspectorate (FHI) undertakes regular inspection, sampling programmes and health surveillance in accordance with domestic and international regulations. Mortality events reported to the FHI are investigated for the presence of notifiable disease and they will provide advice or take any action appropriate under relevant legislation. The Animal and Plant Health Agency (APHA) is responsible for investigating possible breaches of animal welfare legislation and are informed if concerns are raised about the welfare of farmed fish. The Scottish Government works closely with the sector through the Farmed Fish Health Framework (FFHF) which aims to improve fish health and reduce mortality via the collaboration of salmon and trout producers, regulators, innovation centres, fish veterinarians and Marine Scotland expertise. Mortality is often a result of complex factors and improving our understanding of these is key. The approach to delivering the FFHF was revised in 2020 to streamline governance and refocus on priorities, including improving access to medicines and treatments and considering mitigation and adaptation to climate change. Scotland's Chief Veterinary Officer, Dr. Sheila Voas, was appointed as chair. The FFHF continues to support work in areas such as improving our understanding of environmental events such harmful algal blooms, and the Sustainable Aquaculture Innovation Centre continues to promote and support innovation applied to fish health challenges, for example, better understanding of gill health and the development of diagnostic tests for fish disease.
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.	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. 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.
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.	See progress detail on recommendation 11. Good progress has been made through the Farmed Fish Health Framework (FFHF) in identifying and ranking the main causes of mortality into ten overarching categories with a view to standardising reporting. 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. Standardisation of mortality reporting across the sector and publication of the data is a significant step forward both in terms of transparency and facilitating better understanding of the reasons for mortality. Discussion continues within the FFHF with regards to what additional information could help provide further context to the data provided. It is important to note that 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 will use the information provided to determine if a visit to a site is necessary. Information relating to the mortality reporting regime obtained by Marine Scotland via sector reporting, and also by routine FHI surveillance, is actively published on a monthly basis, one month in arrears. We do not consider that at this time 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.
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.	Scotland's Aquaculture Website publishes this data. This website has been developed in partnership by Marine Scotland, the Scottish Environment Protection Agency, Crown Estate Scotland, Food Standards Scotland and NatureScot to provide access to a range of information about aquaculture in Scotland. Marine Scotland 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. We will consider further enhancements to Scotland's Aquaculture Website as part of the delivery of the regulatory review of aquaculture.
14	The Committee therefore 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.	The transport of animal by-products (ABPs) (including Salmon morts) is covered by the Animal By-Products (Enforcement) (Scotland) Regulations 2013. Salmon morts (as with other farmed fallen stock) are category 2 APBs. Options for disposal of this type of material includes incineration, co-incineration, anaerobic digestion, composting, and ensiling: 'Animal by products must be collected, identified and disposed of without undue delay. They must be transported in sealed new packaging, covered leak-proof containers or special vehicles. Dedicated containers must be used or where they are not, they must be cleaned and disinfected after each use to prevent cross contamination. Mixtures of different categories of animal by-products must be treated in accordance with the rules relating to the highest risk material and labelled accordingly.' A commercial document must accompany each consignment, and these are used by the Animal and Plant Health Agency (APHA) for tracing movements of consignments between locations. Records must be retained by the operators involved in transportation and handling of ABPs for two years. Operators handling (including transportation) of ABPs must be approved or registered by the Scottish Government and will be subject to risk-based inspection where appropriate. If non-compliance with the regulatory requirements is identified at risk-based inspection or through tracing of consignments then APHA can issue notices requiring corrective actions to be undertaken. If there is an immediate issue to public or animal health, then immediate restrictions can be placed on the operator and appropriate actions taken to mitigate the risk. If necessary formal enforcement action can be taken by local authorities.

15	The Committee notes the various views expressed in evidence relation to the different sea lice trigger levels and thresholds that are applied by the industry itself and by Marine Scotland for reporting and intervention purposes. It considers that the work of the FFHF provides an opportunity to remove confusion around this issue and develop proposals that are appropriate both to the fish health management needs of the Scottish industry and to the regulatory regime. It considers, however, that these should be challenging and set a threshold that is comparable with the highest international industry standards.	A commitment to further reduce the levels of sea lice on salmonids at which Scottish Government's Fish Health Inspectorate (FHI) takes monitoring and intervention action in accordance with farmed fish sea lice management policy was made in 2019. The commitment is to reduce the monitoring and intervention levels to an average of 2 and 4 sea lice per fish respectively, unless there is 'compelling evidence to the contrary'. This is a reduction from current levels of 2 and 6 average sea lice per fish, which in turn was a reduction of the original levels of 3 and 8 introduced in 2016. The policy context within which the fin fish sector is operating has changed significantly since the commitment was given and the Scottish Government will not, therefore, pursue the commitment at this time. We will, however, review it at a future date given the importance of fish health within sustainable aquaculture. Some of the views referenced on sea lice levels relate to differing levels to protect farmed fish health and welfare and those which might be considered necessary to control risk to wild salmonids in some locations. The Scottish Environment Protection Agency has been identified as lead regulator to manage the interactions between sea lice and wild fish and a clear, transparent framework is under development.
16	Whilst the Committee recognises that it will take time for the outcomes of the FFHF sea lice workstream to emerge, it is strongly of the view that there should in general terms be a move away from a voluntary approach to compliance and reporting with regard to sea lice infestation. The working group should therefore seek to bring forward proposals which make compliance and reporting a mandatory requirement.	On 29 March 2021 The Fish Farming Businesses (Reporting) (Scotland) Order 2020 came into force. It requires aquaculture production businesses in Scotland that farm fish (other than in freshwater 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. The average is defined as the total number of adult female sea lice counted on sampled fish in a site in the reporting week (a 7-day period from Monday to Sunday) divided by the number of fish sampled in that site in that reporting week. The provisions of the Order introduce a change in sea lice reporting. While previous arrangements required reporting only where specific levels were met or exceeded (i.e. a weekly average of 2 adult female sea lice per fish), sea lice numbers now need to be reported weekly irrespective of the count. Data is published to promote transparency and has shown that most fish farms in Scotland keep sea lice levels well below the required minimum threshold.
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.	See progress detail on recommendation 15.
18	The Committee also considers it to be 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.	See progress detail on recommendation 15.
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.	See progress detail on recommendation 16.
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.	See progress detail on recommendation 16.
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.	The Aquaculture and Fisheries (Scotland) Act 2007, as amended, places a legal requirement on aquaculture production businesses to have measures in place to prevent, control and reduce parasites on farms. Failure to do so may result in the serving of an enforcement notice which may require the business to take steps to ensure measures are put in place. Powers to assess measures in place and take enforcement action if necessary are exercised by Scottish Government's Fish Health Inspectorate (FHI). Data on sea lice numbers provided to the FHI in accordance with mandatory reporting requirements under The Fish Farming Businesses (Reporting) (Scotland) Order 2020 is used by the FHI in its implementation of the Scottish Government's sea lice policy and management of sea lice on fish farms.
22	The Committee is strongly of the view that, in order to increase transparency, there needs to be a significant enhancement in the way sea lice data and other key information related to the regulation of salmon farming is presented. It considers that a comprehensive, accessible reporting system of a similar standard to that which is already in operation in Norway should be introduced in Scotland.	See progress detail for recommendation 13. We will consider further development of Scotland's Aquaculture Website through the regulatory review of aquaculture consenting. In addition, SEPA is starting to develop a replacement for the 2009-2019 Compliance Assessment Scheme which previously provided information about the performance of fish farms.
23	If the industry has aspirations to develop and grow, having a comprehensive reporting system which is transparent, reliable and, above all, trusted can only serve it well. The Committee is therefore of the view that there should be a suite of data available covering mortality, sea lice infestation, medicine application and treatment information.	See progress detail for recommendation 13. We will consider further development of Scotland's Aquaculture Website through the regulatory review of aquaculture consenting.
24	The Committee recognises that there would be a cost element in developing and operating such a system but is of the view that this should not preclude this work being taken forward. It considers that the associated costs should be borne by the industry, and calls on the Scottish Government to discuss with industry representatives how this might be achieved.	See progress detail for recommendation 13. Additional functionality has been achieved in Scotland's Aquaculture Website to display sea lice information. We will consider additional improvement works to Scotland's Aquaculture Website through the regulatory review of aquaculture consenting.
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.	See progress detail for recommendation 24.
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.	New mandatory measures relating to wild wrasse harvesting came into effect in April 2021, and Scottish Government committed to strengthening controls further as part of the Bute House Agreement. Additional control measures may be implemented as further evidence becomes available.
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.	This assessment has been completed and following consultation it was decided to introduce new mandatory measures in 2021. This included additional data collection requirements upon each vessel. Fishers who have received a letter of derogation to access the fishery have agreed to provide specific data requested but also anything additional the Scottish Government may require in future. In order to retain their permission to fish for wrasse, fishers must be part of a survey assessing what's going back in the water from the first 20 pots each week and take observers on board if requested. This data now comes directly to Marine Scotland, including new information on the numbers of wrasse being caught, instead of only the weight. The additional data collected over Year 1 and 2 is currently being analysed and will be published within the next couple of months. In addition, Marine Scotland Science is also part-funding with the Scottish Salmon Education and Research Foundation (a foundation funded by Salmon Scotland members) a PhD scholarship at the University of Aberdeen. A candidate has been selected and the project commenced in Autumn 2021. Marine Scotland funded through the grants team "Marine Environmental Solutions" (a subsidiary of the Scottish Fisherman's Federation), an initial wrasse observer feasibility study, between December 2019 and March 2020. These measures are seen as a first step to building a much stronger picture going forward. The requirements and reporting will continue to be kept under observation through a monitoring group setup. If necessary, Marine Scotland can update the requirements placed on wrasse fishers to get more information.

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.	See progress detail for recommendation 26.
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.	The Scottish Environment Protection Agency (SEPA) finfish aquaculture regulatory framework was published in June 2019 and includes a tighter standard for the organic waste deposited by fish farms. The SEPA framework uses more accurate modelling and ensures that fish farming operates within environmental limits. SEPA's new charging regime provides a significant reduction of fees for waste capture technologies. We are supportive of a circular economy and the exploration of waste capture systems. Zero Waste Scotland has supported the sector to find alternative ways to dispose of moralities, such as anaerobic digestion plants .
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.	The Scottish Environment Protection Agency (SEPA) implemented its new regulatory framework in June 2019. The new framework tightens the seabed protection standards for fish farms, uses more accurate computer modelling to assess development proposals and requires increased monitoring by operators of their effects on the environment. 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. The transfer of all existing licenses onto the new framework planned for early 2021 was delayed by the cyber-attack but is now being progressed. Having been confirmed by Scottish Ministers in October 2021 as the lead regulator for managing the risk to wild fish from sea lice from fish farms, SEPA has commenced work on developing a sea lice risk assessment framework. SEPA published a response to its first consultation on the risk assessment framework in August 2022, and will now continue development of the framework in collaboration with key partners. A further consultation is planned this spring. SEPA is in phase 2 of the development and implementation of the finfish regulatory framework which will take place over the next 12 – 18 months. SEPA plans to develop its regulatory framework to include nutrient discharges in its screening modelling (rather than risk assessments for nutrients being undertaken by local authorities, informed by Marine Scotland Science locational guidance). This is expected to further consolidate SEPA as the environmental regulator of fish farms, significantly enhance modelling and remove the requirement for Marine Scotland Science locational guidelines. Nutrient risks and cumulative impacts would instead be assessed by SEPA as part of the screening process. We are working closely with SEPA on phase 2 development. SEPA will also undertake a review of its regulatory approach to bath medicines. This will include developing permitting conditions for discharges from well boats that would support the potential adoption by operators of medicine capture and removal technologies and make it easier for operators to demonstrate compliance; checking that the environmental standards for bath medicines, which underpin risk assessments, reflect the latest scientific understanding; and exploring whether patterns of use in some constrained locations require a review of how cumulative risk is assessed.
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.	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 is working on improvements to the website to enable the public to access this information in a more interactive way. Information on sea lice counts on wild salmon were added to the website from March 2021 onwards. The website and data imports were impacted by the cyber-attack on SEPA, but SEPA has prioritised its recovery and Marine Pen Fish Farm data returns are now being uploaded quarterly again. In addition, SEPA is starting to develop a replacement for the 2009-2019 Compliance Assessment Scheme which previously provided information about the performance of fish farms. The science workstrand of the regulatory review is examining the current use and communication of science and scientific evidence in aquaculture consenting. The project will consider how science and data is accessed, how it is quality controlled and how it is commissioned. This is an independent review, led by the Scottish Science Advisory Council (SSAC), who will offer an objective perspective and recommendations for improvement. The SSAC published the report on their website on 26 April 2023: https://scottishscience.org.uk/node/341.
32	The publication of this research leaves the Committee in no doubt that effective regulation of medicine used by the farmed salmon industry is a requirement. In this regard, it welcomes the action by SEPA to the UK Technical Advisory Group (UK TAG) to make recommendations to the Scottish Government on new environmental standards for Emamectin Benzoate. It also calls on SEPA and the Scottish Government to similarly consider the environmental impact of other medicines by the industry.	Work by the UK Technical Advisory Group (UKTAG) to develop appropriate environmental standards for emamectin benzoate was delayed due to COVID-19 and the Scottish Environment Protection Agency (SEPA) introduced a position statement, taking account of interim advice from UKTAG and ensuring that any further authorisations of this substance are held to environmental limits. UKTAG's recommendations for a new Environmental Quality Standard (EQS) were published in June 2022. On 30 January 2023 Salmon Scotland contacted UKTAG to alert them to a potential an error in the calculation to derive the EQS for emamectin benzoate. UKTAG notified the Scottish Government in March 2023 that the UKTAG Chemistry Task Team has further considered the advice received from Salmon Scotland with respect to the emamectin benzoate sediment EQS and UKTAG have made an amendment to the emamectin benzoate report and recommendation. The new recalculated recommended EQS for marine sediment therefore changed from 131 ng/kg dry weight to 272 ng/kg dry weight. The Scottish Government issued a consultation in April 2023 seeking views on the implementation timescales and business impact of the new EQS for emamectin benzoate. SEPA is also progressing work to update its framework for regulating bath treatment medicines. This has included introducing a new computer model of the dispersion of the medicines in the environment and taking account of the latest evidence on the persistence of the medicines in the environment. It is also working to support innovation in the capture and removal of bath treatment medicine residues to reduce discharges to the environment. SEPA is looking at the suite of bath medicines to understand if the latest scientific evidence suggests that the existing environmental standards need to be updated.
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.	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. SEPA is working on improvements to the website to enable the public to access this information in a more interactive way. Information on sea lice counts on wild salmon were added to the website from March 2021 onwards. The website and data imports were impacted by the cyber-attack on SEPA, but SEPA has prioritised its recovery and Marine Pen Fish Farm data returns are now being uploaded quarterly again.
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.	As required under section 15 of the Animals and Wildlife (Penalties, Protection and Powers) Act 2020, a report was submitted to parliament in March 2021 on the use of Acoustic Deterrent Devices (ADDs): https://www.gov.scot/publications/acoustic-deterrent-device-add-use-aquaculture-sector-parliamentary-report/. The report included a review of the scientific evidence on the impacts of ADDs which the Committee may wish to consider, as well as a number of recommendations. The Aquaculture Code of Practice: Containment of and Prevention of Escape of Fish on Fish Farms in relation to Marine Mammal Interactions (https://www.gov.scot/publications/aquaculture-code-practice-containment-prevention-escape-fish-fish-farms-relation-marine-mammal-interactions-2/) was published in September 2021 and approved by Order on 22 November 2021. The Code, which applies to every aquaculture production business (APB) operating a farm in Scotland's marine environment, sets out standards expected from APBs in order to provide for the containment of fish on fish farms and to prevent escapes. The Code provides a combination of practical guidance for APBs, together with mandatory standards with which APBs must comply. In addressing the use of containment measures in relation to marine mammal interactions, the Code provides information and guidance, together with mandatory standards for APBs, including concerning the use of tensioned or false-bottomed nets, the use of seal blinds to cover any dead fish baskets, the daily removal of any dead fish, and in relation to the use of ADDs. Specifically in relation to ADDs, where an APB plans to deploy an ADD, they must consult Marine Scotland and obtain any relevant consents (e.g., European Protected Species licence) or must demonstrate to Marine Scotland that the planned use will not harm marine mammals. The mandatory standards specified within the Code are subject to monitoring and enforcement processes as provided in the Aquaculture and Fisheries (Scotland) Act 2007. Marine Scotland has written to the aquaculture sector on a number of occasions to remind them of their legal obligations under the Habitat Regulations and the Code of Practice.
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.	See progress detail on recommendation 34.
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.	Amendments were made to the Marine (Scotland) Act 2010 through the Animals and Wildlife (Penalties, Protections and Powers) (Scotland) Act 2020 to remove two licensing provisions by which seals could be taken or killed. These amendments improved the conservation prospects of seals as well as ensuring compliance with the United States Marine Mammal Protection Act (US MMPA). The UK submitted its comparability finding in relation to the US MMPA ahead of the 30 November 2021 deadline. 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 2023.
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.	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. The Bute House Agreement commits to further strengthening the regulatory framework which applies to containment and escapes. We are taking forward a programme of work to consider how best to achieve this, including how to introduce proportionate penalties for fish farm escapes with the ultimate aim of ring-fencing or redistributing this money to support wild salmonid conservation and research as committed to in our response to the Salmon Interactions Working Group report (October 2021).
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.	Research is ongoing examining the coastal migrations of salmon and sea trout together with mapping sea lice distributions and to develop models which predict what happens to sea lice in Scotland's coastal environment. Tracking studies have encompassed fine scale movements of salmonids through sea lochs and the use of larger scale studies examining offshore movements. This has involved acoustic telemetry and modelling and is being used to understand spatial use of salmon and their interactions with sea lice emitted from farms through supporting the work of the Scottish Environment Protection Agency (SEPA)'s sea lice risk assessment framework. A monitoring programme will be a supporting element of the SEPA sea lice risk assessment framework. A study examining consequences of escapees on genetic status of wild populations across Scotland can be read here: https://www.gov.scot/publications/summary-of-information-relating-to-impacts-of-salmon-lice-from-fish-farms-on-wild-scottish-sea-trout-and-salmon/. This work has provided the first indication of the level of hybridisation between wild fish populations across Scotland with farmed escapees. How these patterns of hybridisation change over time and space is now being examined.

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	The Scottish Government response to the Salmon Interactions Working Group report (October 2021) committed to focusing on data requirements, now proposed in the Wild Salmon Strategy (January 2022): · The Marine Scotland Science (MSS) research programme will have a strong focus on monitoring and assessment to achieve substantial tangible outcomes at a national scale and for management action at local level. · The salmon conservation regulation assessment will be supported by enhanced collection of rod catch data via an interactive database and construction of an extended fish counter network. · The National Electrofishing Programme for Scotland (NEPS) will give site-level and regional assessments to determine how saturated areas are with young salmon to supplement the conservation regulation assessment for management of pressures, for example, overlapping with the National Introgression Programme for Scotland (NIPS) to provide assessment on pollution of wild salmon with genetic material associated with escaped salmon from aquaculture. · On the west coast, work will underpin the Scottish Environment Protection Agency (SEPA)'s sea lice risk assessment framework as part of an adaptive management process. · MSS will continue to provide modelling to enable targeted tree planting and land management to mitigate effects of climate change on salmon in freshwater habitats. · MSS will maintain long-term data series relating stream temperatures and flow to production of juvenile salmon. · MSS will also continue to support assessments of risk and mitigation options of Scotland's marine renewable and aquaculture industries with respect to salmon. · Support from National Research Council along with the private, charitable and industrial sectors will be required to generate new information to assess impacts of other specific pressures and to develop management measures. The Scottish Government will contribute to coordination, to harmonise processes and encourage data sharing. The Wild Salmon Strategy was published in January 2022 and set out a high-level vision for flourishing populations of wild salmon and a general direction of travel. The accompanying Implementation Plan was published in February 2023 which sets out over sixty actions which will be taken to reduce the impact of the wide-ranging pressures which impact wild salmon across their lifecycle. The Strategy and Implementation Plan set out the importance of having a strong science and evidence base in this area and that includes improving our understanding of the pressures on wild salmon. In February 2023 we published a report on the Regional and national assessment of the pressures acting on Atlantic salmon in Scotland (https://www.gov.scot/publications/regional-national-assessment-pressures-acting-atlantic-salmon-scotland-2021-scottish-marine-freshwater-science-vol-14-no-4/). This used the best available data and expert opinion from local fisheries biologists to categorise the severity and status of the pressures on wild salmon across Scotland. The outputs from this work include a national report and an interactive Shiny App. Following publication of the Implementation Plan a Scientific Advisory Board will be established to allow resources and expertise to be combined to improve the efficiency and quality of the science on wild salmon.
40	Although there is a lack of definitive scientific evidence of the various factors that are contributing to the decline of wild salmon stocks, the Committee is nevertheless of the view that a precautionary approach should be taken which will seek to minimise the potential risk to wild salmon stocks wherever possible.	A range of pressures act upon wild salmon stocks at national and regional scales. The Wild Salmon Implementation Plan sets out a range of actions to protect and improve Scotland's wild salmon populations: https://www.gov.scot/publications/wild-salmon-strategy-implementation-plan-2023-2028/pages/8/. 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. The Scottish Government published its response to the Salmon Interactions Working Group report (October 2021) which considered additional measures which could be taken to protect wild salmon stocks in Scotland's aquaculture zone. We have committed to taking forward a programme of work to deliver a new sea lice interactions regime and strengthen the regulatory regime which relates to escapes. The Scottish Environment Protection Agency (SEPA) was identified as the lead regulatory body for managing sea lice and their interactions. SEPA published its response to the first consultation planned on a new risk assessment framework to manage sea lice and the interactions between wild and farmed fish in August 2022 that will provide protection for salmon from their breeding grounds on their journey out to sea: https://consultation.sepa.org.uk/regulatory-services/protection-of-wild-salmon/. A further consultation is planned in 2023 and SEPA is working to implement the framework in a phased approach.
41	The Committee suggests that the siting of salmon farms is key to managing any potential risk to wild salmon stocks and ensuring that the sector is managed responsibly and sustainably.	See progress detail for recommendation 40. The Scottish Environment Protection Agency's sea lice risk assessment framework will work on an area basis and consider cumulative risks.
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.	In the Scottish Government response to the Salmon Interactions Working Group report (October 2021), the Scottish Environment Protection Agency was identified as the lead regulator for the interactions of sea lice and wild and farmed fish.
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.	We agree that local engagement mechanisms between finfish farmers and wild fishery managers should be established as a minimum, to facilitate pre-application consultation, agree joint local management priorities and projects, act as a forum for information and data exchange, and identify research priorities and request management action as appropriate. A review of aquaculture leasing was commissioned by Crown Estate Scotland as the lead authority for leasing Scotland's seabed, to ensure revenues raised from marine assets are proportionate to their value. As part of the review process, consultation with leaseholders was undertaken and the outcome of the review was published in January 2022. Part of this review is the consideration of best practice relating to farm management area agreement participation. Changes to lease terms will come into effect in phases, and commenced from January 2023. The independent review by Professor Griggs made a number of recommendations relating to the regulatory framework for Scottish aquaculture to ensure that the industry continues to contribute towards supporting communities, innovation, wider inspection services and reducing environmental impact. A key outcome of phase one of the regulatory review was the establishment of the Consenting Task Group to explore and trial new processes to manage the fish farm consenting system, including an enhanced emphasis on multilateral pre application consultation where all interested parties receive early and joint engagement on proposed fish farm developments. As an interim measure, whilst the Salmon Interactions Working Group considered a new approach to managing interactions, the Scottish Government recommended that Environmental Management Plans should be established for new fish farm developments through consultation with local fisheries management. The Scottish Government responded to the Salmon Interactions Working Group recommendations in October 2021. SEPA will soon consult on its more detailed proposals for a new sea lice risk assessment framework, working towards implementation in Q4 2023. In addition, the sectors have worked collaboratively to further our understanding of sea lice dispersal in the environment (see progress detail for recommendation 57). Over the last three years Scottish Government has co-funded an Aquaculture Interactions post to help build local relationships between the fish farming industry and wild salmonid fisheries sector with Crown Estate Scotland. This has seen several local relationship successes, including new working arrangements between sectors in the Western Isles, as well as co-ordination of advice on behalf of district salmon fishery boards to SEPA and Scottish Government on sea lice and escape interactions, in addition to the Wild Salmon Strategy and implementation plan. Crown Estate Scotland has recently awarded funding to provide a three year extension to this post.
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.	
45	The Committee shares the view of the ECCLR Committee that the siting of farms in the vicinity of known migratory routes for wild salmon must be avoided.	See progress detail for recommendation 40.
46	The Committee is of the view that a similar precautionary approach must be taken in Scotland to assist in mitigating any potential impact of sea lice infestation on wild salmon. It therefore recommends that there should be an immediate and proactive shift towards siting new farms in more suitable areas away from migratory routes and that this should be highlighted in the strategic guidance on the siting of salmon farms.	See progress detail for recommendation 40.
47	The Committee recognises that it will take time for the range of current activity by the Scottish Government (e.g. Farmed Fish Health Framework initiatives, consenting review) and regulatory bodies (e.g. SEPA finfish sector review) and action on the Committee's recommendations to be completed, with outcomes known, agreed and implemented.	N/A
48	The Scottish Government should provide strong and clear leadership in ensuring that the precautionary principle is applied, producing appropriate policy and guidance documents as necessary. These should make clear that the potential impact on the environment, known wild salmon migratory routes and other species must be comprehensively and robustly assessed and fully taken into account as part of the consideration of salmon farm applications.	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 relation to wild salmonids, the Scottish Environment Protection Agency has been identified as the lead regulator for sea lice and the interactions between wild and farmed fish and will provide a risk-based decision-making framework, in line with the precautionary approach, to assess risk to wild salmonids from sea lice from fish farms.

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.	See progress detail for recommendations 48 and 40.
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.	Expertise and resource are being considered through the regulatory review of aquaculture consenting. The Consenting Task Group seeks to pilot new ways of processing fish farm applications to ensure that the appropriate expertise is available at each stage of the decision-making process and that there is join up in the process, to include multilateral discussion and early pre application engagement. The Scottish Government has committed to funding a Planning Performance Improvement Champion and recruitment is underway. Part of the responsibilities of this post will include supporting the development of training for elected members who are due to sit on planning committees.
51	It is therefore of the view 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 that 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 incorporate an assessment of the potential impact of salmon farms on Marine Protected Areas (MPAs) and Priority Marine Feature (PMFs) and the species which inhabit them.	Different spatial assessments are used to assist decision making and to ensure then siting of salmon farms in appropriate locations in Scotland, supported by national and regional frameworks. National Planning Framework 4 (NPF4) was approved by parliament and was adopted by Scottish Ministers on 13 February 2023. NPF4 sets the framework for development across Scotland and is effectively a national development plan for Scotland. It sets out a long-term spatial plan including regional priorities and 18 national developments, as well as a full suite of 33 national planning policies with the nature crisis, together with the global climate emergency, underpinning the spatial strategy as a whole. NPF4 differs from previous versions of the framework in two ways. Firstly, it incorporates national planning policy, previously contained in Scottish Planning Policy, and the NPF into a single document; and secondly, it forms part of the statutory development plan. This means its provisions will be directly applied in local development planning and decisions on planning applications. NPF4 puts climate and nature front and centre of our planning system, whilst also tackling longstanding challenges and inequalities. We recognise the important role aquaculture can play within rural communities, and as such have ensured Local Development Plans play a key role in guiding development to locations that are appropriate for the area and minimise adverse environmental impacts while meeting industry needs. This specifically includes references to ensure compliance with relevant spatial plans and wider marine planning, such as the National Marine Plan and any Regional Marine plans. Local Development Plans and Regional Marine Plans deliver important guidance for development and are the responsibility of local authorities and marine planning partnerships. We actively provide advice to local authorities as part of continuous improvement to local and regional plan development. We are pleased that a number of Local Authorities are developing Regional Marine Plans with supplementary spatial guidance. SEPA introduced a new finfish sector plan in 2019. SEPA is in phase 2 of the development and implementation of the finfish regulatory framework which will take place over the next 12 – 18 months and will include updates to modelling to assess for cumulative impacts. SEPA plans to develop its regulatory framework to include: i. Nutrient discharges – SEPA will include nutrient discharges in its screening modelling (rather than risk assessments for nutrients being undertaken by local authorities, informed by Marine Scotland Science locational guidance). Nutrient risks and cumulative impacts would be assessed by SEPA as part of the screening process. We are working closely with SEPA on phase 2 development. ii. Bath medicine discharges – SEPA will undertake a review of its regulatory approach to bath medicines. This will include developing permitting conditions for discharges from well boats that would support the potential adoption by operators of medicine capture and removal technologies and make it easier for operators to demonstrate compliance; checking that the environmental standards for bath medicines, which underpin risk assessments, reflect the latest scientific understanding; and exploring whether patterns of use in some constrained locations require a review of how cumulative risk is assessed. iii. Review of its risk assessment for discharges affecting the seabed in constrained areas to account for cumulative risks. This approach will consolidate environmental screening and upfront guidance to developers on environmental capacity, building upon the risk screening already completed by SEPA to assess risk to Priority Marine Features and Protected Features. The Scottish Government is committed to the ongoing improvement to spatial planning tools. The 2022/23 Programme for Government includes a commitment to support local authorities to guide aquaculture development to the right places through spatial planning. As a priority, progress is being made on the sea lice risk assessment framework to manage interactions in the aquaculture zone on a spatial basis. A further consultation on the framework is expected in April 2023, before initial implementation later this year. We will consider further improvements to spatial planning through the regulatory review of aquaculture consenting and the forthcoming Vision for sustainable aquaculture. We are also committed to delivering an ambitious Highly Protected Marine Area programme and intend to develop a new National Marine Plan to respond to the nature and climate crises.
52	The Committee acknowledges the role of planning authorities in considering and deciding on planning applications for salmon farms, taking into account a range of social, economic and environmental factors. However, it is 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.	Our National Planning Framework 4 includes an aquaculture policy which ensures Local Development Plans play a key role in guiding development to locations that are appropriate for the area and minimise adverse environmental impacts while meeting industry needs. This specifically includes references to ensure compliance with relevant spatial plans and wider marine planning, such as the National Marine Plan and any Regional Marine plans. See progress detail for recommendation 51.
53	However, 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. The Committee considers it to be important, however, that there is no deviation from due process in terms of granting approval for replacement sites.	The Scottish Environment Protection Agency (SEPA) finfish sector plan requires compliance with standards set to ensure that fish farming takes place within environmental capacity. Those standards change with the best available scientific evidence and SEPA will assist the developer to adjust to new standards as part of implementation. If compliance with environmental standards is not possible, then SEPA will take the appropriate enforcement action. SEPA has significantly improved the upfront environmental capacity information available to the sector which helps the industry to assess where the greatest capacity exists and to focus on which sites have the best conditions, but also those most suitable for time and investment in the development process. The SEPA sea lice risk assessment framework will assess environmental sensitivity and cumulative risks of fish farm developments within a given area, establishing wild salmonid protection zones, to inform on the risks to wild fish from sea lice. New fish farm developments and increasing biomass will be dealt with under the framework as a priority. The framework will be adaptive to changing environmental conditions, informed by monitoring and improvements to the evidence base, in addition to actions taken by fish farm operators. We will consider the efficiency of the fish farm consenting system and the mechanisms available to relocate biomass through the regulatory review of aquaculture consenting. However, we note that the current system for permissions and licensing is established on a cost recovery basis for the assessment of impacts which are site and locational specific. Any changes to this assessment process and ability for cost recovery would have to be carefully considered.
54	The Committee 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. It acknowledges that there are significant technological challenges associated with locating farms in these areas, as well as risks in terms of workforce health and safety. However, it also notes the 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.	See progress detail for recommendation 53. The greatest environmental capacity tends to exist in high dispersal sites; the Scottish Environment Protection Agency's finfish framework can identify these areas and provides upfront environmental capacity advice to prospective developers. The Scottish Aquaculture Innovation Centre, part funded by the Scottish Funding Council, has generated a number of projects aimed at unlocking sector capacity and exploring use of high energy dispersal sites, including the use of eDNA as a monitoring tool, performance of equipment in high dispersal sites and improving data on seabed characteristics at exposed sites. The fish farming industry is progressively utilising and expanding into high energy and dispersal sites, some of which are over 1 nautical mile off the coast.
55	The Committee further 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.	As a priority, we are making improvements to consenting for inshore developments (within 3 nautical miles), where fish farming currently takes place and is there is significant scope for sustainable development. We agree that there should be consideration of a the regulatory framework for offshore aquaculture (beyond 3 nautical miles) and will consider this matter in the forth coming Vision for sustainable aquaculture.
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.	The Scottish Environment Protection Agency has adopted reduced fees for waste capture technologies in Scotland to help incentivise new and innovative technology uptake in Scotland. We will consider further, through the regulatory review, how innovation can be supported in the consenting system.

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.	We have a long history of collaborative projects between the Government, regulators, industry, Scottish Aquaculture Innovation Centre (SAIC) and other stakeholders, to further knowledge on the environmental interactions of aquaculture. We agree that partnership working provides the opportunity to work together to overcome barriers of scale. In February 2023, the results of a collaborative research project - Salmon Parasite Interactions in Linnhe, Lorn and Shuna - funded by Scottish Government and Crown Estate Scotland, were published and can be viewed at: https://www.gov.scot/publications/salmon-parasite-interactions-linnhe-lorn-shuna-spills-final-project-report/ . This project involved collaboration between farm operators (MOWI Scotland Ltd., Kames Fish Farming Ltd., Scottish Sea Farms), a number of local fisheries trusts and organisations (Argyll Fisheries Trust, Argyll District Salmon Fishery Board, Fisheries Management Scotland), an academic research organisation (The Scottish Association for Marine Science (SAMS)), the Scottish Government (Marine Scotland) and the Scottish Environment Protection Agency (SEPA). The project 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 and environmental protection. In 2022 we published the first national assessment of the influence of farmed salmon escapes on the genetic integrity of wild Scottish Atlantic salmon populations: https://data.marine.gov.scot/sites/default/files//Scottish%20Marine%20and%20Freshwater%20Science%20%28SMFS%29%20Vol%2012%20No%2012%20-%20A%20national%20assessment%20of%20the%20influence%20of%20farmed%20salmon%20escapes%20on%20the%20genetic%20integrity%20of%20wild%20Scottish%20Atlantic%20salmon%20populations.pdf.
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.	In December 2022, Marine Scotland Science published "Examination of levels of farm/wild hybridisation in south west Scotland and north east England following a large-scale farm salmon escape event in 2020", funded by MOWI Scotland, and which involved monitoring and electrofishing by Argyll Fisheries Trust, Ayrshire Rivers Trust, Clyde River Foundation, and Loch Lomond Fisheries Trusts, in addition to contributions from the Environment Agency, NatureScot and Fisheries Management Scotland: https://www.gov.scot/publications/examination-levels-farm-wild-hybridisation-south-west-scotland-north-east-england-following-large-scale-farm-salmon-escape-event-2020/. Projects coordinated and led by SAIC can be viewed online at: https://www.sustainableaquaculture.com/. Examples include exploring the use of eDNA for environmental seabed monitoring, with partnership working by SAIC, University of Highlands and Islands, SAMS, Salmon Scotland, Scottish Seafarms, MOWI, the Technical University of Kaiserslautern and SEPA. Scottish Ministers asked the Scottish Science Advisory Council (SSAC) to consider the commissioning, use and communication of science in aquaculture consenting. The SSAC published their report on the SSAC website 26 April 2023: https://scottishscience.org.uk/node/341. The SSAC found that the aquaculture research landscape is fragmented and made a number of recommendations for improvement. We will consider how to take the report forward, ensuring that the correct mechanisms for the long term science and evidence needs for aquaculture are put in place, building on collaborative approaches to science and evidence delivery.
59	The Committee also notes and shares the concerns expressed in evidence that the current consenting and regulatory framework which is spread across several regulatory bodies is confusing and is poorly coordinated. It 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.	An Aquaculture Consenting Task Group has been established 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. An emphasis will be placed on multilateral pre application and streamlining of the consenting process. New processes will be trialled which remove duplication and enhance multilateral engagement. Further information can be found on a public information page at: https://www.gov.scot/groups/consenting-task-group/.
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.	See progress detail on recommendation 1.
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.	Scottish Ministers commissioned an independent regulatory review of aquaculture consenting in August 2021. A report produced by Professor Russel Griggs was published in February 2022 and Ministers have accepted the recommendations in principle: https://www.gov.scot/publications/review-aquaculture-regulatory-process-scotland/.
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.	See progress detail on recommendation 40.
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.	See progress detail on recommendation 15.
64	The Committee notes that the Scottish Government is currently undertaking a consenting review. It 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.	See progress detail on recommendation 59.
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.	Crown Estate Scotland has undertaken a review of its aquaculture leasing arrangements and the outcomes were published in January 2022. Crown Estate Scotland's Aquaculture Review included consideration of prospects for the auctioning of seabed interest, as undertaken in Norway for salmon and trout farming, as part of consideration of potential revenue options. It concluded that auctioning was not a viable means of revenue generation in the prevailing regulatory and market conditions in Scotland, compared to those in Norway. The review found that seabed lease fees for fish farms in Scotland should be increased, in line with value of use of Scotland's seabed. New charges came into effect from January 2023: https://www.crownestatescotland.com/news/root-and-branch-review-of-aquaculture-leasing-complete. The Scottish Environment Protection Agency recently updated its fees for Controlled Activities Regulations licence applications, with significant reductions for technologies that capture waste.